MOTOROLA SOLUTIONS

Admin Guide

Access Control Manager™

Version 6.32.0

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PDF-ACM-ADM-6.30.0-A

Revision: 1 - EN

20220428

Revisions

ACM Release	Description
ACM 6.32, April 2022	Appliance transactions: • *Monitor - Dashboard* on page 50, *Appliance Transactions Indicators* on page 53 • *System Events* on page 500 Counts field description in *About Appliances page* on page 373 SALTO prerequisite steps in *SALTO Ethernet Encoder Configuration* on page 297
ACM 6.30, March 2022	Enable DHCP checkbox: • *Editing Appliance Settings* on page 337 Delegation update in step 1 and Force Password Change checkbox in step 6: • *External Systems - Integrating an ACM Appliance into an ACC™ Site* on page 423 More field description updates: • *1. Preparing Appliances for Replication and Failover* on page 344
ACM 6.28, January 2022	Lock Number field description and TLS setting updates: • *Configuring ASSA ABLOY™ Aperio® Wireless Lock Technology* on page 185 • *Adding Doors* on page 223 Delegation updates: • *External Systems - Integrating an ACM Appliance into an ACC™ Site* on page 423 • *Permissions and Rights* on page 470 Note updates: • *SSL Certificates Overview* on page 367 • Default port 443 in *Replication and Failover Requirements* on page 342

ACM Release	Description

ACM 6.26, November 2021	HID® Mobile Access® credentials
	• Installation
	  • *Configuring HID Mobile Access® Credentials* on page 68, *Supported External Systems* on page 420, *Deleting External Systems* on page 422
	  • HID Origo delegations in *Permissions and Rights* on page 470
	• Operation
	  • *Adding an Identity* on page 71
	  • *Searching for an Identity* on page 70
	  • *Assigning Tokens to Identities* on page 73, *Token Fields* on page 83, *Deleting a Token* on page 74
	ASSA ABLOY Aperio hub support (AH40) for ASSA ABLOY Aperio wireless locks
	• *Supported Devices* on page 183
	• *Configuring ASSA ABLOY™ Aperio® Wireless Lock Technology* on page 185
	• *Adding a Subpanel* on page 179, *Subpanel Fields* on page 172, *Adding Doors* on page 223
	Other field description and note updates:
	• Note about SALTO ProAccess SPACE server in *ACM system organization for SALTO ProAccess SPACE doors* on page 293
	• Show Video field: *Events tab* on page 267, *Viewing Door Events, Access Groups and Transactions* on page 271
	• *Integrating the ACM System with Bosch Intrusion Panels* on page 426
	• *Adding an Events XML Collaboration* on page 376
	• Events - Syslog removed from *Supported Collaborations* on page 382
	• Hard Area APB note in *Anti-Passback Modes* on page 213
	• *Global Anti-Passback Modes* on page 219
	• *Scheduling a Custom Report By Batch Job (Specification)* on page 138
	• *Adding Macros* on page 194, *Editing Macros* on page 194

ACM Release	Description
ACM 6.24, September 2021	ACM Expedite mobile app • *Configuring ACM Expedite Mobile App* • *Global Actions* on page 328 Panel controller limit updates • *Supported Devices* on page 279 • *Supported Devices* on page 183 Lock (ASSA ABLOY Only) field update • *Controlling Doors* on page 199 Image specification note • *Capturing and Uploading Photos of an Identity* on page 75
ACM 6.22, July 2021	Force password change on the next ACM login for identities: • *Permissions and Rights* on page 470 • *System Settings - General Fields* on page 406 • *Managing Collaborations* on page 374 SALTO door enhancements: • *Understanding SALTO and ACM Door Configuration* on page 295 • *Step 4: Installing and Configuring Doors* on page 299 • *Prerequisites* on page 294 • *Door Modes* on page 211 • *Door Events* on page 493 ASSA ABLOY door enhancements: • Out of Sync door event: *Door Events* on page 493 • Renaming of the Accept Port field: *Step 1: Configuring a Door Service Router for IP Locks* on page 308 • Batch update using door templates: *Templates Overview* on page 141, *Types of Global Actions* on page 330, *Applying a Door Template to a Group Using a Job Specification* on page 465

ACM Release	Description
ACM 6.20, May 2021	SALTO JustIN Mobile access technology and mobile credentials: • *System Overview* on page 293 • *Step 5: Creating Identities and Tokens* on page 301 • *Using Physical and Mobile Keys* on page 302 • *Editing Tokens — Update Required and Re-edition Required* on page 302 • *Token Fields* on page 83 Advanced Schedule field description update: • *Adding Schedules (Intervals in Schedules)* on page 388 Corporate card mode field description update: • *Configuring Card Formats* on page 319, *Card Format Fields* on page 323

ACM Release	Description

ACM 6.18, April 2021	ASSA ABLOY™ IP-enabled locks:
	• Installation
	  • *ASSA ABLOY™ IP Lock Installation* on page 306
	  • Note update in *Adding Panels* on page 165, *Adding Doors* on page 223, First Person Through *Door Modes* on page 211
	  • Advanced Schedule field in *Adding Schedules (Intervals in Schedules)* on page 388, *Editing Schedules* on page 390, *Examples* on page 391
	  • ASSA ABLOY Doors Sync delegation in *Permissions and Rights* on page 470
	• Operation
	  • Lock (Assa Only) in *Controlling Doors* on page 199
	  • Note updates in *Types of Global Actions* on page 330
	• Monitoring
	  • *Device Status* on page 53, *Security Status* on page 54
	  • Note updates for door and panel control in *Using a Map* on page 438
	• Troubleshooting
	  • *Door Events* on page 493
	SALTO door – More than one token is allowed:
	• *Token Fields* on page 83
	Schlage PIM400 and ENGAGE Gateway subpanel support on the Mercury Security LP1502 controller panel:
	• *Supported Devices* on page 183
	• *Configuring Allegion Schlage AD-400 Series Locks* on page 185
	• *Configuring Allegion Schlage LE Series Locks* on page 187
	• *Door Events* on page 493, *Panel Events* on page 498, *Subpanel Events* on page 500

ACM Release	Description

ACM 6.16, February 2021	Support for SALTO server and doors:
	• Installation
	  • *SALTO Door Installation* on page 293
	  • *Editing Tokens — Update Required and Re-edition Required* on page 302
	  • *Supported External Systems* on page 420
	  • Note update in *Adding Panels* on page 165
	  • Note update in *Adding Doors* on page 223
	  • *Door Modes* on page 211
	  • Note update in *Deleting Doors* on page 210
	  • Note update in *Adding Schedules (Intervals in Schedules)* on page 388
	  • Note updates in *Adding Holidays* on page 390
	  • SALTO server-related delegations in *Permissions and Rights* on page 470
	• Operation
	  • *Canceling Keys* on page 304
	  • *Downloading All Tokens* on page 305
	  • Note update in *Restoring Backups* on page 363
	• Troubleshooting
	  • *Door Events* on page 493
	  • *Panel Events* on page 498
	  • *SALTO Key Events* on page 499
	Other updates:
	• Name Server field description in *Replication and Failover Requirements* on page 342 and *1. Preparing Appliances for Replication and Failover* on page 344

Release 6.14, November 2020	Never Expire field added to Role pages: Certificate delegations that can be assigned to the ACM Super Admin user role: • Custom certificate-related delegations in *Permissions and Rights* on page 470 • *Configuring Remote Authentication Using SSL Certificates* on page 404 Maximum number of supported collaborations: • *Supported Collaborations* on page 382

ACM Release	Description
Release 6.12, October 2020	User Forms in identity management for ACM Super Admin users: • *User Forms Overview* on page 396 • *Adding an Identity* on page 71 • *Editing an Identity* on page 82 SSL certificate signing request and certificate upload for ACM Admin users: • *SSL Certificates Overview* on page 367 • *System Events* on page 500
Release 6.10, September 2020	Support for Allegion Schlage® offline Wi-Fi locks: • *Offline Wi-Fi Mode Installation* on page 287 • *Viewing Gateway or Offline Wi-Fi Lock Status* on page 291 • *Updating Lock Firmware* on page 291 • *Deleting Offline Wi-Fi Locks* on page 292 • "Door has been added event" in *Door Events* on page 493 • Schlage WiFi Door Communication Interval and Site for Schlage WiFi Locks fields in *System Settings - General Fields* on page 406 Support for Custom Schedule in IP/PoE mode devices: • *Adding Doors* on page 223 FIPS 140-2 cryptographic module re-certification: • *Appendix: pivCLASS Configuration* on page 502
Release 6.8, August 2020	Support for Control, LEB, NDEB, RU, and RM wireless devices by a single gateway: • *IP/PoE Mode Installation* on page 278 • *Troubleshooting* on page 493 FIPS 201-2 certification: • *Appendix: pivCLASS Configuration* on page 502
Release 6.6, June 2020	Support for IP (PoE or 410-IP) mode gateway and wireless locks: • *IP/PoE Mode Installation* on page 278 • *Viewing Gateway or Offline Wi-Fi Lock Status* on page 291 New outputs table: • *Monitor - Dashboard* on page 50 Support for activate.avigilon.com: • *Adding a License* on page 369

ACM Release	Description
Release 6.4, February 2020	New inputs table: • *Monitor - Dashboard* on page 50 New Max Days Stored field and relabeled Max Stored Transactions field (previously Stored Transactions): • *Editing Appliance Settings* on page 337 , *1. Preparing Appliances for Replication and Failover* on page 344 Other updates: • New procedure: *Triggering Door Lockdown By Panic Button or Red Card* on page 454 • End Day/Time field functionality ends at end of minute and not beginning of minute: *Overriding Door Modes and Schedules* on page 456, *Modifying an Override* on page 459 • Note describing Escape and Return state in SimonsVoss wireless locks superseding the ACM lockdown priority operation: *Configuring SimonsVoss Wireless Locks* on page 190, *Priority Situations* on page 443 • Internet Explorer replaced by Microsoft Edge as supported browser: *Capturing and Uploading Photos of an Identity* on page 75 • Obsolete 'Add New Appliance' button and 'Appliance: Add page' removed
Release 6.2, November 2019	Support for mandatory password change for the default admin user on first login to the ACM system: • *Logging In* on page 29 Support for saving an identity export to the local drive: • *Adding a Collaboration* on page 374, *Supported Collaborations* on page 382, *Previewing the General Identity Collaboration Log* on page 384, *Extracting a CSV Zip File* on page 385 Support for new subpanels table: • *Monitor - Dashboard* on page 50 Support for Mercury Security LP-series 4502 model doors, panels, firmware, identities, PIV and PIV-I tokens, and embedded pivCLASS Authentication Module (PAM) and auxiliary authentication module (AAM): • *Appendix: pivCLASS Configuration* on page 502 Other updates: • Complete OSDP reader configuration in ACM software before physically connecting them: *Reader Templates* on page 148

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Introduction

This guide provides an overview of the Admin role as defined in the Avigilon Access Control Manager (ACM) software. This guide is meant to be used and referred to by those assigned the role of an Admin within the ACM software.

The Admin role oversees the ACM system. They are responsible for monitoring and maintaining the ACM system. For more information, see *Permissions and Rights* on page 470.

Note: This guide does not define the role of an Admin on all sites. Please contact your System Administrator for more details.

Logging In

You can log in to the ACM system from any web browser that has access to the same network.

1. Open your preferred browser.
2. In the address bar, enter the IP address of your ACM appliance.
3. Enter your username in the **Login** field.
4. Enter your password in the **Password** field.
5. Click the **Sign in** button.

   The application's Home page is displayed.

   Note: If you are logging in to the ACM application for the first time, the default password for the `admin` username must be changed. In addition, if you are performing a system upgrade, the default password for the admin username must be changed if it was not changed previously.

   Tip: To change your password after initial installation, see *Changing the Password in My Account* on page 461 and *Changing the Administrator Password* on page 32. For information about the Password Strength Enforced field, see *Password Strength Enforced* on page 409.

Initial Setup

After installing your ACM appliance, complete the following recommended setup procedures:

Accepting the End User License Agreement

Before you can use the ACM system, you must accept the End User License Agreement.

1. In the top-right, select > **Appliance**.
2. In the About tab, click **View End User License Agreement Terms and Conditions**.
3. Review the license agreement then select the checkbox.
4. Click **Submit**.

Now you can license and configure the ACM system.

Upgrading Your License Format

The ACM 6 license format is different from previous versions. If you upgraded from ACM 5.12.2 to ACM 6.0.0 or later, you will need to upgrade your license format in order to add new licenses. Do not add any new ACM 6 licenses until you have upgraded your old licenses.

Note: If your system is licensed for more than the maximum number of readers, you will not be eligible for an upgrade license. You can continue using your existing system, or contact sales to add more features.

If you do not upgrade your license format, you can continue to use your existing features. However, you will not be able to license new features.

Important: If you use the replication and failover features of the ACM system and you choose to upgrade the license format you must upgrade the license format on both the primary and standby ACM appliances. Replication features, including failover, will not function if the license format is not the same on both appliances. Complete the following steps on both appliances.

1. In the top-right, select >**Appliance**.
2. In the About tab, click **Download Upgrade File**.
3. Email the `.bin` file to acm.license@avigilon.com. You will receive a response in 1-2 business days with an Activation ID for each feature you have. You can continue to use the ACM appliance during this time.

4. After you receive the Activation IDs, follow the procedure in *Adding a License* on page 369. You will only need to enter one of the Activation IDs to automatically license the system for all features your device is entitled to.

Adding a License

When you first install an ACM 6 system, you will need to license the system to use its features. Add additional licenses to access new features as required.

If you do not already have a license, purchase one from Avigilon.

Online Licensing

If you have Internet access, use online activation. Otherwise, see *Offline Licensing* below.

1. In the top-right, select > **Appliance**.
2. In the About tab, click **Add License**.
3. In the Add Licenses dialog, enter your Activation IDs.
   - Click **Add ID** to add additional Activation IDs.
   - Click **Remove Last ID** to clear the last Activation ID entered.
4. Click **Activate Licenses**.

Offline Licensing

Offline licensing involves transferring files between a computer running the ACM system and a computer with Internet access.

In the ACM system:

1. In the top-right, select >**Appliance**.
2. In the About tab, click **Add License**.
3. In the Add Licenses dialog, select the **Manual** tab.
4. Enter your Activation IDs.
   - Click **Add ID** to add additional Activation IDs.
   - Click **Remove Last ID** to clear the last Activation ID entered.
5. Click **Save File...** and select where you want to save the `.key` file. You can rename the file as required.
6. Copy the `.key` file to a computer with Internet access.

In a browser:

1. Go to activate.avigilon.com.
2. Click **Choose File** and select the `.key` file.
3. Click **Upload**.

   Important: When reactivating a site cluster, upload all the deactivation `.key` files first and then the single activation `.key` file at last.

   A `capabilityResponse.bin` file should download automatically. If not, allow the download to occur when you are prompted.
4. Complete the product registration page to receive product updates from Avigilon.
5. Copy the `.bin` file to a computer running the ACC Client software.

In the ACM system:

1. In the Add Licenses dialog, click **Choose File**.
2. Select the `.bin` file and click **Open**.
3. Click **Activate Licenses**.

Changing the Administrator Password

After you log in to the ACM application, you can change the `admin` identity's password.

1. Click **Identities** and then **Search**.
2. On the Identities list, click **A**.
3. Select the **Administrator, System** identity.
4. In the Account Information area, enter a new password in the **Password** and **Confirm** fields.
5. Click .

If you are currently logged in with the `admin` identity, you are automatically logged out. Log in again using the new password, or use a different Super Admin identity.

Creating a Super Admin Identity

After you log in to the ACM system for the first time and set a new password, it is recommended that you create a Super Admin identity for configuring the system. By creating a new Super Admin identity, you can better protect the security of the system by not using the default `admin` identity, and having a backup identity in case the default `admin` password is lost.

1. Click **Identities** and then **Add Identity**.
2. Select an **Identity Profile** in the Identity Profile dialog box and click **Continue**.
3. In the Identity Information area, enter a **Last Name** and **First Name**.
4. In the Account Information area, enter a **Login** name for accessing the system.

5. In the **Password** and **Confirm** fields, enter a password for the new identity. The password must be at least four characters long.
6. Click and the Roles tab is automatically displayed.
7. In the Roles tab, select **Super Admin** from the Available list and click to assign the new identity to the Super Admin role.
8. Click .

Only these settings are required to create a Super Admin identity. You can add and configure more details for the account.

Monitoring

The Monitoring screen gives you access to view all events and alarms in the system. It also allows you to view and control connected hardware. An event occurs for changes in the software or hardware. For example, when a user accesses a door. An alarm occurs when the system detects an unusual event. For example, a forced door. Hardware can be controlled to grant or restrict access to an area. For example, a door can be disabled to deny access to a hazardous area.

Note: If you do not have the correct delegations, you may not be able to access some of the following pages. See your System Administrator for details.

Monitoring Events

Events are defined as any activity that is reported between the ACM appliance and the hardware it oversees. An event includes all alarms, but not all events are alarms. Events can include changes in configuration, a report on door access, adding a new badge holder to the system, and more. In other words, any transfer of data within the system is an event.

To view the events:

1. Select **Monitor** > **Events**.
2. Click any of the following buttons:

Note: Some of the buttons are disabled until you select an event that includes the relevant details.

- **Pause** button — Pauses the flow of events that are displayed on the page.

  The flow of events does not actually stop, the system simply pauses the display of live updates until you click **Resume**.
- **Resume** button — Restarts the flow of events that are displayed on the page.

  This button only appears when the flow of events is paused.
- **Clear** button — Temporarily clear all events from the screen. New events automatically begin to populate the list. To restore the cleared events, refresh the page.
- **Live Video** button — Displays live video that is associated with the selected event.
- **Recorded Video** button — Displays recorded video that is associated with the selected event.
- **Notes** button — Enter a new note or displays any previously saved notes for the selected event.
- **Instructions** button — Displays any instructions that should be completed when the event occurs. The instructions were added when the event was created.
- **Identity** button — Displays details about the person that triggered the selected event.

- **History** button — Displays a detailed history of this event.
- **Save Settings** button — Saves your current settings for this page. For example, the columns and order for this page.
- **Select Columns** button — Choose the information that you want displayed.

  Check the box for each column that you want to see, and clear the box for each column that you want hidden.

  Click and drag the columns to move them into the order you want.
- **Reconnect** button — Reconnects to the appliance.

  This button only appears if your browser has become disconnected from the appliance and an error is displayed.

Pause/Resume Events

The display of live event updates can be paused. This allows you to view and investigate a specific event without having to search for it. Once the event has been reviewed, the display of live event updates can be resumed.

Follow the steps below to pause and resume events.

1. Click **Monitor** to access the Monitor Events page. For more detail see *Monitoring Events* on the previous page.
2. Click **Pause** to pause the flow of events that are displayed on the page.

   The flow of events does not actually stop, the system simply pauses the display of live updates until you click **Resume** (this button only appears when the flow of events is paused).
3. Click **Resume** to restart the flow of events that are displayed on the page.

   The list of events will resume updating.

Clear Events

Follow the steps below to clear all displayed events.

1. Click **Monitor** to access the Monitor Events page.
2. Click **Clear** to temporarily clear all events from the screen.

   The list will be cleared. New events automatically begin to populate the list.

   Note: This does not delete the events, it just removes the existing events from the view. To restore the cleared events, refresh the page.

View Live Video

Live video that is associated with a selected event can be displayed from the Monitoring Events page. For example, if an unusual event occurs, the live video can be viewed to observe the event and determine if any actions need to be taken.

Follow the steps below to view live video.

1. Click **Monitor**. The Monitor Events page displays (for more information, see *Monitoring Events* on page 34).
2. Select an event from the list.

   Only events or alarms with an icon will have video.
3. Click **Live Video** to display live video that is associated with the selected event. (This button only displays if video is available for this event.)

   The Monitor Screen - Live Video window displays. View the live video in this window.

   If the window does not display any video in the image panel, you may need to change your browser settings to allow the display of insecure or mixed content. For more information, see the Help files for your browser.

View Recorded Video

Recorded video that is associated with a selected event can be displayed from the Monitoring Events page. For example, if an unusual event occurred the previous day, the recorded video can be viewed to observe event and determine if any actions need to be taken.

Follow the steps below to view live video.

1. Click **Monitor**. The Monitor Events page displays (for more information, see *Monitoring Events* on page 34).
2. Select an event from the list.

   Only events or alarms with an icon will have video.
3. Click **Recorded Video** to display recorded video that is associated with the selected event. (This button only displays if video is available for this event.)

   The Monitor Screen - Recorded Video window displays. View the video in this window.

   If the window does not display any video in the image panel, you may need to change your browser settings to allow the display of insecure or mixed content. For more information, see the Help files for your browser.

Create Event Notes

Notes can be added and viewed for all events that occur in the system. For example, if an observation is made on an event, a note can be made for that event.

Follow the steps below to create event notes.

1. Click **Monitor** to access the Monitor Events page.
2. Select the event that you want to create notes for.
3. Click **Notes** to create notes for the selected event.

   The Monitor Screen - Notes Window will display.
4. Enter text in the **New Note** field.

5. Click to save the new note.

   The note will display in the list below the **New Note** section. The date, Operator and note will display in this list.

6. Close the dialog box.

View Event Notes

Notes that are associated with an event can be displayed from the Monitor Events page. For example, if another user created a note for an event, you can view the note to get more information about the event.

Follow the steps below to view event notes.

1. Click **Monitor** to access the Monitor Events page (for more information, see *Monitoring Events* on page 34).

2. Select the event that you want to view notes for. (Events with notes will display with in the **Icon** column.)

3. Click **Notes** to view notes for the selected event. (Alternatively clicking will do the same thing.)

   The Monitor Screen - Notes Window will display. Existing notes will display as a list below the **New Note** section. The date, Operator and note will display in this list.

View Event Instructions

Instructions can be viewed for a selected event. The instructions tell the operator what actions need to be taken when the event occurs. For example, if a user is denied access to a certain area, the action may be to review their identity, and determine if they have permission to access the area.

Follow the steps below to view event instructions. The instructions were added when the event was created.

1. Click **Monitor** to access the Monitor Events page (for more information, see *Monitoring Events* on page 34).

2. Select the event that you want to view instructions for. (Events with instructions will display with in the **Icon** column.)

3. Click **Instructions** to view instructions for the selected event.

   The Monitor Screen - Instructions Window will display. View the instructions in the table that displays.

4. Close the window to return to the Monitor Events page.

View Event Identity Details

Follow the steps below to view event identity details.

1. Click **Monitor** to access the Monitor Events page (for more information, see *Monitoring Events* on page 34).
2. Select the event that you want to view identity details for.
3. Click **Identity** to view identity details for the selected event.

   The Monitor Screen - Identity Window will display.
4. View the details (e.g. Last Name, First Name, Title, etc.).
5. Close the window to return to the Monitor Events page.

View Event History

Follow the steps below to view event history.

1. Click **Monitor** to access the Monitor Events page (for more information, see *Monitoring Events* on page 34).
2. Select the event that you want to view history for.
3. Click **History** to view history for the selected event.

   The Monitor Screen - History Window will display.
4. View the history details.
5. Close the window to return to the Events list.

Change Events List Settings

Follow the steps below to change the settings of the events list.

1. Click **Monitor** to access the Monitor Events page.

   The list displays in date order, with the most recent events at the top of the list.
2. If you want to re-sort the order of the list:
   - Click in the heading of the column to sort by (e.g. Priority). The list will sort in ascending order based on that column (e.g. ascending order of priority).
   - To change the sort order to descending, click the column heading again.
3. If you want to re-sort the order of the columns, click on the column you want to move then drag and drop this to it's new location.
4. If you want to add or remove columns, click **Select Columns** and:
   - Click beside the Column name of any columns to be added so that a check mark displays.
   - Click beside the Column name of any column to be deleted so that a check mark no longer displays.
5. Click **Save Settings** if you want to save the new settings.

   A message box displays with the message ACM Notification. Successfully saved.'.

Reconnect to Events List

Follow the steps below to reconnect to the ACM appliance.

1. Click **Monitor** to access the Monitor Events page (for more information, see *Monitoring Events* on page 34).

   If your browser loses connectivity with ACM appliance the **Reconnect** button displays.

2. Click **Reconnect** to reconnect.

Searching for Events and Alarms

The number of alarms and event transactions can total into the thousands depending on the level of activity in your system. To find specific events, you can perform a search.

Searching for specific events allows you to easily find an event in the system. For example, searching for events can be used in situations where more information is needed on an event thought to be unusual or suspicious. Once an event has been found, information such as recorded video, or notes can be viewed.

1. Select **Monitor > Search**.

2. Scroll to the bottom of the page and click the icon.

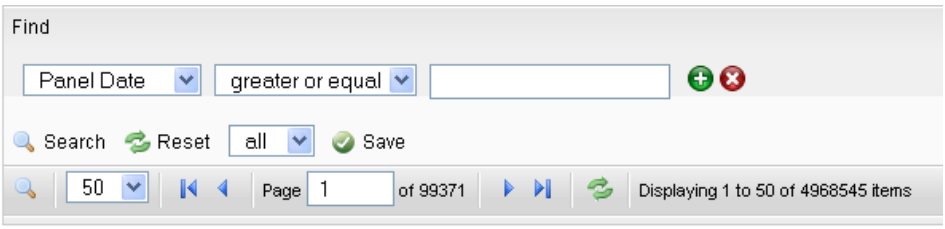


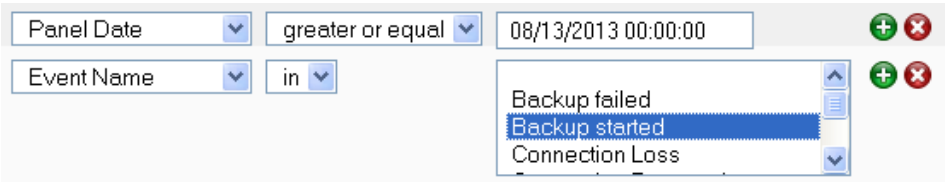
Figure 1: Search options

3. From the first drop down list, select the data type that you want to search. The options are:
   - Panel Date
   - Last Name
   - Card Number
   - Message
   - Event Name
   - Event Type
   - Source

4. From the second drop down list, select the appropriate argument for your search. The available arguments change depending on the selected data type. An argument may require you to make a selection, specify a date, or enter some text.

6. If you want to narrow your search further, click to add another search filter.

7. If you want to narrow your search, click to add another search filter.



7. Add as many search filters as you need to fulfill your search criteria.
8. When you have entered all your search criteria, click **Search**. The search results are listed in the table above the search area.
9. Select any transaction from the search result and use the action buttons at the top of the page to see the details of the event.

View Camera (Search)

Live video that is associated with a selected event can be displayed from the Monitoring Search page. For example, if an event is found with live video associated with it, the operator can view the video and determine if any action needs to be taken.

Follow the steps below to view live video from a camera from the Events Search (Transactions) page.

1. Click **Monitor** > **Search**.
2. Select an event from the list.

   Only events or alarms with an icon will have video. The icons are not displayed by default. For more information, see *Change Transactions List Settings* on page 42.
3. Click **Camera** to display live video that is associated with the selected event.
4. View the live video in this window.

   If the window does not display any video in the image panel, you may need to change your browser settings to allow the display of insecure or mixed content. For more information, see the Help files for your browser.

View Recorded Video (Search)

Recorded video that is associated with a searched event can be displayed from the Monitoring Search page. For example, if an unusual event is found in the search results, the recorded video can be viewed to observe the event and determine if any actions need to be taken.

Follow the steps below to view live video from the Events Search (Transactions) page.

1. Click **Monitor** > **Search**.
2. Select an event from the list.

   Only events or alarms with an icon will have video. The icons are not displayed by default. For more information, see *Change Transactions List Settings* on page 42.

3. Click **Recorded Video** to display recorded video that is associated with the selected event.

   > **Note:** An event with recorded video associated with it may display an error message if the recorded video is no longer available on the video recorder.

4. View the video in this window.

   If the window does not display any video in the image panel, you may need to change your browser settings to allow the display of insecure or mixed content. For more information, see the Help files for your browser.

Create Event Notes (Search)

Notes can be added and viewed for all events that occur in the system. For example, if an observation is made on an event, a note can be created for that event.

Follow the steps below to create event notes from the Events Search (Transactions) page.

1. Click **Monitor** > **Search**.
2. Select the event that you want to create notes for.
3. Click **Notes** to create notes for the selected event.

   The Monitor Screen - Notes Window will display.
4. Enter text in the **New Note** field.
5. Click to save the new note.

   The note will display in the list below the **New Note** section. The date, Operator and note will display in this list.
6. Close the dialog box.

View Event Notes (Search)

Notes that are associated with an event can be displayed from the Monitor Search page. For example, if an event is found with an associated note, you can view the note to get more information about the selected event.

Follow the steps below to view event notes from the Events Search (Transactions) page.

1. Click **Monitor** > **Search**.
2. Select the event that you want to view notes for.
3. Click **Notes** to view notes for the selected event.

   The Monitor Screen - Notes Window will display. Existing notes will display as a list below the **New Note** section. The date, Operator and note will display in this list.

View Event Instructions (Search)

Instructions can be viewed for a selected event. The instructions tell the operator what actions need to be

taken when the event occurs. For example, if a user is denied access to a certain area, the action may be to review their identity, and determine if they have permission to access the area.

Follow the steps below to view event instructions from the Events Search (Transactions) page. The instructions were added when the event was created.

1. Click **Monitor** > **Search**.
2. Select the event that you want to view instructions for.
3. Click **Instructions** to view instructions for the selected event.

   The Monitor Screen - Instructions Window will display.
4. Close the window to return to the Events Search (Transactions) page.

View Event Identity Details (Search)

Follow the steps below to view event identity details from the Events Search (Transactions) page.

1. Click **Monitor** > **Search**.
2. Select the event that you want to view identity details for.
3. Click **Identity** to view identity details for the selected event.

   The Monitor Screen - Identity Window will display.
4. View the details (e.g. Last Name, First Name, Title, etc.).
5. Close the window to return to the Events Search (Transactions) page.

View Event History (Search)

Follow the steps below to view event history from the Events Search (Transactions) page.

1. Click **Monitor** > **Search**.
2. Select the event that you want to view history for.
3. Click **History** to view history for the selected event.

   The Monitor Screen - History Window will display.
4. View the history details.
5. Close the window to return to the Events Search (Transactions) page.

Change Transactions List Settings

The events list shows a default set of fields for each event. You may want to add columns to this list.

For example, if you want to search this list to see if an event occurred on a door that has a camera associated with it, add the icons column. This column displays a next to any event from a door that has a camera associated with it.

Follow the steps below to change the settings of the events list.

1. Click **Monitor > Search**.

   The list displays in date order, with the most recent events at the top of the list.
2. If you want to re-sort the order of the list:
   - Click in the heading of the column to sort by (e.g. Priority). The list will sort in ascending order based on that column (e.g. ascending order of priority).
   - To change the sort order to descending, click the column heading again.
3. If you want to re-sort the order of the columns, click on the column you want to move then drag and drop this to it's new location.
4. If you want to add a column, hover the mouse over any column heading and:
   a. Click the down arrow that is displayed.
   b. Click the checkbox for each column you want to add.
5. Click **Save Settings** if you want to save the new settings.

   A message box displays with the message 'ACM Notification. Successfully saved.'.

Monitor Alarms

Alarms that occur in the system are listed in the Monitor Alarms page as they occur (accessed through selecting **Monitor > Alarms**).

An alarm occurs when the system senses an unusual event such as a forced or held door. Each alarm needs to be reviewed and responded to. Information on the alarm can be viewed, along with any available video. After an alarm has been acknowledged, it is moved to the list of acknowledged alarms. This list allows users to view past alarms and clear them from the system.

To review and acknowledge alarms, select one or more alarms from the Unacknowledged Alarms list then click one of the following buttons:

> **Note:** Some of the buttons are disabled until you select an event that includes the relevant details.

- **Acknowledge** — Click this button to acknowledge one or more selected alarms. The selected alarms are moved to the Acknowledged Alarms list.
- **Acknowledge All** — Click this button to acknowledge all alarms that are currently active and unacknowledged.
- **Live Video** — Click this button to display live video associated with the selected alarm.
- **Recorded Video** — Click this button to display recorded video associated with the selected alarm.
- **Notes** — Click this button to enter a new note or display any previously saved notes for the selected event.
- **Instructions** — Click this button to display any instructions that should be completed when the alarm occurs. The instructions were added when the event was created.
- **Identity** — Click this button to display details about the person that triggered the selected alarm.
- **History** — Click this button to display a detailed history of this alarm.

- **Save Settings** — Click this button to save your current settings for this page. For example, the columns and order for this page.
- **Sound Off** — Click this button to mute any alarm noises on the device used to monitor Alarms.

  When sound is muted, the button changes to **Sound On**. Click this button to turn the sound back on.
- **Select Columns** — Click this button then choose the information that you want displayed.

  Check the box for each column that you want to see, and clear the box for each column that you want hidden.

After an alarm has been acknowledged, the alarm is added to the Acknowledged Alarms list. You can clear the alarms from the list as needed.

Note: Some of the buttons are disabled until you select an event that includes the relevant details.

- **Clear** — Click this button to clear one or more acknowledged alarms from the list.
- **Clear All** — Click this button to clear all alarms from the Acknowledged Alarms list.
- **Select Columns** — Click this button then choose the information that you want displayed.

  Check the box for each column that you want to see, and clear the box for each column that you want hidden.

Acknowledge Alarms

When an alarm occurs in the system, an action must be taken. Once the alarm is resolved, it must be acknowledged. This tells the other users of the system that the alarm has been dealt with and is not a problem.

Follow the steps below to acknowledge alarms.

1. Click **Monitor > Alarms**.
2. To acknowledge a single alarm:
   - Select the alarm in the Unacknowledged Alarms list.
   - Click **Acknowledge**. The alarm will move to the **Acknowledged Alarms** list.
3. To acknowledge multiple alarms:
   - Select the first alarm in the Unacknowledged Alarms list.
   - If the alarms to be acknowledged are consecutive in the list, click on the first entry, then hold SHIFT down and click on the last entry.
   - If the alarms to be acknowledged are not consecutive, click on the first entry, then hold CTRL down and click on each entry.
   - Click **Acknowledge**. The alarms will move to the **Acknowledged Alarms** list.
4. To acknowledge all alarms, click **Acknowledge All**. The alarms will move to the **Acknowledged Alarms** list.

View Live Video (Alarms)

Live video that is associated with a selected alarm can be displayed from the Monitoring Alarms page. For example, if an alarm occurs, the live video can be viewed to observe the alarm and determine if any actions need to be taken.

Follow the steps below to view live video from the Monitor Alarms page.

1. Click **Monitor > Alarms**. For more information see *Monitor Alarms* on page 43.
2. Select an alarm from the list.

   Only events or alarms with an icon will have video.
3. Click **Live Video** to display live video that is associated with the selected alarm. This button only displays if video is available for this alarm.

   The Monitor Screen - Live Video window displays. View the live video in this window.

   If the window does not display any video in the image panel, you may need to change your browser settings to allow the display of insecure or mixed content. For more information, see the Help files for your browser.

View Recorded Video (Alarms)

Recorded video that is associated with a selected alarm can be displayed from the Monitoring Alarms page. For example, if an alarm occurred the previous day, recorded video can be viewed to observe the alarm and determine if any further actions need to be taken.

Follow the steps below to view recorded video from the Monitor Alarms list.

1. Click **Monitor > Alarms**. The Monitor Alarms page displays (for more information see *Monitor Alarms* on page 43).
2. Select an event from the list.

   Only events or alarms with an icon will have video.
3. Click **Recorded Video** to display live video that is associated with the selected event. (This button only displays if video is available for this event.)

   The Monitor Screen - Recorded Video window displays. View the video in this window.

   If the window does not display any video in the image panel, you may need to change your browser settings to allow the display of insecure or mixed content. For more information, see the Help files for your browser.

Create Event Notes (Alarms)

Notes can be added and viewed for all alarms that occur in the system. For example, if an observation or action is made on an alarm, a note can be created to document the details.

Follow the steps below to create event notes from the Monitor Alarms page.

1. Click **Monitor > Alarms**. The Monitor Alarms page displays. For more information see *Monitor Alarms* on page 43.
2. Select the event that you want to create notes for.
3. Click **Notes** to create notes for the selected event.

   The Monitor Screen - Notes Window will display.
4. Enter text in the **New Note** field.
5. Click to save the new note.

   The note will display in the list below the **New Note** section. The date, Operator and note will display in this list.
6. Close the dialog box.

View Event Notes (Alarms)

Notes that are associated with an alarm can be displayed from the Monitor Alarms page. For example, if another user created a note for an alarm, you can view the note to get more information about the alarm.

Follow the steps below to view event notes from the Monitor Alarms page.

1. Click **Monitor > Alarms**. The Monitor Alarms page displays. For more information see *Monitor Alarms* on page 43.
2. Select the event that you want to view notes for. Events with notes will display with in the **Icon** column.
3. Click **Notes** to view notes for the selected event. Alternatively clicking will do the same thing.

   The Monitor Screen - Notes Window will display. Existing notes will display as a list below the **New Note** section. The date, Operator and note will display in this list.
4. Close the dialog box to return to the Monitor Alarms page.

View Event Instructions (Alarms)

Instructions can be viewed for a selected alarm. The instructions tell the operator what actions need to be taken when the alarm occurs. For example, if an alarm occurred, the instruction could be to investigate the alarm and write a note describing the situation.

Follow the steps below to view event instructions from the Monitor Alarms page. The instructions were added when the event was created.

1. Click **Monitor > Alarms** to access the Monitor Alarms page displays. For more information see *Monitor Alarms* on page 43.
2. Select the event that you want to view instructions for. (Events with instructions will display with in the **Icon** column.)
3. Click **Instructions** to view instructions for the selected event.

   The Monitor Screen - Instructions Window will display. View the instructions in the table that displays.

4. Close the window to return to the Monitor Alarms page.

View Event Identity Details (Alarms)

Follow the steps below to view event identity details from the Monitor Alarms page.

1. Click **Monitor > Alarms**. The Monitor Alarms page displays. For more information see *Monitor Alarms* on page 43.
2. Select the event that you want to view identity details for.
3. Click **Identity** to view identity details for the selected event.

   The Monitor Screen - Identity Window will display.
4. View the details (e.g. Last Name, First Name, Title, etc.).
5. Close the window to return to the Monitor Alarms page.

View Event History (Alarms)

Follow the steps below to view event history from the Monitor Alarms page.

1. Click **Monitor > Alarms** to access the Monitor Alarms page. For more information see *Monitor Alarms* on page 43.
2. Select the event that you want to view history for.
3. Click **History** to view history for the selected event.

   The Monitor Screen - History Window will display.
4. View the history details.
5. Close the window to return to the Monitor Alarms page.

Change Alarms List Settings

Follow the steps below to change the settings of the alarms lists on the Monitor Alarms page.

1. Click **Monitor > Alarms** to access the Monitor Alarms page. For more information see *Monitor Alarms* on page 43.

   The list displays in date order, with the most recent events at the top of the list.
2. If you want to re-sort the order of the list:
   - Click in the heading of the column to sort by (e.g. Priority). The list will sort in ascending order based on that column (e.g. ascending order of priority).
   - To change the sort order to descending, click the column heading again.
3. If you want to re-sort the order of the columns, click on the column you want to move then drag and drop this to it's new location.
4. If you want to add or remove columns, click **Select Columns** and do the following:
   - Click beside the Column name of any columns to be added so that a check mark displays.
   - Click beside the Column name of any column to be deleted so that a check mark no longer displays.

5. If you want to change the sound settings:
    - If the sound is on, click **Sound Off** to turn the sound off.
    - If the sound is off, click **Sound On** to turn the sound on.
6. Click **Save Settings** if you want to save the new settings.

    A message box displays with the message ACM Notification. Successfully saved.'

Note: To reset default settings, select > **Clear Custom Layouts**. This resets all customized lists to their default setting.

Monitor - Verification screen

When you click **Monitor > Verification**, the Verification page is displayed.

This page allows a qualified operator to review information, including photos, about card holders entering or exiting specific doors.

The page is divided into two halves - the top Doors section and the bottom Events section.

- At the top of the page are four door panes that allow you to select and monitor four doors at a time. After you select a door to a pane, you can monitor live event transactions as they occur at that door.
- Underneath the door panes is a list of live door transactions displayed like the Events page.

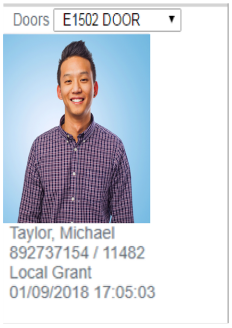
    Not all door events will display in this list. Only events in the priority number range 300 to 700 display. A full listing of all events is available on the Monitor Events page.

Verifying Identities at Doors

Select **Monitor > Verification** to open the Verification page to verify and confirm the identity of any person who passes through the selected doors:

1. From one of the **Doors** drop down lists, select a door.
2. To select another door, repeat previous step in the other panes. The drop down list automatically updates to filter out the doors that have already been selected.

    When a person attempts to pass through one of the monitored doors using a card, the person's identity information is displayed:



If the person:

- Has a valid identity, the information includes the name and internal token number.
- Has a photo stored in the Identity record, it is displayed. If the person does not pass through the door, of the time and date of entry.
- Is authorized to pass through the door the time and date of entry is displayed, unless they do not actually pass through the door ("not used" is displayed instead).
- Is not authorized to pass through the door, an "Unauthorized" message is displayed.
- Presents an invalid identity, an "Invalid" message is displayed.

At the bottom of the screen are all of the detailed events generated at the doors, including those of any not associated with identities.

Verification Events List

Follow the steps below to add doors to monitor on the Verification page.

1. Click **Monitor > Verification**. The Verification page displays. For more information see *Monitor - Verification screen* on the previous page.

   This page has two sections - doors and an events list. For more information on the doors display see *Verifying Identities at Doors* on the previous page. The events list displays in date order, with the most recent events at the top of the list.

   > **Note:** Not all door events will display in this list. Only events in the priority number range 300 to 700 display. A full listing of all events is available on the Monitor Events page.

2. If you want to clear a single event from the list, select the event and click **Clear**. To clear all events, click **Clear all**.
3. If you want to re-sort the order of the list:
   - Click in the heading of the column to sort by (e.g. Priority). The list will sort in ascending order based on that column (e.g. ascending order of priority).
   - To change the sort order to descending, click the column heading again.

4. If you want to re-sort the order of the columns, click on the column you want to move then drag and drop this to it's new location.
5. If you want to add or remove columns, click **Select Columns** and:
    - Click beside the Column name of any columns to be added so that a check mark displays.
    - Click beside the Column name of any column to be deleted so that a check mark no longer displays.
6. Click **Save Settings** if you want to save the new settings.

    A message box displays with the message 'ACM Notification. Successfully saved.'.

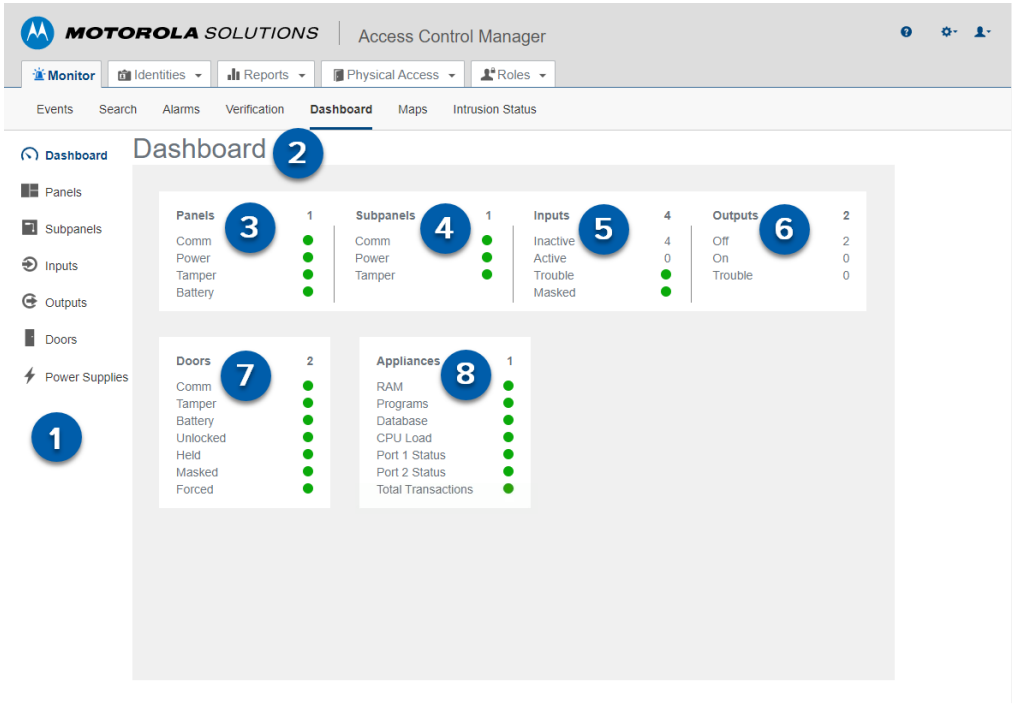
    Note: Saving the settings only saves the column configuration. The doors selected for verification will need to be selected each time you return to the page.

Note: To reset default settings, select > **Clear Custom Layouts**. This resets all customized lists to their default setting.

Monitor - Dashboard

The Dashboard provides a real-time status summary of the hardware components that are connected to the ACM system. The hardware categories are panels, subpanels, doors, inputs, outputs and ACM appliances.

Select **Monitor > Dashboard** for a top-level view of the Dashboard where you can drill down for details.



	Area	Description
1	Dashboard Sidebar	Navigation menu for the Dashboard, Panels table, Subpanels table, Inputs table, Outputs table, Doors table and Power Supplies table (if a LifeSafety power supply is connected). From the Panels table, you can access a list of subpanels in the Subpanels table. From the Subpanels table, you can access a list of inputs and outputs in the Inputs and Outputs tables. From the Inputs and Outputs tables, you can directly access the list of inputs and outputs. From the Doors table, you can control individual doors, investigate doors with active faults, and see more information about the state of individual doors.
2	Dashboard	Displays a summary of hardware faults or unexpected input and output state changes as they occur. As the status of hardware components changes, the status indicators on the Dashboard change color. For more information, see *Status Colors* on the next page. The total number of connected hardware components (installed and uninstalled) is displayed above a real-time fault or status list. For panels, subpanels, inputs and doors, the number of installed components in each fault state is displayed. If no faults occur, their status is green. For outputs, the numbers indicate the number of installed outputs in each state. When no components are displayed in a state, the status is either green or 0.

	Area	Description
3	Panels	Displays a summary of the fault state of the installed panels. Click the number next to the fault to drill down to the details of the fault in the Panels table, which is filtered to display only the panels with that fault.
4	Subpanels	Displays a summary of the fault state of the installed subpanels. Click the number next to the fault to drill down to the details of the fault in the Subpanels table, which is filtered to display only subpanels with that fault.
5	Inputs	Displays the total number of inputs in each state. Click the number next to the state to drill down to the Inputs table, which is filtered to display only inputs with that state.
6	Outputs	Displays the total number outputs in each state. Click the number next to the state to drill down to the Outputs table, which is filtered to display only inputs with that state.
7	Doors	Displays the summary of the fault state of the installed doors. Click the number next to the fault to drill down to the Doors table, which is filtered to display only alarms with that fault.
8	Appliances	When no issues occur in the ACM appliance items, their status is green. Hover the mouse over each status indicator to see more details. For example, "RAM free 45%" displays for the RAM status.

Status Colors

Status colors identify the health of the different devices in the system. The status colors represent the following states:

Color	Status	Description
	Normal	Online and working properly.
	Inactive	Input or output is in its normal state.
	Trouble	Indeterminate or offline status of inputs, outputs, panels or subpanels, and the ACM appliance. Inputs or outputs may be operating in a wiring fault state.
	Alarm	Alarm condition. An ACM operator should investigate the problem and resolve the issue.
	Active	Input or output circuit is no longer in its normal state.
	Masked	Input is currently masked. Its actual state is not displayed. Masked inputs are intended to change as part of normal operations, so that they are not constantly being reported.

Appliance Transactions Indicators

The status colors represent the following appliance states:

Color	Status	Description
	Normal	The appliance transactions stored in the system are less than 85% of the maximum stored transactions threshold.
	Trouble	The appliance transactions stored in the system are between 85% - 95% of the maximum stored transactions threshold.
	Alarm	The appliance transactions stored in the system are over 95% of the maximum stored transactions threshold.

Tip: When the transactions are close to exceeding the maximum stored transactions threshold, do the following:

- Schedule backups of the transactions before their deletion.
- Increase the Max Stored Transactions setting.
- Adjust the Max Days Stored setting, according to your corporate IT policy.

Device Status

Panels, Subpanels, Inputs, Outputs and Doors only.

To see the legend for device status:

- Click **Legend** to see the list of statuses and the related icons. For other input statuses which appear in the legend, see *Status Colors* on the previous page.

Note: Not all statuses apply to devices. For example, only normal, uninstalled, communication and battery statuses apply to Control locks.

Icon	Status	Description
	Normal	The panel, subpanel or door is operating normally.
	Uninstalled	The panel, subpanel, input, output or door is not installed.
	Communication	Communication between the panel, subpanel or door, and the ACM system is enabled.
	Unlocked	The door is unlocked and is not secure.

Icon	Status	Description
	Held	The door is being held open.
	Power	The panel or subpanel power input circuit is open.
	Battery	The battery input circuit is open or is running low.
	Tamper	The tamper input circuit is open.
	Forced	The door was forced open without a grant operation.
	Synchronization	Synchronization between the door and the ACM system is pending.
	Synchronization	Synchronization between the door and the ACM system is out of sync. *ASSA ABLOY IP door.* The out of sync door requires operator intervention to reload or reset the lock. For more information, refer to ASSA ABLOY documentation. *SALTO online door.* Wait for the update. *SALTO standalone door.* Requires operator intervention. Use the portal programming device (PPD) to update the door mode. For more information, refer to SALTO systems documentation.

Security Status

To see the legend for device status:

- Click **Legend** to see the list of statuses and the related icons.

Icon	Status	Description
	TLS Required	The panel is configured to use Transport Layer Security (TLS) protocol to secure communication with the ACM appliance.
	TLS & Certificate Required	The panel is configured to use TLS protocol and a certificate to secure communication with the ACM appliance.

Installing, Uninstalling and Deleting Panels and Subpanels

Click at the end of a row in the Panels table or Subpanels table to:

- **View** — Displays the Panel: Status or Subpanel: Status table.
- **Install** — Enables communications between the ACM system and the panel or subpanel.
- **Uninstall** — Disables communications between the ACM system and the panel or subpanel.
- **Delete** — Removes the connection between the ACM system and the panel or subpanel.

Viewing, Masking and Unmasking Inputs

Panels, Subpanels and Inputs only.

- Click … at the end of a row in the Inputs table to:
  - **View** — Displays the Input: Edit page.
  - **Mask** — Masks the selected input.
  - **Unmask** — Unmasks a previously masked input.

Viewing, Activating and Deactivating Outputs

Panels, Subpanels and Outputs only.

1. Click the name of the panel and subpanel to display the Outputs table.

   Or click **Outputs** on the Dashboard home page.
2. Click … at the end of a row in the Outputs table to:
   - **View** — View the Output: Edit page.
   - **On** — Power the output. If the output is a door, it activates the circuit.
   - **Off** — Turn off the power to the output. If the output is a door, it deactivates the circuit.
   - **Pulse** — Alternately activate and deactivate the output. The pulse interval is determined by the output's settings.

Searching Panel, Subpanel, Input and Door Names

Panels, Subpanels, Inputs and Doors only.

1. Use any (or all) of the following to define your search:
   - Enter your search term in the **Search...** field. Use any series of letters and numbers to search for the panels you want to see.
   - If known, select the **Device Status**.
   - If known, select the **Appliance** the panel is connected to.
   - If known, select the **Group** the panel is included in.
2. Click **OK**. The list is filtered to show the results of your search.

Saving Door Filters

Many facilities require the control and monitoring of dozens, even hundreds, of doors simultaneously. This can result in a crowded listing page. You can search for specific doors to narrow the list of doors, filter the columns for specific values, and create and save custom filters. You can then sort the results using any one column.

1. Click **Advanced Filters** in the upper-right corner.
2. Select filters:
   - **Alarms** — Includes the alarms from the list of alarms.
   - **Masked** — Includes the masks from the list of masks.
   - **Normal** — Includes all properly functioning doors.
   - **Door Mode** — Includes the list of door modes.

   To unselect all selected filters, click **Unselect All**.
3. To save the selected filters, select **Remember Filters**.
4. Click **OK**.

Controlling Doors

While you are monitoring the system, you may need to override the default door settings to allow a visitor access to an area, or unlock a door in an emergency situation. From a Doors listing page in **Physical Access** or **Monitor > Dashboard**, use the Door Action, Door Mode, Forced, Held, and Installed drop-down menus to control doors.

Doors can also be controlled from **Monitor > Maps**. For more information, see *Using a Map* on page 438.

> **Note:** Only the Installed options are available for virtual doors installed for use with ACM Verify readers.

1. Select the checkbox for each the door you want to control.

   Or click **All** at the top of the left column to select all doors or **None** to deselect all doors.
2. For one or more doors, select a **Door Action** if required:

   > **Note:** The door actions below are not applicable for Schlage offline Wi-Fi doors or SALTO standalone doors. Only Grant is applicable for Schlage Control™ locks. Only Unlock and Locked No Access are applicable for Von Duprin remote undogging (RU) devices. Locked No Access and Disable are not applicable for ASSA ABLOY battery-powered and external-powered doors.

   - **Grant** — Momentarily grants access to the door to permit a single-time entry.
   - **Restore** — Restores the Door Mode to its default configuration or Custom Mode.

     Schlage locks with activated lock functions only. Restoring a door that has an activated Lock Function (Classroom, Office, Privacy, or Apartment) removes the Lock Function and resets the door mode to its default configuration.

     For ASSA ABLOY IP doors only. Restoring a door results in the door going offline temporarily in the ACM system.

- **Unlock** — Unlocks the door. The door remains unlocked until the **Locked No Access** command is issued or until an operator override or scheduled action is initiated.
- **Locked No Access** — Locks the door. The door remains locked until the **Restore** command is initiated or until an operator override or scheduled action is initiated.
- **Disable** — Disables the door. The door stops operating and allows no access to anyone.
- **Lock (ASSA ABLOY Only)** — *For ASSA ABLOY IP doors only.* Locks the door. The door remains locked until a scheduled action is initiated.

3. Select any of the following **Door Mode** options to change the door mode.

   For more information, see *Door Modes* on page 211.
4. Select either of the following **Forced** options if required:
   - **Mask Forced** — Masks the Forced Door Alarm for the door. The status color changes to blue and is no longer included in any alarm subtotal.
   - **Unmask Forced** — Unmasks the Forced Door Alarm for the door.
5. Select either of the following **Held** options if required:
   - **Mask Held** — Masks the Door Held Open Alarm for the door.
   - **Unmask Held** — Unmasks the Door Held Open Alarm for the door.
6. Select either of the following **Installed** options if required:
   - **Install** — Installs a door. Enables communication between the door and the ACM system.
   - **Uninstall** — Uninstalls a door. Disables communication between the door and the ACM system.
7. Select **Delete** — Removes the connection between the door and the ACM system.

Accessing Web Interface of Power Panels

When LifeSafety power panels are installed in your ACM system, you can access the web interface of the panel to view the panel's current status or its event log, and edit its configuration.

- Click the name of the LifeSafety power panel to display the panel details.
- The (installed) or (uninstalled) status of the panel is read-only and cannot be changed.
- Click a command:
  - **Status** — Displays the current status of the LifeSafety panel.
  - **Log** — Displays the log of events and alarms recorded by the LifeSafety panel.
  - **Edit** — Displays the browser page for the remotely connected panel. Edit the configuration as required.

Monitor Screen - Map Templates page

When you click **Monitor > Maps**, the Map Templates page displays. This page lists all the maps that have been added to the system.

Feature	Description
Add Map Template	Click this button to add a new map template.
Name	The name of the map template. A list of all the configured maps is displayed. Also included in the list are configured Mustering dashboards. Click the name of the map template to display the configured map or dashboard.

Using a Map

Access a map of your site, facility or floor plan from the Monitor page to do any of the following:

- Monitor the status of doors, panels, subpanels, inputs and outputs that are installed. For example, a mustering station on the third floor of a building.
- Set the door mode and door commands on the map.

  Note: Unlike the Physical Access > Doors or Monitor > Dashboard page which displays all modes and commands regardless of door type, the Monitor > Maps page displays only the modes and commands that are supported by your door or device.
- Keep track of identities as they arrive at muster stations from the Mustering dashboard.

Hardware Status

The following indicators are displayed on the map as events occur:

Icon	Status	Description
	Green bar	The hardware is operating normally.
	Red square	The hardware is in an alarm state. The counter in the square shows the number of unacknowledged events.
	Solid blue disk	An active override is in effect on the door.
	Hollow blue disk	An inactive override is defined.
	Red bounding box around the status bar	The door is in Priority Mode.

Viewing a Map

To access and monitor your site from a map:

1. Select **Monitor > Maps**.
2. In the Map Templates list, click the name of a map.

   Some of the displayed elements may not appear in your map or the example below.

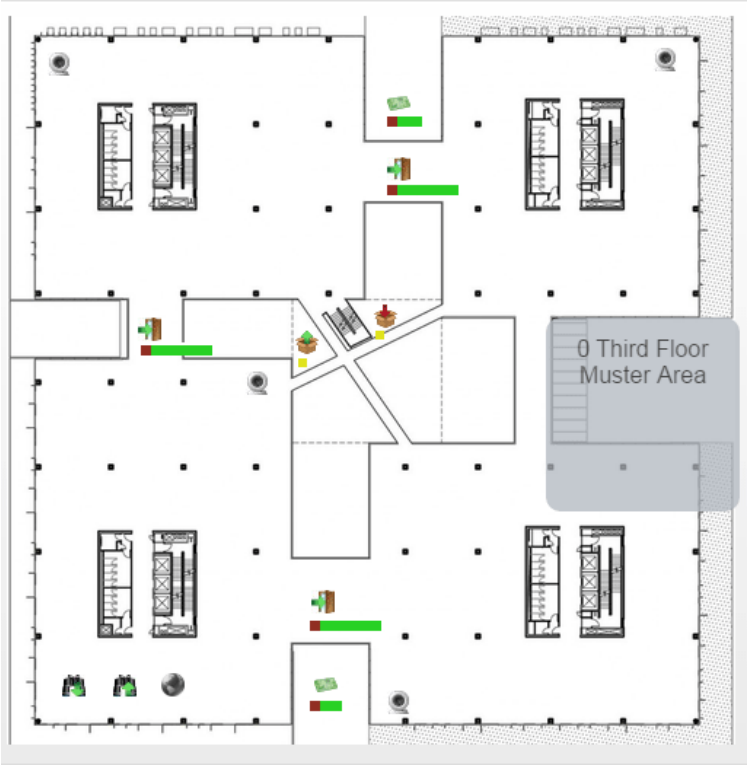


Figure 2: Example map of a muster station on the third floor

> **Note:** Fields in this list are dependent on the door or device. Some commands or fields are not supported for all doors or devices.

Icon	Description
	Doors
	Panels
	Subpanels
	Inputs
	Outputs
	Cameras
	Zoom In

Icon	Description
	Zoom Out
	Global Actions
Square, circle or text object	**Dashboard Elements**

Map Actions

The actions you can complete on a map are determined by the permissions of your assigned roles.

To...	Do this...
Review hardware status	The colored bar below each item displays an overview of the current communication and power status. • Click the icon on the map to display the control menu. For more information about the colored hardware status bar, see the specific hardware status page. For more information about the status colors, see *Status Colors* on page 52.
Review an alarm	If you see a red alarm indicator, the item on the map is in an alarm state. • Click the alarm indicator to see the status details. For more information about alarm actions, see *Monitor Alarms* on page 43.
Modify or delete an override	If you see solid blue disk indicator, an active override is in effect on the door. If you see a hollow blue disk indicator, an inactive override is defined. • Click the indicator to open the Doors: Overrides page to see details.
Respond to a priority situation	If you see a red bounding box around the status indicator, the door is in Priority Mode. **Important:** A door is in Priority Mode when a priority situation has been declared at your site. All doors affected by the situation are placed into Priority Mode and only the Priority ACM Operator, responsible for dealing with priority situations can interact with the door.

To...	Do this...
Control a door	Click on the map to display the control menu for the selected door. **Note:** Fields in this list are dependent on the door or device. Some commands or fields are not supported for all doors or devices. Use the menu options to set the Door Mode. For more information, see *Door Modes* on page 211. Use the following menu options to mask or unmask alarms: • **Mask Held** — Mask the Door Held Open Alarm. • **Unmask Held** — Unmask the Door Held Open Alarm. • **Mask Forced** — Mask the Door Forced Open Alarm. • **Unmask Forced** — Unmask the Door Forced Open Alarm. To view live video, recorded video, notes, instructions, identities, and history click **Trace** to display the event transactions for the door. To hide the control menu, click the icon again.
Control a panel or subpanel	Click on the map to display the panel control menu, then for the panel or subpanel use these options: • Panels ◦ **Download Params** — Download the latest system configurations to the panel. ◦ **Tokens** — Download the tokens to the panel. ◦ **Reset/Download** — Reset and download the current system configuration to the panel. ◦ **APB Reset** — Resets all panel and area counts to zero. ◦ **Clock** — Re-sync the panel time. ◦ **Trace** — Display the event transactions for the panel. **Note:** This is the only option supported for ASSA ABLOY IP panels. • Subpanels ◦ **Trace** — Display the event transactions for the subpanel. Viewing live video, recorded video, notes, instructions, identities, and history can be performed on the event transactions. To hide the control menu, click the icon again.

To...	Do this...
Control an input	Click the on the map to display the input control men for the input. Use these options to mask or unmask the input: • **Mask** — Mask the input. • **Unmask** — Unmask the input. To hide the control menu, click the icon again.
Control an output	Click the on the map to display the output control menu for the output. Use these options to initiate output actions: • **On** — Activate the output. • **Off** — Deactivate the output. • **Pulse** — Pulse the output. To hide the control menu, click the icon again.
Display video	Click the on the map to display the Camera Video window.
Open a linked map	Click to display a linked map, or to display a linked map.
Monitor the dashboard	If there is a Mustering dashboard configured on the map, it may appear as a line of text or as a shape with text inside. The dashboard displays the number of identities in the area and may include the name of the area. In *Example map of a muster station on the third floor* on page 59, the dashboard is the gray square. Click the dashboard to see a list of all the identities that are in the area. Click outside the pop-up dialog to hide the identities list. Click the First Name or Last Name to view the identity.

Adding Maps

Follow the steps below to add maps.

1. Click **Monitor** > **Maps**. The Map Templates (Monitor) list displays.
2. Click **Add Map Template**.

   The **Map Template**: **Add** page displays.
3. Enter a name for the Map in the **Name** field.
4. To:
   - Upload a file, select **File** and click **Browse** then select the file to upload in the **Choose File to Upload** dialog box and click **Open**.
   - Create a blank canvas, select **Blank Canvas**.
5. To resize the image, enter resizing proportions in the **Re-size To** fields.

6. Click to save the map.

   The **Map Template**: **Edit** page displays.

Monitor Intrusion Panels

The following procedures relate to monitoring Bosch intrusion panels.

Monitor Intrusion Panel Status

The intrusion panel status displays the current status of all connected intrusion panels. For example, if the power and communications of the intrusion panel is normal, the Online status will be displayed and a message will appear when you hover over the power and communications icons.

To monitor intrusion panel status:

1. Select **Monitor > Intrusion Status**.

   The Monitor Intrusion Status - Panels screen displays.
2. View the list that displays.

   The following statuses display for panels:

   - Communications
   - Battery
   - Power
   - Tamper
   - Phone Line

   The following statuses apply to all of the above:

   Online

   Alarm

   Trouble

   > **Note:** To view more detail on the status, hover over the status icon to view a pop-up message (e.g. hovering over an Alarm status indicator in the **Comm** column might return the message 'Not connected, verify configured IP and port').
3. If you want to narrow the list that displays use the filter function. Enter a panel name to filter the list results by panel. Type in the name (or part of the name) of the panel and the list will update as you type.
4. If you want to sort the list, click to sort in ascending order, or to sort in descending order in each column.

Monitor Intrusion Panel Areas

The intrusion panel areas display the current status for all defined areas. For example if an area is armed, the Armed status will display and a message will appear when you hover over the status icon.

To monitor intrusion panel area status and make updates as required:

1. Select **Monitor > Intrusion Status**.
2. Click the **Areas** tab.

   The Monitor Intrusion Status - Areas screen displays.
3. View the list that displays. A status is displayed for each area.

   The following statuses apply to all of the above:

   Armed

   Ready to Arm

   Not Ready to Arm

   Partial Arm

   Trouble

   Alarm

   > **Note:** To view more detail on the status, hover over the status icon to view a pop-up message (e.g. hovering over an Armed status indicator might return the message 'All On Instant Arm').
4. If you want to narrow the list that displays, either:
   - Use the filter function. Enter an area name to filter the list results by area. Type in the name (or part of the name) of the area or panel and the list will update as you type.
   - Select a single status (e.g. Partial Arm) to view.
5. If you want to sort the list, click to sort in ascending order, or to sort in descending order in each column.
6. To arm an area:
   - Select the areas to be armed.
   - Click **Primary** then select the arming option. Options are:
     - Instant Arm - Arm all points for the selected areas instantly
     - Delay Arm - Arm all points for the selected areas with an entry/exit delay
     - Force Instant Arm - Arm all points for the selected areas instantly, regardless of their current state
     - Force Delay Arm - Arm all points for the selected areas with an entry/exit delay, regardless of their current state

7. To arm a perimeter area:
    - Select the areas to be armed.
    - Click **Perimeter** then select the arming option.
        - Instant Arm
        - Delay Arm
        - Force Instant Arm
        - Force Delay Arm
8. To disarm select the areas to be disarmed and click **Disarm**.
9. To silence intrusion alarms select the areas to be silenced and click **Silence**.
10. To reset the sensors select the areas to be reset and click **Reset Sensors**.

    The reset time is 5 seconds. During the reset time, alarms from the points associated with the selected areas will be ignored.

Monitor Intrusion Panel Points

The intrusion panel points displays the current status of all connected points. For example, if a point has been bypassed, the bypassed status will display and a message will appear when you hover over the status icon.

To monitor intrusion panel point status:

1. Select **Monitor > Intrusion Status**.
2. Click the **Points** tab.

    The Monitor Intrusion Status - Points screen displays.
3. View the list that displays. A status is displayed for each point.

    The following statuses apply to all of the above:

    Normal

    Faulted

    Bypassed

    Trouble

    Note: To view more detail on the status, hover over the status icon to view a pop-up message (e.g. hovering over an Bypassed status indicator might return the messages such as 'Open', 'Missing' or 'Normal').
4. If you want to narrow the list that displays, either:
    - Use the filter function. Enter a point name to filter the list results by point. Type in the name (or part of the name) of the point, area, or panel and the list will update as you type.
    - Select a single status (e.g. Faulted) to view.

5. If you want to sort the list, click ▲ to sort in ascending order, or ▼ to sort in descending order in each column.
6. If you want to bypass or unbypass a point:
    - Select the point (or points) in the list, and
    - Click either the **Bypass** or **Unbypass** button.

> **Note:** Some points in the system may not be bypassed due to configuration settings. Trying to bypass these points will result in no state change.

Monitor Intrusion Panel Outputs

The intrusion panel outputs display the current status of all connected outputs. For example, if a output is active, the Active status will display and a message will appear when you hover over the status icon.

To monitor intrusion panel outputs status:

1. Select **Monitor** > **Intrusion Status**.
2. Click the **Outputs** tab.

   The Monitor Intrusion Status - Outputs screen displays.
3. View the list that displays. A status is displayed for each output - the available statuses are:

   Inactive

   Active

   Trouble
4. If you want to narrow the list that displays, either:
    - Use the filter function. Enter an output name to filter the list results by output. Type in the name (or part of the name) of the output, or panel and the list will update as you type.
    - Select a single status (e.g. Active) to view.
5. If you want to sort the list, click ▲ to sort in ascending order, or ▼ to sort in descending order in each column.
6. If you want to activate or deactivate an output:
    - Select the outputs in the list, and
    - Click either the **Activate** or **Deactivate** button.

Identities

The Identities screen gives you access to all tokens and operators of the system. An identity is added to the system when a new user needs access to the site. For example, when a person is hired. Access to a site may be physical access to an area or access to the ACM system to manage the site.

Physical access to the site allows a user to access areas and doors. Access to the ACM system allows users to manage the site, such as adding users or monitoring events.

For a user to have access to the system or physical access to the site, they must have an identity.

- If the user requires access to the system, they are issued a login and password. This allows the user to access areas of the system. The areas of the system the user has access to depends on their role.
- If a user requires physical access to the site, they are issued a token. The token gives the user physical access to the site. This allows the user to access areas on the site. The areas the user has access to depends on their role in the system.

Note: If you do not have the correct delegations, you may not be able to access some of the following pages. See your System Administrator for details.

Configuring HID Mobile Access® Credentials

Before you can issue HID Origo tokens, you must configure HID Origo. For more information, see:

- *Prerequisites* below
- *Step 1: Connecting to the HID Origo External System* below
- *Step 2: Enrolling Identities and Issuing Tokens* on the next page

Prerequisites

You need access to HID Origo configuration information in the HID Origo Management Portal.

1. Create an HID Origo account, log in and go to **Organization Administration**.
2. Add a **System Account** and enable **Mobile Identities** to communicate with ACM.
3. Select the **Password** credential type and enter a password. (Only password credentials are supported by ACM. PKI credentials are not supported.)

For more information, refer to HID mobile access documentation.

Step 1: Connecting to the HID Origo External System

Note: Before you begin, obtain the Organization ID and user account information from the HID Origo Management Portal.

Important: Connecting more than one ACM system to the same HID Origo account is not recommended.

To connect to HID Origo in ACM:

1. Select > **External Systems**.
2. Click the **HID Origo** tab.
3. Enter:

Appliance	The name of the ACM appliance.
Authentication Portal	The URL of the HID authentication portal.
Management Portal	The URL of the HID management portal.
Customer ID	The Organization ID.
User Name	The Client ID of the system account.
Password	The password for the system account.
Partitions	Displayed for a partitioned ACM appliance only. To restrict operator access to the item, select one or more partitions. To allow all operators access to the item, do not select a partition.
Installed	Enables communication between the ACM appliance and HID Origo after saving.

4. Click the **Create** button.

After the connection is saved, see *Step 2: Enrolling Identities and Issuing Tokens* below.

Step 2: Enrolling Identities and Issuing Tokens

Note: Before you begin, configure the Enroll Settings section in the HID Origo Management Portal.

To enroll an identity and issue an HID Origo token:

1. Select **Identities** > **Identities** and click **Search** to select an identity already created.

   If you need to add an identity, see *Adding an Identity* on page 71.

   If you need to add a role, see *Adding an Access Group* on page 112 and *Assigning an Access Group to a Role* on page 114.
2. Click the **Tokens** tab and enter:

Token Type	HID Origo
Mobile ID Type	The mobile ID to be issued to the registered device.

   For other field descriptions, see *Token Fields* on page 83.
3. Click **Enroll**. An invitation is sent to the email address of the identity.
4. Instruct the identity to follow the steps in the email, including clicking an app store link to install the HID Mobile Access app and then clicking the invitation code link to enroll.
5. After the identity accepts the invitation, the HID Origo token will be available in their mobile app.

Issuing a Token to an Enrolled Identity on a Registered Mobile Device

If you need to issue to an identity an additional credential with a different mobile ID, you can issue another

token:

1. Click **Add Token** on the Tokens tab and enter:

Token Type	HID Origo
Mobile ID Type	The HID mobile card that is not already issued to the device.

2. Click **Issue Token**.
3. Select the mobile device in the Device Selector.
4. Click **Submit**. The token is displayed in the list of tokens in the ACM application. Another token is displayed in the HID Mobile Access app.

Registering a New Mobile Device for an Enrolled Identity

If an identity has swapped devices or if an invitation has expired, you can send another invitation:

1. Click **Send Invitation** on the Tokens tab.
2. Instruct the identity to follow the steps in the email, including clicking an app store link to install the HID Mobile Access app and then clicking the invitation code link to enroll.

Searching for HID Origo Tokens

To search for HID Origo tokens that were issued, or are being issued, to identities:

1. Select **Identities** > **Identities**.
2. Use **Identity Search** to find an identity.
   - In Search Field, select **HID Origo Token Status**.
   - In Search Value, select **Issued** or **Issuing**. To search for both statuses, leave blank.
3. Click **Search**.

Searching for an Identity

Use **Identity Search** to find an identity.

1. Fill out the following fields:
   - **Last Name** field.
   - (Optional) **First Name** and/ or **Internal Number** fields.
   - (Optional) **Group** field.

   Blank entries will return all identities.

> **Note:** *Identities using SALTO devices only.* First Name and Last Name are required. *Identities using HID Origo tokens only.* First Name, Last Name and Email Address are required to enroll

the identity in HID Origo.

2. Add other search criteria.
    a. **Search Field** drop down list.
    b. **Search Value** field.
    c. Click **Add Criteria** to add another search field and value.

    To clear all fields, click **Clear Search**.

    To remove a search row, click **Remove**.
3. To the right of the **Search** button, select either:
    - **And** to find all identities that fit all entered criteria.
    - **Or** to find identities that fit one or more of the entered criteria.
4. Click **Search**.

    The page displays your search results.

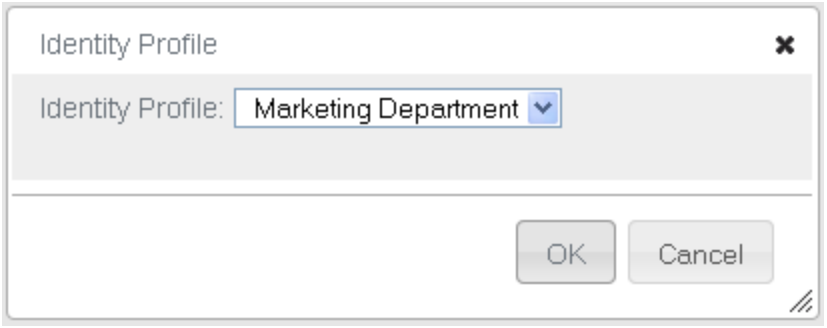
Adding an Identity

A person with an identity record in ACM can be issued a badge to enter the physical site. A user of the ACM software can be issued a login and password.

To add a new identity:

1. Select **Identities**.
2. Click **Add Identity**.

    If Identity Profiles are configured, select the profile for the identity and click **OK**. The Identity Add page appears with the details of the identity profile. Otherwise, click **Cancel**.



3. Fill out the **Last Name** field and the required details.

Note: Additional fields can be added using the User Forms or User Lists feature. *Identities using SALTO devices only.* First Name and Last Name are required. *Identities using HID Origo*

tokens only. First Name, Last Name and Email Address are required to enroll the identity in HID Origo.

4. Click .
5. Assign roles to the identity as required on the **Roles** tab and click .

   To add an item, select it from the **Available** list and click .

   To remove an item, select it from the **Members** list and click .

   Tip: Use Shift + Click to select items in sequence. Use Ctrl + Click to select individual items.
6. Enter the token details as required on the **Tokens** tab.

   By default the **Download** checkbox is selected, which downloads the token to the connected panels and associated doors. *Identities using SALTO devices only*. Click the **Download** button, which downloads the token to the SALTO server and door. *Identities using ASSA ABLOY IP devices only*. Click the **Download** button, which downloads the token to the DSR and door.

   When you are finished, click .
7. Add more details about the identity on the following tabs:
   - **Roles**: Assigns a role to this identity.
   - **Tokens** : Creates a token for the identity.
   - **Groups**: Assigns the identity to a group.
   - **Capture**: Takes a photo of the user.
   - **Photos**: Uploads an existing photo of the user.
   - **Badge**: Assigns a badge to the user.
   - **Timed Access**: Assigns timed access to the user.
   - **Access**: View the identity's access privileges including roles, access groups and doors.
   - **Transactions**: View transactional data associated with the identity.
   - **Audit**: View a log of all the changes that have been made to this identity.

     The default Enrollment Operator role does not have access to this tab. Contact your System Administrator for more details.

Note: The labels of the built-in tabs, such as Identity and Tokens, may be renamed by your System Administrator. A custom form or User Defined Tabs with User Defined Fields may be added at the end of the list.

Assigning Roles to Identities

A role defines what a user has access to. For identities to have access to the system or physical access to the site, they must be assigned a role. Each role contains access groups and/or delegations. Access groups allow a user to have physical access to the site. Delegations allow a user to have access to the system. The user will be assigned a role depending on their position in the organization.

To assign roles to an identity:

1. Click **Identities**.
2. From the Identities Search page, perform a search for an identity.

   For more information, see *Searching for an Identity* on page 70.
3. Click on the name of the identity you want to edit.
4. Select the **Roles** tab.
5. From the Available list, select all the roles that you want to assign to the user, then click ►.

   The role is added to the Members list to show that it is now assigned.

   To remove a role from the user, select the role from the Members list, then click ◄.

   > **Note:** You can select multiple items by using the **Ctrl** or **Shift** key.
6. Click .

Assigning Tokens to Identities

Tokens are used to authenticate individuals and allow or deny them physical access to your site. Tokens are assigned to personnel identity records along with access cards, biometric data such as fingerprints, or connected devices such as smartphones with apps that can be presented for authentication at readers.

To further restrict access, identities can be assigned to specific roles within your site.

To create tokens and assign them to an identity:

1. Select **Identities** > **Identities**.
2. Search for an identity.

   For more information, see *Searching for an Identity* on page 70.
3. Click the name of the identity you want to edit.
4. Select the **Tokens** tab.
5. If only one token has been defined, the Token: Edit page appears.

   If more than one token has been defined, the Tokens list appears. Click **Add Token**.

6. Enter the details as required.

   Note: If you are assigning HID Origo tokens, see *Configuring HID Mobile Access® Credentials* on page 68.

7. Click and then to return to the identity search.
8. Click **Download** to download the token to the connected panels and associated doors.
9. To assign this token to a badge, select the **Badge** tab.

   From the **Badge Token** drop down list, select the internal number you want to assign to the badge.

10. Click .

Assigning Groups to Identities

Groups are used to group physical and/or system components. Groups are assigned to identities primarily for batch updates. For example, if all the badges are close to expiry and they are assigned to the same group, the expiration date can be extended through a batch job.

To assign groups to an identity:

1. Click **Identities**.
2. From the Identities Search page, perform a search for an identity.

   For more information, see *Searching for an Identity* on page 70.

3. Click on the name of the identity you want to edit.
4. Select the **Groups** tab.
5. From the Available list, select all the groups that you want to add the user to, then click .

   The group is added to the Members list to show that the user is now a member.

   To remove a user from a group, select the group from the Members list, then click .

   Note: You can select multiple terms by using the **Ctrl** or **Shift** key.

6. Click .

Deleting a Token

To delete a token:

1. On the **Tokens** tab of an identity, click **Delete**.
2. Click **OK**.

Capturing and Uploading Photos of an Identity

Note: Using photos taken directly from a mobile phone is not supported. To maintain the aspect ratio of a photo, you need to download it to your computer and then upload it to the ACM system for editing, as described below.

Capture or upload photos of a person from the **Photos** tab on a person's **Identity** page. Then you can select a photo from this page to appear on that person's Identity page or printed on an access badge.

Captured photo: A photograph taken by a badge camera connected to your computer and to the ACM system, and saved in the ACM system. Captured photos are in JPG format.

Uploaded photo: A graphics file in JPG, PNG, or or GIF format that you upload from any location your computer can access and save in the ACM system. Typically, you would upload a JPG file for access badges.

Note: The Microsoft Edge web browser supports only the uploading of JPG files. Do not attempt to upload any other file format if you are using the ACM client in the Microsoft Edge web browser.

Photos saved in the ACM system can be cropped, resized, and rotated to meet the standardized requirements of the badge templates defined in your system.

You can use two types of cameras as a badge camera to capture a photo:

- **Local Camera** — Any camera connected directly to your computer or built into your computer or monitor.
- **IP-based camera** — Any IP-based camera previously connected to your network and added to your ACM system.

Before you can:

- Use a camera to capture photos, you must specify the badge camera you want to use in your user profile. For more information, see *External Systems - Defining the Badge Camera for the System* on page 425.
- Generate and print a badge, at least one badge template must be defined in your system.

After a photo has been added to the **Photos** tab of an identity, you can edit the photo to suit the requirements of your badge templates. Then you can create a badge with that photo. For more information, see *Creating Badges for Identities* on page 79.

Capturing a photo

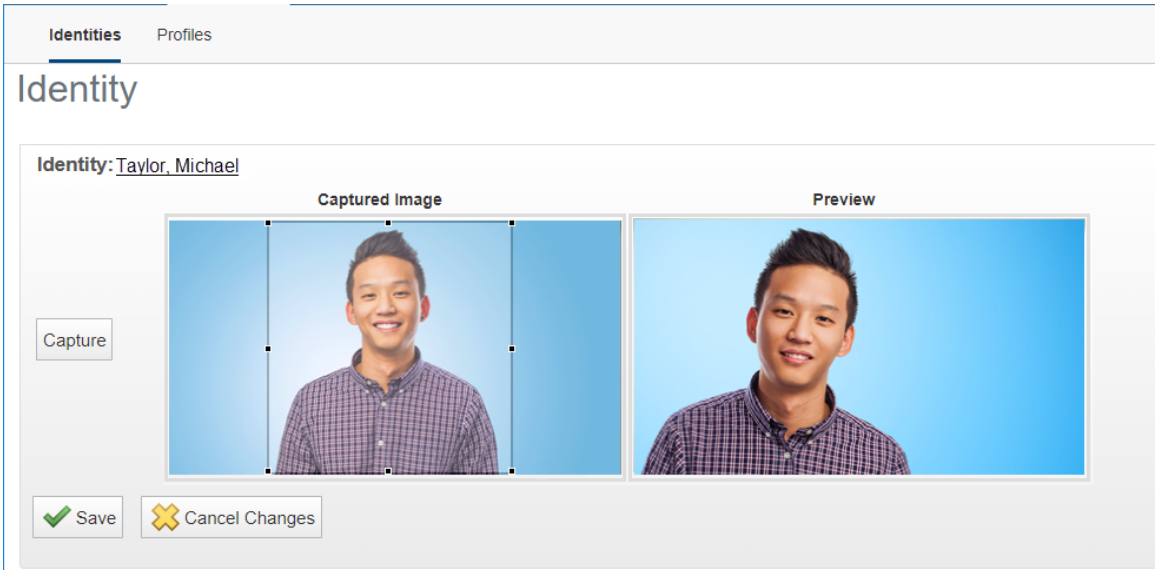
1. There are two ways to access the Capture page:
   - From the Identities Search page, click from the **Image Capture** column.
   - From the Identities Search page, click on the name of an identity, select the **Photos** tab, then click **Capture a Photo**.
2. If you are using:
   a. A local camera that you have not used before, this page will not appear unless you allow your web browser to access your camera. The first time you access the Capture page, you are prompted to allow your browser to access your local camera. Click **Allow**.
   b. An IP-based camera and the camera requires authentication, this page will not appear until you have entered your login credentials.

      Enter a user name and password, then click **OK**.

   The Capture page appears, with the live preview from the camera showing on the right.
3. Click **Capture**.

   The page refreshes to show the captured photo on the left and the live preview on the right.

   A cropping overlay is imposed over the photo, The aspect ratio of the overlay is determined by the values set on the **System Settings** page for **Badge Template Photo Height** and **Badge Template Photo Width**.



4. Click:
   - **Save** to save the photo that part of the image highlighted in the cropping overlay is saved. Cropping the photo using this aspect ratio ensures that the photo will fit exactly into the photo area on the badge without any distortion.
   - **Save and Edit** to save the photo and open the photo editing tool, or **Save** to add the photo directly to the **Photos** tab.
5. On the **Photos** tab, select the **Primary** checkbox if you want this photo to appear on this person's

Identity page and access badge.

6. Click .

Uploading a photo

1. From the Identities Search page, click on the name of an identity, select the **Photos** tab, then click **Upload a Photo**.

   The screen expands to include more fields.

2. Click **Choose File** and navigate the directory to find the photo you want to upload.

   Click **Open** to select the photo. You can upload files in JPG, PNG, or GIF format.

3. On the **Photos** tab, click the **Primary** checkbox if you want this photo to appear on this person's Identity page and access badge. If no primary photo is selected, the first photo on the list is used.

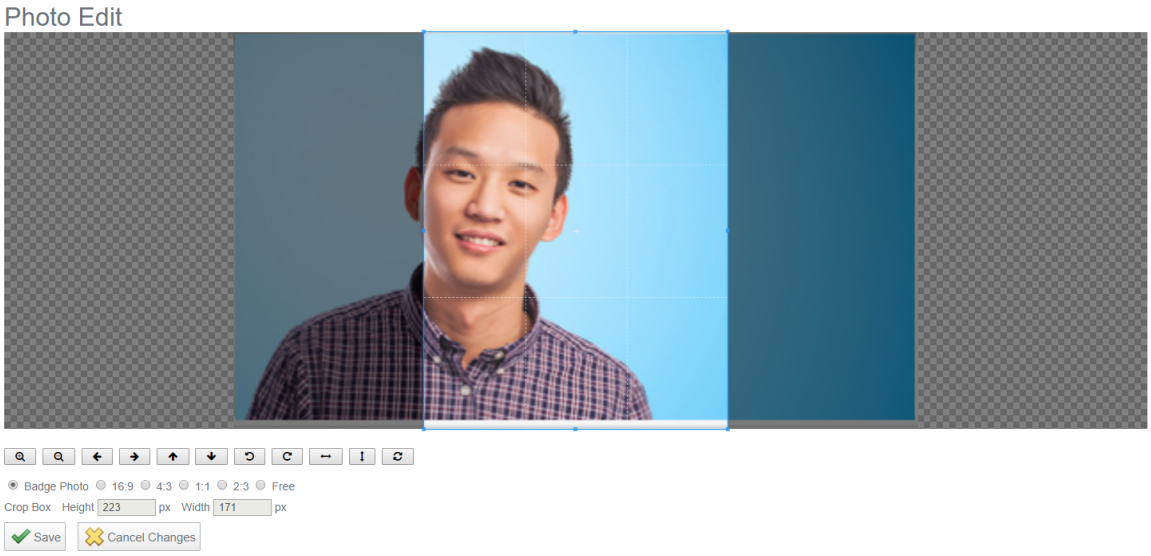
4. Click .

Editing a photo

You can edit a captured photo when you first save it by clicking **Save and Edit**. You can edit any saved photo by clicking on its filename link or thumbnail photo on the **Photos** tab.

The photo is displayed with a brighter cropping overlay imposed over it. The overlay is preset to the **Badge Photo** aspect ratio. This ratio is determined by the values set on the **System Settings** page for **Badge Template Photo Height** and **Badge Template Photo Width**. Cropping the photo using this aspect ratio ensures that the photo will fit exactly into the photo area on the badge without any distortion.

Use the mouse in combination with the control buttons under the photo to crop, resize, rotate and flip the photo. You cannot edit the actual photo, or change its resolution by zooming in and out. The dimensions shown in the Crop Box options are read-only and cannot be entered directly, but are dynamically updated as you manipulate the cropping overlay with the mouse.



1. Adjust the overlay.
    - To reposition the overlay over the photo:
        1. Click inside the cropping overlay.
        2. Drag the mouse to move the overlay.
    - To resize the overlay
        1. Click on the bounding frame. The mouse cursor will change to indicate the direction the overlay can be resized.
        2. Resize the overlay. The selected aspect ratio (usually the Badge Photo aspect ratio) is retained.
    - To change to a different aspect ratio:

      Click to select the required aspect ratio.
    - To resize the overlay freely:
        1. Click **Free**.
        2. Click on the bounding frame. The mouse cursor will change to indicate the direction the overlay will be resized.
        3. Drag the mouse to resize the overlay. The overlay will be resized only in the direction of the cursor.
    - To rotate the overlay:
        1. Click outside the current overlay.
        2. Drag the mouse to draw a new overlay.
    - To replace the overlay:
        1. Click outside the current overlay.
        2. Drag the mouse to draw a new overlay.
2. Adjust the photo.
    - To enlarge or reduce the photo:

      Use the + and - magnifier control buttons to adjust the photo size in stepped increments.
    - To reposition the photo:

      Use the up, down, left and right control buttons to adjust the photo position in stepped increments.
    - To rotate the photo:
        1. Use the counterclockwise circular arrow to rotate the photo to the left by 90°.
        2. Use the clockwise circular arrow to rotate the photo to the right by 90°.
    - To flip the photo:
        1. Use the horizontal double-ended control button to flip the photo left to right.
        2. Use the vertical double-ended control button to flip the photo top to bottom.
    - To reset the photo:

      Use the reset control button to cancel your changes and revert the photo to its previously saved version.

3. Save the photo:

   Click .

   The **Photos** tab is displayed with the saved photo.

   When you save the photo, that part of the image highlighted in the cropping overlay is saved.

   > **Note:** The saved photo replaces the original photo. The original photo cannot be restored.

Specifying the Primary photo

If you have several photos saved on the **Photos** tab, the first photo is used on that person's Identity page and is selected by default for the access badge. To use another photo instead, select the **Primary** checkbox of the photo you want.

Deleting a photo

To delete a photo from the **Photos** tab:

1. Click .
2. Click .

Creating Badges for Identities

Badges are identification cards that are used to verify a user's identity or association to an organization. Badges may also be used as access cards if they are printed directly on the person's RFID badge.

> **Note:** Before you can print a badge, you must connect a badge printer to the network and configure it. For instructions on how to configure your badge printer, refer to the printer's user guide.

To create a badge for a user:

1. Click **Identities**.
2. From the Identities list, click on the name of the identity you want to edit.
3. Select the **Badge** tab.
4. From the **Badge Photo** drop down list, select a photo for this badge.

   Only the photos that have been previously uploaded or captured for this identity appear in this list.
5. From the **Badge Token** drop down list, select the token you want to associate with this badge.

   Only the tokens that have been previously defined for this user appear in this list.
6. From the **Badge Template** drop down list, select the badge template that you want to use for this badge.

   Only the badge templates that have been previously defined appear in this list.

7. Click .
8. To print the badge, click **Create Badge**.

   The badge appears in a preview window.
9. Click **Print**.

> **Note:** When printing the badge, ensure that the Header and Footer settings are turned off or set to blank.

Timed Access

Timed access allows you to schedule access to a specific set of doors or access groups for one badge-holder identity. It is useful for providing temporary restricted access to your site for visitors, contractors, temporary employees, and so on.

Use timed access:

- By door to provide short-term restricted access to your site for visitors, contractors, temporary employees, and so on; for example, to allow a contractor to access only the doors needed to access the work site. Each timed access applied to a door adds a new access level to the panel attached to the door, and panels are restricted to a maximum of 254 access level entries. There is a risk that overuse of this feature without deleting entries can cause the number of access levels on a heavily used door, such as a front door, to exceed this maximum.
- By access group to provide groups of badge-holders access to specific areas for restricted times; for example to access canteen areas during meal hours, or parking garages during the working day. The risk of access levels accumulating is much reduced by using access groups.

> **Note:** All timed access deletions must be done manually. There is no automatic clean-up of timed access entries.

To find a timed access entry for an identity:

1. Click **Identities**.
2. Search for the identity. For more detail refer to *Searching for an Identity* on page 70.
3. Click on the name of the identity. The Identity: Edit page displays.
4. Click on the **Timed Access** tab.

To add a new timed access entry for an identity:

1. Find the timed access entry for the identity.
2. Click on the **Timed Access** tab.
3. Complete the fields on the tab. Refer to the guidelines above to select the appropriate timed access type.
4. Click **Add**.

   The new timed access entry is added to the timed access list. If the timeframe for an entry is currently active it will display in green. Timeframes for timed access are not checked against schedules. If a timed access entry is displayed in green but is not working, check any related schedules.

Note: You cannot edit a timed access entry. To change the details of an entry, delete the timed access entry and add a new one.

To delete a timed access entry for an identity:

1. Find the timed access entry for the identity.
2. Click on the **Timed Access** tab.
3. View the timed access list.
4. Click ✖ to delete the related timed access entry.
5. Click **OK** when the message 'Are you sure you want to delete *<name>*' displays.

   The message 'Successfully deleted the timed access entry *<name>*' displays.

Note: All deletions must be done manually. There is no automatic clean-up of timed access entries.

Adding Timed Access to an Identity

To add a new timed access entry for an identity:

1. Click **Identities**.
2. Search for the identity. For more information, see *Searching for an Identity* on page 70.
3. Click the name of the identity.
4. Click the **Timed Access** tab.
5. Complete the following fields:
   - Name
   - Type
   - Appliance
   - Available/Members

- Start Day/Time
- End Day/Time
- Schedule (if doors are selected as the Type)

6. Click **Add**.

   The new timed access entry displays in the timed access list. If the timeframe for an entry is currently active it will display in green. Timeframes for timed access are not checked against schedules. If a timed access entry is displayed in green but is not working, check any related schedules.

Editing Timed Access

There is no functionality to edit a timed access entry. If you want to change the details of an entry, then:

- Delete the timed access entry. For more detail, refer to *Deleting Timed Access* below.
- Add a new timed access entry. For more detail, refer to *Adding Timed Access to an Identity* on the previous page.

Deleting Timed Access

To delete a timed access entry:

1. Click **Identities**.
2. Search for the identity. For more detail refer to *Searching for an Identity* on page 70.
3. Click on the name of the identity.
4. Click on the **Timed Access** tab.
5. View the timed access list.
6. Click ✖ to delete the related timed access entry.
7. Click **OK** when the message 'Are you want to delete *<name>*' displays.

   The message 'Successfully deleted the timed access entry *<name>*' displays.

Note: All deletions must be done manually. There is no automatic clean-up of timed access entries.

Editing an Identity

An identity must be edited when user information changes. For example if a user changes roles, their identity would need to reflect this. If the role is not updated, the user would not be able to access areas required for their new role.

To edit an existing identity:

1. Click **Identities**.
2. Search on the Identity Search screen, then click on the identity you want to edit.
3. Navigate through the tabbed pages and make the required changes.
    - **Identity:** The identity details.
    - **Roles**: Assigns a role to this identity.
    - **Tokens** : Creates a token for the identity.
    - **Groups**: Assigns the identity to a group.
    - **Capture**: Takes a photo of the user.
    - **Photos**: Uploads an existing photo of the user.
    - **Badge**: Assigns a badge to the user.
    - **Timed Access**: Assigns timed access to the user.
    - **Access**: View the identity's access privileges including roles, access groups and doors.
    - **Transactions**: View transactional data associated with the identity.
    - **Audit**: View a log of all the changes that have been made to this identity.

      The default Enrollment Operator role does not have access to this tab. Contact your System Administrator for more details.

Note: The labels of the built-in tabs, such as Identity and Tokens, may be renamed by your System Administrator. A custom form or User Defined Tabs with User Defined Fields may be added at the end of the list.

Note: Remember to click to save the changes on each page.

Token Fields

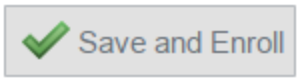
Add or edit a token for an identity on the **Token** tab in **Identities**:

Token Type	Displays only for ViRDI, PIV and PIV-I, SALTO, and HID Origo tokens: • **Default**: For all other types of tokens. • **VIRDI Biometrics**: Only if ViRDI system settings have been applied. • **PIV** or **PIV-I**: Only if pivCLASS system settings have been applied. See *Appendix: pivCLASS Configuration* on page 502. • **SALTO** • **HID Origo**

Mobile Application Type	Displays only for **SALTO** tokens. Default is **None**. **JustIn Mobile** refers to the SALTO JustIN Mobile application that is installed on the mobile phone of the identity. **Note:** When issuing mobile keys, the encoder requires access to the internet.
Mobile ID Type	Displays only for **HID Origo** tokens. The mobile ID to be issued to the registered device.
Mobile Phone Number	Displays only for **SALTO** tokens. The mobile phone number in international format (plus sign and no spaces). + country code, area code, phone number Example: `+12345678910` **Note:** The mobile app must be installed on the mobile phone of this phone number.
User ID	Displays for ViRDI Biometrics only; read-only field. The ID number for the token assigned from the range configured when the ViRDI external system was configured.
Embossed Number	The number to be printed on a badge. Only required for physical access cards. Does not display for ViRDI Biometrics and SALTO tokens.
Internal Number	The internal number that is assigned automatically to the token. This value is downloaded to panels to enable the token's access permissions. **Note:** Duplicate numbers are not allowed in the ACM system. Ensure the configuration of mobile IDs in HID Origo prevents duplicate credential numbers. Does not display for SALTO tokens.
CHUID	See *Appendix: pivCLASS Configuration* on page 502.
PIN	When a PIN is required, the PIN number that the user will be required to enter at a keypad card reader. Does not display for ViRDI Biometrics tokens.

Token Status	The status of the token may be set manually and then updated by the system as follows: • **Active**: The Not Yet Active token is set to Active when the current date is past the Activate Date. • **Expired**: The Active token is set to Expired when the current date is past the Deactivate Date. • **Inactive**: The Active token is set manually to Inactive without further update. • **Not Yet Active**: The token is not active yet.
Issue Level	A number from 0 to 999999999, representing the issue level of the token. Example: If a 3-digit length was configured on the Card Format: Edit page, you can enter 123 for the issue level of the card. For more information, see *Issue Level Numbering for Reusing a Card Number* on page 321.
Last Area	The last area the token gained access to. Does not display for SALTO tokens.
APB Exempt	A checkbox to exempt this token from anti-passback. For more information, see *Anti-Passback Modes* on page 213. Does not display for SALTO tokens.
Trace	A checkbox to enable the trace feature for the token. This will generate a trace event each time the token is used to gain access. The event can then be sent to monitoring, reported separately, and used in global I/O configurations. Does not display for SALTO tokens.
Download	A checkbox to allow the token to be downloaded to connected panels. Default is enabled. *SALTO tokens.* Click the **Download** button, which downloads the token to the SALTO server and door.
Never Expire	The token never expires.
Extended Door Times	A checkbox to give the token extended access time. Once enabled, the door remains unlocked for a longer period of time than the standard access time to accommodate users that may require more time to enter a door. Standard and extended access times are specified on the Door Edit page.
Office	Displays for SALTO tokens only. A checkbox to enable the token to activate Office mode for a door that is configured for Office mode, which allows the cardholder to leave the lock open. To use this mode, the cardholder presents the key to the door while pressing down the inner handle and repeats the procedure to undo the mode.

Set Lockdown	Displays for SALTO tokens only. *SALTO standalone doors only.* A checkbox to enable lockdown mode for a door that has a lock that can support manual lockdown. For more information about lockdown in the SALTO system, refer to SALTO systems documentation. To use this mode, the cardholder presents the key to the door's inside reader and repeats the procedure to undo the mode.
Override Privacy	Displays for SALTO tokens only. A checkbox to allow the cardholder to access a door locked from the inside at any time.
Override Lockdown	Displays for SALTO tokens only. A checkbox to allow the person to access a door closed from the inside during lockdown state.
Audit Openings	Displays for SALTO tokens only. *SALTO standalone doors only.* A checkbox to audit the use of keys in standalone doors. Audits automatically occur in online doors.
Enable Revalidation	Displays for SALTO tokens only. A checkbox to specify a period for revalidating a key before it becomes invalid. To make the token valid again, the cardholder can present the token to the online wall reader at any time. For example, a key requires revalidation every seven days, if the update period is set to 7 days. If the key is used on the third day, the update period is reset. If the key is not used for over seven days, the key becomes invalid.
Pin exempt	A checkbox to exempt the token from PIN entry at a keypad card reader. Does not display for SALTO tokens. Not supported for ASSA ABLOY IP doors.
Use/ Lose exempt	A checkbox to prevent this token from expiring if you know the identity will return after an extended period of inactivity. Does not display for SALTO tokens.
Create Time Stamp	When a token was issued to the mobile device of the identity.
Issue Date	The date the token was issued. Click the field to use the calendar.
Activate Date	The activation date for the token. Click the field to use the calendar.
Deactivate Date	The deactivation date for the token. Click the field to use the calendar. In ACM 6.18 and later releases, there is no deactivate date for the token that has Never Expire enabled.
Last Door	The last door the token was used to gain access.
Last Used	The last time the token was used to gain access.
1 free pass	Displays when editing ViRDI Biometrics tokens only. From the drop-down list, select a door. Click **1 free pass** to allow the user to enter the door without generating an APB error.

Enroll	Displays only for HID Origo tokens. Sends an invitation email with app download instructions and invitation code in order that the identity can redeem the issued token. **Note:** First Name, Last Name and Email Address are required to enroll the identity in HID Origo.
Issue Token	Displays only for HID Origo tokens. Only applicable after the identity is enrolled. Issues a mobile ID to the selected device.
Send Invitation	Displays only for HID Origo tokens. Registers a new mobile device. **Note:** After the invitation is accepted, issue a token to this device.
Add Token	Add another token.
Save and Enroll	Displays only for ViRDI Biometrics tokens. It is active when the Biometric Enrollment (BE) Manager is running. Click the button to save your changes and open the BE Manager to enroll and register the fingerprint for the identity. The button is grayed out if the BE Manager is not running:  If your ACM client is running in a Chrome or Firefox web browser, and the BE Manager is running although this button is grayed out, you can initiate a connection by opening the URL https://avobiometric.loc:9875/ in your web browser.
	Click this button to save your changes.
	Click this button to discard your changes.

Managing Roles

The Roles feature allows you to define the access control permissions and application permissions that are available in the system. After roles are defined they can be assigned to identities, depending on the type of access control or application functions they are permitted to have.

When you select Roles, the following options are displayed:

- **Roles** — Displays the Roles list, the starting page for this feature.
- **Policies** — Displays the Policies list.
- **Groups** — Displays the Groups list.
- **Access Groups** — Displays the Access Groups list.
- **Delegations** — Displays the Delegations list.
- **Partitions** — Displays the Partitions list.
- **Routing Groups** — Displays the Routing Groups list.
- **Elevator Access Levels** — Displays the Elevator Access Levels list.

Configuring Roles

A role is a container for all the permissions an ACM operator needs in the ACM system to perform a specific function in the organization. Each role can include access groups, delegations, routing groups, and role-assignment privileges.

- An access group contains all the doors and elevator access levels that a badge holder needs to access.
- A delegation is a list of permissions for the functionality within the ACM system that allows an ACM operator to configure settings and monitor events.
- A routing group allows an ACM operator to monitor specific event types and hardware components.
- Within the role, you can also specify which roles an operator can assign to other people.

After you have defined access groups, delegations, routing groups, and role-assignment privileges, you can assign them to the appropriate roles, and then assign the roles to identities in the system.

Adding a Role

A Role defines a set of permissions in the ACM application that allow users to perform specific functions.

Define your required access groups, delegations, and routing groups before you configure roles.

To add a new role:

1. Click **Roles**.
2. Click **Add Role**.
3. Enter a name for the role.
4. Complete the remainder of the page with the required details.
5. Click .

   The Role Edit screen is displayed.
6. Select the **Access Groups** tab to assign access groups to the role.
7. Select the **Delegate** tab to assign delegations to the role.
8. Select the **Routing** tab to assign routing groups to the role.
9. Select the **Asgn Roles** tab to specify role-assignment privileges. Operators with this role can only assign the specified roles in this list to other people in the system.
10. Select the **Access** tab to view access groups, doors, and identities associated with this role.
11. Select the **Audit** tab to view a log of all the changes that have been made to this role.
12. Click .

Editing a Role

To edit an existing role:

1. Click **Roles**.
2. From the Roles list, click on the role you want to edit.
3. Navigate through the tabbed pages and edit the details as required. The tabbed pages include:
   - Role Edit: use this page to edit general settings for the role.
   - Access Groups: use this page to assign access groups to the role.
   - Delegate: use this page to assign delegations to the role.
   - Routing: use this page to assign routing groups to the role.
   - Asgn Roles: use this page to specify role-assignment privileges. Operators with this role can only assign the specified roles in this list to other people in the system.
   - Access: use this page to view access groups, doors, and identities associated with this role.
   - Audit: use this page to view a log of all the changes that have been made to this role.

> **Note:** Remember to click to save the changes on each page.

Assigning an Access Group to a Role

You must assign an access group to a role to make it effective.

1. Click **Roles** > **Roles**.
2. Select the **Access Groups** tab.
3. Select the access groups that you want to add to the role.

   To add an item, select it from the **Available** list and click ►.

   To remove an item, select it from the **Members** list and click ◄.

   > **Tip:** Use Shift + Click to select items in sequence. Use Ctrl + Click to select individual items.

4. Click ✓.

   All the people with this role now have the access permissions defined by the access group.

Assigning Delegations to a Role

To assign delegations to a role:

1. From the **Roles** drop-down menu, select **Delegations**.
2. From the list of roles on the Delegations panel, click on the role you want to edit.
3. From the Available list, select all the delegations that should be part of the role then click ►.

   The delegation is added to the Members list to show that it is now part of the role.

   To remove a delegation from the role, select the delegation from the Members list and click ◄.

   > **Tip:** You can select multiple terms by using the **Ctrl** or **Shift** key and move them with one click.

4. Click ✓.

Assigning Routing Groups to a Role

To assign routing groups to a role:

1. Click **Roles**.
2. From the Roles list, click on the role you want to edit.
3. Select the **Routing** tab.
4. From the Available list, select all the routing groups that should be part of the role, then click ►.

   The routing group is added to the Members list to show that it is now part of the role.

   To remove an routing group from the role, select the routing group from the Members list, then click ◄.

> **Note:** You can select multiple terms by using the **Ctrl** or **Shift** key.

5. Click .

Assigning Roles

The **Asgn Roles** tab allows you to authorize members of this role to assign specified roles to other users.

To specify these permissions:

1. Click **Roles**.
2. From the Roles list, click on the role you want to edit.
3. Select the **Asgn Roles** tab.
4. From the Available list, select all the roles you want to allow members of this role to assign to others, then click .

   The role is added to the Members list.

   To remove a role from the list, select the role from the Members list, then click .

   > **Note:** You can select multiple terms by using the **Ctrl** or **Shift** key.

5. Click .

Deleting a Role

To delete an existing role:

> **Note:** Default roles cannot be deleted.

1. Select **Roles**.
2. From the Roles list, click beside the role that you want to delete.
3. When the confirmation message is displayed, click **OK**.

Searching for Roles

When you select **Roles** from the task bar, you can see all the roles that have been configured in the ACM system.

Narrowing down the search results

1. Select **Name**, **Installed**, **Default**, **Start Date** or **Stop Date** in **Search Field**.
2. Select the search operator in **Search Value** and type in your search.
3. Optional. To refine your search, click **Add Criteria**, repeat the above steps, and select the **And** or **Or** search operator (located next to the Search button).

   To remove a single criteria row, click **Remove**. To clear all fields, click **Clear Search**.
4. Click **Search**. The results are displayed:

Name	The name of the role. Click the name to edit the role.
Parent	The parent of the role. Click the name to edit the role.
Child Roles	The child roles of the parent role.
Installed	The role is currently operational and available to the system, if enabled. indicates it is disabled. Click the icon to change the setting.
Default	The role is assigned automatically when adding a new identity. indicates it is disabled. Click the icon to change the setting. **Note:** Changing this setting does not affect any existing identity. It is only applied when a new identity is created. For example, you can change these settings to enroll several identities with the same set of roles in a single session, or use them to define a common set of roles applicable to all identities.
Start Date	The activation date and time for the role. Default is today's date at time of role creation.
Stop Date	The deactivation date and time for the role; for example, `12/31/2037 23:59:59`. In ACM 6.18 onwards, there is no stop date for the role that has Never Expire enabled.
Delete	Click to delete this role from the database. **Note:** Default roles cannot be deleted.
Add Role	Click this button to add a new role.
Create Report	Click this button to generate a report of all the roles in the system.

Role Fields

Add or edit a role from the **Roles** > **Roles** page:

Name	The name of the role.
Parent	The parent of the role. Only the roles that have been defined in the system appear in the drop down list. The child role will inherit all the access permissions defined in the parent role. Also, you cannot delete a parent role until you delete all its children. **Note:** This is an advanced feature and is only recommended for experienced operators.
Start Date	The activation date and time for the role. Default is today's date at time of role creation. To use the calendar, click the field. Date and time are displayed in the local time of the ACM appliance.
Stop Date	The deactivation date and time for the role; for example, `12/31/2037 23:59:59`. To display the field and use the calendar, remove the checkmark in Never Expire before you click the field. In ACM 6.18 onwards, there is no stop date for the role that has Never Expire enabled. Date and time are displayed in the local time of the ACM appliance.
Never Expire	The role never expires. For a new role, the setting is enabled by default.
Installed	The role is currently operational and available to the system, if enabled.
Default	The role is assigned automatically when adding a new identity. Activating this setting does not affect any existing identity. It is only applied when a new identity is created. You will have to edit existing identities if you want this role applied to them.
Partitions	Displayed for a partitioned ACM appliance only. To restrict operator access to the item, select one or more partitions. To allow all operators access to the item, do not select a partition.
	Click this button to save your changes.
	Click this button to discard your changes.

Roles - Access Groups page

When select the **Access Groups** tab, the Access Groups page is displayed. Access groups are sets of physical access permissions including doors and elevator access levels. For more information on access groups, see *Managing Door Access* on page 112.

This page allows you to assign access groups to this role.

Feature	Description
Available	A list of access groups that have been configured in the system. To assign an access group to this role, select the access group, then click .
Members	A list of access groups that have been assigned to this role. To remove an access group from this role, select the access group, then click .
	Click this button to save your changes.
	Click this button to discard your changes.

Note: You can select multiple terms by using the **Ctrl** or **Shift** key.

Roles - Delegate page

When you select the **Delegate** tab, the Delegate page is displayed. Delegations are sets of permitted commands within the ACM application. For more information on Delegations, see *Managing Access in the Application* on page 117.

This page allows you to assign delegations to the role.

Feature	Description
Available	A list of delegations that have been configured in the system. To add a delegation to this role, select the delegation from the Available list, then click to move it to the Members list.
Members	A list of delegations that have been assigned to this role. To remove a delegation from this role, select the delegation from the Members list, then click to move it to the Available list.
	Click this button to save your changes.
	Click this button to discard your changes.

Note: You can select multiple terms by using the **Ctrl** or **Shift** key.

Roles - Routing page

When you select the **Routing** tab, the Routing page is displayed. Routing groups allow certain users to monitor specific event types and components during a specified time interval. For more information on Routing, see*Routing Events to the Monitor Screen* on page 127.

This page allows you to assign routing groups to the role.

Feature	Description
Available	A list of routing groups that have been defined in the system. To assign a routing group to this role, select the routing group, then click ▶ .
Members	A list of routing groups that have been assigned to this role. To remove a routing group from this role, select the routing group, then click ◀ .
	Click this button to save your changes.
	Click this button to discard your changes.

Note: You can select multiple terms by using the **Ctrl** or **Shift** key.

Roles - Assign Roles page

When you select the **Asgn Roles** tab, the Asgn Roles page is displayed. This page allows you to specify which roles that members of this role can assign to other identities. For example, suppose you want to allow a Badge Administrator to assign roles for access rights to the facility. However, you might not want to allow a Badge Administrator to assign Super Admin or Monitoring Supervisor to a user.

Feature	Description
Available	A list of roles that have been configured in the system. To allow members of this role to assign a specific role to other identities, select the role, then click ▶.
Members	A list of roles that the user is allowed to assign to others. To remove a role from this list, select the role, then click ◀.
	Click this button to save your changes.
	Click this button to discard your changes.

Note: You can select multiple terms by using the **Ctrl** or **Shift** key.

Roles - Access page

When you select the **Access** tab from the **Role**: **Edit** screen, a list of parent and child roles, identities, access groups, and doors associated with this role is displayed.

Feature	Description
Child Roles	The child roles of the parent role. Click **+** or **-** beside each role to show or hide the identities that are associated with that role.
Identities	The identities that are members of the role.
Parent	The parent of the role. Click **+** or **-** beside the parent role to show or hide the access groups and doors that are assigned to that role.
Access Groups	The access groups that are assigned to the role.
Doors	The doors that are assigned to the role.

Roles - Audit page

When you select the **Audit** tab, the Audit page is displayed, a log of all the changes that have been made to this role is displayed.

Feature	Description
Date	The date and time when this role was modified.
Operator	The user that modified this role.
Attribute	The specific role detail that was modified.
Before	Identifies what the role detail was before it was modified. If the cell is blank, there was no previous value.
After	Identifies what the role detail was changed to.
Create New Report	Click this button to create a PDF report with the details on this page.

Configuring Policies

Policies define access regulations for doors, inputs, and outputs. For example, you can specify the number of allowed PIN attempts at a keypad entry or the length of time a user is allowed to stay in an area. Use policies to override the settings that have been configured for individual doors, inputs, and outputs.

For doors, you can also define Priority Door policies for high-priority and emergency situations. A Priority Door Policy replaces the current settings for a group of doors, including settings applied by other door policies, priority and non-priority global actions, job specifications, and macros.

Priority-enabled policies are intended to support the emergency operating procedures at your site, including potentially life-threatening situations (such as fires, tornadoes, earthquakes, physical attacks), and hazardous situations (such as chemical spills, gas leaks, explosions). These policies require special permissions to configure, and use specific options to operate. For more information, see *Priority Situations* on page 443 and *Triggering Door Lockdown By Panic Button or Red Card* on page 454.

Policies are enabled through the Groups feature. After you have created a policy, you must assign it to a group of hardware components to make it effective. All users and security devices that are assigned to the group are affected by the policies that are in the group.

A policy is in effect when it is installed on the ACM appliance.

Adding a Policy

To add a new policy:

1. Select **Roles** > **Policies**.
2. Click **Add New Policy**.

   The Policy Add page appears.
3. Fill out the **Name** field.
4. Select the hardware types that you want to override. The options include **Door**, **Input**, and **Output**.
5. Click .

   When the page refreshes, the Policy Edit screen is displayed.
6. Depending on the options you selected on the Policy Add page, this screen may have any of the following tabbed pages:
   - Select the **Mercury** tab to override settings for doors that are connected to a Mercury Security panel.
   - Select the **Input** tab to override settings for inputs.
   - Select the **Output** tab to override settings for outputs.

Editing a Policy

To edit an existing policy:

1. Select **Roles** > **Policies**.

   The Policies list appears.
2. Click on the policy you want to edit.

   The Policy Edit screen appears.
3. Navigate through the tabbed pages and make the required changes. Depending on the options you selected on the Policy Add page, this screen may have any of the following tabbed pages:
   - Mercury: use this page to configure a policy for doors that are connected to a Mercury Security panel.
   - Input: use this page to configure a policy for inputs.
   - Output: use this page to configure a policy for outputs.

   Note: Remember to click to save the changes on each page.

Deleting a Policy

To delete an existing policy:

1. Select **Roles** > **Policies**.
2. From the Policies Listing page, click beside the policy that you want to delete.
3. When the confirmation message is displayed, click **OK**.

Policies list

When you select **Roles** > **Policies**, the Policies list is displayed. This page lists all the Policies that have been configured in the system.

Features	Description
Name	The name of this policy. Click the name to edit the policy details.
Installed	Indicates if this policy is communicating with the appliance. Yes ( ) or No ( ). Click the icon to change the status.
Door	Indicates whether this policy affects doors.
Input	Indicates whether this policy affects inputs.
Output	Indicates whether this policy affects outputs.
Delete	Click to delete this policy from the database.
Add New Policy	Click this button to add a new policy.
Create New Report	Click this button to generate a report of all the policies in the system.

Policies - Policy Add page

When you click **Add New Policy** from the Policies list, the Policy Add page appears. Enter the required details.

Feature	Description
Name	Enter the name of this policy.
Partitions	Displayed for a partitioned ACM appliance only. To restrict operator access to the item, select one or more partitions. To allow all operators access to the item, do not select a partition.
Installed	Check this box to indicate that this policy is currently operational and available to the system.
Door	Check this box to affect doors with this policy.
Input	Check this box to affect inputs with this policy.
Output	Check this box to affect outputs with this policy.
Partitions	Displayed for a partitioned ACM appliance only. To restrict operator access to the item, select one or more partitions. To allow all operators access to the item, do not select a partition.
	Click this button to save your changes.
	Click this button to discard your changes.

Policies - Policy: Add page

When you click on the **Policy** tab, the Policy Edit page is displayed. This page allows you to edit general policy settings.

Make any changes that may be required.

Feature	Description
Name	Enter the name of this policy.
Partitions	Displayed for a partitioned ACM appliance only. To restrict operator access to the item, select one or more partitions. To allow all operators access to the item, do not select a partition.
Installed	Check this box to indicate that this policy is currently operational and available to the system.
Door	Check this box to affect doors with this policy.
Input	Check this box to affect inputs with this policy.
Output	Check this box to affect outputs with this policy.
Partitions	Displayed for a partitioned ACM appliance only. To restrict operator access to the item, select one or more partitions. To allow all operators access to the item, do not select a partition.
	Click this button to save your changes.
	Click this button to discard your changes.

Policies - Mercury Security page

When you select the **Mercury** tab, the Mercury page is displayed. This page allows you to configure a policy that can be applied to a group of doors connected to a Mercury Security panel.

CAUTION — If no Door Mode is selected for this policy and you do not select a schedule or select Never Active and the policy is applied to a group of doors after a non-priority Global Action has been triggered, the Door Mode is set to Card Only regardless of the higher-priority setting applied by the Global Action.

Feature	Description
Priority	Click this checkbox to specify this is a Priority Door Policy. This option is only enabled when the values in the Lock Mode and Custom Schedule options are correctly configured. The settings in a Priority Door Policy are applied to all Mercury Security doors and panels that the policy is associated with when it is activated. A Priority Door Policy is intended as a response to priority situations, such as unpredictable emergencies. For detailed instructions, see *Priority Situations* on page 443.
Name	Enter the name of this door policy.
Access Type	Select the access type for this door policy.
Lock Mode	For a wireless door, select the lock mode to be set by this door policy. Select **None** if you are configuring a Priority Door Policy. This setting is used with the setting in the **Custom Schedule** option to enable the Priority checkbox.

Feature	Description
Door Mode	Select the entry mode for the door when the door controller is online and communicating with the panel. **Important:** You must select a Door Mode and for every door policy you create. If a Door Mode is not selected: • The policy is not available to use for a Door Override. • The Door Mode may be set to Card Only if the policy is installed after a non-priority Global Action has been triggered.
Offline Door Mode	Select the entry mode used for the door if the door controller is no longer communicating with the panel. **Note:** In many cases readers in offline mode require a very simple solution for entry or exit because of the memory limitations. The recommended Offline Door Mode option is **Locked No Access**.
Custom mode	Select an additional door mode that will be active during the time specified in the **Custom Schedule** field.
Custom Schedule	Define when the Custom Mode would be active. Select a schedule from the drop down list. Only schedules that have been defined in the system are listed. **Important:** Select **24 Hours Active** if you are configuring a Priority Door Policy. This setting is used with the setting in the **Lock Mode** option to enable the Priority checkbox.
APB mode	Select the Anti-Passback (APB) mode for this door policy. For more information on Anti-Passback modes, see *Anti-Passback Modes* on page 213.
APB delay	Enter the number of seconds before another APB entry is allowed.
Into Area	Select the area that the user enters by passing through a door. Only the areas that have been previously configured in the system appear in this list.
Out of Area	Select the area that the user exits by passing through a door. Only the areas that have been previously configured in the system appear in this list.
PIN timeout	Enter the number of seconds that is allowed for a user to enter a PIN before it times out.
PIN attempts	Enter the number of times a user can attempt to enter a PIN before an Invalid PIN event is generated.

Feature	Description
LED mode	Select the LED mode to specify how the reader LEDs are displayed. For more information on LED modes, see *LED Modes for Mercury Security* on page 317.
Held pre-alarm	Enter the number of seconds a door can be held open before a pre-alarm is issued. Instead of generating an alarm, it sends a warning signal to the Access Control Manager server.
Access time when open	Enter the number of seconds a door remains unlocked after a card has been swiped.
Standard access time	Enter the number of seconds a door remains unlocked after access has been granted. If the door is not opened within this time, it will automatically lock.
Held open	Enter the number of seconds a door can be held open before a Door Held Open event is generated.
Extended access	Enter the number of seconds a door remains unlocked after access has been granted to token holders with extended access permissions. This feature is useful for users that may require more time to enter a door.
Extended held	Enter the number of seconds a door can be held open for users with extended access permissions. This feature is useful for users that may require more time to enter a door.
Strike Mode	Select the strike mode. • **Cut short when open** — the strike is deactivated when the door opens. • **Full strike time** — the strike is deactivated when the strike timer expires. • **Turn off on close** — the strike is deactivated when the door closes.
Mask Forced During	Specify when Forced Door events are masked. Select a schedule from the drop down list. Only schedules that have been defined in the system are listed.
Mask Held During	Specify when Door Held Open events are masked. Select a schedule from the drop down list. Only schedules that have been defined in the system are listed.
Always Mask Forced	From the drop down box, select **TRUE** to mask all Forced Door events.
Always Mask Held	From the drop down box, select **TRUE** to mask all Door Held Open events.
Door Processing Attributes	
Enable cipher mode	Select **TRUE** to allow the user to enter their card number digits at the a keypad entry.
Deny duress	Select **TRUE** to deny access to a user that indicates duress at a door.
Don't pulse door strike on REX	Select **TRUE** to disable the pulse of the door strike when request-to-exit is activated. For a policy for SimonsVoss wireless lock doors that do not support a door position switch (DPOS) , this box must be set to TRUE.

Feature	Description
Require two card control	Select **TRUE** to specify that two tokens are required to open a door. This enforces two-person entry rule.
Door forced filter	Select **TRUE** to filter Forced Door events. In case a door is slow to close or is slammed shut and bounces open for a few seconds, this filter allows three seconds for a door to close before generating an event.
Log grants right away	Normally, the system will log a single message for a card swipe and opened door. If you select **TRUE**, this will log two separate messages: one when access is granted and another when the door is opened. This event is not turned into an Access Control Manager event.
Log all access as used	Select **TRUE** to log all access grants regardless of whether or not the door was opened.
Detailed events	Select **TRUE** to generate detailed events of all hardware at the door including door position masking, timer expiration and output status. This feature is useful for circumstances where it is important to know all the details of an event.
Use shunt relay	Select **TRUE** to enable the use of shunt relay for this door.
Do not log Rex transactions	Select **TRUE** to disable logging of request-to-exit transactions.
	Click this button to save your changes.
	Click this button to discard your changes.
Create New Report	Click this button to generate a PDF report on this door policy.

Policies - Input page

When you click the **Input** tab, the Input page is displayed. This page allows you to configure a policy for inputs.

Feature	Description
Name	Enter the name of this input.
Debounce	Select the number of units (approximately 16 ms each) allowed for debouncing.
Entry Delay	Enter the number of seconds allowed for entry before this input issues an alarm.
Exit Delay	Enter the number of seconds allowed for exit before this input issues an alarm.
Hold Time	Set the amount of time that the alarm will stay in alarm after returning to normal. For example, if the input point goes into alarm, then restores, it will hold it in that alarm state for 1 to 15 seconds after it returns to normal before reporting the normal state.

Feature	Description
Logging	Enter the type of logging you need for this input. Valid values are: • **Log all changes**: Log all changes affecting this input. • **Do not log CoS if masked**: Log all changes except change of state events if the input is currently masked. • **Do not log CoS of masked & no trouble CoS**: Log all changes except change of state events if the input is currently masked and there are no trouble CoS events.
Schedule	Define when the input is masked. When the schedule is active, the input will be masked.
Mode	Enter the mode used for this input. The available options are: • **Normal**: The door input is a normal door contact. • **Non-latching**: The door input is a non-latching contact. • **Latching**: The door input is latching contact.
EOL resistance	Select the EOL resistance value you need for this input. Only those EOL resistance values previously defined for this system appear in this list.
Enabled	Check this box to indicate that this input is connected and ready to communicate with the Access Control Manager host.
Masked	Select TRUE to indicate that this input is normally masked.
	Click this button to save your changes.
	Click this button to discard your changes.

Policies - Output page

When you click the **Output** tab, the Output page is displayed. This page allows you to configure a policy for outputs.

Feature	Description
Name	Enter the name of the output.
Enabled	Check this box to indicate that this output is connected and ready to communicate with the Access Control Manager host.
Mode	Select the output mode.
Pulse Time	Enter the pulse interval time. This is the number of seconds that the output will activate when a pulse command is issued. This field is only available on outputs not associated with doors (e.g. auxiliary relays).
Schedule	Select a schedule from the drop down list. Only schedules that have been defined in the system are listed.
	Click this button to save your changes.
	Click this button to discard your changes.

Policies - Audit page

When you click the **Audit** tab, a log of all the changes that have been made to this policy is displayed.

Feature	Description
Date	The date and time when this policy was modified.
Operator	The user that modified this policy.
Attribute	The field that was modified.
Before	The value in the field before this change took effect. If this cell is blank, it indicates that there was no previous value.
After	The value in the field after this change took effect.
Create New Report	Click this button to generate a PDF of this audit history.

Configuring Groups

The groups feature allows you to group hardware components (cameras, doors, etc.) and/ or system components (identities, roles, etc.). Groups are useful for various functions, including:

- Applying identity profiles to many people at a time using the batch update feature.
- Applying door templates to many doors at once using the batch update feature.
- Enabling operators to monitor specific event types and hardware components through routing groups.
- Assigning policies to override settings on a group of hardware components.

Note: Groups should not be confused with Access Groups. For more information on Access Groups, see *Managing Door Access* on page 112.

Adding a Group

To add a new group:

1. Select **Roles** > **Groups**.
2. Click **Add New Group**.

   The Group Add page appears.
3. Fill out the **Name** field.
4. Click .

   When the page refreshes, the Group Edit screen is displayed.

5. Navigate through the tabbed pages and edit the details as required. The tabbed pages include:
    - Group: use this page to rename the group and select partitions
    - Policies: use this page to assign policies to the group.
    - Members: use this page to add components to the group.
    - Audit: use this page to view a log of all the changes that have been made to this group.

Editing a Group

To edit an existing group:

1. Select **Roles** > **Groups**.

   The Groups list is displayed.
2. Click the name of the group you want to edit.

   The Group Edit page appears.
3. Navigate through the tabbed pages and make the required changes. The tabbed pages include:
    - Group: use this page to edit the group name and view the current policies and members in the group.
    - Policies: use this page to select the policies in the group.
    - Members: use this page to select the components in the group.
    - Audit: use this page to view a log of all the changes that have been made to this group.

> **Note:** Remember to click to save the changes on each page.

Assigning Policies to Groups

To assign policies to a group:

1. Select **Roles** > **Groups**.

   The Groups list is displayed.
2. From the Groups list, click on the name of the group you want to edit.

   The Group Edit page appears.
3. Select the **Policies** tab.
4. From the Available list, select all the policies that you want to assign to the group, then click .

   The policy is added to the Members list to show that it is now assigned.

   To remove a policy from the group, select the policy from the Members list, then click .

> **Note:** You can select multiple terms by using the **Ctrl** or **Shift** key.

5. Click .

Assigning Members to Groups

A group can contain any number of members. Members of a group can be hardware items (cameras, doors, etc) and/or system items (identities, roles, etc).

To assign members to a group:

1. Select **Roles** > **Groups**.

   The Groups list is displayed.
2. From the Groups list, click on the name of the group you want to edit.

   The Group Edit page appears.
3. Select the **Members** tab.
4. From the **Type** drop down list, select the type of item you want to add to the group.

   Once you select a type, the relevant items will appear in the Available window.

   NOTE: If there are ten or more entries in the list in the Available window, a standard Search will display - this can be used to narrow the list. If there are more than 2,000 entries then an Advanced Search will display to enable you to narrow the list.
5. From the Available list, select all the items that you want to assign as members of the group, then click .

   The item is added to the Members list to show that it is now assigned.

   To remove a item from the group, select the item from the Members list, then click .

   Note: You can select multiple terms by using the **Ctrl** or **Shift** key.
6. Click .

Creating a Hardware Group for Routing

To use routing groups, you must create a group that contains the event sources of interest. The event sources must be hardware components. For more information on routing groups, see *Routing Events to the Monitor Screen* on page 127.

1. Select **Roles** > **Groups**.

   The Groups list is displayed.
2. Click **Add New Group**.

   The Group Add page is displayed.
3. Fill out the **Name** field.
4. Select a partition for the hardware group.

   This is important for routing if you do not want operators in different partitions to see this hardware

group.

5. Click .

   The Group Edit screen is displayed.
6. Select the **Members** tab.
7. From the **Type** drop-down list, select a type of hardware component.

   Note: Do not select **Identity** or **Role**, since they are not routable.
8. Select the hardware components that you want to add to the group.
9. Repeat the previous two steps if you want to add different types of hardware components to the group.
10. Click .

Using Policies to Override Hardware Settings

1. Select **Roles** > **Policies**.
2. Create a policy. For more information on how to create a policy, see *Adding a Policy* on page 97.
3. Select **Roles** > **Groups**.

   The Groups list is displayed.
4. Click **Add New Group**.

   The Group Add page appears.
5. Fill out the **Name** field, then click .

   When the page refreshes, the Group Edit screen is displayed.
6. Select the **Policies** tab.
7. Select the policy that you want to assign to the group, then click .
8. Select the **Members** tab.
9. From the **Type** drop-down list, select a type of hardware component.

   Note: Do not select **Identity** or **Role**, since they will not be affected by the policy.
10. Select the hardware components that you want to override, then click .

    The hardware in the group are now overridden by the specified policy.

Performing an Identity Batch Update

The Batch Update feature allows you to assign an identity profile to many people at a time.

Note: You will need at least one identity profile and a group of identities to perform a batch update.

You can perform a batch update from either the Identity Profiles page or Groups page.

Performing a Batch Update from the Identity Profiles page

1. Select **Identities** > **Profiles**.
2. On the Identity Profiles list, click in the **Batch Update** column beside the identity profile you want to apply.

   The Batch Update dialog box pops up.

   From the **Group** drop down list, select a group.
3. Click **OK**.

   All the identities in this group are updated with the identity profile.

Performing a Batch Update from the Groups page

1. Select **Roles** > **Groups**.
2. From the **Batch Update** column, click beside the group that you want to edit.

   The Batch Update dialog box pops up.
3. From the **Identity Profile** drop down list, select an identity profile.
4. Click .

   All the identities in the group are updated with this identity profile.

Performing an Identity or Template Batch Update

The Batch Update feature on the Roles page allows you to assign an identity profile to a group of identities, or a door template to a group of doors from the same manufacturer. This is useful for applying new or modified standard settings to a group of identities or doors.

WARNING — There is a risk of losing a door template batch update report due to blocked pop-ups in your web browser. When a door template batch update is performed on a group of doors, a report is generated that you can save to your local system. If pop-ups from the ACM client are blocked by your web browser, the report cannot be saved. Your web browser will notify you that the pop-up is blocked, and offer you the option to unblock the pop-up. To save the report (and all future reports), you must enable pop-ups in your web browser from your ACM client. For instructions on how to enable pop-ups, refer to the Help files for your web browser.

1. Select **Roles** > **Groups**.

   The Groups list is displayed.
2. From the **Batch Update** column, click beside the group of identities or group of doors that you want to update.

   The Batch Update dialog box pops up.

3. From the drop-down list, choose the identity profile or door template you want to apply to members of this group.

   Only the identity profiles or door templates previously defined by the system appear in this list.

4. Click .

> **Note:** If you are doing a door template batch update on a group of doors, you will either be prompted to save the report generated by the system (if pop-ups from the ACM client are unblocked) or your web browser will notify you that the pop-up has been blocked.

All members in this group now have the field values defined by the identity profile or door template.

Scheduling an Identity or Door Batch Update

To schedule a batch update:

1. Select **Roles > Groups**.

   The Groups list is displayed.

2. Click from the **Scheduler** column.

   The Job Specification - General dialog box displays.

3. Fill out the details as required.
4. Click **Next**.

   The Job Specification - Schedule dialog box displays.

5. From the drop down list, specify how often you want this update to occur.

   Depending on the value you select, additional fields appear.

6. Fill out the details as required.
7. Click **Next**.

   The Job Specification - Summary dialog box displays.

8. Click **Submit** to schedule this job.

   The job is scheduled.

Deleting a Group

To delete an existing group:

1. Select **Roles > Groups**.
2. From the Groups list, click beside the group that you want to delete.
3. When the confirmation message is displayed, click **OK**.

Groups list

When you select **Roles > Groups**, the Groups list is displayed. This page lists all the Groups that have been

configured in the system.

Feature	Description
Name	The name of this group. Click the name to edit the group details.
Members	The number of members assigned to this group.
Policy	The number of policies assigned to this group.
Batch Update	Click to perform a batch update.
Scheduler	Click to schedule one or more batch updates.
Delete	Click to delete this group from the database.
Add New Group	Click this button to add a new group.
Create New Report	Click this button to generate a report of all the groups in the system.

Groups - Group Add page

When you click **Add New Group** from the Groups list, the Group Add page appears. Enter the required details in each tab.

Name	Enter the name of this group.
Partitions	Displayed for a partitioned ACM appliance only. To restrict operator access to the item, select one or more partitions. To allow all operators access to the item, do not select a partition.
Policies	Select the policies that you want associated with this group.
Members	Select the members that you want associated with this group.
	Click this button to save your changes.
	Click this button to discard your changes.

Groups - Group Edit page

When you click the **Group** tab, the Group Edit page is displayed. This page allows you to change the name of this group and view which policies and identities are currently associated with this group.

Groups - Policies page

When you select the **Policies** tab, the Policies page is displayed. Policies are access regulations that you can establish for doors, inputs, and outputs. For more information on policies, see *Configuring Policies* on page 96.

This page allows you to assign policies to this group.

Feature	Description
Available	A list of policies that have been configured in the system. To assign a policy to this group, select the policy from the Available list, then click ► to move it to the Members list.
Members	A list of policies that are currently associated with this group. To remove a policy from the group, select the policy from the Members list, then click ◄ to move it to the Available list.
	Click this button to save your changes.
	Click this button to discard your changes.

Note: You can select multiple terms by using the **Ctrl** or **Shift** key.

Groups - Members page

When you select the **Members** tab, the Members page is displayed. Groups can contain any number of hardware items (cameras, doors, etc) and/or system items (identities, roles, etc).

This page allows you to assign components to the group.

Feature	Description
Type	Select the component type you want to add to this group. Once you select a type, the relevant components will appear in the Available window.
Available	A list of available components in the system. To assign an component to this group, select the component, then click ►.
Members	A list of components that are assigned to this group. To remove a component from this group, select the component, then click ◄.
	Click this button to save your changes.
	Click this button to discard your changes.

Note: You can select multiple terms by using the **Ctrl** or **Shift** key.

Groups - Audit page

When you click the **Audit** tab, a log of all the changes that have been made to this group is displayed.

Feature	Description
Date	The date and time when this group was modified.
Operator	The user that modified this group.
Attribute	The field that was modified.
Before	The value in the field before this change took effect. If this cell is blank, it indicates that there was no previous value.
After	The value in the field after this change took effect.
Create New Report	Click this button to generate a PDF of this audit history.

Managing Door Access

Access groups are sets of physical access permissions for doors and elevator access levels.

You must configure doors before you can create access groups. If you want to control access to the floors of a building, you should configure elevator access levels beforehand as well. For more information on elevator access levels, see *Managing Elevator Access* on page 132.

After you have created an access group, you must assign it to a role to make it effective. This allows members of the role to access the specified doors and elevator access levels in the access group.

Adding an Access Group

To control access to the floors of your building, you must create elevator access levels. For more information, see *Managing Elevator Access* on page 132. It is recommended that you configure doors and elevator access levels before you create access groups.

To add a new access group:

1. Select **Roles > Access Groups**.
2. In the Access Groups list, click **Add Access Group**.
3. Enter a name for the new access group.
4. Select an appliance to manage the access group.
5. Complete the remainder of the page.

   For more information, see *Access Group Fields* on page 115.
6. Click .

   The Access Group: Edit page is displayed.
7. Select the doors you want to add to the access group.

   To add an item, select it from the **Available** list and click .

   To remove an item, select it from the **Members** list and click .

Tip: Use Shift + Click to select items in sequence. Use Ctrl + Click to select individual items.

8. Click .

Tip: If a message indicates the Advanced Schedule option cannot be enabled when saving, do any of the following:

- Save the schedule without Advanced Schedule selected. Some doors only support basic schedules.
- Find the access groups using the schedule and select another schedule.

9. After you have created an access group, you must assign it to a role to make it effective. For more information, see *Assigning an Access Group to a Role* on page 89.

Editing an Access Group

1. Select **Roles > Access Groups**.

   The Access Groups list appears.

2. Click the name of the access group that you want to edit.

   The Access Group Edit page appears.

3. Navigate through the tabbed pages and make the required changes. The tabbed pages include:
   - Edit: use this page to edit the access group
   - Access: use this page to view the doors, roles, and identities that are in this access group
   - Audit: use this page to view a log of all the changes that have been made to this access group.

Note: Remember to click to save the changes on each page.

Deleting an Access Group

Note: You can only delete access groups that are not linked to any roles.

Before you can delete an access group, you must remove the access group from the associated role. For more information, see *Assigning an Access Group to a Role* on page 89.

1. Select **Roles** > **Access Groups**.

   The Access Groups list is displayed.

2. From the Access Groups list, click beside the access group that you want to delete.
3. When the confirmation message is displayed, click **OK**.

Access Groups - Example

Here is a scenario to exemplify the use of Access Groups: A user is assigned a role and a token. The assigned role may contain one or more access groups. Each access group specifies access permissions to one or more doors and panels during a certain time interval. When a token is downloaded, it receives access permissions to doors that have been specified by the role.

A working example is:

1. Create a role called "HR Role" that includes two access groups.
   - Access Group 1 has Schedule 9 am-5 pm M - F and Door "Front Door" on Panel 1.
   - Access Group 2 has Schedule 11 am-2 pm M - F and Door "Break Room Door" on Panel 2.
2. Assign a user to the HR Role.
3. Create a token for the user called Token A with the internal number 12345.

To download these access permissions to the appropriate panels, the program must perform these operations:

- Assign an access group to Panel 1 with a schedule of 9 am - 5 pm M - F and Door "Front Door". Name this Access Group 1.
- Assign an access group to Panel 2 with a schedule of 11 am - 2 pm M - F and Door "Break Room Door". Name this Access Group 2.
- Download Token A to Panel 1 - Token Number 12345, AG 1.
- Download Token A to Panel 2 - Token Number 12345, AG 2.

Assigning an Access Group to a Role

You must assign an access group to a role to make it effective.

1. Select **Roles**.
2. In the Roles list, click the role you want to edit.
3. On the Role Edit page, select the **Access Groups** tab.
4. Select the access groups that you want to add to the role.

   To add an item, select it from the **Available** list and click .

   To remove an item, select it from the **Members** list and click .

   Tip: Use Shift + Click to select items in sequence. Use Ctrl + Click to select individual items.

5. Click .

   All the people with this role now have the access permissions defined by the access group.

Access Groups list

When you select **Roles > Access Groups**, the Access Groups list is displayed.

This page lists all the Access Groups that have been configured in the system.

Feature	Description
Name	The name of the access group. Click the name to edit the access group.
Appliance	Identifies the name of the appliance that maintains this access group.
Installed	Indicates if this access group is communicating with the appliance. Click for yes or for no.
# Doors	Specifies the number of doors associated with this access group.
Roles	A list of roles that this access group is a member of.
Delete	Click to delete the access group. **Note:** You cannot delete access groups that have been assigned to specific roles.
Add New Access Group	Click this button to add a new access group.
Create New Report	Click this button to generate a report of all the access groups in the system.

Access Group Fields

Add or edit an access group from **Roles > Access Groups**:

Name	The name of the access group.
Partitions	Displayed for a partitioned ACM appliance only. To restrict operator access to the item, select one or more partitions. To allow all operators access to the item, do not select a partition.
Appliance	The appliance that manages the access group.

Schedule	When the access group is active. Select a schedule from the drop down list. Only schedules that have been defined in the system are listed. **Tip:** If a message indicates the Advanced Schedule option cannot be enabled when saving, do any of the following: • Save the schedule without Advanced Schedule selected. Some doors only support basic schedules. • Find the access groups using the schedule and select another schedule.
Elevator Access level	The elevator access level that applies to the access group. Only the elevator access levels that have been defined in the system appear in this list.
Installed	If selected, the access group is currently operational and available to the system.
Options	**Note:** Fields in this list are dependent on the door or device. Some commands or fields are not supported for all doors or devices. **Privacy Override** *ASSA ABLOY IP-enabled door only.* Enables the cardholder to override and unlock a door that is locked from the inside after the privacy button has been pressed.
Available	The available doors on the appliance. To add a door to the access group, select the door from the Available list and click ► to move it to the Members list.
Members	The doors that are assigned to the access group. To remove a door from the access group, select the door from the Members list and click ◄ to move it to the Available list.
	Click this button to save your changes.
	Click this button to discard your changes.

Access Groups - Access page

When you select the **Access** tab from the Access Group: Edit screen, a list of doors, roles and identities associated with this access group is displayed.

Feature	Description
Access Group	The name of this access group. Click the name to return to the Edit page.
Doors	A list of doors that can be accessed by identities in this access group.

Feature	Description
Roles	A list of roles that are assigned to this access group. Click **+** or **-** beside each role to show or hide the identities that are in the access group through the role.
Identities	A list of users that are members of the access group.

Access Groups - Audit page

When you select the **Audit** tab from the Access Group: Edit screen, a log of all the changes that have been made to this access group is displayed.

Feature	Description
Date	The date and time when this access group was modified.
Operator	The user who modified this access group.
Attribute	The specific access group detail that was modified.
Before	Identifies what the access group detail was before it was modified. If the cell is blank, there was no previous value.
After	Identifies what the access group detail was changed to.
Create New Report	Click this button to create a PDF report with the details on this page.

Managing Access in the Application

A delegation is a list of permissions to specific functionality within the ACM system that can be assigned to an ACM operator (or a group of operators) using roles. For example, you can create one delegation containing only the permissions that allow operators access to configure identity settings, and another delegations containing only the permissions that allow operators access to monitor events.

To give an ACM operator permission to use specific functions, you create a delegation that contains only the permissions to use those specific functions, and then assign that delegation to a role. Only when a role assigned that delegation s assigned to an operator can the operator access these functions. For example, for an operator to validate an SSL certificate from an LDAP server, that operator must be assigned a role that contains a delegation that includes the `Collaboration Validate Certificate` permission.

After you have created a delegation, you must assign it to a role to make it effective.

Adding a Delegation

To add a new delegation:

1. Select **Roles** > **Delegations**.
   The Delegations list is displayed.
2. Click **Add New Delegation**.
   The Delegation Add page appears.

3. Enter a name for the new delegation, then click .

   The Delegation Edit page appears.

4. Select the permissions you want to include in the delegation.

   To add an item, select it from the **Available** list and click .

   To remove an item, select it from the **Members** list and click .

   > **Tip:** Use Shift + Click to select items in sequence. Use Ctrl + Click to select individual items.

5. Click .

6. After you have created a delegation, you must assign it to a role to make it effective. For more information, see *Adding a Delegation to a Role* below.

Editing a Delegation

To edit an existing delegation:

1. Select **Roles** > **Delegations**.

   The Delegations list appears.

2. Click the name of the delegation you want to edit.

   The Delegation Edit page appears.

3. Make the required changes.

4. Click .

Adding a Delegation to a Role

You must assign a delegation to a role to make it effective.

1. Click **Roles**.

   The Roles list is displayed.

2. From the Roles list, click on the role you want to edit.

   The Role Edit screen appears.

3. Select the **Delegate** tab.

4. Select the delegations that you want to add to the role.

   To add an item, select it from the **Available** list and click .

   To remove an item, select it from the **Members** list and click .

Tip: Use Shift + Click to select items in sequence. Use Ctrl + Click to select individual items.

5. Click .

   All the people with this role now have the access permissions defined by the delegation.

Deleting a Delegation

To delete an existing delegation:

1. Select **Roles** > **Delegations**.

   The Delegations list is displayed.

2. From the Delegations list, click beside the delegation that you want to delete.
3. When the confirmation message is displayed, click **OK**.

Delegations list

When you select **Roles** > **Delegations**, the Delegations list is displayed. This page lists all the delegations that have been configured in the system.

Feature	Description
Name	The name of this delegation. Click the name to edit the delegation.
Members	The number of tasks that are permitted in this delegation.
Delete	Click to delete this delegation.
Add New Delegation	Click this button to add a new delegation.
Create New Report	Click this button to generate a report of all the delegations in the system.

Delegations - Delegation: Edit page

When you click the name of a Delegation from the Delegations list, the Delegation: Edit page is displayed.

This page allows you to specify what tasks are authorized by this delegation.

Feature	Description
Name	Enter the name of the delegation.
Partitions	Displayed for a partitioned ACM appliance only. To restrict operator access to the item, select one or more partitions. To allow all operators access to the item, do not select a partition.
Available	A list of available tasks in the ACM application. To add a task to the delegation, select the term from the Available list, then click to move it to the Members list.

Feature	Description
Members	A list of tasks that are Members of this delegation. To remove a task from this delegation, select the term from the Members list, then click ◄ to move it to the Available list.
Search	Enter a term, then click **Filter** to filter the results in the Available window. Click **Clear** to remove the filter.
Case-sensitive	Check this box to indicate that the letters in the **Search** field are case-sensitive.
	Click this button to save your changes.
	Click this button to discard your changes.

Note: You can select multiple terms by using the **Ctrl** or **Shift** key.

Managing a Partitioned ACM System

Tip: Refer to this information if you are performing initial configuration of an ACM appliance before its deployment.

Partitions are separate administrative access zones within the ACM system that can be independently managed. Since it is highly scalable, a single ACM system can be partitioned to manage access for individual tenants in an office tower, buildings on a campus, or locations in a geographically dispersed organization. Think of partitions as independent instances of an ACM system within your ACM system.

Partitioning is much like filtering. You can create simple functional partitions or complex special-purpose partitions. The more complex your partitioning is, the more carefully it needs to be administered.

Note: Do not confuse areas with partitions. A partition is a separate administrative access zone within the ACM system. An area is a physical location that requires additional access control. Therefore, in a partitioned system, an area is configured within a partition.

In a non-partitioned system, all the items and functions are potentially available to all identities (ACM operators and badge holders). Roles and delegations are used to restrict operator access to the functionality and items, and access groups are used to restrict badge holders physical access.

Important: In a partitioned system, all the items and functionality that are assigned to a partition are available only to identities who are also assigned to that partition. Within a partition, roles and delegations are used to restrict operator access to functionality and items, and access groups are used to restrict badge holders physical access. All partition items can be assigned to multiple partitions.

It is recommended that an ACM system is partitioned before it is deployed, and that you use the default System Administrator identity (with the login ID **admin**) to set up the partitioned system.

Items not assigned to any partition belong to an unnamed partition, called the blank partition, and are available to all identities. Treat the blank partition as a separate partition that everyone can access. For badge holders, use the blank partition to contain the doors to common areas, which might include building entrances, parking garages, elevators, and the like, which all badge holders can access. For ACM operators, use the blank partition to contain the common items, which any operator can configure.

Tip: Alternatively, you can create dedicated common partitions , which might be more practical for a geographically dispersed partitioned ACM system, and keep the blank partition empty.

When configuring an:

- Identity–Assigning an ACM operator to one or more partitions restricts the operator to items in their assigned partitions and those not assigned to any partition. Not assigning an operator to any partition restricts the operator to items not assigned to any partition.
- Item–Assigning an item to a partition restricts who can see or edit the item to ACM operators assigned to that partition. If you assign all partitions to an item, the item can be viewed by all operators EXCEPT those not assigned to any partition. If you do not select a partition, any ACM operator can edit the item.

After partitions are configured, the **Partition** drop-down menu appears as a configuration option for any object that can be assigned to a partition.

Planning a Partitioned System

Ideally, plan how to partition your ACM system before you deploy it. It is much easier to deploy a partitioned system and then provision it than it is to add partitions to an already deployed system and reconfigure it all over again. If partitioning is not properly planned out and tested before it is operational, there is a risk that items may be hidden (inaccessible) to the users that need them to do their jobs properly.

Some of the considerations you should keep in mind when planning your partitions:

- Centralize control.

  Always use the default system administrator identity to set up partitions. This identity always has full access to all partitions.
- Limit ACM operator access to partitions.

  Only allow the ACM operators who are responsible for access control operations within a partition

permission to access that partition. To enforce this:

- Create a custom admin role for the ACM operator identities assigned to administer a partition. Configure this role and its delegations so that the system administrator of a partition is prevented from creating partitions or assigning themselves to other partitions.
- Create custom roles with the required delegations for ACM operator identities assigned other responsibilities in a partition. Configure these roles to include only the delegations needed. The default roles (such as monitoring, or enrollment operator) can also be used, as they are preconfigured with the necessary delegations.

  For example, to create an enrollment operator who , ensure that
- Create identity records for ACM operators restricted to specific partitions so that they cannot view or change their own identity records. Configure the operator's identity record (Identities>Identity) so that it is not visible to any partition that includes them as an operator (Roles>Partitions).

Important: If you are partitioning roles or delegations, ensure that the operators assigned to those roles and delegations also have access to the partitions.

- Keep partitions as simple as possible.

  Avoid shared items within more than one partition. Ideally, set up each partition so that its physical infrastructure is completely separate from the other partitions. For example, no door should be in more than one partition. A partition should consist of only the items that need to be managed within that partition.

  Some examples are:

  - Doors and elevators shared by two tenants on the same floor. Create a separate partition for the shared doors and elevators and assign it to both tenants. The ACM operator for either tenant can configure the doors in that shared partition and each operator can allow badge holders to access doors in their own partition plus in the shared partition.
  - A geographically dispersed ACM system with remote offices. Create a partition for each remote office. The default system administrator can access all partitions and manage the entire system, and a local ACM system administrator at each remote office can manage their offices' partition. Badge holders who need access to more than one remote office can then be assigned to the partitions of the remote offices they need to access.

  Tip: If you must have partitions with duplicate items, such as doors shared by two tenants, be aware of some of the complications that administrators or other operators with access to some (but not all) partitions may encounter when modifying partitions. For example, you may experience problems if you have to change the configuration of your partitions as tenants move in or out, or increase or decrease their floorspace.

- Manage the blank partition carefully.

  The blank partition contains items not assigned to any partition.

Any identity or item not assigned to a partition is defined by default to the blank partition, and is restricted to that partition. For example, badge holders restricted to the blank partition can only open doors in the blank partition. However, badge holders assigned to one or more partitions can open doors in the partitions to which they are assigned and in the blank partition. Similarly, ACM operators restricted to the blank partition can only configure items in the blank partition. However, operators assigned to one or more partitions can configure items in the partitions to which they are assigned and in the blank partition.

In a partitioned system, there will be a limited number of badge-holders who can access all the partitions, such as concierge, security, service, and maintenance personnel. These personnel should be assigned to all partitions in their identity record. Regardless of whether the system is partitioned, there should also be at least one other ACM operator assigned the SuperAdmin role, as a backup for the default System Administrator account for the ACM system.

Configuring a Partitioned ACM System

It is recommended that you partition your ACM system before it is operational at your site, and that you use the default System Administrator identity (with the login ID **admin**) to set up the partitioned system.

Use the following workflow to set up your partitioned ACM system:

1. Determine how many partitions you need.
2. Create a custom delegation based on the Admin delegation that excludes the Identities New and Identities Edit delegations. For example Partition Admin Deleg.
3. Create a custom role that includes the new delegation. For example Partition Admin.
4. For each planned partition, create a new identity in the ACM system and assign it the Partition Admin role. This identity will be assigned to the partition as its local administrator.
5. Create each partition and add the identity of its local system administrator to the partition. Both the default system administrator and the local partition administrator identities can manage this partition.
6. Test the partitions you created before your ACM system is deployed. At the very least, each partition's ACM operators should enroll a sample set of badge holders and monitor them as they access the partitioned site.

After you have partitioned the system, you can use routing groups. For more information on routing groups, see *Routing Events to the Monitor Screen* on page 127.

Adding a Partition

This is a basic procedure on how to add a partition. For a more advanced procedure on how to partition the ACM system, see *Configuring a Partitioned ACM System* above.

> **Tip:** It is recommended that you use the default Admin account to set up partitions.

To add a new partition:

1. Select **Roles > Partitions**.

   The Partitions list is displayed.
2. Click **Add New Partition**.

   The Partition Add page appears.
3. Enter a name for the new partition, then click .

   The Partition Edit page appears.
4. Select the operators that you want to include in the partition.

   To add an item, select it from the **Available** list and click .

   To remove an item, select it from the **Members** list and click .

   > **Tip:** Use Shift + Click to select items in sequence. Use Ctrl + Click to select individual items.
5. Click .

   The **Partitions** field now appears as a configuration option for most system settings.

Editing a Partition

To edit an existing partition:

1. Select **Roles > Partitions**.

   The Partitions list appears.
2. Click the name of the partition you want to edit.

   The Partition Edit page appears.
3. Make the required changes.

   For a more advanced procedure on how to partition the ACM system, see *Configuring a Partitioned ACM System* on the previous page.
4. Click .

Deleting a Partition

To delete an existing partition:

1. Select **Roles > Partitions**.
2. From the Partitions list, click beside the partition that you want to delete.
3. When the confirmation message is displayed, click **OK**.

Partitions - List

When you select **Roles > Partitions**, the Partitions list is displayed. This page lists all partitions that have been configured in the system.

Feature	Description
Name	The name of this partition. Click the name to edit the partition.
Members	The number of users that have access to this partition.
Delete	Click to delete this partition.
Add New Partition	Click this button to add a new partition.
Create New Report	Click this button to generate a report of all the partitions in the system.

Partitions - Add page

To add a new partition:

1. Select **Roles** > **Partitions**.
2. Click **Add New Partition**.
   The Partition Add page appears.
3. Enter the name of this partition.
4. Click .
   The Partition Edit page appears.
5. From the Available list, select the users that should have access to the partition, then click .
   The users are added to the Members list to show that they have access to the partition.
   To remove users from the partition, select the users from the Members list and click .

   Note: You can select multiple terms by using the **Ctrl** or **Shift** key.

Partitions - Partition Edit page

When you click the name of a Partition from the Partitions list, the Partition Edit page is displayed.

This page allows you to add users to the partition.

Feature	Description
Name	Enter the name of this partition.
Available	A list of users in the system. Only users with login credentials appear in this list. To add a user to this partition, select the user from the Available list, then click to move it to the Members list.
Members	A list of users that have access to this partition. To remove a user from this partition, select a user from the Members list, then click to move it to the Available list.

Feature	Description
	Click this button to save your changes.
	Click this button to discard your changes.

Note: You can select multiple terms by using the **Ctrl** or **Shift** key.

Assigning Partitions to ACM Operators and Entities

After a partition (or a set of partitions) is created, populate each partition with the needed items for its deployment. Each partition should have:

- One or more ACM operators with specific responsibilities in that partition.

  Any identity with login credentials to the ACM system can be a member of a partition. Membership of an identity in a partition is assigned on the **Partition: Edit** page. For more information, see the *Partitions - Partition Edit page* on the previous page.

  If you do not want the operators in this partition to be viewed by other operators in the system, go to the Account Information section at the bottom of the Identity Edit page and assign them to the appropriate partition.

- These ACM operators must be assigned the roles and delegations that allow them access to the ACM system.

  You can use the default roles and delegations or create new ones. You can create roles and delegations like the default roles and delegations that are not assigned to any partition, which can be assigned to an operator in any partition. For example, you can create an identity record for an ACM operator responsible for enrolling other operators and badge holders in a specific partition. Assign the default enrollment operator role and its associated delegations to that identity record, and add that identity to the that partition.

  Alternatively, you can assign roles and delegations to specific partitions. Partitions are assigned to a role on the Roles: Edit page, to a delegation ion the Delegation: Edit page.

  Important: If a role is assigned to specific partitions, operators not assigned to any of those partitions may be prevented from accessing the ACM system, or parts of it. To avoid this, ensure that all identities assigned the role also have access to the same partitions. You may also have to create additional roles to access the same functionality in the other partitions. The same is also true of delegations.

- All of the entities, such as doors and related infrastructure (policies, groups, access groups, routing groups, and elevator access levels), within the partition's scope that allow badge holders physical access to the site.

  Membership of any entity in a partition is assigned in its edit page. Navigate to the entity's edit page and select the partition, or partitions, from the **Partitions** drop-down list.

An empty, or blank, Partition field for any entity has a specific meaning. An entity not assigned to any partition can be viewed by all ACM operators, including those not assigned to a partition. However, as soon as any entity (which could be a badge holder, an operator, a door, or any logical entity such as an access group) is assigned to a partition, it can only be viewed by operators assigned to that partition. An entity assigned to more than one partition can be viewed by operators assigned to any of those partitions. When an entity is assigned to all partitions, it can be viewed by all operators except operators not assigned to any partitions.

For example, identity records with a blank partition field can be viewed by any ACM operator. However, identity records with one or more partitions assigned to them can only be viewed by ACM operators with access to any of those partitions. If you assign an ACM operator to a partition, their identity record can only be viewed by other operators assigned to that partition. Similarly, for badge holders assigned to a partition, their identity records can only be viewed by operators assigned to that partition and their access privileges are restricted to the reader and doors in that partition (plus readers and doors not in any partition).

Routing Events to the Monitor Screen

A routing group controls which events are routed to an operator's Monitor screen. This is achieved by specifying event types and event sources in the routing group. Only those event types that originate from the specified event sources will be routed. This is an advanced feature that requires the use of partitions, groups, and roles, and should only be configured by an experienced operator.

For example, a lobby security guard may only need to monitor people who access the building through the front door during regular work hours, but they would not need to know about system activity in the ACM application. You can use a routing group to ensure that the security guard only sees events related to the lobby area.

You must set up partitions and groups before you can use routing groups. For more information on partitions, see *Managing a Partitioned ACM System* on page 120. For more information on groups, see *Configuring Groups* on page 104.

After you have created a routing group, you must assign it to a role to make it effective.

Routing Groups - Introduction

A routing group controls which event types and event sources are routed to the Monitor screen.

For example, a lobby security guard may only need to monitor people who access the building through the front door during regular work hours, but they would not need to monitor operators that are logging in and out of the ACM application.

After you have defined a routing group, only the event types produced by the event sources during the specified schedule will be routed to the Monitor screen.

You must set up routing schedules and groups of hardware components before you can use routing groups.

Adding a Routing Group

To add a new routing group:

1. Configure partitions for the routing group. For more information on configuring partitions, see *Configuring a Partitioned ACM System* on page 123.
2. Create a hardware group that contains the event sources of interest. For more information on creating a hardware group for routing, see *Creating a Hardware Group for Routing* on page 106.
3. If you want to route events for specific time intervals, set up one or more schedules. For more information on adding a schedule, see *Adding Schedules (Intervals in Schedules)* on page 388.
4. Select **Roles** > **Routing Groups**.

   The Routing Groups list is displayed.
5. Click **Add New Routing Group**.

   The Routing Group Add page is displayed.
6. Enter a name for the routing group.
7. Complete the remainder of the page with the required details.

   Important: Select the appropriate partition for this routing group.
8. Click .
9. Select the **Event Types** tab.
10. Select the event types that you want to route.

    To add an item, select it from the **Available** list and click .

    To remove an item, select it from the **Members** list and click .

    Tip: Use Shift + Click to select items in sequence. Use Ctrl + Click to select individual items.

    When you're finished, click .
11. Select the **Groups** tab.
12. Select the group of hardware components that you want to route.
13. Click .
14. After you have created a routing group, you must assign it to a role to make it effective. For more information, see *Assigning a Routing Group to a Role* on the next page.

Editing a Routing Group

To edit an existing routing group:

1. Select **Roles > Routing Groups**.

   The Routing Groups list appears.
2. Click on the routing group you want to edit.

   The Routing Group Edit screen appears.
3. Navigate through the tabbed pages and make the required changes. The tabbed pages include:
   - Schedule: use this page to edit the routing group settings, including the name and schedule
   - Event Types: use this page to select the event types that you want to route
   - Groups: use this page to select the groups of event sources that you want to route

   Note: Remember to click to save the changes on each page.

Assigning a Routing Group to a Role

You must assign a routing group to a role to make it effective.

1. Click **Roles**.
2. From the Roles list, click on the role you want to edit.

   The Role Edit screen appears.
3. Select the **Routing** tab.
4. Select the routing groups that you want to add to the role.

   To add an item, select it from the **Available** list and click .

   To remove an item, select it from the **Members** list and click .

   Tip: Use Shift + Click to select items in sequence. Use Ctrl + Click to select individual items.
5. Click .

   All the operators with this role can now monitor the events defined by the routing group.

Deleting a Routing Group

To delete an existing routing group:

1. Select **Roles > Routing Groups**.
2. From the Routing Groups list, click beside the routing group that you want to delete.
3. When the confirmation message is displayed, click **OK**.

Routing Groups list

When you select **Roles > Routing Groups**, the Routing Groups list is displayed. This page lists all routing

groups that have been configured in the system.

Feature	Description
Name	The name of the routing group. Click the name to edit the routing group details.
Schedule	Indicates when this routing group is active.
Event Type	The number of event types that are in this routing group.
Group	The number of groups that are in this routing group.
Delete	Click to delete this routing group.
Add New Routing Group	Click this button to create a new routing group.
Create New Report	Click this button to generate a report of all the routing groups in the system.

Routing Groups - Add page

When you click **Add New Routing Group** from the Routing Groups list, the Routing Group Add page appears. Enter the required details.

Feature	Description
Name	Enter the name of this routing group.
Schedule	Select a schedule from the drop down list. Only schedules that have been defined in the system are listed.
Schedule Qualifier	From the drop down list, select the option that qualifies the schedule. • **Appliance** : Relative to the local time on the appliance when the transaction was created within the ACM system. • **Event**: Relative to the local time when the originating event occurred.
Installed	Check this box to indicate that this routing group is currently operational and available to the system.
Partitions	Displayed for a partitioned ACM appliance only. To restrict operator access to the item, select one or more partitions. To allow all operators access to the item, do not select a partition.
	Click this button to save your changes.
	Click this button to discard your changes.

Routing Groups - Schedule page

When you click the name of a Routing Group from the Routing Groups list, the Routing Group Schedule page is displayed. Click on the **Schedule** tab to return to this page.

Feature	Description
Name	Enter the name of this routing group.
Schedule	Select a schedule from the drop down list. Only schedules that have been defined in the system are listed.

Feature	Description
Schedule Qualifier	From the drop down list, select the option that qualifies the schedule. • **Appliance** : Relative to the local time on the appliance when the transaction was created within the ACM system. • **Event**: Relative to the local time when the originating event occurred.
Installed	Check this box to indicate that this routing group is currently operational and available to the system.
Partitions	Displayed for a partitioned ACM appliance only. To restrict operator access to the item, select one or more partitions. To allow all operators access to the item, do not select a partition.
	Click this button to save your changes.
	Click this button to discard your changes.

Routing Groups - Event Types page

When you select the **Event Types** tab from the Routing Group: Edit screen, the Event Types page is displayed. This page allows you to specify which event types should be routed in this routing group.

Feature	Description
Routing Group	The name of this routing group. Click this name link to return to the Schedule page.
Available	A list of event types configured in the system. To add an event type to the routing group, select the term from the Available list, then click ► to move it to the Members list.
Members	A list of event types that are in this routing group. To remove an event type from the routing group, select the term from the Members list, then click ◄ to move it to the Available list.
	Click this button to save your changes.
	Click this button to discard your changes.

Routing Groups - Groups page

When you select the **Groups** tab from the Routing Group: Edit screen, the Groups page is displayed. This page allows you to add groups to this routing group.

Feature	Description
Routing Group	The name of this routing group. Click this name link to return to the Schedule page.
Available	A list of groups configured in the system. To add a group to the routing group, select the term from the Available list, then click ► to move it to the Members list.

Feature	Description
Members	A list of groups that are in this routing group. To remove a group from the routing group, select the term from the Members list, then click to move it to the Available list.
	Click this button to save your changes.
	Click this button to discard your changes.

Managing Elevator Access

An Elevator Access Level defines a badge holder's elevator access to the floors in a building.

For example, you can create an elevator access level that contains Floor 1 and Floor 3. When you add this elevator access level to an access group, all users in that access group will have access to Floor 1 and Floor 3.

If you want to control elevator access during specified time intervals, you must set up schedules prior to creating the elevator access level. For more information on schedules, see *Adding Schedules (Intervals in Schedules)* on page 388. After you have created an elevator access level, you must assign it to an access group to make it effective.

Note: This feature currently applies to Mercury Security elevator transactions in floor tracking mode.

Adding an Elevator Access Level

If you want to control elevator access during specified time intervals, you must set up schedules prior to creating the elevator access level. For more information on schedules, see *Adding Schedules (Intervals in Schedules)* on page 388.

To add a new elevator access level:

1. Select **Roles** > **Elevator Access Levels**.

   The Elevator Access Levels listing page is displayed.
2. Click **Add New Elevator Access Level**.
3. Enter a name for the elevator access level in the **Description** field.
4. Select an appliance to manage the elevator access level.
5. Complete the remainder of the page with the required details.
5. Click .
6. After you have created an elevator access level, you must assign it to an access group to make it effective. For more information, see *Assigning an Elevator Access Level to an Access Group* on the next page.

Editing an Elevator Access Level

To edit an elevator access level:

1. Select **Roles** > **Elevator Access Levels**.

   The Elevator Access Levels Listing page appears.
2. Click on the elevator access level you want to edit.

   The Elevator Access Level Edit screen appears.
3. Make the required changes.
4. Click .

Assigning an Elevator Access Level to an Access Group

You must assign an elevator access level to an access group to make it effective.

1. Select **Roles** > **Access Groups**.

   The Access Groups listing page is displayed.
2. Click the name of the access group you want to edit.
3. From the **Elevator Access Level** drop down list, select the elevator access level.
4. Click .

   All users in that access group now have access to the floors in the elevator access level.

Deleting an Elevator Access Level

To delete an existing elevator access level:

1. Select **Roles** > **Elevator Access Levels**.
2. From the Elevator Access Level listing page, click beside the elevator access level that you want to delete.
3. When the confirmation message is displayed, click **OK**.

Elevator Access Levels list

When you select **Roles** > **Elevator Access Levels**, the Elevator Access Levels list is displayed. This page lists all elevator access levels that have been configured in the system.

Feature	Description
Description	The name of this elevator access level. Click on the name to edit the elevator access level details.
Delete	Click to delete this elevator access level.
Add New Elevator Access Level	Click this button to add a new elevator access level.

Elevator Access Levels - Add page

When you click **Add New Elevator Access Level** from the Elevator Access Level list, the Elevator Access Level Add page appears. Enter the required details.

Feature	Description
Description	Enter the name of this elevator access level.
Appliance	From the drop down list, select the appliance that manages this elevator access level.
Partitions	Displayed for a partitioned ACM appliance only. To restrict operator access to the item, select one or more partitions. To allow all operators access to the item, do not select a partition.
Output	Indicates the default output number.
Description	The name of each floor. The floors are named by default, but you can rename them.
Schedule	Indicate when a card/code has free access to the specified floor, meaning a valid card/code is not required to access this floor. Select a schedule from the drop down list. Only schedules that have been defined in the system are listed.
	Click this button to save your changes.
	Click this button to discard your changes.

Elevator Access Levels - Elevator Access Level: Edit page

When you click the name of an elevator access level from the Elevator Access Level list, the Elevator Access Level: Edit page is displayed. Make any changes that may be required.

Feature	Description
Description	Enter the name of this elevator access level.
Appliance	From the drop down list, select the appliance that manages this elevator access level.
Partitions	Displayed for a partitioned ACM appliance only. To restrict operator access to the item, select one or more partitions. To allow all operators access to the item, do not select a partition.
Output	Indicates the default output number.
Description	The name of each floor. The floors are named by default, but you can rename them.
Schedule	Indicate when a card/code has free access to the specified floor, meaning a valid card/code is not required to access this floor. Select a schedule from the drop down list. Only schedules that have been defined in the system are listed.
	Click this button to save your changes.
	Click this button to discard your changes.

Reports

The Reports screen allows you to create, edit, preview, and generate reports. Reports are used to gather information from the system in either a PDF or Spreadsheet. Reports can be saved on your local computer and referred to offline. For example, the Identity/Doors with Access Report can be used to view which doors each identity has access to. You have the option of using the default system reports or customizing the reports to fit your needs.

Note: If you do not have the correct delegations, you may not be able to access some of the following pages. See your System Administrator for details.

Generating Reports

Anytime you see **PDF** or **Spreadsheet**, you can generate and save a copy of the current report.

You can generate a copy of reports from the Reports list, the Report Edit page or from the Report Preview page.

Generated reports will only show the filtered information that is displayed. To edit the report before you generate it, see *Editing Reports* on the next page.

- Click to save the current report as a PDF file.
- Click to save the current report as a CSV format spreadsheet.

Most generated reports saved as PDF files contain a maximum of 2,000 records, except the Audit Log Report, which contains a maximum of 1,000 records. Reports saved as CSV format spreadsheet files contain a maximum of 2,000 records.

Depending on your web browser, the file may be auto-downloaded or you will be prompted to save the file to your local computer.

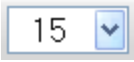
Report Preview

When you click the name of a report from the Reports list and select , a preview of the selected report is displayed.

In the preview, you can check the report to see if the report gives you the information you need, search the report, or generate the report. For example, if you wanted to know the role of an identity, you can preview the Identity Summary report and search for the specific identity.

You can use the following options to control what is displayed:

Tip: Click to filter the report. The preview bar expands to display search criteria.

Feature	Description
Generate Report The generate report options are displayed in the top left corner of the report preview.	
	Click this button to generate a PDF copy of the current report.
	Click this button to generate a CSV or spreadsheet copy of the current report.
Preview Bar The preview options are displayed at the bottom of the report page.	
	Click this icon to filter the report. The report filter options are displayed. The options change depending on the report. • Click **Search** to perform a search using the selected filter options. • Click **Reset** to clear the report filter options. • In the drop down list beside the Reset button, choose if the search will locate **all** or **any** transactions that match the selected report filters. • Click **Save** to save and apply the selected filters to the default report.
	Select the number of items you want to display on a single page.
	Click this button to return to the first page of the report.
	Click this button to return to the previous page of the report.
	Enter the page you want to go to.
	Click this button to bring up the next page of the report.
	Click this button to go to the last page of the report.
	Click this button to refresh the report.

Editing Reports

All reports can be edited or filtered to only display the information that you need. You can edit default system reports and custom reports in the same way.

If you plan to use the filtered report frequently, you can create a custom report rather than modify the default system report every time. For more information see *Creating Custom Reports* on page 138.

Most generated reports saved as PDF files contain a maximum of 2,000 records, except the Audit Log

Report, which contains a maximum of 1,000 records. Reports saved as CSV format spreadsheet files contain a maximum of 2,000 records.

Reports requiring more than 2,000 rows must be scheduled as a batch job for system performance. For more information, see *Generating a Batch Report* on page 461.

1. Display the Reports list.
   - To display the system reports page, click **Reports**.
   - To display the custom reports page, select **Reports** > **Custom Reports**.
2. Click for your report.

   Note: The Audit Log Report and Transaction Report do not have available. To edit, click on the report name and follow the steps in the related procedure - *Editing Audit Log and Transaction Reports* below.
3. Edit the report criteria.
4. Click to save your changes.

Now you can generate or preview the report with your changes.

Editing Audit Log and Transaction Reports

The Audit Log and Transaction Reports are edited differently from other reports. There is no edit function directly available from the Reports list.

Follow the steps below to edit these reports.

1. Display the Reports list.
   - To display the system reports page, click **Reports**.
   - To display the custom reports page, select **Reports** > **Custom Reports**.
2. Click on the name of the report
3. Click in the bottom left-hand corner on the following page (either the Grid: Transaction Report or Grid: Audit Log page).

   The Find section opens.
4. Do the following to define criteria for the report:
   - Select an option in the search type field (e.g. External System ID).
   - Select an option in the search operator field (e.g. greater or equal to).
   - Select an option in the search value field (e.g 12/07/2015 00:00:00).

   The **Full Name** search type field available for the Transaction Report returns results for a limited number of combinations of search operator and search value entries. For example, using an identity with the name John Smith, the following searches will succeed:

Search Operator	Search Value
contains	Smith, John
	John
	Smith
equal	Smith, John
begins with	Smith
ends with	John

5. Click to add more search fields, if required.
   Complete step 4 above for each additional field added.
6. Click **Save** to save your changes.
   The ACM Notification message displays with the message 'Search Parameters successfully changed'.
7. To save these filter settings as a custom report, enter a name in the Create Custom Report: field , then click **Create Custom Report:**.
8. To reset the search criteria, click **Reset**

Now you can generate or preview the report with your changes.

Creating Custom Reports

A custom report is a system report that has been duplicated and edited to meet your requirements. You can create a custom report that are used frequently.

1. Select **Reports** > **Reports**.
2. Click for the report you want to base the custom report on.
3. On the Report Edit page, select the **Copy Report** checkbox.
4. Give the new report a name.
5. Edit the report options to meet your requirements.
6. Click to save the new custom report.

See *Scheduling a Custom Report By Batch Job (Specification)* below.

Scheduling a Custom Report By Batch Job (Specification)

To schedule the creation of a custom report by batch job:

1. Select **Reports** > **Custom Reports**.
2. Click the **Schedule** link next to the report name.
3. Create the schedule:
    a. In the Job Specification window with the report information, enter:

Name	The name of the schedule.
Output Format	**pdf** (default) or **csv**.

    b. Click **Next**.

    The current values of the report cannot be edited here. If you need to edit, go to the Custom Reports tab and click Edit.

    c. Enter the schedule:

Repeat	**Once**, **Hourly**, **Daily**, **Weekly** or **Monthly**. (The page refreshes depending on your selection.) For Weekly: Any of the **Sun**, **Mon**, **Tue**, **Wed**, **Thu**, **Fri**, **Sat** checkboxes. For Monthly: The date.
On	The time in 24-hour clock format in **HH** (hour, such as `20`) and **MM** (minute, such as `00`). For Once: Click the field to select the date from the calendar. Then adjust the hour, minute and second selectors to set the time.

    d. Click **Next**.
    e. Optional. Enter a checkmark in **Send Email** and the email address.

    If an email is not specified, go to the **Batch Jobs** tab to retrieve the report on the appliance (after the job specification completes).

    a. Click **Submit**. The schedule is created.
4. Create the batch job to run the custom report on schedule:
    a. Select > **My Account**.
    b. Click the **Job Specification** tab.
    c. Select the schedule and click **Activate/Deactivate**.

    The **Activated on** date is displayed in the right-most column.
5. To view the reports generated by the batch job, click the **Batch Jobs** tab. The reports stay in the list until manually deleted.

    To remove a report, select the row and click .

Creating Custom Audit Log and Transaction Reports

A custom audit log report lists all the selected recorded system logs. You can create a custom audit log report to report only a selection of required audit logs. A custom transaction report lists all the selected recorded system transactions. You can create a custom transaction report to report only a selection of required system transactions.

1. Click **Reports**.
2. Click **Transaction Report** in the Report Name column.
3. Click at the bottom of the page. The preview bar expands to display search criteria.
4. Enter the details you want to include in the report in the Find section. (Click to add more fields.)
5. Click **Search**.

   The system transactions are filtered into a report.
6. In the **Create Custom Report** field, enter a name for the report.
7. Click **Create Custom Report** to save the new report.

Physical Access

The Physical Access pages allow you to access all connected panels, doors, inputs, outputs and associated security devices. These devices can be added, modified, and deleted. The status of the hardware can also be monitored from these pages.

Panels are controllers that connect one or more door controllers (subpanels) and their associated readers to the appliance. Doors are logical units incorporating one or more components that are connected to a panel. The configuration of a door allows users to access certain areas.

Inputs are devices associated to panels and doors. For example, motion sensors or smoke detectors. Outputs are devices that perform tasks in response to input data. For example, unlocking a door or setting off a fire alarm.

Note: If you do not have the correct delegations, you may not be able to access some of the following pages. See your System Administrator for details.

Templates Overview

For ASSA ABLOY, Avigilon and Mercury Security doors.

You can speed up the process of defining panels, subpanels and doors in the ACM system by creating templates for bulk creation. For example, door templates create doors that automatically populate field values on the Parameters and Operations tabs.

- Door templates

  Standardize door configurations that set the basic parameters and operational settings for each type of door at your site. Door templates are used when adding individual doors, modifying or updating common door settings for groups of doors, or when batch creating subpanels for doors when adding a new Mercury panel.

  Note: Only door templates are applicable to ASSA ABLOY doors.

  Tip: Although you can create multiple door templates with the same name, it is recommended that you give each the indoor template a unique name.

- Reader templates

  Standardize reader settings. Reader templates are referenced from a wiring template when batch creating subpanels for doors on a new panel.

- Output templates

  Standardize output settings. Output templates are referenced from a wiring template when batch creating subpanels for doors on a new panel, or used when batch creating output or input/output subpanels.

- Input templates

  Standardize input settings. Input templates are referenced from a wiring template when batch creating input subpanels for doors on a new panel, or used when batch creating output or input/output subpanels.

- Wiring templates

  Standardize Mercury subpanels with wiring templates that link subpanel addresses to door, reader, input, and output templates. Wiring templates are used to batch add the connections to functioning subpanels and doors wired to a new Mercury panel when the panel is added to the ACM appliance.

Door Templates

A door template contains a predefined set of common parameter values and operational settings that can be applied to doors. Use a door template to populate the values assigned in the template to doors:

- When adding a new Mercury panel to the ACM system, new doors can be created in bulk by batch creating the subpanels on the new panel. Door templates are used together with wiring templates to create access-controlled doors with preset configurations ready for use after the new panel and subpanels are fully connected and communicating with the ACM system. To bulk create doors using a wiring template when adding a new panel, see *Batch Creating Subpanels on a New Mercury Panel* on page 169.
- When adding a new door, you still need to configure many attributes such as operations, hardware, cameras, and interlocks specifically for individual doors. To create a door using a template, see *Adding Doors* on page 223.
- When standardizing settings or updating settings supported by a door template for a group of doors.
  - When you have many doors defined with non-standard settings, create a group containing these doors and a new door template containing the standard settings. Then apply the new template to the group of doors.
  - When you have to change a setting common to all doors that use the same template, modify the door template. Then apply the modified template to the group of doors.

  You can apply a template to a group of doors:
  - Immediately from the Templates page, using the **Batch Update** option.
  - Alternatively, at any time after the template is created or modified, from the Groups using the **Batch Update** option.
  - At a future time, or on a schedule, from the Batch Jobs Specifications page.

  Note: When you use the **Batch Update** option and there are more than 10 doors in the group, a batch job is launched, which runs in the background.

To create a new template, see *Door Templates - Add page* on page 144.

When you select **Physical Access > Templates**, the **Door Templates** tab is selected, and the **Door Templates** list page is displayed. This page lists all door templates that have been defined in the system.

Door Templates - Batch Update

The Batch Update feature on the Templates page allows you to assign a door template to a group of doors from the same manufacturer. This is useful for applying new settings or modifying current settings to a group of doors.

WARNING — There is a risk of losing a door template batch update report due to blocked pop-ups in your web browser. When a door template batch update is performed on a group of doors, a report is generated that you can save to your local system. If pop-ups from the ACM client are blocked by your web browser, the report cannot be saved. Your web browser will notify you that the pop-up is blocked, and offer you the option to unblock the pop-up. To save the report (and all future reports), you must enable pop-ups in your web browser from your ACM client. For instructions on how to enable pop-ups, refer to the Help files for your web browser.

1. Select **Physical Access > Templates**.

   The Templates panel opens with the Door Template tab selected and the Door Templates list displayed.

2. On the Door Templates list, click from the **Batch Update** column beside the template you want to apply to a group.

   The Batch Update dialog box appears.

3. From the **Group** drop down list, select a group of doors.

   Only the groups that have been previously defined appear in this list.

4. Click **OK**.

   All members of the specified group are updated with this template's settings.

   > **Note:** If you are doing a door template batch update on a group of doors, you will either be prompted to save the report generated by the system (if pop-ups from the ACM client are unblocked) or your web browser will notify you that the pop-up has been blocked.

If there are more than 10 doors, the update will be automatically scheduled as a batch job that starts two minutes after you select the group and click OK. This can be checked at > **My Account** > **Batch Jobs**.

Door Templates list page

When you select **Physical Access > Templates**, the **Door Templates** tab is selected, and the **Door Templates** list page is displayed. This page lists all door templates that have been defined in the system.

Feature	Description
Name	The name of the door template. Click the name to edit the door template details.

Feature	Description
Batch Update	Click to apply the template to all doors in a group. For more information, see *Door Templates - Batch Update* on page 148.
Delete	Click to delete the door template.
	Click to add a new door template.

Door Templates - Add page

When you click:

- **Add Template** on the Door Templates list, the Templates: Add page appears. Enter the required door template details.
- On the name of a door template on the Door Templates list, the Templates: Edit page appears. All of the configurable items for a door that can be set using a door template appear in the Parameters and Operations tabs after you specify the vendor.

Important: To bulk add door subpanels when adding a new Mercury panel, you must use a door template that has a value specified for Door Mode. Before using the Subpanel: Batch Create wizard, ensure that a door template for the door subpanel type has been configured. Door templates without a Door Mode specified are not available for the wizard to use.

Note: You can add additional values to some drop down lists using the User Lists feature. For more information, see *Adding Items to a List* on page 402.

Name the template and specify the site and vendor information.

Feature	
Name	You can change the name of the template. The name should be unique.
Partitions	Displayed for a partitioned ACM appliance only. To restrict operator access to the item, select one or more partitions. To allow all operators access to the item, do not select a partition. The selection you make for the door template sets in which partitions doors are created.
Vendor	The name of the door manufacturer. After you select the name, the page is refreshed to show the Parameters tab.
Model	Select **Generic** for any vendor to display all the configurable items for that vendor's door controllers in the Parameters and Operations tabs. If you select Mercury as the Vendor, you can select the panel model. After you select the model, the page refreshes again to show only the configurable items for that model.
	Click this button to save your changes.

Feature	
	Click this button to discard your changes.

After you select the vendor and model, update the individual items for the template to apply on the two panels on the **Parameters** tab:

- On the **Parameters** panel, for each item except Partitions, you can select from three or more choices, which vary from item to item:
  - <No Change>: Do not change the value. If the door is new, the item is left blank, or set to its default value. If there is already a value, it is unchanged.
  - <BLANK>: Clear the value. If the door is new, the item is left blank. If there is already a value, it is cleared. This choice only appears if no value is required.
  - All other choices are specific to that item.
  - The Partition item appears only if partitions are defined at your site.
- On the **Door Processing Attributes** tab, the choices are:
  - <No Change>
  - <Yes>
  - <No>

For detailed information about each item on the Parameters tab, see:

- *Parameters tab (Mercury Security)* on page 249
- *Parameters tab (VertX®)* on page 237

Next, update the individual items for the template to apply on the **Operations** tab:

- For the items with drop-down lists, except Card Formats, you can select from three or more choices, which vary from item to item:
  - <No Change>: Do not change the value. If the door is new, the item is left blank, or set to its default value. If there is already a value, it is unchanged.
  - <BLANK>: Clear the value. If the door is new, the item is left blank. If there is already a value, it is cleared. This choice only appears if no value is required.
  - For all the other items, enter a value in seconds, or leave blank to use the default value.
- For **Card Formats**, if you select:
  - <No Change>: Do not change the value. If the door is new, the list of card formats for the door will be populated by the card formats supported by the panel associated with the door.
  - <BLANK>: Clear the value. If the door is new, the list is left empty. If there is already a value, it is cleared.
  - Assign: Replace any card formats supported by the door with the card formats specified in the template.
  - Add: Append the card formats specified in the template to the card formats already supported by the door.
  - Remove: Remove the card formats specified in the template from the list of card formats supported by the door.

After you make your choice of Assign, Add, or Remove, a list of all the configured card formats is displayed. Click to select one card format, or use any of click and drag, Shift and click, or Ctrl and click to select multiple card formats and move them to the Members list.

For detailed information about each item on the Operations tab, see:

- *Operations tab (Mercury Security)* on page 254
- *Operations tab (VertX®)* on page 239

Door Templates - Door Template: Edit page

When you click on the name of a door template on the Door Templates list, the Door Template: Edit page appears. All of the configurable items for a door that can be set using a door template appear in the Parameters and Operations tabs after you specify the vendor.

Note: You can add additional values to some drop down lists using the User Lists feature. For more information, see *Adding Items to a List* on page 402.

Name the template and specify the site and vendor information.

Feature	
Name	Enter the name of the template. This field is required. The name should be unique.
Partitions	Displayed for a partitioned ACM appliance only. To restrict operator access to the item, select one or more partitions. To allow all operators access to the item, do not select a partition. The selection you make for the door template determines in which partitions doors are created.
Vendor	The name of the door manufacturer. After you select the name, the page is refreshed to show the Parameters tab.
Model	Select **Generic** for any vendor to display all the configurable items for that vendor's door controllers in the Parameters and Operations tabs. If you select Mercury as the Vendor, you can select the panel model. After you select the model, the page refreshes again to show only the configurable items for that model.
	Click this button to save your changes.
	Click this button to discard your changes.

After you select the vendor and model, update the individual items for the template to apply on the two panels on the **Parameters** tab:

- On the **Parameters** panel, for each item except Partitions, you can select from three or more choices, which vary from item to item:
    - <No Change>: Do not change the value. If the door is new, the item is left blank, or set to its default value. If there is already a value, it is unchanged.
    - <BLANK>: Clear the value. If the door is new, the item is left blank. If there is already a value, it is cleared. This choice only appears if no value is required.
    - All other choices are specific to that item.
    - The Partition item appears only if partitions are defined at your site.
- On the **Door Processing Attributes** tab, the choices are:
    - <No Change>
    - <Yes>
    - <No>

For detailed information about each item on the Parameters tab, see:

- *Parameters tab (Mercury Security)* on page 249
- *Parameters tab (VertX®)* on page 237

Next, update the individual items for the template to apply on the **Operations** tab:

- For the items with drop-down lists, except Card Formats, you can select from three or more choices, which vary from item to item:
    - <No Change>: Do not change the value. If the door is new, the item is left blank, or set to its default value. If there is already a value, it is unchanged.
    - <BLANK>: Clear the value. If the door is new, the item is left blank. If there is already a value, it is cleared. This choice only appears if no value is required.
    - For all the other items, enter a value in seconds, or leave blank to use the default value.
- For **Card Formats**, select <No Change>, <BLANK>, or specify the format to apply after choosing one of the following:
    - Assign: Replace any card formats supported by the door with the card formats specified in the template.
    - Add: Append the card formats specified in the template to the card formats already supported by the door.
    - Remove: Remove the card formats specified in the template from the list of card formats supported by the door.

    After you make your choice of Assign, Add, or Remove, a list of all the configured card formats is displayed. Click to select one card format, or use any of click and drag, Shift and click, or Ctrl and click to select multiple card formats and move them to the Members list.

For detailed information about each item on the Operations tab, see:

- *Operations tab (Mercury Security)* on page 254
- *Operations tab (VertX®)* on page 239

Door Templates - Batch Update

The Batch Update feature on the Templates page allows you to assign a door template to a group of doors from the same manufacturer. This is useful for applying new settings or modifying current settings to a group of doors.

WARNING — There is a risk of losing a door template batch update report due to blocked pop-ups in your web browser. When a door template batch update is performed on a group of doors, a report is generated that you can save to your local system. If pop-ups from the ACM client are blocked by your web browser, the report cannot be saved. Your web browser will notify you that the pop-up is blocked, and offer you the option to unblock the pop-up. To save the report (and all future reports), you must enable pop-ups in your web browser from your ACM client. For instructions on how to enable pop-ups, refer to the Help files for your web browser.

1. Select **Physical Access** > **Templates**.

   The Templates panel opens with the Door Template tab selected and the Door Templates list displayed.

2. On the Door Templates list, click from the **Batch Update** column beside the template you want to apply to a group.

   The Batch Update dialog box appears.

3. From the **Group** drop down list, select a group of doors.

   Only the groups that have been previously defined appear in this list.

4. Click **OK**.

   All members of the specified group are updated with this template's settings.

   > **Note:** If you are doing a door template batch update on a group of doors, you will either be prompted to save the report generated by the system (if pop-ups from the ACM client are unblocked) or your web browser will notify you that the pop-up has been blocked.

If there are more than 10 doors, the update will be automatically scheduled as a batch job that starts two minutes after you select the group and click OK. This can be checked at > **My Account** > **Batch Jobs**.

Reader Templates

Use standardized reader settings and corresponding reader templates together with wiring templates to configure Mercury subpanels when adding panels in the ACM appliance. Standardize your reader configurations and create a reader template for each standard configuration in use at your site.

> **Note:** Ensure all OSDP readers are configured in ACM software before physically connecting them.

OSDP is recommended for communications between readers, controllers and subpanels. OSDP offers support for bi-directional communication, Secure Channel Protocol (SCP) to encrypt the traffic, and provides

additional status values for readers, improved LED controls, and simpler wiring.

Do not mix and match OSDP and non-OSDP readers on the same serial input/output (SIO) module. If OSDP is being used, set all all reader addresses (including unused ones) to OSDP to avoid accidental re-programming.

OSDP allows twice as many readers on most SIO modules. This allows a single controller port to control two OSDP readers, however the second reader only functions if both readers on the port use OSDP and the second reader is used on a paired door, or as the alternate reader for a single door. The second reader on an OSDP port cannot be used to create a second single door.

To access reader templates, select **Physical Access > Templates** and then click the **Reader Templates** tab. The **Reader Templates** list page is displayed. This page lists all reader templates that have been defined in the system.

> **Tip:** After you have configured new doors using templates, you must access each door, panel, or subpanel to configure the unique settings that are not configured by each template.

Reader Templates list page

When you select **Physical Access > Templates** and click the **Reader Templates** tab, the Reader Templates list page is displayed. This page lists all reader templates that have been defined in the system.

Ensure all OSDP readers are configured in ACM software before physically connecting them.

Feature	Description
Name	The name of the reader template. Click the name to edit the reader template details.
Delete	Click to delete the reader template.
	Click to add a new reader template.

Reader Template: Add page

When you click on the **Reader Templates** list page, the **Reader Template: Add** page appears. Enter the required reader template details.

> **Note:** Ensure all OSDP readers are configured in ACM software before physically connecting them.

Feature	Description
Name	Enter a unique name for the template.
Vendor	Choose **Mercury Security** or **HID**.
Mercury Security settings	

Feature	Description
Reader Type	Select the communication protocol used by readers configured with this template. The options include: • **OSDP** **Important:** A reader template for an OSDP reader defines the baud rate and the OSDP address to use. On a paired door using OSDP readers, you need four OSDP reader templates: one for each OSDP address. OSDP is recommended for readers, controllers and subpanels communications. OSDP offers support for bi-directional communication, Secure Channel Protocol (SCP) to encrypt the traffic, and provides additional status values for readers, improved LED controls, and simpler wiring. • **F/2F**. • **D1/D0 (Wiegand)** • **CLK+Data (Mag)** (NCI magnetic stripe standard) • **Custom** (Default) **Note:** The **Custom** option enables all options for all reader types. Readers configured with versions of the ACM software earlier than Release 5.10.4 are assigned this reader type when the software is upgraded to ensure that the previous settings are retained.
The following options depend on the selected Reader Type and include:	
LED drive	Select the LED drive mode for readers configured with this template. The options depend on the reader model and how it is wired and include: • **None** • **Gen 1 wire** • **Reserved** • **Sep Red/Grn no buzz** • **Dorado 780** • **LCD** • **OSDP**
Format by nibble	Check this box to indicate that readers configured with this template support the format by nibble.
Bidirectional	Check this box to indicate that readers configured with this template can read bidirectionally.
F/2F Decoding	Check this box to indicate that readers configured with this template use F or 2F decoding.

Feature	Description
Inputs on reader	Check this box to indicate that readers configured with this template provide one or more input ports for serial input arrays.
Keypad decode	Select the keypad decode/encryption method that is used by readers configured with this template. The options include: • **MR20 8-bit tamper** • **Hughes ID 4-bit** • **Indala** • **MR20 8-bit no tamper**
Wiegand	Check this box to indicate that readers configured with this template support the Wiegand standard.
Trim Zero Bit	Check this box to indicate that readers configured with this template support the trim zero bit standard.
NCI magstripe	Check this box to indicate that readers configured with this template supports the NCI standard for magnetic stripes.
Supervised	Check this box to indicate that readers configured with this template are supervised (outfitted with detection devices)
Secure Channel Protocol	Check this box to enable secure OSDP communication between the reader and the controller. The reader must support SCP and must be in installation mode. The reader will remain offline if a secure connection cannot be established. **CAUTION —** Do not enable SCP on readers that support OSDPv1, such as the ViRDI biometric reader, as this will make the reader inoperable. Secure channel is only supported in by OSDPv2.
Baud Rate	Set the OSDP baud rate. This must be the same for all readers on a single port. Valid values are **9600** (default), **19200**, **38000** or **115200**. If blank is selected, the system will use default settings. **Note:** Mercury controllers may auto-detect the OSDP baud rate. For more information, refer to Mercury documentation. See *Appendix: pivCLASS Configuration* on page 502.
OSDP Address	Set the OSDP address. This must be different for each reader on a single port. Valid values are **0** (reader 1 default), **1** (reader 2 default), **2**, and **3**. If blank is selected, the system will use default settings. **Note:** Mercury controllers will first try the setting provided and if that does not work, the controller will use default settings.

Feature	Description
Partitions	Displayed for a partitioned ACM appliance only. To restrict operator access to the item, select one or more partitions. To allow all operators access to the item, do not select a partition.
VertX® settings	
Keypad decode	Select the keypad decode/encryption method that is used by readers configured with this template. The options include: • **MR20 8-bit tamper** • **Hughes ID 4-bit** • **Indala** • **MR20 8-bit no tamper**
Wiegand	Check this box to indicate that readers configured with this template support the Wiegand standard.
NCI magstripe	Check this box to indicate that readers configured with this template supports the NCI standard for magnetic stripes.
Partitions	Displayed for a partitioned ACM appliance only. To restrict operator access to the item, select one or more partitions. To allow all operators access to the item, do not select a partition.
	Click this button to save your changes.
	Click this button to discard your changes.

Reader Template: Edit page

When you click on the name of a template on the **Reader Templates** list page, the **Reader Template: Edit** page appears. Modify the required reader template details.

Feature	Description
Name	Enter a unique name for the template.
Vendor	Choose **Mercury Security** or **HID**.
Mercury Security settings	

Feature	Description
Reader Type	Select the communication protocol used by readers configured with this template. The options include: • **OSDP** **Important:** A reader template for an OSDP reader defines the baud rate and the OSDP address to use. On a paired door using OSDP readers, you need four OSDP reader templates: one for each OSDP address. OSDP is recommended for readers, controllers and subpanels communications. OSDP offers support for bi-directional communication, Secure Channel Protocol (SCP) to encrypt the traffic, and provides additional status values for readers, improved LED controls, and simpler wiring. • **F/2F**. • **D1/D0 (Wiegand)** • **CLK+Data (Mag)** (NCI magnetic stripe standard) • **Custom** (Default) **Note:** The **Custom** option enables all options for all reader types. Readers configured with versions of the ACM software earlier than Release 5.10.4 are assigned this reader type when the software is upgraded to ensure that the previous settings are retained.
The following options depend on the selected Reader Type and include:	
LED drive	Select the LED drive mode for readers configured with this template. The options depend on the reader model and how it is wired and include: • **None** • **Gen 1 wire** • **Reserved** • **Sep Red/Grn no buzz** • **Dorado 780** • **LCD** • **OSDP**
Format by nibble	Check this box to indicate that readers configured with this template support the format by nibble.
Bidirectional	Check this box to indicate that readers configured with this template can read bidirectionally.
F/2F Decoding	Check this box to indicate that readers configured with this template use F or 2F decoding.

Feature	Description
Inputs on reader	Check this box to indicate that readers configured with this template provide one or more input ports for serial input arrays.
Keypad decode	Select the keypad decode/encryption method that is used by readers configured with this template. The options include: • **MR20 8-bit tamper** • **Hughes ID 4-bit** • **Indala** • **MR20 8-bit no tamper**
Wiegand	Check this box to indicate that readers configured with this template support the Wiegand standard.
Trim Zero Bit	Check this box to indicate that readers configured with this template support the trim zero bit standard.
NCI magstripe	Check this box to indicate that readers configured with this template supports the NCI standard for magnetic stripes.
Supervised	Check this box to indicate that readers configured with this template are supervised (outfitted with detection devices)
Secure Channel Protocol	Check this box to enable secure OSDP communication between the reader and the controller. The reader must support SCP and must be in installation mode. The reader will remain offline if a secure connection cannot be established. **CAUTION —** Do not enable SCP on readers that support OSDPv1, such as the ViRDI biometric reader, as this will make the reader inoperable. Secure channel is only supported in by OSDPv2.
Baud Rate	Set the OSDP baud rate. This must be the same for all readers on a single port. Valid values are **9600** (default), **19200**, **38000** or **115200**. If blank is selected, the system will use default settings. **Note:** Mercury controllers may auto-detect the OSDP baud rate. For more information, refer to Mercury documentation. See *Appendix: pivCLASS Configuration* on page 502.
OSDP Address	Set the OSDP address. This must be different for each reader on a single port. Valid values are **0** (reader 1 default), **1** (reader 2 default), **2**, and **3**. If blank is selected, the system will use default settings. **Note:** Mercury controllers will first try the setting provided and if that does not work, the controller will use default settings.

Feature	Description
Partitions	Displayed for a partitioned ACM appliance only. To restrict operator access to the item, select one or more partitions. To allow all operators access to the item, do not select a partition.
VertX® settings	
Keypad decode	Select the keypad decode/encryption method that is used by readers configured with this template. The options include: • **MR20 8-bit tamper** • **Hughes ID 4-bit** • **Indala** • **MR20 8-bit no tamper**
Wiegand	Check this box to indicate that readers configured with this template support the Wiegand standard.
NCI magstripe	Check this box to indicate that readers configured with this template supports the NCI standard for magnetic stripes.
Partitions	Displayed for a partitioned ACM appliance only. To restrict operator access to the item, select one or more partitions. To allow all operators access to the item, do not select a partition.
	Click this button to save your changes.
	Click this button to discard your changes.

Input Templates

Use standardized input settings and corresponding input templates together with wiring templates to configure Mercury subpanels when adding panels in the ACM appliance. Standardize your input configurations and create an input template for each standard configuration in use at your site.

To access input templates, select **Physical Access** > **Templates** and then click the **Input Templates** tab. The **Input Templates** list page is displayed. This page lists all input templates that have been defined in the system.

Note: Input templates for VertX® are not used by the ACM system. Input templates are only used when configuring Mercury subpanels.

Tip: After you have configured new doors using templates, you must access each door, panel, or subpanel to configure the unique settings that are not configured by each template.

Input Templates list page

When you select **Physical Access** > **Templates** and click the **Input Templates** tab, the Input Templates list page is displayed. This page lists all input templates that have been defined in the system.

Feature	Description
Name	The name of the input template. Click the name to edit the input template details.
Delete	Click to delete the input template.
	Click to add a new input template.

Input Template: Add page

When you click on the **Input Templates** list page, the **Input Template: Add** page appears. Enter the required input template details.

> **Note:** Input templates for VertX® are not used by the ACM system. Input templates are only used when configuring Mercury subpanels.

Feature	Description
Name	The name of the template.
Installed	Check to indicate that input points configured with this template are connected and active.
Vendor	The only supported option is **Mercury Security**.
Mercury Security settings	
Mode	Select the mode used for arming and disarming the input to trigger alarm events. Each mode modifies the effect of the **Exit Delay** and **Entry Delay** settings. • Normal – Does not use the **Exit Delay** and **Entry Delay** settings. Point is armed when the area is armed. Triggering the armed point will instantly trigger the alarm. • Non-latching – Uses the **Exit Delay** and **Entry Delay** settings. When the area is armed, the point is armed after the time specified by the **Exit Delay** setting. This allows you time to exit the area without triggering an alarm. After the point is armed, triggering the armed point occurs after the time specified by the **Entry Delay** setting. This allows you time to disarm the area or restore the point (for example, by closing the door). This mode can be used in a scenario such as an armed fire door if you want people to exit but do not want the door propped open. The entry delay allows time for the door to be closed before triggering the alarm. • Latching – Uses the **Exit Delay** and **Entry Delay** settings. When the area is armed, the point is armed after the time specified by the **Exit Delay** setting. This allows you time to exit the area without triggering an alarm. After the point is armed, triggering the armed point occurs after the time specified by the **Entry Delay** setting. This allows you time to disarm the area.

Feature	Description
EOL resistance	Select the End of Line resistance value used by inputs configured with this template. Only the EOL resistance values that have been defined in the system are listed.
Debounce[1]	Select how often the unit is allowed to debounce in a row. 1 = 16 ms, 2 = 32 ms, etc.
Entry Delay	The **Entry Delay** setting specifies the amount of time after you enter an alarmed area that you have to disarm the alarm system before an alarm is triggered. Enter the number of seconds allowed before the input reports an event.
Exit Delay	The **Exit Delay** setting specifies the amount of time after the alarm system is armed that you have to leave the area without triggering an alarm. Enter the number of seconds allowed before the input reports an event.
Hold time	Set the amount of time that the alarm will stay in alarm state after returning to normal. For example, if the input point goes into alarm state, then restores, it will hold it in that state for 1 to 15 seconds after it returns to normal state before reporting the input point is in the normal state.
Schedule	Define when the input is masked. When the schedule is active, the input will be masked.
Masked	Check this box to indicate that this input is normally masked.
Partitions	Displayed for a partitioned ACM appliance only. To restrict operator access to the item, select one or more partitions. To allow all operators access to the item, do not select a partition.
	Click this button to save your changes.
	Click this button to discard your changes.
Show Policy	Click this button to display the policies associated with this input module.

Input Template: Edit page

When you click on the name of a template on the **Input Templates** list page, the **Input Template: Edit** page appears. Modify the required reader template details.

> **Note:** Input templates for VertX® are not used by the ACM system. Input templates are only used when configuring Mercury subpanels.

Feature	Description
Name	The name of the template.
Installed	Check to indicate that input points configured with this template are connected and active.

[1] Due to mechanical properties of a switch, when a switch is closed, there is a period of time in which the electrical connection "bounces" between open and closed. To a microcontroller, this "bouncing" can be interpreted as multiple button pushes. To suppress the "bouncing", the controller software is designed to anticipate it. This is known as "debouncing a switch".

Feature	Description
Vendor	The only supported option is **Mercury Security**.
Mercury Security settings	
Mode	Select the mode used for arming and disarming the input to trigger alarm events. Each mode modifies the effect of the **Exit Delay** and **Entry Delay** settings. • Normal – Does not use the **Exit Delay** and **Entry Delay** settings. Point is armed when the area is armed. Triggering the armed point will instantly trigger the alarm. • Non-latching – Uses the **Exit Delay** and **Entry Delay** settings. When the area is armed, the point is armed after the time specified by the **Exit Delay** setting. This allows you time to exit the area without triggering an alarm. After the point is armed, triggering the armed point occurs after the time specified by the **Entry Delay** setting. This allows you time to disarm the area or restore the point (for example, by closing the door). This mode can be used in a scenario such as an armed fire door if you want people to exit but do not want the door propped open. The entry delay allows time for the door to be closed before triggering the alarm. • Latching – Uses the **Exit Delay** and **Entry Delay** settings. When the area is armed, the point is armed after the time specified by the **Exit Delay** setting. This allows you time to exit the area without triggering an alarm. After the point is armed, triggering the armed point occurs after the time specified by the **Entry Delay** setting. This allows you time to disarm the area.
EOL resistance	Select the End of Line resistance value used by inputs configured with this template. Only the EOL resistance values that have been defined in the system are listed.
Debounce[1]	Select how often the unit is allowed to debounce in a row. 1 = 16 ms, 2 = 32 ms, etc.
Entry Delay	The **Entry Delay** setting specifies the amount of time after you enter an alarmed area that you have to disarm the alarm system before an alarm is triggered. Enter the number of seconds allowed before the input reports an event.
Exit Delay	The **Exit Delay** setting specifies the amount of time after the alarm system is armed that you have to leave the area without triggering an alarm. Enter the number of seconds allowed before the input reports an event.
Hold time	Set the amount of time that the alarm will stay in alarm state after returning to normal. For example, if the input point goes into alarm state, then restores, it will hold it in that state for 1 to 15 seconds after it returns to normal state before reporting the input point is in the normal state.
Schedule	Define when the input is masked. When the schedule is active, the input will be masked.
Masked	Check this box to indicate that this input is normally masked.

[1] Due to mechanical properties of a switch, when a switch is closed, there is a period of time in which the electrical connection "bounces" between open and closed. To a microcontroller, this "bouncing" can be interpreted as multiple button pushes. To suppress the "bouncing", the controller software is designed to anticipate it. This is known as "debouncing a switch".

Feature	Description
Partitions	Displayed for a partitioned ACM appliance only. To restrict operator access to the item, select one or more partitions. To allow all operators access to the item, do not select a partition.
	Click this button to save your changes.
	Click this button to discard your changes.
Show Policy	Click this button to display the policies associated with this input module.

Output Templates

Use standardized input settings and corresponding output templates to use together with wiring templates to configure Mercury subpanels when adding panels in the ACM appliance. Standardize your output configurations and create an output template for each standard configuration in use at your site.

To access output templates, select **Physical Access** > **Templates** and then click the **Output Templates** tab. The **Output Templates** list page is displayed. This page lists all output templates that have been defined in the system.

Note: Output templates for VertX® are not used by the ACM system. Output templates are only used when configuring Mercury subpanels.

Tip: After you have configured new doors using templates, you must access each door, panel, or subpanel to configure the unique settings that are not configured by each template.

Output Templates list page

When you select **Physical Access** > **Templates** and click the **Output Templates** tab, the Output Templates list page is displayed. This page lists all Output templates that have been defined in the system.

Feature	Description
Name	The name of the output template. Click the name to edit the output template details.
Delete	Click to delete the output template.
	Click to add a new output template.

Output Template: Add page

When you click on the **Output Templates** list page, the **Output Template: Add** page appears. Enter the required output template details.

Note: Output templates for VertX® are not used by the ACM system. Output templates are only used when configuring Mercury subpanels.

Feature	Description
Name	The name of the template.
Installed	Check to indicate that input points configured with this template are connected and active.
Vendor	The only supported option is **Mercury Security**.
Operating Mode	Select how the panel knows when the output point is active. • **Energized When Active** – a current is expected to pass through the output point when it is *active*. • **Not Energized When Active** – a current expected to pass through the output point when it is *inactive*.
Pulse Time	Enter the pulse interval time. This is the number of seconds that the output will activate when a pulse command is issued. **Note:** This field is only available on outputs not associated with doors (e.g. auxiliary relays).
Schedule	Select a schedule from the drop down list. Only schedules that have been defined in the system are listed.
Partitions	Displayed for a partitioned ACM appliance only. To restrict operator access to the item, select one or more partitions. To allow all operators access to the item, do not select a partition.
	Click this button to save your changes.
	Click this button to discard your changes.

Output Template: Edit page

When you click on the name of a template in on the **Output Templates** list page, the **Output Template: Edit** page appears. Modify the required reader template details.

Note: Output templates for VertX® are not used by the ACM system. Output templates are only used when configuring Mercury subpanels.

Feature	Description
Name	The name of the template.
Installed	Check to indicate that input points configured with this template are connected and active.
Vendor	The only supported option is **Mercury Security**.

Feature	Description
Operating Mode	Select how the panel knows when the output point is active. • **Energized When Active** – a current is expected to pass through the output point when it is *active*. • **Not Energized When Active** – a current expected to pass through the output point when it is *inactive*.
Pulse Time	Enter the pulse interval time. This is the number of seconds that the output will activate when a pulse command is issued. **Note:** This field is only available on outputs not associated with doors (e.g. auxiliary relays).
Schedule	Select a schedule from the drop down list. Only schedules that have been defined in the system are listed.
Partitions	Displayed for a partitioned ACM appliance only. To restrict operator access to the item, select one or more partitions. To allow all operators access to the item, do not select a partition.
	Click this button to save your changes.
	Click this button to discard your changes.

Wiring Templates

Use standardized wiring setups for your subpanels and corresponding wiring templates to speed up configuration of Mercury subpanels when adding managed doors to the ACM appliance. A wiring template corresponds to a standard wiring setup for the doors connected to a specific Mercury subpanel model.

A wiring template takes information from the door, input, output, and reader templates that you specify and validates all the information so that the template can be used to batch create subpanels configured with functional doors and readers.

Wiring templates use the Access Type options Single and Paired to support easier configuration of doors. Use Single for a door with one reader on one side of the door only (single reader door). Use Paired for a door with two readers, one on each side of the door (paired reader door). Paired readers allow each side of a single physical door to act like a separate door. This is particularly useful for antipassback and mustering.

The Access Type can also be configured in the Door Template. When configured in both the Wiring Template, and the associated Door Template, the setting in the Wiring Template takes precedence.

A preconfigured wiring template for each of the following subpanels is provided:

- MR50
- MR51e
- MR52

- MR62e
- 1501 Internal SIO
- 1502 Internal SIO

You can modify the preconfigured wiring templates and create new wiring templates for each type of subpanel in use at your site. If you use different wiring setups for the same type of subpanel, create a wiring template for each setup.

Important: Before you configure the wiring template for a subpanel, you should have already configured the reader templates, input templates, and output templates needed for that subpanel. A wiring template contains mappings for the subpanel input, output, and reader addresses that correspond to the wiring set up of the subpanel for the readers, door position, strike, and request to exit (REX) buttons, and sets the associated template for each mapping. The number of doors and available reader, input, and output addresses for mapping is fixed for each subpanel model.

To access wiring templates, select **Physical Access** > **Templates** and then click the **Wiring Templates** tab. The **Wiring Templates** list page is displayed. This page lists all wiring templates that have been defined in the system.

Wiring Templates list page

When you select **Physical Access** > **Templates** and click the **Wiring Templates** tab, the Wiring Templates list page is displayed. This page lists all wiring templates that have been defined in the system.

Feature	Description
Name	The name of the wiring template. Click the name to edit the wiring template details.
Delete	Click to delete the wiring template.
	Click to add a new wiring template.

Wiring Template: Add page

When you click on the **Wiring Templates** list page, the **Wiring Template: Add** page appears. Enter the wiring template details.

You can check if the settings you make on this page are valid at any time by clicking **Validate** at the bottom of the page. If there is an error on the page, an error message identifies the problem for you to correct.

Feature	Description
Name	Enter a unique name for the template.
Vendor	The only option is **Mercury Security**.

<table>
<tr><th>Feature</th><th>Description</th></tr>
<tr><td>Model</td><td>Select from the drop-down list:
Subpanels for Doors and Readers
<table>
<tr><th>Model</th><th>Number of Doors</th><th>Number of Readers</th></tr>
<tr><td>MR50</td><td>1</td><td>2</td></tr>
<tr><td>MR52</td><td>2</td><td>4</td></tr>
<tr><td>1502 Internal SIO</td><td>2</td><td>4</td></tr>
<tr><td>MR51e</td><td>2</td><td>4</td></tr>
<tr><td>MR62e</td><td>2</td><td>4</td></tr>
<tr><td>1501 Internal SIO</td><td>2</td><td>4</td></tr>
<tr><td>M5-2RP</td><td>2</td><td>2</td></tr>
<tr><td>M5-2SRP</td><td>2</td><td>2</td></tr>
<tr><td>M5-8RP</td><td>8</td><td>8</td></tr>
<tr><td>MS-2K</td><td>4</td><td>4</td></tr>
<tr><td>MS-ACS</td><td>8</td><td>8</td></tr>
<tr><td>4502 Internal SIO</td><td>2</td><td>4</td></tr>
</table>
or
Subpanels for Inputs or Outputs (I/O)
<table>
<tr><th>Model</th></tr>
<tr><td>MR161N</td></tr>
<tr><td>MR16OUT</td></tr>
<tr><td>M5-20IN</td></tr>
<tr><td>M5-16DO</td></tr>
<tr><td>M5-16DOR</td></tr>
<tr><td>M8-I8S</td></tr>
<tr><td>M8-R8S</td></tr>
</table></td></tr>
<tr><td colspan="2">For each door:</td></tr>
</table>

<table>
<tr><th>Feature</th><th>Description</th></tr>
<tr><td>Door</td><td>Select an Access Type from the drop-down list:
Single: A door connected to a single reader using any supported connection protocol on a single port.
Paired: A door connected to two readers on the same port. A second pair of template settings is displayed.
For the single door or both paired doors select:
Door Template
Reader: Address and Reader Template
Alt Reader: Address and Reader Template
Important: When using OSDP readers, you need four OSDP reader templates for a paired door: one for each OSDP address.
Specify the I/O templates for the doors created with this template:<table><tr><td>Door Position Address:</td><td>Input Template</td></tr><tr><td>Strike:</td><td>Output Template</td></tr><tr><td>REX 1:</td><td>Input Template</td></tr><tr><td>REX 2:</td><td>Input Template</td></tr></table></td></tr>
<tr><td>For Other I/O</td><td></td></tr>
<tr><td></td><td>Select an Input Template to use for all inputs not associated with doors.</td></tr>
<tr><td></td><td>Select an Output Template to use for all outputs not associated with doors.</td></tr>
<tr><td>Save</td><td>Click to save the template and return to the Wiring Templates list page.</td></tr>
<tr><td>Cancel Changes</td><td>Click to return to the Wiring Templates list page without saving.</td></tr>
<tr><td>Add Wiring Template</td><td>Click to add a new wiring template.</td></tr>
</table>

Wiring Template: Edit page

When you click on the name of a template on the Wiring Templates list page, the Wiring Template: Edit page is displayed. Use this page to modify the wiring template.

You can check if the settings you make on this page are valid at any time by clicking **Validate** at the bottom of the page. If there is an error on the page, an error message identifies the problem for you to correct.

For details about the fields on this page, see *Wiring Template: Add page* on page 162

Configuring Panels

Panels are controllers that connect one or more door controllers (subpanels) and their associated readers to the ACM appliance. Through an Ethernet cable or encrypted wireless connection, panels send information about the state of the doors back to the appliance. Panels are added one at a time.

When a new Mercury panel is created you can use the Subpanel: Batch Create wizard to add subpanels to the panel. The wizard adds connection information for the subpanels and doors that are wired to the panel so that the ACM appliance can start managing door access. You must configure door templates, input templates, output templates, reader templates, and wiring templates before you can use the wizard. Together, these templates can provide enough information to ensure basic functioning of doors as soon as the new panel and subpanels are fully connected and communicating with the ACM system. For more information, see *Templates Overview* on page 141.

> **Tip:** To add a gateway to manage Schlage IP wireless locks, see *Step 2: Configuring Gateways for IP Wireless Locks* on page 280. To add a SALTO server and panel to manage SALTO doors, see *Step 1: Connecting to a SALTO Server* on page 297. To add a Door Server Router (DSR) panel to manage ASSA ABLOY IP-enabled locks, see *Step 1: Configuring a Door Service Router for IP Locks* on page 308.

Searching for Panels

Many facilities require the control and monitoring of dozens, even hundreds, of panels simultaneously. This can result in a crowded listing page. You can search for specific panels to narrow the list of panels appearing on the Panels list page.

1. Use any (or all) of the following to define your search:
    - Enter your search term in the **Search...** field. Use any series of letters and numbers to search for the panels you want to see.
    - If known, select the **Device Status**.
    - If known, select the **Appliance** the panel is connected to.
    - If known, select the **Group** the panel is included in.
2. Click **OK**.

Adding Panels

Panels connect door controllers and their readers to the ACM appliance. Adding a panel to the ACM system allows the appliance to gather information on the connected doors.

> **Tip:** To add a gateway to manage Schlage IP wireless locks, see *Step 2: Configuring Gateways for IP Wireless Locks* on page 280. To add a SALTO server and panel to manage SALTO doors, see *Step 1:*

Connecting to a SALTO Server on page 297. To add a Door Server Router (DSR) panel to manage ASSA ABLOY IP-enabled locks, see *Step 1: Configuring a Door Service Router for IP Locks* on page 308.

To add a panel to the system:

1. Select **Physical Access > Panels**.
2. Click **Add Panel**.
3. Enter:

Name	Up to 50 characters for the name of the panel. Enter a name that will help you identify the devices it controls. Duplicate names are not allowed.
Physical Location	A description of where the device is installed.
Partitions	Displayed for a partitioned ACM appliance only. To restrict operator access to the item, select one or more partitions. To allow all operators access to the item, do not select a partition.
Appliance	The ACM appliance that is connected to the panel.
Vendor	The vendor of the panel or gateway.
	If **HID** is selected, enter: **Model**: The V1000 or V2000 model of the panel. **Timezone**: The local time which the panel operates in for door schedules and other time-based configuration.

If **Mercury Security** is selected, enter:

Model: The model of the Mercury panel.

> **Tip:** Lenel panels can be configured as Mercury panels. For more information, see *Lenel Panel Support* on page 176.

Enable Large Encoded Card Format: For all types of Mercury controllers other than the LP4502 model with the pivCLASS with external PAM. See *Appendix: pivCLASS Configuration* on page 502.

Embedded Auth: For LP4502 model only. See *Appendix: pivCLASS Configuration* on page 502.

Timezone: The local time which the panel operates in for door schedules and other time-based configuration.

Wiring Type: For SCP models only. The type of port the panel uses to connect to door or subpanels.

For SCP-2 and SCP-E models, enter:

- **(4) 2-Wire Ports**
- **(2) 4-Wire Ports**
- **(1) 4-Wire/(2) 2-Wire**

For SCP-C model, enter:

- **(2) 2-Wire Ports**
- **(1) 4-Wire Port**

Total Memory: For SCP-2 and SCP-E models only. The total memory the panel contains.

Max Elevator Floors: For SCP models only. The number of floors the panel oversees. Up to 128 floors can be specified. For more information on defining elevator door access, see *Managing Elevator Access* on page 132.

Allocate space :

Credentials: The number of credentials that can be stored in the panel. The number is dependent on the memory, vendor and model of the panel.

Events: The number of transactions to buffer in the panel. The number is dependent on the memory, vendor and model of the panel.

Version: The current version of the database.

If **Schlage** is selected, enter:

Site : The name of the site that the gateway is commissioned to.

Model: **ENGAGE Gateway - IP**

Installed — If selected, the panel is installed and ready to communicate with the ACM appliance.

4. Click ✔ to save your changes.

Click to discard your changes.

After you add a new panel for:

- HID V1000 model, see *Subpanel: Batch Add page (VertX®)* on page 173
- HID V2000 model, see *Subpanel Fields* on page 172
- Any Mercury Security model, see *Batch Creating Subpanels on a New Mercury Panel* on the next page. However, if the panel is wired to a AD-300 or PIM400 model subpanel, see *Adding a Subpanel* on page 179.

After you add a new gateway for:

- Schlage ENGAGE Gateway for Schlage RSI wireless locks, see *Adding a Subpanel* on page 179
- Schlage ENGAGE Gateway for Schlage IP wireless locks, see *Step 3: Configuring IP Wireless Devices* on page 281

See also:

- *Deleting Doors* on page 210

Configuring the Mercury Security MS Bridge Solution

To use the Mercury Security MS Bridge controllers and subpanels, you must have at least the following connected to the system:

- Mercury MS-ICS panel with downstream support.
- Mercury MS-ACS subpanel that is wired to the Mercury panel.

1. Add a Mercury MS-ICS panel to the ACM system.

   For more information, see *Adding Panels* on page 165.
2. Use the Batch Create wizard to add all required subpanels (the maximum number of subpanels is 32) to the new panel.

   For more information, see *Adding Mercury Security Panels* on page 172.

   Note: Add at least one MS-ACS (maximum two) as a subpanel.

   Note: You can add any Mercury panels that use the same protocol.
3. After all subpanels have been added to the system, select the **Subpanels** tab and click in the **Installed** column of the displayed table for each subpanel so that a displays.
4. Create the related doors. Ensure that for each door you select the corresponding Mercury panel and subpanel.

   For more information, see *Adding Doors* on page 223.
5. Customize the door settings to meet your system requirements and save your changes.

Batch Creating Subpanels on a New Mercury Panel

Note: Does not apply to Schlage AD-300 and PIM-400 subpanels, Aperio and SmartIntego subpanels, and RSI ENGAGE gateways.

Mercury internal subpanels on the EP1501, LP1501, EP1502, LP1502 and LP4502 models do not have an address that can be changed.

After you save a new Mercury panel, you are prompted to use the Subpanel: Batch Create wizard. The wizard lets you create identically configured doors on many types of subpanels, as well as groups of doors configured differently on the same type of subpanel, and to name all the doors all in a single session.

The wizard lets you quickly create many subpanels and doors at once. The optional wiring templates allow you to give your subpanels standard configurations for inputs, outputs and doors. Doors will only be created when they are defined in the selected wiring templates. These templates must be configured before the wizard can use them to create functioning subpanels and doors. The more you standardize doors, readers, outputs, inputs, and panel wiring, the fewer templates you need. Some sample templates are provided. For more information, see *Templates Overview* on page 141.

The wizard is only available when you create a new Mercury panel. Its use is optional. You can cancel out of the wizard and the panel is still saved. However, you will have to configure all of your subpanels and the doors, readers, outputs, and inputs to each subpanel individually.

Important: To bulk add door subpanels when adding a new Mercury panel, you must use a door template that has a value specified for Door Mode. Before using the Subpanel: Batch Create wizard, ensure that a door template for the door subpanel type has been configured. Door templates without a Door Mode specified are not available for the wizard to use.

In the wizard, entering subpanel information is a three-step procedure:

1. Batch Create: Add a row for each type of subpanel that uses the same wiring template. In each row, identify the subpanel type, the base name shared by all subpanels, the number of subpanels, and the wiring template to use. You can only add as many subpanels as the panel can support. You can only select a wiring template that supports that subpanel type. You can use the wizard to create unpopulated subpanels by not specifying a wiring template.
2. Batch Edit: A row is displayed for each subpanel to be created. All the values can be changed. If you change the subpanel type, you also have to change the wiring template. You can also add more subpanels, up to the maximum supported by the panel.
3. Batch Name Doors: Edit the default door names for any door to conform to your site's standard method for identifying doors (such as room numbers or names).

   or

   Batch Create Summary: If no doors are configured for the subpanel, review the details.

Each step is completed on its own page. Checks are made as you enter data to ensure that you enter only

valid data for the panel and subpanels, and do not overpopulate the panel. The subpanels are created when you click **Save** after completing the third step.

You can move between these three pages using **Next** and **Previous** buttons. If you press **Previous**, the `Going back will erase all progress from this page, are you sure?` message is displayed and you have to choose to proceed. You can click **Cancel Changes** in any step to exit the wizard without creating any subpanels, although the panel has already been created.

> **Tip:** After you have configured new doors using templates, you must access each door, panel, or subpanel to configure the unique settings that are not configured by each template.

Subpanel: Batch Create page

To add a subpanel:	Click
To remove a subpanel:	Click

Add a row for each differently configured subpanel connected to the new panel, up to the maximum supported for that type of panel. Typically, this would be one row for each type of subpanel. In each row, specify the type of subpanel, its base name, the number of subpanels to create, and the templates to use to create them.

> **Note:** An exception to this is the MS-ISC panel, which only supports two MS-ACS subpanels, with addresses 0 and 2. You can add more than two MS-ACS subpanels to an MS-ISC panel on the first page, but you must correct this on the Subpanel: Batch Edit Details page before you can proceed to the Subpanel: Batch Name Doors.

Most controllers have a built-in subpanel. That subpanel will be automatically created as part of the batch add process. You cannot delete it or change its type, name, quantity or address.

Column	Description
Subpanel Type	Select the subpanel model from the Select Model drop-down list. The selection is determined by the panel model.
Subpanel Base Name	The prefix used in the name of each subpanel. The default format is <panelName>-<panelModel>. For example EastEntrance-LP2500. You can change this name.
Quantity	Select the number of identically configured subpanels you want to add. The number of available subpanels is updated as new rows are added.

Column	Description
Wiring Template	Select the template from the Select Wiring Template drop-down list. The selection is determined by the subpanel type. **Important for users of templates created in releases prior to ACM Release 6.0**: If you select a template that supports doors that has no doors associated with it, the `Selected template has no door profiles` warning message is displayed. This warning usually occurs for wiring templates created prior to ACM Release 6.0 that have not been modified to associate them with doors. You can choose to continue (and no doors will be created by the wizard) or edit the template. To edit the template, click the **Edit Template** button that is now displayed .

Click **Next** and the **Subpanel: Batch Edit Details** page is displayed.

Subpanel: Batch Edit Details page

To add a subpanel:	Click
To remove a subpanel:	Click

Edit the details for all of the subpanels you added for the new panel. You can also continue to add and remove subpanels up to the maximum supported by the panel.

Column	Description
Address	The port address on the panel to which the subpanel is connected. If there are addresses available, you can add and reorder the addresses. New subpanels are always added to the first available address. **Note:** The MS-ISC panel only supports two MS-ACS subpanels, with addresses two 0 and 2. If you added more than two MS-ACS subpanels to an MS-ISC panel on the first page, you must correct this here before you can proceed to the Subpanel: Batch Name Doors.
Subpanel Type	You can change the subpanel type. After you make your selection, the row is updated to prompt you for the information needed to create the subpanel.
Subpanel Name	The name of each subpanel. The default name is the subpanel address appended to the Subpanel Base Name: <panelName>-<panelModel>-<subpanelAddress>. For example EastEntrance-LP2500-0. You can change this name.
Wiring Template	Select the template from the Select Wiring Template drop-down list. The selection is determined by the subpanel type.

Click **Next**.

Subpanel: Batch Name Doors or Subpanel: Batch Create Summary page

If there are any doors to configure (because wiring templates with door configurations were selected), they can be named on the Subpanel: Batch Name Doors page that is displayed. Otherwise the Subpanel: Batch Create Summary page is presented. On both pages the settings you have configured on the previous pages are displayed for your review before the subpanels are created.

On the Subpanel: Batch Name Doors, default names for each door are displayed for each door subpanel being added to the panel. You can edit the door names to match the door-naming standard for your site before the subpanels are created.

Click **Save** to create the subpanels and doors and return to the **Panel: Edit** page. To access the subpanels you created, click the **Subpanels** tab.

Adding HID VertX® Subpanels

If you selected VertX® as the panel vendor in the Panel Add page, complete the following procedure:

1. After you save the new panel, the Subpanel: Batch Add page is displayed.
2. Select the number of each subpanel model that is installed at each port then click .

   The HID Panel Configure page is displayed.
3. Select the **Host** tab.
4. Enter the IP address for this panel.
5. Click to save your changes.

Adding Mercury Security Panels

If you selected Mercury Security as the panel vendor in the Panel Add page, complete the following procedure:

1. After you save the new panel, the Subpanels: Batch Create page is displayed.

   Note: The listed subpanel models will be different depending on the Mercury panel model that was selected on initial Panel Add page.
2. Select the number of subpanel models that are installed.
3. Click .

   The Mercury Security Panel Edit page is displayed.
4. Select the **Host** tab.
5. Enter the IP address for this panel.
6. Click to save your changes.

Subpanel Fields

For Mercury Security, HID VertX, Schlage ENGAGE gateway (RSI mode) and ASSA ABLOY doors.

Add or edit a subpanel that is supported by the panel on the **Subpanels** tab in **Physical Access** > **Panels**.

> **Note:** Fields in this list are dependent on the door or device. Some commands or fields are not supported for all doors or devices.

Name	A name for the new subpanel, gateway or hub.
Physical Location	A brief description of where the subpanel, gateway or hub is located.
Model	The model of the new subpanel, gateway or hub.
Port	The port that the subpanel is connected to on the main panel. For a Schlage AD-300 subpanel, the default is Port 2. For a SmartIntego GatewayNode, or ASSA ABLOY Aperio hub subpanel, the default is Network.
Installed	If checked, the subpanel is installed and able to communicate with the main panel.
Address	The RS-485 RSI or IP address for the selected port and for all subpanels except those that use the network port. For a SimonsVoss GatewayNode subpanel, the hexadecimal address assigned by the SmartIntego Tool.
Address Mode	For the MR62e module only, DHCP or Static IP.
Elevator Inputs	For an MR16IN or MR52 subpanel if checked, the door module is used as an input for an elevator.
Elevator Outputs	For an MR16OUT or MR52 subpanel if checked, the door module is used as an output for an elevator.
IP Address	The subpanel IP address of a gateway or hub; or an MR51e subpanel or MR62e module operating in Static IP model.
Network Port	For an ASSA ABLOY Aperio hub, the port number the subpanel is connected to. For an Aperio AH-40 Hub subpanel, use the ACU Port from the Aperio programming application.
Hostname	For an MR62e module, DHCP mode, the hostname of the panel. The hostname of the gateway.
MAC Address	For an MR51e subpanel, the subpanel MAC address. The MAC address of the gateway.
Low Door	For a Schlage RSI-based ENGAGE Gateway or PIM400 subpanel, the lowest door number in the series that is managed by the subpanel. The numbered doors managed by each subpanel cannot overlap.
High Door	For a Schlage RSI-based ENGAGE Gateway or PIM400 subpanel, the highest door number in the series that is managed by the subpanel. The numbered doors managed by each subpanel cannot overlap.

Subpanel: Batch Add page (VertX®)

This page appears if you are adding a new VertX® panel. After you save the initial panel details, this page

allows you to batch add all the subpanels that may be connected to the controller panel.

Feature	Description
Port #	The port on the panel that the subpanel is connected to.
Model	The supported subpanel models.
Quantity	Select the number of each subpanel that is installed at each port.
	Click this button to save your changes.
	Click this button to discard your changes.

Editing Panels

To edit an existing panel, select the type of panels that you have installed.

Editing HID® VertX® Panels

To edit an existing VertX® panel:

1. On the Panels list, select the panel you want to edit.

   The HID Panel Status page is displayed.
2. If necessary, download configuration data, user data, or updated firmware to this panel.
3. Navigate the tabs on the screen to make the required changes.
   - **Configure** – select this tab to change the panel properties.
   - **Host** – select this tab to change the panel's network address.
   - **Subpanels** – select this tab to configure the subpanels that are connected to the panel.
   - **Events** – select this tab to review and configure the events that are associated with the panel.
4. Click at the bottom of each page to save your changes.

Editing Mercury Security Panels

To edit an existing Mercury Security panel:

1. On the Panels list, select the panel you want to edit.

   The Mercury Security Panel Status page is displayed.
2. If necessary, download configuration data, user data, or updated firmware to this panel.
3. Select the any tabs on the screen to make the required changes.
   - **Configure** – select this tab to change the panel properties.
   - **Host** – select this tab to configure authentication of the panel, encryption of traffic to and from the panel, and to change the panel's network address.
   - **Subpanels** – select this tab to configure the subpanels that are connected to the panel.
   - **Macros** – select this tab to add or configure the macros used to perform system actions.
   - **Triggers** – select this tab to define what must occur before a macro is called into action.

- **Access Levels** – select this tab to review the access levels that have been defined for the panel.
- **Schedules** – select this tab to review the schedules that have been defined for the panel.
- **Card Formats** – select this tab to view the card formats for all doors connected to the panel.
- **Events** – select this tab to review and configure the events that are associated with the panel.

4. Click at the bottom of each page to save your changes.

Panel Card Formats

When you click the **Card Formats** tab from the Panel: Edit page the Panel Card Formats page is displayed.

This read-only page displays a table that lists the card formats used on all the doors connected to that panel. Although the ACM system allows you to define up to 128 card formats system-wide, only 16 card formats can be used within a single panel.

You can use this table to identify the doors that use each card format. Each row displays a card format in the Card Formats column, and displays a drop-down menu that displays the number of doors that recognize this. Click on the drop-down menu bar to see the list of doors.

Resetting Anti-Passback from the Panel

In the event of an emergency, all the people in a building may leave an area at once and arrive at a mustering area together without using their access card at each door they encounter. This may cause the system to detect multiple anti-passback conditions.

To avoid granting each individual a free pass, you can reset the anti-passback condition for the panel.

1. On the Panels list, select the panel you want to update.
2. On the Panel Status page, click **APB Reset**.

A confirmation message is displayed when APB is reset. Badge holders can return to their regular stations and the system will resume normal operations.

Downloading Parameters

Any changes you make to the panel configuration or related events are automatically downloaded to the panel daily. However, you can manually download the parameters to immediately activate the updated configurations.

1. On the Panels list, select the panel you want to update.
2. On the Panel Status page, click **Parameters**.

The application downloads the configured parameters to the panel.

Downloading Tokens

Whenever you add new identities or update door access information in the system, the system automatically

downloads the new details to the panels and doors. However, if the auto-download is unsuccessful, you can download tokens to the panel manually.

1. On the Panels list, select the panel you want to update.
2. On the Panel Status page, click **Tokens**.

The tokens are downloaded to the panel.

Lenel Panel Support

ACM appliances support Lenel panels but you must configure the Lenel panels as Mercury Security panels in the system.

The following table shows the equivalent Mercury Security panel for each supported Lenel panel.

Mercury Security Panel Model	Lenel Panel Model
SCP-C	LNL-500
SCP-2	LNL-1000
SCP-E	LNL-2000
EP1502	LNL-2220
EP2500	LNL-3300
EP1501	LNL-2210
MR16in	LNL-1100
MR16out	LNL-1200
MR50	LNL-1300
MR52	LNL-1320

For example, you have installed a Lenel **LNL-1000** panel. As you complete the procedure to add the new panel, you would select **Mercury Security** as the vendor and select the **SCP-2** as the model.

Since the SCP-2 and the LNL-1000 use the same parameters, the ACM appliance can communicate with the panels in the same way.

Resetting Doors Connected to a Subpanel

All the subpanels that are connected to the panel can be reset with the latest configurations downloaded from the ACM system.

To reset all the doors that are connected to a specific panel:

1. Click **Physical Access** > **Panels**.
2. Click the panel you want to reset.
3. Click the **Reset/Download** button on the Panel: Status page.

Doors connected to the panel are now updated with the most recent configuration.

Updating Panel Firmware

You can upload firmware updates to the panel, activate the new firmware and apply the latest ACM system configuration parameters.

CAUTION — Risk of loss of functionality. It is possible to downgrade to an earlier firmware version by choosing an earlier firmware file. If you do downgrade to an earlier firmware release, functionality provided in later releases will no longer be available, resulting in unexpected behavior. For example, override functionality available for Mercury panels in the ACM software 5.12.2 and later, requires the Mercury firmware version 1.27.1 or later.

1. On the Panels list, select the panel.
2. On the Panel: Status page, click **Firmware**.

   Note: For IP wireless locks, a firmware update is applied to all locks of the same type managed by the gateway (for example, NDE locks but not LE locks). For offline Wi-Fi locks, a firmware update is applied to the single selected lock.

3. Do any of the following:
   - Apply a firmware update that is available in the system, click next to the firmware file.
   - Upload a new firmware update provided by the manufacturer:
     a. Download the firmware file from the manufacturer.
     b. Click **Add Firmware**.
        See *Appendix: pivCLASS Configuration* on page 502.
     c. Click **Choose File** and select the firmware file.
     d. Click to upload the firmware file.

        Note: If you click , the **Identity Import Type:** will be set to **Auto** and any attached CSV files will be deleted.

     e. On the Firmware list, click next to the firmware file to apply it to the panel.
   - Delete an existing firmware update, click next to the firmware file. Click **OK** to confirm the operation.

Updating Panel Time

Each panel tells time by synchronizing with a time server that is accessible on the network. For example, a network time protocol (NTP) server may be used. In the event of unexpected power or network failure, the panel may run independently for a while and need to be re-synchronized when everything is back online.

1. On the Panels list, select the panel.
2. On the Panel: Status page, click **Clock**. The button is not displayed if clock synchronization is not supported.

The panel connects and synchronizes with the time server.

SALTO Panel Status

On the **Panel: Status** tab, see:

	The communications status between the SALTO server and ACM appliance. The current status of the device is indicated by the background color. For more information, see *Status Colors* on page 52.
Server Time/Date	The date and time of the last import from the SALTO server to the ACM appliance.
Language Code	The language code used.
Protocol Version	The SALTO Host Interface Protocol version.

See also:

- *Step 3: Syncing Doors with the SALTO Server* on page 299
- *Downloading All Tokens* on page 305

SALTO Panel Configuration

On the **Panel: Edit Configure** tab, see:

Name	Read-only. Up to 50 characters for the name of the server.
Physical Location	A description of where the device is installed.
Partitions	Displayed for a partitioned ACM appliance only. To restrict operator access to the item, select one or more partitions. To allow all operators access to the item, do not select a partition.
Appliance	Read-only. The ACM appliance the device is connected to.
Vendor	Read-only. **SALTO**.
Installed	Enables communication between the ACM appliance and SALTO server after saving.

See also:

- *Step 2: Configuring the SALTO Server* on page 298

Deleting Panels

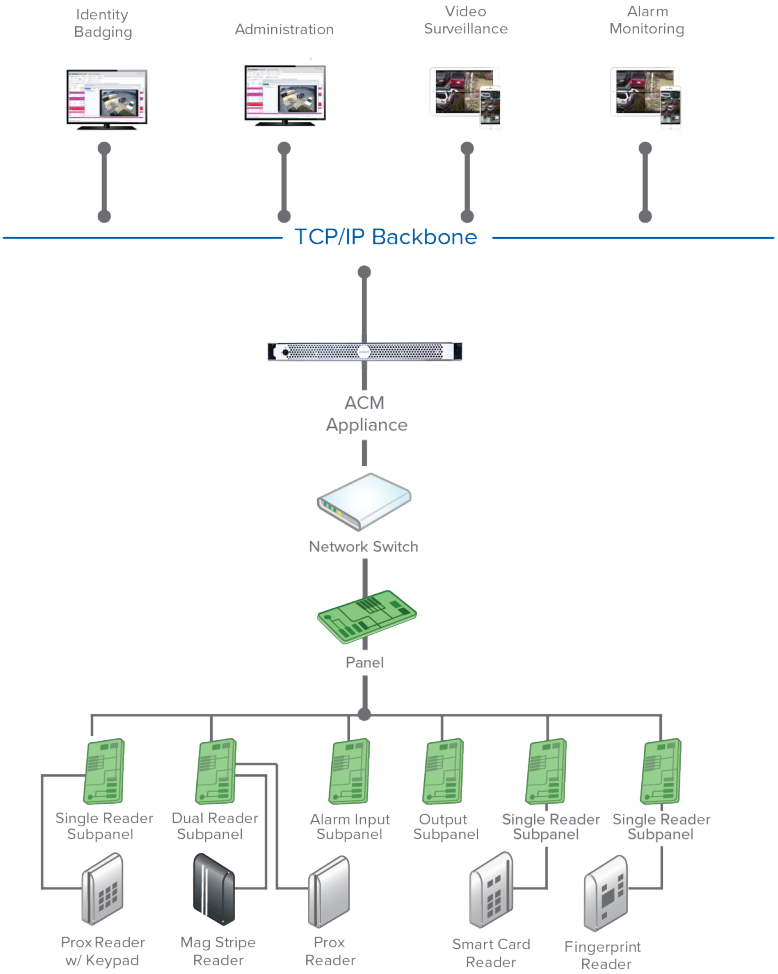
Deleting a panel removes the connection between the ACM system and the panel.

To delete the panel:

1. Select **Monitor** > **Dashboard** > **Panels** or **Physical Access** > **Panels**.
2. Click ... at the end of a row in the Panels table and then click **Delete**.
3. When the confirmation message appears, click **OK**.

Configuring Subpanels

Some panels support hierarchical connections. One panel can be connected to a large number of specialized subpanels, and the subpanels transmit their data to the ACM appliance through the panel.



Adding a Subpanel

Single subpanels can be added to a predefined panel. Gateway and hub subpanels can be added for wired and wireless locks.

> **Note:** Schlage PIM400, RSI-based ENGAGE Gateway, AD300; Assa Abloy Aperio hub; and SmartIntego GatewayNode subpanels can only be added one at a time to a Mercury panel. To batch add other supported subpanels, see *Batch Creating Subpanels on a New Mercury Panel* on

page 169.

To add subpanels one at a time:

1. Select **Physical Access > Panels**.
2. Click the name of the panel that is wired to the new subpanel.
3. Select the **Subpanels** tab.
4. Click **Add Subpanel**.
5. Enter:

Note: Fields in this list that are not supported by the subpanel or gateway are not displayed.

Name	A name for the new subpanel, gateway or hub.
Physical Location	A brief description of where the subpanel, gateway or hub is located.
Model	The model of the new subpanel, gateway or hub.
Port	The port that the subpanel is connected to on the main panel. For a Schlage AD-300 subpanel, the default is Port 2. For a SmartIntego GatewayNode, or ASSA ABLOY Aperio hub subpanel, the default is Network.
Installed	If checked, the subpanel is installed and able to communicate with the main panel.
Address	The RS-485 RSI or IP address for the selected port and for all subpanels except those that use the network port. For a SimonsVoss GatewayNode subpanel, the hexadecimal address assigned by the SmartIntego Tool.
Address Mode	For the MR62e module only, DHCP or Static IP.
Elevator Inputs	For an MR16IN or MR52 subpanel if checked, the door module is used as an input for an elevator.
Elevator Outputs	For an MR16OUT or MR52 subpanel if checked, the door module is used as an output for an elevator.
IP Address	The subpanel IP address of a gateway or hub; or an MR51e subpanel or MR62e module operating in Static IP model.
Network Port	For an ASSA ABLOY Aperio hub, the port number the subpanel is connected to. For an Aperio AH-40 Hub subpanel, use the ACU Port from the Aperio programming application.
Hostname	For an MR62e module, DHCP mode, the hostname of the panel. The hostname of the gateway.

MAC Address	For an MR51e subpanel, the subpanel MAC address. The MAC address of the gateway.
Low Door	For a Schlage RSI-based ENGAGE Gateway or PIM400 subpanel, the lowest door number in the series that is managed by the subpanel. The numbered doors managed by each subpanel cannot overlap.
High Door	For a Schlage RSI-based ENGAGE Gateway or PIM400 subpanel, the highest door number in the series that is managed by the subpanel. The numbered doors managed by each subpanel cannot overlap.

6. Click to save your changes.

Editing Subpanels

To edit an existing subpanel:

1. Select **Physical Access** > **Panels**.
2. Click the name of the panel the subpanel is connected to.
3. Select the **Subpanels** tab.
4. From the Subpanels list, perform any of the following:
   - To edit the subpanel details, click the subpanel name.
   - To edit the inputs connected to the subpanel, click for that subpanel.
   - To edit the outputs connected to the subpanel, click for that subpanel.
   - To edit the readers connected to the subpanel, click for that subpanel.
5. On the following listing page, select the specific device you want to edit.
6. Make the required changes to the device edit page.
7. Click to save your changes.

Inputs

Inputs are associated with panels or doors and can include:

- Motion sensors
- Door contacts
- Smoke detectors
- REX (request to exit) buttons
- Perimeter and fence alarms
- Break glass window sensors
- Crash bars
- Capacitance duct sensors
- Device tamper switches

Inputs can be controlled in two ways:

- Masking
- Unmasking

Masked inputs do not trigger any corresponding outputs.

Unmasked inputs function normally.

The state may change according to several actions, including entry of a proper code or card, or operator override.

Output Operating Modes

Outputs operate in **Operating Mode**. Operating mode describes how the output behaves during normal operation.

By choosing the Operating Mode option when editing an output, you can set one of the following options to define how the output behaves when it is active:

Feature	Description
Energized When Active	An electrical current is expected to pass through the output point when it is active.
Not Energized When Active	An electrical current is expected to pass through the output point when it is not active.

Outputs

Outputs are devices that perform tasks in response to input data. This includes unlocking a door, setting off a fire alarm, activating an elevator or turning off air conditioning. Output devices include:

- Strikes
- Magnetic locks
- Fire alarms
- Klaxons
- Motors of any sort
- HVAC

In general, these devices are activated by door controllers, panels, or subpanels that use relays to initiate activation. Output devices can have one of the following states:

- On (energized)
- Off (de-energized)
- Pulse (intermittently on and off)

Locks (in general) and strikes (specifically) come in several varieties that support a locked state that is either energized or de-energized, with a default state that is either locked or unlocked. This is for safety reasons. In the case of power outages and emergency shutdowns, many doors must 'fail open', meaning that they unlock whenever the power goes off, allowing people to exit an area. Other doors, such as bank vaults and secured areas, must 'fail close', meaning that a de-energized state requires the bolt to remain in place. For more on this, refer to *Configuring Doors* on page 197 and *Configuring Panels* on page 165.

Many outputs, such as sliding doors, alarms or warning lights need to be turned on *and* off. In order to do this,

relays on many panels also provide a pulse feature that energizes the output for a specified amount of time then de-energizes the output for a specified amount of time.

Doors and other outputs can be activated by the user following a successful card or code entry. Alternatively, the operator can override normal operation or control the output on the Subpanel Status page.

Deleting Subpanels

To disable communication between a panel and external subpanel, you can delete the subpanel from the system.

1. Select **Physical Access > Panels**.
2. Click the name of the panel that is connected to the external subpanel.
3. Select the **Subpanels** tab.
4. Click next to the subpanel name This button is not displayed for an internal subpanel.
5. When the confirmation message is displayed, click **OK**.

Configuring Locks

To use locks with built-in card or PIN readers, add the related wireless lock subpanel to the system then add the lock hardware as part of a door. The readers can be either wired or wireless, depending on the lock.

Supported Devices

After the locks with built-in card, PIN or fingerprint readers are installed and configured according to vendor instructions, ensure the physical configuration matches the configuration in the ACM application as follows. The readers can be either wired or wireless, depending on the lock.

Note: To support the devices that connect to the LP series hubs, install the applicable LP_*nnnn*_1_30_0_662_FS_2_23.crc firmware versions.

Door	Panel		Subpanel	External System
Wired locks				
Allegion Schlage® AD-300 series				
Up to 8 wired locks to a panel port Installed with a different number programmed into the locks for each set of doors to be connected to the panel.	Mercury Security EP1501, EP1501 with downstream communications support, EP2500, LP1501, LP1502, LP2500 or LP4502	and	Up to 8 AD-300 subpanels. Locks have built-in subpanels.	-
Wireless locks				

Allegion Schlage AD-400 series				
Up to 16 wireless locks Each door communicates with the subpanel wirelessly.	Mercury Security EP2500, LP1501, LP1502, LP2500 or LP4502	and	Up to 8 AD-400 subpanels to an RS-485 port on the controller. Each subpanel is wired to a Mercury Security panel.	-
Allegion Schlage LE and NDE series				
Up to 10 NDE and/or LE wireless locks operating in RSI mode to each gateway	Mercury Security EP2500, LP1502, LP2500 or LP4502	or	Up to 8 NDE ENGAGE gateways to an RS-485 port on the controller. Each subpanel is wired to a Mercury Security panel.	-
*ASSA ABLOY Aperio® series**				
Up to 8 devices to an RS-485 hub Each door communicates with the hub wirelessly.	Mercury Security EP1501, EP1501 with downstream support, EP1502, EP2500 or LP4502	and	Aperio 1 to 8 Hub, or 1 to 1 Hub See vendor documentation for the limit.	-
Up to 64 devices to an IP hub Door tamper is supported.	LP1502, LP2500 or LP4502	and	Aperio AH40 IP Hub	-

*Aperio Wiegand devices and Wiegand hubs (1 device to 1 hub) are not managed in the ACM system.

SimonsVoss series				
Up to 16 wireless locks to each gateway.	Mercury Security EP1501, EP1501 with downstream communications support, EP1502, EP2500 or MS-ICS panel	and	Up to 32 SmartIntego GatewayNode subpanels to a network port, depending on the panel. Up to 16 gateways on Port 4 for EP1501. Up to 32 gateways on Port 4 for EP1502, EP2500 and MS-ICS. Each subpanel is connected over an Ethernet network using TCP.	-

Configuring ASSA ABLOY™ Aperio® Wireless Lock Technology

To use the ASSA ABLOY Aperio wireless locks, you must have the following panels connected to the system:

- Mercury Security EP1501, EP1501 with downstream support, EP1502, EP2500 or LP4502, or the LP series for the Aperio AH-40 Hub
- ASSA ABLOY Aperio 1 to 8 Hub, 1 to 1 Hub, or AH-40 Hub

Note: For the Aperio AH-40 Hub, ensure the **Enable TLS** checkbox is enabled on the hub's ACU settings in the Aperio programming application.

The wireless lock assembly is installed directly to the door and communicates with the Aperio Hub subpanel wirelessly.

1. Add the Mercury Security panel to the ACM system.

   For more information, see *Adding Panels* on page 165.
2. Add the **Aperio 1 to 8 Hub**, **Aperio 1 to 1 Hub**, or **Aperio AH-40 Hub**, as a subpanel to the panel added in the previous step.
   - For the Aperio AH-40 Hub subpanel, enter also the **IP Address** and **Network Port** (referred to as ACU Port in the Aperio programming appliance). For more information, see *Adding a Subpanel* on page 179.
3. Add a door for each wireless lock assembly.
   a. For each door, select the corresponding Mercury Security panel, Aperio Hub subpanel and **Lock Number** that is assigned to the wireless lock assembly.
   b. For the Aperio AH-40 Hub subpanel, enter the **Device Id** (referred to as Lock/Sensor in the Aperio programming application).
   c. Customize all other door settings to meet your system requirements and save your changes. For more information, see *Adding Doors* on page 223.

Configuring Allegion Schlage AD-400 Series Locks

To use Allegion Schlage AD-400 series locks, you must have the following panels connected to the system:

- Mercury Security EP1501, EP2500 with downstream support, or LP1502 panel
- Schalge PIM400 subpanel that is wired to the Mercury Security panel

The wireless lock assembly is installed directly to the door and communicates with the PIM400 subpanel wirelessly.

Note: Ensure the wireless locks are installed according to Schlage installation instructions.

1. Add a Mercury EP1501, EP2500 or LP1502 panel to the ACM system.

   For more information, see *Adding Panels* on page 165.
2. Add the PIM400 as a subpanel to the panel in the previous step.

   For more information, see *Adding Mercury Security Panels* on page 172.
3. After the panels have been added to the system, select the **Subpanels** tab.
4. For each PIM400 subpanel, enter the **Low Door** and **High Door** number that is assigned to the subpanel.

   Each PIM400 subpanel manages up to 16 wireless doors in a series. You must identify the lowest numbered door and the highest numbered door managed by each subpanel. The numbered doors managed by each subpanel cannot overlap.
5. Create a door for each wireless lock assembly.

   For more information, see *Adding Doors* on page 223.
6. For each door, select the corresponding Mercury Security panel, PIM400 subpanel and door number that is assigned to the wireless lock assembly.
7. On the door Parameters tab, you can set the **Lock Function** for the wireless locks. The options are:
   - **None**: Use the system default door settings.
   - **Privacy**: When the interior lock button is pressed, the door will lock and the exterior lock will not grant access to any token. To unlock the door, the interior lock button must be pressed again or exit the room.
   - **Apartment**: Use the interior lock button to toggle between locked and unlocked. When the door is locked, any valid token will open the door. The door must be manually locked or it will stay unlocked.
   - **Classroom — Classroom/Storeroom** — The lockset is normally secure. The inside lever always allows free egress. Valid toggle credentials (i.e. a valid card that is swiped twice within five seconds) on the exterior may be used to change to a passage or secured status. Not to be used on mortise deadbolt. Interior push button not to be used.

     Note: This is the only lock function supported for the RSI-connected NDE series lock.
   - **Office** — The lockset is normally secure. The inside lever always allows free egress. An interior push-button on the inside housing may be used to select a passage or secured status. Meets the need for lockdown function for safety and security. Valid toggle credentials (i.e. a valid card that is swiped twice within five seconds) on the exterior may also be used to change status. Not to be used on mortise deadbolt.

   Note: A Restore door action is available on the Door listing page and the Hardware Status page which resets the Door Mode to its default value.
8. Customize all other door settings to meet your system requirements and save your changes.

Configuring Allegion Schlage LE Series Locks

To use Allegion Schlage LE series locks, you must have one of the following panels connected to the system:

- Mercury Security EP1501, EP2500 with downstream support or LP1502 panel
- Schlage ENGAGE™ Gateway subpanel that is wired to the Mercury Security panel

Note: Ensure the wireless locks are installed according to Schlage installation instructions.

1. Add a Mercury EP2500, EP1501 (with downstream) or LP1502 panel to the ACM system:
   a. Select **Physical Access>Panels**.
   b. Click ✚ .
   c. Enter the **Name**, **Vendor** and **Model**.
   d. Select **Installed**.
   e. Click ✔ to save.
2. Add the required subpanels to the new panel:
   - If using only ENGAGE Gateway subpanels, select the **Batch Add** option and click ✔ .

     Note: Make sure the ENGAGE Gateway subpanel configuration matches the physical gateway.
   - If using both Gateway and non-Gateway subpanels, enter the correct number of Gateway subpanels and/or PIM400s on the Subpanel: Batch Add page (do not select any other panels at this stage) and click ✔ .

     For each ENGAGE Gateway subpanel:
     a. Click the **Subpanels** tab. If you are adding non-Gateway subpanels, set the subpanels to the correct port.
     b. Add the subpanel. You can mix and match any subpanels using the same Mercury Security protocol on the same port (such as ENGAGE Gateway and PIM400). For more information, see *Adding Mercury Security Panels* on page 172.
     c. Select **Installed**.
     d. Click ✔ to save.
3. Create a door for each wireless lock assembly.

   For more information, see *Adding Doors* on page 223.
4. For each door, select the corresponding Mercury Security panel, ENGAGE Gateway subpanel and door number that is assigned to the wireless lock assembly.

5. On the door Parameters tab, set the **Lock Function** for the wireless locks. The options are:
    - **None**: Use the system default door settings.
    - **Privacy**: When the interior lock button is pressed, the door will lock and the exterior lock will not grant access to any token. To unlock the door, the interior lock button must be pressed again or exit the room.
    - **Apartment**: Use the interior lock button to toggle between locked and unlocked. When the door is locked, any valid token will open the door. The door must be manually locked or it will stay unlocked.
    - **Classroom — Classroom/Storeroom** — The lockset is normally secure. The inside lever always allows free egress. Valid toggle credentials (i.e. a valid card that is swiped twice within five seconds) on the exterior may be used to change to a passage or secured status. Not to be used on mortise deadbolt. Interior push button not to be used.

      Note: This is the only lock function supported for the RSI-connected NDE series lock.
    - **Office** — The lockset is normally secure. The inside lever always allows free egress. An interior push-button on the inside housing may be used to select a passage or secured status. Meets the need for lockdown function for safety and security. Valid toggle credentials (i.e. a valid card that is swiped twice within five seconds) on the exterior may also be used to change status. Not to be used on mortise deadbolt.

    Note: A Restore door action is available on the Door listing page and the Hardware Status page which resets the Door Mode to its default value.
6. Customize all other door settings to meet your system requirements and save your changes.

Configuring Allegion Schlage NDE Series Locks

To use Allegion Schlage NDE series locks, you must have one of the following panels connected to the system:

- Mercury EP1501 or EP2500 panel with downstream support.
- ENGAGE Gateway subpanel that is wired to the Mercury Security panel.

Note: Ensure that the wireless locks have been installed in line with Schlage's installation instructions.

1. Add a Mercury EP2500 or EP1501 (with downstream) panel to the ACM system:
    a. Select **Physical Access>Panels**.
    b. Click ✚ .
    c. Enter the **Name**, **Vendor** and **Model**.
    d. Select **Installed**.
    e. Click ✔ to save.
2. If you are adding:
    - just ENGAGE Gateway subpanels, then add all required subpanels to the panel created in the previous step using the Batch Add option and click ✔ .

      > **Note:** You will still need to manually make sure that the ENGAGE Gateway has matching configuration as the physical gateway.

    - both Gateway and non-Gateway subpanels, then enter the correct number of Gateway subpanels and/or PIM400s on the Subpanel: Batch Add page (do not select any other panels at this stage) and click ✔ . For each other subpanel to be added:
        - Click on the **Subpanels** tab to open the Subpanel page. If you are adding non-Gateway subpanels ensure that the subpanels are set to the correct port.
        - Add the subpanel. You can mix and match any subpanels using the same Mercury Security protocol on the same port (i.e. ENGAGE Gateway and PIM400). For more information, see *Adding Mercury Security Panels* on page 172.

      For each ENGAGE Gateway subpanel, enter the following and select Installed:
        - **Port**
        - **Address**
        - **Low Door** and **High Door** number that is assigned to the subpanel.

      Each ENGAGE Gateway subpanel manages up to 10 NDE wireless doors. You must identify the lowest numbered door and the highest numbered door managed by each subpanel. The numbered doors managed by each subpanel cannot overlap.
3. Create a door for each wireless lock assembly.

    For more information, see *Adding Doors* on page 223.
4. For each door, select the corresponding Mercury Security panel, ENGAGE Gateway subpanel and door number that is assigned to the wireless lock assembly.
5. On the door Parameters tab, you can set the **Lock Function** for the wireless locks. For the NDE series there is only one lock function: **Classroom — Classroom/Storeroom**.

    > **Note:** There is a Restore door action available on the Door listing page and the Hardware

Status page which resets the Door Mode to its default value.

6. Customize all other door settings to meet your system requirements and save your changes.

Configuring SimonsVoss Wireless Locks

To use SimonsVoss series locks, you must have the following panels connected to the ACM system:

- Mercury EP1501 (with downstream support), EP1502, EP2500, or MS-ICS panel .
- SmartIntego GatewayNode subpanel that is connected over an Ethernet network using TCP. This connection is established after setting up the subpanel in the ACM software.

Ensure that the wireless locks have been installed and configured according to the SimonsVoss installation instructions. You must have:

- Configured the hostname, and optionally the IP address, or the MAC address in the SmartIntego GatewayNode software. For more information, refer to the SimonsVoss documentation for the SmartIntego GatewayNode software.

  Note: To use the MAC address of the wireless lock, the hostname must be configures in the format MAC<nnnnnnnnnnnn>, where nnnnnnnnnnnn is the MAC address without any colons. For example, the hostname for a lock with MAC address 12:34:56:78:9A:BC is entered MAC123456789ABC.

- Identified the hexadecimal address for each SmartIntego GatewayNode and each wireless lock before you can connect them to the ACM software. This information is available from the SmartIntego Tool as shown in the figures below. In these examples:
  - 0X0011 is the hex address for the SimonsVoss GatewayNode. Enter this value in the Address field for each SmartIntego GatewayNode in the ACM software (Physical Access > Panel > Subpanel).

    0X0016 is the hex address for the SimonsVoss wireless lock. This is the value entered in the Door Number field for each SImonsVoss lock in the ACM software (Physical Access > Doors > Add Door).

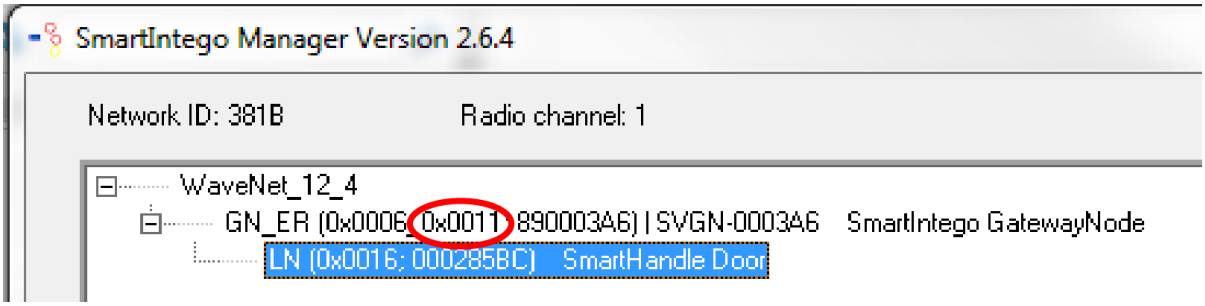


Figure 3: The SmartIntego GatewayNode hexadecimal address in the SmartIntego Manager screen of the SmartIntego Tool.

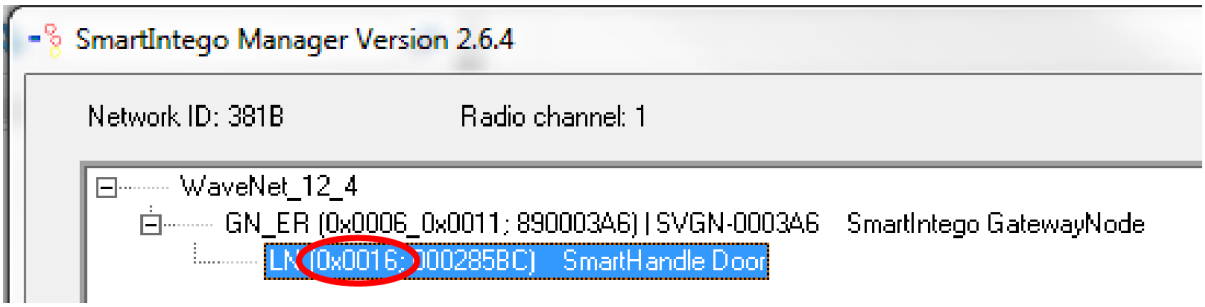


Figure 4: The SmartIntego lock hexadecimal address in the SmartIntego Manager screen of the SmartIntego Tool.

> **Note:** The SmartIntego Tool software and the SmartIntego GatewayNode software are not supported on Microsoft Windows 10.

To configure a door with a SmartIntego wireless lock in the ACM software, use the following steps:

1. Add a supported Mercury panel to the ACM system:
    a. Select **Physical Access>Panels**.
    b. Click ✚ .
    c. Enter the **Name**, **Vendor** and **Model**.
    d. Select **Installed**.
    e. Click ✔ to save.
2. Optionally, on the Subpanel: Batch Add panel, enter the number of SmartIntego GatewayNode subpanels. you want to add using the Batch Add option and click ✔ .
3. Click on the **Subpanels** tab to open the Subpanel page.
4. Open each SmartIntego GatewayNode subpanel and enter the following:
    - **Port**—Select Network and select **Installed**.
    - Enter at least one of the following
        - **IP Address**
        - **MAC Address**
        - **Hostname**
    - **Address**—enter the hexadecimal address for the SmartIntego GatewayNode.

    Each SmartIntego GatewayNode subpanel manages up to 16 wireless doors.

    > **Note:** You will still need to manually make sure that the subpanel configuration matches the physical gateway

5. Create a door for each wireless lock assembly. Ensure you specify Mercury Security as the vendor. For more information, see *Adding Doors* on page 223.

6. On the Parameters panel for each door, ensure that you do the following:
    - **Vendor** — Select Mercury Security
    - **Panel** — Select the panel that is connected to the SmartIntego GatewayNode for the door.
    - **Subpanel** — Select the subpanel for the SmartIntego GatewayNode that is connected to the door.
    - **Door Number** — Enter the hexadecimal address for the SmartIntego wireless lock assembly.
    - **Installed** — Click the checkbox.
    - **Don't pulse door strike on REX** — For SimonsVoss wireless locks, such as cylinders, that do not support a door position switch (DPOS) , this box must not be checked.
7. If the SimonsVoss lock on the door does not support a DPOS, the settings in the following fields have no effect:
    - On the parameters tab:
        - Mask Forced Schedule
        - Mask held Schedule
        - Always Mask Forced
        - Always Mask Held
        - Offline Mode
        - Deny Duress
        - Door Forced Filter
        - Enable cipher Mode
        - Use Shunt Relay
        - Detailed Events
        - do Not Log Rex Transactions
        - Log all grants right away
    - On the Operations tab:
        - APB Mode
        - APB Delay
        - Into Area
        - Out of Area
        - PIN Timeout
        - PIN Attempts
        - LED Mode
        - Held Open Time
        - Held Pre Alarm Access Time
        - Extended Access
        - Extended Held Open Time
        - Simple Macros

- Strike Mode
- Access time when open
- Card Format
- The Door status will default to Normal Status

8. Customize the other door settings to meet your system requirements and click .

The ACM system and the SmartIntego GatewayNode subpanel should now connect and the door should be online. If the door is not online:

- Wait a few minutes: The GatewayNode polls the SimonsVoss wireless lock three times in three minutes, then polls every three hours, until the door responds. Normally, the door should come online within three minutes.
- If the door is not online within a few minutes: Check all the connections between the ACM system and the SmartIntego GatewayNode subpanel, including the power.

After the door is operational, certain conditions of the SimonsVoss wireless lock that change the door status are not always immediately reported to the ACM system. As a result, the door status reported in the ACM client may not always accurately reflect the actual status of the of the door.

- If you uninstall the door and then reinstall it in the ACM system, the connection between the SmartIntego GatewayNode subpanel and the SimonsVoss lock is not interrupted. However, the reinstalled door will appear offline to the ACM system until the SmartIntego GatewayNode subpanel polls the SimonsVoss lock. This poll happens once every 12 hours, so you may have to wait as long as 12 hours. During this period, the door will function normally but the ACM system will not receive any events from the door.
- After a power outage to the SmartIntego GatewayNode subpanel, an accurate door status will not be seen in the ACM system until after the SmartIntego GatewayNode subpanel is online and polling of all the SimonsVoss doors connected to that subpanel has completed. The time it takes for the subpanel to come online and start polling can be variable.
- If the batteries in the SimonsVoss lock are depleted or removed, an accurate door status will not be seen in the ACM system until after 24 hours have elapsed since the last battery status report was received from the wireless lock. It could take up to 24 hours after battery power has been lost before the status is correctly reported. Meanwhile, commands can be sent to the door, but nothing happens.

Note: The ACM lockdown priority operation is superseded by the Escape and Return state of the SimonsVoss wireless lock when it becomes engaged in a lockdown situation.

Macros

Note: Only Mercury Security panels support macros.

Macros are commands, or sequences of commands, that can control the activity of devices connected to a

door, panel, or group of panels.

Macros can be extremely simple, such as turning out lights or masking an input. Or, they can be sophisticated multi-step procedures. For example, you can define a macro that closes down the air conditioning system, unmasks the alarms, locks all the doors connected to a panel, turns out the lights, then emails the operator for more instructions.

In the Avigilon ACM application, macros can be activated by:

- **Triggers**
- **Interlocks**

All doors (not limited to Mercury Security) support simple macros. Simple macros are triggered by a single door event and activate one output in response. For more information, see *Adding Simple Macros* on page 209.

Adding Macros

1. Select **Physical Access** > **Panels**.
2. Click the name of the panel that you want to add a macro to.
3. On the Macros page, click **Add Macro**.

   Macros and macro commands are supported for triggers only. Macros and macro commands associated with interlocks are not supported (read-only).
4. On the following Macro Command list, click the Macro link to change the macro name. In the new text field, enter a new name for the macro then click **OK**.
5. Click **Add Macro Command**.
6. Give the macro command a name.
7. From the **Command** drop down list, select a macro command.
8. If extra options are displayed after you select a macro command, choose the options you need.
9. From the Group drop down list, select the group you want to assign this macro to.
10. Click to save your changes.
11. Back at the Macro Command page, repeat the previous steps until you've added all the commands that are required for this macro.

To apply this macro to a specific situation, see *Assigning Macros* on the next page.

To create quick macros that are specific to a particular door (simple macros), see *Adding Simple Macros* on page 209.

Editing Macros

1. Select **Physical Access** > **Panels**.
2. Click the name of the panel with the macro you want to edit.
3. On the Macros page, click the name of the macro you want to edit.

   Macros and macro commands are supported for triggers only. Macros and macro commands associated with interlocks are not supported (read-only).

4. On the following Macro Command list, perform any of the following:
    - To change the macro name, click the Macro name link. Enter a new name then click **OK**.
    - To add a new macro command, click **Add Macro Command**.
    - To edit a macro command, click the command type name.
    - To delete a macro command, click for the command.
    - To change the order of the macro commands, click **Sort**.

Deleting Macros

1. Select **Physical Access > Panels**.
2. Click the name of the panel with the macro you want to delete.
3. On the Macros page, click for the macro you want to delete.
4. When the confirmation message appears, click **OK**.

Assigning Macros

> **Note:** Only Mercury Security doors and panels support macros.

Once you have created a macro, you can assign them to specific triggers or other macros so that they can automatically perform a series of actions under the right conditions.

Assigning a Macro to a Trigger

When you add a trigger to a panel, assigning a macro is part of the process. Triggers and macros work together as a cause and effect pair. When the all the triggering conditions are met, the macro is automatically initiated.

To assign a macro to a trigger:

1. Add a macro. For more information, see *Adding Macros* on the previous page.
2. Add a trigger. For more information, see *Adding Triggers* on the next page.
3. In the Trigger Add page, assign the new macro to the trigger.
4. Click .

Assigning a Macro to a Macro

You can activate a macro as part of a macro command to generate a complex series of actions.

To assign a macro to a macro command:

1. Add a macro. For more information, see *Adding Macros* on the previous page.
2. When you add a new macro command, select **Macro Control** from the Command drop down list.
3. When the related options are displayed, select the macro you want from the **Macro** drop down list and

select a specific **Command** for the macro to perform.

4. When you're finished, click .

Assigning a Macro to a Door

You can also assign a macro to a specific door by using the Simple Macro feature on the Door Operations page. For more information, see *Adding Simple Macros* on page 209 and *Operations tab (Mercury Security)* on page 254.

Sorting Macros

By default, when you add macro commands, the command actions are activated in the order they are added. If you need to change the sequence of the macro commands, you can sort it into the order you want.

1. From the panel's Macros page, select the macro you want to sort.
2. On the following Macro Command list, click **Sort**. This button only appears if you have two or more macro commands.

   Each of the macro commands are highlighted in gray.
3. Click and drag the macro commands into the order you want.
4. Click **Return** when you are done.

Triggers

> **Note:** Only Mercury Security panels support triggers.

Triggers work with macros to generate a set of cause and effect events. Triggers are the specific sequence of events that must occur before a macro will be activated.

For example, you might define a trigger to be a tamper alarm issued by a specific subpanel. The macro linked to that trigger will then automatically lock the door associated with that panel and sound the alarm.

Triggers are usually defined through the Triggers page on a specific panel or subpanel properties sheet.

Adding Triggers

1. Select **Physical Access** > **Panels**.
2. Click the name of the panel that you want to add a trigger to.
3. On the Triggers page, click **Add New Trigger**.
4. Enter all the parameters that are required of the trigger.
5. Click to save the new trigger.

Editing Triggers

1. Select **Physical Access** > **Panels**.
2. Click the name of the panel that your trigger is on.
3. On the Triggers page, click the name of the trigger you want to edit.
4. On the following page, make the required changes.
5. Click to save your changes.

Deleting Triggers

1. Select **Physical Access** > **Panels**.
2. Click the name of the panel that your trigger is on.
3. On the Triggers page, click for the trigger you want to delete.
4. When you see the confirmation message, click **OK**.

Configuring Doors

Doors in the ACM system are logical units incorporating one or more components that are connected to a panel.

These components could include:

- Door, gate, elevator, escalator, etc.
- Lock (such as magnetic or strike) or relay
- Reader
- Keypad
- Contact
- Panic bar
- ACM Verify

These items do not need to be physically installed on a door, but should be included if they affect how the door locks or opens.

The usual components for a door are a reader, a lock (usually a strike), and a contact (usually a door position or DPOS) that reports the door state. Additionally you can have an exit button (request-to-exit or REX) on the opposite side of the door from the reader, or a second reader if you want to control access in both directions.

You can add doors:

- One at a time, configuring all settings manually.
- One at a time, configuring common or standardized door parameters and operational settings using a door template. You still need to configure many attributes such as operations, hardware, cameras, and interlocks specifically for individual doors. You must configure a door template before adding doors using that template.
- In bulk, when you add a new Mercury panel and use the Subpanel: Batch Create wizard to create the

subpanels. At a minimum, you must have defined door templates with a Door Mode: option specified, to create doors with this wizard. You can use this wizard to create:

- Subpanels with functioning doors. This requires door templates (to specify at least the Door Mode: option) and wiring templates (to assign addresses and input, output and reader templates to the doors).
- Subpanels with non-functioning doors. This requires door templates (to specify at least the Door Mode:). You then need to complete the configuration for each door to make them all function.
- Subpanels only. These can then be configured for doors or for inputs and outputs only, as needed.

For more information about the templates you can use to create doors and subpanels, see *Templates Overview* on page 141. For more information about the Subpanel: Batch Create wizard, see *Batch Creating Subpanels on a New Mercury Panel* on page 169.

See *Appendix: pivCLASS Configuration* on page 502.

Searching for Doors

Many facilities require the control and monitoring of dozens, even hundreds, of doors simultaneously. This can result in a crowded listing page. You can search for specific doors to narrow the list of doors appearing on the Doors list page.

1. Use any (or all) of the following to define your search:
   - Enter your search term in the **Search...** field. Use any series of letters and numbers to search for the doors you want to see.
   - If known, select the **Device Status**.
   - If known, select the **Appliance** the door is connected to.
   - If known, select the **Group** the door is included in.
2. Click **OK**.

Advanced Filtering on the Doors List

In addition to searching you can also use advanced filters to select multiple filters on the Door list.

1. Click **Advanced Filters**.

   The Advanced Filters dialog box displays.
2. Select any required filters:
   - **Alarms**—Select the alarms to include from the list of alarms.
   - **Masked**—Select to include the masks to include from the list of masks.
   - **Normal**—Select to include all properly functioning doors.
   - **Door Mode**— Select the door modes to include from the list of door modes.

> **Note:** To unselect all selected filters, click **Unselect All**. All selections will be removed.

3. If you want to save the selected filters, select **Remember Filters**.
4. Click **OK**.

The Door list refreshes to show the doors that meet your filters.

Controlling Doors

While you are monitoring the system, you may need to override the default door settings to allow a visitor access to an area, or unlock a door in an emergency situation. From a Doors listing page in **Physical Access** or **Monitor > Dashboard**, use the Door Action, Door Mode, Forced, Held, and Installed drop-down menus to control doors.

Doors can also be controlled from **Monitor > Maps**. For more information, see *Using a Map* on page 438.

> **Note:** Only the Installed options are available for virtual doors installed for use with ACM Verify readers.

1. Select the checkbox for each the door you want to control.

   Or click **All** at the top of the left column to select all doors or **None** to deselect all doors.
2. For one or more doors, select a **Door Action** if required:

   > **Note:** The door actions below are not applicable for Schlage offline Wi-Fi doors or SALTO standalone doors. Only Grant is applicable for Schlage Control™ locks. Only Unlock and Locked No Access are applicable for Von Duprin remote undogging (RU) devices. Locked No Access and Disable are not applicable for ASSA ABLOY battery-powered and external-powered doors.

   - **Grant** — Momentarily grants access to the door to permit a single-time entry.
   - **Restore** — Restores the Door Mode to its default configuration or Custom Mode.

     Schlage locks with activated lock functions only. Restoring a door that has an activated Lock Function (Classroom, Office, Privacy, or Apartment) removes the Lock Function and resets the door mode to its default configuration.

     For ASSA ABLOY IP doors only. Restoring a door results in the door going offline temporarily in the ACM system.
   - **Unlock** — Unlocks the door. The door remains unlocked until the **Locked No Access** command is issued or until an operator override or scheduled action is initiated.
   - **Locked No Access** — Locks the door. The door remains locked until the **Restore** command is initiated or until an operator override or scheduled action is initiated.

- **Disable** — Disables the door. The door stops operating and allows no access to anyone.
- **Lock (ASSA ABLOY Only)** — *For ASSA ABLOY IP doors only.* Locks the door. The door remains locked until a scheduled action is initiated.

3. Select any of the following **Door Mode** options to change the door mode.

   For more information, see *Door Modes* on page 211.

4. Select either of the following **Forced** options if required:
   - **Mask Forced** — Masks the Forced Door Alarm for the door. The status color changes to blue and is no longer included in any alarm subtotal.
   - **Unmask Forced** — Unmasks the Forced Door Alarm for the door.
5. Select either of the following **Held** options if required:
   - **Mask Held** — Masks the Door Held Open Alarm for the door.
   - **Unmask Held** — Unmasks the Door Held Open Alarm for the door.
6. Select either of the following **Installed** options if required:
   - **Install** — Installs a door. Enables communication between the door and the ACM system.
   - **Uninstall** — Uninstalls a door. Disables communication between the door and the ACM system.
7. Select **Delete** — Removes the connection between the door and the ACM system.

Adding Doors

To add a new door:

1. Select **Physical Access** > **Doors**.

   Note: Doors cannot be manually added for Allegion offline Wi-Fi locks, SALTO doors and ASSA ABLOY IP doors. For information about adding doors and associated panels, see *Step 2: Setting Up Communication to Offline Wi-Fi Locks* on page 289, *Step 3: Syncing Doors with the SALTO Server* on page 299 and *Step 2: Syncing Doors with the Door Service Router* on page 309, respectively.

2. Click **Add Door**.
3. If door templates are used, the Templates dialog appears. To use the door settings from a template, which automatically fills in the fields on the Parameters and Operations tabs, select the template and click **OK**. Otherwise, click **Cancel**.

   For Schlage IP-mode wireless devices or devices connecting to an RS485 hub, click **Cancel**.

4. Enter on the **Parameters** tab:

   Note: Fields in this list are dependent on the door or device. Some commands or fields are not supported for all doors or devices.

Name	Up to 50 characters for the name of the door. See *Appendix: pivCLASS Configuration* on page 502.
Alt. Name	An alternate name for the door.
Location	A short description of the door location.
Partitions	Displayed for a partitioned ACM appliance only. To restrict operator access to the item, select one or more partitions. To allow all operators access to the item, do not select a partition.
Panel	The panel that controls the door, the gateway that controls the IP-mode wireless device or the offline Wi-Fi device, or the external server that the ACM appliance is connected to.
	Displays for a panel that is connected to a subpanel that controls readers, locks, inputs and outputs; or a gateway that controls IP-mode wireless devices. **Subpanel**: The name of the subpanel that is connected to the main panel or the name of the gateway. **Door Number** or **Lock Number**: The door number for wired connections or lock number for wireless devices. For SimonsVoss wireless locks, use the hexadecimal address assigned by the SmartIntego Tool. **Device Id**: Displays for Aperio AH-40 Hub subpanel only. The Lock/Sensor identifier from the Aperio programming application.
	Displays for a Schlage ENGAGE Gateway. **Lock Model**: The lock model from the vendor. **Linked Device**: The ID or name of each externally commissioned IP wireless or offline Wi-Fi device. For more information, refer to the commissioning process in vendor documentation.
	Displays for an ASSA ABLOY DSR. **Lock Type**: The battery-powered or external-powered lock type from the vendor. **Serial Number**: The serial number of the lock.
Appliance	The ACM appliance that is connected to the door, gateway, hub or external server.
Vendor	The manufacturer of the panel, gateway, offline Wi-Fi device or external server.
Installed	Enables communication between the ACM appliance and installed device after saving.

Displays for **Schlage** ENGAGE Gateway subpanel:

Access Type: Displays for an IP-connected wireless device only. Whether access is located on one or both sides of the door. Default is **Single**, which cannot be changed. For more information, see *Access Types* on page 212.

Door Mode: IP-connected wireless device only. The entry mode for the door when the gateway is online and communicating with the device. For information about the **Unlocked**, **Locked No Access** and **Card Only** options, see *Door Modes* on page 211.

IP-connected RU exit device only (not applicable to RM). The entry mode for the door when the gateway is online and communicating with the device. For more information about the **Unlocked** and **Locked No Access (Unlocked on Next Exit)** options, see *Door Modes* on page 211.

Offline Wi-Fi lock only. The entry mode for the door when the lock is online. For information about the **Card Only** option, see *Door Modes* on page 211.

Lock Function: None is the default (not applicable to RM device).

- **None**: Use the system default door settings.
- **Privacy**: When the interior lock button is pressed, the door will lock and the exterior lock will not grant access to any token. To unlock the door, the interior lock button must be pressed again or exit the room.

  Note: Only this lock function is supported for the ASSA ABLOY IP locks.

- **Apartment**: Use the interior lock button to toggle between locked and unlocked. When the door is locked, any valid token will open the door. The door must be manually locked or it will stay unlocked.
- **Classroom — Classroom/Storeroom** — The lockset is normally secure. The inside lever always allows free egress. Valid toggle credentials (i.e. a valid card that is swiped twice within five seconds) on the exterior may be used to change to a passage or secured status. Not to be used on mortise deadbolt. Interior push button not to be used.

  Note: Only this lock function is supported for the RSI-connected NDE series lock.

  Note: This lock function is not supported for the IP-connected LE, LEB, NDE and NDEB series lock, or offline Wi-Fi lock.

- **Office** — The lockset is normally secure. The inside lever always allows free

	egress. An interior push-button on the inside housing may be used to select a passage or secured status. Meets the need for lockdown function for safety and security. Valid toggle credentials (i.e. a valid card that is swiped twice within five seconds) on the exterior may also be used to change status. Not to be used on mortise deadbolt. **Note:** A Restore door action is available on the Door listing page and the Hardware Status page which resets the Door Mode to its default value. **Always Mask Forced**: If selected, Door Forced Open alarms at the door are always masked. **Always Mask Held**: If selected, Door Held Open alarms at the door are always masked. **Custom Mode**: Another door mode that is supported by the gateway. **Custom Schedule**: Displays for an IP-connected door (LE, LEB, NDE, NDEB series lock) if the Card Only door mode is selected, or IP-connected RU device if the Locked No Access door mode is selected. A predefined time when Custom Mode becomes active. **Never Active** is OFF. **24 Hours Active** is ON.
	For **Avigilon**, enter: **Station Type**: Default is **ACM Verify** station, which is used on connected devices. A device that uses this station type of station is called an ACM Verify Station. **Managed**: If selected, ACM Verify Station requires the user to grant or deny access to the person entering a valid PIN code. It also displays the name and picture of the user for verification. **UnManaged**: If selected, ACM Verify Station automatically grants or denies access and does not provide additional information when a PIN code is entered. **Geographic Timezone**: The time zone where the ACM Verify device is located if it is different from the time zone of the ACM appliance. **Into Area**: The area that the badge holder enters by passing through the door and where the ACM Verify Station is used, or not, to monitor access to the area. You must specify an area if you want the virtual station to list all the people who have entered the area. **Station Authentication**: The method of authentication on the ACM Verify device. **Login** specifies that the user log in to the ACM software using the ACM URL from the browser on the ACM Verify device. **Paired** specifies that the ACM Verify is paired to the ACM system. If the authentication type is Paired, the Door Add page refreshes and displays the Add Paired Device button.

For **Mercury Security** and **HID** VertX panel, enter:

Access Type: Whether the reader is located on one or both sides of the door, or on an elevator door. See *Access Types* on page 212.

Linked Door: Displays for **Paired Primary** and **Paired Replica** access type only. The door with the reader on the other side of the door.

Door Mode: The entry mode of the door when the door controller is online and communicating with the panel. See *Door Modes* on page 211.

Assurance Profile: For Mercury Security LP4502 only. See *Appendix: pivCLASS Configuration* on page 502.

Offline Door Mode: The entry mode of the door if the door controller is no longer communicating with the panel.

> **Note:** In many cases readers in offline mode require a very simple solution for entry or exit because of the memory limitations. The recommended Offline Door Mode option is **Locked No Access**.

Custom Mode: Another entry mode that is supported by the door module in addition to Door Mode and Offline Door Mode options.

Custom Schedule: When the Custom Mode becomes active. Never Active is OFF. 24 Hours Activeis ON.

Masked Forced Schedule: A predefined time when Door Forced Open alarms from the door will be masked.

Masked Held Schedule: A predefined time when Door Held Open alarms from the door will be masked.

Always Mask Forced: If selected, Door Forced Open alarms at the door are always masked.

Always Mask Held: If selected, Door Held Open alarms at the door are always masked.

	For **SALTO** panel, enter: **Door Mode**: The entry mode of the door after syncing with the SALTO server and installing the door. See *Door Modes* on page 211. **Custom Mode**: Another entry mode of the door that is time-based (see Custom Schedule). Can be **Unlocked**, **Card and Pin**, **Office**, **Toggle** or **Keypad Only**. If Keypad Only is selected, **Keypad Code** is displayed. You can enter up to 8 digits. See *Door Modes* on page 211. **Custom Schedule**: A predefined time when Custom Mode becomes active. **Always Mask Forced**: If selected, Door Forced Open alarms at the door are always masked. **Always Mask Held**: If selected, Door Held Open alarms at the door are always masked.

Door Processing Attributes	For **Schlage** door, select: **Note:** The following three attributes are not applicable to Control locks or offline Wi-Fi locks. **Log Grants Right Away**: Initiates local I/O in the panel using the panel triggers. The system logs an extra event as soon as a grant occurs (that is, before entry / no entry is determined). This event is not turned into an Access Control Manager event. Certain customers may have a trigger they want to fire (to execute a macro) as soon as there is a grant but before entry / no entry is determined. **Log All Access as Used**: Logs all access grant transactions as if the person used the door. If this field is not selected, the door determines if it was opened and distinguishes if the door was used or not used for grant. **Detailed Events**: Displays the current position of the door position switch (DPOS) in the Door State column of the door listing screen. When enabled the column displays “Open” when the DPOS is in an open state and “Closed” when the DPOS is in a closed state. **Note:** To properly report the Door State from the Door Position Switch, Detailed Events must be enabled. Typically, five to ten detailed transactions are generated for each grant transactions. During the normal course of operation, most guards don't need to see extensive reports on events; however, after hours, it is often useful to see every detail. **Do Not Log Rex Transactions**: Indicates that request-to-exit transactions do not get logged to the database. **Note:** This is the only attribute supported for offline Wi-Fi locks.

For **Mercury Security** panel, select:

Log Grants Right Away: Initiates local I/O in the panel using the panel triggers. The system logs an extra event as soon as a grant ocurs (that is, before entry / no entry is determined). This event is not turned into an Access Control Manager event.

Certain customers may have a trigger they want to fire (to execute a macro) as soon as there is a grant but before entry / no entry is determined.

Deny Duress : Denies access to a user that indicates duress at a door.

Don't Pulse Door Strike on REX: Disables the pulse of the door strike output when the request-to-exit button is pressed and can be used for a 'quiet' exit. If not selected, the output is pulsed.

> **Note:** This field must not be checked for the SimonsVoss wireless lock, such as cylinders, on a door that does not support a door position switch (DPOS).

Require Two Card Control: Two tokens are required to open this door. This enforces the two-person rule at a specified door.

Door Forced Filter: : Filters door-forced alarms. Sometimes a door is either slow to close or is slammed shut and bounces open for a few seconds. With this filter, the monitor allows three seconds for a door to close before issuing an alarm.

Log All Access as Used: Logs all access grant transactions as if the person used the door. If this field is not selected, the door determines if it was opened and distinguishes if the door was used or not used for grant.

Detailed Events: Displays the current position of the door position switch (DPOS) in the Door State column of the door listing screen. When enabled the column displays “Open” when the DPOS is in an open state and “Closed” when the DPOS is in a closed state.

> **Note:** To properly report the Door State from the Door Position Switch, Detailed Events must be enabled.

Typically, five to ten detailed transactions are generated for each grant transactions. During the normal course of operation, most guards don't need to see extensive reports on events; however, after hours, it is often useful to see every detail.

Enable Cipher Mode: Enables the operator to enter card number digits at the door’s keypad.

Use Shunt Relay:Enables the use of a shunt relay for this door.

Do Not Log Rex Transactions: Indicates that request-to-exit transactions do not get logged to the database.

	For **HID** VertX panel, select: **Door use Tracking**: The level of door event tracking that is logged in the Monitor screen. These options should only be used when the **Detailed Events** option is enabled. • **None**: Only standard door events are logged. • **Used**: The details of when the door is used. • **Used with pending**: The events that occur between door use. **Deny Duress**: If selected, denies access to a user who is in duress at a door. **Don't Pulse Door Strike on REX**: Disables the pulse of the door strike when request-to-exit button is activated. **Detailed Events**: For circumstances when it is important to know all the details of an event. Displays the current position of the door position switch (DPOS) in the Door State column of the Door list. When enabled the column displays “Open” when the DPOS is in an open state and “Closed” when the DPOS is in a closed state. **Enable Cipher Mode**: Allows the operator to enter card number digits at the door’s keypad. **Do Not Log Rex Transactions**: Disables logging of request-to-exit transactions.
	For **SALTO** panel, select: **Detailed events**: Enables the reporting of event details, such as Door State and Door Mode, after syncing and installing the door. **Do Not Log Rex Transactions**: Disables logging of request-to-exit transactions.

5. Click to add the door. Once saved the page becomes the Door: Edit page. If a door template was used, the fields on the Parameters and Operations tabs are entered.
6. To edit door configuration, see *Editing Doors* on the next page. To edit lock configuration, see *Step 3: Configuring IP Wireless Devices* on page 281.
   - **Parameters**: Edit access type, processing attributes, lock functions, and other options.
   - **Operations**: Displays for HID VertX, Mercury Security, Schlage wired and RSI wireless locks, and ASSA ABLOY IP locks only. Edit simple macros, accepted card formats and other options.
   - **Hardware**: Displays for HID VertX, Mercury Security, and Schlage wired and RSI wireless locks only. Edit reader, door position, strike and request to exit (REX).
   - **Elev**: Displays for Mercury Security only. View elevator door details.
   - **Cameras**: Add or remove associated cameras.
   - **Interlocks**: Displays for Mercury Security only. Sets interlocks.
   - **Events**: View and edit door events.
   - **Access**: Does not display for RU and RM exit devices. View access groups, roles and identities that have door access.
   - **Transactions**: View door transactions.
7. Click to save your changes.

Adding Simple Macros

You can add simple macros, or single action commands, to any door in the system. Simple macros are triggered by one type of door event. This automatically activates the corresponding output.

For more information about macros, see *Macros* on page 193.

1. Select **Physical Access**.

   The Door list is displayed.
2. Select a door from the Door list.
3. On the Door Edit screen, select the **Operations** tab.

   At the bottom of the page is the Simple Macros section.
4. Select the **Type** of door event that will activate the output. The options are:
   - Forced
   - Held
   - Pre-Alarm
5. Select when the simple macro will be active from the **Schedule** drop down list. Only schedules that have been configured in the system are listed.
6. Select the output that is activated when the selected type of door event is triggered.
7. Click **Save Macro**.

   A new row is automatically added to the table.
8. If you need to add another simple macro, repeat steps 4 - 7 in the new row.

   To remove a configured simple macro, simply click **Remove Macro**. The row is deleted.
9. Click to save your changes.

Editing Doors

A door can be edited after its initial configuration. For example, you may need to change the access type or door mode to reflect changes on your site.

1. Select **Physical Access** > **Doors**.
2. Select the name of the door.
3. Edit the details on each tab as required:
   - **Parameters**: Edit access type, processing attributes, lock functions, and other options.
   - **Operations**: Displays for HID VertX, Mercury Security, Schlage wired and RSI wireless locks, and ASSA ABLOY IP locks only. Edit simple macros, accepted card formats and other options.
   - **Hardware**: Displays for HID VertX, Mercury Security, and Schlage wired and RSI wireless locks only. Edit reader, door position, strike and request to exit (REX).
   - **Elev**: Displays for Mercury Security only. View elevator door details.
   - **Cameras**: Add or remove associated cameras.
   - **Interlocks**: Displays for Mercury Security only. Sets interlocks.

- **Events**: View and edit door events.
- **Access**: Does not display for RU and RM exit devices. View access groups, roles and identities that have door access.
- **Transactions**: View door transactions.

For field descriptions, see:

- VertX on page 237
- Mercury Security on page 249
- Schlage IP wireless locks, and RU or RM devices on page 283
- SALTO doors on page 299
- ASSA ABLOY IP doors on page 310

4. After editing each tab, click to save your changes.

Doors - Editing VertX® Doors

1. Select **Physical Access**.

   The Doors list is displayed.
2. From the Doors list, click the VertX® door name you want to edit.

   The Door: Edit screen for that specific door type is displayed.
3. Edit the door by changing values on each of the door option tabs.
4. When you're finished, click .

   You are returned to the list with all changes saved.

Doors - Editing Mercury Security Doors

To edit an existing Mercury Security door:

1. Select **Physical Access**.

   The Doors list page is displayed.
2. Click the door name to select the door you want to edit.

   The Door Edit screen for that specific door is displayed.
3. When you're finished, click .

   You are returned to the list with all changes saved.

Deleting Doors

To delete a door:

1. From the Door list, click for the door that you want to delete.
2. When the confirmation message appears, click **OK**.

   The selected door is now removed from the system.

> **Note:** *SALTO doors only.* When doors are deleted in the ACM system, the corresponding doors in the SALTO system are not deleted. At the next manual sync in the ACM system, the door will display as a new uninstalled door.

Door Modes

> **Note:** Fields in this list are dependent on the door or device. Some commands or fields are not supported for all doors or devices.

For Mercury Security and HID VertX panels. The same list of options is provided for the Offline Door Mode option.

For ASSA ABLOY IP-enabled doors, SALTO standalone doors and Schlage offline Wi-Fi doors. Any locks that do not support real-time communication with a server, will not display door mode options on the Doors list page and maps. Door mode can be set on the Door: Edit page and by using a batch job (specification).

Door Mode	Description
Disabled	The door is disabled for all access.
Unlocked	The door is always unlocked.
Locked No Access	The door is always locked. No access is allowed through this system.
Locked No Access (Unlocked on Next Exit)	The door is locked until a person presses the push bar to exit.
Facility Code Only	The door can be accessed using a facility code. All employees share a single code. This option can be useful in offline situations, when the door controller is no longer communicating with the Access Control Manager host.
Card Only	The door can be accessed using a card. No PIN is required. To support the selected **Assurance Profile** for a pivCLASS configured door, it is recommended to set the Door Mode to **Card Only**. *Mercury door only.* The type of reader used to read this card is determined in the Reader Type field.
Pin Only	The door can only be accessed by entering a PIN at a keypad. No card is required. **Note:** This door mode is not available if the 'Allow duplicate PINs' option has been selected on the System Settings - General page.

Door Mode	Description
Card and Pin	The door can only be accessed using both a card and a PIN. *ASSA ABLOY IP door only.* If the token does not have a PIN, the door can be accessed by swiping the card only.
Card or Pin	The door can be accessed either by entering a PIN at a keypad or by using a card at the card reader. **Note:** This door mode is not available if the 'Allow duplicate PINs' option has been selected on the System Settings - General page.
Office	*SALTO door only*. The lock allows the cardholder to leave the lock open. To use this mode, the cardholder presents the key to the door while pressing down the inner handle and repeats the procedure to undo the mode.
Toggle	*SALTO door only*. The door allows the cardholder to toggle between leaving the lock open and closing it by presenting the assigned key (there is no need to press down the inner handle). To use this mode, the cardholder presents the key to leave the lock open and repeats the procedure to close it.
Keypad Only	*SALTO door only*. The door can only be accessed by entering the shared keypad code at a keypad. If selected, Keypad Code is displayed. You can enter up to 8 digits.
First Person Through	*ASSA ABLOY battery-powered or external-powered door only.* The first person who is granted access to the door will unlock the lock.
Exit Leaves Open	*SALTO door (not connected to control unit) only.* The door is unlocked when the inner door handle is pressed. Allows the cardholder to exit and return to the building without using an assigned key during an emergency (referred to as Escape and Return mode). To lock the door, add a global action to set a time limit on the open door.
Toggle and Exit Leaves Open	*SALTO door (not connected to control unit) only.* The door allows the cardholder to use either the Toggle or Exit Leaves Open door mode during an emergency (referred to as Escape and Return mode).

Access Types

When you select an Access Type from the Door Edit page, the listed options include:

Note: The options may be different depending on the type of panel that is connected to the door.

Feature	Description
Single	This is a door with a reader/keypad on only one side, normally entry only.

Feature	Description
Paired Primary	This indicates that this door possesses a reader/keypad on both sides, entry and exit, and that this side is the primary. If you select this option, the **Paired Door** option is automatically displayed for you to specify the other reader that is installed on the door.
Paired Replica	This indicates that this door possesses a reader/keypad on both sides, entry and exit, and that this side is the replica. If you select this option, the **Paired Door** option is automatically displayed for you to specify the other reader that is installed on the door.
Elev no feedback	This door is an elevator with no feedback input.
Elev feedback	This door is an elevator with a feedback input.

Anti-Passback

The anti-passback (APB) feature can be configured to log or prevent a card from being re-used to access the same area unexpectedly.

For example, the same card cannot be used to enter the same room twice in a row. If a badge holder enters a room then passes the card to another potential badge holder to reuse the card at the same door, an APB error is logged and may be configured to prevent the second badge holder from entering.

Another example is when an access card is also required to exit. If a badge holder holds open a door for another person, the second person would not be able to exit even if they have an access card because the system requires the badge holder to log an entrance in the system before they can exit.

To set up this feature, complete the following procedures:

Anti-Passback Modes

When you select the Operations tab on the Door Edit page, one of the options is **APB Mode**.

Anti-Passback (APB) requires that a user must enter and exit a room before they may enter another room. For example, the typical user of a parking lot would normally swipe their card at the “in” reader to enter the lot and swipe it at the “out” reader to exit the lot. However, if a user swipes their card at the “in” reader then passes their card back to a friend, the card would be denied access the second time when it is swiped by the friend.

To track anti-passback, a card reader must be installed on both the inside and the outside of the door. Users are required to use the card to enter and exit the building.

Note: The APB modes may be different depending on the panels you have installed.

Mode	Description
No Selection	APB is not used.

Mode	Description
Door-Based Timed APB	Allows you to configure APB with just one reader. The door keeps track of each badge that enters and does not allow the same badge to enter twice in a row until after the APB time limit is reached. Make sure you specify an APB time limit in the **APB Delay** field. Do not configure the area entering or area leaving setting for the door. **Note:** This mode is only available if using Mercury Security hardware.
Token-Based Timed APB	Tracks each door a badge has accessed. After the badge has accessed one door, it must access a second door or wait until the APB time limit is reached before it may access the first door again. Make sure you specify an APB time limit in the **APB Delay** field. Do not configure the area entering or area leaving setting for the door. **Note:** This mode is only available if using Mercury Security hardware.
Hard Door APB	Tracks each badge that enters a door and does not allow the same badge to enter twice in a row. This badge will not be able to enter through the same door until it has accessed a second door. Enter a value in the **APB Delay** field to create a time-based APB. **Note:** This mode is only available if using VertX® hardware.
Soft Door APB	Tracks each badge that enters a door and generates a warning transaction if the same badge is used at the same door twice in a row. This badge is still able to enter the door the second time, but the access is logged as an APB violation. Enter a value in the **APB Delay** field to create a time-based APB. **Note:** This mode is only available if using VertX® hardware.

Mode	Description
Hard Area APB	Tracks each badge that enters a specific area and defines which areas the badge may access next. The badge is denied access if it tries to access an undefined area. If the badge is used to access an area that a person is already in, the badge is denied access and an APB violation is logged. Enter a value in the **APB Delay** field to create a time-based APB. Make sure you configure the area entering and area leaving setting for the specified door. **Note:** The Don't Care setting is not applicable to the Out of Area and Into Area fields. In addition, this mode is not used across multiple controller panels.
Soft Area APB	Tracks each badge that enters a specific area and defines which areas the badge may access next. The badge is allowed to access the area, but the access is logged as an APB violation. Enter a value in the **APB Delay** field to create a time-based APB. Make sure you configure the area entering and area leaving setting for the specified door.
Timed Area APB	Time-based hard area APB. When the time limit expires, the hard area APB becomes a soft area APB. If a person leaves the area by going through a door marked Out of Area, the APB will be reset. Enter a value in the **APB Delay** field to create a time-based APB. Make sure you configure the area entering and area leaving setting for the specified door. **Note:** This mode is only available if using Mercury Security hardware.

Setting Up Anti-Passback

Before you begin, consider what type of anti-passback (APB) mode that you need for each situation. For more information, see *Anti-Passback Modes* on page 213.

To use the APB feature, you must set up at least two doors in ACM: one to represent the entrance and one to represent an exit.

Note: All doors should use the same controller panel for best results. For information about two-person minimum occupancy on an installed door that uses Mercury panels and controller firmware 1.29.1 or later, see *Two-Person Minimum Occupancy and Single Door Configuration* on the next page.

1. Create at least one area.
2. Create two doors that are connected to the same panel.
    - If there are two distinct doors in the room (for example, a door on opposite ends of a room), select **Single** as the Access Type.
    - If there is only one door in the room, you still must create two doors in the system. For the entrance door, select **Paired Primary** as the Access Type. This door will control all the inputs and outputs that are connected to the door.

      For the exit door, select **Paired Replica** as the Access Type. This door will only control the reader that allows badge holders to exit the room.

      For both doors, assign the other door as the **Linked Door**.
3. After the doors have been created, assign an **APB Mode** for each door on the door's Operations tab.

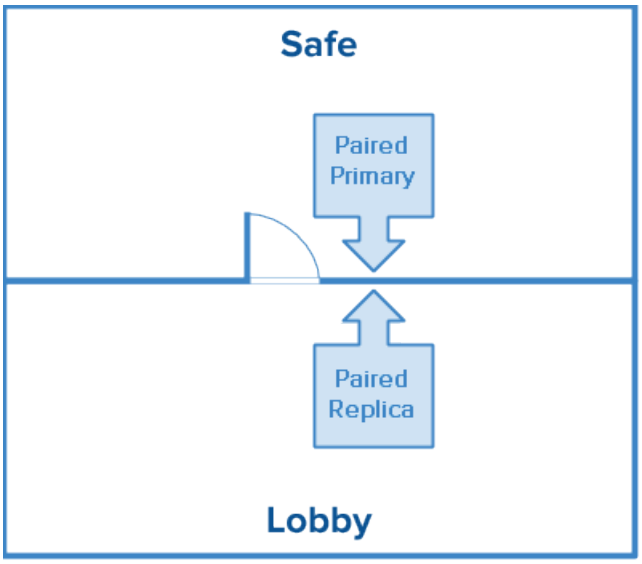
   Remember to click to save the changes on each page.
4. Assign the area you created in the first step for the **Into Area** for each door.
5. If you created more than one area, select the **Out of Area** for each door. Otherwise, you can leave it as **Don't Care**.
6. If you are setting up a timed APB mode, enter the number of seconds before another entry is allowed in the **APB Delay** field.

Two-Person Minimum Occupancy and Single Door Configuration

Mercury Security doors only.

> **Note:** Two-person minimum occupancy is supported on an installed door that uses Mercury panels and controller firmware 1.29.1 or later.

An area with 2-Person Control enabled in ACM (see Safe in the following example) will enforce a two-person occupancy minimum in the area. This means that the first access requires two people to swipe their cards before they can access the area. Any subsequent access requires only one person to swipe their card. When leaving the area, the last two people need to swipe their cards in order to exit.



To configure a two-person minimum occupancy area and door access for two or more identities and their tokens:

1. Add and edit two areas in ACM.

   Example:

   Control area:

Name	Enable Area	2-Person Control	Doors In	Doors Out
Safe	☑	☑	Safe Entry	Safe Exit

   Adjacent lobby:

Name	Enable Area
Lobby	☑

   For more information, see *Adding Areas* on page 314 and *Editing Areas* on page 314

2. Add two doors in ACM to represent the single Mercury Security door.

   Example:

   Door representing the entry into the two-person minimum occupancy area:

Name	Installed	Access Type	APB Mode	Into Area	Out of Area
Safe Entry	☑	**Paired Replica**	**Hard Area APB**	Safe	Lobby

   Hardware tab:

Door Position	Strike
(not selected)	(not selected)

   Door representing the exit from the two-person minimum occupancy area:

Operations tab:

Name	Installed	Access Type	APB Mode	Into Area	Out of Area
Safe Exit	☑	**Paired Primary**	**Hard Area APB**	Lobby	Safe

Hardware tab:

Door Position	Strike
Safe Exit DPOS (Subpanel:*N* Output:*N*)	Safe Exit Strike (Subpanel:*N* Output:*N*)

For more information, see *Adding Doors* on page 223 and *Editing Doors* on page 209.

3. Add two or more identities and ensure their tokens are assigned. For more information, see *Adding an Identity* on page 71 and *Assigning Tokens to Identities* on page 73.

   If specified, **APB Exempt** applies to all defined areas.

4. To enter the two-person minimum occupancy area:
   - If the area is empty, two people will need to swipe their individual cards to access the area. The second card must swipe within 15 seconds of the first swipe.
   - When the area contains two people, a swipe from a third person (and any subsequent swipe) will allow access to the area.
5. To leave the two-person minimum occupancy area:
   - If the area contains more than two people, a single swipe will allow them to exit the area until only two people are left in the area.
   - When the area contains only two people, both of them will need to swipe to exit the area. The second card must swipe within 15 seconds of the first swipe.

Granting a Free Pass

You can grant a user one free pass to enter a door without generating an anti-passback error. This feature is useful if a badge holder swiped their card at a card reader but did not actually enter the area.

For example, an employee uses his access card to unlock the office entrance but is distracted by another employee before he opens the door. The two employees speak for several minutes, and the door automatically locks after a set amount of time. When the first employee attempts to unlock the office door again, this triggers an APB alarm and the employee is locked out. The employee contacts the security officer and explains the situation, the security officer can grant one free pass to allow the employee back into the office area.

To grant a free pass:

1. Click **Identities**.

   The Identities list is displayed.

2. From the Identities list, click on the name of the identity.

   The Identities: Edit screen is displayed.

3. Select the **Tokens** tab.

4. Beside the **1 free pass** button, select a door.
5. Click **1 free pass**.

   The badge holder can now enter the door without generating an new anti-passback alarm.

Global Anti-Passback

Global anti-passback defines an area for which two or more readers are used to access the area, but are physically wired to different controllers. If any one reader in that same area receives an APB violation, it will prevent that badge holder from entering through other doors in same area.

Global Anti-Passback Modes

Global anti-passback is automatically implemented using APB mode. For more information about global anti-passback modes, see *Anti-Passback Modes* on page 213.

Interlocks

> **Note:** Only Mercury Security doors support interlocks.

An interlock is a mechanism that enables a specific event from one element of the system to trigger an action at another element. Interlocks allow you to set up security routines like man-traps, prison entry points, and automated building functions.

The interlock feature can be accessed from one of three ways:

Accessing Interlocks through Doors

1. Select **Physical Access**.

   The Doors list is displayed.
2. Select the Mercury Security door that you want to interlock.

   The Door Edit screen is displayed.
3. Click the **Interlocks** tab.

   The Door Interlocks list is displayed.

Accessing Interlocks from Subpanel Inputs

1. Select **Physical Access>Panels**.

   The Panels list is displayed.
2. Select the panel you want to interlock.

   The Panel Status screen is displayed.
3. Click the **Subpanels** tab.

   The Subpanels list is displayed.
4. Click for the subpanel that is connected to the input you want to interlock.

   The Inputs list is displayed.

5. Click the **Interlocks** link beside the required input.

   The Input Interlock list is displayed.

Accessing Interlocks from Subpanel Outputs

1. Select **Physical Access>Panels**.

   The Panels list is displayed.
2. Select the panel you want to interlock.

   The Panel Status screen is displayed.
3. Click the **Subpanels** tab.

   The Subpanels list is displayed.
4. Click for the subpanel that is connected to the output you want to interlock.

   The Outputs list is displayed.
5. Click the **Interlocks** link beside the required output.

   The Output Interlock list is displayed.

Adding Interlocks

1. From the Interlock list, click **Add Interlock**. For more information about how to access the different Interlock Listing pages, see *Interlocks* on the previous page.
2. On the following Interlock Add page, add the required information.

   Notice that as you select options, new fields are displayed to help you further define your requirements.
3. When you're finished, click to save the new interlock.

Editing Interlocks

1. From the Interlock list, click the name of an interlock. For more information about how to access the different Interlock Listing pages, see *Interlocks* on the previous page.
2. On the following Interlock Edit page, make the required changes.
3. Click to save your changes.

Doors list

The **Doors** page lists of all the doors you are authorized to see and control. From this list you can control doors, as well as add and delete doors, edit doors and their associated controller panels, and create overrides to temporarily change the normal status of selected doors.

> **Note:** Overrides can only be applied to installed doors on Mercury panels using controller firmware 1.27.1 or later.

Select **Physical Access > Doors** to access the Doors list.

Searching, sorting, and filtering

Many facilities require the control and monitoring of dozens, even hundreds, of doors simultaneously. This can result in a crowded listing page. You can search for specific doors to narrow the list of doors, filter the columns for specific values, and create and save custom filters. You can then sort the results using any one column.

Searching the list:

1. Use any (or all) of the following to define your search:
    - Enter your search term in the **Search...** field. Use any series of letters and numbers to search for the doors you want to see.
    - If known, select the **Device Status**.
    - If known, select the **Appliance** the door is connected to.
    - If known, select the **Group** the door is included in.
2. Click **OK**.

Creating a filter to select multiple filters:

1. Click **Advanced Filters** to open the Advanced Filters dialog box.
2. Select filters:
    - **Alarms**—Select the alarms to include from the list of alarms.
    - **Masked**—Select to include the masks to include from the list of masks.
    - **Normal**—Select to include all properly functioning doors.
    - **Door Mode**— Select the door modes to include from the list of door modes.

    To unselect all selected filters, click **Unselect All**.
3. If you want to save the selected filters, select **Remember Filters**.
4. Click **OK**.

Sorting the list:

1. Click in a column heading:
    - Click to sort in ascending order.
    - Click to sort in descending order.

To see the legend for all the device statuses:

- Click **Legend** to see the list of statuses and the related icons.

  There are three groupings which are color-coded — Normal , Alarms , Masked :

Adding and deleting doors

- Click the **Add Door** button to define a new door. For more information, see *Adding Doors* on page 223 and *Adding Doors* on page 223
- Select doors in the list and click the **Delete**control button.

Editing doors and panels:

- Click the link to the door in the **Name** column. For more information, see *Editing Doors* on page 209.
- Click the link to the panel in the **Panel** column.

Controlling doors:

Select doors in the list and then use the drop-down options from the control buttons at the top of the page to control them:

- **Door Action**
- **Door Mode**
- **Forced**
- **Held**
- **Installed**

For more information, see *Controlling Doors* on page 199.

Creating a Door Configuration report

- Click **Create New Report** to generate a Door Configuration report on the doors in this list.

The following information is displayed for each door in the list:

Column Heading	Description
All/None	Use this toggle to select and deselect all the doors currently visible in the list. Or you can use the checkbox to select individual doors.
Device status	Displays the device status. Hover the mouse over the related icon to see more details. **Note:** The tamper icon only appears for OSDP readers, and reports whether the reader is offline or has been tampered with.
Name	The name assigned to this door. Click on this name to open the Door: Edit page Parameters tab.
Panel	The name of the panel to which this door is connected. Click on this name to open the Panel: Edit page Configure tab.
Door state	Current state of the related door: Open or Closed. **Note:** To properly report the Door State from the Door Position Switch, the Detailed Events parameter must be enabled for the door. If this parameter is not set for a door, edit the parameters for the door.

Column Heading	Description
Door mode	Indicates the door mode — the method by which the door is opened: • Disabled • Unlocked • Locked No Access • Facility Code Only • Card Only See *Appendix: pivCLASS Configuration* on page 502. • Pin Only • Card & Pin • Card or Pin

Adding Doors

To add a new door:

1. Select **Physical Access** > **Doors**.

   Note: Doors cannot be manually added for Allegion offline Wi-Fi locks, SALTO doors and ASSA ABLOY IP doors. For information about adding doors and associated panels, see *Step 2: Setting Up Communication to Offline Wi-Fi Locks* on page 289, *Step 3: Syncing Doors with the SALTO Server* on page 299 and *Step 2: Syncing Doors with the Door Service Router* on page 309, respectively.

2. Click **Add Door**.
3. If door templates are used, the Templates dialog appears. To use the door settings from a template, which automatically fills in the fields on the Parameters and Operations tabs, select the template and click **OK**. Otherwise, click **Cancel**.

   For Schlage IP-mode wireless devices or devices connecting to an RS485 hub, click **Cancel**.
4. Enter on the **Parameters** tab:

   Note: Fields in this list are dependent on the door or device. Some commands or fields are not supported for all doors or devices.

Name	Up to 50 characters for the name of the door. See *Appendix: pivCLASS Configuration* on page 502.
Alt. Name	An alternate name for the door.
Location	A short description of the door location.

Partitions	Displayed for a partitioned ACM appliance only. To restrict operator access to the item, select one or more partitions. To allow all operators access to the item, do not select a partition.
Panel	The panel that controls the door, the gateway that controls the IP-mode wireless device or the offline Wi-Fi device, or the external server that the ACM appliance is connected to.
	Displays for a panel that is connected to a subpanel that controls readers, locks, inputs and outputs; or a gateway that controls IP-mode wireless devices. **Subpanel**: The name of the subpanel that is connected to the main panel or the name of the gateway. **Door Number** or **Lock Number**: The door number for wired connections or lock number for wireless devices. For SimonsVoss wireless locks, use the hexadecimal address assigned by the SmartIntego Tool. **Device Id**: Displays for Aperio AH-40 Hub subpanel only. The Lock/Sensor identifier from the Aperio programming application.
	Displays for a Schlage ENGAGE Gateway. **Lock Model**: The lock model from the vendor. **Linked Device**: The ID or name of each externally commissioned IP wireless or offline Wi-Fi device. For more information, refer to the commissioning process in vendor documentation.
	Displays for an ASSA ABLOY DSR. **Lock Type**: The battery-powered or external-powered lock type from the vendor. **Serial Number**: The serial number of the lock.
Appliance	The ACM appliance that is connected to the door, gateway, hub or external server.
Vendor	The manufacturer of the panel, gateway, offline Wi-Fi device or external server.
Installed	Enables communication between the ACM appliance and installed device after saving.

Displays for **Schlage** ENGAGE Gateway subpanel:

Access Type: Displays for an IP-connected wireless device only. Whether access is located on one or both sides of the door. Default is **Single**, which cannot be changed. For more information, see *Access Types* on page 212.

Door Mode: IP-connected wireless device only. The entry mode for the door when the gateway is online and communicating with the device. For information about the **Unlocked**, **Locked No Access** and **Card Only** options, see *Door Modes* on page 211.

IP-connected RU exit device only (not applicable to RM). The entry mode for the door when the gateway is online and communicating with the device. For more information about the **Unlocked** and **Locked No Access (Unlocked on Next Exit)** options, see *Door Modes* on page 211.

Offline Wi-Fi lock only. The entry mode for the door when the lock is online. For information about the **Card Only** option, see *Door Modes* on page 211.

Lock Function: None is the default (not applicable to RM device).

- **None**: Use the system default door settings.
- **Privacy**: When the interior lock button is pressed, the door will lock and the exterior lock will not grant access to any token. To unlock the door, the interior lock button must be pressed again or exit the room.

  Note: Only this lock function is supported for the ASSA ABLOY IP locks.

- **Apartment**: Use the interior lock button to toggle between locked and unlocked. When the door is locked, any valid token will open the door. The door must be manually locked or it will stay unlocked.
- **Classroom — Classroom/Storeroom** — The lockset is normally secure. The inside lever always allows free egress. Valid toggle credentials (i.e. a valid card that is swiped twice within five seconds) on the exterior may be used to change to a passage or secured status. Not to be used on mortise deadbolt. Interior push button not to be used.

  Note: Only this lock function is supported for the RSI-connected NDE series lock.

  Note: This lock function is not supported for the IP-connected LE, LEB, NDE and NDEB series lock, or offline Wi-Fi lock.

- **Office** — The lockset is normally secure. The inside lever always allows free

	egress. An interior push-button on the inside housing may be used to select a passage or secured status. Meets the need for lockdown function for safety and security. Valid toggle credentials (i.e. a valid card that is swiped twice within five seconds) on the exterior may also be used to change status. Not to be used on mortise deadbolt. **Note:** A Restore door action is available on the Door listing page and the Hardware Status page which resets the Door Mode to its default value. **Always Mask Forced**: If selected, Door Forced Open alarms at the door are always masked. **Always Mask Held**: If selected, Door Held Open alarms at the door are always masked. **Custom Mode**: Another door mode that is supported by the gateway. **Custom Schedule**: Displays for an IP-connected door (LE, LEB, NDE, NDEB series lock) if the Card Only door mode is selected, or IP-connected RU device if the Locked No Access door mode is selected. A predefined time when Custom Mode becomes active. **Never Active** is OFF. **24 Hours Active** is ON.
	For **Avigilon**, enter: **Station Type**: Default is **ACM Verify** station, which is used on connected devices. A device that uses this station type of station is called an ACM Verify Station. **Managed**: If selected, ACM Verify Station requires the user to grant or deny access to the person entering a valid PIN code. It also displays the name and picture of the user for verification. **UnManaged**: If selected, ACM Verify Station automatically grants or denies access and does not provide additional information when a PIN code is entered. **Geographic Timezone**: The time zone where the ACM Verify device is located if it is different from the time zone of the ACM appliance. **Into Area**: The area that the badge holder enters by passing through the door and where the ACM Verify Station is used, or not, to monitor access to the area. You must specify an area if you want the virtual station to list all the people who have entered the area. **Station Authentication**: The method of authentication on the ACM Verify device. **Login** specifies that the user log in to the ACM software using the ACM URL from the browser on the ACM Verify device. **Paired** specifies that the ACM Verify is paired to the ACM system. If the authentication type is Paired, the Door Add page refreshes and displays the Add Paired Device button.

For **Mercury Security** and **HID** VertX panel, enter:

Access Type: Whether the reader is located on one or both sides of the door, or on an elevator door. See *Access Types* on page 212.

Linked Door: Displays for **Paired Primary** and **Paired Replica** access type only. The door with the reader on the other side of the door.

Door Mode: The entry mode of the door when the door controller is online and communicating with the panel. See *Door Modes* on page 211.

Assurance Profile: For Mercury Security LP4502 only. See *Appendix: pivCLASS Configuration* on page 502.

Offline Door Mode: The entry mode of the door if the door controller is no longer communicating with the panel.

> **Note:** In many cases readers in offline mode require a very simple solution for entry or exit because of the memory limitations. The recommended Offline Door Mode option is **Locked No Access**.

Custom Mode: Another entry mode that is supported by the door module in addition to Door Mode and Offline Door Mode options.

Custom Schedule: When the Custom Mode becomes active. Never Active is OFF. 24 Hours Activeis ON.

Masked Forced Schedule: A predefined time when Door Forced Open alarms from the door will be masked.

Masked Held Schedule: A predefined time when Door Held Open alarms from the door will be masked.

Always Mask Forced: If selected, Door Forced Open alarms at the door are always masked.

Always Mask Held: If selected, Door Held Open alarms at the door are always masked.

	For **SALTO** panel, enter: **Door Mode**: The entry mode of the door after syncing with the SALTO server and installing the door. See *Door Modes* on page 211. **Custom Mode**: Another entry mode of the door that is time-based (see Custom Schedule). Can be **Unlocked**, **Card and Pin**, **Office**, **Toggle** or **Keypad Only**. If Keypad Only is selected, **Keypad Code** is displayed. You can enter up to 8 digits. See *Door Modes* on page 211. **Custom Schedule**: A predefined time when Custom Mode becomes active. **Always Mask Forced**: If selected, Door Forced Open alarms at the door are always masked. **Always Mask Held**: If selected, Door Held Open alarms at the door are always masked.

Door Processing Attributes	For **Schlage** door, select: **Note:** The following three attributes are not applicable to Control locks or offline Wi-Fi locks. **Log Grants Right Away**: Initiates local I/O in the panel using the panel triggers. The system logs an extra event as soon as a grant occurs (that is, before entry / no entry is determined). This event is not turned into an Access Control Manager event. Certain customers may have a trigger they want to fire (to execute a macro) as soon as there is a grant but before entry / no entry is determined. **Log All Access as Used**: Logs all access grant transactions as if the person used the door. If this field is not selected, the door determines if it was opened and distinguishes if the door was used or not used for grant. **Detailed Events**: Displays the current position of the door position switch (DPOS) in the Door State column of the door listing screen. When enabled the column displays “Open” when the DPOS is in an open state and “Closed” when the DPOS is in a closed state. **Note:** To properly report the Door State from the Door Position Switch, Detailed Events must be enabled. Typically, five to ten detailed transactions are generated for each grant transactions. During the normal course of operation, most guards don't need to see extensive reports on events; however, after hours, it is often useful to see every detail. **Do Not Log Rex Transactions**: Indicates that request-to-exit transactions do not get logged to the database. **Note:** This is the only attribute supported for offline Wi-Fi locks.

For **Mercury Security** panel, select:

Log Grants Right Away: Initiates local I/O in the panel using the panel triggers. The system logs an extra event as soon as a grant ocurs (that is, before entry / no entry is determined). This event is not turned into an Access Control Manager event.

Certain customers may have a trigger they want to fire (to execute a macro) as soon as there is a grant but before entry / no entry is determined.

Deny Duress : Denies access to a user that indicates duress at a door.

Don't Pulse Door Strike on REX: Disables the pulse of the door strike output when the request-to-exit button is pressed and can be used for a 'quiet' exit. If not selected, the output is pulsed.

> **Note:** This field must not be checked for the SimonsVoss wireless lock, such as cylinders, on a door that does not support a door position switch (DPOS).

Require Two Card Control: Two tokens are required to open this door. This enforces the two-person rule at a specified door.

Door Forced Filter: : Filters door-forced alarms. Sometimes a door is either slow to close or is slammed shut and bounces open for a few seconds. With this filter, the monitor allows three seconds for a door to close before issuing an alarm.

Log All Access as Used: Logs all access grant transactions as if the person used the door. If this field is not selected, the door determines if it was opened and distinguishes if the door was used or not used for grant.

Detailed Events: Displays the current position of the door position switch (DPOS) in the Door State column of the door listing screen. When enabled the column displays “Open” when the DPOS is in an open state and “Closed” when the DPOS is in a closed state.

> **Note:** To properly report the Door State from the Door Position Switch, Detailed Events must be enabled.

Typically, five to ten detailed transactions are generated for each grant transactions. During the normal course of operation, most guards don't need to see extensive reports on events; however, after hours, it is often useful to see every detail.

Enable Cipher Mode: Enables the operator to enter card number digits at the door’s keypad.

Use Shunt Relay:Enables the use of a shunt relay for this door.

Do Not Log Rex Transactions: Indicates that request-to-exit transactions do not get logged to the database.

	For **HID** VertX panel, select: **Door use Tracking**: The level of door event tracking that is logged in the Monitor screen. These options should only be used when the **Detailed Events** option is enabled. • **None**: Only standard door events are logged. • **Used**: The details of when the door is used. • **Used with pending**: The events that occur between door use. **Deny Duress**: If selected, denies access to a user who is in duress at a door. **Don't Pulse Door Strike on REX**: Disables the pulse of the door strike when request-to-exit button is activated. **Detailed Events**: For circumstances when it is important to know all the details of an event. Displays the current position of the door position switch (DPOS) in the Door State column of the Door list. When enabled the column displays “Open” when the DPOS is in an open state and “Closed” when the DPOS is in a closed state. **Enable Cipher Mode**: Allows the operator to enter card number digits at the door’s keypad. **Do Not Log Rex Transactions**: Disables logging of request-to-exit transactions.
	For **SALTO** panel, select: **Detailed events**: Enables the reporting of event details, such as Door State and Door Mode, after syncing and installing the door. **Do Not Log Rex Transactions**: Disables logging of request-to-exit transactions.

5. Click to add the door. Once saved the page becomes the Door: Edit page. If a door template was used, the fields on the Parameters and Operations tabs are entered.
6. To edit door configuration, see *Editing Doors* on page 209. To edit lock configuration, see *Step 3: Configuring IP Wireless Devices* on page 281.
   - **Parameters**: Edit access type, processing attributes, lock functions, and other options.
   - **Operations**: Displays for HID VertX, Mercury Security, Schlage wired and RSI wireless locks, and ASSA ABLOY IP locks only. Edit simple macros, accepted card formats and other options.
   - **Hardware**: Displays for HID VertX, Mercury Security, and Schlage wired and RSI wireless locks only. Edit reader, door position, strike and request to exit (REX).
   - **Elev**: Displays for Mercury Security only. View elevator door details.
   - **Cameras**: Add or remove associated cameras.
   - **Interlocks**: Displays for Mercury Security only. Sets interlocks.
   - **Events**: View and edit door events.
   - **Access**: Does not display for RU and RM exit devices. View access groups, roles and identities that have door access.
   - **Transactions**: View door transactions.
7. Click to save your changes.

Doors - VertX® New Parameters page

After you save a new door for the first time, the screen refreshes and displays the initial Parameters page for the door.

Feature	Description
Name	The name of the door.
Alt Name	The alternative name of the door.
Location	The location of the door.
Appliance	The appliance the door is connected to.
Vendor	The name of the door manufacturer.
Installed	Enables communication between the ACM appliance and installed device after saving.
Partitions	Displayed for a partitioned ACM appliance only. To restrict operator access to the item, select one or more partitions. To allow all operators access to the item, do not select a partition.
Panel	Specify the panel the door is assigned to. After you make your selection, new options may be displayed to define how the door is connected to the panel.
Subpanel	Specify the subpanel that is connected to the door. This option is only displayed if there is a subpanel connected to the specified panel.
Lock Number	Specifies a configured group of readers, inputs, and outputs that are connected from the subpanel to the door. Select the lock number from the drop-down list.
Access Type	Select the Access Type for the door. **Tip:** If the access type is a paired door (paired primary or paired replica), the Door Add page re-displays with the additional field, Paired Door. Select the Paired Door option from the drop down list.
Door Mode	Select the entry mode for the door when the door controller is online and communicating with the panel.
Offline Door Mode	Select the entry mode used for the door if the door controller is no longer communicating with the panel. **Note:** In many cases readers in offline mode require a very simple solution for entry or exit because of the memory limitations. The recommended Offline Door Mode option is **Locked No Access**.
Custom Mode	Select any additional door mode the door must support outside the Door Mode and Offline Mode options.

Feature	Description
Custom Schedule	Define when the Custom Mode would be active. Select a schedule from the drop down list. Only schedules that have been defined in the system are listed.
Mask Forced Schedule	Define when Door Forced Open alarms from this door will be masked. Select a schedule from the drop down list. Only schedules that have been defined in the system are listed.
Mask Held Schedule	Define when Door Held Open alarms from this door will be masked. Select a schedule from the drop down list. Only schedules that have been defined in the system are listed.
Always Mask Forced	Check this box to mask all Forced Door events.
Always Mask Held	Check this box to mask all Door Held Open events.
Door Processing Attributes	
Door use Tracking	Select one of the listed options to define the level of door event tracking that is logged in the Monitor screen. • **None**: only standard door events are logged • **Used**: includes the details of when the door is used • **Used with pending**: includes the events that occur between door use. These options should only be used when the **Detailed events** option is enabled.
Deny Duress	If a user indicates duress at a door, checking this box denies access.
Don't Pulse Door Strike on REX	Check this box to disable the pulse of the door strike when request-to-exit button is activated.
Detailed Events	Check this box to generate detailed events of all hardware at the door including door position masking, timer expiration and output status. This feature is useful for circumstances where it is important to know all the details of an event.
Enable Cipher Mode	Check this box to enable cipher mode. Cipher mode allows the operator to enter card number digits at the door's keypad.
Do Not Log Rex Transactions	Check this box to disable logging of request-to-exit transactions.
	Click this button to save your changes.
	Click this button to discard your changes.

Doors - Mercury Security New Parameters page

After you save a new door for the first time, the screen refreshes and displays the initial Parameters page for the door.

Note: Fields in this list are dependent on the door or device. Some commands or fields are not supported for all doors or devices.

Feature	Description
Name	The name of the door.
Alt Name	The alternative name of the door.
Location	The location of the door.
Appliance	The appliance the door is connected to.
Vendor	The name of the door manufacturer.
Installed	Enables communication between the ACM appliance and installed device after saving.
Partitions	Displayed for a partitioned ACM appliance only. To restrict operator access to the item, select one or more partitions. To allow all operators access to the item, do not select a partition.
Panel	Specifies the panel the door is assigned to. After you make your selection, new options may be displayed to define how the door is connected to the panel.
Subpanel	Specifies the subpanel that is connected to the door. This option is only displayed if there is a subpanel connected to the selected main panel.
Door Number	A configured group of readers, inputs, and outputs that are connected from the subpanel to the door. For wired connections, the door number from the drop-down list. For wireless locks only: • The number programmed for the lock. For all locks except SimonsVoss, select the number from the drop-down list. • For SimonsVoss wireless locks, the hexadecimal address assigned by the SmartIntego Tool. For more information, see *Configuring SimonsVoss Wireless Locks* on page 190.
Access Type	Select the Access Type from the drop down list. **Tip:** If the access type is a paired door (paired primary or paired replica), the Door Add page re-displays with the additional field, Paired Door. Select the Paired Door option from the drop down list.
Door mode	The entry mode for the door when the door controller is online and communicating with the panel. Select a Door Mode option from the drop down list.

Feature	Description
Offline Door Mode	The entry mode used for the door if the door controller is no longer communicating with the panel. **Note:** In many cases readers in offline mode require a very simple solution for entry or exit because of the memory limitations. The recommended Offline Door Mode option is **Locked No Access**. Select the Offline Mode option from the drop down list.
Lock Function	Select how the interior lock button will function. • **Privacy** — When you press the interior lock button, the door will lock and the exterior lock will not grant access to any token. To unlock, you must press the interior lock button again or exit the room. • **Apartment** — When you press the interior lock button, the door will lock but any valid token will open the door. The door must be manually locked or it will stay unlocked. • **Classroom** — Classroom/Storeroom. The lockset is normally secure. The inside lever always allows free egress. Valid toggle credentials (i.e. a valid card that is swiped twice within five seconds) on the exterior may be used to change to a passage or secured status. Not to be used on mortise deadbolt. Interior push button not to be used. • **Office** — The lockset is normally secure. The inside lever always allows free egress. An interior push-button on the inside housing may be used to select a passage or secured status. Meets the need for lockdown function for safety and security. Valid toggle credentials (i.e. a valid card that is swiped twice within five seconds) on the exterior may also be used to change status. Not to be used on mortise deadbolt. There is a Restore door action available on the Hardware Status page or Door Listing page which resets the door's configuration values to their default value. If the door is in any mode (Classroom, Office, Privacy, or Apartment) it will be 'restored' to the opposite status (e.g. if the door is in Privacy mode then it is locked - if the Restore option is selected then the door will return to its default mode, which is the mode set in the base configuration for the door).
Custom Mode	Select any additional door mode the door must support outside the Door Mode and Offline Mode options.
Custom Schedule	Define when the Custom Mode would be active. Select a schedule from the drop down list. Only schedules that have been defined in the system are listed.
Mask Forced Schedule	Define when Door Forced Open alarms from this door will be masked. Select a schedule from the drop down list. Only schedules that have been defined in the system are listed.
Mask Held Schedule	Define when Door Held Open alarms from this door will be masked. Select a schedule from the drop down list. Only schedules that have been defined in the system are listed.

Feature	Description
Always Mask Forced	Check this box to specify that Door Forced Open alarms at this door are always masked. Normally, this box is unchecked.
Always Mask Held	Check this box to specify that Door Held Open alarms at this door are always masked. Normally, this box is unchecked.
Door Processing Attributes	
Log grants right away	When this box is checked, the system logs an extra event as soon as there is a grant (that is, before entry / no entry is determined). This event is not turned into a Access Control Manager event. Check this box in order to initiate local I/O in the panel using the panel triggers. Certain customers may have a trigger they want to fire (to execute a macro) as soon as there is a grant but before entry / no entry is determined.
Deny duress	Check this box to deny access to a user that indicates duress at a door.
Don't pulse door strike on REX	Check this box to disable the pulse of the door strike output when the request-to-exit button is pressed and can be used for a 'quiet' exit. If this box is not checked, the output is pulsed. For SimonsVoss wireless lock doors that do not support a door position switch (DPOS) , this box must not be checked.
Require two card control	Check this box to specify that two tokens are required to open this door. This enforces two-person rule at a specified door.
Door Forced Filter	Check this box to enable the filter feature for door forced alarms. There are instances when a door is either slow to close or is slammed shut and bounces open for a few seconds. With this filter, the monitor allows three seconds for a door to close before issuing an alarm.
Log all access as used	Check this box to log all access grant transactions as if the person used the door. If this box is not checked, the door determines if it was opened and will distinguish if the door was used or not used for grant.
Detailed events	Check this box to display the current position of the door position switch (DPOS) in the Door State column of the door listing screen. When enabled the column will display “Open” when the DPOS is in an open state and “Closed” when the DPOS is in a closed state. **Note:** To properly report the Door State from the Door Position Switch, Detailed Events must be enabled. Typically, five to ten detailed transactions will be generated for each grant transactions. During the normal course of operation, most guards don't need to see extensive reports on events; however, after hours, it is often useful to see every detail.
Enable cipher mode	Check this box to enable cipher mode. Cipher mode allows the operator to enter card number digits at the door’s keypad.

Feature	Description
Use Shunt Relay	Check this box to enable the use of a shunt relay for this door.
Do Not Log Rex Transactions	Check this box to indicate that return-to-exit transactions do not get logged to the database.
	Click this button to save your changes.
	Click this button to discard your changes.

Doors - Door: Edit Screen

When you click the name of an existing door from the Doors list, the Door: Edit screen is displayed.

For definitions of the relevant fields and pages for each door type, refer to the page specific to your door vendor.

- *Door: Edit page (VertX®)* below
- *Door: Edit page (Mercury Security)* on page 249

Door: Edit page (VertX®)

When you select a VertX® door, the configurable options are arranged in tabs on the Door: Edit page.

Parameters tab (VertX®)

When you click the **Parameters** tab on the Door Edit screen, the HID Parameters page is displayed. This page allows you to define the door connections, door mode, schedule and processing attributes.

Feature	Description
Name	The name of the door.
Alt Name	The alternative name of the door.
Location	The location of the door.
Appliance	The appliance the door is connected to.
Vendor	The name of the door manufacturer.
Installed	Enables communication between the ACM appliance and installed device after saving.
Partitions	Displayed for a partitioned ACM appliance only. To restrict operator access to the item, select one or more partitions. To allow all operators access to the item, do not select a partition.
Panel	Specify the panel the door is assigned to. After you make your selection, new options may be displayed to define how the door is connected to the panel.
Subpanel	Specify the subpanel that is connected to the door. This option is only displayed if there is a subpanel connected to the specified panel.

Feature	Description
Lock Number	Specifies a configured group of readers, inputs, and outputs that are connected from the subpanel to the door. Select the lock number from the drop-down list.
Access Type	Select the Access Type for the door. **Tip:** If the access type is a paired door (paired primary or paired replica), the Door Add page re-displays with the additional field, Paired Door. Select the Paired Door option from the drop down list.
Door Mode	Select the entry mode for the door when the door controller is online and communicating with the panel.
Offline Door Mode	Select the entry mode used for the door if the door controller is no longer communicating with the panel. **Note:** In many cases readers in offline mode require a very simple solution for entry or exit because of the memory limitations. The recommended Offline Door Mode option is **Locked No Access**.
Custom Mode	Select any additional door mode the door must support outside the Door Mode and Offline Mode options.
Custom Schedule	Define when the Custom Mode would be active. Select a schedule from the drop down list. Only schedules that have been defined in the system are listed.
Mask Forced Schedule	Define when Door Forced Open alarms from this door will be masked. Select a schedule from the drop down list. Only schedules that have been defined in the system are listed.
Mask Held Schedule	Define when Door Held Open alarms from this door will be masked. Select a schedule from the drop down list. Only schedules that have been defined in the system are listed.
Always Mask Forced	Check this box to mask all Forced Door events.
Always Mask Held	Check this box to mask all Door Held Open events.
Door Processing Attributes	

Feature	Description
Door use Tracking	Select one of the listed options to define the level of door event tracking that is logged in the Monitor screen. • **None**: only standard door events are logged • **Used**: includes the details of when the door is used • **Used with pending**: includes the events that occur between door use. These options should only be used when the **Detailed events** option is enabled.
Deny Duress	If a user indicates duress at a door, checking this box denies access.
Don't Pulse Door Strike on REX	Check this box to disable the pulse of the door strike when request-to-exit button is activated.
Detailed Events	Check this box to generate detailed events of all hardware at the door including door position masking, timer expiration and output status. This feature is useful for circumstances where it is important to know all the details of an event.
Enable Cipher Mode	Check this box to enable cipher mode. Cipher mode allows the operator to enter card number digits at the door's keypad.
Do Not Log Rex Transactions	Check this box to disable logging of request-to-exit transactions.
	Click this button to save your changes.
	Click this button to discard your changes.
Create New Report	Click this button to generate a PDF report on this door.
Add New Door	Click this button to add a new door.
Transaction Report	Click this button to generate a PDF transaction report on this door.
Show Policy	Click this button to generate a PDF report on the current door policy.
	Click this button to delete this door. Click **OK** in the dialog box that displays to confirm the deletion. The door will be deleted and you will be returned to the Doors list.

Operations tab (VertX®)

On the **Operations** tab on the Door Edit screen, edit how the door operates, including the door mode, anti-passback and strike modes.

Name	The name of the door.
Alt Name	The alternative name of the door.
Location	The location of the door.

Appliance	The appliance the door is connected to.
Vendor	The name of the door manufacturer.
Installed	Enables communication between the ACM appliance and installed device after saving.
Partitions	Displayed for a partitioned ACM appliance only. To restrict operator access to the item, select one or more partitions. To allow all operators access to the item, do not select a partition.
Panel	Specifies the panel the door is assigned to.
Subpanel	Specifies the subpanel that is connected to the door. This option is only displayed if there is a subpanel connected to the selected main panel.
Lock Number	The number ID for the set of inputs/outputs that are connected from the subpanel to the door. This option is only displayed if there are inputs or outputs connected to the selected subpanel.
APB Mode	Select the anti-passback mode for the door. For a description of each option, see *Anti-Passback Modes* on page 213.
APB Delay	Specifies the number of seconds before another entry is allowed. Enter the number of seconds.
Into Area	Identifies the area the user enters when passing through the door. If no area is specified, any location is valid. Select the area from the drop down list. Only those areas currently defined for this system appear in this list.
Out of area	Identifies the area the user moves into when exiting the door. Select the area from the drop down list.
Strike Mode	Defines when a door should unlock. Specifies if the strike is deactivated when the door is opened, when the door is closed, or when the strike timer expires. Select the strike mode from the drop down list. • **Cut short when open** — the strike is deactivated on open • **Turn off on close** — the strike is deactivated on close. • **Full strike time** — the strike is deactivated when the timer expires.
Held Pre-Alarm	Enter the number of seconds a door can be held open before a pre-alarm is issued. Instead of generating an alarm, it sends a warning signal to the Access Control Manager host.
Minimum Strike Time	Specifies the minimum amount of time the door will be unlocked. Each time the door is unlocked and open, the door will remain unlocked for the set amount of time. If you hold the door open for longer than the set amount of time, the door automatically re-locks when it closes. Enter the number of seconds. Default setting is 0 seconds.
Standard Access time	Specifies the standard number of seconds the strike will be activated. Enter the number of seconds. If the door is not opened within this interval, the door is automatically locked.

Held Open Time	Enter the number of seconds the door can be held open before a Door Held Open event is generated.
Extended Access	Specifies the strike time for a door configured for persons that require more time to enter through a door. Enter the number of seconds.
Extended Held Open Time	Enter the number of seconds the door can be held open for users with extended access permissions. This feature is useful for users that may require more time to enter a door.
Card Formats	Specifies the card formats that are compatible with the reader at the door. Check the box beside the card formats that apply.
Simple Macros	
Type	Select from the drop down list a default macro that is triggered when the following conditions are met for this door. Currently available macros include: • Forced • Held • Pre-Alarm
Schedule	Select a schedule from the drop down list. Only schedules that have been defined in the system are listed.
Output	From the drop down list, select an output that is activated by the Type condition.
Commands	Click **Save Macro** to save the settings for this canned macro. If this is a new macro, a new row is automatically added below. Click **Remove Macro** to delete a macro. This button only appears if the macro has been saved in the system. For more information, see *Adding Simple Macros* on page 209.
	Click this button to save your changes.
	Click this button to discard your changes.
Create New Report	Click this button to generate a PDF report on this door.
Add Door	Click this button to add a new door to the system.
Transaction Report	Click this button to generate a PDF transaction report on this door.
Show Policy	Click this button to generate a PDF report on the current door policy.

Hardware tab (VertX®)

When you click the **Hardware** tab at the Door Edit screen, the HID Hardware page is displayed. This page allows you to connect and edit readers, inputs and outputs to the door.

Feature	Description
Name	The name of the door.

Feature	Description
Alt Name	The alternative name of the door.
Location	The location of the door.
Appliance	The appliance the door is connected to.
Vendor	The name of the door manufacturer.
Installed	Enables communication between the ACM appliance and installed device after saving.
Partitions	Displayed for a partitioned ACM appliance only. To restrict operator access to the item, select one or more partitions. To allow all operators access to the item, do not select a partition.
Panel	Specifies the panel the door is assigned to.
Subpanel	Specifies the subpanel that is connected to the door. This option is only displayed if there is a subpanel connected to the selected main panel.
Lock Number	The number ID for the set of inputs/outputs that are connected from the subpanel to the door. This option is only displayed if there are inputs or outputs connected to the selected subpanel.
	To edit one of the readers, inputs or outputs that are connected to the door, click beside the hardware item: • If you click beside the Reader or Alternate Reader, the Reader Edit page is displayed. • If you click beside the Door Position, REX #1 or Rex#2, the Input Edit page is displayed. • If you click beside Strike, the Output Edit page is displayed.
	Click this button to save your changes.
	Click this button to discard your changes.
Create New Report	Click this button to generate a PDF report on this door.
Add New Door	Click this button to add a new door to the system.
Transaction Report	Click this button to generate a PDF transaction report on this door.
Show Policy	Click this button to generate a PDF report on the current door policy.

Reader Edit page (VertX®)

When you click the icon beside the Reader or Alternate Reader field on the Door Hardware page, the Reader Edit page is displayed. This page allows you to define the options for this reader.

Feature	Description
Name	Enter the name of this reader.
Alt. name	Enter an alternative name for this reader.
Location	Enter a brief description of the location of this reader.
Keypad decode	From the drop down option list, select the keypad decode or enryption method you want to use for this reader. Choose from these options: • **Hughes ID 4-bit** • **Indala** • **MR20 8-bit no tamper**
Wiegand	Check this box to indicate that this reader supports the Wiegand standard.
NCI magstripe	Check this box to indicate that this reader supports the NCI magstripe standard.
Partitions	Displayed for a partitioned ACM appliance only. To restrict operator access to the item, select one or more partitions. To allow all operators access to the item, do not select a partition.
	Click this button to save your changes.
	Click this button to discard your changes.

Input Edit page (VertX®)

When you click the icon beside the Door Position or REX # field on the Door Hardware page, the Input Edit page is displayed. This page allows you to define the options for this input.

Feature	Description
Input	The name of the input point.
Installed	Enables communication between the ACM appliance and installed device after saving.
Address	The read-only address of this point.
Supervision	If resistors are used to monitor the input, select the level of resistance expected to indicate open or closed.
Debounce[1]	From the drop down list, select the number of units this input should be allowed to debounce. The units are listed in milliseconds (ms).
Cameras	Select the camera from the window that this input activates if it goes into alarm. Only the cameras that have been added to the system are listed.

[1]Due to mechanical properties of a switch, when a switch is closed, there is a period of time in which the electrical connection "bounces" between open and closed. To a microcontroller, this "bouncing" can be interpreted as multiple button pushes. To suppress the "bouncing", the controller software is designed to anticipate it. This is known as "debouncing a switch".

Feature	Description
Partitions	Displayed for a partitioned ACM appliance only. To restrict operator access to the item, select one or more partitions. To allow all operators access to the item, do not select a partition.
	Click this button to save your changes.
	Click this button to discard your changes.
Show Policy	Click this button to display the policies associated with this input module.

Output Edit page (VertX®)

When you click the icon beside the Strike field on the Door Hardware page, the Output Edit page is displayed. This page allows you to define the options for this output.

Note: VertX® output panels do not have an operating mode option because they are automatically energized when active. You can set the panels to be "not energized when active" if wired in reverse.

Feature	Description
Output	The name of this output point.
Installed	Enables communication between the ACM appliance and installed device after saving.
Address	The read-only address for this output point.
Partitions	Displayed for a partitioned ACM appliance only. To restrict operator access to the item, select one or more partitions. To allow all operators access to the item, do not select a partition.
	Click this button to save your changes.
	Click this button to discard your changes.
Show Policy	Click this button to display the policies associated with this output module.

Cameras tab (VertX®)

When you click the **Cameras** tab on the Door Edit screen, the HID Camera page is displayed. From this page, you can assign specific cameras to record video of the selected door.

Feature	Description
Name	The name of the door.
Alt Name	The alternative name of the door.
Location	The location of the door.
Appliance	The appliance the door is connected to.

Feature	Description
Vendor	The name of the door manufacturer.
Installed	Enables communication between the ACM appliance and installed device after saving.
Partitions	Displayed for a partitioned ACM appliance only. To restrict operator access to the item, select one or more partitions. To allow all operators access to the item, do not select a partition.
Panel	Specifies the panel the door is assigned to. After you make your selection, new options may be displayed to define how the door is connected to the panel.
Subpanel	Specifies the subpanel that is connected to the door. This option is only displayed if there is a subpanel connected to the selected main panel.
Lock Number	Enter the number ID for the set of inputs/outputs that are connected from the subpanel to the door. This option is only displayed if there are inputs or outputs connected to the selected subpanel.
Door Number	The number that has been assigned to the door module by the wireless lock configuration device.
Camera Type	Select the external system that is connected to the camera. The Available window is populated with those cameras that fit this definition. Click the **Camera** button beside this field to view live video from the camera. For more information on the video viewer window, see *Configuring and Viewing Live Video Stream* on page 264.
Available	This window displays a list of cameras that have been configured in the system. To connect a camera to the door, select the camera from the Available list, then click ► to move it to the Members list.
Members	The window displays a list of cameras that are currently connected to the door. To disconnect a camera from the door, select the camera from the Members list, then click ◄ to move it to the Available list.
Search	If you have more than 10 cameras, the Search feature may be displayed to help you find the cameras you need. In the **Search** field, enter the name of the camera you want to find, then click **Filter**. You can narrow your search by selecting the **Case-sensitive** option. Click **Clear** to restore the full list of available cameras.
	Click this button to save your changes.
	Click this button to discard your changes.
	Click this button to generate a PDF report on this door.

Feature	Description
Add Door	Click this button to add a new door.
Transaction Report	Click this button to generate a PDF transaction report on this door.
Show Policy	Click this link to view a PDF report indicating the current policy associated with this door.

Events tab

For Mercury Security, VertX and Avigilon doors

View door events on the **Events** tab in **Physical Access**.

This page lists all the local and global events that can be triggered by this door. The Local Events table is only listed when there are local events configured for the door.

Local Events

This table is only displayed if there are local events for the device.

Name	The name of this event. Click the name to edit the local event.
Event	The event type.
Source Type	The source of this event.
Has On/Off	If the event toggles on or off. Click **Yes** or **No**.
Masked	If the event is masked. Click to change status to (yes) or (no).
Logged	If the event is logged. Click to change status to (yes) or (no).
Show Video	If a video is available for the event. If 'yes' is selected, the live video window automatically pops up when the event is received. Click to change status to (yes) or (no).
	Click this button to delete the local event.

Global Events

This table displays all the global events that are related to this type of device.

Name	The name of this event.
Event	The event type.
Source Type	the source of this event.
Has On/Off	If the event toggles on or off. Click **Yes** or **No**.

Masked	If the event is masked. Click to change status to (yes) or (no).
Logged	If the event is logged. Click to change status to (yes) or (no).
Show Video	If a video is available for the event. If 'yes' is selected, the live video window automatically pops up when the event is received. Click to change status to (yes) or (no).
Create Local	Click this button to create a version of this global event that only applies to the specific device.

Doors - Creating Local Events for VertX® Doors

When you click the **Create Local** button from the Door Events page, the local version of the Event page is displayed. This page is a copy of the global event that can be customized as a local event for this specific door.

Note: Changes on this page do not affect the global event.

Make any changes as required.

Feature	Description
Name	The name of the event, which you can change if the name is not
Return Name	The name used to identify that this event is over, or the return-to-normal (RTN)) name of this event, such as the door closing and locking after access has been granted, or after the configured door open time has expired.
Event Type	Specify the event type. Only events types that have been defined in the system appear in the drop down list.
Source Type	The device that is the source of the event.
Priority	Specify the priority of this event. The priority range is 1 - 999. The Alarm Monitor displays alarms according to their priority. Priority 1 is the highest priority and is always displayed at the top.
Alarm Sound	Select an alarm sound that is played when a new alarm occurs while you are monitoring the Alarms page.
Suppress Time	Select a schedule when alarm events are not reported. Only schedules that have been defined in the system are listed.

Feature	Description
Instructions	Enter any instructions that may be required for handling this event. The instructions are made available to the user on the Monitor screen.
Return Event	Select the event type of the RTN event.
Return Priority	Specify the priority of the RTN event. The priority range is 1 - 999.
Has on/off	Indicates that this event has an RTN event associated with it. **Note:** Adding return event information manually on this screen does not change the setting of this checkbox. It is set only if the original event has an associated RTN event defined for it.
Masked	Check this box to indicate that this a masked event by default. This can be changed on the Event List page.
Logged	Check this box to log the event by default. This can be changed on the Event List page. Note that if Event Type logging is turned on, then all Events of that Event Type are logged, regardless of their individual logging configuration. If Event Type logging is turned off, then the logging configuration of the specific Events of that Event type are adhered to.
Show Video	Check this box to auto-launch video from the linked camera feed when the event occurs by default. This can be changed on the Event List page. This feature only works if video is enabled.
Two Person Required To Clear	Check this box to specify that two people are required to acknowledge and clear this event. If this box is checked then the operator that executes the Clear cannot be the same operator that executes the Acknowledge. If the same operator attempts to clear the alarm, then nothing will happen.
Email	Enter the email address of all the people who should be notified when this event occurs. You can enter more than one email address separated by a comma.
Roles:	
Available	A list of all the roles that are available to you in the system. To allow specific role to have access to view or edit this event, select a role from the Available list then click ▶ to add the role to the Member list. To move one or more roles to the Members window, click to select one role then **Ctrl** + click to select a non-consecutive group of roles, or **Shift** + click to select a consecutive roles.
Members	A list of all the roles that are able to view or edit this event. If this event is associated with at least one role, then any user who does not have the selected roles will not be able to view or edit the event.
✔	Click this button to save your changes.

Feature	Description
	Click this button to discard your changes.

Access tab (VertX®)

When you click the **Access** tab on the Door: Edit screen, the Access page is displayed. This page provides a list of the access groups, roles and identities that have permission to edit or use this door.

Feature	Description
Access Group	The name of this access group. Click this link to edit the access group.
Roles	Lists the roles this access group is a member of. Click the + or - symbol beside each role to show or hide the identities that are in the access group through the role.
Identities	Lists the users who are members of the access group.

Transactions tab (VertX®)

When you click the **Transactions** tab on the Door: Edit screen, the HID Transaction page is displayed.

This page allows you to review events and alarms that have occurred at this door. The table displays the following information about each event:

Feature	Description
Panel Date	The date and time when the event occurred.
Priority	The priority of the event. The highest priority is 1 and the lowest priority is 999.
Event	The name of the event.
Last Name	The last name of the person who generated the event.
First Name	The first name of the person who generated the event.
Card Number	The internal token number assigned to the person who generated the event.
Message	This displays any messages that may be associated with the event.

Door: Edit page (Mercury Security)

When you select a Mercury Security door, the configurable options are arranged in tabs on the Door: Edit page.

Parameters tab (Mercury Security)

When you click the **Parameters** tab on the Door Edit screen, the Parameters page is displayed. This page allows you to define the door connections, door mode, schedule and processing attributes.

Note: Fields in this list are dependent on the door or device. Some commands or fields are not

supported for all doors or devices.

Feature	Description
Name	The name of the door. See *Appendix: pivCLASS Configuration* on page 502.
Alt Name	The alternative name of the door.
Location	The location of the door.
Appliance	The appliance the door is connected to.
Vendor	The name of the door manufacturer.
Installed	Enables communication between the ACM appliance and installed device after saving.
Partitions	Displayed for a partitioned ACM appliance only. To restrict operator access to the item, select one or more partitions. To allow all operators access to the item, do not select a partition.
Panel	Specifies the panel the door is assigned to. After you make your selection, new options may be displayed to define how the door is connected to the panel.
Subpanel	Specifies the subpanel that is connected to the door. This option is only displayed if there is a subpanel connected to the selected main panel.
Lock Number or Door Number	A configured group of readers, inputs, and outputs that are connected from the subpanel to the door. For wired connections, the door number from the drop-down list. For wireless locks only: • The number programmed for the lock. For all locks except SimonsVoss, select the number from the drop-down list. • For SimonsVoss wireless locks, the hexadecimal address assigned by the SmartIntego Tool. For more information, see *Configuring SimonsVoss Wireless Locks* on page 190.

Feature	Description
Access Type	Select the Access Type from the drop down list. Any door that is created with this template will be set to this type. Use Single for a door with one reader on one side of the door only (single reader door). Use Paired Primary and Paired Replica for a door with two readers, one on each side of the door (paired reader door). Paired readers allow each side of a single physical door to act like a separate door. This is particularly useful for anti-passback and mustering. If you set the access type to either Paired Primary or Paired Replica, when you add a door using this template, the Door Add page displays with the additional field, Linked Door. Use this field to select the door with the reader on the other side. The linking between the doors has to be done separately from adding the door. The Access Type can also be configured in the Wiring Template. When configured in both the Wiring Template, and the associated Door Template, the setting in the Wiring Template takes precedence. It is recommended that you use the Wiring Template to efficiently create linked paired doors.
Door Mode	The entry mode for the door when the door controller is online and communicating with the panel. Select a Door Mode option from the drop down list.
Offline Mode	The entry mode used for the door if the door controller is no longer communicating with the panel. **Note:** In many cases readers in offline mode require a very simple solution for entry or exit because of the memory limitations. The recommended Offline Door Mode option is **Locked No Access**. Select the Offline Mode option from the drop down list.

Feature	Description
Lock Function	Select how the interior lock button will function. • **Privacy** — When you press the interior lock button, the door will lock and the exterior lock will not grant access to any token. To unlock, you must press the interior lock button again or exit the room. • **Apartment** — When you press the interior lock button, the door will lock but any valid token will open the door. The door must be manually locked or it will stay unlocked. • **Classroom** — Classroom/Storeroom. The lockset is normally secure. The inside lever always allows free egress. Valid toggle credentials (i.e. a valid card that is swiped twice within five seconds) on the exterior may be used to change to a passage or secured status. Not to be used on mortise deadbolt. Interior push button not to be used. • **Office** — The lockset is normally secure. The inside lever always allows free egress. An interior push-button on the inside housing may be used to select a passage or secured status. Meets the need for lockdown function for safety and security. Valid toggle credentials (i.e. a valid card that is swiped twice within five seconds) on the exterior may also be used to change status. Not to be used on mortise deadbolt. There is a Restore door action available on the Hardware Status page or Door Listing page which resets the door's configuration values to their default value. If the door is in any mode (Classroom, Office, Privacy, or Apartment) it will be 'restored' to the opposite status (e.g. if the door is in Privacy mode then it is locked - if the Restore option is selected then the door will return to its default mode, which is the mode set in the base configuration for the door).
Custom Mode	Select any additional door mode the door must support outside the Door Mode and Offline Mode options.
Custom Schedule	Define when the Custom Mode would be active. Select a schedule from the drop down list. Only schedules that have been defined in the system are listed.
Mask Forced Schedule	Define when Door Forced Open alarms from this door will be masked. Select a schedule from the drop down list. Only schedules that have been defined in the system are listed.
Mask Held Schedule	Define when Door Held Open alarms from this door will be masked. Select a schedule from the drop down list. Only schedules that have been defined in the system are listed.
Always Mask Forced	Check this box to specify that Door Forced Open alarms at this door are always masked. Normally, this box is unchecked.
Always Mask Held	Check this box to specify that Door Held Open alarms at this door are always masked. Normally, this box is unchecked.
Door Processing Attributes	

Feature	Description
Log Grants Right Away	When this box is checked, the system logs an extra event as soon as there is a grant (that is, before entry / no entry is determined). This event is not turned into a Access Control Manager event. Check this box in order to initiate local I/O in the panel using the panel triggers. Certain customers may have a trigger they want to fire (to execute a macro) as soon as there is a grant but before entry / no entry is determined.
Deny Duress	Check this box to deny access to a user that indicates duress at a door.
Don't Pulse Door Strike on REX	Check this box to disable the pulse of the door strike output when the request-to-exit button is pressed and can be used for a 'quiet' exit. If this box is not checked, the output is pulsed.
Require Two Card Control	Check this box to specify that two tokens are required to open this door. This enforces two-person rule at a specified door.
Door Forced Filter	Check this box to enable the filter feature for door forced alarms. There are instances when a door is either slow to close or is slammed shut and bounces open for a few seconds. With this filter, the monitor allows three seconds for a door to close before issuing an alarm.
Log All Access as Used	Check this box to log all access grant transactions as if the person used the door. If this box is not checked, the door determines if it was opened and will distinguish if the door was used or not used for grant.
Detailed Events	Check this box to display the current position of the door position switch (DPOS) in the Door State column of the door listing screen. When enabled the column will display “Open” when the DPOS is in an open state and “Closed” when the DPOS is in a closed state. **Note:** To properly report the Door State from the Door Position Switch, Detailed Events must be enabled. Typically, five to ten detailed transactions will be generated for each grant transactions. During the normal course of operation, most guards don't need to see extensive reports on events; however, after hours, it is often useful to see every detail.
Enable Cipher Mode	Check this box to enable cipher mode. Cipher mode allows the operator to enter card number digits at the door’s keypad.
Use Shunt Relay	Check this box to enable the use of a shunt relay for this door.
Do Not Log Rex Transactions	Check this box to indicate that return-to-exit transactions do not get logged to the database.
	Click this button to save your changes.
	Click this button to discard your changes.

Feature	Description
Create New Report	Click this button to generate a PDF report on this door.
Add New Door	Click this button to add a new door.
Transaction Report	Click this button to generate a PDF transaction report on this door.
Show Policy	Click this button to generate a PDF report on the current door policy.
	Click this button to delete this door. Click **OK** in the dialog box that displays to confirm the deletion. The door will be deleted and you will be returned to the Doors list.

Operations tab (Mercury Security)

On the **Operations** tab on the Door Edit screen, edit how the door operates, including the door mode, anti-passback and strike modes.

> **Note:** Fields in this list are dependent on the door or device. Some commands or fields are not supported for all doors or devices.

Name	The name of the door.
Alt Name	The alternative name of the door.
Location	The location of the door.
Appliance	The appliance the door is connected to.
Vendor	The name of the door manufacturer.
Installed	Enables communication between the ACM appliance and installed device after saving.
Partitions	Displayed for a partitioned ACM appliance only. To restrict operator access to the item, select one or more partitions. To allow all operators access to the item, do not select a partition.
Panel	Specifies the panel the door is assigned to. After you make your selection, new options may be displayed to define how the door is connected to the panel.
Subpanel	Specifies the subpanel that is connected to the door. This option is only displayed if there is a subpanel connected to the selected main panel.
Lock Number	The number ID for the set of inputs/outputs that are connected from the subpanel to the door. This option is only displayed if there are inputs or outputs connected to the selected subpanel.
Door Number	The number that has been assigned to the door module by the wireless lock configuration device.
APB Mode	Select the Anti-Passback (APB) mode for the door. For more information on Anti-Passback modes, see *Anti-Passback Modes* on page 213.

APB Delay	Enter the number of seconds before another APB entry with this badge is allowed. Leave blank for no delay, enter 0 to never allow an entry with this badge until it has been used at another door.
Into Area	Select the area that the user enters by passing through the door. Only the areas that have been previously configured in the system appear in this list.
Out of area	Select the area that the user exits by passing through the door. Only the areas that have been previously configured in the system appear in this list.
PIN Timeout	Enter the number of seconds that a user is allowed to enter multiple PIN attempts before generating "Deny Count Exceeded" event. **Note:** If the PIN Timeout is set to 10 (seconds) and then the PIN Attempts is set to two, this tells the system, if there are two bad PIN attempts within 10 seconds then generate a "Deny Count Exceeded" event.
PIN Attempts	Enter the number of times a user can attempt to enter a PIN within the allotted PIN Timeout time frame before an "Deny Count Exceeded" event is generated.
Strike Mode	Select the strike mode. • **Cut short when open** — the strike is deactivated when the door opens. • **Full strike time** — the strike is deactivated when the strike timer expires. • **Turn off on close** — the strike is deactivated when the door closes.
LED Mode	Select the LED mode to specify how the reader LEDs are displayed. For more information on LED modes, see *LED Modes for Mercury Security* on page 317.
Held Pre-Alarm	Enter the number of seconds a door can be held open before a pre-alarm is issued. Instead of generating an alarm, it sends a warning signal to the Access Control Manager host.
Access time when open	The number of seconds the door remains unlocked after a card has been swiped.
Standard Access time	Enter the number of seconds the door remains unlocked after access has been granted. If the door is not opened within this time, it will automatically lock.
Held Open Time	Enter the number of seconds the door can be held open before a Door Held Open event is generated.
Extended Access	Enter the number of seconds the door remains unlocked after access has been granted to token holders with extended access permissions. This feature is useful for users that may require more time to enter a door.
Extended Held Open Time	Enter the number of seconds the door can be held open for users with extended access permissions. This feature is useful for users that may require more time to enter a door.

Card Formats	Identify the card formats that the door accepts by moving them into the Members column if they are not already listed.
	All of the doors on a panel (and its subpanels) can collectively use at most 16 distinct card formats, from the up to 128 card formats defined for the entire system.
	When the door is created, the initial selection of card formats depends on:
	• If there are 16 or less card formats defined in the system, all card formats are in the Members column.
	• If there are 17 or more card formats in the system, and:
	  • No card formats are selected for the panel assigned to the door, then the Members column is empty. You must select the card formats accepted at the door.
	  • Some door formats are selected for the panel assigned to the door, then those formats are listed in the Members column. You can add more up to a total of 16.
	• If the door is created using a door template, and the template specifies:
	  • No Change: The Members column is populated as described above.
	  • Blank: Any selection from the panel is ignored and the Members column is empty. You must select the card formats accepted at the door.
	  • Assign: The contents of the Members column from the panel are replaced by the contents of the Members column from the door template.
	  • Add: Card formats not in the Members column from the panel that are in the Members column of the door template are added, up to a maximum of 16. If there are more than 16, you will have to manually adjust the list.
	  • Remove: Any card formats in the Members column from the panel that are in Members column of the door template are removed.

Simple Macros	
Type	Select a default macro that is triggered when the following conditions are met for this door. Currently available macros include: • Forced • Held • Pre-Alarm
Schedule	Define when this macro can be triggered. Select a schedule from the drop down list. Only schedules that have been defined in the system are listed.
Op Type	Select an operation type used by this macro.
Output	Select an output that is activated by the 'Type' condition.
Commands	Click **Save Macro** to save the settings for this canned macro. If this is a new macro, a new row is automatically added below. Click **Remove Macro** to delete a macro. This button only appears if the macro has been saved in the system. For more information, see *Adding Simple Macros* on page 209.

The following options are always active:

	Click this button to save your changes.
	Click this button to discard your changes.
Create New Report	Click this button to generate a PDF report on this door.
Add Door	Click this button to add a new door.
Transaction Report	Click this button to generate a PDF transaction report on this door.
Show Policy	Click this button to generate a PDF report on the current door policy.

Hardware tab (Mercury Security)

When you click the **Hardware** tab at the Door Edit screen, the Mercury Hardware page is displayed. This page allows you to connect and edit readers, inputs and outputs to the door.

> **Note:** Fields in this list are dependent on the door or device. Some commands or fields are not supported for all doors or devices.

Feature	Description
Name	The name of the door.
Alt Name	The alternative name of the door.
Location	The location of the door.
Appliance	The appliance the door is connected to.
Vendor	The name of the door manufacturer.
Installed	Enables communication between the ACM appliance and installed device after saving.
Partitions	Displayed for a partitioned ACM appliance only. To restrict operator access to the item, select one or more partitions. To allow all operators access to the item, do not select a partition.
Panel	Specifies the panel the door is assigned to. After you make your selection, new options may be displayed to define how the door is connected to the panel.
Subpanel	Specifies the subpanel that is connected to the door. This option is only displayed if there is a subpanel connected to the selected main panel.
Lock Number or Door Number	The number programmed for the lock. For all locks except SimonsVoss, this is a decimal number. For SimonsVoss wireless locks, this is a hexadecimal number.
Unassign All	Click this button to reset all of the values below and start over.

Feature	Description
	To edit one of the readers, inputs or outputs that are connected to the door, click beside the hardware item: • If you click beside the Reader or Alternate Reader, the Reader Edit page is displayed. • If you click beside the Door Position, REX #1 or Rex#2, the Input Edit page is displayed. • If you click beside Strike, the Output Edit page is displayed.
Elevators **The following options are only listed if the door is an elevator.**	
Offline Access	This identifies the floor that this door reader defaults to if communication between the panel/subpanel and the door's reader goes offline. The door will automatically provide access to one or more designated floors or doors, with or without card/code entry, if this condition occurs. Select the elevator access level from the drop down list. Only the elevator levels that have been defined in the system are listed.
Facility Access	This identifies the elevator access level that this elevator defaults to if facility code mode is in effect. Select the elevator access level you require from the drop down list. Only the elevator levels that have been defined in the system are listed.
Custom Access	This identifies the elevator access level that this elevator defaults to when custom code mode is in effect. Select the elevator access level you require from the drop down list. Only the elevator levels that have been defined in the system are listed.
Elevator Outputs	Select the output this elevator uses.
Elevator Inputs	Select the input this elevator uses.
	Click this button to save your changes.
	Click this button to discard your changes.
Create New Report	Click this button to generate a PDF report on this door.
Add New Door	Click this button to add a new door.
Transaction Report	Click this button to generate a PDF transaction report on this door.
Show Policy	Click this button to generate a PDF report on the current door policy.

Reader Edit page (Mercury Security)

When you click the icon beside the Reader or Alternate Reader field on the Door Hardware page, the Reader Edit page is displayed. This page allows you to define the options for this reader.

Feature	Description
Name	Enter the name of this reader.
Alt.name	Enter an alternative name for this reader.
Location	Enter a brief description of the location of this reader.
Reader Type	Select the communication protocol used by the reader. The options include: • **OSDP** OSDP is recommended for readers, controllers and subpanels communications. OSDP offers support for bi-directional communication, Secure Channel Protocol (SCP) to encrypt the traffic, and provides additional status values for readers, improved LED controls, and simpler wiring. • **F/2F**. • **D1/D0 (Wiegand)** • **CLK+Data (Mag)** (NCI magnetic stripe standard) • **Custom** (Default) **Note: Custom** enables all options for all reader types. Readers configured with versions of the ACM software earlier than Release 5.10.4 are assigned this reader type when the software is upgraded to ensure that the previous settings are retained.
The following options depend on the selected Reader Type and include:	
LED drive	Select the LED drive mode for this reader. The options depend on the reader model and how it is wired and include: • **None** • **Gen 1 wire** • **Reserved** • **Sep Red/Grn no buzz** • **Dorado 780** • **LCD** • **OSDP**
Format by nibble	Check this box to indicate that this reader supports the format by nibble.
Bidirectional	Check this box to indicate that this reader can reader bidirectionally.
F/2F Decoding	Check this box to indicate that this reader uses F or F2 decoding.

Feature	Description
Inputs on reader	Check this box to indicate that this reader provides one or more input ports for serial input arrays.
Keypad decode	Select the keypad decode/encryption method that is used by this reader. The options include: • **MR20 8-bit tamper** • **Hughes ID 4-bit** • **Indala** • **MR20 8-bit no tamper**
Wiegand	Check this box to indicate that this reader supports the Wiegand standard.
Trim Zero Bit	Check this box to indicate that this reader supports the trim zero bit standard.
Secure Channel Protocol	Check this box to enable secure OSDP communication between the reader and the controller. The reader must support SCP and must be in installation mode. The reader will remain offline if a secure connection cannot be established. **CAUTION —** Do not enable SCP on readers that support OSDPv1, such as the ViRDI biometric reader, as this will make the reader inoperable. Secure channel is only supported in by OSDPv2. **Tip:** If a reader with secured OSDP communication has to be replaced, it must be replaced with a reader that supports OSDPv2. Communication between the replacement reader and the controller must be secured, and the communication between the controller and the other OSDPv2 readers must be resecured.
Baud Rate	Set the OSDP baud rate. This must be the same for all readers on a single port. Valid values are **9600** (default), **19200**, **38000** or **115200**. If blank is selected, the system will use default settings. **Note:** Mercury controllers may auto-detect the OSDP baud rate. For more information, refer to Mercury documentation. See *Appendix: pivCLASS Configuration* on page 502.
OSDP Address	Set the OSDP address. This must be different for each reader on a single port. Valid values are **0** (reader 1 default), **1** (reader 2 default), **2**, and **3**. If blank is selected, the system will use default settings. **Note:** Mercury controllers will first try the setting provided and if that does not work, the controller will use default settings.
NCI magstripe	Check this box to indicate that this reader supports the NCI standard for magnetic stripes.

Feature	Description
Supervised	Check this box to indicate that this reader is supervised (outfitted with detection devices)
Partitions	Displayed for a partitioned ACM appliance only. To restrict operator access to the item, select one or more partitions. To allow all operators access to the item, do not select a partition.
	Click this button to save your changes.
	Click this button to discard your changes.

Input Edit page (Mercury Security)

When you click the icon beside the Door Position or REX # field on the Door Hardware page, the Input Edit page for the subpanel of the door is displayed. This page allows you to define the options for this input.

Feature	Description
Input	The name of the input point.
Installed	Enables communication between the ACM appliance and installed device after saving.
Address	The read-only address of this point.
EOL resistance	Select the End of Line resistance of this input. Only the EOL resistance that have been defined in the system are listed.
Debounce[1]	From the drop down list, select the number of units this input should be allowed to debounce. Each unit is approximately 16 ms.
Hold time	Set the amount of time that the alarm will stay in alarm after returning to normal. For example, if the input point goes into alarm, then restores, it will hold it in that alarm state for 1 to 15 seconds after it returns to normal before reporting the normal state.
Cameras	Select the camera from the window that this input activates if it goes into alarm. Only those cameras previously defined for this system appear in this window.
Partitions	Displayed for a partitioned ACM appliance only. To restrict operator access to the item, select one or more partitions. To allow all operators access to the item, do not select a partition.
	Click this button to save your changes.
	Click this button to discard your changes.
Show Policy	Click this button to display the policies associated with this input module.

[1]Due to mechanical properties of a switch, when a switch is closed, there is a period of time in which the electrical connection "bounces" between open and closed. To a microcontroller, this "bouncing" can be interpreted as multiple button pushes. To suppress the "bouncing", the controller software is designed to anticipate it. This is known as "debouncing a switch".

Output Edit page (Mercury Security)

When you click the icon beside the Strike field on the Door Hardware page, the Output Edit page for the subpanel of the door is displayed. This page allows you to define the options for this output.

Feature	Description
Output	Enter a name for this output.
Installed	Enables communication between the ACM appliance and installed device after saving.
Address	The read-only address for this output point.
Operating Mode	Select how the panel knows when the output point is active. • **Energized When Active** – a current is expected to pass through the output point when it is *active*. • **Not Energized When Active** – a current expected to pass through the output point when it is *inactive*.
Partitions	Displayed for a partitioned ACM appliance only. To restrict operator access to the item, select one or more partitions. To allow all operators access to the item, do not select a partition.
	Click this button to save your changes.
	Click this button to discard your changes.
Show Policy	Click this button to display the policies associated with this output point.

Elev tab (Mercury Security)

When you click the **Elev** tab at the Door Edit screen, the Mercury Security Elev table displayed. This page allows you to view elevator door details.

Feature	Description
Name	Name of the elevator door. If you click on the name it links back to the Parameters tab for the door.
Inputs	List of inputs for the related elevator input module.
Outputs	List of outputs for the related elevator output module.

Cameras tab (Mercury Security)

When you click the **Cameras** tab on the Door: Edit screen, the Camera page is displayed. From this page, you can assign specific cameras to record video of the selected door.

> **Note:** Fields in this list are dependent on the door or device. Some commands or fields are not supported for all doors or devices.

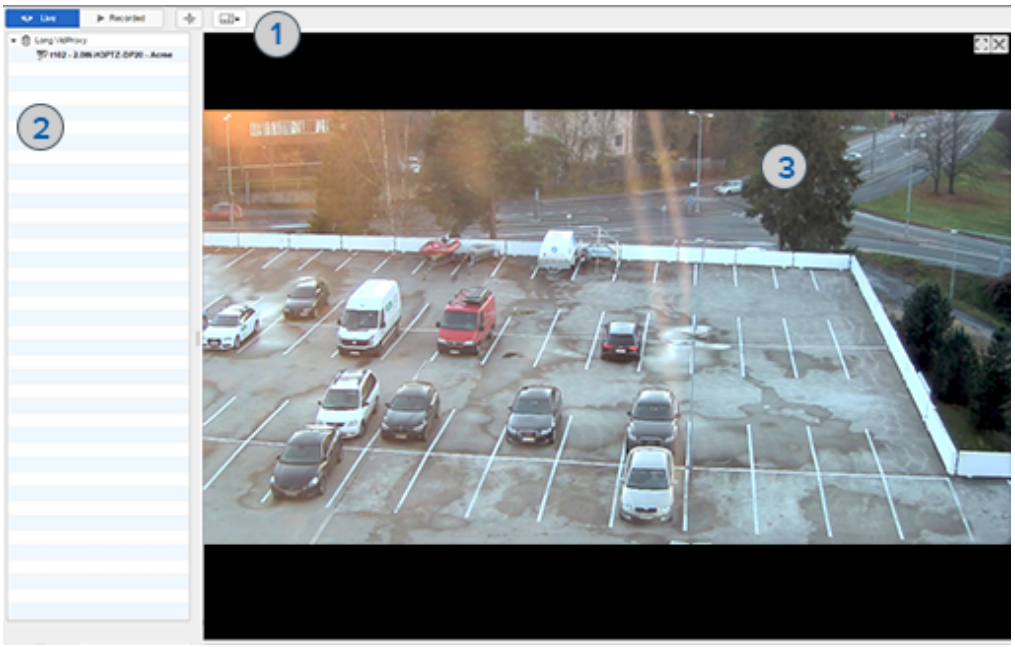
Feature	Description
Name	The name of the door.
Alt Name	The alternative name of the door.
Location	The location of the door.
Appliance	The appliance the door is connected to.
Vendor	The name of the door manufacturer.
Installed	Enables communication between the ACM appliance and installed device after saving.
Partitions	Displayed for a partitioned ACM appliance only. To restrict operator access to the item, select one or more partitions. To allow all operators access to the item, do not select a partition.
Panel	Specifies the panel the door is assigned to. After you make your selection, new options may be displayed to define how the door is connected to the panel.
Subpanel	Specifies the subpanel that is connected to the door. This option is only displayed if there is a subpanel connected to the selected main panel.
Lock Number	Enter the number ID for the set of inputs/outputs that are connected from the subpanel to the door. This option is only displayed if there are inputs or outputs connected to the selected subpanel.
Door Number	The number that has been assigned to the door module by the wireless lock configuration device.
Camera Type	Select the external system that is connected to the camera. The Available window is populated with those cameras that fit this definition. Click the **Camera** button beside this field to view live video from the camera. For more information on the video viewer window, see *Configuring and Viewing Live Video Stream* on the next page.
Available	This window displays a list of cameras that have been configured in the system. To connect a camera to the door, select the camera from the Available list, then click to move it to the Members list.
Members	The window displays a list of cameras that are currently connected to the door. To disconnect a camera from the door, select the camera from the Members list, then click to move it to the Available list.
Search	If you have more than 10 cameras, the Search feature may be displayed to help you find the cameras you need. In the **Search** field, enter the name of the camera you want to find, then click **Filter**. You can narrow your search by selecting the **Case-sensitive** option. Click **Clear** to restore the full list of available cameras.

Feature	Description
	Click this button to save your changes.
	Click this button to discard your changes.
	Click this button to generate a PDF report on this door.
Add Door	Click this button to add a new door.
Transaction Report	Click this button to generate a PDF transaction report on this door.
Show Policy	Click this link to view a PDF report indicating the current policy associated with this door.

Configuring and Viewing Live Video Stream

Overview

You can view the LIve Video window in ACM, if configured.



Typically, the Live Video window includes:

1	**Camera Controls Tool Bar**	Displays controls for viewing the related camera video, including switching from live to recorded video, pan-tilt-zoom (PTZ) controls for PTZ cameras and changing the video display layout.
2	**Camera List**	Displays all the cameras that are linked to the event. Click the name of a camera to display the video. Use one of the multi-video layouts to display more than one camera at a time.
3	**Image Panel**	Displays the video stream from the connected cameras. In the top-right corner, you can minimize and maximize the display or close the video.

Note: The window may look different and have different controls depending on the external camera system that is connected to the ACM system.

Configuring Live Video Stream

To configure live video stream from connected cameras:

1. Selects **Physical Access** > **Doors**.
2. Select the name of the door.
3. On the **Cameras** tab, select:

Camera Type	The external system that is connected to the camera: **Network**, **Exacq**, **Avigilon** or **Milestone**. Move the cameras to the **Members** column.

4. Click to save your changes.

   Click to discard your changes.
5. Click the **Camera** button to view live video from the camera.

Interlocks tab (Mercury Security Doors)

When you click the **Interlocks** tab on the Door: Edit screen, the Interlocks list is displayed. This page lists all the Interlocks that have been added to the system.

Feature	Description
Name	The name of the interlock. Click the name to edit the interlock.
Enabled	This field indicates if the interlock is enabled. Select either Yes or No.
Schedule	This field indicates what schedule is used to define when the interlock is active.
Delete	Click to delete this interlock from the list.
Add Interlock	Click this button to add a new interlock to the system.

Interlocks Add page

When you click **Add Interlock** from the Interlocks list, the Interlocks Add page is displayed. Depending on what settings you choose, some of the listed options may not be displayed.

Feature	Description
Name	Identifies the interlock. Enter a unique name for the interlock.
Enabled	Check this box to specify that the interlock is enabled and active.

Feature	Description
Schedule	Select a schedule from the drop down list. Only schedules that have been defined in the system are listed.
Source Type	Identifies the source type of the interlock. Select the source type from the drop down list.
Source	Identifies the source of the interlock. Select the source from the drop down list. Options in this drop down list will vary depending on the source type specified.
Event Type	Identifies the event type the interlock is associated with. Select the Event Type from the drop down list. The options change to match the selected source option. Only those Event Types currently defined by the system appear in this list.
Event	Select the event that will trigger the interlock. Events appearing in this list vary depending on the event and source specified. For more on this, refer to Event Types - Introduction.
Interlocks with:	
Type	Select the type of component that triggers this interlock.
Subpanel	If applicable, select from the drop down list the subpanel where this interlock is triggered.
Target	From the drop down list, select the target that is triggered by this interlock.
Command to run:	
Command	This identifies the command script to be run. Select an existing command from the drop down list. Only those commands previously defined by the system appear in this list.
Function	If applicable, select from the drop down list the function to be run.
Arg Text	If the command requires an argument, enter the required argument in this text box. This option is not displayed if an argument is not required.
	Click this button to save your changes.
	Click this button to discard your changes.

Interlock Edit page

When you click the name of an interlock from the Interlocks list, the Interlock Edit page for the door is displayed.

Feature	Description
Name	Identifies the interlock. Enter a unique name for the interlock.

Feature	Description
Enabled	Check this box to specify that the interlock is enabled and active.
Schedule	Select a schedule from the drop down list. Only schedules that have been defined in the system are listed.
Source Type	Identifies the source type of the interlock. Select the source type from the drop down list.
Source	Identifies the source of the interlock. Select the source from the drop down list. Options in this drop down list will vary depending on the source type specified.
Event Type	Identifies the event type the interlock is associated with. Select the Event Type from the drop down list. The options change to match the selected source option. Only those Event Types currently defined by the system appear in this list.
Event	Select the event that will trigger the interlock. Events appearing in this list vary depending on the event and source specified. For more on this, refer to Event Types - Introduction.
Interlocks with:	
Type	Select the type of component that triggers this interlock.
Subpanel	If applicable, select from the drop down list the subpanel where this interlock is triggered.
Target	From the drop down list, select the target that is triggered by this interlock.
Command to run:	
Command	This identifies the command script to be run. Select an existing command from the drop down list. Only those commands previously defined by the system appear in this list.
Function	If applicable, select from the drop down list the function to be run.
Arg Text	If the command requires an argument, enter the required argument in this text box. This option is not displayed if an argument is not required.
	Click this button to save your changes.
	Click this button to discard your changes.

Events tab

For Mercury Security, VertX and Avigilon doors

View door events on the **Events** tab in **Physical Access**.

This page lists all the local and global events that can be triggered by this door. The Local Events table is only listed when there are local events configured for the door.

Local Events

This table is only displayed if there are local events for the device.

Name	The name of this event. Click the name to edit the local event.
Event	The event type.
Source Type	The source of this event.
Has On/Off	If the event toggles on or off. Click **Yes** or **No**.
Masked	If the event is masked. Click to change status to (yes) or (no).
Logged	If the event is logged. Click to change status to (yes) or (no).
Show Video	If a video is available for the event. If 'yes' is selected, the live video window automatically pops up when the event is received. Click to change status to (yes) or (no).
	Click this button to delete the local event.

Global Events

This table displays all the global events that are related to this type of device.

Name	The name of this event.
Event	The event type.
Source Type	the source of this event.
Has On/Off	If the event toggles on or off. Click **Yes** or **No**.
Masked	If the event is masked. Click to change status to (yes) or (no).
Logged	If the event is logged. Click to change status to (yes) or (no).
Show Video	If a video is available for the event. If 'yes' is selected, the live video window automatically pops up when the event is received. Click to change status to (yes) or (no).
Create Local	Click this button to create a version of this global event that only applies to the specific device.

Doors - Creating Local Events for Mercury Security Doors

When you click the **Create Local** button from the Door Events page, the local version of the Event page is displayed. This page is a copy of the global event that can be customized as a local event for this specific door.

> **Note:** Changes on this page do not affect the global event.

Make any changes as required.

Feature	Description
Name	The name of the event, which you can change if the name is not
Return Name	The name used to identify that this event is over, or the return-to-normal (RTN)) name of this event, such as the door closing and locking after access has been granted, or after the configured door open time has expired.
Event Type	Specify the event type. Only events types that have been defined in the system appear in the drop down list.
Source Type	The device that is the source of the event.
Priority	Specify the priority of this event. The priority range is 1 - 999. The Alarm Monitor displays alarms according to their priority. Priority 1 is the highest priority and is always displayed at the top.
Alarm Sound	Select an alarm sound that is played when a new alarm occurs while you are monitoring the Alarms page.
Suppress Time	Select a schedule when alarm events are not reported. Only schedules that have been defined in the system are listed.
Instructions	Enter any instructions that may be required for handling this event. The instructions are made available to the user on the Monitor screen.
Return Event	Select the event type of the RTN event.
Return Priority	Specify the priority of the RTN event. The priority range is 1 - 999.
Has on/off	Indicates that this event has an RTN event associated with it. **Note:** Adding return event information manually on this screen does not change the setting of this checkbox. It is set only if the original event has an associated RTN event defined for it.

Feature	Description
Masked	Check this box to indicate that this a masked event by default. This can be changed on the Event List page.
Logged	Check this box to log the event by default. This can be changed on the Event List page. Note that if Event Type logging is turned on, then all Events of that Event Type are logged, regardless of their individual logging configuration. If Event Type logging is turned off, then the logging configuration of the specific Events of that Event type are adhered to.
Show Video	Check this box to auto-launch video from the linked camera feed when the event occurs by default. This can be changed on the Event List page. This feature only works if video is enabled.
Two Person Required To Clear	Check this box to specify that two people are required to acknowledge and clear this event. If this box is checked then the operator that executes the Clear cannot be the same operator that executes the Acknowledge. If the same operator attempts to clear the alarm, then nothing will happen.
Email	Enter the email address of all the people who should be notified when this event occurs. You can enter more than one email address separated by a comma.
Roles:	
Available	A list of all the roles that are available to you in the system. To allow specific role to have access to view or edit this event, select a role from the Available list then click to add the role to the Member list. To move one or more roles to the Members window, click to select one role then **Ctrl** + click to select a non-consecutive group of roles, or **Shift** + click to select a consecutive roles.
Members	A list of all the roles that are able to view or edit this event. If this event is associated with at least one role, then any user who does not have the selected roles will not be able to view or edit the event.
	Click this button to save your changes.
	Click this button to discard your changes.

Access tab (Mercury Security)

When you click the **Access** tab on the Edit screen, the Access page is displayed. This page provides a list of the access groups, roles and identities that have permission to edit or use this door.

Feature	Description
Access Group	The name of this access group. Click this link to edit the access group.
Roles	Lists the roles this access group is a member of. Click the **+** or **-** symbol beside each role to show or hide the identities that are in the access group through the role.
Identities	Lists the users who are members of the access group.

Transactions tab (Mercury Security)

When you click the **Transactions** tab on the Door: Edit screen, the list of transactions for the door is displayed.

This page allows you to review events and alarms that have occurred at this door. The table displays the following information about each event:

Feature	Description
Panel Date	The date and time when the event occurred.
Priority	The priority of the event. The highest priority is 1 and the lowest priority is 999.
Event	The name of the event.
Last Name	The last name of the person who generated the event.
First Name	The first name of the person who generated the event.
Card Number	The internal token number assigned to the person who generated the event.
Message	This displays any messages that may be associated with the event.

Doors - Access page

The door access page is found on every version of the door. The access page for each manufacturer is:

- **Doors - Mercury Security Door Access**
- **Doors - HID VertX® Access**

Viewing Door Events, Access Groups and Transactions

To view access information, events and alarms generated for doors:

1. Select **Physical Access** > **Doors**.

   For more information about door state and door mode, see *Adding Doors* on page 223.

   For event descriptions, see *Troubleshooting* on page 493.
2. Select the name of the door.
3. Click the **Events** tab to view all the global events that are related to the device:

Name	The name of the event.
Event	The type of event.
Source Type	The source of this event.
Has On/Off	If the event toggles on or off. Click **Yes** or **No**.
Masked	If the event is masked. Click to change status to (yes) or (no).
Logged	If the event is logged. Click to change status to (yes) or (no).

Show Video	If a video is available for the event. If 'yes' is selected, the live video window automatically pops up when the event is received. Click to change status to (yes) or (no).

> **Tip:** You can also view events using **Monitor** > **Events**. For more information, see *Monitoring Events* on page 34.

4. Click the **Access** tab to view the access groups, roles and identities that have permission to edit or use the door (not applicable to RU and RM exit devices):

Access Groups	The name of the access group. Click the link to edit the access group.
Roles	The roles that the access group is a member of. Click the + or - icon next to each role to show or hide the identities in the access group through the role.
Identities	The users who are members of the access group.
Panel Date	The date and time when the event occurred.
Priority	The priority of the event. The highest priority is 1 and the lowest priority is 999.
Event	The name of the event.
Last Name	The last name of the person who generated the event.
First Name	The first name of the person who generated the event.
Card Number	The internal token number assigned to the person who generated the event.
Message	Any messages that are associated with the event.

For more information, see *Managing Door Access* on page 112.

5. Click the **Transactions** tab to view the events and alarms that have occurred at the door:

Access Groups	The name of the access group. Click the link to edit the access group.
Roles	The roles that the access group is a member of. Click the + or - icon next to each role to show or hide the identities in the access group through the role.
Identities	The users who are members of the access group.
Panel Date	The date and time when the event occurred.
Priority	The priority of the event. The highest priority is 1 and the lowest priority is 999.
Event	The name of the event.
Last Name	The last name of the person who generated the event.
First Name	The first name of the person who generated the event.
Card Number	The internal token number assigned to the person who generated the event.
Message	Any messages that are associated with the event.

For more information, see *Configuring Roles* on page 88.

Configuring ACM Verify™ Virtual Doors

The ACM Verify function allows authorized ACM system users to connect any web browser-enabled mobile device to the ACM system and use the device as a virtual station for a door configured as an ACM Verify Station. A virtual station controls access to places that do not have access-controlled doors or locks. Examples are outdoor mustering stations for fire drills, a bus for school trips or a work area in an open-plan office. People entering a place controlled by a virtual station must verify they are authorized to access the area by entering their PIN code on the device. Typically, wireless web browser-enabled devices, such as mobile phones and tablets, are used as virtual stations although any device with a web-browser can be used.

ACM system users assigned the ACM Verify Administrator role can add and configure doors as ACM Verify stations, and administer the virtual stations and paired devices in the ACM system. They can also administer other doors.

ACM system users assigned the ACM Verify User role can access the ACM Verify functionality on their mobile devices that let the devices act as virtual stations, and can pair their mobile device to the ACM system.

Adding an ACM Verify Door

To set up a door as an ACM Verify Station

1. Add a new door from the Doors listing panel, and complete the Name, Alt Name, Location and Appliance fields.
2. In the Vendor field, select Avigilon. The Station Type field is automatically set as ACM Verify.
3. Configure the station as either Managed or UnManaged,
    - A managed station prompts the operator of the virtual station to verify that the person who enters a PIN code is using a valid PIN code and it also displays a picture and other information for additional verification.
    - An unmanaged station only verifies whether the PIN code the person entered is a valid PIN code that has access to the virtual station.
4. Set the timezone for the events reported by the virtual station if it needs to be different than the timezone used by the appliance.
5. Specify an area if you want the virtual station to act as an entrance to the area.

    If the virtual station is configured with an area, a valid PIN code entry at the station moves the identity associated with the PIN code into the area. If it also configured as a managed virtual station, the user can then view a list of the identities with photos that are in the area.
6. Configure Station Authorization as Paired or Login
    - A paired station is secured by pairing a specific device to the server so that only an ACM software user in possession of the paired device and one of the required roles, or their equivalent delegation set can access the ACM Verify station.
    - A login station is secured only by ACM login credentials and so that any ACM system user with the required roles, or their equivalent delegation set, can access the ACM Verify station from any device.

7. If Station Authorization is set to Paired, two lists are displayed. The Available list displays devices paired to the ACM appliance but not assigned to this door. The Members list displays the paired devices assigned to this door. Use the ◄ and ► keys to move devices between the two lists.
8. To pair a new device to the ACM appliance, click Add Paired Device. For more information, see *Paired Devices* on the next page.
9. Click ✓ to save the door. The page refreshes and displays the information you entered on Parameters tab for the door.

Parameters tab (Avigilon)

After you save a new door as an ACM Verify Station for the first time, the screen refreshes and displays the initial Parameters tab for the door.

When you click the **Parameters** tab on the Door Edit screen, the Parameters page is displayed. This page allows you to define the door connections, door mode, schedule and processing attributes.

Feature	Description
Name	The name of the door.
Alt Name	The alternative name of the door.
Location	The location of the door.
Appliance	The appliance the door is connected to.
Vendor	The name of the door manufacturer. Select Avigilon for an ACM Verify Station.
Installed	Enables communication between the ACM appliance and installed device after saving.
Station Type	Displays ACM Verify as the type of station used on the connected devices. A device that uses this type of station is called a virtual station.
Managed or UnManaged	Select if you want the ACM Verify Station managed or not. • A managed station requires the virtual station user to grant or deny access to the person entering a valid PIN code. It also displays the name and picture of the user for verification. • An unmanaged station automatically grants or denies access and does not provide any additional information when a PIN code is entered.
Geographic Timezone	Select the time zone where the ACM Verify device is used if it is different from the ACM appliance value.
Into Area	Select the area where the ACM Verify device is used to monitor access. Select the Don't Care option if the ACM Verify reader is not used to control access to a specific area. You must specify an area if you want the virtual station to list all the people who have entered the area.

Feature	Description
Station Authentication	Select Login if the user logs in to the ACM software using the ACM URL from the browser on the ACM Verify device. Select Paired if the ACM Verify device is paired to ACM software. **Tip:** If the authentication type is Paired, the Door Add page re-displays with the Add Paired Device button.
Available	Lists the available ACM Verify devices that have been paired to the ACM system.
Members	Lists the paired ACM Verify devices that are assigned to this station.
	Click to move a paired device from the Available list to the Members list.
	Click to move a paired device from the Members list to the Available list.
Add Paired Device	Click to add a new paired device. See **Add Paired Device** for more information.
	Click this button to save your changes.
	Click this button to discard your changes.

Paired Devices

Pairing devices to the ACM appliance ensures that access to ACM Verify Stations is restricted to authorized devices.

Pairing must be completed by both the ACM administrator and the user of the connected device. The device user must be an authorized ACM user with the ACM Verify User role or equivalent at a minimum. The pairing persists as long as the cookie used for the pairing exists. See *Precautions for Paired ACM Verify Stations* on the next page

CAUTION — In a failover deployment of the ACM system, pair the device to both the main server and the failover server. When a failover occurs, the ACM operator must restore the pairings for all ACM Verify devices to the failover server, and repeat the process when the main server is back in service.

Prerequisites for Pairing Devices

Before pairing a device:

1. The ACM operator provides the user with the IP address or hostname of the ACM appliance. Do not provide both. Use one format for the address of the ACM appliance for all pairings.

   The ACM appliance IP address or hostname is visible in the web browser's navigation bar from any ACM client window.
2. The device user must have the web browser open on their device.

The pairing must be completed within ten minutes of the ACM operator generating the PIN for pairing.

Although the user's device is paired to the ACM appliance, the virtual stations configured for paired authentication are only active for a device when installed and the user's device is in the Members column for

that station.

A device can be paired to only one active ACM appliance. If a failover ACM appliance is configured, pair all ACM Verify devices to both servers. If a fail-over occurs, you must reassign devices to the ACM Verify stations on the fail-over server while it is active, and reassign them back to the main server after it is returned to service. Pairing devices in advance will make this task much more efficient.

To pair a device, see *Pairing a Device* below.

Precautions for Paired ACM Verify Stations

A paired device uses cookies to connect to ACM. Take the following precautions:

- Always use the same device and browser to connect. Cookies are not shared between different devices or browsers.
- Do not pair the device while in private mode on your browser. Cookies are not saved when you are in private mode.
- Cookies are lost if you:
    - Clean up history and cookies in your browser
    - Pair the device using an IP address and then use the host name to access ACM.

If a device browser loses the cookie, it cannot access ACM Verify and you must pair the device again. Before the device can be paired again, the previous pairing must be deleted from the ACM appliance.

Pairing a Device

A device needs to be paired to the ACM appliance to access the ACM Verify function. A device can be paired to the ACM appliance at any time, or when adding a door as an ACM Verify Station.

To pair a device:

1. The ACM operator and the device user agree on the name to use for the device.
2. The ACM operator provides the ACM URL or hostname to the device user.

   The ACM appliance IP address or hostname is visible in the web browser's navigation bar from any ACM client window.
3. The ACM operator navigates to the Add Paired Device panel.
    a. If the operator is:
        - Pairing a device only, click > **Paired Devices**.
        - Adding a new door as an ACM Verify Station, click on **Add Paired Device** in the Door: Add New screen. For more information, see *Parameters tab (Avigilon)* on page 274.
    b. Enter the name to identify the device, such as "User Name's Smartphone" and click **Generate PIN**.

   Provide the 4-digit PIN to the device user. The PIN is valid for 10 minutes.
4. The device user:
    a. Enters the URL to the ACM appliance in the web browser on their device in the format: `<ipAddress>/doors/virtual`
    The ACM client log in screen is displayed.
    For example, if the ACM URL is 192.168.0.125, the device user enters:

```
//192.168.0.125/doors/virtual
```

b. Logs in to the ACM Verify client using their username and password.

c. Clicks on the and then clicks **>Paired device**.
The user is prompted to enter the name of their device and the 4-digit PIN provided by the ACM operator.

5. The ACM operator waits until the device is paired and then clicks .

To remove a pairing from the ACM appliance, click for the device.

Using ACM Verify

You can use a web browser-enabled device, such as a smartphone or tablet, to connect to ACM, access the ACM Verify Station functionality and use the device as a virtual station. Virtual stations control access to places that do not have access-controlled doors or locks. Examples are outdoor mustering stations for fire drills, a bus for school trips or a work area in an open-plan office. People entering a place controlled by a virtual station must verify they are authorized to access the area by entering their PIN code on the device.

You must be an ACM user to use ACM Verify on your device. To set up a device for ACM Verify, see *Configuring ACM Verify™ Virtual Doors* on page 273.

To use ACM Verify:

1. Use the URL or web link in your web browser provided when your device was set up to launch ACM Verify from your web browser.

   Note: If your device is paired to the ACM user, always use the same browser.

2. If the Access Control Manager login page is displayed, enter your ACM Login and Password.

   ACM Verify is displayed and the Virtual Stations you can use are listed.

3. Tap to open a virtual station.

   A prompt to enter PIN codes appears.

4. Anyone wanting to access the location you are controlling must enter a PIN code on your device and tap **Submit**.
   - If the virtual station is managed, the user's picture and name displays, and you are prompted to grant or deny access.
   - If the virtual station is unmanaged, access is granted if the code is valid.
   - If the PIN code is incorrect or invalid, a message that access is not granted displays.

5. If an area is specified for the virtual station, the number of identities verified is also displayed, and you can display a list of all the identities who have entered the area by clicking on the **Identities Verified:** link.

6. To switch to a different virtual station, tap the back button and tap another virtual station.

   For example, if you want to have identities enter and exit an area using their PIN codes you need two virtual stations. One station is configured for the area you want identities to enter into, and the second

station is configured for the area you want identities to exit into. Both virtual stations are accessible on the same device.

To log out of ACM Verify, tap and tap **Log Out**.

IP/PoE Mode Installation

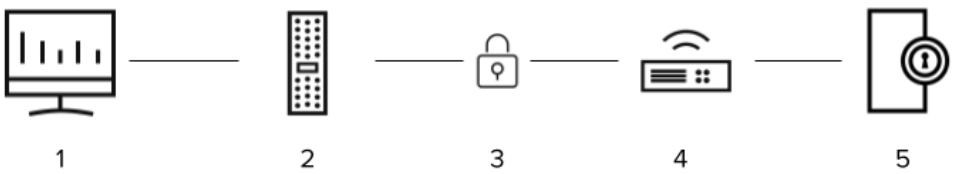
Add an external site in ACM to configure and manage groups of Schlage® IP devices through the Schlage ENGAGE™ Gateway that supports IP/PoE (Power over Ethernet) mode of operation. For more information, see:

- *System Overview* below
- *Supported Devices* on the next page
- *Step 1: Creating an ENGAGE Site* on page 288
- *Step 2: Configuring Gateways for IP Wireless Locks* on page 280
- *Step 3: Configuring IP Wireless Devices* on page 281
- *Step 4: Configuring Locking Operation* on page 283

Note: ACM supports only the Schalge and Von Duprin® devices in *Supported Devices* on the next page in IP/PoE mode. Other device models might not operate correctly.

System Overview

Figure 5: ACM System organization for Allegion Schlage® IP/PoE wireless locks



1	ACM applications, including identity (badging), administration, video surveillance and alarm monitoring
2	ACM appliance
3	Encrypted connection provided by the Schalge ENGAGE site that the ENGAGE gateway is commissioned to (the site is created in ACM)
4	ENGAGE gateway panel that supports up to 10 IP-connected devices in any combination using IP (410-IP)/PoE (Power over Ethernet) mode of operation, or ASSA ABLOY Aperio IP hub panel that supports up to 64 IP-connected devices.
5	Schlage IP wireless locks including mobile-enabled and Allegion Von Duprin remote undogging (RU) and remote monitoring (RM) exit devices

Supported Devices

Ensure the physical configuration of the device matches the configuration in the ACM application as follows.

Note: Up to 10 IP-connected devices—in any combination—are supported by a single gateway.

Door Linked Device	Panel	Subpanel	External System
Allegion Schlage LE and NDE series			
Up to 10 wireless locks to each gateway — LE and NDE models Up to 5000 credentials to each lock Up to 10 mobile-enabled wireless locks to each gateway — LE version B (LEB) and NDE version B (NDEB) models Mobile credentials are not supported.	Up to 1,024 panels to an ACM appliance An ENGAGE gateway is a panel.	-	ENGAGE site
Allegion Schlage Control™ smart locks			
Up to 10 wireless locks to each gateway Up to 500 credentials to each device	Up to 1,024 panels to an ACM appliance An ENGAGE gateway is a panel.	-	ENGAGE site
Allegion Von Duprin remote undogging (RU) and remote monitoring (RM) devices			
Up to 10 RU or RM devices to each gateway Single door configuration only. Credentials are not applicable.	Up to 1,024 panels to an ACM appliance An ENGAGE gateway is a panel.	-	ENGAGE site

Step 1: Creating an ENGAGE Site

Note: Before you begin, obtain the ENGAGE login account information. For more information, see Schlage documentation.

To create an ENGAGE site in ACM:

1. Select >**External Systems**.
2. Click the **Schlage** tab.
3. Click the **Add Schalge Site** button.
4. Enter:

Site Name	Up to 50 alphanumeric characters for the name of the site which represents the logical group of ENGAGE devices. **Note:** Always create an ENGAGE site in the ACM application. A site that is already created in the ENGAGE application cannot be reused in the ACM application. In addition, a site cannot be used by more than one ACM appliance.
ENGAGE User	The login name of the ENGAGE account.
ENGAGE Password	The password of the ENGAGE account.
Partitions	Displayed for a partitioned ACM appliance only. To restrict operator access to the item, select one or more partitions. To allow all operators access to the item, do not select a partition.

5. Click to save your changes.

   Click to discard your changes.

After you add the ENGAGE site for an IP-connected lock, see *Step 2: Configuring Gateways for IP Wireless Locks* below.

After you add the ENGAGE site for an offline Wi-Fi lock, see *Step 2: Setting Up Communication to Offline Wi-Fi Locks* on page 289.

Step 2: Configuring Gateways for IP Wireless Locks

For Schlage gateways that control Schlage IP wireless devices.

To configure a Schlage gateway:

1. Ensure gateway communication to the ACM appliance is enabled:
   a. Select > **Appliance** and the **Access** tab.
   b. Select the **Installed** checkbox next to the **Schalge** vendor.
   c. Click .
   d. Contact your support representative to enable the **Debug** checkbox, if needed.
2. Select **Physical Access>Panels**.
3. Click **Add Panel**.
4. Enter:

Name	Up to 50 characters for the name of the gateway.
Physical Location	A description of where the device is installed.
Partitions	Displayed for a partitioned ACM appliance only. To restrict operator access to the item, select one or more partitions. To allow all operators access to the item, do not select a partition.
Appliance	The ACM appliance the device is connected to.
Vendor	Select **Schlage**. **Model**: **ENGAGE Gateway - IP**. **Site** : The name of the site that the gateway is commissioned to. **Timeszone** : The local timezone where the gateway is installed.

5. Click ✔ to save your changes. The entries are displayed on the **Configure** tab.
6. Click the **Host** tab.
7. Enter:

IP Address	The IP address of the gateway or hostname of the device.
Installed	Enables communication between the ACM appliance and installed device after saving.

8. Click ✔ to save your changes.

After gateway communication is enabled, any devices linked to the gateway will be displayed in the following places:

- On the **Status** tab of the abovementioned panel page, where the **Link Name**, **S/N** (serial number), **Status** (of the connection to each device) and **Credential Capacity** (for each device that supports credentials) columns are displayed.
- In the **Linked Devices** field on the door page.

For more information, see *Step 3: Configuring IP Wireless Devices* below.

Step 3: Configuring IP Wireless Devices

For Schlage IP wireless devices.

> **Note:** Before you begin, ensure the devices have been installed according to the vendor's installation instructions. If you are not ready to physically install the devices, you can predefine doors as described in this section without specifying the devices.

To configure a wireless device:

1. Ensure device communication is supported in ACM software:
   - Add the ENGAGE site in ACM, as described in *Step 1: Creating an ENGAGE Site* on page 288.
   - Add a gateway for Schlage IP wireless devices, as described in *Step 2: Configuring Gateways for IP Wireless Locks* on page 280.
2. On the Panel: Status or Doors list page, do one of the following:
   - Click **Add Door** to create a new door for each new device. Click **Cancel** in the Templates dialog.
   - Select the name of a device linked to the gateway.
3. On the **Parameters** tab, select:

Vendor	**Schalge**.
Panel	The gateway.
Lock Model	The lock model. See *Supported Devices* on page 279.
Linked Device	The ID or name of each externally commissioned IP wireless or offline Wi-Fi device. For more information, refer to the commissioning process in vendor documentation. **Tip:** IP wireless device only. You can save the door without a linked device and enter it as a post-installation step.
Access Type	IP-connected wireless device only. Whether access is located on one or both sides of the door. Default is **Single**, which cannot be changed. For more information, see *Access Types* on page 212.
Door Mode	IP-connected wireless device only. The entry mode for the door when the gateway is online and communicating with the device. For information about the **Unlocked**, **Locked No Access** and **Card Only** options, see *Door Modes* on page 211. Door modes are device-specific and not applicable to Control locks.
Lock Function	None is the default. For more information about the **Privacy**, **Apartment** and **Office** lock functions, see *Adding Doors* on page 223 Lock function is device-specific.
Always Mask Forced	The Door Forced Open alarms at the door are always masked.
Always Mask Held	The Door Held Open alarms at the door are always masked.
Door Processing Attributes	For more information about the **Log Grants Right Away**, **Log All Access as Used** and **Detailed Events** door processing attributes, see *Adding Doors* on page 223. Not applicable to Control locks.

4. Click ✔ to save your changes.

After you add a new door, customize other door settings to meet your system requirements. For more information, see *Step 4: Configuring Locking Operation* on the next page.

Step 4: Configuring Locking Operation

For Schlage IP wireless locks that do not support in/out readers, and RU or RM devices.

To configure locking operation:

1. Edit device settings as required:

   (The **Name** through **Installed** fields can be edited on the Parameters, Operations and Cameras tabs. For these field descriptions, see *Adding Doors* on page 223.)

   On the **Operations** tab, select:

Into Area	The area that the badge holder enters by passing through the door. Example: Laboratory For more information, see *Adding Areas* on page 314.
Out of area	The area that the badge holder leaves by passing through the door. Example: Lobby For more information, see *Adding Areas* on page 314.
Standard Access Time	The seconds the door remains unlocked after access has been granted.
Held Open Time	The seconds the door can be held open before a Door Held Open event is generated.
Extended Access	The seconds the door remains unlocked after access has been granted to token holders with extended access permissions.
Card Formats	**Important:** To maximize the security and capacity of your locks, only move the card formats that are actually used to the **Members** column. Make sure the **Facility Code** in Physical Access > Card Formats matches the facility code on the card. This ensures credential matching occurs during card operation on the door that uses the card format. For more information, see *Configuring Card Formats* on page 319. **Note:** The **Suppress facility check** checkbox must not be used.

2. Click ✔ to save your changes.

   Allow time for the device configuration to take effect.

   Important: Check the credential capacity of the door on the Panel: Status tab before you add more credentials to the lock.

3. Does not apply to Control locks. Add the device to an access group for assignment to identities and

their tokens.

On the Panel: Status tab, the Credential Capacity count for the door is updated.

Applying Door Commands

To control your Schlage IP wireless device, apply the following door commands:

1. Select **Physical Access** > **Doors**.
2. Enter a checkmark in the **All** column next to the device.
3. For the Control lock:
   - To grant access to the deadbolt on the Control lock, select **Door Action** > **Grant** (only this door action is supported). Momentarily grants access to the door to permit a single-time entry. Ignore the Unknown door state and door mode.

     The deadbolt is enabled for you to lock it (extend the bolt) or unlock it (retract the bolt) on the outside.
4. For the RU device:
   - To unlock the RU device in **Closed** door state and **Locked No Access** door mode, select **Door Action** > **Unlock** (only this door action and the Locked No Access door action are supported).

     The door mode changes to **Locked No Access (Unlocked on Next Exit)**. The door is locked on the outside and the inside. The remains displayed.

     When a person presses the push bar, the door is **Unlocked**. While the door is unlocked, you will see the **Open** and **Closed** states as the door is opened and closed.
   - To lock the RU device in **Closed** door state and **Unlocked** door mode, select **Door Action** > **Locked No Access**.

     The door is instantly locked.

For more information about controlling doors, see *Controlling Doors* on page 199. You can also apply door commands to RU devices in maps. For more information, see *Maps - Introduction* on page 435.

Door Scheduling By Batch Job (Specification)

To create a schedule for locking and unlocking doors, use a batch job specification. For more information, see *Scheduling Batch Jobs* on page 461 and *Setting Batch Door Modes* on page 468.

Viewing Gateway or Offline Wi-Fi Lock Status

For IP/PoE mode and offline Wi-Fi mode ENGAGE gateways.

1. Select **Physical Access > Panels** to view gateways or offline Wi-Fi locks.
2. View the **Device Status** in the first column. For more information, see *Device Status* on page 53. Ignore the Cards in Use column.

For another way of accessing device status, see *Monitor - Dashboard* on page 50.

3. Select the panel.
4. View on the **Status** tab:

	The communications status between the panel and ACM appliance. The current status of the device is indicated by the background color. For more information, see *Status Colors* on page 52.
Clock	Resynchronizes the clock time of the gateway or offline Wi-Fi lock when clicked. See *Updating Panel Time* on page 177.
Last comms	The date and time of the last message that was communicated between the panel and the ACM appliance. Offline Wi-Fi lock only. The date and time of the last communication between the lock and the ACM appliance.
Next comms	Offline Wi-Fi lock only. The date and time of the next communication between the lock and the ACM appliance.
Firmware	The gateway or offline Wi-Fi lock firmware version. See *Updating Panel Firmware* on page 177. Offline Wi-Fi lock only. Hover your mouse over the firmware version to view more details.

Viewing Door Status and Events

To view access information, events and alarms generated for doors:

1. Select **Physical Access** > **Doors**.

   For more information about door state and door mode, see *Adding Doors* on page 223.

   For event descriptions, see *Troubleshooting* on page 493.
2. Select the name of the door.
3. Click the **Events** tab to view all the global events that are related to the device:

Name	The name of the event.
Event	The type of event.
Source Type	The source of this event.
Has On/Off	If the event toggles on or off. Click **Yes** or **No**.
Masked	If the event is masked. Click to change status to (yes) or (no).
Logged	If the event is logged. Click to change status to (yes) or (no).

Show Video	If a video is available for the event. If 'yes' is selected, the live video window automatically pops up when the event is received. Click to change status to (yes) or (no).

> **Tip:** You can also view events using **Monitor** > **Events**. For more information, see *Monitoring Events* on page 34.

4. Click the **Access** tab to view the access groups, roles and identities that have permission to edit or use the door (not applicable to RU and RM exit devices):

Access Groups	The name of the access group. Click the link to edit the access group.
Roles	The roles that the access group is a member of. Click the + or - icon next to each role to show or hide the identities in the access group through the role.
Identities	The users who are members of the access group.
Panel Date	The date and time when the event occurred.
Priority	The priority of the event. The highest priority is 1 and the lowest priority is 999.
Event	The name of the event.
Last Name	The last name of the person who generated the event.
First Name	The first name of the person who generated the event.
Card Number	The internal token number assigned to the person who generated the event.
Message	Any messages that are associated with the event.

For more information, see *Managing Door Access* on page 112.

5. Click the **Transactions** tab to view the events and alarms that have occurred at the door:

Access Groups	The name of the access group. Click the link to edit the access group.
Roles	The roles that the access group is a member of. Click the + or - icon next to each role to show or hide the identities in the access group through the role.
Identities	The users who are members of the access group.
Panel Date	The date and time when the event occurred.
Priority	The priority of the event. The highest priority is 1 and the lowest priority is 999.
Event	The name of the event.
Last Name	The last name of the person who generated the event.
First Name	The first name of the person who generated the event.
Card Number	The internal token number assigned to the person who generated the event.
Message	Any messages that are associated with the event.

For more information, see *Configuring Roles* on page 88.

Updating Gateway and Offline Wi-Fi Lock Firmware

For Schalge IP wireless locks and offline Wi-Fi locks.

Note: Ensure the ENGAGE gateway and ACM have access to the internet.

To apply firmware updates from lock manufacturers:

1. On the Panels list, select the gateway.
2. For the device type, click **Update Firmware**. Ignore the blue Firmware button, which is used for updating gateway firmware.
3. Do one of the following:
   - Click ✔ next to the firmware version that is available in the system to apply it to the group of locks.
   - Select a new firmware version as follows:
     a. Click **Open Advanced Options**.
     b. Enter your ENGAGE login information in **ENGAGE User** and **ENGAGE Password**, and click **Get Available Firmware**. The firmware versions are downloaded.

        CAUTION — This advanced procedure must be performed only by qualified personnel with the requisite knowledge of the firmware versions and the ACM system.

     c. Click ✔ next to the firmware file to apply it.

Note: For offline Wi-Fi locks, the firmware version update does not occur immediately. It occurs at the next communication interval to the ACM application. Each offline Wi-Fi lock has its own interval setting which is dependent on the timing of its initial communication with the ACM system.

Generating Reports

For Schlage IP wireless devices.

You can generate the Door Configuration Report and Transaction Report by selecting **Reports**.

Offline Wi-Fi Mode Installation

Add an external site in ACM to configure and manage groups of Allegion Schlage® Wi-Fi locks through the Schlage ENGAGE™ Gateway that supports Wi-Fi mode of operation. For more information, see:

- *Supported Devices* below
- *Step 1: Creating an ENGAGE Site* below
- *Step 2: Setting Up Communication to Offline Wi-Fi Locks* on the next page
- *Step 3: Configuring Offline Wi-Fi Lock Operation* on page 290

Note: ACM supports only the Schalge devices in *Supported Devices* below in offline Wi-Fi mode. Other device models might not operate correctly.

Note: ACM appliance failover is not supported for offline Wi-Fi locks due to the connection method. Offline Wi-Fi locks initiate calls to the ACM appliance, as opposed to the ACM appliance initiating the connection for wired locks. However, manual failover to a standby ACM appliance is supported. To enable automated failover for offline Wi-Fi locks, organizations may choose to follow standard practices for network DNS failover in their infrastructure. The details of configuring automated failover depend on individual network architectures.

Supported Devices

Ensure the physical configuration of the device matches the configuration in the ACM application as follows.

Door Linked Device	Panel	Subpanel	External System
Allegion Schlage LE and NDE series			
Up to 2048 wireless locks, depending on the ACM appliance or license — LE model	Same as doors	-	ENGAGE site
Up to 2048 mobile-enabled wireless locks, depending on the ACM appliance or license — LE version B (LEB) and NDE version B (NDEB) models Mobile credentials are not supported.	Same as doors	-	ENGAGE site

Step 1: Creating an ENGAGE Site

Note: Before you begin, obtain the ENGAGE login account information. For more information, see Schlage documentation.

To create an ENGAGE site in ACM:

1. Select >**External Systems**.
2. Click the **Schlage** tab.
3. Click the **Add Schalge Site** button.
4. Enter:

Site Name	Up to 50 alphanumeric characters for the name of the site which represents the logical group of ENGAGE devices. **Note:** Always create an ENGAGE site in the ACM application. A site that is already created in the ENGAGE application cannot be reused in the ACM application. In addition, a site cannot be used by more than one ACM appliance.
ENGAGE User	The login name of the ENGAGE account.
ENGAGE Password	The password of the ENGAGE account.
Partitions	Displayed for a partitioned ACM appliance only. To restrict operator access to the item, select one or more partitions. To allow all operators access to the item, do not select a partition.

5. Click to save your changes.

   Click to discard your changes.

After you add the ENGAGE site for an IP-connected lock, see *Step 2: Configuring Gateways for IP Wireless Locks* on page 280.

After you add the ENGAGE site for an offline Wi-Fi lock, see *Step 2: Setting Up Communication to Offline Wi-Fi Locks* below.

Step 2: Setting Up Communication to Offline Wi-Fi Locks

To set up communication between the offline Wi-Fi locks and the ACM appliance:

1. Select > **System Settings**.
2. On the **General** tab, enter:

Schlage WiFi Door Communication Interval	The time interval for communication of the offline Wi-Fi lock to the ACM system. Default is 1440 minutes (24 hours).
Site for Schlage WiFi Locks	The ENGAGE site that ACM will use to establish secure communication with the offline Wi-Fi lock when the lock attempts connection to ACM for the first time.

3. Click for each field.
4. In the ENGAGE application, enter the ENGAGE site defined in the field above and the IP address of the ACM server. For more information, see vendor documentation.

After a lock is externally commissioned, the lock automatically appears in the ACM application as a door and

a panel.

After this step, see *Step 3: Configuring Offline Wi-Fi Lock Operation* below.

See also:

- *Deleting Offline Wi-Fi Locks* on page 292

Step 3: Configuring Offline Wi-Fi Lock Operation

To configure lock operation:

1. Edit device settings as required:

   (The **Name** through **Installed** fields can be edited on the Parameters, Operations and Cameras tabs. For these field descriptions, see *Adding Doors* on page 223.)

   On the **Operations** tab, select:

Standard Access Time	The seconds the door remains unlocked after access has been granted.
Held Open Time	The seconds the door can be held open before a Door Held Open event is generated.
Extended Access	The seconds the door remains unlocked after access has been granted to token holders with extended access permissions.
Card Formats	**Important:** To maximize the security and capacity of your locks, only move the card formats that are actually used to the **Members** column. Make sure the **Facility Code** in Physical Access > Card Formats matches the facility code on the card. This ensures credential matching occurs during card operation on the door that uses the card format. For more information, see *Configuring Card Formats* on page 319. **Note:** The **Suppress facility check** checkbox must not be used.

2. Click to save your changes.

   Allow time for the device configuration to take effect.

   Important: Check the credential capacity of the door on the Panel: Status tab before you add more credentials to the lock.

On the Panel: Status tab, the Credential Capacity count for the door is updated.

Viewing Gateway or Offline Wi-Fi Lock Status

For IP/PoE mode and offline Wi-Fi mode ENGAGE gateways.

1. Select **Physical Access > Panels** to view gateways or offline Wi-Fi locks.
2. View the **Device Status** in the first column. For more information, see *Device Status* on page 53. Ignore the Cards in Use column.

   For another way of accessing device status, see *Monitor - Dashboard* on page 50.
3. Select the panel.
4. View on the **Status** tab:

	The communications status between the panel and ACM appliance. The current status of the device is indicated by the background color. For more information, see *Status Colors* on page 52.
Clock	Resynchronizes the clock time of the gateway or offline Wi-Fi lock when clicked. See *Updating Panel Time* on page 177.
Last comms	The date and time of the last message that was communicated between the panel and the ACM appliance. Offline Wi-Fi lock only. The date and time of the last communication between the lock and the ACM appliance.
Next comms	Offline Wi-Fi lock only. The date and time of the next communication between the lock and the ACM appliance.
Firmware	The gateway or offline Wi-Fi lock firmware version. See *Updating Panel Firmware* on page 177. Offline Wi-Fi lock only. Hover your mouse over the firmware version to view more details.

Updating Lock Firmware

For Schalge IP wireless locks and offline Wi-Fi locks.

Note: Ensure the ENGAGE gateway and ACM have access to the internet.

To apply firmware updates from lock manufacturers:

1. On the Panels list, select the gateway.
2. For the device type, click **Update Firmware**. Ignore the blue Firmware button, which is used for updating gateway firmware.
3. Do one of the following:
    - Click next to the firmware version that is available in the system to apply it to the group of locks.
    - Select a new firmware version as follows:
        a. Click **Open Advanced Options**.
        b. Enter your ENGAGE login information in **ENGAGE User** and **ENGAGE Password**, and click **Get Available Firmware**. The firmware versions are downloaded.

        CAUTION — This advanced procedure must be performed only by qualified personnel with the requisite knowledge of the firmware versions and the ACM system.

        c. Click next to the firmware file to apply it.

Note: For offline Wi-Fi locks, the firmware version update does not occur immediately. It occurs at the next communication interval to the ACM application. Each offline Wi-Fi lock has its own interval setting which is dependent on the timing of its initial communication with the ACM system.

Deleting Offline Wi-Fi Locks

To delete an offline Wi-Fi lock from the ACM application:

1. Uninstall the physical lock hardware.
2. Delete the door in the ACM application. For more information, see *Deleting Doors* on page 210.

    Deleting the door automatically deletes the associated panel.

If a lock is deleted in the ACM application, it will reappear as a new door at the next communication interval to the ACM application. A lock that is not deleted in the ACM application, but deleted in the ENGAGE application, will appear as an offline lock in the ACM application. Changing the site must be done in the ENGAGE application.

SALTO Door Installation

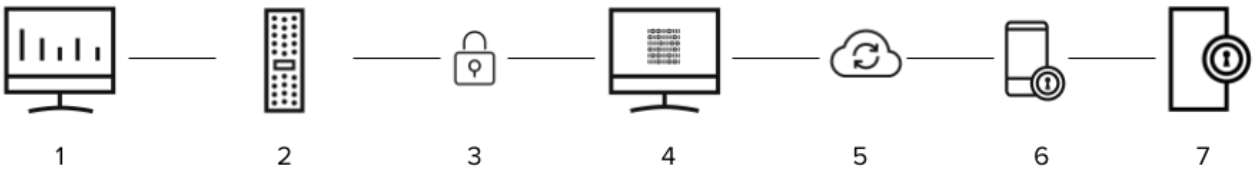
Add a SALTO ProAccess SPACE server (referred to as SALTO server) in the ACM application to manage users and physical access to installed doors that are configured in the SALTO network. For more information, see:

- *System Overview* below
- *Prerequisites* on the next page
- *Supported Devices* on page 297
- *Step 1: Connecting to a SALTO Server* on page 297
- *Step 2: Configuring the SALTO Server* on page 298
- *Step 3: Syncing Doors with the SALTO Server* on page 299
- *Step 4: Installing and Configuring Doors* on page 299
- *Step 5: Creating Identities and Tokens* on page 301

Note: Doors must be created in the SALTO system before you use the ACM system. Every time you add or delete doors in the SALTO system, remember to manually sync them with ACM as described in Step 3. In addition, identities and their tokens must be managed in the ACM system and requires using encoder hardware for some door modes, as described in Step 5.

System Overview

Figure 6: ACM system organization for SALTO ProAccess SPACE doors



1	ACM applications, including identity (badging), administration, video surveillance and alarm monitoring
2	ACM appliance
3	Encrypted connection provided by the SALTO Host Interface Protocol (SHIP) integration
4	SALTO ProAccess SPACE server (referred to as SALTO server; supports up to 2048 installed doors), SALTO ProAccess SPACE Configurator application, SALTO encoder hardware **Note:** Installing the SALTO ProAccess SPACE server on a dedicated machine is recommended for the best performance.

5	SALTO network
6	SALTO JustIN Mobile access technology and mobile credentials, physical keycards
7	SALTO online doors (wired and wireless) and standalone doors

Prerequisites

SALTO Server Installation and Configuration

Contact your integrator to install and configure the SALTO ProAccess SPACE server.

> **Note:** Operators need to understand how to use SALTO security configuration, such as key revalidation, door open mode and timed-based configuration, before using the ACM system. See *Understanding SALTO and ACM Door Configuration* on the next page.
>
> For general, new or updated instructions about the registration, installation and configuration of SALTO systems software and hardware, refer to SALTO systems documentation. The following instructions are based on using SALTO ProAccess SPACE software version 6.2.3.1.

1. In the SALTO ProAccess SPACE Configurator application, set up the encrypted connection:
    a. If the ProAccess SPACE service is running, select the **SERVICE PROPERTIES** panel and stop it.
    b. Select the **SERVICE PORTS** panel.
    c. Select **SALTO authentication** and enter the port used for communication between SALTO and ACM systems. Default is 8100.

       This is the same port used in the URL to access the SALTO ProAccess SPACE web interface.
    d. Select the **Use HTTPS** checkbox and then select the required certificate from the dropdown list.

       If your certificate is not listed, make sure the certificate and its private key are stored in a .pfx file and then imported to the Windows certificate store.

       > **Note:** The above steps assume you are running Windows 10. If you are running Windows 7 Service Pack (SP) 1, upgrading to Windows 10 or enabling Transport Layer Security (TLS) in Windows 7 SP 1 is recommended. For more information, see the steps at **Microsoft.com (support.microsoft.com/en-ca/help/3140245/update-to-enable-tls-1-1-and-tls-1-2-as-default-secure-protocols-in-wi)**.
    e. Select the **DATABASE** panel and select **Windows authentication**.
    f. Save the settings.
    g. Start ProAccess SPACE service.
2. On your Windows machine, ensure the firewall can support inbound and outbound traffic on the port

used for communication between SALTO and ACM systems.

3. In the SALTO ProAccess SPACE software version 6.2.3.1, configure the user ID:
    a. Click the URL which is displayed on the **SERVICE PORTS** panel.

       For example: `https://hostname:portnumber/ProAccessSpace/`
    b. Select the **Advanced** tab on **General options**.
    c. Add the **SHOW_EXT_ID** parameter and set the value to **1**.
    d. Select the **Users** tab and click the button next to **User ID configuration**.
    e. Add **($FirstName) ($LastName) ($EXTID)** in the **Content** field and click **OK**.

       Important: The ($EXTID) macro must be used to ensure uniqueness of the First Name and Last Name combination.
4. In the SALTO ProAccess SPACE software, configure the SHIP integration:
    a. Select **System** > **General options** from the menu bar.
    b. Select the **SHIP** tab on **General options**.
    c. Click the **Enable** checkbox.
    d. Click **HTTP(S)** and select **Basic** from **Authentication**.
    e. Create a username and password to connect with the ACM system.
    f. Save the settings.

Understanding SALTO and ACM Door Configuration

When you install doors in the SALTO system, consider the following:

- SALTO door open mode configuration is mapped to the ACM Door mode and Custom Mode fields.

  Creating, updating or removing an open door mode in the SALTO system will add, update or remove (respectively) the mapped field values in the ACM system *after a manual sync in ACM*. See the following table for the field values. When doors are deleted in the ACM system, the corresponding doors in the SALTO system are not deleted. At the next manual sync in the ACM system, the door will display as a new uninstalled door.
- SALTO Timed period field is mapped to the ACM Custom Schedule field.

  Creating, updating or removing a schedule that is assigned to a door in the ACM system will create, update or remove (respectively) the Timed period value in the SALTO system.
- SALTO calendar group configuration is mapped to ACM holiday configuration.

  Creating, updating or removing a holiday in the ACM system will add, update or remove (respectively) the calendar and any holidays in the SALTO system.

For information about ACM door configuration, see *Door Modes* on page 211, *Step 3: Syncing Doors with the SALTO Server* on page 299 and *Step 4: Installing and Configuring Doors* on page 299.

For information about SALTO door configuration, refer to SALTO systems documentation.

ACM System		SALTO System
Door Mode	**Custom Mode**	**Door Open Mode***
Card Only	-	Standard
	Unlocked	Automatic opening
	Card and PIN	Timed Key + PIN
	Office	Timed office
	Toggle	Timed toggle
	Keypad Only	Timed keypad
Card and Pin	-	Key + PIN
Office	-	Office
	Unlocked	Automatic opening + Office
Toggle	-	Toggle
	Unlocked	Automatic opening + Toggle
Keypad Only	-	Keypad only
Exit Leaves Open‡	-	Exit Leaves Open‡
Toggle and Exit Leaves Open‡	-	Toggle and Exit Leaves Open‡
-	-	Another door mode

Custom Schedule	**Timed Period***
Up to 1024 schedules	1024 timed periods

Holiday	**Calendar***
Up to 3 types of holiday groups	In calendar name (0000), 1 holiday and 2 special holidays

*Used with permission from SALTO Systems S.L.

‡ The Escape and Return mode settings are not applicable to SALTO online and standalone doors that are installed with a control unit (CU).

Escape and Return Mode

In the SALTO ProAccess SPACE software version 6.2.3.1, configure the lock mode:

1. Select **System** > **General options** > **Advanced**.
2. Add the **EXIT_LEAVES_OPEN** parameter and set the value to **1**.
3. Save the setting.

> **Note:** You can search for Escape and Return events in ACM event monitoring.

SALTO Ethernet Encoder Configuration

In the SALTO ProAccess SPACE software version 6.2.3.1, configure the encoder:

1. Go to **SALTO Network** and click the **Add Network Device** button.
    a. Select **Encoder** and click **OK**.
    b. Enter the **Name** and **Description**, and **IP address** for Ethernet access.
    c. Save the setting.
    d. Verify the encoder is online.
        i. Press the LED button at the back of the physical device until it flashes.
        ii. Click the **Address** button to initiate the connection.
        iii. Click the **Status Monitoring** button.
2. Select the operator login in the upper-right corner.
    a. Select **Settings** > **Local Settings** > **Encoder Settings**.
    b. Select **Online** and the encoder name.
    c. Save the setting.

For more information about SALTO Ethernet encoder configuration, refer to SALTO systems documentation.

Supported Devices

The ACM application is mapped to the physical configuration of SALTO doors as follows.

Door	Panel	Subpanel	External System
Up to 2048 installed doors All SALTO door devices at time of initial release in ACM	A SALTO server is a panel.	-	A SALTO server is a panel.

Step 1: Connecting to a SALTO Server

> **Note:** Before you begin, set up the required SALTO server and hardware. For more information, see SALTO systems documentation.

Important: Only one ACM system can connect to a SALTO server. Connecting more than one ACM system is not supported.

To connect to a SALTO server in ACM:

1. Select > **External Systems**.
2. Click the **SALTO** tab.
3. Enter:

Appliance	The name of the ACM appliance that is connected to the SALTO server.
Address	The IP address or hostname of the SALTO server.
Port	The TCP/IP port number configured on the SALTO server.
User Name	The SALTO user name created in the SHIP encryption step in *Prerequisites* on page 294.
Password	The password for the user name.
Partitions	Displayed for a partitioned ACM appliance only. To restrict operator access to the item, select one or more partitions. To allow all operators access to the item, do not select a partition.
Installed	Enables communication between the ACM appliance and SALTO server after saving.

4. Click the **Create** button.

After the external system is saved, the SALTO server automatically appears in the ACM application as a panel.

- *System Overview* on page 293

Step 2: Configuring the SALTO Server

To configure the new SALTO server:

1. Select **Physical Access>Panels**.
2. Select the SALTO panel.
3. Click the **Configure** tab on the SALTO panel.
4. Enter:

Physical Location	A description of where the device is installed.
Partitions	Displayed for a partitioned ACM appliance only. To restrict operator access to the item, select one or more partitions. To allow all operators access to the item, do not select a partition.

   The other fields are read-only and cannot be changed. For more information, see *SALTO Panel Configuration* on page 178.

5. Click

to save your changes.

After saving the panel, see *Step 3: Syncing Doors with the SALTO Server* below.

- *System Overview* on page 293

Step 3: Syncing Doors with the SALTO Server

To import SALTO doors to the ACM appliance:

- On the **Status** tab of the SALTO panel, click **Sync Doors**.

  Doors are imported uninstalled. Sync Status displays the sync results. Doors in a zone in the SALTO system are displayed as doors in the ACM system.

  > **Note:** Every time you add or delete doors in the SALTO system, remember to sync them with the ACM system.

  The other fields are read-only and cannot be changed. For more information, see *SALTO Panel Status* on page 178.

After doors are imported, see *Step 4: Installing and Configuring Doors* below.

- *System Overview* on page 293

Step 4: Installing and Configuring Doors

> **Note:** Doors must be created in the SALTO system before you use Door Mode, Custom Mode and Custom Schedule in the ACM system.

To enable communication to the SALTO door after syncing with the SALTO server:

1. Select **Physical Access** > **Doors**.
2. Install the door to enable communication with ACM, if not already done:
   a. Select the door displaying the device status.
   b. Select **Installed** > **Install**.
   c. Click **OK**.

   > **Note:** If a message (red text) is displayed indicating the need to update the door mode, make sure the Door Mode, Custom Mode and Custom Schedule fields are selected. You need to set supported door modes in the ACM appliance.
   >
   > If you add a door to a zone or remove a door from a zone in the SALTO system, allow up to

five minutes for the door to be added or deleted (respectively) in the ACM system.

3. Display the event details for each door in the list, if not already done:
   a. Select the door name.
   b. On the **Parameters** tab, enter a checkmark in **Detailed events**.
   c. Click to save.
4. Return to **Physical Access** > **Doors**.
   - In the **Device Status** column, you will see:

     Online with control unit door. Normal, Uninstalled, Communication, Unlocked, Battery, Tamper, Forced, Held or Synchronization.

     Standalone door. Normal, Uninstalled, Battery or Synchronization.

     For more information, see *Device Status* on page 53.
   - In the **Door State** column, you will see Unknown change to:

     Online door. Open, Closed, Emergency Open or Emergency Closed.

     Standalone door. Offline.

     Online or standalone door with no control unit. Closed or Emergency Open.

     For more information, see *Controlling Doors* on page 199 and *Maps - Introduction* on page 435.
   - In the **Door Mode** column, you will see:

     Online and standalone doors. Card Only, Card and Pin, Toggle, Office or Keypad Only.

     Online or standalone door with no control unit. Unlocked or Locked No Access.

     For more information, see *Door Modes* on page 211.
5. Select and edit door configuration as required:

   (The **Alt Name** through **Installed** fields can be edited on the Parameters and Cameras tabs. For these field descriptions, see *Adding Doors* on page 223.)

   Door Mode: The entry mode of the door after syncing with the SALTO server and installing the door. For more information, see *Door Modes* on page 211.

   Custom Mode: Another entry mode of the door that is time-based (see Custom Schedule), which can be **Unlocked**, **Card and Pin**, **Office**, **Toggle** or **Keypad Only** (same as Door Mode). If Keypad Only is selected, **Keypad Code** is displayed. You can enter up to 8 digits.

   Custom Schedule: A predefined time when Custom Mode becomes active. If you need to add a new schedule, see *Adding Schedules (Intervals in Schedules)* on page 388.

   Always Mask Forced: If selected, Door Forced Open alarms at the door are always masked.

   Always Mask Held: If selected, Door Held Open alarms at the door are always masked.

   Detailed events: Enables the reporting of event details, such as Door Mode, after syncing and installing the door.

   Do Not Log Rex Transactions: Disables logging of request-to-exit transactions.
6. Click to save your changes.

See *Step 5: Creating Identities and Tokens* below.

- *System Overview* on page 293

Step 5: Creating Identities and Tokens

Note: Before you start, make sure you have access to encoder hardware before you create the identity and token in the ACM system. In addition, make sure an access group and identity are created in the ACM system. For more information, see *Adding an Access Group* on page 112 and *Assigning an Access Group to a Role* on page 114.

If your SALTO network supports SALTO mobile credentials, make sure all identities download and install the SALTO JustIN Mobile app.

To create an identity and token for a SALTO door:

1. Select **Identities** > **Identities** and click **Search** to select an identity already created.

   If you need to add an identity, see *Adding an Identity* on page 71.

2. Click the **Tokens** tab and enter:

Token Type	SALTO
Mobile Application Type	Default is **None**. **JustIn Mobile** refers to the SALTO JustIN Mobile application that is installed on the mobile phone of the identity. **Note:** When issuing mobile keys, the encoder requires access to the internet.
Mobile Phone Number	The mobile phone number in international format (plus sign and no spaces). + country code, area code, phone number Example: `+12345678910` **Note:** The mobile app must be installed on the mobile phone of this phone number.

   For other field descriptions, see *Token Fields* on page 83.

3. Click ✔ to save.

   The **Download** and **Assign Key** buttons appear.

4. Edit the token and click **Assign Key** to assign a key to the token as follows:

   For a physical key:

   a. Select the SALTO encoder in the dialog box and click **Next**.

   b. *SALTO encoder step.* Place the physical key on the encoder hardware.

   c. Click the **Encode Key** button in ACM.

   d. Click **OK**.

   For a mobile key:

   - Click **OK**.

   ACM displays the status of the key update.

Using Physical and Mobile Keys

To use a physical key after assigning or editing a token:

- Place the keycard on the SALTO door device.

To use a mobile key after assigning or editing a token:

a. Tap the key icon in the mobile app.

b. Place the mobile phone on the SALTO door device for 1-2 seconds until a checkmark is displayed.

Editing Tokens — Update Required and Re-edition Required

If the Update Required or Re-edition Required status (red box) appears on the Tokens tab, edit token configuration as follows:

> **Note:** Updating some of the token configuration requires you to re-encode (referred to as re-edition or re-edit) the key. Therefore, make sure you have access to encoder hardware before you start.

1. Select the token configuration:

PIN	When a PIN is required, the PIN number that the user will be required to enter at a keypad card reader.
Token Status	The status of the token may be set manually and then updated by the system as follows: • **Active**: The Not Yet Active token is set to Active when the current date is past the Activate Date. • **Expired**: The Active token is set to Expired when the current date is past the Deactivate Date. • **Inactive**: The Active token is set manually to Inactive without further update. • **Not Yet Active**: The token is not active yet.

Issue Level	A number from 0 to 999999999, representing the issue level of the token. Example: If a 3-digit length was configured on the Card Format: Edit page, you can enter 123 for the issue level of the card. For more information, see *Issue Level Numbering for Reusing a Card Number* on page 321.
Never Expire	The token never expires.
Extended Door Times	A checkbox to give the token extended access time. Once enabled, the door remains unlocked for a longer period of time than the standard access time to accommodate users that may require more time to enter a door. Standard and extended access times are specified on the Door Edit page.
Office	A checkbox to enable the token to activate Office mode for a door that is configured for Office mode, which allows the cardholder to leave the lock open. To use this mode, the cardholder presents the key to the door while pressing down the inner handle and repeats the procedure to undo the mode.
Set Lockdown	*SALTO standalone doors only.* A checkbox to enable lockdown mode for a door that has a lock that can support manual lockdown. For more information about lockdown in the SALTO system, refer to SALTO systems documentation. To use this mode, the cardholder presents the key to the door's inside reader and repeats the procedure to undo the mode.
Override Privacy	A checkbox to allow the cardholder to access a door locked from the inside at any time.
Override Lockdown	A checkbox to allow the person to access a door closed from the inside during lockdown state.
Audit Openings	*SALTO standalone doors only.* A checkbox to audit the use of keys in standalone doors. Audits automatically occur in online doors.

Enable Revalidation **Update Period** in **days** or **hours** unit	A checkbox to specify a period for revalidating a key before it becomes invalid. To make the token valid again, the cardholder can present the token to the online wall reader at any time. For example, a key requires revalidation every seven days, if the update period is set to 7 days. If the key is used on the third day, the update period is reset. If the key is not used for over seven days, the key becomes invalid. **Note:** When revalidating mobile keys, the encoder requires access to the internet.
Issue Date	The date the token was issued.
Activate Date	The activation date for the token.
Deactivate Date	The deactivation date for the token.
Last Door	The last door the token was used to gain access.
Last Used	The last time the token was used to gain access.

2. Click the **Update Key** button in ACM.
3. If updating **Audit Openings**, **Override Privacy** or **Override Lockdown**:

   For a physical key:

   a. Select the SALTO encoder in the dialog box and click **Next**.

   b. *SALTO encoder step.* Place the physical key on the encoder hardware.

   c. Click the **Encode Key** button in ACM.

   d. Click **OK**.

   For a mobile key:

   - Click **OK**.

   ACM displays the status of the key update, such as the No Update Required status.

Canceling Keys

To cancel a key that was assigned to a token:

1. On the **Tokens** tab, click the **Cancel Key** button.

   ACM displays the status of key update.
2. Click **OK** .

Note: A canceled key cannot be used throughout the SALTO system. For more information, refer to SALTO system documentation.

Downloading All Tokens

To download or restore all tokens to the ASSA ABLOY, HID or Mercury panel:

- On the **Status** tab of the panel, click **Tokens**.

Typically, this action is done after system restore. For more information, see also *Restoring Backups* on page 363.

ASSA ABLOY™ IP Lock Installation

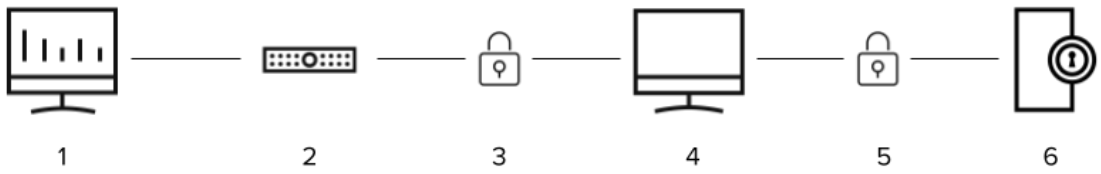
Add a panel in ACM to configure and manage groups of ASSA ABLOY IP-enabled locks, including hard-powered PoE (Power over Ethernet) locks and battery-powered Wi-Fi locks, after their initial configuration and connection to the Door Service Router (DSR) server (referred to as DSR). Typically, Wi-Fi locks are battery-powered (referred to as the Battery Powered lock type), and if configured with an external power supply, can have the real-time communication capabilities of hard-powered PoE locks (referred to as the External Powered lock type). For more information, see:

- *System Overview* below
- *Prerequisites* on the next page
- *Supported Devices* on page 308
- *Step 1: Configuring a Door Service Router for IP Locks* on page 308
- *Step 2: Syncing Doors with the Door Service Router* on page 309
- *Step 3: Installing and Configuring Doors* on page 310
- *Step 4: Configuring Locking Operation* on page 311

Note: Locks must be created in the Lock Configuration Tool (LCT) and doors must be created in the DSR software before you use the ACM system. Every time you add doors in the ASSA ABLOY system, remember to manually sync them with ACM as described in Step 2. After door sync, the doors must be edited and managed in the ACM system.

System Overview

Figure 7: ACM system organization for ASSA ABLOY IP-enabled locks



1	ACM applications, including identity (badging), administration, video surveillance and alarm monitoring
2	ACM appliance
3	Encrypted connection provided by the ACM appliance certificate and ASSA ABLOY DSR server configuration using Transport Layer Security (TLS)
4	ASSA ABLOY Door Service Router server, DSR Support Tool and Lock Configuration Tool applications
5	Encrypted connection provided by LCT network configuration

6 ASSA ABLOY IP-enabled external powered (hard powered) PoE locks and battery-powered Wi-Fi locks

Typically, Wi-Fi locks are battery-powered (referred to as the Battery Powered lock type in ACM), and if configured with an external power supply, can have the real-time communication capabilities of hard-powered PoE locks (referred to as the External Powered lock type in ACM).

Prerequisites

Contact your integrator to install and configure the ASSA ABLOY DSR software and LCT application.

Note: Integrators can download the required vendor software and the *Access Control Manager™ System Integration Guide for ASSA ABLOY Door Service Router and Lock Configuration Tool* in the Avigilon Partner Portal (**avigilon.com/software-downloads**).

Supported Devices

The ACM application is mapped to the physical configuration of ASSA ABLOY IP locks as follows.

Door	Panel	Subpanel	External System
Up to 1024 doors to a single DSR Up to 2048 doors combined to two DSRs DSR version 8.0.13 — Including SARGENT Profile Series v.S2, SARGENT Passport 1000 P2, SARGENT IN120 WiFi, CORBIN RUSSWIN IN120 WiFi, CORBIN RUSSWIN Access 700 PWI1 WiFi, CORBIN RUSSWIN Access 800 PWI1WiFi locks Credentials are dependent on lock model. See vendor documentation for the limit.	A DSR is a panel.	-	-

Step 1: Configuring a Door Service Router for IP Locks

Note: Before you begin, set up the required DSR and LCT software and IP lock hardware. For more information, see the *Access Control Manager™ System Integration Guide for* the *ASSA ABLOY Door Service Router and Lock Configuration Tool*. For information about the number of DSRs supported by the ACM system, see *Supported Devices* above.

Important: The encrypted connection to the ACM system must be enabled in the DSR software.

To configure a DSR in ACM:

1. Select **Physical Access>Panels**.
2. Click **Add Panel**.
3. Enter:

Name	Up to 50 characters for the name of the panel. Enter a name that will help you identify the devices it controls. Duplicate names are not allowed.
Physical Location	A description of where the device is installed.
Appliance	The name of the ACM appliance that is connected to the DSR.
Vendor	**Assa Abloy**
Partitions	Displayed for a partitioned ACM appliance only. To restrict operator access to the item, select one or more partitions. To allow all operators access to the item, do not select a partition.
Installed	Enables communication between the ACM appliance and installed device after saving.
Model	The model of the DSR.
Timezone	The local time which the panel operates in for door schedules and other time-based configuration.

4. Click to save your changes. The entries are displayed on the **Configure** tab.

   (The **Name** and **Physical Location** fields can be edited on the Configure and Host tabs. The other fields are read-only and cannot be changed.)
5. Click the **Host** tab.
6. Enter:

IP Address	The IP address of the gateway or hostname of the device.
Access Port	The port that receives events from the DSR. Default is 8443.
Callback Port	The port that receives callbacks about events or statuses on the DSR. Default is 9001; range is 0-65535. **Note:** The callback port must be unique for each DSR, if you are installing multiple DSRs on the same ACM appliance.

7. Click to save your changes.

After configuring the panel, see *Step 2: Syncing Doors with the Door Service Router* below.

Step 2: Syncing Doors with the Door Service Router

To sync ASSA ABLOY IP doors with the ACM appliance:

- On the **Status** tab of the ASSA ABLOY panel, click **Sync Doors**.

  Doors are imported uninstalled. Sync Status displays the sync results.

Note: Every time you add doors in the DSR software, remember to sync them with the ACM system.

After doors are synced, see *Step 3: Installing and Configuring Doors* below.

Step 3: Installing and Configuring Doors

Note: Doors must be created in the ASSA ABLOY system before you use Door Mode, Custom Mode and Custom Schedule in the ACM system.

To enable communication to the ASSA ABLOY door after syncing with the DSR:

1. Select **Physical Access** > **Doors**.
2. Install the door to enable communication with ACM, if not already done:
   a. Select the door displaying the device status.
   b. Select **Installed** > **Install**.
   c. Click **OK**.
3. Return to **Physical Access** > **Doors**. Door information is displayed in the following columns.

Device Status	*For External Powered doors*, you will see Normal, Uninstalled, Communication, Unlocked, Battery, Tamper, Forced, Held or Synchronization. *For Battery Powered door*, you will see Normal, Uninstalled, Battery or Synchronization. For more information, see *Device Status* on page 53.
Door State	Unknown will change as follows. *For External Powered doors*, you will see Open, Closed, Forced or Held. *For Battery Powered doors*, you will see Normal or Offline. For more information, see *Controlling Doors* on page 199 and *Using a Map* on page 438.
Door Mode	Unknown will not change for all listed doors.

4. Select and edit door configuration as required:

   (The **Name** through **Installed** fields can be edited on the Parameters, Operations and Cameras tabs. For these field descriptions, see *Adding Doors* on page 223.)

Door Mode	The entry mode of the door after syncing with the DSR and installing the door, which can be Unlocked, Card Only, Card and Pin, or First Person Through. For more information, see *Door Modes* on page 211.

Custom Mode	Another entry mode of the door that is time-based (see Custom Schedule), which can be Unlocked, Card Only, Card and Pin, or First Person Through (same as Door Mode).
Custom Schedule	A predefined time when Custom Mode becomes active. If you need to add a new schedule, see *Adding Schedules (Intervals in Schedules)* on page 388. **Tip:** If a message indicates the Advanced Schedule option cannot be enabled when saving, do any of the following: • Save the schedule without Advanced Schedule selected. Some doors only support basic schedules. • Find the access groups using the schedule and select another schedule.
Lock Function	None is the default. **Privacy**: When the interior lock button is pressed, the door will lock and the exterior lock will not grant access to any token. To unlock the door, the interior lock button must be pressed again or exit the room.
Always Mask Forced	If selected, Door Forced Open alarms at the door are always masked.
Always Mask Held	If selected, Door Held Open alarms at the door are always masked.
Detailed events	Enables the reporting of event details, such as Door Mode, after syncing and installing the door.
Do Not Log Rex Transactions	Disables logging of request-to-exit transactions.

5. Click ✔ to save your changes.

See *Step 4: Configuring Locking Operation* below.

Step 4: Configuring Locking Operation

To configure locking operation for the ASSA ABLOY IP door:

1. Edit device settings as required:

   (The **Name** through **Installed** fields can be edited on the Parameters, Operations and Cameras tabs. For field descriptions, see *Adding Doors* on page 223.)

   On the **Operations** tab, select:

Into Area	The area that the badge holder enters by passing through the door. Example: Laboratory For more information, see *Adding Areas* on page 314.

Out of area	The area that the badge holder leaves by passing through the door. Example: Lobby For more information, see *Adding Areas* on page 314.
Standard Access Time	The seconds the door remains unlocked after access has been granted.
Held Open Time	The seconds the door can be held open before a Door Held Open event is generated.
Extended Access	The seconds the door remains unlocked after access has been granted to token holders with extended access permissions.
Card Formats	**Important:** To maximize the security and capacity of your locks, only move the card formats that are actually used to the **Members** column. Make sure the **Facility Code** in Physical Access > Card Formats matches the facility code on the card. This ensures credential matching occurs during card operation on the door that uses the card format. For more information, see *Configuring Card Formats* on page 319.

2. Click to save your changes.

   Allow time for the device configuration to take effect.

Important: Before you add more credentials to the lock, refer to the DSR software for the available credential capacity. Credential capacity is dependent on the lock model.

Door Scheduling By Batch Job (Specification)

To create a schedule for locking and unlocking doors, use a batch job specification. For more information, see *Scheduling Batch Jobs* on page 461 and *Setting Batch Door Modes* on page 468.

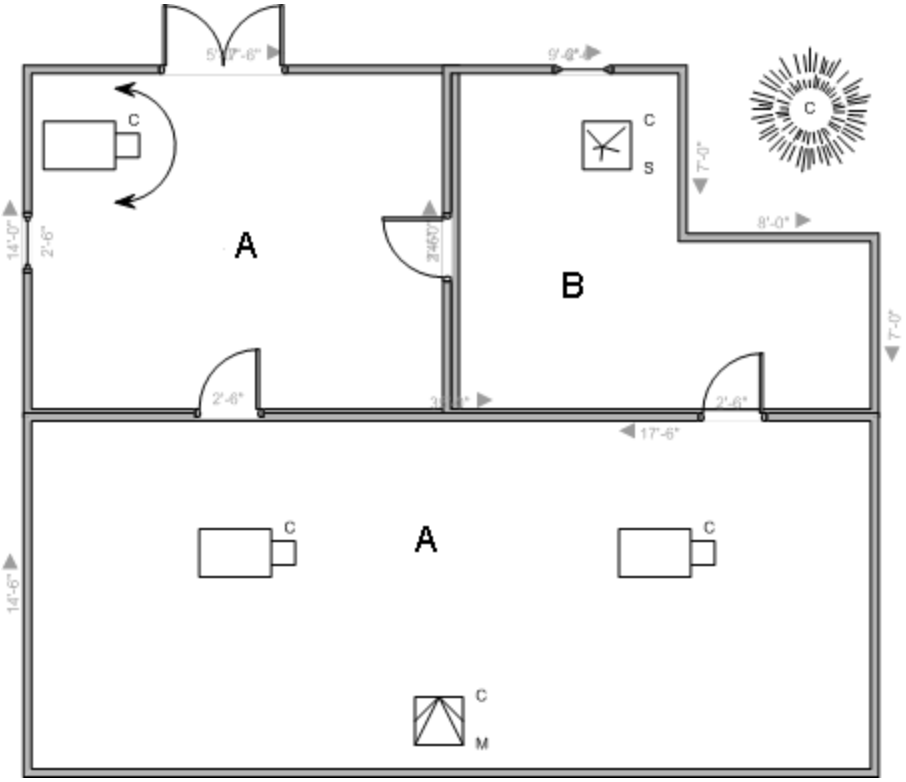
Configuring Areas

An area in the ACM system defines a physical location within a secured site that requires additional access control. This area can be relatively small, like a lab or a store room; or large, like a collection of buildings. Areas often incorporate one or more doors with their attached inputs and outputs. You can define areas to track badge holder location, for example in a mustering scenario, or to control access to specific areas, for example in an anti-passback configuration to limit user access within a building or facility.

Note: Do not confuse areas with partitions. A partition is a separate administrative access zone within the ACM system. An area is a physical location that requires additional access control.

Therefore, in a partitioned system, an area is configured within a partition.

For example, an anti-passback configuration can be used in a laboratory facility to restrict access to a specific room.



The laboratory is divided into Area A and Area B. To secure Area B, only lab personnel who are permitted into both Area A and B can access the lab in Area B. To allow this, the doors are configured as follows:

- The door between the smaller room in Area A and Area B is configured as Out of Area A/Into Area B. It is the entry door for Area B.
- The door between the larger room in Area A and Area B is configured as Out of Area B/Into Area A. It is the exit door for Area B.
- The right-side of the double door when entering Area A is configured as an Into Area A door.
- The right-side of the double door when exiting Area A is configured as an Out of Area A door.

Lab personnel with permission to enter Area A are admitted through the right side of the double door when they swipe their entry card on the door reader. The ACM system records they are "Into Area A". Lab personnel with permission to enter Area A and Area B can then enter Area B at the door between the smaller room in Area A and Area B when they swipe their entry card on that door's reader. The ACM system records they are "Out of Area A" and "Into Area B". After they have entered Area B, they can exit from the other door to Area A. The ACM system records they are "Out of Area B" and "Into Area A". Lab personnel exiting Area A swipe their entry card on the reader on the right side of the double door. The ACM system records they are "Out of Area A".

Defined areas are added to the **Area into area** and **Area out of area** option list on the Doors Operations page. For more information, see *Configuring Doors* on page 197.

Adding Areas

1. Select **Physical Access > Areas**.
2. From the Areas list, click **Add Area**.
3. Enter a name for the area.
4. Select the appliance that will maintain the area details.
5. Select the **Enable Area** checkbox to activate the new area.
6. Fill in the other options as required.
7. Click .

   The new area is added to the Area Listings page.

Editing Areas

1. Select **Physical Access > Areas**.
2. Click the name of the area you want to edit.
3. On the following page, make the required changes.

   If you want to change the doors that are connected to the area, you must do so from the door's Operations page.
4. Click .

Deleting Areas

1. Select **Physical Access > Areas**.
2. From the Areas list, click for the area you want to delete.
3. When the browser displays a pop-up message to ask *Are you sure?*, click **OK**.

EOL Resistance

End-of-line (EOL) resistance refers to the resistance levels that must be maintained for input points. Input devices used with doors often measure circuit resistance in ohms. This measurement is used to determine the normal resistance level. If the resistance drops across the circuit, an alarm is sent back to the ACM application.

For example, if resistance for a particular device has been set at 2000 ohms and the circuit's resistance suddenly drops to 1000 ohm, an alarm is issued by the application.

Adding EOL Resistance for Mercury Input Points

To add an EOL Resistance definition for a Mercury input device:

1. Select **Physical Access > EOL Resistance**. Make sure the Mercury tab is selected.
2. From the Mercury EOL Resistance list, click **Add-Normal** or **Add-Advanced**.
3. On the following EOL Resistance Add page, enter the required details.
4. Click to save your changes.

Adding EOL Resistance for VertX® Input Points

To add an EOL Resistance definition for an VertX® input point:

1. Select **Physical Access > EOL Resistance > HID**.
2. From the HID list, click **Add**.
3. Enter the required details.
4. Click to save your changes.

Editing EOL Resistance for Mercury Input Points

To edit an EOL Resistance definition for a Mercury input device:

1. Select **Physical Access > EOL Resistance**. Make sure the Mercury tab is selected.
2. Select the EOL Resistance definition that you want to edit.
3. On the following page, make the required changes.
4. Click to save your changes.

Editing EOL Resistance for VertX® Input Points

To edit an EOL Resistance definition for a VertX® input point:

1. Select **Physical Access > EOL Resistance > HID**.
2. On the HID list, select the EOL Resistance definition that you want to edit.
3. On the following page, make the required changes.
4. Click to save your changes.

Mercury LED Modes - List page

The Mercury LED Modes list lists the available Mercury Security LED modes.

Select a mode from the list of custom LED modes to modify its settings. The *Mercury LED Mode Table <number> page* is displayed. For more detail, see *Editing LED Modes (Mercury Security)* on the next page.

Before making any changes ensure that the related doors and subpanels are correctly configured and wired, including:

- Ensure that the **LED drive** field on the Reader: Edit screen has a valid entry (e.g. Gen 1 wire, Sep Red/Grn no buz, OSDP).
- Ensure that the **LED Mode** field on the Mercury Security Operations page is set to match the table (1, 2 or 3) that you want to use.

Editing LED Modes (Mercury Security)

1. Select **Physical Access** > **Mercury LED Modes**.
2. Select a Mercury LED Mode table to display LED mode details.
3. Review the table details. For any door State, any of the following can be updated:
    - Change the color that displays when the state becomes:
        - Active in the **On Color** column.
        - Inactive in the **Off Color** column.

      Select the color by clicking inside the circle of the desired color ( )
    - Change the duration that the color displays when the state becomes:
        - Active in the **On Time (1/10s)** column.
        - Inactive in the **Off Time (1/10s)** column.

      The time is in 1/10th second ticks.
    - To edit the number of times the LED blinks (where this is possible), enter the new value in the **Repeat Count** column.
    - To edit the number of time the blinking is accompanied by a sound (where this is possible), enter the new value in the **Beep Count** column.
4. Click .

Mercury Security LED Mode Table page

The **Mercury LED Mode Table** ***<number>*** page allows you to edit any of the available LED Mode tables.

> **Note:** The actual output from the selections below (in terms of colors and beeps) may vary from those selected depending on panel, reader type and configuration.

For more information on Mercury Security LED Modes, see *LED Modes for Mercury Security* on the next page.

Feature	Description
LED ID	Unique identifier for the LED state.
State	Door state that you can set a custom LED mode for.
On Color	Select the color to display when the door state is active. The options are green, amber, red or all off ( ). Click inside the circle of the desired color to select it (e.g.).

Feature	Description
On Time (1/10s)	Time in 1/10th second ticks that the On color will display for.
Off Color	Select the color to display when the door state is not active. The options are green, amber, red or all off (○ ○ ○). Click inside the circle of the desired color to select it (e.g. ◉ ○ ○).
Off Time (1/10s)	Time in 1/10th second ticks that the Off color will display for.
Repeat Count	Select the number of repeats for the on and off colors. **Note:** This will not be editable for some states.
Beep Count	Select the number of beeps to sound when the related state becomes active. **Note:** This will not be editable for some states.
	Click this button to save your changes.
	Click this button to discard your changes.
Restore to Default	Click this to restore the selections for all states to the default setting.

LED Modes for Mercury Security

For Mercury Security door controllers, there are three reader LED modes. Each mode consist of two attribute sets:

- Door mode attributes (LED IDs 1 to 8)

  Used when the reader is idle. Repeat and beep counts can not be set for these LED IDs.

- Door Processing Attributes (LED IDs 11 to 16)

  Used when a card or pin is presented at the reader. Repeat count can be set for LED IDs 11 and 12 only. Beep counts cannot be set for any of these function IDs.

Mercury Security has 3 built-in **LED modes**. The following tables describe the settings for each mode.

Default Settings for LED Mode 1

LED ID	On Color	Off Color	On Time	Off Time	Repeat Count	Beep Count	Door Mode or State of Door
1	Red	Off	29	1	0	0	Disable
2	Green	Off	29	1	0	0	Unlocked
3	Red	Off	29	1	0	0	Exit Only

LED ID	On Color	Off Color	On Time	Off Time	Repeat Count	Beep Count	Door Mode or State of Door
4	Red	Off	1	29	0	0	Facility Code Only
5	Red	Off	1	29	0	0	Card Only
6	Green	Off	1	29	0	0	PIN Only
7	Red	Off	1	29	0	0	Card and PIN
8	Green	Off	1	29	0	0	Card or PIN
11	Red	Off	2	2	5	3	Deny
12	Green	Off	2	2	7	1	Granted
13	Green	Off	1	14	0	2	User Command
14	Green	Red	1	4	6	2	Require two card control
15	Green	Red	4	1	25	2	Second User PIN
16	Green	Red	1	4	6	2	Wait

Default Settings for LED Mode 2

LED ID	On Color	Off Color	On Time	Off Time	Repeat Count	Beep Count	Door Mode or State of Door
1	Red	Off	29	1	0	0	Disable
2	Green	Off	29	1	0	0	Unlocked
3	Red	Off	29	1	0	0	Exit Only
4	Red	Off	24	1	0	0	Facility Code Only
5	Red	Off	24	1	0	0	Card Only
6	Red	Off	24	1	0	0	PIN Only
7	Red	Off	24	1	0	0	Card and PIN
8	Red	Off	24	1	0	0	Card or PIN
11	Red	Off	2	2	5	3	Deny
12	Green	Off	2	2	7	1	Granted
13	Green	Off	1	14	0	2	User Command
14	Green	Red	1	4	6	2	Require two card control

LED ID	On Color	Off Color	On Time	Off Time	Repeat Count	Beep Count	Door Mode or State of Door
15	Green	Red	4	1	25	2	Second User PIN
16	Green	Red	1	4	6	2	Wait

Default Settings for LED Mode 3

LED ID	On Color	Off Color	On Time	Off Time	Repeat Count	Beep Count	Door Mode or State of Door
1	Red	Off	29	1	0	0	Disable
2	Green	Off	29	1	0	0	Unlocked
3	Green	Off	29	1	0	0	Exit Only
4	Green	Off	29	1	0	0	Facility Code Only
5	Green	Off	29	1	0	0	Card Only
6	Green	Off	29	1	0	0	PIN Only
7	Green	Off	29	1	0	0	Card and PIN
8	Green	Off	29	1	0	0	Card or PIN
11	Red	Off	2	2	5	3	Deny
12	Green	Off	2	2	7	1	Granted
13	Green	Off	1	14	0	2	User Command
14	Green	Red	1	4	6	2	Require two card control
15	Green	Red	4	1	25	2	Second User PIN
16	Green	Red	1	4	6	2	Wait

For example, all three LED Modes have the same functionality for access grants (LED ID 12), and the LED does not follow the strike time. The reader LED will flash green 7 times for 0.2 seconds (2 ticks of 1/10th second) on and 0.2 seconds (2 ticks of 1/10th second) off.

Configuring Card Formats

Readers that control access to doors come in many varieties and use many different card types.

Supported Card Formats

The ACM system supports the most common card types using the following card formats:

- **ABA Mag**: for magnetic stripe cards.
- **Wiegand**: for other card types, including proximity cards and smart cards. These include most newer cards that use embedded chips and proprietary formats, which are now widely used due to increasingly stringent security requirements.
- **Large Encoded**: for internal numbers that are larger than 64 bits. For example, 128-bit and 200-bit cards need the 32-character Federal Agency Smart Credential Number (FASC-N) or Card Holder Unique Identifier (CHUID) for PIV-I cards. Large Encoded card formats are used with FIPS 201 compliant pivCLASS readers.

You can define custom card formats, which allow a panel to control access for a variety of readers. When you configure a door, you specify the card formats that are accepted at that door. A door can support up to 16 card formats from a system-wide total of 128 card formats. All of the doors on a single panel can collectively use at most 16 distinct card formats.

Important: A panel that is configured to accept the Large Encoded card format can not accept ABA Mag or Wiegand formats. However, the panel can only accept up to 16 distinct Large Encoded card formats. Conversely, a panel that can accept any combination up to 16 of both ABA Mag or Wiegand formats cannot accept any Large Encoded card formats.

Corporate Card Mode for Using Facility Codes

For Wiegand cards

Corporate card mode enables you to create batches of unique card numbers using different facility codes and the same range of internal card numbers. For example, two batches of 26-bit Wiegand cards can have facility codes 55 and 105 (respectively) and the same 1400-19999 internal card numbers. The facility code that is inserted at the start of each card number string can be used to grant access and then easily viewed in Monitor Events and Transaction Reports.

To use the Corporate card mode setting:

1. On the Card Format: Add or Card Format: Edit page, enter:

Facility Code	The facility code of the card format. Example: `55` for the 26-bit Wiegand card format
Facility Code Length	The length of the facility code in digits. Example: `8` for the 26-bit Wiegand card format
Facility Code Location	The starting location of the facility code in the number string. Example: `3` for the 26-bit Wiegand card format Up to 2 zeroes (0) may be inserted at the 3-bit location.
Offset	The offset number for the card format. Used with **Corporate card mode**. Example: `10000` **Tip:** Any number can be used, however, a power of 10 higher than the card number used is recommended. For example, if the internal card number range is 1400-19999, specify `100000`. Your range of card numbers will now increase to 5501400-5519999. When the **Offset** value is set to zero (`0`), the card number is always read from the card.
Corporate card mode	A checkmark to enable the combination of values entered in the **Facility Code** and **Offset** fields, and the card number read from the card, to produce unique card numbers that the readers at different facilities will recognize. Example: `55` x `10000` + `1400` = 551400 **Note:** When **Corporate card mode** is enabled, the **Facility Code Length** and **Facility Code Location** values also need to be specified.

   To enter other card format options, see *Card Format Fields* on page 323.

2. Click .
3. Repeat the above steps for another facility code.

   Example: `105`
4. When the cardholder swipes the token that is configured with Corporate card mode, the cardholder is granted access to the door.

Issue Level Numbering for Reusing a Card Number

For ABA Mag and Wiegand cards

An issue level enables a card number to be reused by creating the token for a card number with an updated issue level. Only one token for a given card number can be active at a time. If your ACM deployment uses the Issue Level numbering option in a custom card format, complete the following:

1. On the Card Format: Edit page, enter:

Issue Level Length	The length of the issue level number in the card number string. Used with the Issue Location and Issue Level options. Example: 3-digit number for the 56-bit card format type.
Issue Location	The starting location of the issue level number in the card number string. Example: 0 for the 56-bit card format type.

   To enter other card format options, see *Card Format Fields* on the next page.
2. On the Token: Edit page, enter:

Issue Level	A number from 0 to 999999999, representing the issue level of the token. Example: If a 3-digit length was configured on the Card Format: Edit page, you can enter 123 for the issue level of the card.

3. Click .

   When a cardholder swipes the token that is configured with an issue level, the cardholder is granted access to the door. If an issue level that is not configured is swiped (for example, any issue level that is not 123), the following door event is generated in the log: "Valid card with an incorrect issue level."
4. If the card number needs to be reused, repeat step 2 and increment the issue level number.
5. When the cardholder swipes the token that is configured with the updated issue level, the cardholder is granted access to the door.

Adding Card Formats

1. Select **Physical Access > Card Formats**.
2. Click **Add Card Format**.
3. In the Card Format Add page, enter the details for the new card format.
4. Click to save the new card format.

The new card format is displayed in the Card Formats list and can be assigned to doors in the system.

Editing Card Formats

1. Select **Physical Access > Card Formats**.
2. On the Card Formats list, click the name of the card format that you want to edit.
3. On the Card Format Edit page, make the required changes.
4. Click to save the changes and download the updated card format information to all panels and door subpanels that are assigned the format.

The updated card format is available on all affected doors as soon as the updated card format information is downloaded.

Deleting Card Formats

1. Select **Physical Access > Card Formats**.
2. Click for the card format that you want to delete.
3. When the confirmation message is displayed, click **OK** and the updated card format information is downloaded to all panels and door subpanels that are assigned the format.

The deleted card format is removed from all affected doors as soon as the updated card format information is downloaded.

Card Format Fields

Add or edit a card format from **Physical Access > Card Formats**:

Name	The name of the card format.
Card Format Type	The card format type. • **ABA Mag**—for magnetic stripe cards • **Wiegand**—for other card types, including proximity cards and smart cards. • **Large Encoded**—for internal numbers that are larger than 64 bits. For example, 128-bit and 200-bit cards need the 32-character Federal Agency Smart Credential Number (FASC-N) or Card Holder Unique Identifier (CHUID) for PIV-I cards. Large Encoded card formats are used with FIPS 201 compliant pivCLASS readers.See *Appendix: pivCLASS Configuration* on page 502. The option you select will determine which of the following options are displayed.
ABA Mag options	
Facility Code	The facility code of the card format.
Offset	The offset number for the card format. In ABA Mag card formats, the offset value is added to the card number read from the card and the result is used as the card number for the access request.
Max Digits	The maximum number of digits for the card format.
Min Digits	The minimum number of digits for the card format.
Facility Code Length	The length of the facility code in digits.
Facility Code Location	The starting location of the facility code in the number string.
Card Number Length	The total length of the card number on the card.

Card Location	The starting location of the card number in the number string.
Issue Level Length	The length of the issue level number in the number string.
Issue Location	The starting location of the issue level number in the card number string.
Suppress facility check	By default, checking the facility code allows a single card format to be used for multiple sets of cards with matching number length, but different facility codes. A checkbox to ignore a facility check.
Corporate card mode	Not supported for ABA Mag card formats. Checking this option will have no effect.
Wiegand options (Mercury and HID™/VertX panels)	
Facility Code	The facility code of the card format.
Offset	The offset number for the card format. Used with **Corporate card mode**. • If **Corporate card mode** is disabled (the default setting), the Offset value is added to the card number read from the card and the result is used as the card number for the access request. • If **Corporate card mode** is enabled, the Facility Code value read from the card is *multiplied by the Offset* value and then added to the card number read from the card. The result is used as the card number for the access request. **Note:** When **Corporate card mode** is enabled, the **Facility Code Length** and **Facility Code Location** values also need to be specified. When the **Offset** value is set to zero (0), the card number is always read from the card.
Number of Bits	The maximum number of bits this card format can have. If the **Reverse card bytes** option is available for this card format type and it is enabled, the value entered here must be a multiple of 8.
Even Parity Length	The length of the number string that will have even parity.
Even Parity Location	The starting location of the number string that will have even parity.
Odd Parity Length	The length of the number string that will have odd parity.
Odd Parity Location	The starting location of the number string that will have odd parity.
Facility Code Length	The length of the facility code in digits. This value must be specified if **Corporate card mode** is enabled.
Facility Code Location	The starting location of the facility code in the number string. This value must be specified if **Corporate card mode** is enabled.

Card Number Length	The total length of the card number on this card.
Card Location	The starting location of the card number in the number string.
Issue Level Length	The length of the issue level number in the card number string.
Issue Location	The starting location of the issue level number in the card number string.
Suppress facility check	A checkbox to ignore a facility check and use overlapping card number sequences in card sets with matching values in the bit length and bit parity fields. **Note:** If this mode is used with **Corporate card mode**, the reader will read the facility code from the card and use it to calculate the offset. The Facility Code Only door mode cannot be used when the **Suppress facility check** checkbox is used.
Corporate card mode	A checkmark to enable the combination of values entered in the **Facility Code** and **Offset** fields, and the card number read from the card, to produce unique card numbers that the readers at different facilities will recognize. **Note:** When **Corporate card mode** is enabled, the **Facility Code Length** and **Facility Code Location** values also need to be specified.
Additional Wiegand options (Mercury panels only)	
Step parity by 2	A checkbox to indicate that the parity must be stepped by 2. Can only be used with cards that are encoded with this parity scheme.
Enable 37 bit parity w/4	A checkbox to enable 37-bit parity by 4 format. Can only be used with cards that are encoded with this parity scheme.
Enable 37 bit parity w/2	A checkbox to enable 37-bit parity by 2 format. Can only be used with cards that are encoded with this parity scheme.
Enable 75 bit transparent mode	A checkbox to enable 75-bit transparent mode for PIV/TWIC cards.
Reverse card format	A checkbox to enable the bit-level reversal of the entire bitstream from the card when it is received from the card reader. The reversed bit stream is then compared against the card format. If it matches, then the data in the card format is used to authenticate the identity of the cardholder.

Reverse card bytes	A checkbox to enable the byte-level reversal of the entire bitstream from the card when it is received from the card reader. The reversed bit stream is then compared against the card format. If it matches, then the data in the card format is used to authenticate the identity of the cardholder. For this option to correctly function, the value in the **Number of Bits** field must be a multiple of 8.
Large Encoded	
Number of Bits	The maximum number of bits the card format can have. The default value is 0. The maximum value is 128.
Card Number Length	The maximum length (in bits) of the card format. This value must be the same as the value for Number of Bits.
	Click this button to save your changes.
	Click this button to discard your changes.

Configuring ACM System Events

The ACM system generates events to notify you of issues that may require your attention. Events include messages and alarms issued by specific devices in the ACM system.

You cannot create events but you can customize the existing system events to monitor what you are most concerned about.

Events can be made into an alarm when they are assigned to an alarmed Event Type. For more information, see *Event Types - Introduction* on page 393.

Searching for ACM System Events

The ACM system provides many events, so it may sometimes be easier to search for the specific event that you want to customize. For example if you are looking for an event related to failures in the system, you can search for events containing the word failure.

1. At the top of the Event list, enter the name of the event in the **Name** field.

   Tip: Use any series of letters and numbers to search for the events you want to see.

   You can also use the drop down list options to specify that the name of the event **Starts With**, **Equals**, **Contains** or **Ends With** your search term.
2. If you know the event type that is assigned to the event, select one of the options in the **Event Type** drop down list.
3. Click **Search**.

The page refreshes to show your search results.

Customizing ACM System Events

You can edit ACM system events to customize them to your needs. For example, if an action needs to be taken when a specific event occurs, instructions can be added to that event. These instructions will be displayed when the event is triggered.

1. Select **Physical Access** > **Events**.
2. On the Events list, click the name of the event you want to edit.

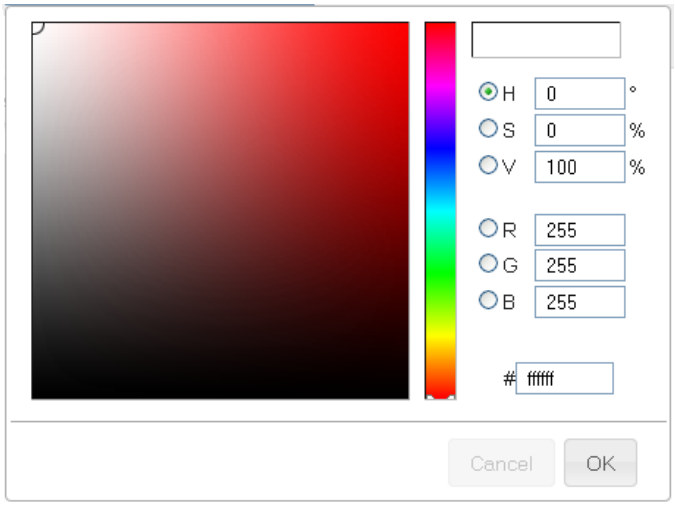
   The Event: Edit page is displayed.
3. Make the required changes.
4. Click to save your changes.

Assigning Priority Colors to ACM System Events

You can assign a color to any priority level. The colors are used to highlight events with the same priority on the Alarms page in the Monitor screen.

The alarm priority is assigned to events on the Event Edit page or the Event Type Edit page.

1. Select **Physical Access > Events**.
2. Select the **Colors** tab.
3. On the Colors list, do one of the following:
   - To add a new color, click **Add New Color**.
   - To edit a priority color, click a listed priority number.
   - To delete a priority color, click .
4. On the following page, enter the priority number that this color set should be assigned to.
5. For each of the color options, click the color field to display the color map.



6. To use this palette to select a specific color:

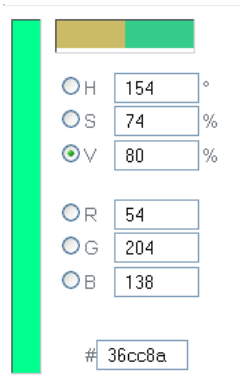
a. From the HSV or RGB color fields, enter the general color you require.

   All possible tints and variations of this color appear to the left in the tint area.

   The new color you have selected appears on the right side of the horizontal bar above the color element fields. The original color appears to the left.

b. To fine-tune the color, click within the tint area.

   A cross appears. Drag the cross through the area to determine the exact color you want. indicating the exact tint and shade you have selected like the following example:



   The number in the Color field changes to reflect your choice.

c. If required, slide up or down the vertical slide bar to change the color still further.

d. When you're finished with this palette, click **OK**.

7. Click to save.

Global Actions

Global actions allow you to perform one or more actions simultaneously at a large number of doors connected to more than one panel. These actions can be triggered in the following ways:

- Manually, from the Global Actions list.

  From the browser or ACM Expedite mobile app.

  > **Note:** Fields in this list are dependent on the door or device. Some commands or fields are not supported for all doors or devices.

- By schedule, configured from the Global Actions list.
- Automatically, when used in a Global Linkage.

  One or more global actions must be defined before you can create Global Linkages.

Important: A Priority Door Policy is the most secure way to control access with the ACM system in an emergency situation. It is also more robust than a Priority Door Global Action. A Priority Door Policy will stay in effect on the doors it is installed on even if:

- The ACM appliance:
  - Is restarted
  - Is disconnected from power
  - Fails over to a backup appliance
- The door or door panel:
  - Goes offline
  - Is rebooted
  - Is disconnected from power
  - Is disconnected from the access control network.

Adding Global Actions

1. Select **Physical Access** > **Global Actions**.
2. On the Global Action list, click **Add Global Action**.
3. Enter the required details for the new global action.
4. Select the objects of the global action by moving them to the **Members** list.

   To add an item, select it from the **Available** list and click ▶.

   To remove an item, select it from the **Members** list and click ◀.

   Tip: Use Shift + Click to select items in sequence. Use Ctrl + Click to select individual items.
5. Click to save.

After defining all your global actions, proceed to Global Linkages to create a sequence of actions.

Adding a Group of Global Actions

Before you start, create multiple global actions.

1. Add a global action by selecting **Action Group** in the **Type** field.
2. Move the multiple global actions to the **Members** list.
3. Click to save.

Editing Global Actions

1. Select **Physical Access > Global Actions**.
2. Click the name of the global action.
3. Make the required changes.
4. Click to save your changes.

Types of Global Actions

Note: Only Access Group Install/Un-Install, Action Group, Door Grant, Door Install/Un-install, Door Mask and Door Mode are applicable for ASSA ABLOY external-powered doors. Door Grant and Door Mode are not applicable for ASSA ABLOY battery-powered doors. Any locks that do not support real-time communication with a server, will not display door mode options on the Doors list page and maps. Door mode can be set on the Door: Edit page and by using a batch job (specification).

Type	Description
Access Group Install/Un-install	One or more designated access groups to be installed or uninstalled.
Action Group	A group of global actions to be run.
Door Grant	Entry to be granted at one or more designated doors.
Door Install/Uninstall	One or more doors to be installed or uninstalled.
Door Mask	Alarms to be forced to a mask or unmask state at one or more designated doors.
Door Mode	The door mode to be applied to one or more designated doors.
Email	The email addresses of the recipients of global action notifications
Exacq Soft Trigger	*Exacq video integration only.* A soft trigger to be run on the Exacq camera system.
Input	*Bosch intrusion panel only*. One or more designated inputs to be masked or unmasked.
Intrusion Areas	*Displays for Bosch intrusion panel only*. All available commands for intrusion areas.
Intrusion Outputs	*Displays for Bosch intrusion panel only*. All available commands for intrusion outputs.
Intrusion Points	*Displays for Bosch intrusion panel only*. All available commands for intrusion points.
Output	*Bosch intrusion panel only*. One or more designated outputs to be activated or inactivated.
Panel Install/Un-install	One or more panels to be installed or uninstalled.

Panel Macro	*Mercury Security panel only*. A macro command to be run on a designated group.
Policy Install/Un-install	*Mercury Security door only*. One or more designated policies to be installed or uninstalled.
Schedule Set Mode	One or more schedules to be activated, inactivated or scanned.

Deleting Global Actions

1. Select **Physical Access > Global Actions**.
2. From the Global Actions list, click for the global action that you want to delete.
3. When the browser displays a pop-up message to ask *Are you sure?*, click **OK**.

Global Actions - Intrusion Linkages and Actions

Bosch doors only.

Noted below are some examples of setting up intrusion linkages and actions.

Intrusion panel alarm due to an event in the System

An ACM system event can trigger an intrusion alarm point. To set up an alarm condition that is generated at the intrusion panel notifying the monitoring center) due to an ACM system event (for example, a forced door), ensure that the intrusion panel has a point with source "output" and select an index that is unused both as a point and as an output. Follow the steps below:

1. Create global actions to activate and deactivate the output.
2. Create a global linkage to the Forced Door event, to activate the output.
3. Create a global linkage to a NORMAL Forced Door event to deactivate the output.

When the related event occurs in the ACM system, the corresponding point will be triggered at the intrusion panel, and control over the event (for example,. silencing an alarm) can be made by intrusion panels.

Disable and enable doors from keypad

Arming an alarm at the intrusion keypad can also lock a door within the ACM system.

1. Create global actions to lock and restore the door.
2. Create a global linkage to the area arming events, to lock the door.
3. Create a global linkage to the area disarming events, to unlock the door.

It is best to set this action up with a single area as different combinations of arming and disarming could leave the door unexpectedly locked or unlocked.

Alarms and access will be accessible from the keypad and from the **Monitor > Intrusion Status > Areas** section of the ACM system.

> **Note:** Keypad access will be limited by the tokens assigned to the identity.

Disarm Alarm on Access Grant with restricted authorities

Accessing an area by a valid the ACM system card access can automatically disarm an area.

To allow a scenario where entry to an area by a valid card access disarms an intrusion area based on the badge holder's intrusion authorities, follow the steps below:

1. Create a global action to disarm an area. Action type of 'Intrusion Area', Subtype 'Primary Disarm' and the relevant areas as the Members.
2. Create a global linkage to door access events.
    - Devices tab: Door as the Type and the target doors as Members.
    - Events tab: Local Grant.
    - Actions tab: Disarm All.

Areas can be armed and disarmed from the keypad (depending on the tokens assigned to the identity) and from the **Monitor** > **Intrusion Status** > **Areas** section of the ACM system.

Global Linkages - Introduction

Global linkages are the final step in the process that defines specific actions for triggering events at specific doors. What separates this procedure from the Macro or Trigger features available for specific doors or panels, is that this feature is capable of connecting many doors and inputs spread across many panels.

For example, you could lock down an entire building simply by issuing a single trigger. At a more sophisticated level, you can use global linkages to plot a complex scenario, like a sally port or a man trap, in which a series of doors are opened in sequence, inputs associated with those doors are sequentially masked and unmasked, and cameras are turned on as each door is opened.

Global linkages allow you to plan a cascade of triggers and their resulting actions with only a single code entry or command.

Adding Global Linkages

1. Select **Physical Access** > **Global Linkages**.
2. On the Global Linkage list, click **Add Global Linkage**.
3. Enter the required details and click .
4. Edit each tab to add the required events, devices, identities and actions.
5. Click to save your changes on each page.

Editing Global Linkages

1. Select **Physical Access** > **Global Linkages**.
2. On the Global Linkage list, click the name of the global linkage that you want to edit.
3. Edit each tab as required.
4. Click after editing each page to save your changes.

Mustering

In emergency situations, employees and other personnel in your building may be required to gather at specific locations so emergency response teams can work quickly to ensure that everyone is safe. For example in a fire drill you may be asked to wait at a specific spot, or muster station, until the drill is over. This would be the same spot you would gather in an actual fire.

To help track the location of users in emergency situations, Access Control Manager offers the Mustering feature. Mustering allows you to create a dashboard to quickly monitor who has arrived at their muster station and who is still in danger during emergency situations.

Mustering - Requirements

To use the Mustering feature, you must configure each muster station and give users access to it in the ACM system.

1. Create an area for each muster station. For more information, see *Adding Areas* on page 314.
2. To organize related areas together, you can combine them into groups.
3. Identify all the doors that lead to the muster station area, then make sure the correct area is assigned to each door.
    a. In the Access Control Manager software, select **Physical Access** > **Doors**.
    b. Click the name of the door that should be in the area, then select the Operations tab.
    c. From the **Into Area** drop down list, select the area the door enters into.
    d. From the **Out of area** drop down list, select the area the door exits from.
    e. Click .
4. Create an access group that includes all the doors in the muster station area.
5. Assign the access group to a role that would need access to the mustering area.

    Tip: Create a role for each mustering area. If users physically move locations within an organization, they can be easily assigned to new mustering stations without impacting their primary role in the system.

6. Assign the role to each identity that would need access to the muster station.

Next, create a dashboard to track identities as they arrive at the appropriate muster station in emergency

situations.

Mustering - Creating a Dashboard

A Mustering dashboard is a map that contains a quick view of who has entered each muster station area.

The dashboard can be a simple list of all the Mustering areas, or it can be configured into color coded shapes for quick identification.

You can add a dashboard to any map, or you can create a blank map to host the dashboard.

1. Select > **Maps**.

   The Map Templates list is displayed.
2. In the Map Templates list, decide if you want to add a dashboard to an existing map or create a blank map.
   - To add the dashboard to an existing map, click the name of the map you want to use.
   - To create a blank map, click **Add New Map Template** then check the **Use Blank Canvas** box.

     Complete the other details and click .
3. On the Map Template Edit page, click **Add** beside Dashboard Elements.
4. Enter a title for the dashboard element. The map automatically updates with each change that you make.
5. Click the **Title Font Color** field to change the text color.
6. In the **Title Font Size** drop down list, select the size. The options are Small, Medium and Large.
7. For the **Opacity** option, choose how transparent you want the dashboard element to be. You can enter a percent number, or move the slider to set the opacity. 100% is opaque and 0% is transparent.
8. In the **Location** field, enter where you want the dashboard element to appear on the map. You can also move the dashboard element directly on the map.
9. In the **Element Type** drop down list, select if you want the dashboard element to appear as Text Only or Graphic & Text.

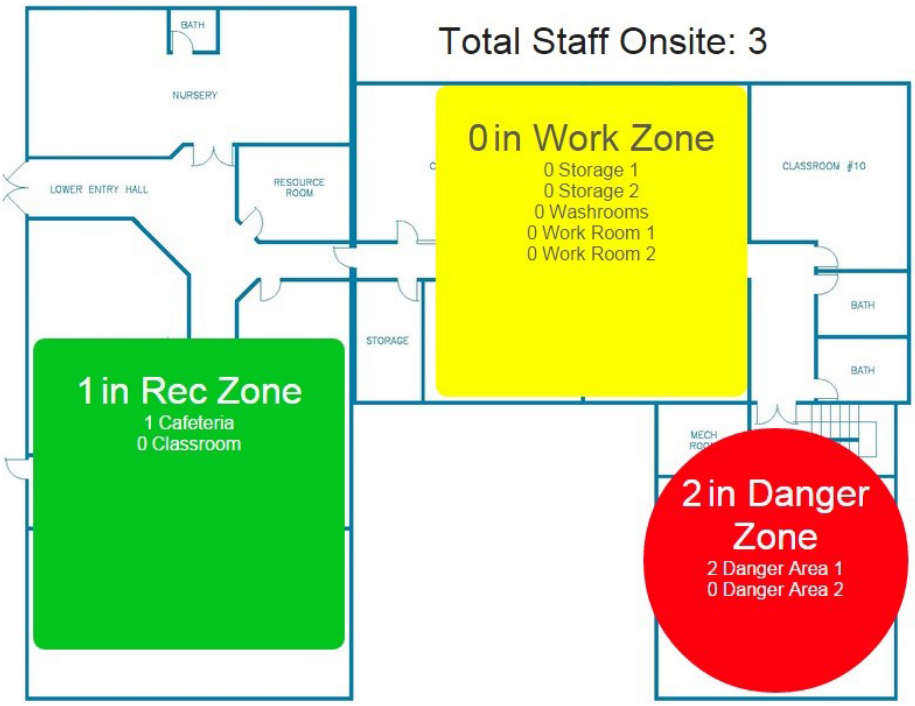
   If you choose Graphic & Text, the following options are displayed:
   a. In the **Area Group/Area** drop down list, select the muster area this dashboard element represents. You can select a specific area or a group of areas.
   b. From the **Graphic Shape** drop down list, select Circle or Square.
   c. Click the **Graphic Color** field to change the graphic shape color.
   d. For the **Graphic Size** option, choose how big you want the graphic to be. You can enter the size in pixels, or use the slider to adjust the size.
10. Click to save your changes.

To use the dashboard, see *Using a Map* on page 438.

Mustering - Using the Dashboard

Once you have the Mustering dashboard set up, you can monitor access to each muster station area in the event of an emergency.

1. Select **Monitor > Maps**.
2. Select the Mustering dashboard from the Map list.

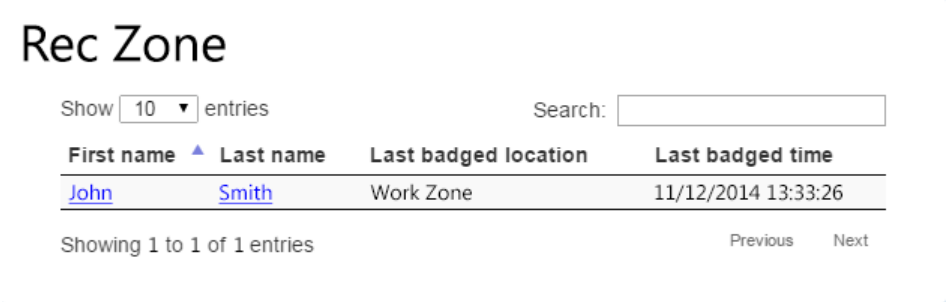


Note: Depending on how your dashboard is set up, your map may look different. Dashboard elements may appear as a line of text or as a shape with text inside.

Each dashboard element is labeled in this format: *<# people> <Area Name>*. The title of each dashboard element displays the total number of people that are in the grouped area, and listed below the title is a list of each area within the group.

As people move from one area to the next, you can track who is still in the danger area and who has arrived in a safe area.

3. Click a dashboard element to display a list of all the people who are in an area.



Click the name of a person on the list to go to their Identity page. The Identity Edit page will tell you the last door and area this person accessed.

4. To generate a report of all the people in each area, select **Reports > Area Identity Report**.

   By default, the report displays a list of identities that are in each configured area, but you can filter the list to display only specific areas.

Mustering - Manually Moving Identities

In an emergency situation, it is hard to anticipate how people will move and arrive at their mustering stations. If someone chooses to follow another to their mustering station and does not check-in with their badge, you can manually set the identity as having arrived to a safe Mustering area.

> **Note:** Confirm the location of the person before you reset their actual location in the system.

1. Select **Identities**. Click the name of an identity.

   In the Identity Information area, the last door and area accessed by the person is displayed.
2. Select the **Tokens** tab.
3. In the **Last Area** drop down list, select the specific area that the person is currently located.
4. Click .

Managing Appliances

When you log in to the ACM application, you are accessing an appliance that is set up in your network. The appliance configures and directs communication between all the elements in the access control system.

After you have connected your appliance to the network, you can further customize and set up your appliance to meet your system requirements.

Editing Appliance Settings

After initial setup, you can edit the ACM system settings and set up backup and redundancy for the appliance.

1. In the top-right, select > **Appliance**.

   If only one appliance is managed by the system, the Appliance Edit page is displayed.

   If more than one appliance is managed by the system, the Appliance list is displayed. Select the appliance you want to edit.
2. Navigate through the following tabs to configure the appliance:
   - **Appliance** tab: Edit system, network and storage settings, as well as shut down or restart the appliance remotely.
   - **Access** tab: Specify and enable the controller panel types.
   - **Ports** tab: Specify how the Ethernet ports on the appliance are used to communicate with access control devices, including DHCP.
   - **Replication** tab: Set up system replication and redundancy.
   - **Backups** tab: Set up scheduled backups for the appliance.
   - **Logs** tab: Access the system logs.
   - **Software Updates** tab: Update the appliance software.
   - **SSL Certificate** tab: Configure SSL certificates used in the authentication of ACM Client users. For more information, see *Configuring Remote Authentication Using SSL Certificates* on page 404.
   - **About** tab: View and manage licenses, and view the version numbers and End User License Terms and Conditions.
3. Click to save your changes.

Deleting an Appliance

Appliances may need to be deleted in certain cases. If you want to disconnect an appliance that is no longer needed, delete it from the system before physically removing it. If you want to take an appliance that is being used for replication or redundancy and use it as a primary appliance, the appliance must be deleted first.

Note: You can only delete an appliance if your system has more than one appliance.

1. In the top-right, select > **Appliance**.
2. From the Appliance list, click beside the appliance that you want to delete.
3. When the confirmation message is displayed, click **OK**.

The selected appliance is removed from the list.

Configuring Replication and Failover

The Replication tab on the **Appliance: Edit** page allows configuration and monitoring of LDAP data replication and optionally redundancy/failover of the ACM application so that monitoring and hardware control is not lost even if an appliance fails. Only the default Admin identity can edit the appliance Replication settings.

Important: The ACM 6 license format is different from previous versions. You will need to upgrade your license format if you upgraded from ACM 5.12.2 to ACM 6.0.0 or later in order to add new licenses. Replication features, including failover, will not function if your license format is not the same on both the primary and standby appliances.

The replication feature allows two or more appliances to be set up to share a single set of LDAP configuration data, so that the appliances can share identities and other system details. Any change made to configuration data on one appliance is automatically copied (“replicated”) to the other appliances. This is referred to as a “Peer to Peer” configuration. In this configuration, each appliance “owns” the hardware installed on it, and events and status information sent from that hardware can only be viewed on the hardware owner appliance. All panel hardware added in a replicated environment must be assigned upon creation to one of the available Peer to Peer appliances. A panel and its subpanels cannot be split across multiple appliances, but is installed on one of the Peer appliances.

Tip: It is recommended that replication be set up on all appliances before adding panels, other hardware or user details to the system. After replication is configured, it is possible to configure system hardware and identity information from one of the replicated appliances on the network rather than having to connect directly to each individual appliance to make changes to its installed hardware. However, it may be necessary to perform a download of the hardware configuration from the appliance where the hardware is installed in order to update the hardware with the latest configuration data changes made from another appliance.

Failover/Redundancy Feature

The failover, or redundancy, feature of replication allows a “Hot Standby” appliance to be set up to take over control and event monitoring when the Primary appliance used in daily operations fails. This configuration is referred to as Primary/Hot Standby. To use the failover feature, both appliances are originally configured with Peer to Peer replication so that each appliance will share a common LDAP configuration database. The Hot Standby appliance is then configured as such, and then will not have its own hardware or collaborations, and will not appear in the list of replicated appliances available for assignment when these items are created.

Each Primary appliance can only be assigned one Standby appliance, but the same Standby appliance can be assigned to more than one Primary appliance. However, if two or more Primary appliances fail at the same time, the Standby appliance will replace the first appliance that it knows is offline (if configured for automatic failover), and will not be available for failover of the other Primary appliances while it is standing in.

The following types of failover and failback are supported:

- Automatic failover
- Manual failover
- Manual failback

Automatic failover

Automatic failover is controlled by the Standby appliance by monitoring the health of the Primary appliance. If a Primary appliance is found to be unresponsive by the Standby appliance within a set period of time, the Standby appliance will automatically initiate failover of the Primary appliance and will begin to control the hardware installed on that Primary appliance, and will begin to receive events and status from this hardware.

There are two settings that control automatic failover - Heartbeat count and Heartbeat time. The Heartbeat count is the number of health checks the inactive hot standby appliance makes to see if the active primary appliance is alive. If this number of failures occurs in a row, the hot standby will do an automatic failover. The Heartbeat time is the time between health checks (regardless of if the previous check was successful or failed).

It is not necessarily possible to calculate specifically how long it would take to failover. It is not simply a matter of multiplying the Heartbeat count by the Heartbeat time (for example Heartbeat count of two and Heartbeat time of 30 seconds does not necessarily mean failover in about one minute of the primary going down, however one minute would be the best/shortest case). This is because the time it takes each check to fail may depend on a network time-out in the case of the hot stand by machine no longer having network connectivity to the primary machine. Typically, a worst case network time-out is approximately two minutes - however this may possibly vary. A health check may also fail immediately depending on network considerations/status.

It is recommended to set the Heartbeat count to at least a value of two so that a short network glitch does not cause a premature failover. A Heartbeat count of two and a Heartbeat time of 30 seconds should typically ensure that a failover is initiated within one to about five minutes of the primary going down.

Manual failover and failback

A manual failover can be initiated through from the Replication tab on the **Appliance: Edit** page on the Standby appliance. This is usually done to test functionality or if a Primary appliance is going to be down for scheduled maintenance.

Once the Primary appliance is back online and fully functional, you can then manually initiate failback of the Standby appliance over to the Primary appliance, which restores hardware control and event and status reporting to the Primary appliance.

Read through all of the following procedures before configuring replication and redundancy. If any detail is unclear, contact Avigilon Technical Support for more information before you begin.

Recommended System Architecture

System Architecture for Replication

Replication works by automatically copying the **LDAP**[1] configuration databases from one appliance to another. Changes made in one appliance's database are automatically replicated to the all of the other appliances. Replication can occur between two or more Peer to Peer appliances, or it can occur between a Primary appliance and its Standby appliance, and a mix of both configurations is possible.

If you only have one appliance in your system, replication is not possible. In this situation, performing periodic backups is the recommended method of ensuring appliance recovery after a failure.

When two appliances exist, they can start replicating information.

Once replication is set up, any identity or other system configuration data that is added to or edited on one appliance is automatically copied to the other appliances. Be aware that each appliance will be responsible for their connected panels, subpanels, and other hardware. Configuration and viewing of all system hardware is possible from any replicated Peer appliance, but you will not be able to see the hardware status or events from any appliance other than the one the hardware is installed on.

When more than two replicated Peer appliances exist, it is recommended that Peer to Peer replication be set up in a mesh formation, where every Peer appliance has links ("subscriptions") to all of the other Peer appliances. This allows system configuration to be performed from one Peer appliance and have the details automatically replicated to all the other Peer appliances, while providing multiple paths for this data to replicate among the participating appliances. The exception to this is a Standby appliance, which only needs to have replication subscriptions with its Primary appliance.

Note: Up to 99 appliances can be connected together for Peer-to-Peer replication, and this limit includes any Hot Standby appliances in the environment.

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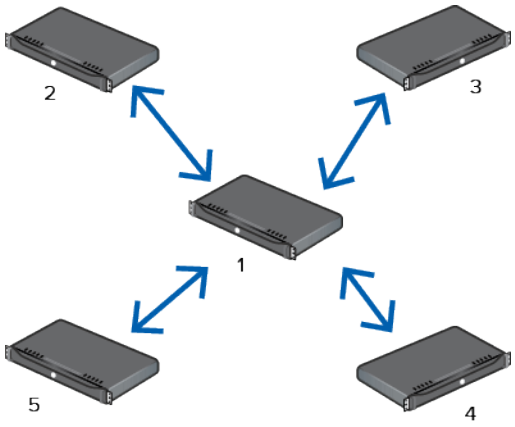
[1]Lightweight Directory Access Protocol is an open, industry standard application protocol for accessing and maintaining distributed directory information services over a network. An LDAP database in the Access Control Manager system typically includes user details, connected hardware details, events, alarms and other system configuration details.



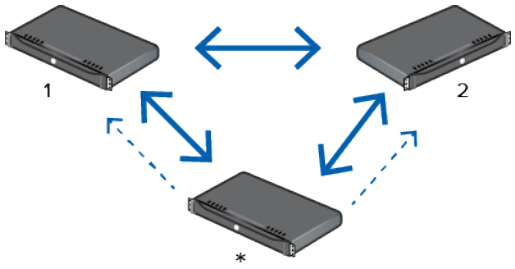
System Architecture for Redundancy

Redundancy works by having a configured Hot Standby appliance automatically or manually replace a failed Primary appliance. Redundancy requires Peer to Peer replication between the Primary and the Standby appliances to be configured and tested first to function properly. Once this is in place, the Standby appliance is then designated as such and the software configures it for that role.

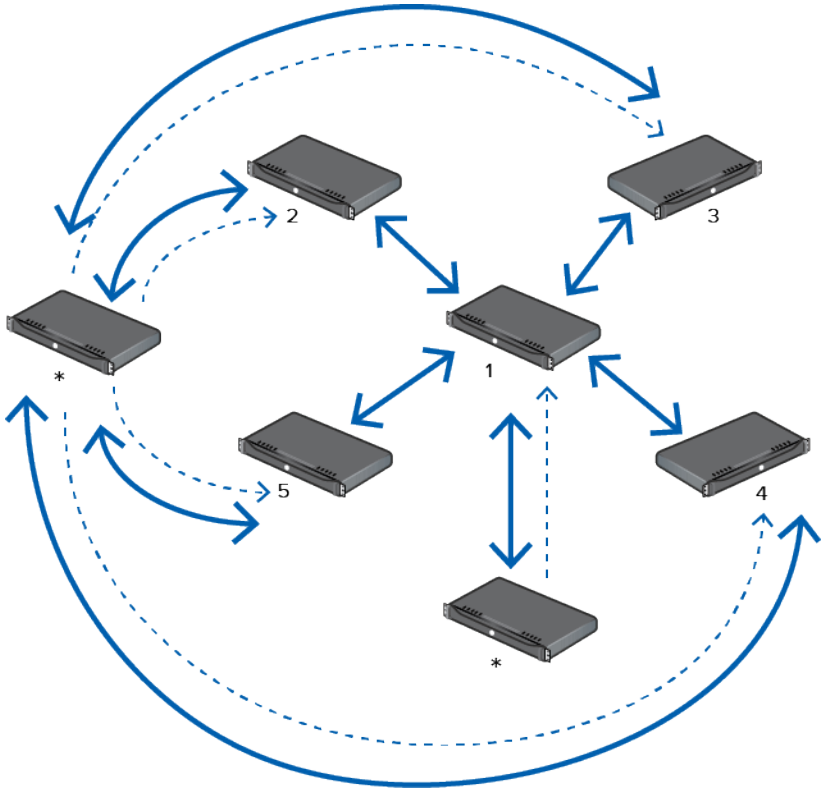
When configured and in standby mode, the Standby appliance is essentially a blank appliance that only has basic system settings. The Standby appliance has its own configuration for appliance related attributes such as host name, ports, time zone (etc.), but it does not have any hardware configuration of its own. It only has that hardware data which is replicated from the Primary appliance that owns it. When a Standby appliances takes over for a Primary appliance, the operating system settings on the Standby appliance (such as host name and IP address) do not change to match the Primary appliance's settings. Instead, the applications running on the Standby appliance begin to service the records (including doors, panels, video servers, collaborations and so on) previously controlled by the Primary appliance. Note that this requires a different URL for clients to be able to access the Hot Standby appliance – this is not handled automatically by the ACM system.

If one Primary appliance (1) exists for everyday operations and one Hot Standby appliance (*) is available, set up the Standby appliance to subscribe to and receive replicated configuration data and transactional data from the Primary appliance. If the Primary appliance fails, the Standby can automatically step-in and maintain daily operations.

If more than one Primary appliance exists for a Hot Standby appliance, the Hot Standby appliance still remains separate from daily operations but must receive replicated configuration and transaction data from all Primary appliances it is configured to failover for. Be aware that the Standby appliance can only stand-in for one failed Primary appliance at a time.



If the replicated environment with multiple appliances is configured in a mesh formation for replication where possible, but due to some physical limitation such as a Wide Area Network (WAN) being involved one or more of the appliances is a single point of failure for propagation of replicated data, it is recommended that each of these appliances have its own Hot Standby appliance. In the event of a failure of one of these critical Primary appliances, the environment is guaranteed to have a Hot Standby appliance available to ensure that all replicated Peer appliances are able to continue to synchronize configuration data amongst themselves.



Replication and Failover Requirements

WARNING — Make sure your system meets all the following requirements before you set up replication and failover or the system may lose configured system data.

- License requirements:
    - The application license agreement must be entered on all appliances. The license key is tied to a specific machine. When using redundancy, a license and key must be separately installed on both the Primary and Standby appliances. The license features on a Standby appliance needs to include all the features used by the Primary appliances it may replace.
- Network infrastructure:
    - DNS registered host names for each appliance in the enterprise. Each appliance must be able to connect to the other appliance by host name. There must be static or reserved IP addresses, proper netmask, and network gateway for each appliance.
    - Name server IP address for host name resolution. All appliances must be able to resolve all of the other appliances by host name.
    - Time Server IP address or host name. All appliances must be synchronized for time and date. This is crucial for proper replication processing. Each must utilize a time server for this purpose. The Open LDAP multi-primary replication used by the ACM software synchronizes a LDAP directory tree across multiple appliances. Each appliance supports read/write operations across an enterprise system. Conflicts are handled using a timestamp to determine the most recent record. All appliances must use a common clock base to synchronize their clocks to ensure the conflict resolution works correctly.

      Note: Time is based on UTC (Coordinated Universal Time) to ensure consistency across the ACM system. UTC time is transferred from the client to the server when the date/time is set.
- Defined and open TCP ports:
    - Web Server Port / Replication Subscriptions Web Port (default 443). Certain replication options require each appliance to contact each other through the web service port.

      Note: The default port must be used for Allegion Schlage locks.
    - LDAP Connect Port / Replication Subscription LDAP Port (should be a unique, open TCP port that nothing else uses). This is a TCP port used for Open LDAP replication between appliances.
    - Event Replication Port (default 6052). Once a Primary/Standby appliance relationship is established, the Primary appliance will automatically transfer event transactions to the Standby appliance so event data will be available when a failover occurs. Connectivity is required for both Primary and Standby appliances using the Event Replication Port (this is a TCP port used for open SSL socket communication).
    - Replication Failover Port for heartbeat (default is NONE but should be a unique, open TCP port that nothing else uses). This is a TCP port (used for open SSL socket communication) defined on the Primary appliance only. The Standby appliance uses it to communicate with the Primary to check its health status in order to determine if an automatic failover is required, if monitoring

is enabled on the Standby appliance.

- These ports must be open across the network between the two appliances.

- Appliance replication address. A unique numeric address number must be reserved and configured for each appliance, starting at 1 and extending to 99 (confirm max count). These addresses need not be in sequence.

  Note: You can have up to 99 appliances connected together for replication, including any Standby appliances configured for failover.

- Software updates. When software updates are installed, they should be installed on all appliances in a timely manner (i.e. one after the other). Note that the appliance with address 1 should always be the first appliance in the environment to have software upgrades applied to it, as any LDAP schema and data changes (adding deleting system records, massaging of data) involved are performed there and replicated out to the other appliances. The other non-address 1 appliances will not have these LDAP schema changes applied by the upgrade, so it is essential to upgrade the address 1 appliance first. The remaining appliances can be upgraded in any order once the address 1 appliance is back online after its upgrade completes.
- Recommended SMTP settings. The SMTP settings configure which mail server should be contacted to send out email and which account should be used. This is configured separately per appliance. When the Primary and Standby appliances are physically separated, sometimes by considerable distances, it is recommended to assign local mail servers for each. A mail server must be set up on both Primary and Standby appliances if you want to send email notifications for failover and failback occurrences.

1. Preparing Appliances for Replication and Failover

Before you can set up replication and failover, you must set up the appliances to use the required network infrastructure and assigned ports. For more information, see *Replication and Failover Requirements* on page 342.

Setting Up the Primary Appliance

Whether you are configuring two or more appliances to replicate to each other in a Peer to Peer system, or configuring a Primary/Hot Standby redundant failover system, designate one appliance as the replication address 1 appliance. This appliance should not be used as a Standby appliance, and will be the first appliance to have software updates applied to it.

1. Log in to the appliance that will use replication address 1.
2. On the Appliance Edit page, enter values for the following fields in the Appliance tab:
    - **Name** – An appropriate name for the appliance so that you can identify it on sight.
    - **Host Name** – The appliance's hostname on the network.
    - **Name Server** – The IP address of the DNS server.
    - **Time Server** – The name or IP address of a time server that is accessible on the network. The time on all connected appliances must be in sync. This setting is crucial for a replicated appliance.

      > **Note:** Time is based on UTC (Coordinated Universal Time) to ensure consistency across the ACM system. UTC time is transferred from the client to the server when date/time is set.

    - **Web Server Port** – The port number for accessing the appliance web service.
    - **LDAP Connect Port** – The port number for accessing the LDAP database on the appliance. This port will be used by replication to update LDAP data and will be used when other appliances are added to the replicated environment.
3. Click to save your changes.

The appliance will automatically restart if changes are made to the above fields and saved.

Setting Up Additional Appliances

Complete this procedure for all the other appliances in your system. Besides the name and hostname, it is recommended that if possible all other settings be the same as the primary appliance, as that will avoid confusion on what ports are used and what network resources are used for time setting and name resolution.

1. Log in to the appliance
2. On the Appliance Edit page, enter values for the following fields in the Appliance tab:
    - **Appliance Name** – An appropriate name for the appliance so that you can identify it on sight.
    - **Host Name** – The appliance's hostname on the network.
    - **Name Server** – The IP address of the DNS server.
    - **Time Server** – The name or IP address of a time server that is accessible on the network. Use the same value as the replication address 1 appliance if possible.

      > **Note:** Time is based on UTC (Coordinated Universal Time) to ensure consistency across ACM. UTC time is transferred from the client to the server when date/time is set.

    - **Web Server Port** – The port number used for accessing the appliance web service.
    - **LDAP Connect Port** – The port number used for accessing the LDAP database on the appliance. Use the same value as the replication address 1 appliance if possible.

3. If this is a Standby appliance, select the **Hot Standby** checkbox. Also, ensure that the Max Stored Transactions setting is at least as large as the sum of this setting for all Primary appliances that the Hot Standby will be backing up.

   > **Note:** Do not select this checkbox if the appliance will not be used as a Standby.

4. Click to save your changes.

   The appliance will automatically restart if changes are made to the above fields and saved.

2. Setting Up Replication Between Appliances

Before the appliances can automatically replicate data between themselves, you must set up each appliance to accept replication.

Enabling Replication on the Primary Appliance

1. Log in to the appliance that is to be assigned a Replication Address of 1.
2. In the top-right, select > **Appliance**.
3. In the Replication tab, enter the following settings:
   a. **Enable Replication**: select this checkbox.
   b. **Enable Encryption** it is recommended that you select this checkbox to allow the open LDAP servers to use OpenSSL TLS encryption when replication data is transferred between appliances.
   c. **Address**: enter 1 for this appliance. If multiple appliances exist in the system, each must have a unique two digit number replication address, with this appliance being set to "1".
   d. **Identity Password**: enter a password for securing LDAP data replication. This password should be the same across all the appliances in the replicated environment.
   e. **Event Replication Port**: enter a port number that will be used by this appliance to replicate data to the other appliances. Default is 6052.
   f. **Other Fields in Replication Settings section**: leave Initial Retry Time, Initial Retry Count, Last Retry Time, Last Retry Count, Timeout, Network Timeout, and Keep Alive at their default values. These will only need to be adjusted in consultation with Avigilon Technical Support to resolve replication problems.
4. Click to save your changes.

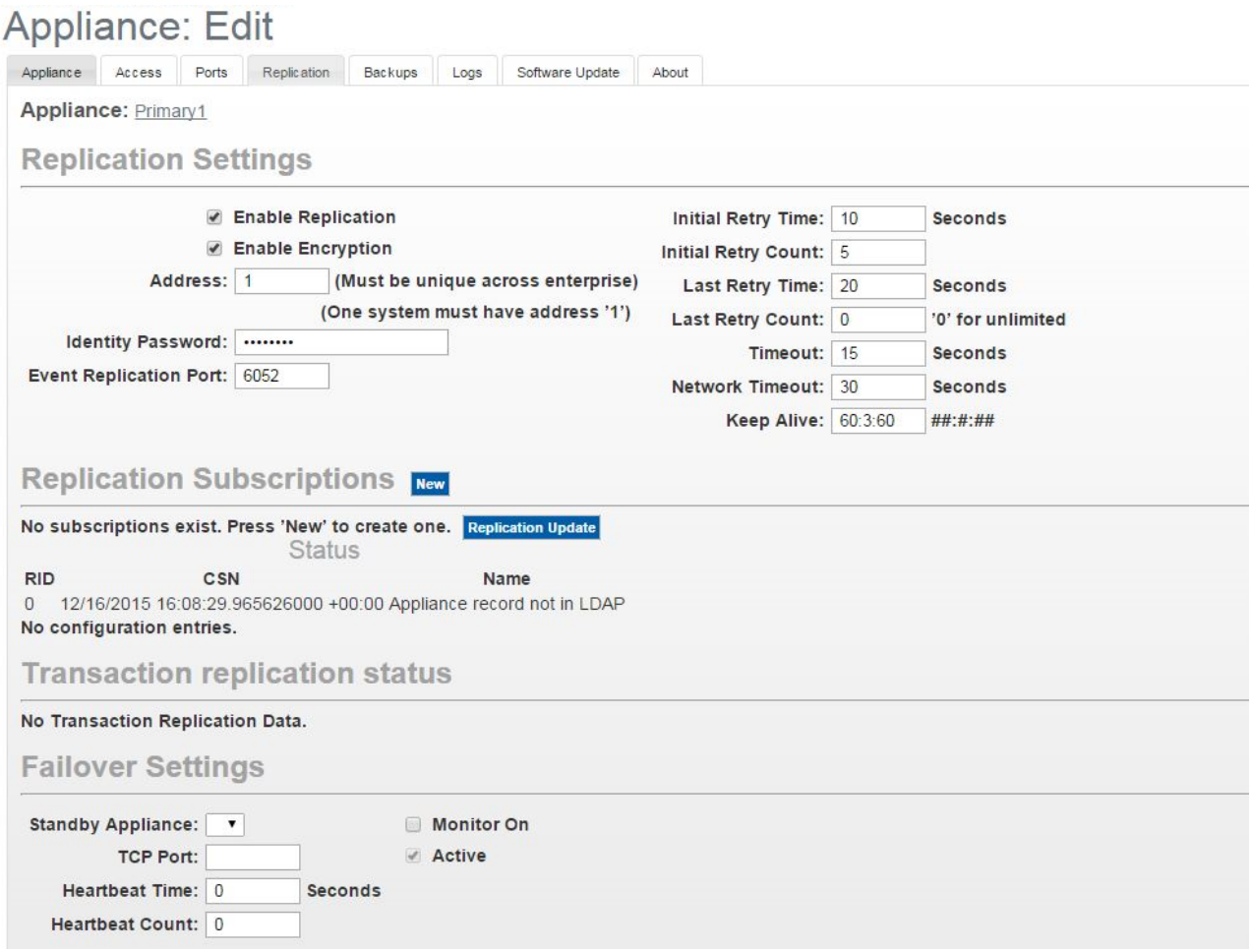


Figure 8: Primary Replication tab

Enabling Replication on the Second Peer or Standby Appliance

Perform this procedure for all other appliances in the system.

1. Log in to the appliance.
2. In the top-right, select ⚙ > **Appliance**.
3. In the Replication tab, enter the following settings:
    a. **Enable Replication**: select this checkbox.
    b. **Enable Encryption**: it is recommended that you select this checkbox to allow the open LDAP servers to use open SSL TLS encryption when replication data between appliances.
    c. **Address**: if you have only one secondary/standby appliance, enter 2 for the appliance. If you have multiple appliances in your system, you must enter a number from 2 to 99. You cannot use the same address twice for different appliances.

> **Note:** Up to 99 appliances can be connected together for replication, including the

primary appliance and standby appliances.

d. **Identity Password**: enter the same password as used in the primary appliance.

e. **Event Replication Port**: enter a port number that will be used to replicate data to the primary appliance. Default is 6052.

f. **Other Fields in Replication Settings section**: leave Initial Retry Time, Initial Retry Count, Last Retry Time, Last Retry Count, Timeout, Network Timeout, and Keep Alive at their default values. These will only need to be adjusted in consultation with Avigilon Technical Support to resolve replication problems.

4. Click to save your changes.

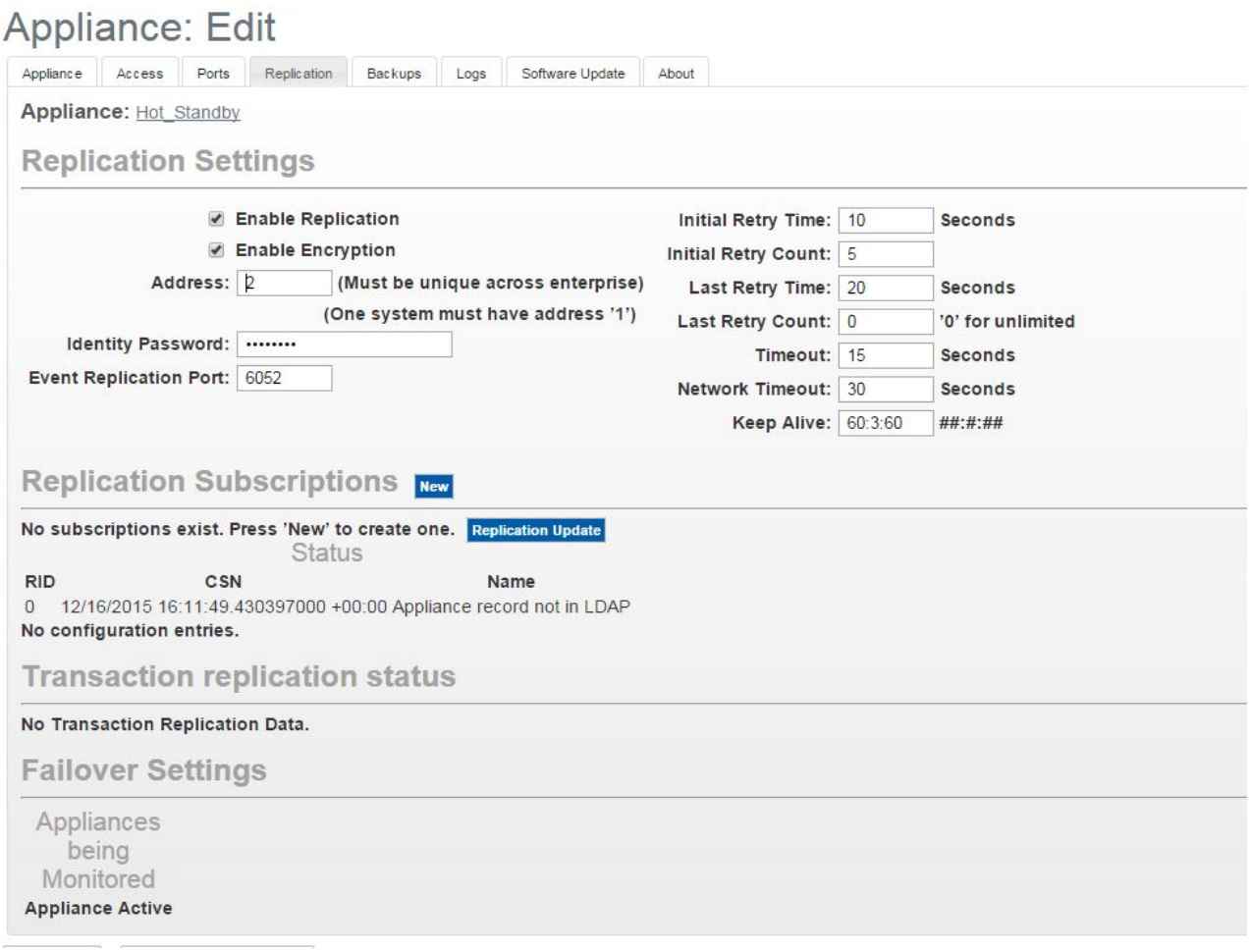


Figure 9: Hot Standby Replication tab

3. Adding a Replication Subscription

Before adding a replication subscription between the two appliances, double-check to make sure the network requirements have been met:

- The appliances are on the same network and are able to communicate with each other. Make sure the appliances are able to ping each other by host name.
- Each appliance has a time server and a name server configured for them.
- A Web Server Port, LDAP Connect Port, and Event Replication Port are configured for the appliances. Make sure these ports are open between the appliances.
- Replication has been enabled on both appliances. Both appliances have a replication identity password configured for them.
- The clocks on both appliances are in sync. The current running time can be seen on the appliance page for each appliance.

Always add the replication subscription to the first (replication address 1) appliance while logged into the second appliance and from the Hot Standby's Replication tab. As the second and subsequent appliances first subscribe to and receive replicated data from the first (replication address 1) appliance, the existing LDAP database on each subscribing appliance is overwritten by the replicated data from the first (replication address 1) appliance, so that each subscriber appliance has its LDAP data properly initialized.

Note that this overwrite of the subscriber LDAP database only occurs when the first subscription is added on a subscribing appliance. Subsequent subscriptions created on this subscriber appliance do not perform the overwrite of LDAP data that the first subscription, as the database is already initialized. This is why it is recommended that replication (and redundancy if used) is set up for each subscriber before adding hardware, user identities or system configurations to avoid data being overwritten and lost.

Do **not** add the first replication subscription to the address 1 appliance, or all configured data on that appliance will be overwritten as part of the initialization process described above.

1. Log in to the secondary or standby appliance. You must use the "admin" user name and password or you will not be able to make changes to the Replication tab.
2. In the top-right, select > **Appliance**.
3. In the Replication tab, click **New** in the Replication Subscriptions area.
4. Complete the following fields:
    a. **Host** – enter the replication address 1 appliance's host name.
    b. **Web Port** – enter the replication address 1 appliance's web port number.
    c. **Ldap Port** – enter the replication address 1 appliance LDAP Connect Port value. This is highly recommended to be the same as the LDAP Connect Port number on the current appliance.
    d. **Login** – enter an account with the proper delegations for the default administrator identity. This can be the admin account, or a different identity, can be used, but it must be an identity with the proper delegations available in its role. Delegation required for this login are Appliance Repl Subscription Add (remote), Appliance Repl Subscription Remove (remote), Appliance Replication Update and Appliances Show.
    e. **Password** – enter the password for the Login identity.
5. Click to save your changes.

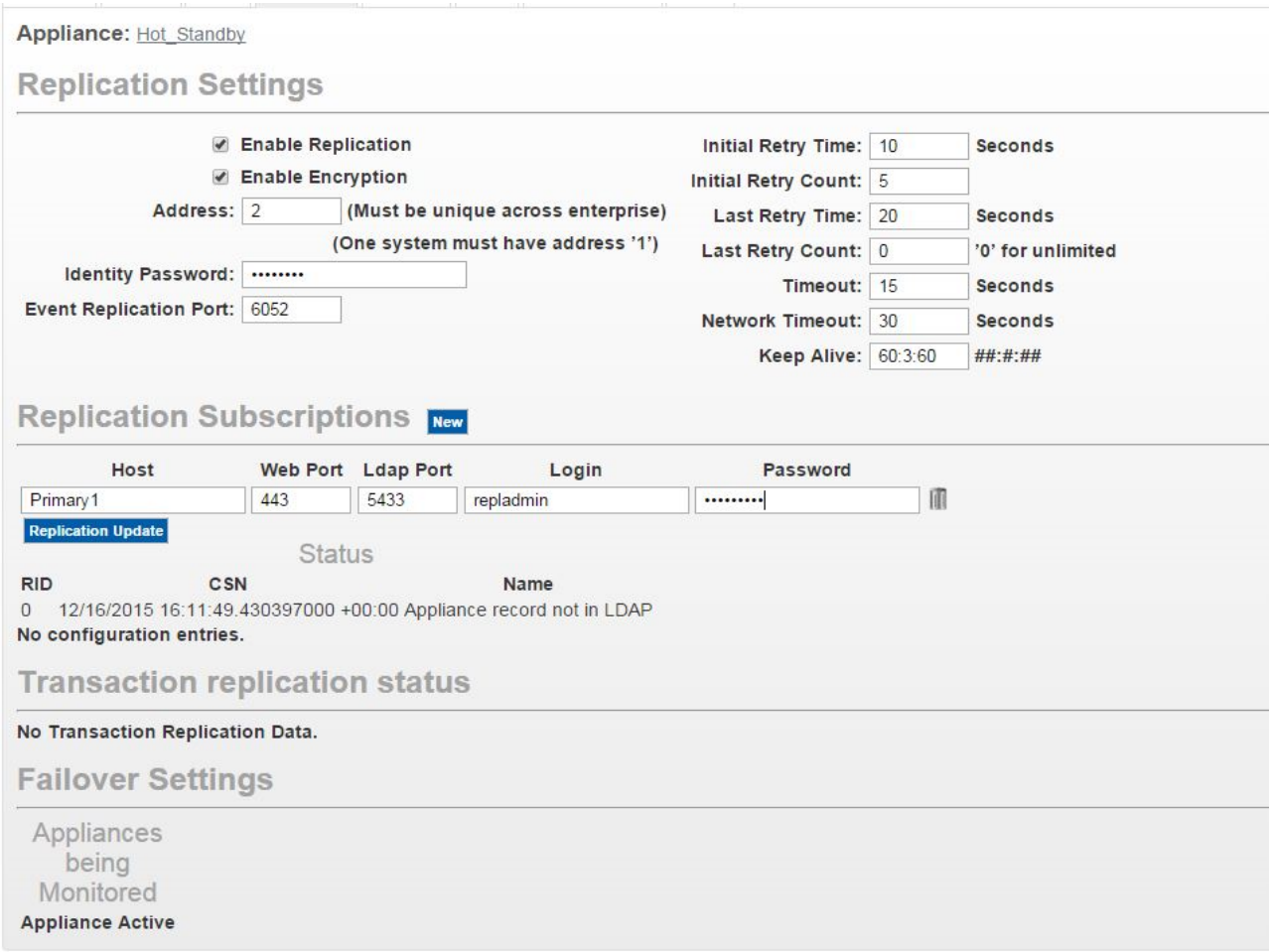


Figure 10: Second appliance subscribing to first appliance

The Replication Setup Process Log is automatically displayed if this is the first replication subscription. Click the Continue button that is displayed.

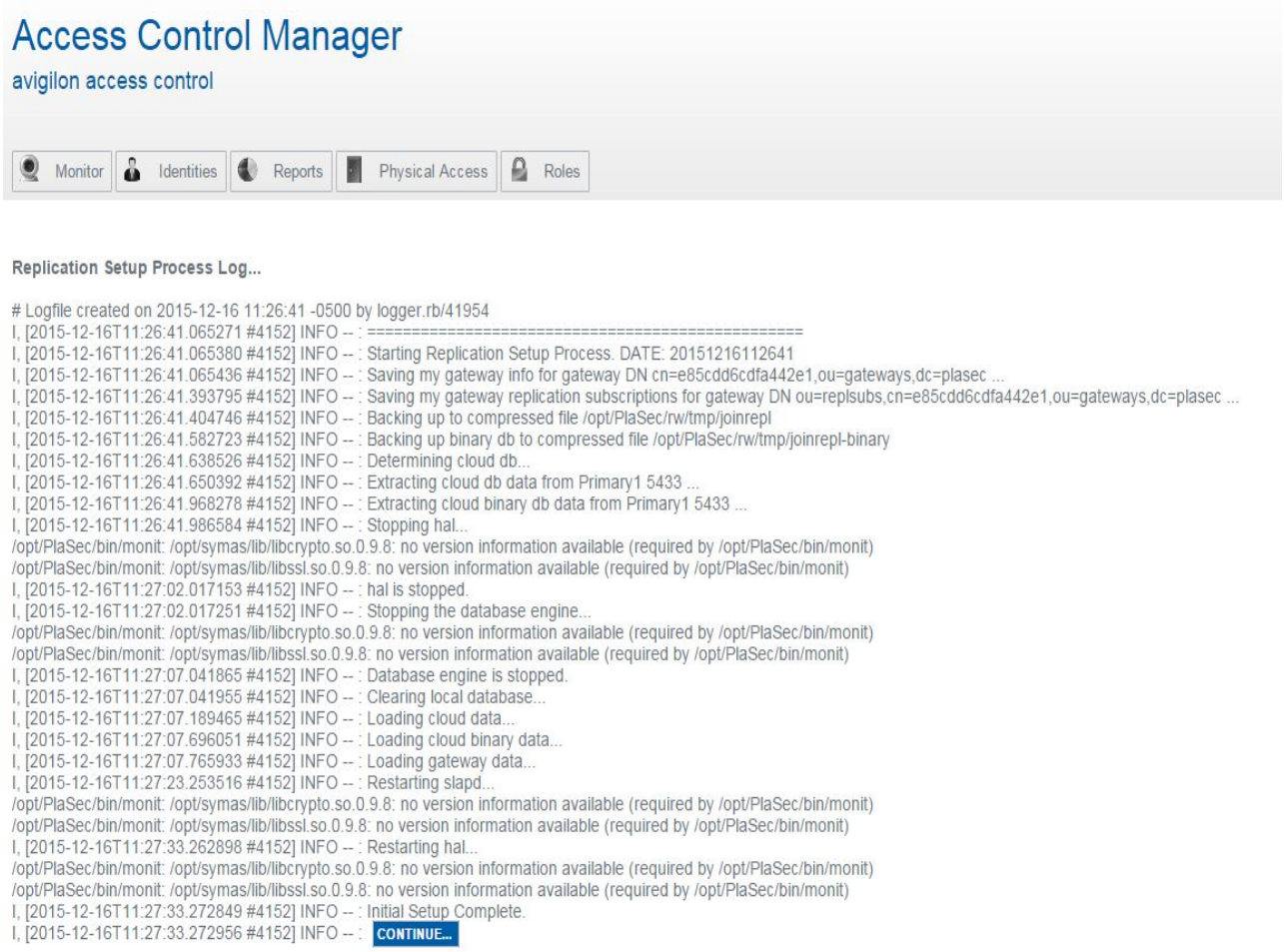


Figure 11: Log file on subscribing appliance

The replication set up process includes the following:

- The subscribing appliance connects to the primary appliance and copies the entire LDAP database from the primary.
- The replication subscription from the subscribing appliance to the primary is added to the LDAP configuration database.
- A replication subscription from the primary to the subscribing appliance is automatically created and added to the LDAP configuration database.

Now, complete the following tests to confirm that replication is functioning correctly.

Testing Replication

After setting up replication between a two or more appliances, complete the following procedures to confirm that replication was set up correctly.

Checking the Appliance Replication Status

Once the Replication Subscription is complete, open a browser for each appliance that is set to replicate to

each other.

After you have the browsers open, display the Appliance Replication page for the appliances. Confirm that the following settings are the same for all appliances:

> **Note:** The Status and System Entries area are only displayed if the primary and subscribing appliance details are accessed together.

- Under the Status area, 1 and 2 are listed in the RID column. 1 should be the primary appliance and 2 should be the secondary or standby appliance. There may be other numbers listed if you have more appliance subscriptions.
- Confirm that the date and time listed in the CSN column is the same for all appliances.
- Under the System Entries area, there should be at least one entry to show that the primary appliance has replicated data to the other appliances.
- When you click > **Appliance**, the Appliance list should be displayed and list all appliances.

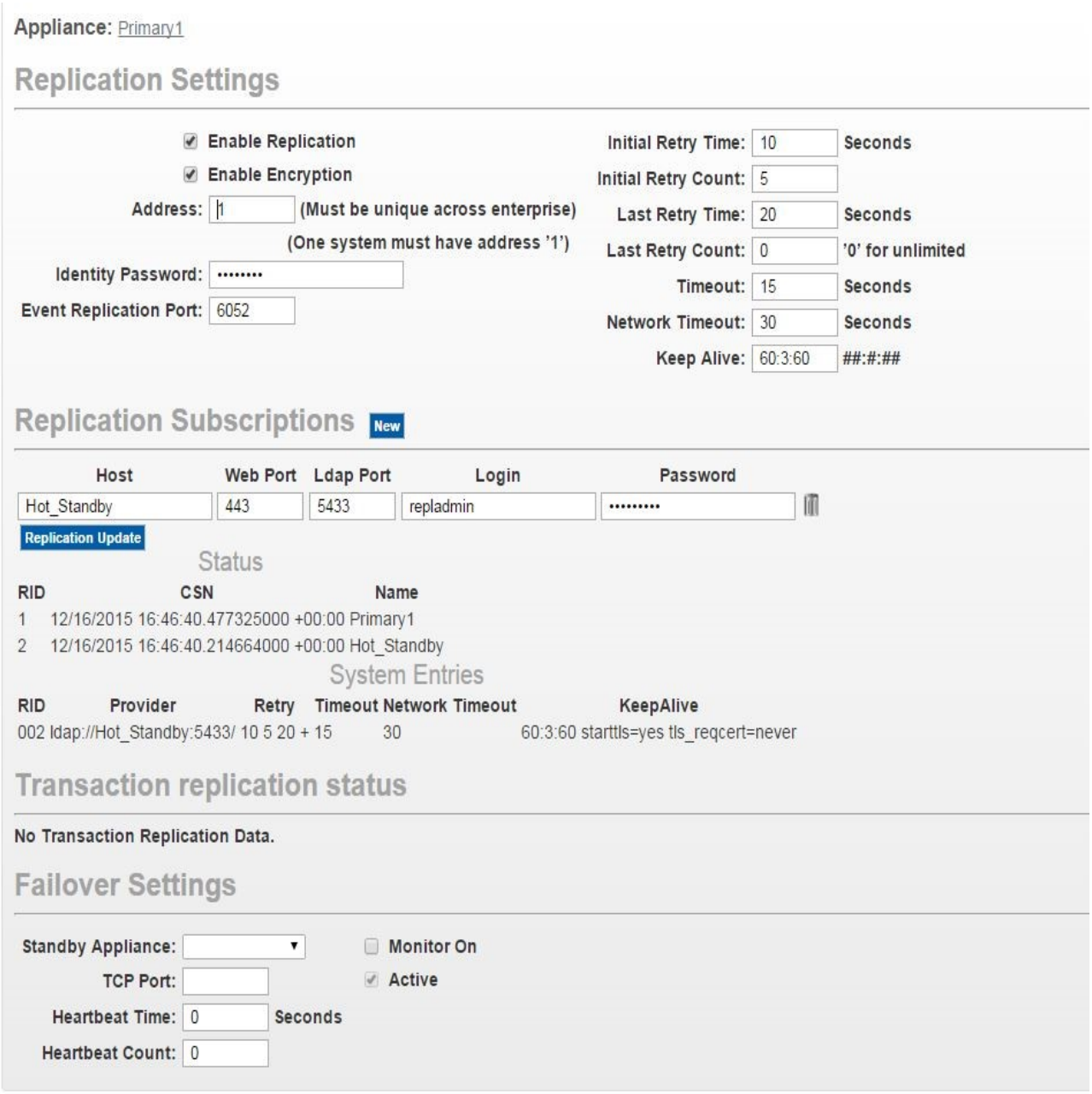


Figure 12: Primary Replication tab showing status

Testing Two-Way Replication

1. Make a small change in the primary appliance. For example, update an address for an identity.
2. Access a subscribing appliance and check if you can see the change.
3. Make a small change in the subscribing appliance. For example, update an address for a different identity.
4. Access the primary appliance and check if you can see the change.

If the changes you made appear in both appliances, then replication was set up successfully.

4. Setting Up Failover

Note: Do not perform this procedure until after replication has been correctly set up. This step assumes that the checkbox for Hot Standby on the Appliance tab has been checked for the appliance serving as the Hot Standby appliance.

1. Log in to the primary appliance. This procedure can only be performed on the primary appliance.
2. In the top-right, select > **Appliance**.
3. Select the primary appliance from the Appliance list.
4. In the Replication tab, enter the following settings in the Failover Settings area:
    a. **Standby Appliance**: Select a standby appliance from the list. You can have more than one standby appliance set up in the system, but only appliances identified as a standby will appear on the list.
    b. **TCP Port**: Enter the primary appliance's TCP port to communicate its health status to the standby appliance.
    c. **Monitor On**: Check this box to turn-on the redundancy monitor. This allows the standby appliance to check the health of the primary appliance and automatically take over if the primary appliance unexpectedly loses network connectivity.
    d. **Heartbeat Time**: Enter how often, in seconds, the secondary appliance should check the health of the primary appliance. If you leave the setting at 0, the system defaults to 60 seconds.

    Note: A Heartbeat Count of two and a Heartbeat Time of 30 seconds should typically ensure that a failover is initiated within one to about five minutes of the primary going down. For more information, refer to *Configuring Replication and Failover* on page 338.

    e. **Heartbeat Count**: Enter the number of failures in a row before the secondary appliance takes over for the primary appliance.

    Tip: It is recommended to set this to at least two so that a short network glitch does not cause a premature failover.
5. Click to save your changes.

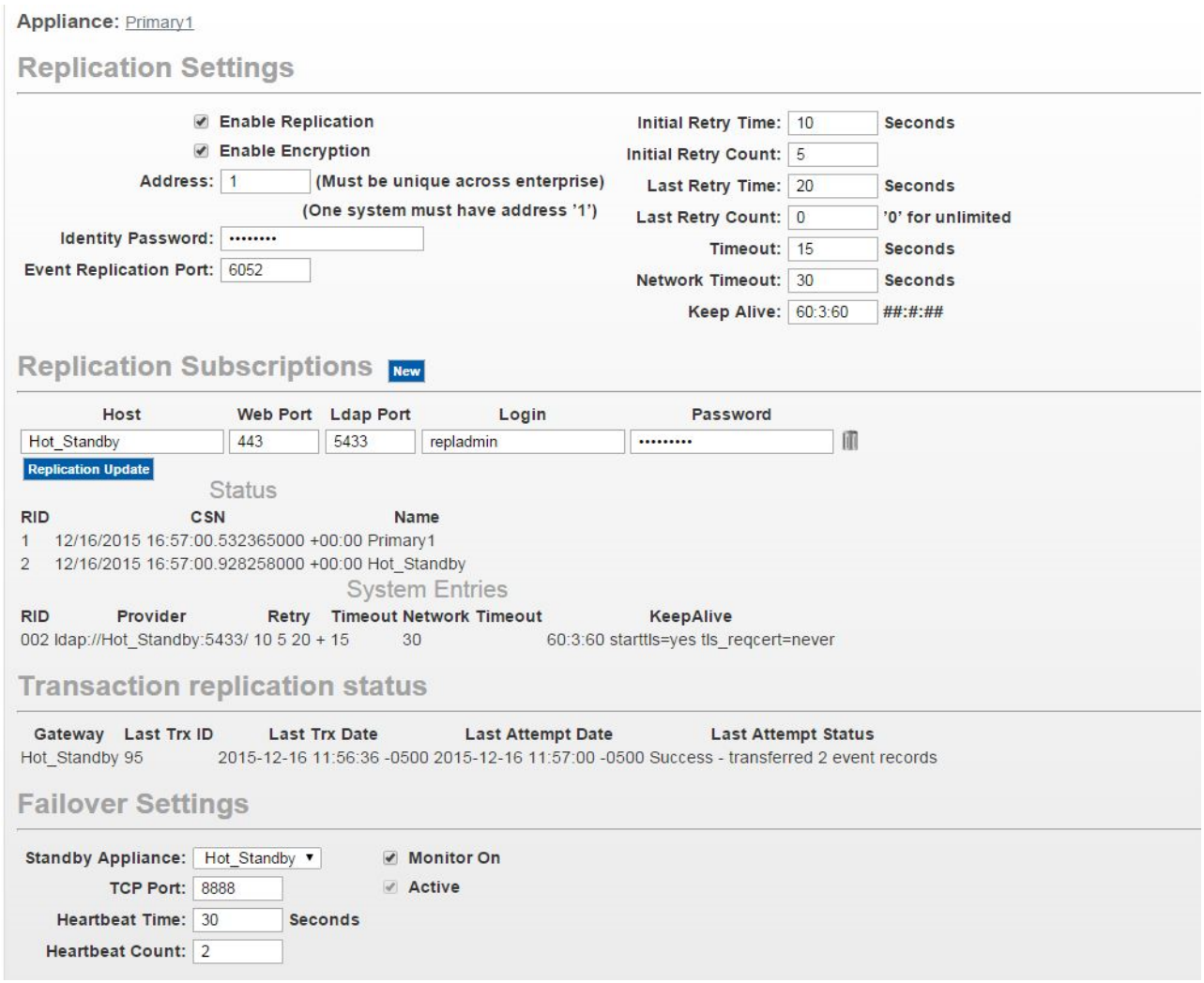


Figure 13: Primary Replication tab, with Hot Standby configured

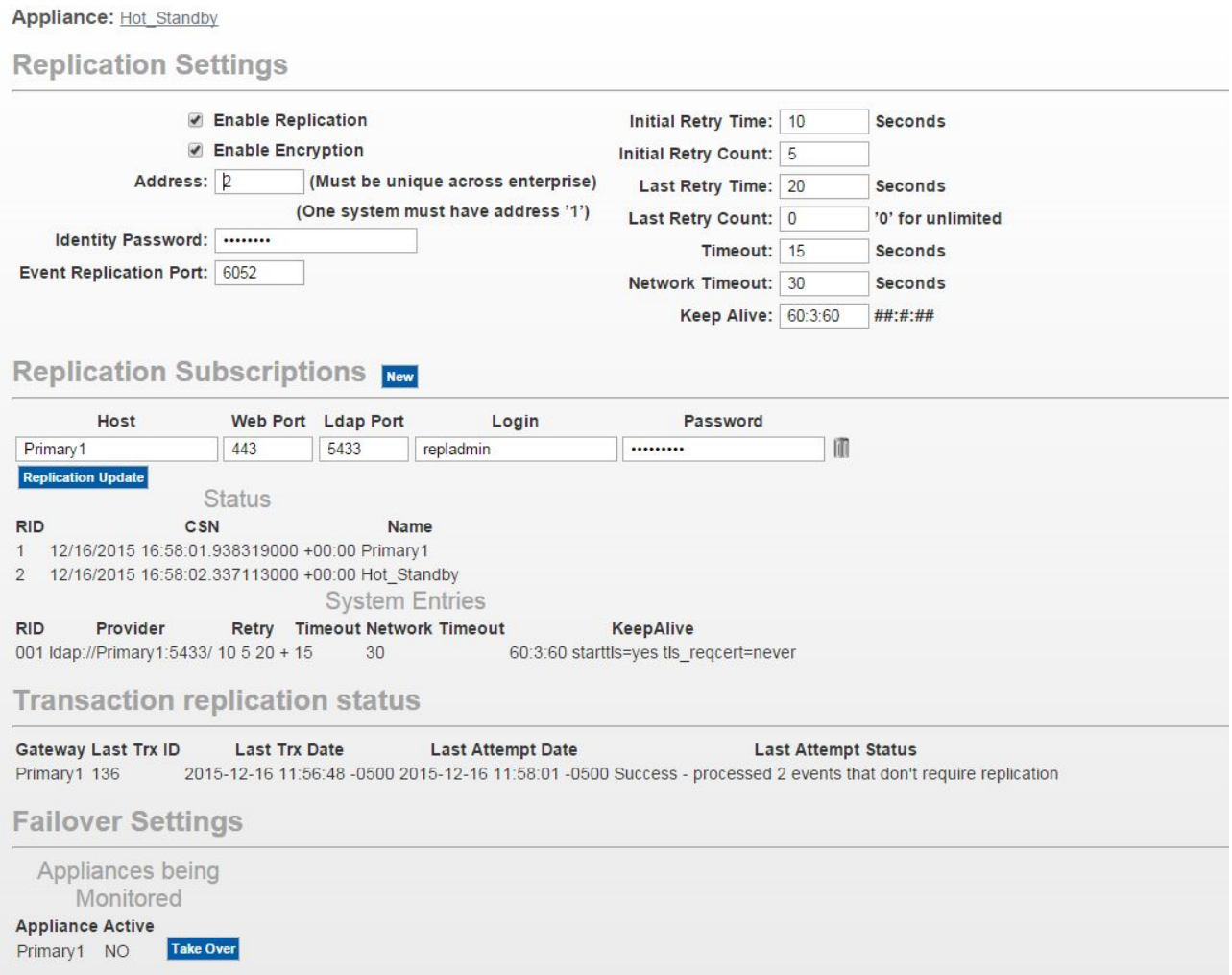


Figure 14: Hot Standby replication tab showing Primary being backed up

Configuring Email Notifications for Replication Events

An event is logged every time a failover or failback occurs. You can configure email to be sent to one or more email addresses whenever a failover and failback event is logged.

The events are:

- Appliance automatic failover completed—After an automatic failover to the Hot Standby appliance this event is logged by the Hot Standby appliance when it is up and running on behalf of the Primary appliance.
- Appliance manual failover completed—After a manual failover this event is logged by the Hot Standby appliance after it is up and running on behalf of the Primary appliance.
- Appliance manual failback completed—After a manual failback this event is logged by the Primary appliance after it is up and running again as the Primary appliance.

Before configuring email notifications for these events:

- Set up and test the SMTP settings configured on both the Primary and Standby appliances.
- Access the Events Listing page and verify that these events are defined.

You can specify the email addresses to which notifications are sent for each event, or you can configure a custom event type for the three events and specify the email addresses to which notifications are sent for the event type.

1. To specify email addresses to which notifications are sent for each event:
    a. Click **Physical Access** > **Events** to open the Events Listing page and search for the three events. Tip: Search for events containing "Appliance".
    b. Open the first event. The Event: Edit panel opens.
    c. Enter one or more email addresses in the **Email** field. Separate email addresses with commas.
    d. Click .
    e. Repeat for the remaining events.
2. To create an event type for the three events and then specify email addresses to which notifications are sent for the event type:
    a. Click and then Event Types to open the Event Types panel.
    b. Click the **Add Event Type** button. The Event Type: Add panel appears.
    c. Enter a name for the Event type. Complete the other options as required.
    d. Enter one or more email addresses in the **Email** field. Separate email addresses with commas.
    e. Click .
    f. Click **Physical Access** > **Events** to open the Events Listing page and search for the three events. Tip: Search for events containing "Appliance".
    g. Open the first event. The Event: Edit panel opens.
    h. In the **Event Type** option, select the new event type from the drop-down list.
    i. Click .
    j. Repeat for the remaining events.

Removing Replication and Failover

Important: Call Avigilon Technical Support before you attempt to remove or delete the replication and failover settings.

Depending on your system configuration, it may require careful planning before you are able to successfully disable replication and failover on your system. To avoid possible data loss, contact Avigilon Technical Support to help guide you through the process.

Failing Over and Failing Back

If you've set up replication and failover, the access control system will keep running during planned or

unplanned system outages. In the event of a system outage, an appliance may go offline and fail-over to a standby appliance that can take over regular operations until the original appliance comes back online.

In an unplanned system outage, the system will automatically failover. In a planned system outage, you can manually failover an appliance so that the system can continue to run. Once the original appliance is ready to come back online, you can tell the replacement appliance to failback and allow the original appliance to resume normal operations.

Automatic Failover

If the Monitor On option is enabled in the Primary appliance's Failover Settings area on its Replication tab, the Hot Standby appliance will automatically try to communicate with the Primary appliance periodically. If the Primary appliance does not respond in the set amount of time, the Hot Standby appliance assumes that the Primary appliance has failed, and automatically takes-over for the Primary appliance.

If the Monitor On option is disabled in the appliance's failover settings, the Primary appliance will simply fail and the Hot Standby will not stand-in unless it is manually told to do so.

To check if a Primary appliance has failed-over to a Hot Standby appliance, confirm the following details:

- You are unable to connect to the primary appliance through the web browser.
- When you log in to the Hot Standby appliance, you see that the Hot Standby has started logging hardware events on its Event Monitor screen.

  Hot Standby appliances do not have any connected panels or other hardware until they take over from a Primary appliance, so there should not be any hardware events listed on the Event Monitor screen unless the Hot Standby appliance has stood in for its Primary appliance.
- When accessing the **Appliance** > **Replication** page on the Hot Standby appliance, it is listed as *Active: Yes* beside the name of the inactive Primary appliance.

Manual Failover

If there is a planned system outage, like an appliance upgrade, you may want to have the primary appliance manually failover to the standby appliance so that the system can continue to function while the upgrade occurs.

In anticipation of a planned system outage, Monitor On failover option should be disabled so that a Primary appliance does not failover until it is instructed to do so.

To manually failover an appliance, complete the following:

1. Log in to the Hot Standby appliance.
2. Access the **Appliances** > **Replication** page.
3. In the Failover Settings area, click the **Take Over** button beside the Primary appliance to instruct the Hot Standby appliance to stand in for the Primary appliance.

After a few moments, the Active status will change to Yes beside the Primary appliance that the Hot Standby has replaced and the Take Over button is replaced by the **Fail Back** button. Notice that once the standby appliance has replaced an appliance, it cannot be set to take over for another Primary appliance until after it has failed back to the Primary appliance that it is standing in for.

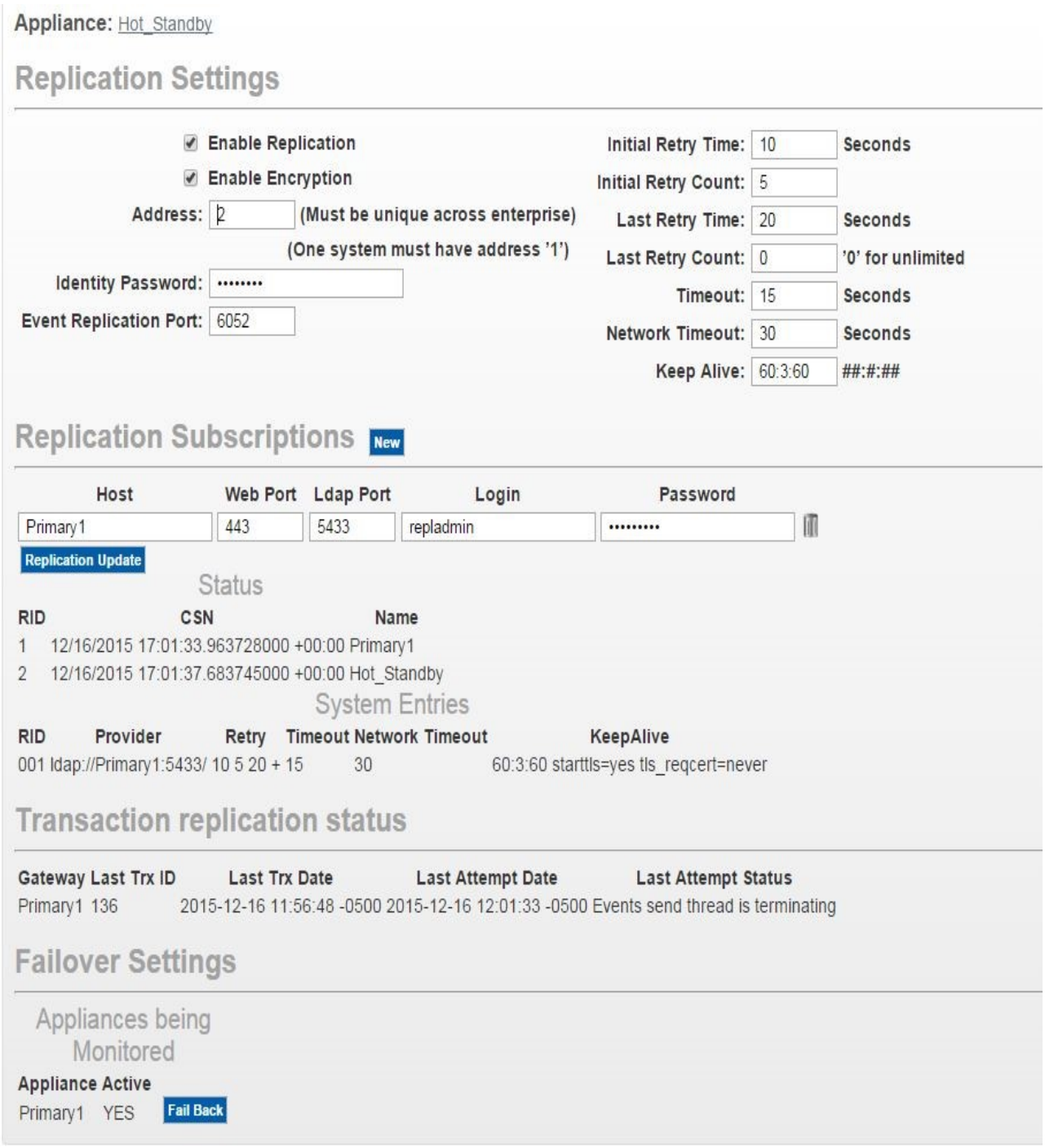


Figure 15: Hot Standby after taking over from Primary

Failback

After a failover has occurred, you can set the standby appliance to failback once the primary appliance is ready to return to normal operations.

1. Log in to the Hot Standby appliance.
2. Access the **Appliances > Replication** page.
3. In the Failover Settings area, click the **Fail Back** button next to the failed over Primary appliance.

Monitoring Transactional Replication to Hot Standby

As part of the redundancy design, Postgres transactional data is replicated from a Primary appliance to its Hot Standby appliance. This is so that if a failover of the Primary appliance occurs all of the transactional history will be available on the Hot Standby. The status of this replication can be observed for the appliances in the Transaction Replication Status section of the Replication tab on the Appliance: Edit page.

For the Primary appliance, this section contains information about the last row of Postgres transactional data replicated from the Primary to its Hot Standby, including rowid of record in basetrx table (Last Trx ID), date that transaction occurred (Last Trx Date), the last attempted replication time (Last Attempt Time), and its status (Last Attempt Status). For the Hot Standby this information is displayed for the Postgres transactional data it has, with transaction data displayed for the last transaction replicated to the Hot Standby for each Primary it is backing up.

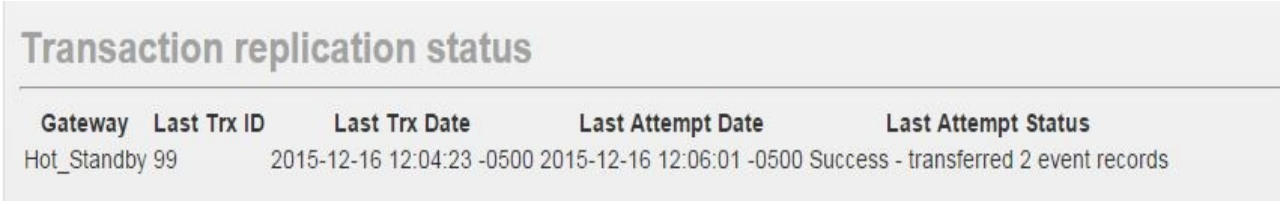


Figure 16: Primary transaction replication status

Figure 17: Hot Standby transaction replication status

Configuring Network Connections

You can set up how appliances are connected to panels and associated doors. From the Appliance Ports tab, you can set up virtual ports and routes for each Ethernet port. You can also set up serial ports.

Configuring Ethernet Ports

Appliances can have up to eight RJ-45 Ethernet ports. These high-speed ports can be configured to connect to a series of interlinked door controllers or panels.

Note: You cannot add or remove an Ethernet port from the appliance but you can add virtual ports.

To enable and configure an Ethernet port:

1. From the Appliance Edit page, select the **Ports** tab.

   The Port list is displayed.
2. Click the name or port number from the Ethernet Ports list.

   The Port: Edit page is displayed.
3. Make the required changes.
4. Click .

Note: If you assign or change the IP address, make sure that any switches or routers connected to the appliance recognize the changed address. To do this, perform one of the following:

- Reboot the appliance.
- Unplug the Ethernet cable that is connected to the appliance, wait a few seconds, then plug it back in.

If the switch or router is not able to detect the appliance's new IP address, you may need to manually update the switch or router. Refer to the switch or router documentation for more details.

Adding Ethernet Routes

If you prefer not to use the default Ethernet route set by the appliance, you can add a new Ethernet route for appliance and controller panel communication.

1. From the Appliance Edit page, select the **Ports** tab.

   The Port list is displayed.
2. In the right most column of the Ethernet Ports list, click **Routes**.

   The Routes list is displayed.
3. From the Routes list, click **Add New Route**.

   The Route Add page is displayed.
4. Complete the fields as required to define the new Ethernet route.
5. Click .
6. Repeat this procedure to add all the routes that are required.

Enabling Serial Ports

Each appliance includes one or more serial ports for connecting devices via RS-232 or RS-485. Serial ports can be used to connect troubleshooting consoles or to connect panels that do not have Ethernet connections.

To enable a serial port on an appliance:

1. Connect the appliance to one or more panels via the appropriate serial port.

   Note the port number for each serial cable connection.
2. From the Appliance Edit page, select the **Ports** tab.

   The Ports list is displayed.
3. At the bottom of the page, click the serial port you want to enable.

   The Serial Port Edit page is displayed.
4. Select the **Enable** checkbox.
5. Complete the remaining fields as required to define the serial connection.
6. Click .

Backups

You can configure backup events to generate backup files of the configuration and transaction databases of the ACM system. The backup files can be used to restore information if an appliance's configuration or transaction data ever becomes corrupted. They are used to retain data, especially transactional data, for regulatory purposes.

Configuration and transaction data are separately backed up. Backup events can either be scheduled on a daily or weekly frequency, or manually started. Backup files can also be encrypted, which may be required to protect data that is retained for regulatory purposes.

Configuration data, which includes identity information (including photographs, data, and tokens), can generate large backup files. Backups should be generated regularly, and at the very least, following changes. In the event of a catastrophic failure, an up-to-date configuration backup enables the ACM system to be up and running again much faster.

Transactional data, which is generated while the ACM system is active, can be retained in backup form to meet any applicable regulatory requirements, and can be generated to meet data retention policies.

Backing Up System Data

You can configure the appliance to back up system configuration settings and transaction event details. More than one backup event can be created, and each backup file can be stored in a different location. You can define a schedule for a backup event. Scheduled backups can occur at least once a week or at most once a day at a specific time. A backup event without a schedule must be manually started.

> **Note:** Configuration data (including tokens) and transactions data must be backed up separately.

1. From the Appliance Edit page, select the **Backups** tab.
2. Click **Add New Appliance Backup**.

   The Appliance Backup: Add New page is displayed.
3. Enter a name for the back up.

4. Select the preferred **Backup Type**.

   Some of the settings change to match the selected backup type.
5. From the **Data Type** drop down list, select **Configuration** or **Transaction**.
6. Click **Browse** to select where the back up files will be stored.
7. Optionally, in the Schedule area, select the days of the week when the back up will occur then enter the preferred backup time in 24 hour format. Leave the schedule options blank for a backup that can only be manually started.
8. Click .

Manually Backing Up Data

After you've set up a backup event, you can manually start a backup at any time; for example, to create a backup of the current data before restoring an older backup.

1. From the Appliance Edit page, select the **Backups** tab.

   The Appliance Backup list displays.
2. In the row for the backup you want to start, click **Backup Now** to start the backup.

   The backup file name is generated in this format: *<backup name>-<date: yyyyMMDDHHMMSS>*.

   > **Note:** When you are using the Local Drive backup type, the previous backup file is overwritten. For all other backup types, the file is added to the configured Location.

Restoring Backups

If the appliance's configuration or transaction data ever becomes corrupted, you can restore the data from a backup.

Start with the most recent backup prior to the data being corrupted. The restored data will overwrite all the configuration or transaction data.

Restored configuration data won't be downloaded to the panels immediately. After the backup is restored, verify that the restored data for panels is correct. For example, identities (or door schedules, or overrides and so on) that you deleted after the backup was created may have to be deleted again, and identities that you added after the backup was created may have to be added again. Then, manually download the restored verified configuration data to each panel in your system. For more information about downloading panels, see *Resetting Doors Connected to a Subpanel* on page 176.

As well as restoring backups from your ACM appliance, you can restore backup files:

- From other ACM systems, or that were created using backup events that are no longer on your system. For more information, see *Restoring Backups From Other Backup Events* on the next page.

  Backups created in versions prior to the ACM software release 5.12.2 may not be compatible with later

ACM releases. Contact Customer Support if you need to restore a backup from an earlier release.

- Stored on your local workstation.

To restore a backup file created on your ACM appliance (other than one created by a Local Drive backup event that has been downloaded to the default Downloads folder of your local workstation):

1. From the Appliance Edit page, select the **Backups** tab.

   The Appliance Backup list displays.
2. Click **File List** beside the backup that you want to restore.
3. In the far right column, click **Restore** beside the copy of the backup that you want to restore.

   The selected file is copied to the appliance and replaces the existing configuration or transaction information on the appliance.

Note: See *Downloading All Tokens* on page 305 if you have restored an ACM appliance that is connected to a SALTO server.

Restoring Backups From Other Backup Events

You can use a backup event to restore a file created by another backup event, as long as the backup type is the same. This can be useful if you have to restore a backup created with a backup event no longer on your system, or from another ACM system.

Note: It is also possible to restore backups from earlier releases of ACM systems. However, backups created in versions prior to the ACM software release 5.12.2 may not be compatible with later ACM versions.

To restore a backup created by another backup event, you must:

1. Identify the name of the backup event used to create the backup:
   a. Locate the backup file that you want to restore. The filename format is *<backup event name>-<date: yyyyMMDDHHMMSS>*.
   b. Note the name of backup event that is embedded in the file name.
2. In the ACM Client software:

a. From the Appliance Edit page, select the **Backups** tab.

   The Appliance Backup listing page displays.

b. Rename or create a backup event with the same name as the backup event used to create the backup file:

   - To rename an existing backup event:
     1. Click on the name of the plan to open the Appliance Backup: Edit page.
     2. Enter the new name for the backup event.
     3. Leave the other fields as they are.
     4. Click to save your changes.

     > **Tip:** After you have restored the backup file, rename the backup event to its previous name if you want to continue to use it as before.

   - To create a new backup event:
     1. Click to add a new backup event.
     2. Enter all the details for the backup event, specifying the location of the backup file to be restored.
     3. Click to save your changes.

3. Copy the backup file to the location specified in the back up event you will use.
4. In the ACM Client software:
   a. Click **File List** beside the backup that you want to restore.

      The Backup File List is displayed.

   b. In the far right column, click **Restore** beside the copy of the backup that you want to restore.

      > **Important:** The name of the backup event must match the backup event name embedded in the filename of the backup file.

   c. The selected file is copied to the appliance and replaces the existing configuration or transaction information on the appliance.

Logs

Appliance logs are automatically generated to monitor communications between panels and devices.

Accessing Appliance Logs

Appliance logs are automatically generated to monitor communications between panels and devices.

The appliance logs are automatically generated and monitor the communications between panels and

devices. They can be used to help diagnose appliance issues.

1. From the Appliance Edit screen, select the **Logs** tab.

   The Logs list is displayed.
2. Click the log you want to view.

   The Appliances Log page displays.

Log details are displayed in chronological order. The earliest log event is displayed at the top, and the most recent is displayed at the bottom. The full text of the log is displayed. Each log is different because of the different activities that are tracked by the log. The name of the Appliance and the Log file are displayed at the top of the screen for each log.

Software Updates

Software updates are available for download and installation.

Updating the Appliance Software

Access Control Manager software updates are available for download from the Avigilon website: **avigilon.com**.

Once you've downloaded the latest version of the software, you can install the update to the appliance from any browser on the network.

1. From the Appliance Edit page, select the **Software Update** tab.

Report Trx backlog	The count of event transactions waiting to be processed for reporting.
Report Audit backlog	The count of system and user audit events waiting to be processed for reporting.
File Name	The name of the update file currently available to this appliance.
Size (Bytes)	The size of the update file in bytes.
Upload Date	The time and date when this update file was uploaded to the appliance.

2. Upload the latest version of the Access Control Manager software to the appliance.
   a. Click **Add Software Update**.
   b. Click **Choose File** and then locate the latest software file that was downloaded.
   c. Click to upload the file to the appliance. It may take several minutes for the upload to complete. Do not navigate away from the page during the upload or the upload is automatically canceled.
3. When the software file is uploaded to the appliance, click next to the filename.
4. When the confirmation message is displayed, click **OK**.

When the update is complete, the appliance will automatically reboot.

Note: When the ACM system boots up, you must save the appliance on the Appliance: Edit page to ensure the ACM appliance reboots. You do not need to make any changes to the page prior to clicking Save to have the reboot occur.

SSL Certificates Overview

For ACM Admin users (default is no delegation) or Super Admin users with the SSL Certificate List, SSL Certificates New, SSL Certificate New CSR and SSL Certificate Load Cert delegations assigned to their role.

A self-signed Secure Socket Layer (SSL) certificate identifies and secures the communication between an ACM appliance, your browser and the external services that interact with the appliance. The appliance certificate and web client certificates will encrypt communication to ensure that only the expected receiver can read the communication.

Update the default self-signed SSL certificate that is shipped with your ACM appliance with your certificate or a certificate provided by your certificate signing authority. ACM allows you to create a new certificate, or create a certificate signing request and then upload it.

Note: If you are using FIPS-certified ciphers, ensure the Use FIPS 140-2 compliant ciphers only setting is enabled before you upload a certificate. For more information, see *Enabling FIPS 140-2 Encryption on ACM Appliances* on page 502.

Certificates installed on ACM may affect Allegion Schlage® lock operation, and therefore, must comply with Allegion Schalge lock requirements. For more information, see Schlage documentation. The default web server port in ACM must also be used.

Supported Certificate Standards

The ACM appliance certificate supports the secure hash algorithm, SHA-384 with elliptic curve digital signature algorithm (ECDSA). The SHA-256 with RSA algorithm is still supported for third-party certificates.

Note: To provide maximum security strength for your ACM system, ensure the certificate meets the U.S. government's **National Institute of Standards and Technology (NIST) Special Publication 800-131A (SP 800-131A)** standard.

If your ACM appliance to ACC integration deployment is having trouble connecting, review the certificate requirements for the two systems. You may need to update the certificate on the ACM appliance to resolve the connection issues between the two systems.

Viewing the SSL Certificate

1. In the top-right, select >**Appliance**.
2. Select the **SSL Certificate** tab.

   The current SSL certificate is displayed.

Creating an SSL Certificate

To create a self-signed SSL certificate:

1. In the top-right, select >**Appliance**.
2. Select the **SSL Certificate** tab.
3. Click **New Certificate** below the current certificate.
4. Enter:

Country Name	The two-letter country code.
State or Province Name	The name of the state or province.
Locality Name	The locality, such as city.
Organization Name	The name of your company.
Organization Unit Name	The unit, section or department.
Common Name	The hostname of the appliance.
Email Address	The email address of the support contact in the company.
Subject Alternative Name	The fully qualified domain name (FQDN) or a comma-separated list of domains, such as `appliance.yourorg.com`, `appliance.yourorg.net`.
Days Valid	The number of days the SSL certificate is valid for. Range is 1-3650.

5. Click to save and then **OK** to confirm the certificate creation.

   Your ACM appliance is rebooted automatically to complete the process.

Creating a Certificate Signing Request

To create a Certificate Signing Request:

1. In the top-right, select >**Appliance**.
2. Select the **SSL Certificate** tab.
3. Click **Certificate Signing Request** below the current certificate.
4. Enter:

Country Name	The two-letter country code.
State or Province Name	The name of the state or province.
Locality Name	The locality, such as city.

Organization Name	The name of your company.
Organization Unit Name	The unit, section or department.
Common Name	The hostname of the appliance.
Email Address	The email address of the support contact in the company.
Subject Alternative Name	The fully qualified domain name (FQDN) or a comma-separated list of domains, such as `appliance.yourorg.com`, `appliance.yourorg.net`.
Days Valid	The number of days the SSL certificate is valid for. Range is 1-3650.

5. Click .
6. When the **Download CSR** and **Download Private Key** links appear, click them to download both files to your local drive.
7. Send the `certificateRequest.csr` file to your signing authority to obtain a signed certificate.

> **Note:** Protect your `csrPrivatekey.key` file and make sure that it is accessible only to trusted administrators.

Next, see *Uploading an SSL Certificate* below.

Uploading an SSL Certificate

To upload self-signed certificate files:

1. In the top-right, select **>Appliance**.
2. Select the **SSL Certificate** tab.
3. Click **Load new SSL Certificate**.
4. Upload your new certificate and matching key files from your local drive in the **Upload SSL Certificate** and **Upload Private Key** fields.
5. Click to save and then **OK** to confirm the uploads.

   Your ACM appliance is rebooted automatically to complete the process.

About Appliances page

View the ACM appliance version and licenses, and add or upgrade licenses, on the **About** tab in **> Appliance**:

Adding a License

When you first install an ACM 6 system, you will need to license the system to use its features. Add additional licenses to access new features as required.

If you do not already have a license, purchase one from Avigilon.

Online Licensing

If you have Internet access, use online activation. Otherwise, see *Offline Licensing* below.

1. In the top-right, select > **Appliance**.
2. In the About tab, click **Add License**.
3. In the Add Licenses dialog, enter your Activation IDs.
   - Click **Add ID** to add additional Activation IDs.
   - Click **Remove Last ID** to clear the last Activation ID entered.
4. Click **Activate Licenses**.

Offline Licensing

Offline licensing involves transferring files between a computer running the ACM system and a computer with Internet access.

In the ACM system:

1. In the top-right, select >**Appliance**.
2. In the About tab, click **Add License**.
3. In the Add Licenses dialog, select the **Manual** tab.
4. Enter your Activation IDs.
   - Click **Add ID** to add additional Activation IDs.
   - Click **Remove Last ID** to clear the last Activation ID entered.
5. Click **Save File...** and select where you want to save the `.key` file. You can rename the file as required.
6. Copy the `.key` file to a computer with Internet access.

In a browser:

1. Go to activate.avigilon.com.
2. Click **Choose File** and select the `.key` file.
3. Click **Upload**.

   Important: When reactivating a site cluster, upload all the deactivation `.key` files first and then the single activation `.key` file at last.

   A `capabilityResponse.bin` file should download automatically. If not, allow the download to occur when you are prompted.
4. Complete the product registration page to receive product updates from Avigilon.
5. Copy the `.bin` file to a computer running the ACC Client software.

In the ACM system:

1. In the Add Licenses dialog, click **Choose File**.
2. Select the `.bin` file and click **Open**.
3. Click **Activate Licenses**.

Removing a License

You can deactivate individual licenses and activate them on a different system.

Online Licensing

If you have internet access, use the following procedure. Otherwise, see *Offline Licensing* below.

1. In the top-right, select ⚙ **>Appliance**.
2. In the About tab, select the checkboxes next to the licenses you want to remove.
3. Click **Remove License**.
4. Verify the licenses and copy the Activation IDs for your records.
5. Click **Remove Licenses**.

Offline Licensing

> **Note:** You need a **licensing. avigilon.com** account. Contact your organization's Technical Contact for access.

Offline licensing involves transferring files between a computer running the ACM system and a computer with Internet access.

In the ACM system:

1. In the top-right, select ⚙ **>Appliance**.
2. In the About tab, select the checkboxes next to the licenses you want to remove.
3. Click **Remove License**.
4. Verify the licenses and copy the Activation IDs for your records.
5. Select the **Manual** tab.
6. Click **Save File...** and select where you want to save the `.key` file.
7. Copy the `.key` file to a computer with Internet access.

In a browser:

1. Go to **activate.avigilon.com**.
2. Click **Choose File** and select the `.key` file.
3. Click **Upload**.

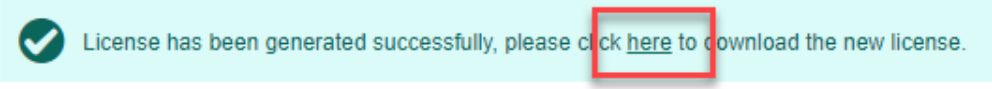
> **Important:** When reactivating a site cluster, upload all the deactivation `.key` files first

and then the single activation `.key` file at last.

A `capabilityResponse.bin` file should download automatically. If not, allow the download to occur when you are prompted.

4. Complete the product registration page to receive product updates from Avigilon.
5. Copy the `.bin` file to a computer running the ACC Client software.

1. In the success message, click **here** to download the license file `capabilityResponse.bin`.



2. Copy the `.bin` file to a computer running the ACM system.

In the ACM system:

1. In the Add Licenses dialog, click **Choose File**
2. Select the `.bin` file and click **Open**.
3. Click **Remove Licenses**.

Upgrading Your License Format

The ACM 6 license format is different from previous versions. If you upgraded from ACM 5.12.2 to ACM 6.0.0 or later, you will need to upgrade your license format in order to add new licenses. Do not add any new ACM 6 licenses until you have upgraded your old licenses.

Note: If your system is licensed for more than the maximum number of readers, you will not be eligible for an upgrade license. You can continue using your existing system, or contact sales to add more features.

If you do not upgrade your license format, you can continue to use your existing features. However, you will not be able to license new features.

Important: If you use the replication and failover features of the ACM system and you choose to upgrade the license format you must upgrade the license format on both the primary and standby ACM appliances. Replication features, including failover, will not function if the license format is not the same on both appliances. Complete the following steps on both appliances.

1. In the top-right, select > **Appliance**.
2. In the About tab, click **Download Upgrade File**.
3. Email the `.bin` file to acm.license@avigilon.com. You will receive a response in 1-2 business days with an Activation ID for each feature you have. You can continue to use the ACM appliance during this time.
4. After you receive the Activation IDs, follow the procedure in *Adding a License* on page 369. You will only need to enter one of the Activation IDs to automatically license the system for all features your device is entitled to.

Viewing the End User License Agreement

Follow the steps below to view the End User License Agreement:

1. In the top-right, select > **Appliance**.
2. In the About tab, click **View End User License Agreement Terms and Conditions**.
3. Click **Back** to return to the Appliance: Edit page.

About Appliances page

View the ACM appliance version and licenses, and add or upgrade licenses, on the **About** tab in > **Appliance**:

Appliance Name	The name of the appliance.
Application Software Version	The current software version running on the appliance.
Database Version	The current database version running on the appliance.
End User License Agreement Status	Whether the terms and conditions have been accepted.
View End User License Agreement Terms and Conditions	Click to review the software end user license agreement.
Licenses	
Add License	Click to add licenses to the system.
Remove License	Click to remove licenses from the system.
Counts	The number of readers, panels, wireless locks, and ACM system integrations that are licensed to the appliance.
External Systems	The external vendors that are licensed to run with the appliance.
Collaborations	The external information sources that are licensed for the import and export of ACM identity information.
Options	The features the appliance supports.

Managing Collaborations

Connect, customize and set up your appliance to meet your system requirements. Possible functions include:

- Pulling identity information from an external database to populate identity fields in the Access Control Manager.
- Pushing identities and events from the Access Control Manager to third-party applications such as video management software.

Note: Any date fields in Collaboration files (e.g. Last Access, Expire Date, Activate Date, Issue Date) will display as blank if there is no information recorded for that field. The Force Password Change field does not apply to collaborations.

Adding a Collaboration

For the types of collaboration available in the ACM application, see *Supported Collaborations* on page 382.

To add a collaboration:

1. Select > **Collaboration**.

   The Collaborations list appears.
2. Click **Add Collaboration**.

   The Collaboration Add New page appears.
3. Fill out the **Name**, **Appliance** and **Type** fields. Depending on the type of collaboration selected, additional fields will display.
4. Select the **Installed** checkbox to enable the collaboration.
5. Complete the remaining fields as required. The fields will vary depending on the collaboration type:

Collaboration type	Additional fields
Events - Generic XML; Events - Splunk	Host; Port Number; Require TCP

Identity CSV Export	Partitions (if configured); Partitions to Export (if configured); Include Primary Photo; Include Roles; Location Type; and for SCP or Windows Share only: Host, Port Number, User Name, Password, Location, Domain Name (Windows Share only) **Note:** Only one Local Drive Identity CSV Export collaboration is allowed. You can update the definition of the existing collaboration, or replace it with a new one by manually deleting the existing one and adding a new one. For more information, see *Deleting a Collaboration* on page 386.
Identity CSV one-time Long format	Delimiter; Text Qualifier; Date Format; CSVFile
Identity CSV one-time Short format	CSVFile
Identity CSV Recurring	Include Primary Photo; Location Type; Host; Port Number; User Name; Password; Location; Delimiter; Text Qualifier; Date Format; Domain Name (Windows Share)
Identity LDAP pull	Host; Bind DN; Password: Port Number; SSL, Validate Certificate
Identity Oracle RDBMS pull	Host; User Name; Instance; Port Number; Password
Identity SQL Server pull	Host; User Name; Database; Port Number; Password **Note:** Ensure any individual images to be imported are not over 1MB.

6. Click .

   The Collaboration: Edit screen appears.
7. Navigate through the tabbed pages and fill out the details as required.
8. Click .

Adding an Events XML Collaboration

Note: The ACM license, AC-SW-LIC-XML, is required to enable this feature.

To add an Events XML collaboration:

1. Select > **Collaboration**.

   The Collaborations list appears.
2. Click **Add Collaboration**.

   The Collaboration: Add page appears.
3. Complete the following fields:

Name	Name for the collaboration.
Appliance	Select the appropriate Appliance, if more than one appliance is available.
Type	Select Events – Generic XML. The following additional fields display once the type is selected: • Host • Require TCP • Port Number
Installed	Select this checkbox to enable the collaboration.
Host	IP address of the XML receiver.
Require TCP	Select this checkbox.
Port Number	TCP port relating to the Host IP address.

4. Click .

   The message 'Collaboration entry was successfully created' displays on the Collaboration: Edit screen.
5. Click the **Events** tab.
6. Complete the following fields:

Schedule	Select a Schedule for when the XML events collaboration will be active.
Send Acknowledgments	Select this checkbox to include acknowledgments.
Send Clears	Select this checkbox to include clears.
Send Notes	Select this checkbox to include notes created by Alarm Monitor operators when processing alarms.

7. Select the desired event types to be included in the XML data feed from the **Available** list and move them to the **Members** list.

> **Note:** Hold the SHFT key down and select the first and last entries to select multiple consecutive entries. Hold the CTRL key down to select multiple non-consecutive entries.

8. Click .

Collaborations - Events XML Definitions

Definitions for the individual attributes of the XML events stream are noted below:

To see a typical example, refer to *Collaborations - Events XML Example* on page 380.

XML	Definition
<**plasectrxGatewayDN**> cn=544de4aa06914073,ou=gateways ,dc=plasec </**plasectrxGatewayDN**>	An internal reference for the ACM appliance that this XML came from.
<**cn**>38901f4a95d14013</**cn**>	The unique row identifier for this particular event. Corresponds to the ID column in the history tables.
<**plasectrxRecdate**>20140610055028-0700 </**plasectrxRecdate**>	Time the event was logged into the ACM system history – adjusted for ACM local time.
<**plasectrxPanel date**>20140610085028-400 </**plasectrxPanel date**>	The UTC time the event actually happened. It is the timestamp of the event being reported up from the field hardware. Adjusted for field hardware local time.
<**plasectrxRecdateUTC**>20140610125028Z </**plasectrxRecdateUTC**>	Time the event was logged into the ACM system history.
<**plasectrxPanel dateUTC**>20140610125028Z </**plasectrxPanel dateUTC**>	The UTC time the event actually happened. It is the timestamp of the event being reported up from the field hardware.
<**plasectrxLastacc**> 19700101000000Z</**plasectrxLastacc>**	Last Access time and date of the Token that is associated with this event. Example – the last recorded valid access of the card that was used at a door causing a 'Local Grant' event.
<**plasectrxEvtypename**> Intrusion</**plasectrxEvtypename**>	ACM event type category for this event. Corresponds to one of the event types defined in the ACM system in Settings: Event Types.
<**plasectrxBackgroundColor**> </**plasectrxBackgroundColor**>	Color assigned to the event background color (if any) for display in the ACM monitor.
<**plasectrxForegroundColor**> </**plasectrxForegroundColor**>	Color assigned to the event foreground color (if any) for display in the ACM monitor.

XML	Definition
<**plasectrxAckBackgroundColor**> </**plasectrxAckBackgroundColor**>	Color assigned to the event background color (if any) for display in the ACM monitor. This color corresponds to an 'acknowledged alarm' on the Alarms page.
<**plasectrxAckForegroundColor**> </**plasectrxAckForegroundColor**>	Color assigned to the event foreground color (if any) for display in the ACM monitor. This color corresponds to an 'acknowledged alarm' on the Alarms page.
<**plasectrxEventname**> Input point in alarm </**plasectrxEventname**>	Name of the event. Corresponds to one of the events defined in the ACM system in Physical Access: Events.
<**plasectrxPanel name**>elevator test </**plasectrxPanel name**>	Name of the panel that the event originated from.
<**plasectrxSourcename**> Input on subpanel 0 Address 1 </**plasectrxSourcename**>	Name of the source of the event.
<**plasectrxSourcelocation**> </**plasectrxSourcelocation**>	Location of the source of the event, as defined in the 'Location' field on the various hardware property pages.
<**plasectrxSourcealtname**> </**plasectrxSourcealtname**>	Applies to doors only - if the event source is a door, this is the Alt. Name as defined on the Door properties Configuration tab.
<**plasectrxPointaddress**> 750</**plasectrxPointaddress**>	A reference number for the event e.g. 'Input point in alarm'.
<**plasectrxPointDN**> cn=750,ou=points,dc=plasec </**plasectrxPointDN**>	This is the LDAP dn of the 'Input point in alarm' event, for lookup during ACM processing.
<**plasectrxEvtypeaddress**>5 </**plasectrxEvtypeaddress**>	This is a reference number for the event type e.g. 'Intrusion'.
<**plasectrxSourceDN**> cn=100,cn=0,cn=9,ou=panels, cn=544de4aa06914073,ou=gateways, dc=plasec </**plasectrxSourceDN**>	LDAP dn of the source of the event, used in ACM processing.
<**plasectrxSourcetype**>40 </**plasectrxSourcetype**>	An internal reference to the type of hardware the event source belongs to. Defines what type of hardware produced the event – an input point in this case.
<**plasectrxOperatorname**> </**plasectrxOperatorname>**	the ACM system operator that is associated with certain events e.g. an audit event for a record updated by an the ACM system user.

XML	Definition
<**plasectrxPri**>10</**plasectrxPri**>	Priority of the event, as defined on the Event properties page.
<**plasectrxMsg**></**plasectrxMsg**>	Contents of the 'Message' column in the Monitor e.g. the raw card data from an 'Invalid Card Format' event.
<**plasectrxIdentityDN**> </**plasectrxIdentityDN**>	The LDAP dn of the identity associated with the event. Example – the dn of the identity that used their card at a door causing a 'local grant' event.
<**plasectrxCardno**>0 </**plasectrxCardno**>	Internal number of the token that is associated with this event. Example – the card number that was used at a door causing a 'local grant' event.
<**plasectrxEmbossedno**> </**plasectrxEmbossedno**>	Embossed number of the token that is associated with this event. Example – the card number that was used at a door causing a 'local grant' event.
<**plasectrxLname**> </**plasectrxLname**>	Last name of the identity associated with the event. Example – the last name of the identity that used their card at a door causing a 'local grant' event.
<**plasectrxFname**> </**plasectrxFname**>	First name of the identity associated with the event. Example – the first name of the identity that used their card at a door causing a 'local grant' event.
<**plasectrxMi**></**plasectrxMi**>	Middle name of the Identity associated with the event. Example – the middle name of the identity that used their card at a door causing a 'local grant' event.
<**plasectrxIssuelevel**>-1 </**plasectrxIssuelevel**>	Issue level of the token that is associated with this event. Example – the issue level of the card that was used at a door causing a 'local grant' event.
<**plasectrxFacilityCode**>0 </**plasectrxFacilityCode**>	Facility code of the token that is associated with this event. Example – the facility code of the card that was used at a door causing an 'invalid facility code' event.
<**plasectrxExpiredat**> 19700101000000Z </**plasectrxExpiredat**>	Deactivate date of the token that is associated with this event. Example – the deactivate date of the card that was used at a door causing a 'local grant' event.
<**plasectrxActivdat**> 19700101000000Z </**plasectrxActivdat**>	Activate date of the token that is associated with this event. Example – the activate date of the card that was used at a door causing a 'local grant' event.
<**plasectrxIssuedat**> 19700101000000Z </**plasectrxIssuedat**>	Issue date of the token that is associated with this event. Example – the issue date of the card that was used at a door causing a 'local grant' event.

XML	Definition
<**plasectrxHasCamera**>0 </**plasectrxHasCamera**>	Indicates whether the event has a camera view associated with it. Used in the monitor to display the camera icon for an event with a camera association.
<**plasectrxHasNotes**>0 </**plasectrxHasNotes**>	Indicates whether there are any notes available for this event.
<**plasectrxHasSoftTriggerSet**>0 </**plasectrxHasSoftTriggerSet**>	Indicates whether there is a soft trigger associated – currently this applies to Exacq video integration only.
<**plasectrxShowVideo**>0 </**plasectrxShowVideo**>	Indicates whether the event is optioned to show pop-up video of an associated camera.
<**plasectrxSeqno**>0 </**plasectrxSeqno**>	Not used.
<**plasectrxIsAlarm**>1 </**plasectrxIsAlarm**>	Indicates whether this event is also defined as an alarm. Alarms appear on the Monitor: Alarms page.

Collaborations - Events XML Example

Shown below is an example of a typical 'input point in alarm' XML events stream:

```
<EVENT>
    <plasectrxGatewayDN>cn=544de4aa06914073,ou=gateways,dc=plasec</plase
    ctrxGatewayDN>
    <cn>38901f4a95d14013</cn>
    <plasectrxRecdate>20140610055028-0700</plasectrxRecdate>
    <plasectrxPanel date>20140610085028-0400</plasectrxPanel date>
    <plasectrxRecdateUTC>20140610125028Z</plasectrxRecdateUTC>
    <plasectrxPanel dateUTC>20140610125028Z</plasectrxPanel dateUTC>
    <plasectrxLastacc>19700101000000Z</plasectrxLastacc>
    <plasectrxEvtypename>Intrusion</plasectrxEvtypename>
    <plasectrxBackgroundColor></plasectrxBackgroundColor>
    <plasectrxForegroundColor></plasectrxForegroundColor>
    <plasectrxAckBackgroundColor></plasectrxAckBackgroundColor>
    <plasectrxAckForegroundColor></plasectrxAckForegroundColor>
    <plasectrxEventname>Input point in alarm</plasectrxEventname>
    <plasectrxPanel name>elevator test</plasectrxPanel name>
    <plasectrxSourcename>Input on subpanel 0 Address
    1</plasectrxSourcename>
```

```
    <plasectrxSourcelocation></plasectrxSourcelocation>

    <plasectrxSourcealtname></plasectrxSourcealtname>
    <plasectrxPointaddress> 750</plasectrxPointaddress>

    <plasectrxPointDN>cn=750,ou=points,dc=plasec</plasectrxPointDN>

    <plasectrxEvtypeaddress> 5</plasectrxEvtypeaddress>

    <plasectrxSourceDN>cn=100,cn=0,cn=9,ou=panels,cn=544de4aa06914073,ou
    =gateways,dc=plasec
    </plasectrxSourceDN>

    <plasectrxSourcetype>40</plasectrxSourcetype>

    <plasectrxOperatorname></plasectrxOperatorname>

    <plasectrxPri>10</plasectrxPri>

    <plasectrxMsg></plasectrxMsg>

    <plasectrxIdentityDN></plasectrxIdentityDN>

    <plasectrxCardno> 0</plasectrxCardno>

    <plasectrxEmbossedno></plasectrxEmbossedno>

    <plasectrxLname></plasectrxLname>

    <plasectrxFname></plasectrxFname>

    <plasectrxMi></plasectrxMi>

    <plasectrxIssuelevel> -1</plasectrxIssuelevel>

    <plasectrxFacilityCode>0</plasectrxFacilityCode>

    <plasectrxExpiredat>19700101000000Z</plasectrxExpiredat>

    <plasectrxActivdat>19700101000000Z</plasectrxActivdat>

    <plasectrxIssuedat>19700101000000Z</plasectrxIssuedat>

    <plasectrxHasCamera>0</plasectrxHasCamera>

    <plasectrxHasNotes>0</plasectrxHasNotes>

    <plasectrxHasSoftTriggerSet>0</plasectrxHasSoftTriggerSet>

    <plasectrxShowVideo>0</plasectrxShowVideo>

    <plasectrxSeqno>0</plasectrxSeqno>

    <plasectrxIsAlarm>1</plasectrxIsAlarm>
</EVENT>
```

For definitions of the individual attributes, refer to *Collaborations - Events XML Definitions* on page 377.

Editing a Collaboration

To edit an existing collaboration:

1. Select > **Collaboration**.

   The Collaborations list appears.
2. Click on the name of the collaboration you want to edit.

   The Collaboration Edit screen appears.
3. Navigate through the tabbed pages and make the required changes.
4. Click .

Supported Collaborations

> **Note:** Up to 32 collaborations—in any combination by Type or Installed status—are supported by an ACM appliance.

The types of collaboration available in the ACM application include:

Type	Description
Identity	
Identity CSV Export	Export identities, photos, tokens, groups, and roles to a CSV file. **Note:** Only one Local Drive Identity CSV Export collaboration is allowed.
Identity CSV One-time Long format	Import identities, tokens, groups, roles from a CSV file manually and keep the Access Control Manager identity database in sync with changes.
Identity CSV One-time Short format	Import identities, tokens, groups, roles from a CSV file manually and keep the Access Control Manager identity database in sync with changes.
Identity CSV Recurring	Import identities, photos, tokens, groups, and roles from an updated CSV file and keep the Access Control Manager identity database in sync with changes.
Identity LDAP pull	Pull identities, tokens, groups, roles from a directory store and keep the Access Control Manager identity database in sync with changes.
Identity Oracle RDBMS pull	Pull identities, tokens, groups, roles from a Oracle RDBMS store and keep the Access Control Manager identity database in sync with changes.

Type	Description
Identity SQL Server pull	Pull identities, tokens, groups, roles from a Microsoft SQL Server RDBMS store and keep the Access Control Manager identity database in sync with changes. **Note:** Ensure any individual images to be imported are not over 1MB.
Events	
Events - Generic XML	Transmit events in real time using XML.
Events - Splunk	Produces messages in Splunk format. Splunk is a log aggregation product.

Note: The maximum file size recommended for unzipped information is 25GB. This maximum equates to approximately 12,500 identities if each identity has a 2MB photograph, or 6,250 identities if each identity has a 4MB photograph.

Running a Collaboration

To run a collaboration:

1. Select > **Collaboration**.

   The Collaborations list appears.
2. Click from the **Run** column next to the collaboration you want to run.
3. When the confirmation message is displayed, click **OK**.

   Allow more time for the collaboration to run if you are using the SCP or Windows Share location type. Running the Local Drive location type is faster because network performance is not a consideration.
4. View the ACM identity and token information as follows:

   Note: The maximum file size recommended for unzipped information is 25GB. This maximum equates to approximately 12,500 identities if each identity has a 2MB photograph, or 6,250 identities if each identity has a 4MB photograph.

   - For previews of Identity CSV Recurring, Identity LDAP pull, Identity Oracle RDBMS pull and Identity SQL Server pull collaborations in the general log, see *Previewing the General Identity Collaboration Log* on the next page.
   - For exports to SCP or Windows Share network locations, view the files (unzipped) in the location specified in the collaboration.
   - For exports to Local Drive, click when it appears and view the contents of the zipped CSV export file. See *Extracting a CSV Zip File* on page 385.

Previewing the General Identity Collaboration Log

You can click the Preview icon to view the general log for identity collaborations that were run, when each collaboration was started, how long each collaboration took to complete in minutes, the number of identities that were exported and the compression level (deflate format) of each item. Recent entries are shown at the top of the log, and older entries at the end of the log. For information about accessing the individual logs, see *Accessing Appliance Logs* on page 365.

The general identity collaboration log can be previewed for these types of collaborations:

- Identity CSV Recurring
- Identity LDAP pull
- Identity Oracle RDBMS pull
- Identity SQL Server pull

The following examples show an Identity CSV Export to Local Drive collaboration and a previewed log in the Identity Collaboration Log....

Figure 18: Example of two collaborations that were run and completed

20191024-010540 collab_idfile:<Vancouver Appliance> 2019 10/24 01:05:40-0700 **********STARTING COLLABORATION RUN.**********

20191024-010540 collab_idfile:<Vancouver Appliance> Running Export Collaboration...

==========

Started at: 2019-10-24 01:05:56 -0700

Finished at: 2019-10-24 01:13:59 -0700

Total timing: 483.713355605

Total Identities Exported: 10106

==========

adding: ACM_identity_export.csv (deflated 81%)

adding: ACM_manifest.yml (deflated 58%)

adding: photos/ (stored 0%)

adding: photos/caa41a44-8a46-1039-8dbe-7178c5f2b90a.jpg (deflated 0%)

adding: photos/51a4f380-8a45-1039-92bf-7178c5f2b90a.jpg (deflated 2%)

...

20191024-073545 collab_idfile:<Vancouver Appliance> 2019 10/24 07:35:45-0700 **********ENDING COLLABORATION RUN.**********

**********STARTING COLLABORATION RUN.**********

20191024-083545 collab_idfile:<Vancouver Appliance> Running Export Collaboration...

==========

Started at: 2019-10-24 08:36:05 -0700

Finished at: 2019-10-24 08:44:13 -0700

Total timing: 487.375753767

Total Identities Exported: 10106

==========

adding: ACM_identity_export.csv (deflated 81%)

adding: ACM_manifest.yml (deflated 58%)

adding: photos/ (stored 0%)

...

Figure 19: Example of a previewed collaboration

20191029-213702 collab_idfile:<Vancouver Appliance 5> 2019 10/29 21:37:02+0000 **********STARTING COLLABORATION RUN - preview only mode.**********

20191029-213702 collab_idfile:<Vancouver Appliance 5> Obtaining input file(s)...

Transfer using NAS - CIFS

...

20191031-000839 collab_idfile:<Vancouver Appliance 5> 2019 10/31 00:08:39+0000 **********ENDING COLLABORATION RUN - preview only mode.**********

Extracting a CSV Zip File

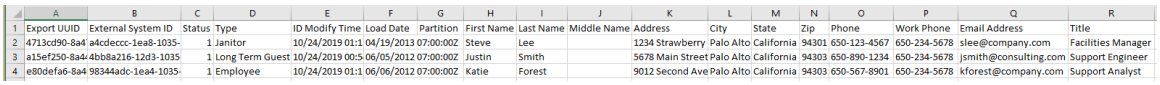
To extract a zipped comma delimited (CSV) file that contains exported ACM identities and tokens:

> **Note:** The 7-Zip tool is recommended for extracting zipped CSV export files larger than 4GB. The maximum file size recommended for unzipped information is 25GB. This maximum equates to approximately 12,500 identities if each identity has a 2MB photograph, or 6,250 identities if each identity has a 4MB photograph.

1. Select > **Collaboration**.

   The Collaborations list appears.
2. Click next to **Local Drive** for the collaboration that was run.
3. The *collaboration_name-yyyymmddhhmmss*.zip file is downloaded to the local drive on an ACM appliance. The hh value is specified in 24-hour format.
4. Extract and examine the contents:
   - photos folder contains the photographs of the exported identities.
   - ACM_manifest.yml provides:
     - source: The name of the appliance.
     - software version: The version of the ACM software.
     - db_version: The version of the ACM, LDAP or appliance configuration database.
     - assets: ACM_identity_export.csv: The identifier of the CSV export file.

- `ACM_identity_export.csv` spreadsheet provides exported ACM identity and token information in columns A through AL. See the following sample:



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	Export UUID	External System ID	Status	Type	ID Modify Time	Load Date	Partition	First Name	Last Name	Middle Name	Address	City	State	Zip	Phone	Work Phone	Email Address	Title
2	4713cd90-8a4	a4cdeccc-1ea8-1035-	1	Janitor	10/24/2019 01:1	04/19/2013 07:00:00Z		Steve	Lee		1234 Strawberry	Palo Alto	California	94301	650-123-4567	650-234-5678	slee@company.com	Facilities Manager
3	a15ef250-8a4	4bb8a216-12d3-1035-	1	Long Term Guest	10/24/2019 00:5	06/05/2012 07:00:00Z		Justin	Smith		5678 Main Street	Palo Alto	California	94303	650-890-1234	650-234-5678	jsmith@consulting.com	Support Engineer
4	e80defa6-8a4	98344adc-1ea4-1035-	1	Employee	10/24/2019 01:1	06/06/2012 07:00:00Z		Katie	Forest		9012 Second Ave	Palo Alto	California	94303	650-567-8901	650-234-5678	kforest@company.com	Support Analyst

> **Note:** The VIP column refers to the anti-passback (APB) setting.

Deleting a Collaboration

To delete an existing collaboration:

1. Select > **Collaboration**.

   The Collaboration list appears.
2. Click beside the collaboration that you want to delete.
3. When the confirmation message is displayed, click **OK**.

Assigning an Event Type to a Collaboration

To assign an event type to a collaboration:

1. Select > **Collaboration**.
2. From the Collaboration list, click on the name of the collaboration you want to edit. It must be an Event collaboration type.

   The Collaboration Edit screen appears.
3. Select the **Events** tab.
4. From the Available list, select all the events you want to transfer, then click ►.

   The event is added to the Members list to show that it is now assigned.

   To remove an event from the collaboration, select the event from the Members list, then click ◄.

   > **Note:** You can select multiple events by using the **Ctrl** or **Shift** key.
5. Click .

Setup & Settings

Click or hover over in the upper-right corner to:

- **Appliance** — Connect, customize and set up your appliance to meet your system requirements. For more information, see *Managing Appliances* on page 337.
- **Collaboration** — Set up and manage collaborations which exchange data with third-party databases and applications. For more information, see *Managing Collaborations* on page 374.
- **Schedules** — Configure when a door is accessible, when a card is valid, or when a device is activated.
- **Holidays** — Configure dates when normal rules are suspended in schedules.
- **Event Types** — Configure event types and instructions on how to handle the event generated in the ACM system. For more information, see *Event Types - Introduction* on page 393.
- **User Forms** — Customize the identity and tokens tabs or create additional ones, and then assign them to ACM operators. For more information, see *User Forms Overview* on page 396.
- **User Fields** — Add additional fields for enrolling identities. For more information, see *User Defined Fields - Introduction* on page 399.
- **User Lists** — Add additional drop-down option lists for enrolling identities. For more information, see *User Lists - Introduction* on page 402.
- **System Settings** — Configure system settings such as language, token expiration time, required password strength and more. For more information, see *System Settings - Introduction* on page 403.
- **Paired Devices** — Generate a one-time key to connect a browser-enabled device, such as a smartphone, to a door configured as an ACM ACM Verify station so that it can function as a Virtual Station. For more information, see *Paired Devices* on page 275.
- **Certificates** — Mercury controllers only. Add custom certificates for panel and ACM authentication.
- **Badge Designer** — Customize a badge template for badge holders. For more information, see *Badge Templates and the Badge Designer* on page 413
- **External Systems** — Set up integration to cameras, sites and other third-party external systems. For more information, see *External Systems Overview* on page 420.
- **Maps** — Import maps of your facility and populate them with door, panel, subpanel, input, output, camera and global action alarm points that can be monitored. For more information, see *Maps - Introduction* on page 435.

Schedules and Holidays Overview

Schedules

A schedule controls when a door setting is active. For example, you can apply a schedule to a group of users and secured doors to grant and deny access to the days and times specified in the schedule.

A door can be assigned an 'unlock schedule', which specifies a period of time when no credential is required to access the door. All users have free access during the 'unlock schedule' period. Likewise, a device may be assigned an 'active schedule', a period during which the device is in operation.

You can also create a holiday list to manage access during holidays or special days when the building is closed. Before you can create a schedule to handle special occasions, you must set up the holiday list.

For more information, see:

- *Adding Schedules (Intervals in Schedules)* below
- *Editing Schedules* on page 390
- *Deleting Schedules* on page 390

When a panel is not operating as expected, see *Panel Events* on page 498 for troubleshooting instructions.

Holidays

Holidays are special days in the year when the standard schedule does not apply or a different entry and exit pattern is observed. New Year's Day and National Day are examples of holidays. The Access Control Manager is designed to accommodate a large number of diverse holidays.

> **Note:** Holidays are set for a specific day in the year. You need to update the system holidays each year.

For more information, see:

- *Adding Holidays* on page 390
- *Editing Holidays* on page 391
- *Deleting Holidays* on page 391
- *Examples* on page 391

Adding Schedules (Intervals in Schedules)

1. Select > **Schedules**.

   The two default 24 Hours Active (ON) and Never Active (OFF) schedules cannot be deleted.
2. Click **Add Schedule**.
3. Enter a name for the schedule in **Name**.
4. Edit the **Advanced Schedules** field, if needed: The checkbox is checked by default for new schedules and any existing schedules that were previously configured using the advanced capability (at time of initial release of the field).
   - If checked, you can apply different selections of holidays to the intervals in the schedule. (The page refreshes and displays columns of holiday checkboxes.)
   - If unchecked, you can apply the same selection of holidays to the schedule itself. (The page refreshes and displays a single row of holiday checkboxes.)

Note: The Advanced Schedule option is not supported for ASSA ABLOY IP doors.

5. Select the schedule mode:

   - **ON** – The schedule is constantly on. You do not need to set specific dates or times. Click to save the new schedule.
   - **OFF** – The schedule is off. Click to save the new schedule.
   - **SCAN** – The schedule follows a weekly, monthly or shift rotation and includes any holidays. One interval is represented by one row of checkboxes.

     For **SCAN** mode:

     a. Click the days of the week (**Sun** - **Sat**) and any applicable holiday (**1** - **8**) in each of the applicable rows.

     b. Enter the start (**Active** is inclusive) and end (**Inactive** is exclusive) time in 24-hour clock format and avoid overlapping times.

        Example: A day shift from 08:00 - 19:59 and a night shift from 20:00 - 07:59.

        No conflict occurs when the actual start time is 08:00:*00* and the actual end time is 19:59:*59* for the day shift; and the actual start time is 20:00:*00* and the actual end time is 07:59:*59* for the night shift.

        For more examples, see *Adding Holidays* on the next page and *Examples* on page 391.

        Note: For Mercury Security and ASSA ABLOY IP-enabled doors, the limit is 255 schedules. For Schlage IP/PoE mode doors, the limit is 16 intervals in all schedules combined. For SALTO doors, the limit is 1024 schedules.

     c. Click to save the new schedule.

6. Select **Roles** > **Access Groups** and click **Add Access Group** to select the schedule and the doors.

   Note: *SALTO doors only.* If a door is linked to a zone in the SALTO system, do not assign the access group a schedule that is less than five minutes in duration in the Active and Inactive fields.

   For more information, see *Adding an Access Group* on page 112.

7. Select **Roles > Roles** and select the role. Click the **Access Groups** tab and assign the access group to a role.

   For more information, see *Assigning an Access Group to a Role* on page 89.

Editing Schedules

1. Select > **Schedules**.
2. Click the name of the schedule.
3. Edit the schedule as required.
4. Click to save your changes.

> **Tip:** If a message indicates the Advanced Schedule option cannot be enabled when saving, do any of the following:
>
> - Save the schedule without Advanced Schedule selected. Some doors only support basic schedules.
> - Find the access groups using the schedule and select another schedule.

Deleting Schedules

> **Note:** When you delete a schedule that is currently used (such as by a door, panel or interlock), all references to the deleted schedule are replaced by the Never Active schedule.

1. Select > **Schedules**.
2. Click beside the schedule you want to delete.
3. When the browser displays a pop-up message to ask *Are you sure?*, click **OK**.

Adding Holidays

1. Select > **Holidays**.
2. Click **Add Holiday**.
3. Enter a name for the holiday in **Name**.
4. Enter the specific date of the holiday.

   > **Note:** For a recurring holiday, create a holiday for each future year.

5. If the holiday spans more than one day, fill out the **Additional Days** field.

   Default setting is **0** for a one-day holiday.

   Example: If 01/01/2020 is the date of the holiday and 2 additional days are specified, the holiday period is January 1, 2 and 3.

6. Select the number corresponding to the **Type** of holiday. (The holiday type number allows you to group specific types of holidays together.)

   Note: Up to 3 types of holiday groups are supported for SALTO doors.

7. Click the **Preserve schedule days** checkbox to specify that only the holiday schedule be activated on the date of the holiday. Leave unchecked if all other schedules are to be activated on the same date. The holiday must be assigned to a schedule to control any door settings.

   Note: Not applicable for SALTO doors.

8. Click to save the new holiday.

Editing Holidays

1. Select > **Holidays**.
2. Click the name of the holiday you want to edit.
3. Edit the information about the holiday as required.
4. Click to save your changes.

Deleting Holidays

1. Select > **Holidays**.
2. On the Holiday list, click for the holiday you want to delete.
3. When the browser displays a pop-up message to ask *Are you sure?*, click **OK**.

Examples

Noted below are two examples of setting up holidays and schedules.

Example 1: Part-Day Holiday

All staff are attending an afternoon team function on December 18th, with work finishing at noon. On the 18th the doors need to unlock from 8 a.m. to noon, with access by Card Only mode after noon. The regular schedule for Monday to Friday is for the doors to open from 8 a.m. to 5 p.m.

1. Select > **Holidays**.
2. On the Holiday list, click to add a new holiday.
3. On the Holiday: Add page, enter:
    - **Name** (for example, `Company Half Day`).
    - **Date** (for example, `12/18/2020`).
    - **Type** (for example, `8`).
4. Click to save.
5. Select > **Schedules**.
6. Select the regular schedule on the Schedules list.
7. Click the **Advanced Schedule** checkbox to remove the default checkmark. The columns of holiday checkboxes are replaced by a single row of holiday checkboxes that supports a basic schedule.
8. On the first available free line (representing an interval in the schedule), enter `08:00` as the **Active** time and `11:59` as the **Inactive** time.
9. Click the checkbox for the **Type** selected in step 3 above (for example, **8**).
10. Click to save.

> **Tip:** To apply an advanced schedule that supports different holidays for intervals in a schedule, make sure the **Advanced Schedule** checkbox is selected. For example, if afternoon team functions are held over two weeks on a Thursday and Friday (10th and 18th), add the two holidays (10th and 18th with **7** and **8** types, respectively) and then enter checkmarks for **Thu** and **7** in one row and **Fri** and **8** in another row. Save the schedule.

Example 2: Additional Access Time

A special delivery is scheduled for December 20th, requiring additional access time from 8 p.m. to midnight. To create the additional access time without impacting the regular daily schedule, the Preserve schedule days option can be used. This option allows you to set separate access schedules for the same day.

1. Select > **Holidays**.
2. On the Holiday list, click to add a new holiday.
3. On the Holiday: Add page, enter:
    - **Name** (for example, `Late Night Access`).
    - **Date** (for example, `12/20/2020`).
    - **Type** (for example, `7`).
    - Click the **Preserve schedule days** checkbox.
4. Click to save.
5. Select > **Schedules**.
6. Select the regular schedule on the Schedules list.

7. Click the **Advanced Schedule** checkbox to remove the default checkmark. The columns of holiday checkboxes are replaced by a single row of holiday checkboxes that supports a basic schedule.
8. On the first available free line (representing an interval in the schedule), enter `20:00` as the **Active** time and `23:59` as the **Inactive** time.
9. Click in the checkbox for the **Type** selected in step 3 above (for example, **7**).
10. Click to save.

Event Types - Introduction

Event types are classifications of events that may occur during the operation of the ACM system. Event types are associated with specific event sources, such as doors, panels, and systems.

A number of event types are defined by default but you can add or delete event types as needed. The default events are listed below.

Event Type	Source	Definition
Communications	Door Panel Subpanel	Events where two or more components cannot communicate with each other (for example, if a lock is offline with a hub, or if there is radio interference). Related events include: • Lock offline with hub • Panel offline • Radio disturbance • Subpanel communication disabled • Subpanel offline • Subpanel type mismatch • VidProxy Image Service offline • VidProxy Service offline
Door held open	Door	Covers door held events including: • Door held masked • Door held open • Door held open pre-alarm • Door held unmasked • Extended door held disabled • Extended door held enabled
Forced Door	Door	Covers forced door events including: • Forced door • Forced door masked • Forced door unmasked

Event Type	Source	Definition
Intrusion	Panel Subpanel Intrusion Panel Inputs	This event type is used in two circumstances – for Intrusion Panel events and for general purpose input events from Mercury Security or VertX® (general purpose inputs are inputs that are not used in a door). If the source type includes the word 'Intrusion' (e.g. Intrusion Point, Intrusion System, Intrusion Panel etc.) then it relates to intrusion panels. If the source type is Input, then it relates to an event generated by a general purpose (non-door) Mercury Security or VertX® input (e.g. Masked input point active, Input point in alarm, Input point masked).
Invalid Credential	Door	Relates to any door event where access is denied (e.g. Deactivated card attempt, Invalid card schedule, Access denied – occupancy level reached etc.).
Maintenance	Door Panel Subpanel	Primarily developed to cover events where action is required outside of the system (e.g. uploads, downloads, inconsistencies between panels etc.). **Note:** There are other miscellaneous events which are also assigned to this event type.
Output	Outputs	Covers general purpose outputs - Mercury Security or VertX® outputs that aren't door strikes, including: • Output point active • Output point inactive • Output point pulsed
Power	Door	Covers only low or critical battery events for doors.
System	System	Primarily used where the system is informing the user of an event. This includes global actions and linkages. **Note:** This event type has also been used for other miscellaneous events (e.g. Card trace and Requests to enter for doors).
System audit	System/ Database Credentials	Covers events where a record has been added, deleted or updated by the system.

Event Type	Source	Definition
Tamper	Door Panel Subpanel	Relates to all tamper events for panels or doors, including (but not limited to): • Area disabled/enabled • Lock jammed • Occupancy count reached • Panel transaction level reached
User audit	Door Panel Subpanel Intrusion Panel System/ Database	Where a user makes a change in the UI or in REST, including (but not limited to): • APB requests • Door-related requests • Intrusion panel requests • Records changed in database
Valid Credential	Doors	Access was granted to an identity that has access to the door and has swiped the card. For example, local grant, Opened unlocked door, Facility code grant, and more.
Video	Video	Video-related events, including: • Connection Loss • Motion Detected • Video Loss

Note: The Network and Offline lock event types are no longer in use and have been removed from the ACM system version 5.10.0 onwards.

Adding Event Types

1. Select > **Event Types**.
   The Event Types list is displayed.
2. From the Event Types list, click **Add New Event Type**.
3. On the Event Type: Add New page, enter a name for the new event type.
4. Check the **Alarm** box if this event type will always generate an alarm.
5. Complete the remainder of the page with the required settings.
6. Click to save the new event type.

Editing Event Types

1. Select > **Event Types**.

   The Event Types list is displayed.
2. From the Event Types list, click the name of an event type.
3. On the Event Type Edit page, make any changes that are required.
4. Click to save your changes.

Deleting Event Types

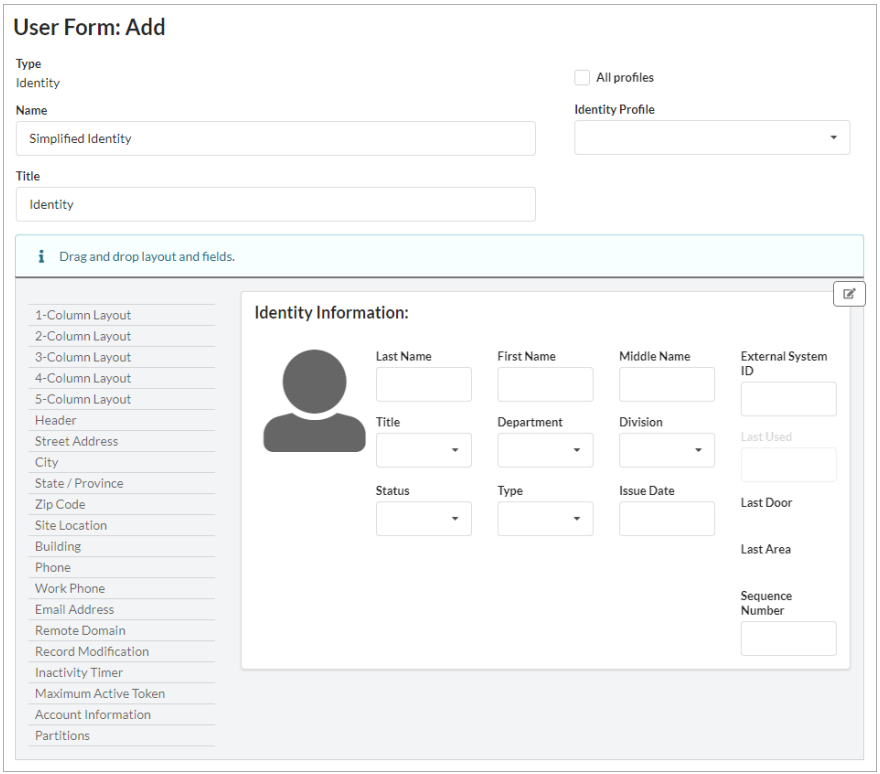
Note: System default event types cannot be deleted. You can only delete event types that have been manually added to the system.

1. Select > **Event Types**.
2. Click beside the event type you want to delete.
3. When the browser displays a pop-up message to ask *Are you sure?*, click **OK**.

User Forms Overview

ACM Super Admin users only

User forms provide a drag-and-drop interface for identity management. For example:



Customize the identity and tokens tabs or create additional ones, and then assign them to ACM operators. For more information, see:

- *Adding and Customizing Tabs with User Forms* below
- *Assigning Tabs to Identities with User Forms* on the next page
- *Editing User Forms* on page 399
- *Deleting User Forms* on page 399

Adding and Customizing Tabs with User Forms

Choose User Forms to customize the Identity and Tokens tabs, and add any number of custom tabs, inserted in alphabetical order, after the built-in tabs on the Identities page.

Before you begin, add any new user-defined fields. For more information, see *Adding and Assigning Tabs to Identities with User Fields* on page 400.

1. Select > **User Forms**.

   The built-in identity and token forms are visible on all identities by default ( ) and cannot be edited and deleted.

2. Click **Add User Form**.

3. Select a form type for customization:
    - **Identity** — A form with pre-populated fields, which can be displayed instead of the default Identity tab.
    - **Token** — A form with pre-populated fields, which can be displayed instead of the default Tokens tab.
    - **Custom** — A blank form, which can be displayed as an additional tab that is customized to meet your requirements.
4. Click **Next** and optionally assign the form to one or more identity profiles. Enter:
    - **Name** — A name for the form.
    - **Title** — A label for the tab on the identity page.
    - **All Profiles** checkbox — All identity profiles, current and future, to be assigned to the form.
    - **Identity Profile** — If All Profiles is not selected, select one or more identity profiles.
5. To customize the form, do any of the following:
    - Drag and drop a layout from the list of layouts. This is required for a blank custom form and optional for a pre-populated form.
    - Drag and drop **Header** to enter a label for the items.
    - Drag and drop a field from the list of built-in and user-defined fields.
        - **Last Name** and **Status** are required for an identity record.
    - Click the **Advanced Edit** icon in the upper-right corner.
        - To make a field read-only which means it is grayed out and not editable by the operator, click it and select **Properties**. Click the **Read-only** checkbox and click **Save**.
        - To delete a field, hover your mouse over it and select **Remove**.
        - To delete a layout and its items, hover your mouse over it and click on the bottom edge.
6. Click **Save** to save the new form.

After you add a new form, see *Assigning Tabs to Identities with User Forms* below.

Assigning Tabs to Identities with User Forms

After one or more identity or token forms are created, display them to all ACM operator identities or only specific identities.

After one or more custom forms are created, display them to all ACM operator identities or only specific identities.

> **Note:** Delegations can restrict operators from editing and viewing the list of assignments.

On the User Forms list, do any of the following:

- For an identity or token form:
  - To display an identity or token form, click the ☆ default icon next to the form to make it the default. The default icon changes to ★.

    The identity or token tab will be displayed to all operator identities. To reverse this change, click ★.
- For a custom form:
  - To display one or more custom forms to all identities, click the public icon next to each custom form. The public icon changes to .

    The custom tab will be displayed to all operator identities. To reverse this change, click .
- For any form type:
  - To define the operator identities who can view the form, click **Assign** and select the identities. Click ▶ to move them from the **Available** list to the **Members** list. To reverse these changes, click ◀ to move them back to the **Available** list. Click **Save**.

    The identity, token or custom tab will not be displayed to all operator identities. Only the selected operator identities can view it.

Editing User Forms

To edit an identity, token or custom form:

1. On the User Forms list, click the name of the form.
2. Do any of the following:
   - Add, edit or delete fields.
   - Add, edit or delete a layout.
3. Click **Save**.

Deleting User Forms

You can delete an identity, token or custom form that is not set to default or not assigned to any identities. In addition, the built-in forms cannot be deleted.

1. Select >**User Forms**.
2. Click next to the name of the form. The button is not displayed if any identities are assigned to the form.
3. When the confirmation message is displayed, click **OK**.

User Defined Fields - Introduction

User defined fields are custom fields that you can add to the Identities page to capture organization specific information for each identity.

To add user defined fields to the Identities page, you must also add a user defined tab to host the fields.

Information captured by user defined fields can be used on badges to display important details about each identity.

User defined fields can also be used for advanced searching for identities. For more information, see *Searching for an Identity* on page 70.

Adding a Field for User Forms, Tabs and Lists

User-defined fields are used to collect additional details about users on the Identities screen. After you add all the fields, add at least one tab to display the new fields. For more information, see *Adding and Customizing Tabs with User Forms* on page 397 and *Adding and Assigning Tabs to Identities with User Fields* below.

1. Select >**User Fields**.
2. Click **Add User Defined Field**.
3. Enter a name for the new field in the **Name** field.
4. Select the field **Type**:
    - **String** — The field supports words and numbers.
    - **Integer** — The field supports numbers only.
    - **Boolean** — The field is a checkbox that works like a Yes or No question. Check the box to indicate 'yes' and clear the box to indicate 'no.
    - **Date** — The field supports a date only. Click the field to display a calendar and select a date.
5. Click to save the new field.

> **Note:** User-defined fields cannot be edited, only deleted.

Adding and Assigning Tabs to Identities with User Fields

You must add a new tab to host user-defined fields before using them on the Identities page. Add tabs after you've added all the fields that you need.

> **Tip:** It is recommended to add a tab and user-defined fields on the Identities page using identity, tokens and custom forms in a drag-and-drop interface. For more information, see *Adding and Customizing Tabs with User Forms* on page 397.

1. Select > **User Fields**.
2. Click the **Tabs** tab.
3. Click **Add User Defined Tab**.
4. Enter a name for the new tab in **Name** and click .

5. From the **Available** list, select all the user-defined fields that should be displayed on the tab and click ► to add them to the **Members** list.

   To remove a field from the tab, select the field from the Members list and click ◄.

6. Click ✓ to save your changes.

Adding User Defined Fields to Tabs

1. Select ⚙ > **User Fields**.

   The User Fields list is displayed.

2. From the User Fields list, click the **Tabs** tab.
3. Click the name of the tab that you want to edit.
4. Edit the tab details as required.
5. Click ✓ to save your changes.

User Defined Fields - Deleting Fields

NOTE: You cannot delete user defined fields if they are used in a tab. To delete a field, you must remove it from all tabs first.

1. Select ⚙ > **User Fields**.
2. If the ▬ symbol displays for the field you want to delete:
   a. Click ▬ to delete the field.
   b. When the browser displays a pop-up message to ask *Are you sure?*, click **OK**.
3. If the ▬ symbol does not display for the field you want to delete, this is because the field is currently used by a tab. To remove a field from a tab:
   a. Select the **Tabs** tab then click the name of the tab that the field appears in.
   b. On the following page, select the field from the Members list then click ◄.

      The field is removed from the tab and returned to the Members list.

   c. Click ✓.

User Defined Tabs - Deleting

User defined tabs can be deleted as required. However, you cannot delete user defined fields if they are used in a tab.

1. Select ⚙ > **User Fields**.
2. Select the **Tabs** tab.
3. Click ▬ for the tab you want to delete.
4. When the browser displays a pop-up message to ask *Are you sure?*, click **OK**.

User Lists - Introduction

Many fields on the Identity page involve selecting a value from a drop down list. While there are several default values for these fields, you can add more options using the User Lists feature.

For example, if you want to add departments that are specific to your organization, you would use this feature to add those options to the Departments drop down list.

Adding Items to a List

Note: Any changes you make to the lists are automatically included in identity-related collaborations.

1. Select > **User Lists**.
2. Click the name of the list you want to add items to.
3. On the User List Edit screen, enter a new list option in the **New Value** field and click .
4. Repeat the previous step until all the new values you want are listed in Current Values.
5. Click to save your changes.

User Lists - Editing Items

Any changes you make to the lists are automatically included in identity related collaborations.

1. Select > **User Lists**.
   The User Defined Lists list is displayed.
2. On the User Defined Lists list, click the name of the list you want to edit.
3. To add a new option, enter the new option in the **New Value** field then click .
   The new value is added to the Current Values list.
4. To delete a value, select the option from the Current Values list and click .
5. Click to save your changes.

User Lists - Deleting Items

1. Select > **User Lists**.
   The User Defined Lists list is displayed.
2. On the User Defined Lists list, click the name of the list you want to edit.
3. Select the option you want to delete from the Current Values list then click .
4. Click to save your changes.

The option you deleted is no longer listed on the Identities page.

System Settings - Introduction

Use > **System Settings** to:

- Customize default values for system-wide settings in the ACM system configure. For more information, see *System Settings - General Fields* on page 406.
- Configure remote authentication of ACM users with an external domain server. For more information, see *Remote Authentication - Introduction* below.
- Identify the external domain servers used for remote authentication. For more information see *System Settings - External Domains list* on page 410.

Remote Authentication - Introduction

With remote authentication, ACM Client users can use their local domain username and passwords to access the ACM system. Remote authentication uses an external domain server to authenticate users that need access to the system, or to secure an LDAP Identity pull collaboration type. A separate password configured in the ACM appliance is not needed. However, user access permissions are still based on the roles they are assigned within the ACM appliance.

Before remote authentication can be configured on the ACM appliance, a system administrator with privileges on all the servers required to support remote authentication needs to:

- Add one or more external domains
- Add one or more AD or LDAP servers to each domain to the system
- Issue root certificates for each domain
- Enable each remote host to present its SSL certificate on connection to the ACM server software

Configuration of the external domain servers and the creation of their root certificates is outside the scope of this document.

To allow remote authentication, you must:

1. Connect to the external domain servers hosting the AD or LDAP servers you want used for authentication and validate the SSL certificates they present. *System Settings - External Domains list* on page 410.
2. Specify the default domain and server that hosts the AD database to use for authenticating ACM software users, and enforce certificate authentication. For more information see *System Settings - Remote Authentication page* on page 409.

Secure Socket Layer (SSL) certificates are used to verify the remote hosts and to encrypt all the log in traffic between connected hosts. Only ACM system operators with administrative privilege and the following delegations assigned to their role can validate SSL certificates:

- External Domains Validate Certificates—delegation required to validate an SSL certificate from a Windows AD host
- Collaboration Validate Certificates—delegation required to validate an SSL certificate from an LDAP database host in a Collaboration using the Identity Pull LDAP server collaboration type

You can set up different identities to be authenticated by different domains. Each identity must be configured

to use one of these domains for authentication. This is done in the Account Information: section on either the Identity: Add or Identity: Edit panel of the given Identity. For more information, see

Configuring Remote Authentication Using SSL Certificates

Remote or external domains only. For Super Admin users with the External Domains Create Certificate, External Domains Destroy Certificate, External Domains List Certificates, External Domains Load Certificate and External Domains Validate Certificates delegations assigned to their role.

Certificates can be recognized by the ACM appliance in two ways:

- Pinned SSL certificates—Certificates from remote hosts in external domains that are accepted manually by an ACM system administrator so that the remote host can connect automatically. These certificates are trusted as long as they are not revoked manually by an ACM system administrator.
- Trusted SSL certificates—Certificates from remote hosts in external domains that are imported into the ACM server software so that the remote host can connect automatically. They are valid until the certificate expires.

Note: To provide maximum security strength for your ACM system, ensure the certificate meets the U.S. government's **National Institute of Standards and Technology (NIST) Special Publication 800-131A (SP 800-131A)** standard.

If your ACM appliance to ACC integration deployment is having trouble connecting, review the certificate requirements for the two systems. You may need to update the certificate on the ACM appliance to resolve the connection issues between the two systems.

About Certificate Pinning

When SSL certificates from a server in an external domain have not been exported from that server and uploaded to the ACM server they cannot be automatically trusted.

However, a remote server can present its SSL certificate to the ACM server so that an administrator can choose to trust it based on the administrator's certainty that the certificate is valid. In the ACM server, after an SSL certificate is accepted manually, it will be trusted as long as the unique fingerprint embedded in the certificate presented by the remote server each time it is connected to the ACM software is the same as the certificate originally accepted by the ACM system administrator. A certificate that is trusted in this way is known as a pinned certificate.

Pinning a certificate allows you to trust a certificate that has not been uploaded from a remote server, however the responsibility for ensuring that the certificate can be trusted is assumed by the ACM system administrator who pins the certificate. To ensure that an SSL certificate is valid before it is pinned, the ACM system administrator should compare the SSL certificate at the remote host to the certificate received from the remote host to confirm the SHA-256 fingerprints are identical.

Requirements for Using Pinned Certificates

On the remote Windows server (for example, an Active Directory (AD) server, if you are enabling remote authentication using the AD of your company), the following tasks must be completed :

1. Configure a Windows domain controller. For an LDAP collaboration, TLS encryption must be activated.
2. Obtain the fully-qualified domain name of the DNS server for remote server's domain.
3. Enable AD Certificate Services.
4. Create a root certificate and a Domain Controller Authentication certificate.

These tasks are outside the scope of this document.

Requirements for Using Trusted Certificates

On the remote Windows server (for example, an Active Directory (AD) server, if you are enabling remote authentication using the AD of your company), the following tasks must be completed:

1. Configure a Windows domain controller. For an LDAP collaboration, TLS encryption must be activated.
2. Obtain the fully-qualified domain name of the DNS server for remote server's domain.
3. Enable AD Certificate Services.
4. Create a root certificate and a Domain Controller Authentication certificate.
5. Export the Domain Controller's root CA certificate in Base-64 encoded X.509 (.CER) format. (Do not export the private key.)

   Important: Use OpenSSL to convert the file from `.cer` format to `.pem` format before you upload the file to the appliance.
6. Upload the certificate to the ACM appliance. For more information, see *Certificate Upload page* on page 413.

These tasks are outside the scope of this document.

Pinning or Trusting Certificates in the ACM System

Once you have all the requirements for either pinning or trusting the certificate for an external server, log in to the ACM Client, and complete the following steps:

1. In the top-right, select **>System Settings**.
2. Select the **External Domains** tab.
3. Click **Add External Domain**.
4. On the External Domain: Add New page, enter a name for this external domain.
5. In the **Server** field, enter the full DNS name of your domain controller.
6. Click to display the trust level of this domain. The default setting is "Untrusted".
7. Click Validate Certificate.
8. Click . The domain controller is added to the Current Servers list.

9. Select the **Remote Authentication** tab.

   Note: The **Default Domain** and **Default Server** options are not required for remote authentication.

10. Select the **Validate Certificate** checkbox.
11. Click .
12. Repeat the previous steps on each ACM appliance in your system that requires remote authentication.
13. Enable remote authentication for each identity that will be logging into the ACM appliance:
    a. Open the Identity:Edit page for a user who will be using remote authentication.
    b. Under the Identity tab, select the **Remote Authentication?** checkbox in the Account Information area.
    c. In the**Login** field, enter the user's ACM system login name.
    d. In the **Remote Domain** drop down list, select the external domain that you added earlier.
    e. In the **Remote Login** field, enter the user's Active Directory domain identity. Enter the login name in this format: *username@domain.org*.

       For example: j.smith@motorolasolutions.com

    f. Click .

Enabling Remote Authentication for ACM Client Users

Enable remote authentication for each identity with permission to log into the ACM Client:

a. Open the Identity:Edit page for a user who will be using remote authentication.
b. Under the Identity tab, select the **Remote Authentication?** checkbox in the Account Information area.
c. In the**Login** field, enter the user's ACM system login name.
d. In the **Remote Domain** drop down list, select the external domain that you added earlier.
e. In the **Remote Login** field, enter the user's Active Directory domain identity. Enter the login name in this format: *username@domain.org*.

   For example: j.smith@motorolasolutions.com

f. Click .

Now, when this user logs in to the ACM Client, they use their network login name and the password.

System Settings - General Fields

Set ACM system-wide settings on the **General** tab in > **System Settings**:

Note: Certain user settings in > My Account will override the general settings.

Enhanced Access Level	Indicate that this system will use enhanced access levels for Mercury Security panels. Enhanced access levels allow Mercury Security panels to accept more access groups per token.
Allow Duplicate PINs	Duplicate PINs is an option available for an organization that wants to allow badge holders to have non-unique PINs. This option cannot be used with the PIN Only and Card or PIN door modes as it does not allow tracking of an individual badge holder. After you enable duplicate PINs, the available Door Mode options are: • **Card Only** — This door can be accessed using a card. No PIN is required. • **Card and Pin** — This door can only be accessed using both a card and a PIN. • **Facility Code Only** — This door can be accessed using a facility code. **WARNING —** After duplicate PINs are allowed, this cannot be reversed, and you cannot use PIN Only and Card or PIN door modes. Only enable this option if you have a specific requirement for duplicate PINs. Do the following before allowing duplicate PINs to ensure that no doors are in either PIN Only or Card or PIN door modes: 1. Select **Physical Access** > **Doors** to navigate to the Door list. 2. For each door currently in either PIN only, or Card or PIN mode: • Select the checkbox beside the door. • Either select **Door Action** > **Restore** to restore to the configured door mode or select an alternative mode from the Door Mode dropdown list. To allow duplicate PINs, check this box then: • Click **OK** when the message 'Enabling duplicate PINs is an irreversible setting and cannot be undone. Are you sure you want to continue?' displays. • Click **OK** when the message 'Proceed with enabling duplicate PINs?' displays. **Note:** The system will check Door Policies, Global Actions, Scheduled Jobs, Panel Macros, and Interlocks to ensure there is no conflict with duplicate PINS (e.g. doors are in PIN Only mode). If there are any conflicts these will have to be corrected before allowing duplicate PINs. If there have been any previously defined linkages, triggers or interlocks that are based on PIN Only or Card or PIN event types, they will fail to execute.
Badge Template Photo Height	A new value in pixels to change the default height for displaying the ID photo used for badge templates on the screen then click . The default value of 153 px is approximately 1½ inches or 3.5 centimeters.
Badge Template Photo Width	A value in pixels to change the default width for displaying the ID photo used for badge templates on the screen then click . The default value of 117 px is approximately 1 inch or 2.5 centimeters.

Force Password Change	For all users with the Force Password Change delegation assigned to their role. A checkbox to force the identity to change the password at the next login to the ACM system. After the password is changed by the identity, the checkbox is deselected automatically. This option is enabled by default. **Note:** The system will only apply this setting to new identities. **Tip:** To apply the Force Password Change operation to a group of identities, see *Performing an Identity Batch Update* on page 107. See *Searching for an Identity* on page 70 to specify Force Password Change in the Search Field.
Identity Auto Increment Field	Enable the system to automatically increments the read-only Sequence Number field on the Identity page. This option is disabled by default. **Note:** The system will only apply this setting to new identities.
Identity Auto Increment Start	If you enabled Identity Auto Increment, enter the number the system will start counting from then click . The default value is 1. **Note:** The system will only apply this setting to new identities.
Identity Auto Increment Step	If you enabled Identity Auto Increment, enter the value the system uses to increment the sequence number then click . For example, if you leave the default value of 1, the identity Sequence Number will count 1, 2, 3 (etc.). If you enter 2, the identity Sequence Number will count 1, 3, 5 (etc.). **Note:** The system will only apply this setting to new identities.
Language	A language that the system will display by default. Each user with access to the ACM system will be able to set their own language preferences from the My Account page. Click **Translate Default Data** to translate all of the system default values into the selected language. It is recommended that you only perform this action once, or your reports and logs will display values in multiple languages.

Maximum Active Tokens	The maximum number of tokens that can be active per identity then click .
Maximum Login Attempts	The maximum number of attempts a user has to log into the ACM system before they are locked out, then click . The user is locked out of the ACM system for 10 minutes and further login attempts will result in the lockout time increasing. Authorized operators can reset the password to bypass the lockout. The default value is 5.
Password Strength Enforced	Enable a minimum password strength requirement for ACM system upgrades which can be performed using any user account. The password must contain 8 to 40 characters, and at least 1 uppercase letter, 1 lowercase letter and 1 digit. For more information, see *Logging In* on page 29.
Post Roll	The number of seconds a camera continues to record after a recorded video event.
Pre Roll	The number of seconds of video that is automatically added before a recorded video event.
Private Message	A short message to display on the login screen.
Schlage WiFi Door Communication Interval	The time interval for communication of the offline Wi-Fi lock to the ACM system. Default is 1440 minutes (24 hours).
Site for Schlage WiFi Locks	The ENGAGE site that ACM will use to establish secure communication with the offline Wi-Fi lock when the lock attempts connection to ACM for the first time.
Show Identity Photos	Enable a photo to be displayed beside each identity reference.
System Message	A title you want to use for the system then click . The title is displayed under the Access Control Manager banner on each screen, and the title is used for all messages sent by the system.
System Support	The contact details of your Avigilon support representative then click . This information is displayed when a user clicks **Support**.
Token Expiration Time	The default number of days before a token expires then click .
Use/Lose Threshold	The default number of days a token can be unused before it is automatically deactivated, and then click .
Video Windows Count	The maximum number of video display windows that can be open at the same time, then click .
Create Report	Generate a PDF of the values on this page.

System Settings - Remote Authentication page

When you select the **Remote Authentication** tab on the System Settings screen, the Remote Authentication panel is displayed.

On this panel, define the default domain and server that hosts the Active Directory database used to authenticate network users. This enables secure connections and encrypted traffic between the AD server and the ACM servers and its clients. ACM Client users can then use their local domain username and passwords to access the ACM system.

Feature	Description
Default Domain	Select a domain from the drop down list. Only the external domains that have been added to the system are listed.
Default Server	Enter the name of the default server in the selected domain.
Validate Certificate	Check this box to enable the system to validate certificates from remote servers before use. The default setting is not checked. Use the default setting only if you do not need to validate certificates from remote servers. **CAUTION —** Risk of security breaches. When certificate validation is not enabled, certificates are ignored by the ACM server software. Traffic between the ACM appliance and external domains is unencrypted and can be easily compromised. To ensure secure connections and encryption of all traffic, enable the Validate Certificate option on the Remote Authentication tab of System Settings.
	Click this button to save your changes.
	Click this button to discard your changes.
Create New Report	Click this button to generate a PDF of the values on this page.

System Settings - External Domains list

When you select the **External Domains** tab from the System Settings page, the External Domains list is displayed. This page lists any external domains that have been added to the system.

An external domain must be added before you can use remote authentication. For example, to connect the ACM system to use your company's Active Directory (AD) to authenticate users, you must add the company domain server to the External Domains Listing.

You can grant remote authentication access to individual badge holders from the Identity page. For more information, see *Identities* on page 67.

Feature	Description
Name	The name of this external domain. Click the name to edit the external domain. For more information, see *System Settings - External Domain: Edit page* on page 412.
Delete	Click to delete the selected external domain.
Add External Domain	Click this button to define a new external domain. For more information, see *System Settings - External Domains Add page* on the next page.

Feature	Description
Create New Report	Click this button to generate a PDF report of the listed domains.
Certificates	Click this button to access the Certificate list. From this page you can upload one or more certificates to give remote browsers access to the ACM system.

System Settings - External Domains Add page

When you click **Add External Domain** from the External Domains list, the External Domain: Add New page is displayed.

You must add an external domain to connect to a remote server for user validation using your company's Active Directory (AD), or using LDAP.

Before you validate the certificate presented by the remote server in the external domain, it is recommended that you find out the value of the SHA-256 fingerprint of the remote server's certificate. Then you can compare that value to the one in the certificate displayed in the ACM software.

Feature	Description
External Domain	Enter the name of this external domain. Never append the extension `.lan` or `.local`
New Server	Enter the full-qualified domain name (FQDN) of the server in the external domain and then click. You can enter the IP address of the server, although this is not recommended as it is more likely to change than the FQDN.
	Display the current trust level of this domain. The default setting is "Untrusted".
Validate Certificate	Click to validate the certificate presented by the server. If the certificate from the remote server is: • Fully trusted—A "Certificate Verified" message is displayed. Click **OK**. The certificate status is updated to Trusted. • Untrusted—The certificate is displayed. Compare the SHA-256 fingerprint to the actual certificate defined. If they match, click **Trust** and the certificate status is updated to Pinned. Otherwise click **Deny** to update the certificate status to Untrusted, or **Cancel** to close the dialog box without making any changes. • Not available—An error message is displayed, and the certificate status remains Untrusted.
	Hide the current trust level of this domain.
	Click this button to save your changes.
	Click this button to discard your changes.

System Settings - External Domain: Edit page

When you click the name of a domain from the External Domains list, the External Domains: Edit page is displayed.

Make any changes that are required.

Feature	Description
External Domain	Enter the name of this external domain. Never append the extension `.lan` or `.local`
New Server	Enter the full-qualified domain name (FQDN) of the server in the external domain and then click. You can enter the IP address of the server, although this is not recommended as it is more likely to change than the FQDN.
	Display the current trust level of this domain. The default setting is "Untrusted".
Validate Certificate	Click to validate the certificate presented by the server. If the certificate from the remote server is: • Fully trusted—A "Certificate Verified" message is displayed. Click **OK**. The certificate status is updated to Trusted. • Untrusted—The certificate is displayed. Compare the SHA-256 fingerprint to the actual certificate defined. If they match, click **Trust** and the certificate status is updated to Pinned. Otherwise click **Deny** to update the certificate status to Untrusted, or **Cancel** to close the dialog box without making any changes. • Not available—An error message is displayed, and the certificate status remains Untrusted.
	Hide the current trust level of this domain.
	Click this button to save your changes.
	Click this button to discard your changes.

System Settings - Certificates list

When you click **Certificates** from the External Domains list, the Certificates list is displayed.

Certificates that have been uploaded to the system are listed on this page. Certificates are used by browsers to confirm that systems are safe for users to access.

Feature	Description
Name	The name of the certificate file.
Size	The size of the certificate file.
Upload Date	The date the file was uploaded.
	Click this button to delete the certificate.

Feature	Description
Add New Certificates Listing	Click this button to upload a new certificate for this external domain. **Note:** To provide maximum security strength for your ACM system, ensure the certificate meets the U.S. government's **National Institute of Standards and Technology (NIST) Special Publication 800-131A (SP 800-131A)** standard. If your ACM appliance to ACC integration deployment is having trouble connecting, review the certificate requirements for the two systems. You may need to update the certificate on the ACM appliance to resolve the connection issues between the two systems.

Certificate Upload page

Use this page to upload an external domain server certificate in `.pem` format to the ACM application. This allows ACM Client users to log in using their network user ID and password through a fully trusted Active Directory (AD) server on an external domain.

Tip: The exported certificate must be converted from `.cer` format to `.pem` format by a system administrator on the AD server before it is uploaded to the ACM server.

There must be a certificate for every server that has been added to the system as part of the external domain.

Feature	Description
Upload Certificate file:	Click **Browse** to locate and select the certificate in the Choose File to Upload dialog box.
	Click this button to save your changes.
	Click this button to discard your changes.

Badge Templates and the Badge Designer

This feature requires a license. Contact your Avigilon support representative for more information.

Badge templates define the layout of badges or cards that are used to access doors within your access control system. They are created by a qualified operator using the Badge Designer. Multiple badge templates can be defined in the ACM system.

Select > **Badge Designer** to access the Badge Templates page. From this page, you can add a new badge template, or select a badge template to edit, with the Badge Designer.

The Badge Designer is used to design the appearance and content on a badge template. You can add photos, logos, text, and database fields to a badge template and position these elements on the layout. A

badge template can specify colors and fonts depending on the values provided.

For example, if an employee is specified as part-time, the color used for the employee's name can be changed from black to orange, making it easier for guards to differentiate between full-time and part-time employees. You can differentiate identities with different access privileges, such as access to certain buildings on a campus, or specific floors in a multi-tenant office building, using graphics such as company logos and insignias, or text.

A badge template is used when a badge is generated for a badge-holder to both format the badge and populate it with data from the Identities database. At least one badge template to assign to identities must be created before badges can be printed using **Identities > Badge**. Badges are usually printed when a person who requires a badge is enrolled into the ACM system using the Identities feature. When printing the badge, an enrollment officer or administrator specifies a badge template and then generates (prints) a badge. The badge has all relevant information automatically placed on the badge.

Note: Badge templates can be designed as either one- or two-sided. A two-sided badge must be printed by a badge printer possessing duplex capability.

Using the Badge Designer

Use the Badge Designer to create templates that define the layout and appearance of access badges.

A badge template defines the basic attributes of a badge that are used when a new badge is generated for an identity: size and background color, plus a variety of dynamic and static fields and images. Dynamic fields and images pull the unique information about the badge holder from the Identities database for each individual badge and static objects are the text strings and graphics printed on every badge. For each object, you can specify its location and appearance.

	Field	Image
Dynamic	**DBField**: A data field object specifies the information about the identity that you want on the badge, such as first and last name, ID number, title, position, rank and so on.	**Picture:**: A picture object specifies the size and location of the photo of the identity on a badge. The actual photo used for an identity when a badge is generated is a photo saved in the Identities database that was either captured with a badge camera, or uploaded, and saved.
Static	**Text**: A text object specifies the text that appears on every badge generated with this template.	**Graphic**: A graphic object specifies the name of an uploaded graphic file image file that appears on every badge generated with this template.

You must create at least one badge template before you can print a badge at **Identities > Badge**. Depending on the requirements of your site, you may need one or more badge templates.

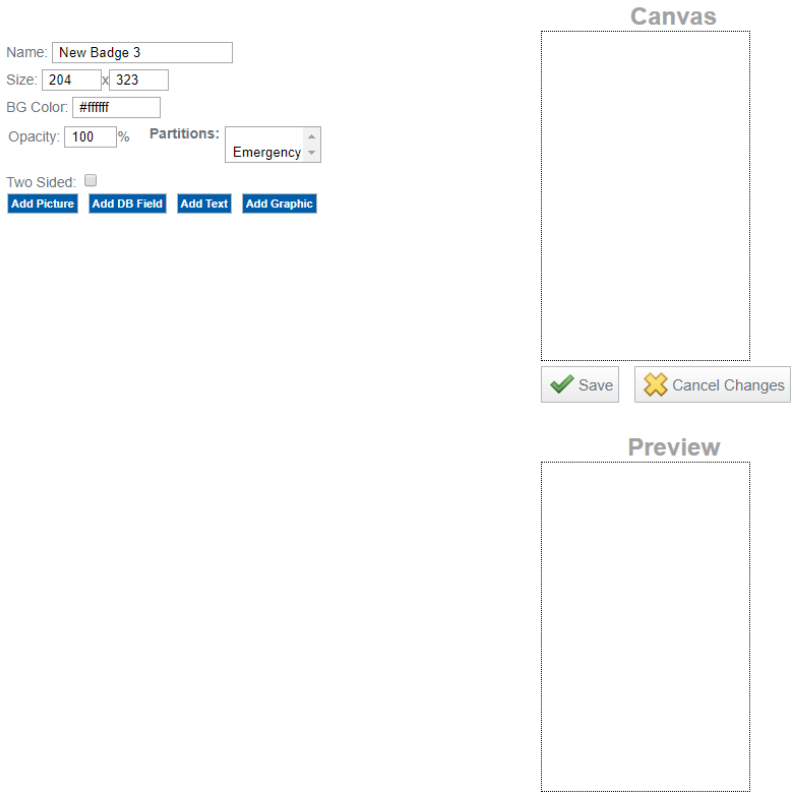
Note: Badge templates can be designed as either one- or two-sided. A two-sided badge must be printed by a badge printer possessing duplex (double-sided printing) capability.

Opening the Badge Designer

Select > **Badge Designer** to open the Badge Templates page. From this page, click **Add Badge Template** or the name of an existing badge template to open the Badge Designer page.

Formatting the Appearance of a Badge Template

Use the canvas data fields that appear at the top of the Badge Designer page to set the size, color, and other format details. Next to the canvas data fields is the canvas area, with the preview area beneath that show the changes to the template as you make them.



All measurements in the Badge Designer are in pixels, at a resolution of 100 pixels per inch, equivalent to 40 pixels per centimeter.

1. Give the badge template a name, or change it.
2. Change the size of the badge if needed. Values are entered in pixels. The default size is equivalent to a print area of 2 x 3.25 inches, or 5 x 7 centimeters.
3. Click in the **BG Color** field to open the color picker. Enter a hex code or select a color for the background.
4. Click **OK** to close the color picker, then click

to apply the background color to the canvas and the preview.

5. Change the value in the **Opacity** field only if you want the background color to be semi-transparent or transparent. For example if you are overprinting badge information on a preprinted badge. Click to apply the opacity to the preview.

Create a Two-Sided Badge Template

1. Select the **Two Sided** checkbox.

   The Back Side button appears at the top of the page.

2. **Important:** Click to save this setting.

   To view the back of the badge, at the top of the page, click **Back Side**. To view the front of the badge, at the top of the page, click **Front Side**.

Adding and Editing Objects

You can add four types of objects to a badge template to define the information that appears on the identity badges generated by this template:

Object	Definition
Picture	Dynamic. A photo of the identity supplied by the Identities database. You can have only one photo per side of a badge.
Data Field	Dynamic. An item of information supplied by the Identities database, such as the person's name. You can have many data fields per side of a badge.
Text	Static. Text such as a company name, or slogan to appear on every badge. You can have many data fields per side of a badge.
Graphic	Static. Image files such as a logo, insignia or texture, to appear on the badge, uploaded into the template. You can have many images per side of a badge.

When you add an object, additional fields for that object appear below, and an appropriate placeholder appears on the Canvas. You can expand and collapse each object in the list to access its field settings.

1. On the canvas you can position any object by clicking and dragging with the mouse.
2. Select the object in the list to edit its settings.
3. Any change you make to the object's field settings are reflected on the canvas.
4. Click beside an object to delete it from the list. Objects deleted from the list are not deleted from the canvas until you save changes.

5. Click frequently to save changes and show the result in the Preview.

> **Tip:** Add objects to the Canvas from largest to smallest in size. The Canvas displays objects in the order they are added not by the Layer Order setting, so large objects can obscure smaller ones. Save the template to refresh the Preview and see the actual result.

Adding and Editing a Picture Object

1. Click the **Add Picture** button to add a photo object to the canvas.
2. Click **Photo** to hide or show the photo object settings.
3. Adjust the appearance of the photo.

> **Tip:** The default dimensions of the photo on the badge displayed on the screen are defined by the values set on the **System Settings** page for **Badge Template Photo Height** and **Badge Template Photo Width** and should not normally be altered here. These two settings ensure that the size of the photo on all badges printed by this badge template are uniformly sized and have the same aspect ratio.

To accommodate minor variations in the aspect ratio of individual photos without distortion, enable the **Maintain Aspect Ratio** option.

See *Fields Common to All Objects* on the next page and *Fields Common to Picture and Graphic Objects* on page 419.

Adding and Editing a Data Field Object

1. Click **Add DB Field** to add a data field object to the canvas.
2. Click **Data Field** to hide or show the data field object settings.
3. In the **Data Field** drop-down list select a data field. For example, to have a badge include a person's name when it is generated, select one of the name fields listed, such as Full Name.
4. Adjust the appearance of the data field object. You can resize the object to ensure all text is visible as well as change the font, size, and color. Additionally, select the **Auto Resize** checkbox to make the text shrink to fit inside a fixed size box if the text in the specified font size does not fit. See *Fields Common to All Objects* on the next page and *Fields Common to Data Field and Text Objects* on the next page.

Adding and Editing a Text Object

1. Click **Add Text** to add a text object to the canvas.
2. Click **Text** to hide or show the text object settings.
3. In the **Text** field, enter the text you want to appear on all badges generated with this template.
4. Adjust the appearance of the database field object. You can resize the object to ensure all text is visible as well as change the font, size, and color. Additionally, select the **Auto Resize** checkbox to make the text shrink to fit inside a fixed size box if the text in the specified font size does not fit. See *Fields Common to All Objects* below and *Fields Common to Data Field and Text Objects* below.

Adding and Editing a Graphic Object

1. Click **Add Graphic** to add an image object to the canvas.
2. Click **#** or *Image File Name* item to show or hide the graphic object settings.
3. In the Image field, click **Choose File** to upload a file to the ACM system and add to the badge template.
4. Adjust the appearance of the photo object in various ways. See *Fields Common to All Objects* below and *Fields Common to Picture and Graphic Objects* on the next page.

Fields Common to All Objects

Field	Description
Layer Order	A number indicating the order an object appears when objects are stacked in front of each other. The initial layer order is the order the objects were added to the template. 1 is the lowest layer, 2 is in front of 1 and so on. You can reorder the layers by typing over the value for each object.
Location	Click and drag the object on the canvas, or enter the horizontal and vertical coordinates of the top left corner. The default setting of 0 x 0 would place the object in the top left corner, while 80 x 160 would place the object lower and to the right.
Dimensions	Modify the default size of the object (in pixels) if needed. **Tip:** Do not modify the size of an identity photo object here. It is better to change the default values on the System Settings page, as this ensures the same aspect ratio is used for the dropping overlay when photos are taken with a badge camera and saved in the Identities database. The first field is the width and the second field is the height.
Rotation	Select the number of degrees to rotate this object clockwise from the dropdown list. The default is 0 degrees.

Fields Common to Data Field and Text Objects

Field	Description
BG Color	Click this field to choose a background color for the object. By default, it is set to be the same color as the badge template. Use the color picker to either select a color from the palette or manually enter the color in RGB, HSV or hex code format.
Opacity	Enter how opaque you want the background color to be, in conjunction with the layer order. 0% is fully transparent and the default setting of 100% is fully opaque.
Font	Select the font you want for the text. The font list includes text fonts and barcode fonts. Text fonts are listed first, then barcode fonts.
Font Size	Enter the font size in points. If Auto Resize is selected, this is the maximum font size.
Auto Resize	Select this checkbox to have the system automatically shrink the font size to fit the dimensions of the object.
Alignment	Select how you want the text to align inside the object.

Field	Description
Text Color	Click this field to choose a font color. Use the color picker to either select a color from the palette or manually enter the color in RGB, HSV or hex code format.
Opacity	Enter how opaque you want the font color to be, in conjunction with the layer order. 0% is fully transparent and the default setting of 100% is fully opaque.

Fields Common to Picture and Graphic Objects

Field	Description
Image	(Applies to graphic objects only) Specifies the image to upload to the ACM system and place on the badge template. After the graphic is uploaded, the file name replaces **#** in the list of objects on the badge template.
Maintain Aspect	Check this box to always maintain the aspect ratio of the photo. When the aspect ratio is maintained, the photo is scaled to fit within the object space. If this option is disabled, the photo is automatically stretched to fill the object space.
Border Width	Select the border thickness (in pixels) for the picture or image from the drop-down list. The photo or graphic will be offset by the width of the border.
Border Color	Use the color picker to either select a color from the palette or manually enter the color in RGB, HSV or hex code format.

Adding a Barcode Using Static and Dynamic Objects

1. When you create a badge template, you can add a barcode by using either of the following options:
   - Click **Add Text** to place a static barcode that will be the same for every badge that is generated from the template.
   - Click **Add DB Field** to place a dynamic barcode that changes to match the detail listed in the identity record.
2. After you add the badge object, select a barcode font. The available barcode fonts include **Barcode 3 of 9**, **Barcode 3 of 9 Extended**, **Aztec Code**, **Code One** and more. The font option lists the text fonts first and then the barcode fonts.
3. Click to save your changes and display the barcode in the preview area.

Note: Many of these barcodes require a specific format or do not accept certain characters. If the data given to the barcode generator from the Identities database is invalid, the barcode will not be displayed on the badge.

Badge Templates list

When you select > **Badge Designer**, the Badge Templates list is displayed. From this page, you can add and edit badge templates with the Badge Designer.

Badge templates are used to define the layout of badges or cards that are used to access doors within your access control system. They are created by a qualified operator using the Badge Designer. Multiple badge

templates can be defined in the ACM system.

This page lists all the badge templates that have been added to the system.

Feature	Description
Name	The name of the badge template. Click the name to edit the badge template. For more information, see *Using the Badge Designer* on page 414.
Commands	Click to delete the badge template.
	Click to copy the badge template. The copy of the badge template is automatically added to the top of the list.
Add Badge Template	Click this button to add a new badge template. For more information, see *Using the Badge Designer* on page 414.

External Systems Overview

Set up integration to cameras, sites and other third-party external systems.

Note: Some external systems may not be available if your system does not have the required license.

Before you can connect and use the external systems, the external system must be installed and accessible to the appliance over the local network.

Supported External Systems

Listed below are all the external systems that are supported by the ACM system. Some systems may not be available to you if your system does not have the required license.

- IP cameras and network video management systems (VMSs), including Avigilon Control Center.

  You can add individual cameras to add photos to the Identities database, or you can add whole network video systems that can be configured to work with doors and events in the ACM system, and record video triggered by events for surveillance.
- LifeSafety Power Supplies
- ViRDI Biometric Access scanners and readers
- Virtual Stations — ACM Verify™ Virtual Doors

  For example, the ViRDI external system requires a separate license. Before a ViRDI system can be created on your ACM server appliance, the system administrator for the ACM application must:

    - Add the ViRDI license to the ACM application. See *Adding a License* on page 369.
    - Add the four ViRDI-specific delegations to the role assigned to operators. These delegations are all prefixed with "ViRDI". See *Assigning Delegations to a Role* on page 90 and *Roles - Delegate page* on page 94.
- Bosch intrusion panels
- Allegion ENGAGE gateways

  For more information, see *IP/PoE Mode Installation* on page 278 and *Step 1: Creating an ENGAGE Site* on page 288.
- SALTO servers

  For more information, see *SALTO Door Installation* on page 293 and *Step 1: Connecting to a SALTO Server* on page 297.
- HID Origo

  For more information, see *Configuring HID Mobile Access® Credentials* on page 68 and *Step 1: Connecting to the HID Origo External System* on page 68.

Adding External Systems

You can add several types of external systems to the ACM system.

Important: Before you can add any external system, you must first connect a supported device to your network or server, and then configure the device as described in device documentation. Write down the device's IP address and onboard URL. For some external systems, refer to an ACM-specific integration guide that provides installation, connection and configuration instructions.

1. Select > **External Systems**.
2. Select the tab for the external system you want to add.
3. From the External Systems listing page, click .
4. In the following page, complete the required fields to add the new external system.
5. Click to save the new external system.

See also:

- *Step 1: Creating an ENGAGE Site* on page 288
- *Step 1: Connecting to a SALTO Server* on page 297

Editing External Systems

1. Select > **External Systems**.
2. Select the tab for the type of external system you want to edit.
3. From the External Systems listing page, click the name or address of the specific system you want to

edit.

4. In the following page, make the required changes.
5. Click to save your changes.

See also:

- *Editing an ENGAGE Site* below
- *Step 1: Connecting to a SALTO Server* on page 297

Editing an ENGAGE Site

To edit an ENGAGE site in ACM:

1. Select **>External Systems**.
2. Click the **Schlage** tab.
3. Click the site name.
4. Edit:

Site Name	Up to 50 alphanumeric characters for the name of the site which represents the logical group of ENGAGE devices. Always create an ENGAGE site in the ACM application. A site that is already created in the ENGAGE application cannot be reused in the ACM application. In addition, a site cannot be used by more than one ACM appliance.
Partitions	Displayed for a partitioned ACM appliance only. To restrict operator access to the item, select one or more partitions. To allow all operators access to the item, do not select a partition.

5. Click to save your changes.

   Click to discard your changes.

Deleting External Systems

Uninstalling an external system does not remove it from your system. Uninstalling it will simply prevent communication with the ACM appliance. You may need to delete the external system as required.

1. Select > **External Systems**.
2. Select the tab for the type of external system.
3. Click next to the name of the external system.

   For Bosch intrusion panels, click . Associated items such as linkages and actions, and intrusion users will also be deleted.

   For the HID Origo external system, click **Delete**.
4. When the confirmation message is displayed, click **OK**.

External Systems - Integrating an ACM Appliance into an ACC™ Site

An ACM appliance can be integrated into an ACC site so that events occurring in the ACM software can

trigger rules in the ACC software to initiate actions. For example, door events in the ACM software can trigger a rule that allows an ACC operator to grant door access, or an input event from a panic button or motion sensor in the ACM software can trigger a live camera feed, or video recording.

To integrate an ACM appliance, a special identity to interact with the ACC software must be created by an ACM administrator. This identity must be assigned a special role and delegation with specific rights, and a routing group that specifies the events that the ACC software receives. Only one identity must be created for this purpose.

As of ACM 5.10.10.2, a preconfigured role and delegation with the necessary rights are available for this special identity that is suitable for most integration scenarios. The role and delegation are both called **ACC Administrator**. However, if this special identity needs additional rights, you will have to modify the rights associated with the delegation, or configure a new role and delegation. The routing group has to be configured, and optionally if you plan to import Active Directory identities through ACM, you will have to configure remote authentication.

If you are using an earlier version of the ACM appliance, you will need to create your own ACC Administrator role and delegation with the appropriate rights.

Use the following steps to configure an identity to interact with the ACC software:

1. Ensure the **ACC Administrator** delegation has the following rights:
    - Appliance Listing
    - Delegations Listing
    - Doors Grant
    - Doors Listing
    - Force Password Change
    - Identities Listing
    - Identities Login - Remote
    - Identities Photo Render
    - Inputs Listing
    - Panels Listing
    - Partitions List
    - Roles Listing
    - Subpanels Listing
    - System Summary Listing
    - REST Appliance Status Display
    - REST Get Doors
    - REST Get Identities
    - REST Get Identity
    - REST Get Inputs
    - REST Get Panels

- REST Get Right Groups
- REST Get Roles
- REST Get Subpanels

2. Create a routing group to define events sent from the ACM appliance to the ACC software.
    a. Specify the following for the group:
        - **Schedule**: 24 Hours Active
        - **Schedule Qualifier**: Appliance
        - The **Installed** box must be checked
    b. Add the following event types to the routing group:
        - Door held open
        - Forced Door
        - Intrusion
        - Invalid Credential
        - Maintenance
        - System
        - Tamper
        - Valid Credential
3. Create a role that allows the ACC software to communicate with the ACM system.
        a. Keep the default **Parent** value (none).
        b. Keep the default **Start Date** value (the current date).
        c. In the **Stop Date** box, enter an appropriate date for this role to expire. By default, the role will stop working 1 year from its creation date.
        d. Select the **Installed** checkbox and click **Save**.

           Additional tabs will appear.
        e. In the role's **Delegate** tab, assign only the **ACC Administrator** delegation that was created in the preceding steps.
        f. In the **Routing** tab, assign only the routing group that was created in the preceding steps.
4. If you plan to import Active Directory identities to the ACM appliance or the ACC software, configure a Lightweight Directory Access Protocol (LDAP) Collaboration. For Active Directory Remote Authentication, configure remote authentication from external domains.
5. Create a dedicated identity for interacting with the ACC software.

> **Note:** To protect the security of the connection between the ACM appliance and the ACC software, the dedicated identity should have only the permissions outlined in this procedure. Operators should not have access to this account.

- Assign a **Last Name**, **Login**, and **Password** for the identity. Uncheck the **Force Password Change** checkbox.
- The password should meet the minimum password strength requirements for your ACC site.

  The password strength is defined by how easy it is for an unauthorized user to guess. It is highly recommended that you select a password that uses a series of words that is easy for you to remember but difficult for others to guess.
- Under the identity's **Roles** tab, assign only the role that was created in the preceding step.

6. If your ACM appliance uses partitions, add the identity as a member of the partitions they will need to access from the ACC Client.
7. Configure the ACM appliance to use the same NTP Time Server as the ACC Server.

   For Windows systems, the ACC Server gets its time from the operating system. For Avigilon Hardened OS appliances, the NTP Time Server can be configured through the device's web interface.

   a. In the top-right corner, click the gear icon to open the Setup & Settings menu and select **Appliance**.

   b. In the **Time Server** box, enter the Time Server IP address.

Once these settings are applied, an ACC Client can connect to the ACM appliance. For more information, see the *ACC™ and ACM™ Unification Guide* (**link**).

External Systems - Defining the Badge Camera for the System

Once all cameras or other imaging devices have been added as part of an external system, you can set which camera to use when creating badges for identities.

1. Select > **My Account**.
2. Under the Profile tab, select a camera from the **Badge Camera** drop down list:
   - **Local Camera** — Any camera connected directly to your computer or built into your computer or monitor.
   - **IP-based camera** — Any IP-based camera previously connected to your network and added to your ACM system.
3. When you're finished, click .

Next time you create a badge, the selected camera is used to take the identity photo.

Bosch Intrusion Panels

The following procedures relate to Bosch intrusion panels.

Integrating the ACM System with Bosch Intrusion Panels

Complete the following steps to integrate the ACM system with Bosch intrusion panels.

Requirements:

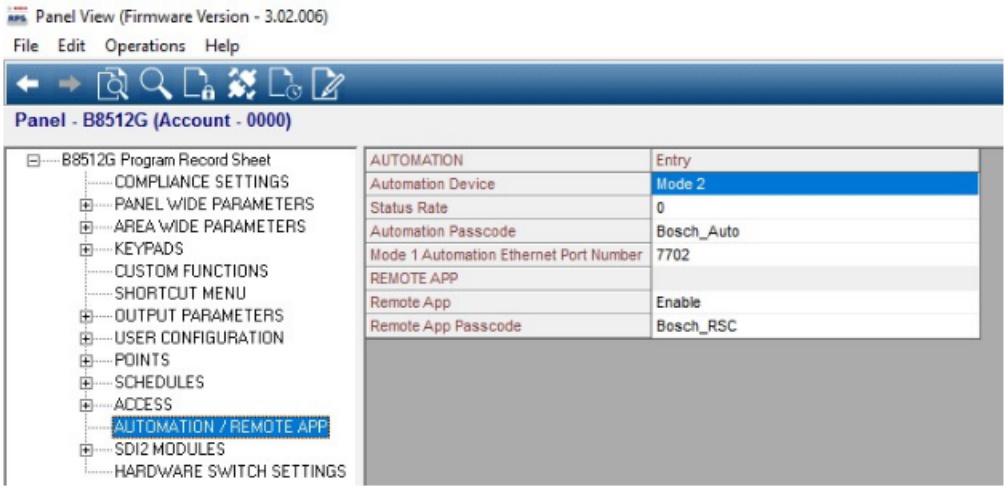
- ACM version 5.10.10 installed.
- ACM license for Bosch Intrusion.
- Bosch alarm panel B series (35xx, 45xx, 55xx, 85xx, 95xx) D9412, D7412.

Do the following to configure the Bosch alarm panel before you can connect to the ACM appliance:

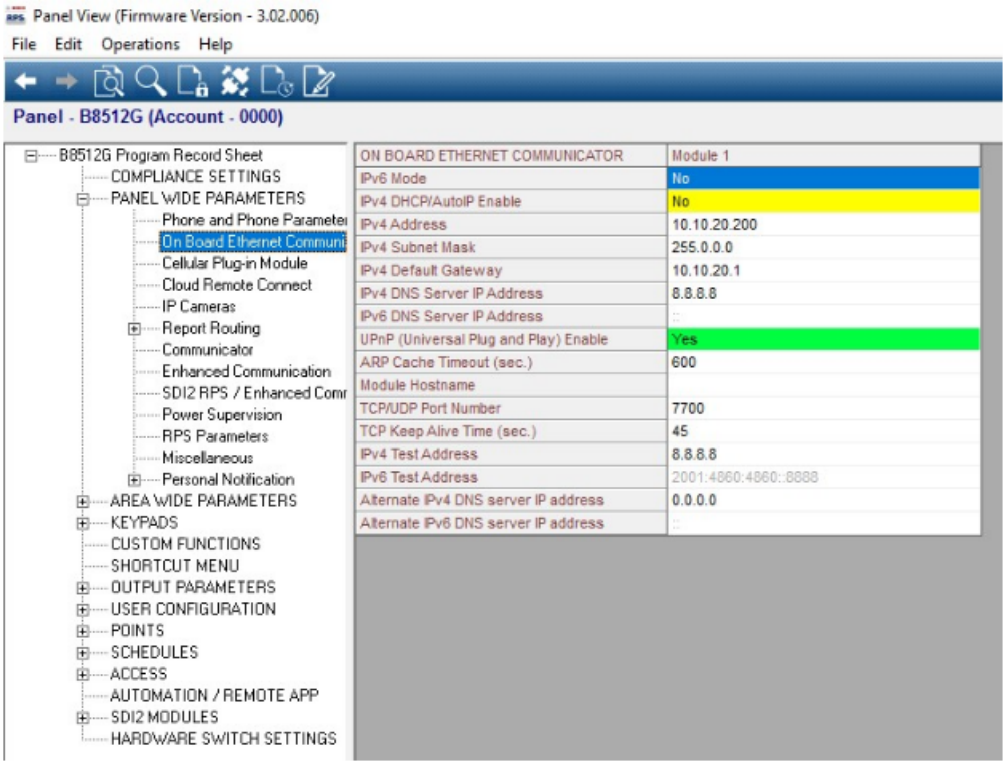
1. Download and install Bosch RPS (Remote Programming Software).

   More details about the software can be found at Bosch website: https://us.boschsecurity.com/en/products/intrusionalarmsystems/software/programmingsoftware/remoteprogrammingsoftware/remoteprogrammingsoftware_25629

   Depending on the alarm panel version (above B55xx Series) you will need the RPS dongle key (USB) to enable the software.
2. Launch the Bosch RPS software.
3. Do the following in RPS:
   - Go to the Panel View and select the panel connecting to the ACM appliance.
   - Select **AUTOMATION/REMOTE APP**.
   - Enter:
     - `Mode 2` in the **Automation Device** field.
     - `Bosch_Auto` in the **Automation Passcode** field. This password needs to be entered in the Automation Passcode field in the ACM application.
     - `Bosch_RSC` is the default in the **Remote App Passcode** field. This password needs to be entered in the Application Passcode field in the ACM application.
     - Save changes and upload to the panel.



4. Launch the ACM client and do the following:
   - Select **Settings** > **External Systems**. Click the **Bosch Intrusion** tab.
   - Click to add a new alarm panel.
   - Enter the **Panel Name**.
   - Enter the IP address in the **Address** field. Check that the IP address matches the IP address in RPS (see below).



- Enter the port number in the **Port** field. Make sure this matches the TCP/UDP Port Number in RPS (see above).
- Enter the **Automation Passcode** (same as the Automation Passcode in RPS).
- Enter the **Application Passcode** (same as the Remote App Passcode in RPS).
- Click the **Installed** checkbox.
- Click **Create** to save the configuration. After you save the configuration in the ACM software, it will take a couple of seconds to communicate with the alarm panel. You should see a green LED indicating “online." ACM imports all Areas, Users, Input, and Output data from the Bosch alarm panel.

Adding a Bosch Intrusion Panel

To add a new Bosch intrusion panel:

1. Select > **External Systems**.
2. Click the **Bosch Intrusion** tab.
3. Click to add a new panel.
4. Complete the following fields:
    - Panel Name
    - Appliance
    - Address
    - Port

- Automation Passcode
- Application Passcode
- Installed

5. Click **Create**.

> **Note:** The Areas, Points, Outputs and Users are created from the panel, as configured in Bosch's Remote Programming Software (RPS).

6. Click beside the Panel name.
7. Select **Areas**. View the Area details.
8. Select **Points**. View the Point details.
9. Select **Outputs**. View the Output details.
10. Select **Users**. View the User details.
11. Click .

Editing a Bosch Intrusion Panel

To edit and view a Bosch intrusion panel:

1. Select > **External Systems**.
2. Click the **Bosch Intrusion** tab.
3. Review the panel status indicator to identify the current status of the panel.
4. Edit or view the following fields:
   - Panel Name
   - Appliance
   - Address
   - Port
   - Automation Passcode
   - Application Passcode
   - Installed
5. To view Area details, select **Areas**.
6. To view Point details, select **Points**.
7. To view Output details, select **Outputs**.
8. To view User details, select **Users**.

Synchronizing Bosch Intrusion Panels

If intrusion panel information is updated externally to the ACM system (e.g. new identities being added in Bosch's Remote Programming Software - RPS), then the panel will need to be re-synchronized to the ACM system. When the panel is out of synch then a warning message (Warning, ACM and the Intrusion Panel are

not synchronized, go to Settings ->External Systems->Bosch Intrusion and resync) will display on the screens available under the **Monitor > Intrusion Status** menu path.

To synchronize a Bosch intrusion panel:

1. Select > **External Systems**.
2. Click the **Bosch Intrusion** tab.
3. Either:
   - Click at the top level to synchronize all panels that are currently out of synch.
   - Click beside the panel name to synchronize an individual panel.

Deleting a Bosch Intrusion Panel

To delete a Bosch intrusion panel:

1. Select > **External Systems**.
2. Click the **Bosch Intrusion** tab.
3. Select the panel to be deleted.
4. Click to delete the panel.

> **Note:** The panel will be deleted and will disappear from this view.

Viewing Bosch Intrusion Panel Areas

To view Bosch intrusion panel areas:

1. Select > **External Systems**.
2. Click the **Bosch Intrusion** tab.
3. Select a panel and click .
4. View the areas details that display.

> **Note:** Areas are not edited in the ACM system. All editing is done in Remote Programming Software (RPS) and updated through the panel.

Viewing Bosch Intrusion Panel Points

To view Bosch intrusion panel points:

1. Select > **External Systems**.
2. Click the **Bosch Intrusion** tab.
3. Select a panel and click .
4. Select **Points**.
5. View the point details that display.

> **Note:** Points are not edited in the ACM system. All editing is done in Remote Programming Software (RPS) and updated through the panel.

Viewing Bosch Intrusion Panel Outputs

To view Bosch intrusion panel outputs:

1. Select > **External Systems**.
2. Click the **Bosch Intrusion** tab.
3. Select a panel and click .
4. Select **Outputs**.
5. View the output details that display.

> **Note:** Outputs are not edited in the ACM system. All editing is done in Remote Programming Software (RPS) and updated through the panel.

Viewing Bosch Intrusion Panel Users

To view Bosch intrusion panel users:

1. Select > **External Systems**.
2. Click the **Bosch Intrusion** tab.
3. Select a panel and click .
4. Select **Users**.
5. View the user details that display.

> **Note:** Users are not edited in the ACM system. All editing is done in Remote Programming Software (RPS) and updated through the panel. However, users can be associated to identities tokens. For more detail, refer to *Assigning Bosch Intrusion Panel Users to Identities* below.

Note: It may take several minutes to retrieve user information from the panel.

Assigning Bosch Intrusion Panel Users to Identities

Bosch intrusion panel users can be assigned to identities in the ACM system. This is done in order to allow users the ability to arm and disarm areas. This can be done:

- on a one-to-one basis (e.g. user 'Jane Smith' is associated to identity Jane Smith), or
- on a one-to-many basis (e.g. user 'Administration Team' is associated to identities Jane Smith, Robert Jones and Andrew Wilson).

To assign users to identities, do the following:

1. Select **Identities**.
2. Search for the required identity and select it from the list that displays. For more detail, refer to *Searching for an Identity* on page 70.
3. Click the **Tokens** tab.

   Note: In order to save the changes on this page ensure that the **Embossed Number** and **Internal Number** fields relating to the identity are completed.
4. In the **Intrusion Users: Available** the list select the user to add.

   Note: The list displays username, ID of the user and panel name for each user. These details are displayed to distinguish between users with the same or similar names.
5. Click .

   Note: The username, ID of the user and panel name displays in the **Intrusion Users: Members** list. To remove an entry from this list, select the member and click to move the member to the **Intrusion Users: Available** list.
6. Click .

Supported Bosch Intrusion Panels

Noted below are the details of the supported Bosch Intrusion Panels:

Panel	Details

B3512	Areas: 1 Custom Functions: 1 Keypads: 4 Events: 127 Passcode Users (+1 Installer): 10 Points: 16 Programmable outputs: 3 RF Points: 8 SKED Events: 1 Firmware version: 3.0.2 or greater
B4512	Areas: 2 Custom Functions: 2 Keypads: 8 Events: 127 Passcode Users (+1 Installer): 32 Points: 28 Programmable outputs: 27 RF Points: 20 SKED Events: 5 Firmware version: 3.0.2 or greater
B5512	Areas: 4 Custom Functions: 4 Keypads: 8 Events: 255 Passcode Users (+1 Installer): 50 Points: 48 Programmable outputs: 43 RF Points: 40 SKED Events: 5 Firmware version: 3.0.2 or greater

B6512	Areas: 6 Custom Functions: 6 Keypads: 8 Events: 1,000 Passcode Users (+1 Installer): 100 Points: 96 (8 on-board, 88 off-board and virtual) Programmable outputs: 3 RF Points: 88 SKED Events: 6 Firmware version: 3.0.2 or greater
B9512G	Areas: 32 Custom Functions: 32 Keypads: 32 Events: 10,192 Passcode Users (+1 Installer): 2,000 Points: 599 Programmable outputs: 599 RF Points: 591 SKED Events: 80 Firmware version: 3.0.2 or greater
B8512G	Areas: 8 Custom Functions: 8 Keypads: 16 Events: 2,048 Passcode Users (+1 Installer): 500 Points: 99 Programmable outputs: 99 RF Points: 91 SKED Events: 40 Firmware version: 3.0.2 or greater

D9412GV4	Areas: 32 Custom Functions: 16 Keypads: 16 Events: 1,000 Passcode Users (+1 Installer): 999 Points: 246 Programmable outputs: 131 RF Points: 238 SKED Events: 40 Firmware version: Version 2.0 or greater
D7412GV4	Areas: 8 Custom Functions: 4 Keypads: 16 Events: 1,000 Passcode Users (+1 Installer): 399 Points: 75 Programmable outputs: 67 RF Points: 67 SKED Events: 40 Firmware version: Version 2.0 or greater

External Systems - ViRDI

When you select the **ViRDI** tab on the External Systems page, the ViRDI System Settings page is displayed. The ViRDI system allows you to use fingerprint readers for access control, and optionally to use additional authentication to provide two-way or three-way authentication for increased security. Only one ViRDI system setting can be configured on an ACM server appliance. If a replication server is deployed for this ACM server appliance, you can also configure ViRDI system settings for the replication server. After the ViRDI server is installed, ViRDI Biometrics tokens can be created for identities, and the Biometrics Enrollment Manager can be accessed to register fingerprints and additional authentication methods for ACM identities.

Two ViRDI readers are supported:

- ViRDI AC2000—supports fingerprint, or card and fingerprint authentication for up to 1,500 users.
- ViRDI AC5000 Plus —supports any combination of fingerprint, card, and PIN authentication for up to 20,000 users.

Fingerprints are registered using the ViRDI FOHO2 fingerprint reader, which can be installed at enrollment stations. The authentication method (one- two- or three-way authentication) used by the reader for these tokens is configured using the Biometrics Enrollment Manager (BEM).

External Systems - ViRDI System Settings

When you click the **ViRDI** tab from the External Systems page, the ViRDI System Settings page is displayed.

This page allows you to create or delete the ViRDI system setting on an ACM server appliance.

Feature	Description
Appliance	The appliance this server is connected to.
Reserved User ID Range	The default minimum and maximum values are displayed. These values can be adjusted to meet the requirements of your system, but must be within the initial default range of 1 to 99999999. Consider the following recommendations: • Reserve a block of numbers within this range dedicated for ViRDI biometric tokens for use by the ACM system. • Do not assign any of those numbers to physical cards for other types of access readers. • Do not modify this range. **Note:** If you must modify the range, contact Avigilon customer support for guidance.
Web Service Port	Accept the default port or enter a new port number. If you change this port number from the default port (9875), you must also change the corresponding port number on every Biometric Enrollment (BE) Manager used for identity enrollment.
Partitions	Displayed for a partitioned ACM appliance only. To restrict operator access to the item, select one or more partitions. To allow all operators access to the item, do not select a partition.
Delete	Click to delete the server from the system.
Update	Click this button to add the ViRDI server to the system.

Maps - Introduction

Maps are a graphical representation of your access control system. Import maps of your facility and populate them with door, panel, subpanel, input, output, camera and global action alarm points that can be monitored.

Maps - Creating and Editing a Map

Maps can be used to help you visually locate where doors, cameras, inputs and outputs are located in your facility. You can use any image in BMP, or GIF, JPEG, PNG, PDF, TIP and WMF format as the base of the map.

Maps are also used to display Mustering dashboard elements. For more information about setting up a Mustering dashboard, see *Mustering - Creating a Dashboard* on page 334.

1. Select > **Maps**.
2. To add a new map, click **Add New Map Template**.
    a. On the following Maps Template: Add New page, enter a name for the map.
    b. Click **Browse** then locate the image file that you want to use for the map.

    If you are planning to create a Mustering dashboard, select the **Use Blank Canvas** checkbox to use a blank background.
    c. Enter the dimensions of the map in the **Re-Size To** fields.

    > **Note:** If you enter a size that matches the image's aspect ratio, the map image is re-sized accordingly. If you enter a size that does not match the image's aspect ratio, the system centers the image then crops the sides to match the defined setting.

    d. Click to save the new map template.

    The page refreshes and displays the Map Template: Edit page.
3. To edit a map, click the name of a map template. The Map Template: Edit page is displayed.
4. In the Map Details area, click **Add** beside each item that you want to add to the map.

    An icon that represents the new item is automatically added to the top left corner of the map and new options are displayed.
    a. Move the icon to the appropriate location on the map.

    > **Tip:** As you add more items, each icon is automatically added to the top left corner of the map. It is recommended that you move each icon immediately to avoid losing track of each item.

    b. In the Map Details area, select what the icon represents. Only items that have been configured in the system are displayed in the drop down list.
5. Repeat the previous step until you've added all the items that are required.
6. To move an item on the map, click and drag the icon to the appropriate location.
7. To edit what an icon represents, locate the item in the Map Details list and select a new option from the appropriate drop down list.
8. To delete an item from the map, click beside the item in the Map Details area.
9. Click to save your changes. It is recommended that you save frequently. Saving also causes the page to refresh, so any changes have not been updated in the preview may appear after you save.
10. Click to return to the Map Templates list.

Maps - Linking Maps

You have the option of linking your maps together to provide different views and different levels of detail of

the same area. After you create each map, you can link them together by using the **Zoom In** or **Zoom Out** option to define how the maps are linked together.

For example, say an operator has detected an alarm in a building. His monitor displays the building's map, showing the alarmed point, but he needs to get a closer look to confirm the exact position of the alarm. To do this, he clicks which is linked to a floor view. The floor view map appears with a closer view of the alarmed point. Once he has taken care of the alarm, he can then click to return to the general building map and resume general surveillance.

Complete the following steps to link maps together:

1. Select > **Maps**.
2. Create a map for each view that you want of your facility. For more information, see *Maps - Creating and Editing a Map* on the previous page.
3. From the Map Template list, click the name of the map with the widest view of the facility.
4. On the Map Template Edit page, click **Add** beside the Zoom In option in the Map Details area.
5. In the following drop down list, select the map with the close-up view of the facility.
6. From the top left corner of the map, move the icon to the area that the linked map represents.
7. Click to save your changes.
8. Click to return to the Map Template list.
9. Click the name of the next map.

   Select the map that you just linked to on the previous map.
10. On the Map Template Edit page, click **Add** beside the Zoom Out option in the Map Details area.
11. In the following drop down list, select the first map that you added a link from. Now the two maps are linked back together.
12. From the top left corner of the map, move the icon to the edge of the map to show where the linked map expands from.
13. Click to save your changes.
14. Repeat the previous steps until all your maps are linked together in a logical order.

Always use the **Zoom In** icon to link a map with less detail (such as a building or campus) to a map with more detail (like a floor or room). The **Zoom Out** icon is meant to link a detailed map to a wider, less detailed map.

Use this procedure to create a series of links that progressively bore down to greater and greater granularity, or telescope up to provide a larger view.

Using a Map

Access a map of your site, facility or floor plan from the Monitor page to do any of the following:

- Monitor the status of doors, panels, subpanels, inputs and outputs that are installed. For example, a mustering station on the third floor of a building.
- Set the door mode and door commands on the map.

  Note: Unlike the Physical Access > Doors or Monitor > Dashboard page which displays all modes and commands regardless of door type, the Monitor > Maps page displays only the modes and commands that are supported by your door or device.

- Keep track of identities as they arrive at muster stations from the Mustering dashboard.

Hardware Status

The following indicators are displayed on the map as events occur:

Icon	Status	Description
	Green bar	The hardware is operating normally.
	Red square	The hardware is in an alarm state. The counter in the square shows the number of unacknowledged events.
	Solid blue disk	An active override is in effect on the door.
	Hollow blue disk	An inactive override is defined.
	Red bounding box around the status bar	The door is in Priority Mode.

Viewing a Map

To access and monitor your site from a map:

1. Select **Monitor > Maps**.
2. In the Map Templates list, click the name of a map.

   Some of the displayed elements may not appear in your map or the example below.

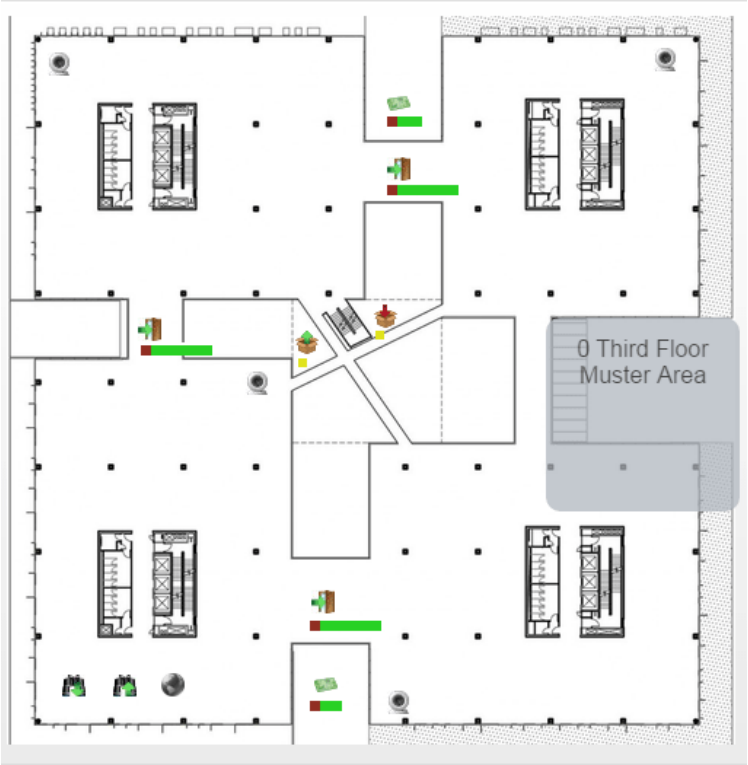


Figure 20: Example map of a muster station on the third floor

> **Note:** Fields in this list are dependent on the door or device. Some commands or fields are not supported for all doors or devices.

Icon	Description
	Doors
	Panels
	Subpanels
	Inputs
	Outputs
	Cameras
	Zoom In

Icon	Description
	Zoom Out
	Global Actions
Square, circle or text object	**Dashboard Elements**

Map Actions

The actions you can complete on a map are determined by the permissions of your assigned roles.

To...	Do this...
Review hardware status	The colored bar below each item displays an overview of the current communication and power status. • Click the icon on the map to display the control menu. For more information about the colored hardware status bar, see the specific hardware status page. For more information about the status colors, see *Status Colors* on page 52.
Review an alarm	If you see a red alarm indicator, the item on the map is in an alarm state. • Click the alarm indicator to see the status details. For more information about alarm actions, see *Monitor Alarms* on page 43.
Modify or delete an override	If you see solid blue disk indicator, an active override is in effect on the door. If you see a hollow blue disk indicator, an inactive override is defined. • Click the indicator to open the Doors: Overrides page to see details.
Respond to a priority situation	If you see a red bounding box around the status indicator, the door is in Priority Mode. **Important:** A door is in Priority Mode when a priority situation has been declared at your site. All doors affected by the situation are placed into Priority Mode and only the Priority ACM Operator, responsible for dealing with priority situations can interact with the door.

To...	Do this...
Control a door	Click on the map to display the control menu for the selected door. **Note:** Fields in this list are dependent on the door or device. Some commands or fields are not supported for all doors or devices. Use the menu options to set the Door Mode. For more information, see *Door Modes* on page 211. Use the following menu options to mask or unmask alarms: • **Mask Held** — Mask the Door Held Open Alarm. • **Unmask Held** — Unmask the Door Held Open Alarm. • **Mask Forced** — Mask the Door Forced Open Alarm. • **Unmask Forced** — Unmask the Door Forced Open Alarm. To view live video, recorded video, notes, instructions, identities, and history click **Trace** to display the event transactions for the door. To hide the control menu, click the icon again.
Control a panel or subpanel	Click on the map to display the panel control menu, then for the panel or subpanel use these options: • Panels ◦ **Download Params** — Download the latest system configurations to the panel. ◦ **Tokens** — Download the tokens to the panel. ◦ **Reset/Download** — Reset and download the current system configuration to the panel. ◦ **APB Reset** — Resets all panel and area counts to zero. ◦ **Clock** — Re-sync the panel time. ◦ **Trace** — Display the event transactions for the panel. **Note:** This is the only option supported for ASSA ABLOY IP panels. • Subpanels ◦ **Trace** — Display the event transactions for the subpanel. Viewing live video, recorded video, notes, instructions, identities, and history can be performed on the event transactions. To hide the control menu, click the icon again.

To...	Do this...
Control an input	Click the on the map to display the input control men for the input. Use these options to mask or unmask the input: • **Mask** — Mask the input. • **Unmask** — Unmask the input. To hide the control menu, click the icon again.
Control an output	Click the on the map to display the output control menu for the output. Use these options to initiate output actions: • **On** — Activate the output. • **Off** — Deactivate the output. • **Pulse** — Pulse the output. To hide the control menu, click the icon again.
Display video	Click the on the map to display the Camera Video window.
Open a linked map	Click to display a linked map, or to display a linked map.
Monitor the dashboard	If there is a Mustering dashboard configured on the map, it may appear as a line of text or as a shape with text inside. The dashboard displays the number of identities in the area and may include the name of the area. In *Example map of a muster station on the third floor* on page 439, the dashboard is the gray square. Click the dashboard to see a list of all the identities that are in the area. Click outside the pop-up dialog to hide the identities list. Click the First Name or Last Name to view the identity.

Priority Situations

For Mercury Security doors.

Your site may have requirements for your ACM system to support your organization's emergency procedures. Typical emergency procedures might be for potentially life-threatening situations (such as fires, tornadoes, earthquakes, physical attacks), and hazardous situations (such as chemical spills, gas leaks, explosions). Your ACM appliance can provide automated access control of doors connected to Mercury panels in unpredictable emergency and high-priority situations, including lockdowns and evacuations, to support your organization's existing operating procedures.

Important: The functionality to respond to high-priority situations is not supported by HID® VertX® panels. If you only have HID VertX doors at your site, the procedures provided for high-priority situations using the ACM system do not apply. If you have a mix of HID VertX and Mercury Security doors, do not include HID VertX doors in any group of doors that are associated to your Priority Door Policies or Priority Door Global Actions.

If you have Mercury Security doors operating with SimonsVoss SmartIntego wireless locks, refer to SimonsVoss SmartIntego documentation. The ACM lockdown priority operation is superseded by the Escape and Return state of the SimonsVoss wireless lock when it becomes engaged in a lockdown situation.

To respond to a priority situation a **Priority ACM Operator** activates a **Priority Door Policy**, which is a specialized Door Policy that is configured to immediately apply a **Priority Mode** to a group of doors upon activation. Optionally, the policy can also set the Door Mode of all the doors to a single value, such as Door Locked No Access for an emergency lockdown.

While a door is in Priority Mode, it is highlighted in red wherever it appears in the ACM client, such as the Doors listing page and on maps or dashboards. These doors can be controlled only by Priority ACM Operator, who have a **Priority Role** that allows them this control. A Priority ACM Operator can issue commands to individual doors in Priority Mode to allow safe exit of trapped people, to allow emergency responders in, or to isolate persons of interest, and so on.

Risk of loss of functionality. While a priority situation is active, any configuration change made to the ACM system may have unintended consequences. To avoid this risk during an active priority situation, do not allow any ACM operator other than the Priority ACM Operator to make (or approve) any configuration changes, including changes in unaffected partitions. For more information, see on page 450

Upon deactivation of the policy, the Priority Mode is removed and the doors return to the door mode they are configured to be in at the time. To secure this functionality from unauthorized access, it can all be isolated in a secure **Priority Partition**.

Planning Priority Door Policies

Analyze all existing door policies at your site before designing and configuring any Priority Door Policies. You must be familiar with all the door policies that are configured at your site. The settings in all of your non-priority and priority door policies must be designed, configured, and tested to ensure that there are no unexpected results after these polices are applied over each other in all possible combinations.

For example, a Priority Door Policy is configured that overwrites only a subset of the door settings. Some of those settings are set in the base configuration of a door, and some are reset by the non-priority door policy that is normally in effect at the time the Priority Door Policy is activated. After the priority situation is over and the Priority Door Policy is deactivated, the currently scheduled non-priority policy is re-activated and applies its settings.

The priority door policies or other related priority items you configure to support them in the ACM system must be:

- Aligned with the emergency procedures in effect at your site.
- Securely isolated so that they cannot be interrupted by lower priority activities.
- Regularly tested and rehearsed to ensure they function as expected, and corrected if they do not.

Note: You can configure **Priority Door Global Action** pairs. However, Priority Door Global Actions are not recommended; see *Limitations of Priority Global Actions* on page 452. Priority Door Global Actions are specialized Global Actions for doors (the first Priority Global Action applies a Priority Mode, and optionally sets the door mode to a single known value, to a group of doors upon activation, and the second Priority Global Action restores those doors to the mode they are configured to be in at the time).

If you have previously used a pair of Global Actions to respond to a priority situation, consider replacing them with a single Priority Door Policy, as recommended.

Important: A Priority Door Policy is the most secure way to control access with the ACM system in an emergency situation. It is also more robust than a Priority Door Global Action. A Priority Door Policy will stay in effect on the doors it is installed on even if:

- The ACM appliance:
  - Is restarted
  - Is disconnected from power
  - Fails over to a backup appliance

- The door or door panel:
  - Goes offline
  - Is rebooted
  - Is disconnected from power
  - Is disconnected from the access control network.

Priority Door Policies, Global Actions, and Modes

When activated, a Priority Door Policy or Priority Door Global Action sets all doors in an associated group of doors into Priority Mode. Additionally, it can set all these doors to a single configurable door mode (for example, Locked - No Access) regardless of their current mode when activated.

While a Priority Door Policy or Priority Door Global Action active, only Priority ACM Operator is authorized to issue commands to doors in Priority Mode can change the door mode on specific doors (for example to allow safe exit of trapped people, to allow emergency responders in, or to isolate persons of interest). After the situation is resolved, you can remove the Priority Door Policy or Priority Door Global Action and all the doors will return to the mode they normally are in at the current time.

Priority Door Policies and Priority Door Global Actions and the associated door Priority Mode are at the top of the ACM system's priority hierarchy. For information about the priority hierarchy, see *Priority Hierarchy* on page 452.

A Priority Door Policy is created in the same way as any other door policy, with specific settings that define it as a Priority Door Policy. A Priority Global Action is created in the same way as any other global action, except that it can only be configured for the Door Mode.

Priority Door Policies and Emergencies

Use Priority Door Policies to support your organization's critical emergency response procedures, which might include lockdowns and evacuations.

To ensure the security of Priority Door Policies, isolate everything required to manage the Priority Door Policy in a Priority Partition, accessible only to the Priority ACM Operator responsible for managing the ACM system during an emergency.

The operators, roles and groups associated with Priority Door Policies must be configured to conform to your organization’s operating procedures:

- Roles to trigger a Priority Door Policy, and the assignment of those roles to operators, must be defined so that the policy can be activated only in conformance with those operating procedures.
- Door groups that are affected by a Priority Door Policy must be defined so that they cannot be inadvertently altered.

Secured priority situation response functionality is configured in the following order:

1. **Priority Partition**: A specialized partition that isolates all the functionality required for a secured response to a priority situation.
2. **Priority Role**: A specialized role for authorized ACM operators responsible for operating the ACM system during priority situations. The Priority Role must be assigned the following delegations:
    - **Policies Set Priority** to configure a Priority Door Policy.
    - **Global Action Set Priority** to configure a Priority Global Action.
    - **Doors Commands During Priority** to allow manual control of doors in Priority Mode during a priority situation
3. **Priority ACM Operator**: An ACM operator authorized to operate the ACM system during emergencies. This operator is assigned membership of the:
    - Priority Role
    - Priority Partition
4. **Priority Group**: A Group that is a member of the Priority Partition that is reserved to associate doors with Priority Door Policies.
5. **Priority Door Policy**: A specialized Door Policy that enables the **Priority Mode** and, optionally, a single known value for the Door Mode, to be assigned to a group of doors upon activation. A door in Priority Mode is highlighted in red wherever it appears in the ACM client, such as the Doors listing page and on maps, while a Priority Door Policy is in effect.

For the procedure on securely isolating a Priority Door Policy, see *Configuring a Secure High-Priority Emergency Response* below.

Configuring a Secure High-Priority Emergency Response

You can maximize the security of your high-priority emergency response procedure by isolating everything it requires the ACM system to manage in a dedicated partition, referred to as a Priority Partition. If your site:

- Does not use partitions, you only need to create one Priority Partition.
- Does use partitions, you should determine how many Priority Partitions you require. Whether you need more than one Priority Partition depends on the complexity and requirements of your organization. Consider:
    - One Priority Partition for your entire site.
    - Several Priority Partitions that do not correspond to the existing ones.
    - A matching set of one Priority Partition for each existing partition.

It is recommended that you define as few Priority Partitions and Priority Door Policies as possible. For example, do not configure multiple Priority Door Policies with the same settings in the same Priority Partition.

To secure your high-priority emergency response using a Priority Partition, complete the following steps:

1. Create a partition, and give it a name that identifies it clearly as the Priority Partition.
2. Add all the doors at your site that you want to control in any emergency or high-priority situation as members of the Priority Partition. Typically this would be all the doors managed by the ACM system.
3. Create a Priority Role for the Priority ACM Operator and add the following delegations as members:
    - **Policies Set Priority**: Allows the identity to configure a Priority Door Policy.
    - **Global Action Set Priority**: Allows the identity to configure a Priority Global Action.
    - **Doors Commands During Priority**: Allows the identity to use commands to change the attributes of a door in priority mode.

    WARNING — Assign these three delegations only to the Priority Role reserved for Priority ACM Operator.
4. Add a new identity, and give it a name that identifies it clearly as the Priority ACM Operator. Assign the high-priority identity as a member of the:
    - Priority Role
    - Priority Partition

    Alternatively, you can add an existing administrator identity as a member of the Priority Role and the Priority Partition, although this will be less secure.

    WARNING — Risk that users other than the Priority ACM Operator can change door modes when a Priority Door Policy is in effect. Users with the Doors Commands During Priority delegation can use commands to change the door mode. To avoid this risk, assign the Doors Commands During Priority delegation only to the Priority Role and assign the Priority Role only to the high-priority ACM system administrator.
5. Create a group, and give it a name that identifies it clearly as the Priority Group. Assign the Priority Group to the Priority Partition.
6. Create a Priority Door Policy. Assign the Priority Door Policy to the Priority Partition.
7. A Priority Door Policy is created in the same way as any other door policy, with the following five specific settings on the **Mercury** tab:
    a. Set the **Lock Function** to **None**.
    b. Set **Custom Schedule** to **24 Hours Active**.

        The **Priority** checkbox is enabled.

        You can use a custom schedule other then the recommended **24 Hours Active**. However, the intent of a Priority Door Policy is that it should be used on demand, not on a schedule. When you set the Custom Schedule option for a Priority Door Policy, be aware of the following:
        - Holiday and custom schedules must be configured with matching values for the Type option so that they can interact.
        - **Do not** set Custom Schedule to Never Active. With this setting, the doors affected go into Priority Mode when the policy is activated, but their door mode is not updated with the value in the policy.
        - **Do not** associate a Priority Door Policy with a schedule that has fixed start and end times. The purpose of a Priority Door Policy is to respond to an unanticipated situation when it occurs and to stay in effect until the situation is resolved. A Priority Door Policy is

intended to be activated on demand only.

- The maximum number of custom schedules is 255 if you use a custom schedule other than 24 Hours Active.

c. Click the **Priority** checkbox.

d. Use the **Door mode** option to set the mode for all doors to have when this policy is active. For example **Locked No Access** for a policy tor a lockdown, or **Unlocked** for a policy for an evacuation. Leave this option blank if you want to individually reset each door's mode from its normal mode after the policy is activated.

e. Set the **Offline Door Mode** to the same value as the **Door Mode**. This ensures that, if the door is disconnected from network or power during the emergency, the door mode will remain in the same as the mode set by the Priority Mode while the door is disconnected, or after power is restored.

CAUTION — Set the offline door mode to match the priority mode. This ensures that the door stays in the same mode in the event of a subpanel going offline or the subpanel is uninstalled while the Priority Door Policy is in effect.

f. Optionally, if there are additional settings that must be retained on all the doors affected by this policy, ensure they are correctly configured. For example, if there is a door policy that contains settings for other options that must be retained through an emergency, and that policy might be installed on these doors at the time of the emergency.

8. Create two Global Actions: to activate the Priority Door Policy, and to deactivate the Priority Door Policy. Assign the Global Actions to the Priority Partition.

   Create the Global Actions with the following specific settings:

   a. Assign each global action to the Priority Partition.

   b. Set **Type** to **Policy Install/Un-install**.

   c. Set the **Sub-Type** to:

      - **Install** for the global action to activate the Priority Door Policy
      - **Un-install** for the global action to deactivate the Priority Door Policy

   d. In each global action, add the Global Door Policy as the only member.

9. Create a new map template. Place the door icons and global actions created in the previous steps on the map. Assign the map to the Priority Partition.

10. In the Priority Group, associate the Priority Door Policy with all the doors in the Priority Partition.

Testing a Secure Priority Emergency Response in the ACM System

To test that all of your emergency-related configurations and activities are securely isolated:

1. Log out of the ACM client.
2. Log in as the Priority ACM Operator.
3. Activate the Priority Door Policy:
    1. Navigate to the priority map.
    2. Click on the icon for the global action to activate the Priority Door Policy.
4. Verify that the doors enter into Priority Mode:
    - On the priority map, a red bounding box appears over the status bar under each door icon. Hover the mouse over the status bar to see the **Door in Priority mode** tooltip.
    - On the Doors listing page, all users will see a red bounding box over each door in Priority mode. Commands to change the door made are enabled for the Priority ACM Operator.
5. Log out as the Priority ACM Operator and log in as an ACM client user who is not a member of the Priority Partition, and verify that the user:
    - Can see:
        - On any map other than the priority map, a red bounding box over the status bar under the door icon for any door in Priority Mode on that map. Hover the mouse over the status bar to see the **Door in Priority mode** tooltip.
        - On the Doors listing page, a red bounding box over each door in Priority mode. All commands that affect doors are disabled for the user.
    - **Cannot** see any of the members of the Priority Partition:
        - The Priority Door Policy on the Policy list
        - The two policy install/uninstall global actions for the Priority Door Policy on the Global Actions list.
        - The priority group on the Groups list.
        - The map template on the Maps list or the Monitor > Maps page.
    - **Cannot** initiate any door commands on any door in priority from the Doors list.
6. Log in as the Priority ACM Operator.
7. Deactivate the Priority Door Policy:
    1. Navigate to the priority map.
    2. Click on the icon for the global action to deactivate the Priority Door Policy.
8. Log out as the Priority ACM Operator and log in as an ACM client user who is not a member of the Priority Partition, and verify that the user:
    - Can see:
        - On any map other than the priority map, that there is no red bounding box over the status bar under the door icon for any door that was in Priority Mode on that map.
        - On the Doors listing page, there is no red bounding box over each door in Priority mode.
    - Can initiate any door commands on any door from the Doors list according to their role.

Activating the High-Priority Emergency Response

Several techniques can be used to make it as easy as possible for authorized personnel to trigger a Priority Door Policy in the event of an emergency.

A Priority ACM Operator can trigger the installation of priority-enabled policy in response to an emergency, from an ACM monitoring station:

- From the Policies list, click in the Installed column next to the name of the Priority Door Policy for the type of emergency.
- From the map associated with the Priority Partition, click on the global action icon for installing the Priority Door Policy for the type of emergency.

You can also configure or install ways for other users to trigger an emergency response by the ACM system using Global Linkages. For example you can:

- Issue priority emergency badges to security personnel to swipe at any card reader.
- Install panic buttons wired in to the access control system at strategic locations.

These configurations are complex and should be planned and completed by a skilled security professional with detailed knowledge of the ACM system.

During a High-Priority Situation

There are several actions that the Priority ACM Operator must complete immediately after a Priority Door Policy is installed to ensure that the priority policy is not interrupted while it is in effect:

- Check that there are no scheduled jobs running or about to start and if there are, stop them from running or starting.

  WARNING — Risk that doors in priority mode can be returned to the mode they normally are in at the current time while a Priority Door Policy or Priority Global Action is in effect. A scheduled job or global linkage that affects a door panel (such as a door install or uninstall, door grant, panel install or uninstall, policy install or policy uninstall, and others) will terminate a Priority Door Policy or Priority Global Action on the doors affected by the interruption. A door bulk update will also terminate a Priority Global Action. To avoid this risk, stop any scheduled job or global linkages from running or starting, during the emergency.
- Verify that there are no global actions or global linkages about to be initiated.
- Verify that there are no other users with any of the high-priority delegations active during the emergency situation. The only exception might be if your organization requires the deployment of more than one Priority ACM Operator working in coordination.

  WARNING — Risk that users other than the high-priority ACM system administrator can change door modes when a Priority Door Policy is in effect. Users with the Doors Commands Set Priority delegation can use commands to change the door mode. To avoid this risk, assign the Doors Commands Set

Priority delegation only to the Priority Role and assign the Priority Role only to the high-priority ACM system administrator.

- Secure the ACM appliance to ensure that it does not accidentally reboot.
- If you are using peer-to-peer or hot standby replication , issue all commands from the same appliance from which the Priority Door Policy or Priority Door Global Action was issued.

During the emergency, the Priority ACM Operator can use the ACM client to issue commands to individual doors in Priority Mode. This allows the Priority ACM Operator to grant access to emergency responders, provide safe exits for trapped people, or isolate persons of interest.

If there are ACM system partitions not affected by the active Priority Door Policy, normal operations can continue in those partitions.

While a Priority Door Policy is active, the Priority ACM Operator must ensure that the Priority Partition is isolated and all activities affecting the ACM system are under strict control. In the Priority Partition:

- **Do not** allow anyone other than the Priority ACM Operator to use the ACM client in the Priority Partition, and limit the number of people using the ACM client in any other partitions (if any).
- **Do not** activate additional Priority Door Policies.

  WARNING — Risk of unpredictable results installing multiple Priority Door Policies. If you install a second Priority Door Policy while one is already in effect, the latest created policy takes precedence, which may not be the most recently installed policy. To avoid this risk, never activate a second Priority Door Policy until after the first policy is deactivated.
- **Do not** allow any configuration, maintenance, or scheduled maintenance operations.
- **Do not** activate any Priority Door Global Actions.

The Priority Door Policy is active until it is deactivated. Deactivation restores doors to their normal door mode for the current time.

Deactivating a Priority Door Policy

The ability to end a Priority Door Policy must be restricted to ensure that your site is fully secured before normal access is restored. The Priority ACM Operator is responsible for deactivating the Priority Door Policy after it is determined that the emergency situation has been resolved and it is safe to return the ACM system to its normal operating state.

The deactivation of an active Priority Door Policy can only be completed from an ACM monitoring station, regardless of how the policy was triggered:

- From the Policies list, click in the Installed column next to the name of the active Priority Door Policy.
- From the map associated with the Priority Partition, click on the global action icon for uninstalling the active Priority Door Policy.

Limitations of Priority Global Actions

Priority Global Actions are not recommended for emergency situations. A Priority Door Global Action is much less robust than a Priority Door Policy. Never use a Priority Door Global Action while a Priority Door Policy is activated.

WARNING — There is a risk that, while a Priority Global Action is in effect, doors in priority mode can be returned to the mode they normally are in at the current time. Any action that interrupts the functioning of the ACM appliance or the door panels will terminate a Priority Global Action on the doors affected by the interruption. Some examples of actions that can cause this are:

- Failover of the ACM appliance
- Reboot of the ACM appliance or a door panel.
- Network disconnection, or a site-wide power recycling or outage.
- Change to any door attribute on the Doors editing page while a door is in priority mode.
- Reset/Download from the Panel Status page.
- Scheduled job or global linkage for a door bulk update.

WARNING — There is a risk that not all doors in a large number of doors set to Priority Mode will correctly return to their normal operating state when a Priority Global Action is used to restore a large number of doors. To avoid this risk, when you define a Priority Global Action for doors, also define a group of doors containing all the doors associated with that Priority Global Action, and then to restore the doors to their normal operating state:

- Navigate to the Doors listing page.
- Filter the list of doors by the group associated with the Priority Global Action.
- Select all the doors in the group.
- Click the **Door Action** button and select **Restore** from the drop-down list.

WARNING — Risk of unpredictable results using Priority Global Actions in either a peer-to-peer replication or hot-standby environment:

- Priority Global Actions executed on one appliance are not mirrored on the other appliance. When a global action is executed on one appliance, it only affects the doors that are connected to that appliance.
- While a Priority Global Action is in effect, and there is a failover to the hot-standby appliance, affected doors can be returned to the mode they normally are in at the current time.

To avoid these risks, use a Priority Door Policy. Priority Door Policies installed on one appliance in either a peer-to-peer replication or hot-standby environment are mirrored on the other appliance.

Priority Hierarchy

There are three priority levels for door mode changes in the ACM software. Within each level, the possible actions also have an order of precedence. A change to a door state that has a higher priority and precedence

than the change that defined the current state takes effect whenever it is activated. A change with a lower priority and precedence than the change that defined the current state will never take effect. Changes with equal priority and precedence take effect in the order they are made.

Commands such as Grant issued directly in the ACM client have the highest priority, and can be activated at any time. For example, during a lockdown priority situation, when all doors are automatically locked, the Priority ACM Operator can grant access to specific doors from the Maps page or the Door list page for first responders.

Priority	Type of Change	Act On	Operator Rights Required
Highest	UI commands on doors in priority state	Single door in the affected group of doors	Rights on a priority status door
	Active Priority Door Policy	Predefined group of doors associated with the policy	
	Active Priority Global Action	Predefined group of doors associated with the global action	
Medium	UI Commands with rights on a non-priority status door	Single door in a non-priority state	Rights on a non-priority status door
	UI Commands without rights		None
	Wireless door lock function	Wireless lock functions	
	Note: The ACM lockdown priority operation is superseded by the Escape and Return state of the SimonsVoss wireless lock when it becomes engaged in a lockdown situation.		
	The above three Medium priority changes supersede each other when sequentially applied. Any one of them will supersede an Override command.		
	Override		
Low	Custom Schedule Non-priority Door Policy Non-priority Door Global Action Macro/Trigger Base Mode Job Specification (two global actions) Door template		

Triggering Door Lockdown By Panic Button or Red Card

Mercury Security doors only.

To set up a panic button or red card that locks down a door in a high priority situation and releases the locked door after the lockdown issue is resolved:

1. Add a **Policy** to trigger the panic button and add another policy to release it.

   Example:

Name
Lockdown policy install
Lockdown policy uninstall

   For more information, see *Adding a Policy* on page 97.

2. Panic button only. Choose a method to associate each policy with the subpanel, input or output.
   - Add a **Global Action** to activate the panic button and add another global action to deactivate it. Associate those actions with the policy by moving them to the **Members** list.

     Example:

Name	Type	Sub-Type	Members
Global action name install	**Policy Install/Un-Install**	**Install**	Policy name
Global action name uninstall	**Policy Install/Un-Install**	**Un-Install**	Policy name

     For more information, see *Adding Global Actions* on page 329.
   - Add a **Global Linkage** to associate each policy with the input or output on the **Actions** tab by moving them to the **Members** list.

     Example:

     Actions tab:

Name	Members
Linkage name install	Global action name install
Linkage name uninstall	Global action name uninstall

3. Red card only. Add a **Global Linkage** to associate each lockdown policy with an identity and its token on the **Devices**, **Events** and **Tokens** tabs. Move the input or output, door event and token to the **Members** list.

   Example:

   Devices tab:

Name	Type	Members

Linkage name install	**Door**	Input on subpanel *N* Address *N*
Linkage name uninstall	**Door**	Input on subpanel *N* Address *N*

Events tab:

Name	▶ **Members**
Linkage name install	**Local Grant - not used**
Linkage name uninstall	Choose an event to release the locked door

Tokens tab:

Name	**Type**	▶ **Members**
Linkage name install	**Door**	Input on subpanel *N* Address *N*
Linkage name uninstall	**Door**	Input on subpanel *N* Address *N*

4. When a lockdown situation arises, activate the lockdown policy for the panic button or red card by pressing the panic button or swiping the red card on the reader, respectively.
5. When the lockdown situation is resolved, deactivate the lockdown policy.

   On the Policies list, click ✔ next to the lockdown policy.

   Example:

Name
Lockdown policy uninstall

   For more information, see *Policies list* on page 98.

Overriding Door Modes and Schedules

Note: Overrides are only supported on Mercury panels using firmware 1.27.1 or later. Your current version of the ACM software includes compatible firmware you can download to your panels. You can create up to 100 overrides on a single panel.

Use overrides to apply a temporary one-time change to the normal door mode of a selected set of doors. For example, to extend or delay opening or closing hours, or for closing on a snow day. Overrides can be scheduled to take effect immediately, or in advance (for example, for a one-time occurrence such as an all-access event next week in a normally locked room). When an override ends, the door or doors each return to the mode they are supposed to be in according to their schedule at that time. Overrides are not recurring. For almost all purposes, an override should be deleted as soon as it has ended as there is a maximum number of overrides per panel.

Override functionality is designed to work best with your regular door schedules. Overrides have a medium priority-level in the ACM priority hierarchy and many higher-priority actions take precedence. For more information about this hierarchy see *Priority Hierarchy* on page 452. For example a manual command to a specific door, or a priority lockdown command to a set of doors, takes precedence. If a priority lockdown occurs while an override is in effect, the priority lockdown becomes active. After the priority lockdown has been cleared by the Priority ACM Operator, the override becomes active on the doors if it is still in effect, otherwise each door returns to its regular schedule for that time.

On Mercury panels using firmware earlier than 1.29, an override starts and ends at the beginning of the minute of its scheduled time. On Mercury panels using firmware 1.29 or later, an override starts at the beginning of the minute and ends at the end of the minute of its specified time. Time overlaps are not supported. For example, you can specify 1:00 - 1:30 and 1:31 - 1:59 overrides.

Important: You can only add an override to doors you are authorized to access that are on the same ACM server. However, you can modify or delete any override, and your changes will apply to all the doors in the override, including doors you are not normally authorized to access. If partitioning is used in your ACM system and you expect users authorized for specific partitions to modify an override, define individual overrides for each partition rather than a single override that spans multiple partitions. Otherwise, users can modify overrides that affect doors they cannot see and be unaware of any changes.

Adding an Override

You add an override by selecting a set of doors on the Door list, clicking the Override control button, specifying the door mode, and the start and end times of the override.

To add an override:

1. Select **Physical Access**.
2. Click the checkbox for each door you want to add to the override.

   If you want to override all the doors you can see in your system, click **All** at the top of the left column to select all the doors.
3. Click **Override**.
4. Select the door action or door mode you want applied to all the doors in the override:
   - **Disabled** — Stops the doors from operating and allows no access.
   - **Unlocked** — Unlocks the doors.
   - **Locked No Access** — Locks the doors.
   - **Facility Code Only** — This door can be accessed using a facility code.
   - **Card Only** — This door can be accessed using a card. No PIN is required. See *Appendix: pivCLASS Configuration* on page 502.
   - **Pin Only** — This door can only be accessed by entering a PIN at a keypad. No card is required.
   - **Card and Pin** — This door can only be accessed using both a card and a PIN.
   - **Card or Pin** — This door can be accessed either by entering a PIN at a keypad or by using a card at the card reader.

   Note: The Pin Only and Card or Pin door modes are not available if the Allow duplicate PINs option has been selected on the System Settings - General page.
5. Specify the date and time settings for **Start Day/Time** and **End Day/Time**. Both are required. Time is specified to the minute. On Mercury panels using firmware earlier than 1.29, the override begins and ends at the beginning of the minute you specify. On Mercury panels using firmware 1.29 or later, an override starts at the beginning of the minute and ends at the end of the minute of its specified time. Time overlaps are not supported. For example, you can specify 1:00 - 1:30 and 1:31 - 1:59 overrides.

   Tip: To start an override immediately, click **Now** in the **Start Day/Time** pop-up window.

   Important: The date and time the override is active is based on the settings at the controller panel for the doors, not the ACM server. If your ACM server is in a time zone ahead of the time zone of your ACM client and the doors and panels you control, you may see an error message that the override occurs in the past. You can ignore this error message if your settings in the local time zone are correct.
6. Add an optional note to provide relevant information for future use.
7. If partitions are used, you can restrict the override to only those doors in the Doors Selected list that are in a specific partition.
8. Click **Add**.

Accessing the List of Overrides

You can access a list of all overrides from the Doors page:

- Click **Overrides:** (above the list of doors) to open the **Doors: Overrides** page for all defined overrides.

  > **Tip:** The total number of defined overrides is displayed next to Overrides:.

You can access a list of all overrides for a specific door from the Doors page.

- A blue disk in the **Override** column for a door indicates overrides are defined for the door. The disk has two states:
  - : An override is currently active.
  - : An override is defined, but not active. An inactive override can be an override that has been completed but not deleted, or an override that has not yet started.
- Click the disk to open the **Doors: Overrides** page listing all the overrides for that door.

> **Tip:** Completed overrides must be manually deleted. Overrides are intended to be temporary actions for use on an as-needed basis. Most overrides should be deleted as soon as they are completed and no longer needed. Keep only override definitions that are highly likely to be re-used as defined, with only the start and end time and date settings modified.

For more information, see *Modifying and Deleting Overrides* below.

Monitoring Overrides

Use the Maps feature to monitor overrides on doors. When a door that is displayed on a map is included in an override, the status indicator for the door is updated to display a blue disk. The disk indicates overrides are defined for the door. The disk has two states:

- : An override is currently active.
- : An override is defined, but not active. An inactive override can be an override that has been completed but not deleted, or an override that has not yet started.

For example, if an override is active on a door, a solid blue disk is displayed next to the green bar:

For more information, see *Using a Map* on page 438.

Modifying and Deleting Overrides

On the **Doors: Override** page you can select an override to modify or delete overrides.

To modify the override:

1. Click on the override name in the **Name** column to open the Override: Edit page.

   If partitions are used, and doors you cannot see are included in the override "One or more doors in this override are in partitions you cannot see. These doors will be affected by your changes if you continue." is displayed. You can modify all the override settings, but only add or remove doors that you are authorized to see.
2. Make the modifications you need.
   - All settings can be modified if partitions are not used in your ACM system.
   - In the Doors Selected section, you can add doors to the override by highlighting them in the **Available** list and moving them to the **Members** list.
3. Click .

To edit the base settings of any door in the override:

- Click on the door name in the **Selected** column.

  Changes made to the base settings do not take effect until the override expires.

To delete an override:

- Click .

  The time the override is deleted is logged by the system. When an active override is deleted, the door or doors each return to the mode they are supposed to be in according to their schedule at that time.

Modifying an Override

To modify the override:

1. Select the door action or door mode you want applied to all the doors in the override:
   - **Disabled** — Stops the doors from operating and allows no access.
   - **Unlocked** — Unlocks the doors.
   - **Locked No Access** — Locks the doors.
   - **Facility Code Only** — This door can be accessed using a facility code.
   - **Card Only** — This door can be accessed using a card. No PIN is required. See *Appendix: pivCLASS Configuration* on page 502.
   - **Pin Only** — This door can only be accessed by entering a PIN at a keypad. No card is required.
   - **Card and Pin** — This door can only be accessed using both a card and a PIN.
   - **Card or Pin** — This door can be accessed either by entering a PIN at a keypad or by using a card at the card reader.

   Note: The Pin Only and Card or Pin door modes are not available if the Allow duplicate PINs option has been selected on the System Settings - General page.

2. In the Doors Selected section, add doors to the override by highlighting them in the **Available** list and moving them to the **Members** list.

   Important: If partitions are used, only doors that are not in any partition or are in the partitions you are authorized to see are displayed in the Doors Selected list.

3. Specify the date and time settings for **Start Day/Time** and **End Day/Time**. Both are required. Time is specified to the minute. On Mercury panels using firmware earlier than 1.29, the override begins and ends at the beginning of the minute you specify. On Mercury panels using firmware 1.29 or later, an override starts at the beginning of the minute and ends at the end of the minute of its specified time. Time overlaps are not supported. For example, you can specify 1:00 - 1:30 and 1:31 - 1:59 overrides.

   Tip: To start an override immediately, click **Now** in the **Start Day/Time** pop-up window.

   Important: The date and time the override is active is based on the settings at the controller panel for the doors, not the ACM server. If your ACM server is in a time zone ahead of the time zone of your ACM client and the doors and panels you control, you may see an error message that the override occurs in the past. You can ignore this error message if your settings in the local time zone are correct.

4. Add an optional note to provide relevant information for future use.
5. If partitions are used, you can restrict the override to only those doors in the Doors Selected list that are in a specific partition.
6. Click .

Setting Personal Preferences

To set up your personal preferences, select > **My Account** from the top-right. Navigate through the tabbed pages and edit the details as required. The tabbed pages include:

- **Profile:** use this page to edit your account details and preferences.
- **Batch Jobs:** use this page to view the batch jobs that have been run from your account.
- **Job Specification:** use this page to add, edit, activate/ deactivate, or delete batch jobs.

Changing the Password in My Account

While you are logged in to the ACM system, you can choose to change your password any time from the My Account page.

1. In the top-right, select > **My Account**.
2. On the following Profile page, enter your current password in the **Old Password** field.
3. In the **Password** field, enter your new password.

   As you enter your new password, the status bar underneath will tell you the strength of your password. Red is weak, while green is very strong. Use a combination of numbers, letters, and symbols to increase the password strength. The password must be at least 4 characters long.
4. Click to save your new password.

   A system message tells you that you will be logged out.
5. When the login screen appears, log in with your new password.

Scheduling Batch Jobs

Batch jobs are processes, such as generating reports, that are performed automatically, according to a schedule.

From the Job Specification page, you can create the following batch jobs:

Generating a Batch Report

Batch reports are custom reports generated on a schedule and which can contain more data than reports generated from the Reports list, the Report Edit page or from the Report Preview page.

There are no length limits on any batch reports generated in the CSV spreadsheet format. In PDF format, the Audit Log report is limited to 13,000 records, the Identity Summary Report is limited to 100,000 records, and the Transaction Report is limited to 50,000 records.

WARNING — Risk of system becoming unusable. Scheduling large reports on separate but overlapping schedules, may cause memory problems that can result in the ACM system being unusable. To avoid this risk,

schedule the start times for large reports, such as audit logs in any format, to allow for each report to finish before the next starts.

Perform this procedure to generate a custom report on a schedule.

1. Select **>My Account** and click the Job Specification tab.

   The Job Specification page is displayed.

2. Click the **Add** button.

   The Job Specification - General dialog box is displayed.

3. In the **Appliance** drop down list, select the appliance on which this job will run.

   Only those appliances previously defined for this system appear in this option list.

   If only one appliance is used for this system (the default), this field is automatically populated.

4. In the **Name** field, enter a name for this batch job.

5. From the **Type** drop down list, select **Report**.

   After you select the job type, additional options are displayed.

   - From the **Report** drop down list, select the report you want to batch.

     Only custom reports appear in this list.

   - From the **Output Format** drop down list, select the format in which you want this job generated.

6. Click **Next**.

   The following screen shows the select report definition. Click **Back** to select a different report.

7. Click **Next** to continue.

8. On the following page, select how often the batch report is generated. From the **Repeat** drop down list, select one of the following options:

   - **Once** —- The report will be generated once. Click the **On** field to display the calendar and select a specific date and time.
   - **Hourly** — The report will be generated at the same minute of every hour. Enter the minute when the report is generated at each hour. For example, if you want the report generated at 1:30, 2:30, etc. then you would enter `30`.
   - **Daily** — The report will be generated every day at the same time. Enter the specific time when the report is generated in 24 hour time format.
   - **Weekly** — The report will be generated each week on the same day and time. Select the checkbox for each day the report will be generated, and enter the specific time in 24 hour format.
   - **Monthly** — The report will be generated each month on the same day and time. Select the days when the report is generated and enter the specific time in 24 hour format. `Shift` + click to select a series of days, or `Ctrl` + click to select separate days.

9. Click **Next**.

   A summary is displayed.

   Select the **Send Email** checkbox if you want to receive an email copy of the report after it has been generated. In the following field, enter your email address.

10. Click **Submit** to create this job.
11. To activate or deactivate this job, select the job and click **Activate/Deactivate**

Applying an Identity Profile to a Group Using a Job Specification

Create and schedule an Identity Update batch job to apply a new, updated or temporary identity profile to all of the identities in a predefined group.

After you make changes to an identity profile, the identities previously created from the identity profile are not automatically updated. Using a job specification and scheduling the job is one of the ways that these changes can be applied.

Scenarios to apply an identity profile to a group of identities include:

- To apply a set of standard settings. When you have many identities defined with non-standard settings, create a group containing these users and a new profile containing the standard settings. Then apply the new profile to the group of identities.
- To apply modified settings in a commonly used identity profile. After you make changes to an identity profile, the identities created from the identity profile are not automatically updated. You need to create a batch job to apply these changes. Create a group of all the users that were created using this profile, and then apply the modified profile to that group. If the profile is frequently modified, you can create a repeating schedule.
- To apply a profile temporarily to a group. When you have identities that require a different profile for a short time that cannot be cannot be satisfied using a policy, you can use an Identity Update batch job to "turn on" a temporary profile for a specified duration, and then "turn off" that profile by replacing it with a permanent profile. If the temporary profile is used repeatedly in a predictable manner, you can create a repeating schedule.

Note: A group containing all of the identities previously created from the identity profile must be created before the changes can be applied to the group. If the required groups have not been created, contact your System Administrator.

When you choose to create an Identity Update job, you have the option to apply a new, updated or temporary identity profile to the group.

A temporary door template is one that is applied for a specific period of time (either once or repeating) You can apply a temporary door template to a group by using the Off Identity Profile option. Once the new identity profile expires, the original identity profile is applied.

To create an Identity Update job specification:

1. Select > **My Account** and click the Job Specification tab.

   The Job Specification page is displayed.

2. Click the **Add** button.

   The Job Specification dialog box is displayed.

3. In the **Appliance** drop down list, select the appliance on which this job will run.

   Only those appliances previously defined for this system appear in this option list.

   If only one appliance is used for this system (the default), this field is automatically populated.

4. In the **Name** field, enter a name for this batch job.

5. From the **Type** drop down list, select **Identity Update**.

   After you select the job type, more options are displayed.

   - From the **Group** drop down list, select the group of identities that you want to change.
   - From the **Identity Profile** drop down list, select the identity profile that you want to apply to the group. If you are applying a temporary profile, this is the "on" profile.
   - From the **Off Identity Profile** drop down list, select the identity profile to be applied if you want an identity profile applied temporarily (that is, you want the identity profile to expire).
   - From the **Output Format** drop down list, select the format for the report that is generated when the job is complete.

6. Click **Next** to continue.

   The Job Specification - Schedule dialog box is displayed.

7. From the **Repeat** drop down list, select how often this batch job is run. Then specify the time you want the profile to be applied. If you selected an Off Identity Profile, you also specify when the Off profile is applied.

   - **Once** —- The batch job is run once. Click the **On** and **Off** fields to display the calendar and select a specific date and time.
   - **Hourly** — The batch job is run at the same minute of every hour. Enter the minute when the batch job is run at each hour. For example, if you want the job to run at 1:30, 2:30, etc. then you would enter `30`.
   - **Daily** — The batch job is run every day at the same time. Enter the specific time when the job is run in 24 hour time format.
   - **Weekly** — The batch job is run each week on the same day and time. Select the checkbox for each day the job will run, and enter the specific time in 24 hour format.
   - **Monthly** — The batch job is run each month on the same day and time. Select the days when the job will run and enter the specific time in 24 hour format. `Shift` + click to select a series of days, or `Ctrl` + click to select separate days.

8. Click **Next**.

   A summary is displayed.

9. Click **Submit** to create this job.

10. To activate or deactivate this job, select the job and click **Activate/Deactivate**.

Applying a Door Template to a Group Using a Job Specification

For ASSA ABLOY, Avigilon and Mercury Security doors.

Create and schedule a Door Update batch job to apply a new, updated or temporary door template to all of the doors in a predefined group.

After you make changes to a door template, the doors previously created from the door template are not automatically updated. Using a job specification and scheduling the job is one of the ways that these changes can be applied.

Scenarios to apply a door template to a group of doors include:

- To apply a set of standard settings. When you have many doors defined with non-standard settings, create a group containing doors and a new template containing the standard settings. Then apply the new template to the group of doors.
- To apply modified settings in a commonly used door template. After you make changes to a door template, the identities created from the door template are not automatically updated. You need to create a batch job to apply these changes. Create a group of all the doors that were created using this template, and then apply the modified template to that group. If the template is frequently modified, you can create a repeating schedule.
- To apply a template temporarily to a group. When you have doors that require a different template for a short time that cannot be cannot be satisfied using a policy, you can use an Identity Update batch job to "turn on" a temporary template for a specified duration, and then "turn off" that template by replacing it with a permanent template. If the temporary template is used repeatedly in a predictable manner, you can create a repeating schedule.

Note: A group containing all of the doors previously created from the door template must be created before the changes can be applied to the group. If the required groups have not been created, contact your System Administrator.

When you choose to create a Door Update job, you have the option to apply a new, updated or temporary door template to the group.

A temporary door template is one that is applied for a specific period of time (either once or repeating). You can apply a temporary door template to a group by using the Off Door Template option. Once the new door template expires, the original door template is applied.

To create a Door Update job specification:

1. Select > **My Account** and click the Job Specification tab.

   The Job Specification page is displayed.

2. Click the **Add** button.

   The Job Specification - General dialog box is displayed. All options marked with * are required.

3. In the **Appliance** drop down list, select the appliance on which this job will run.

   Only those appliances previously defined for this system appear in this option list.

   If only one appliance is used for this system (the default), this field is automatically populated.
4. In the **Name** field, enter a name for this batch job.
5. From the **Type** drop down list, select **Door Update**.

   After you select the job type, additional options are displayed.

   - From the **Group** drop down list, select the group of doors that you want to change.
   - From the **Door Template** drop down list, select the door template that you want to apply to the group.
   - From the **Off Door Template** drop down list, you have the option to select to an alternative door template when the first door template expires.
   - From the **Output Format** drop down list, select the format for the report that is generated when the job is complete.
6. Click **Next** to continue.

   The Job Specification - Schedule dialog box is displayed.
7. Select how often this batch job is run. From the **Repeat** drop down list, select one of the following options:

   If you selected an Off Door Template, you will have the option to enter when the Off template is applied. Otherwise, only the On field is displayed.

   - **Once** —- The batch job is run once. Click the **On** field to display the calendar and select a specific date and time.
   - **Hourly** — The batch job is run at the same minute of every hour. Enter the minute when the batch job is run at each hour. For example, if you want the job to run at 1:30, 2:30, etc. then you would enter `30`.
   - **Daily** — The batch job is run every day at the same time. Enter the specific time when the job is run in 24 hour time format.
   - **Weekly** — The batch job is run each week on the same day and time. Select the checkbox for each day the job will run, and enter the specific time in 24 hour format.
   - **Monthly** — The batch job is run each month on the same day and time. Select the days when the job will run and enter the specific time in 24 hour format. `Shift` + click to select a series of days, or `Ctrl` + click to select separate days.
8. Click **Next**.

   A summary is displayed.
9. Click **Submit** to create this job.
10. To activate or deactivate this job, select the job from the list in the Batch Job Specifications window and click **Activate/Deactivate**.

Scheduling a Global Action

Perform this procedure to schedule global actions.

Note: The global actions must be created before they can be scheduled. If the required global actions have not been created, contact your System Administrator.

1. Select **>My Account** and click the Job Specification tab.

   The Job Specification page appears.

2. Click the **Add** button.

   The Job Specification dialog box is displayed.

3. In the **Appliance** drop down list, select the appliance on which this job will run.

   Only those appliances previously defined for this system appear in this option list.

   If only one appliance is used for this system (the default), this field is automatically populated.

4. In the **Name** field, enter a name for this batch job.

5. From the **Type** drop down list, select **Global Action**.

   After you select the job type, additional options are displayed.

   - From the **Global Action** drop down list, select global action to perform. Only configured global actions will appear on the list.
   - From the **Off Global Action** drop down list, you have the option to select to a global action that is performed after the first global action expires.
   - From the **Output Format** drop down list, select the format for the report that is generated when the job is complete.

6. Click **Next** to continue.

7. On the following page, select how often this batch job is run. From the **Repeat** drop down list, select one of the following options:

   - **Once** —- The batch job is run once. Click the **On** field to display the calendar and select a specific date and time.
   - **Hourly** — The batch job is run at the same minute of every hour. Enter the minute when the batch job is run at each hour. For example, if you want the job to run at 1:30, 2:30, etc. then you would enter `30`.
   - **Daily** — The batch job is run every day at the same time. Enter the specific time when the job is run in 24 hour time format.
   - **Weekly** — The batch job is run each week on the same day and time. Select the checkbox for each day the job will run, and enter the specific time in 24 hour format.
   - **Monthly** — The batch job is run each month on the same day and time. Select the days when the job will run and enter the specific time in 24 hour format. `Shift` + click to select a series of days, or `Ctrl` + click to select separate days.

   Note: If you selected an Off Global Action, you will have the option to enter when the Off

action occurs. Otherwise, only the On field is displayed.

8. Click **Next**.

   A summary is displayed.

9. Click **Submit** to create this job.
10. To activate or deactivate this job, select the job and click **Activate/Deactivate**.

Setting Batch Door Modes

Perform this procedure to change the door mode for a set of doors.

1. Select **>My Account** and click the Job Specification tab.
2. Click the **Add** button.

   The Job Specification dialog box is displayed.

3. In the **Appliance** drop down list, select the appliance on which this job will run.

   Only those appliances previously defined for this system appear in this option list.

   If only one appliance is used for this system (the default), this field is automatically populated.

4. In the **Name** field, enter a name for this batch job.
5. From the **Type** drop down list, select **Door Mode**.

   After you select the job type, additional options are displayed.

   - From the **Available** list, select the required doors then click ▶ to add it to the **Members** list.
   - From the **On Door mode** drop down list, select the door mode that you want to apply to the selected doors.
   - From the **Off Door mode** drop down list, select the door mode that you want to apply to the doors when the On action is complete.
   - From the **Output Format** drop down list, select the format for the report that is generated when the job is complete.
   - Select the **Activate** checkbox to make the door modes active.

6. Click **Next** to continue.
7. On the following page, select how often this batch job is run. From the **Repeat** drop down list, select one of the following options:

   - **Once** —- The batch job is run once. Click the **On** field to display the calendar and select a specific date and time.
   - **Hourly** — The batch job is run at the same minute of every hour. Enter the minute when the batch job is run at each hour. For example, if you want the job to run at 1:30, 2:30, etc. then you would enter `30`.

- **Daily** — The batch job is run every day at the same time. Enter the specific time when the job is run in 24 hour time format.
- **Weekly** — The batch job is run each week on the same day and time. Select the checkbox for each day the job will run, and enter the specific time in 24 hour format.
- **Monthly** — The batch job is run each month on the same day and time. Select the days when the job will run and enter the specific time in 24 hour format. `Shift` + click to select a series of days, or `Ctrl` + click to select separate days.

> **Note:** If you selected an Off Door Mode, you will have the option to enter when the Off action occurs. Otherwise, only the On field is displayed.

8. Click **Next**.

   A summary is displayed.

9. Click **Submit** to create this job.

Permissions and Rights

The following table describes the permissions and rights the default Admin Role allows. All roles are made up of delegations. Each delegation is made up of rights.

Permissions	Rights
View Events page	System Summary Listing System Summary Screen Refresh System Summary Get Layout System Summary Update Layout Monitor Listing Monitor Notes Show Monitor Instructions Show Monitor Identity Show
Search for events	Spork Listing Spork Search Monitor/Search Filters Save System Summary Get Layout System Summary Update Layout
View Alarms	Alarm Monitor Listing Monitor Notes Show Monitor Instructions Show Alarms Code Photo Monitor View Actions Maps-Alarms Show
Respond to alarm activity	Alarm Monitor Acknowledge Alarm Monitor Clear Alarms Create Notes Alarm Monitor Acknowledge All Alarm Monitor Clear All Alarm Monitor Identity

Permissions	Rights
View verifications	Swipe & Show Swipe & Show Get Doors Swipe & Show Get Door Name Get Photo Monitor Identity Show System Summary Get Layout System Summary Update Layout
View the status of assigned hardware	Monitor Listing Monitor Panels Status Monitor Periodic Update Monitor Appliance Status
Control assigned hardware	Doors Grant Doors Disable Doors Unlock Doors Lock Doors Restore Doors Mask Held Doors Mask Forced Doors Unmask Held Doors Unmask Forced
View and monitor status on assigned maps	Maps Monitor Listing Maps Show Maps Show Generate Image Maps Show Image Maps View Listing Maps Trace Mustering dashboard drill-down
View the intrusion status	Monitor Intrusion Panel Status

Permissions	Rights
Control the assigned intrusion panels	Intrusion Panel Primary Instant Arm Intrusion Panel Primary Delay Arm Intrusion Panel Primary Force Instant Arm Intrusion Panel Primary Force Delay Arm Intrusion Panel Perimeter Instant Arm Intrusion Panel Perimeter Delay Arm Intrusion Panel Perimeter Force Instant Arm Intrusion Panel Perimeter Force Delay Arm Intrusion Panel Away Arm Intrusion Panel Force Away Arm Intrusion Panel Disarm Intrusion Panel Silence Intrusion Point Bypass Intrusion Point Unbypass Intrusion Output Activate Intrusion Output Deactivate
View live and recorded video	Cameras Show Cameras Login Monitor Cameras Show Video
Add new identities. Cannot update fields after initial identity setup	Identities My Account Identities Listing Identities Show Identities Advance Search Identities Date Search Identity Profiles Listing Identity Profiles Show List Identities New Identities Create Identities Edit Identity Profiles Populate Values Identities Custom Layout Save
Force the identity to change the password at the next login to the ACM system.	Force Password Change

Permissions	Rights
Add, modify, and update available roles	Identities Roles List Identities Roles Update
Add, modify, and update tokens	Tokens Listing Tokens Show Tokens New Tokens Create Tokens Edit Tokens Update Tokens Set Free Pass Identity Profiles Tokens Listing
Add and modify groups	Identities Groups List Identities Groups Update
View assigned access permissions	Identities Show Access Identity Profiles Show Access
Capture live photos and save	Identities Image Capture Identities Image Save Identities Code Image Identities Photo Capture
Add and upload photos	Identities Photo Edit Identities Photo Update Identities Photo Render Identities Upload Photo
View transactional data	Identities Transactions
Print and issue badges	Identities Badge Show Identities Badge Screen Identities Print Badge Identities Badge Render Identities Update Badge Preview Identities Update Badge

Permissions	Rights
Perform REST actions	Identities Photo List REST Identities Photo Show REST Identities Photo Create REST Identities Photo Update REST Identities Photo Delete REST Appliance REST Generation Transaction REST Appliance Status Display REST Get Doors REST Get Identities REST Get Identity REST Get Inputs REST Get Panels REST Get Right Groups REST Get Roles REST Get Subpanels
REST call to list canned macros by the distinguished name (dn) of the door, input or output	Canned Macros Show
List canned macros by macro name	Canned Macros Listing
View Identity Policies	Identities Policies Show Identities Policies Listing
Add, modify, and delete Identity Policies	Identities Policies Create Identities Policies Edit Identities Policies New Identities Policies Update Identities Policies Delete
View reports	Reports Index Report Show Grant Access/Report Reports Show Grid Reports Custom Reports

Permissions	Rights
Edit, preview, generate, and delete reports	Reports Edit Reports New Reports Create Reports Get Report Preview Reports Quick Report Reports Dynamic Criteria Reports Destroy
View Doors	Doors Listing Doors Show Interlocks Listing Doors Show Status Doors Effective Policy Doors Events List Doors Policy Access Levels Listing Access Levels Show Firmware Listing Macro Commands Listing Macro Commands Show
View Panels	Panels Listing Panels Show Triggers Listing Panels Show Status Panel Effective Policy Panel Event List Firmware Apply View Log
View EOL Resistance	Resistance Levels Listing
View Areas	Areas Listing Areas Show
View Card Formats	Card Formats Listing Card Formats Show

Permissions	Rights
Add and modify Doors	ASSA ABLOY Doors Sync
	Doors New
	Doors Edit
	Doors Create
	Doors Update
	Doors New/Edit Appliance Change
	Doors New/Edit Manuf Change
	Doors Grant
	Interlocks New
	Interlocks Create
	Interlocks Edit
	Interlocks Update
	Interlocks Type Change New/Edit
	Interlocks Subpanel Change New/Edit
	Interlocks Trans Change New/Edit
	Interlocks Command Change New/Edit
	Interlocks Arg1 Change New/Edit
	Interlocks Arg2 Change New/Edit
	Interlock Trx Code Change New/Edit
	Doors Disable
	Doors Unlock
	Doors Lock
	Doors Download Status
	Doors - Download Parameters
	Doors - Reset
	Doors - Download Tokens
	Doors Restore
	Doors Mask Held
	Doors Mask Forced
	Interlocks with Type
	Doors Unmask Forced
	Doors Unmask Held
	Doors Cmacro Save
	Doors Cmacro Type Change
	Doors Cmacro Op Type Change
	Doors Transactions

Permissions	Rights
	Doors Assign Camera Type Change
	Doors Event Create
	Doors Event Edit
	Doors New/Edit Avail HW
	Doors Elevator I/O Naming
	Doors Edit - Panel Change
	Firmware New
	Firmware Create
	Firmware Apply
	Macro Commands New
	Macro Commands Edit
	Macro Commands Create
	Macro Commands Update

Permissions	Rights
Add and modify Panels	Panels New
	Panels Edit
	Panels Create
	Panels Update
	Panels Appliance Change New/Edit
	Panels Manf Change New/Edit
	Panels Status Details
	Panels Send Commands
	Panels Parameters Download
	Panels Tokens Download
	Panels Reset Download
	Triggers New
	Triggers Edit
	Triggers Create
	Triggers Update
	Triggers New/Edit Macro Change
	Triggers New/Edit Type Change
	Triggers New/Edit Subpanel Change
	Triggers New/Edit TrxType Change
	Triggers New/Edit Category Change
	Trigger New/Edit Trx Code Change
	Panel Rebuild Access Levels
	Panel Download Status
	Macro Commands Name Change
	Panels Model Change New/Edit
	Panels Set Free Pass
	Panels Event Create
	Panels Event Edit
Add and modify Areas	Area New
	Area Edit
	Area Create
	Area Update

Permissions	Rights
Add and modify EOL Resistance	Resistance Levels New Resistance Levels Edit Resistance Levels Create Resistance Levels Update
Add and modify Card Formats	Card Formats New Card Formats Edit Card Formats Create Card Formats Update Card Formats New/Edit Change Format Card Format Type Change
Delete hardware	Doors Delete Interlocks Delete Doors Cmacro Remove Doors Event Delete Firmware Delete Macro Commands Delete Panels Delete Triggers Delete Panel Events Delete Resistance Levels Delete Card Formats Delete
View Events	Events Listing Events Show Events Colors Listing Events Colors Show Subpanels Event List Inputs Event List Outputs Event List Event Logs Show Event Logs Listing Event Policies Show Event Policies Listing

Permissions	Rights
Edit Events	Events New
	Events Edit
	Events Create
	Events Update
	Event Colors New
	Event Colors Edit
	Event Colors Create
	Event Colors Update
	Subpanels Event Create
	Subpanels Event Edit
	Inputs Event Create
	Inputs Event Edit
	Outputs Event Create
	Outputs Event Edit
	Change Event Type
	Event Logs Create
	Event Logs Edit
	Event Logs New
	Event Logs Update
	Event Policies Create
	Event Policies New
	Event Policies Edit
	Event Policies Update
Delete Events	Events Delete
	Events Colors Delete
	Subpanels Event Delete
	Inputs Event Delete
	Outputs Event Delete
	Event Logs Delete
	Event Policies Delete
View Global Actions	Global Action Listing
	Global Action Show

Permissions	Rights
Edit Global Actions	Global Action New Global Action Edit Global Action Create Global Action Update Global Action Edit Type Change Global Action Execute
Delete Global Actions	Global Action Destroy
View Global Linkages	Global Linkage Listing Global Linkage Show
Edit Global Linkages	Global Linkage New Global Linkage Edit Global Linkage Create Global Linkage Update Global Linkage Edit Device Type Global Linkage Edit Token Search Global Linkage Edit Token Adv Search Global Linkage Remote Execute
Delete Global Linkages	Global Linkage Destroy
View Roles	Roles Listing Roles Show Roles Show Access
View Policies	Area Policies Listing Area Policies Show Area Policies Listing Area Policies Show Policies Listing Policies Show
View Groups	Groups Listing Groups Show
View Access Groups	Access Groups Listing Access Groups Show Access Group Show Access

Permissions	Rights
View Delegations	Delegations Listing Delegations Show
View Partitions	Partitions List Partitions Show
View Routing Groups	Routing Group Listing Routing Group Show
View Elevator Access Levels	Elevator Access Listing
Add and modify Roles	Roles New Roles Edit Roles Create Roles Update Roles Assign Ports Roles Assign Groups
Add and modify Policies	Area Policies New Area Policies Edit Area Policies Create Area Policies Update Door Policies New Door Policies Edit Door Policies Create Door Policies Update Policies New Policies Edit Policies Create Policies Update
Add and modify Groups	Groups New Groups Edit Groups Create Groups Update Groups Member Assign Groups Policies Assign Groups/Identity Advanced Search Groups/Identity Advanced Criteria

Permissions	Rights
Add and modify Access Groups	Access Groups New Access Groups Edit Access Groups Create Access Groups Update Access Groups Door Assign
Add and modify Delegations	Delegations Edit
Add and modify Routing Groups	Routing Group New Routing Group Edit Routing Group Create Routing Group Update Routing Group Update Groups Routing Group Update Types
Add and modify Elevator Access Levels	Elevator Access New Elevator Access Create Elevator Access Edit Elevator Access Update
Delete Policies, Groups, Access Groups, Routing Groups, Elevator Access Levels	Area Policies Delete Door Policies Delete Policies Delete Groups Delete Access Groups Delete Routing Groups Delete Elevator Access Delete

Permissions	Rights
View Appliance	Appliances Listing
	Appliances Show
	Appliance Ports Listing
	Serial Ports Listing
	Routes Listing
	Routes Show
	Appliance Software Listing
	Appliance Virtual Port List
	Appliance Software View Log
	Appliance Backup Listing
	Appliance Backup Show
	Appliance Status Display
	Appliance Log Show
	Appliance Backup Directory List

Permissions	Rights
Add and modify Appliances	Appliances New Appliances Edit Appliances Create Appliances Update Appliance Ports Edit Appliance Ports Update Serial Ports Edit Serial Ports Update Routes Edit Routes New Routes Create Routes Update Appliance Log Appliance Log Update Appliance Software New Appliance Software Create Appliance Software Apply Appliance Set System Date Time Appliance Backup Edit Appliance Backup Create Appliance Backup/Show Files Appliance Set Free Pass Appliance Show system Time Appliance Backup View Log Appliance Email Test Appliance Repl Subscription Add Appliance Repl Subscription Add (remote) Appliance Repl Subscription Remove (remote) Appliance Failover Appliance Failback Appliance Replication Update Appliance Replication Status Run Backup Now Appliance Transaction Replication Status

Permissions	Rights
	Appliance Backup Directory List, remote
	Appliance Backup Type USB
	Node Server Status Check
Delete Appliance	Appliances Delete
	Routes Delete
	Appliance Software Delete
View System Setup	Schedules Listing
	Schedules Show
	Holidays Listing
	Holidays Show
	Event Types Listing
	Event Types Show
	Get Event Types for Device
	Get Alarm Types for Device
Add and modify System Setup	Schedules New
	Schedules Edit
	Schedules Create
	Schedules Update
	Holidays New
	Holidays Edit
	Holidays Create
	Holidays Update
	Event Types New
	Event Types Edit
	Event Types Create
	Event Types Update
Delete System Setup	Schedules Delete
	Holidays Delete
	Event Types Delete
View User Fields and User Lists	User Defined Tabs Listing
	User Defined Tabs Show
	User Defined Fields Listing
	User Defined Fields Show
	User Lists Index

Permissions	Rights
Add and modify User Fields and User Lists	User Defined Tabs New User Defined Tabs Edit User Defined Tabs Create User Defined Tabs Update User Defined Tabs Edit/Assign User Defined Fields New User Defined Fields Edit User Defined Fields Create User Defined Fields Update User Lists Edit User Lists Update
Delete User Fields and User Lists	User Defined Tabs Delete User Defined Tabs Delete
View System Settings	External Domains Show External Domains Index System Settings Index
Add and modify System Settings	System Settings Update System Settings Edit External Domains Update External Domains Edit External Domains New External Domains Create External Domains List Certificates External Domains Create Certificates External Domains Load Certificates System Settings Edit (in place) System Settings Enhanced Access Level
Delete System Settings	External Domains Destroy External Domains Destroy Certificates
View Badge Designer	Badge Templates Listing Badge Templates Show

Permissions	Rights
Add and modify badge templates in the Badge Designer	Badge Templates New Badge Templates Edit Badge Templates Create Badge Templates Update Badge Templates Generate Image Badge Templates Add Details Badge Template Copy Badge Template Preview
Delete badge templates in the Badge Designer	Badge Templates Delete
View External Systems	Image Devices Listing Image Devices Show Exacq Server List Exacq Show External Systems Listing External Systems Show Avigilon Show Avigilon Server List Salient Server List Salient Server Show Salient Cameras List Milestone Server List Milestone Server Show Avigilon Server Camera List Avigilon Server Status Intrusion Panel Listing Intrusion Panel Show Intrusion Panel Detail Listing

Permissions	Rights
Add and modify External Systems	Image Devices New Image Devices Edit Image Devices Create Image Devices Update Exacq Server Create Exacq Server Edit Exacq Server New Exacq Update External Systems Edit External Systems Update External Systems New External Systems Create Avigilon Server Create Avigilon Server Edit Avigilon Server New Avigilon Update Salient Server New Salient Server Create Salient Server Edit Salient Server Update Salient Cameras PTZ Control Milestone Server New Milestone Server Edit Milestone Server Create Milestone Server Update Avigilon Server Cameras Avigilon Server Add/Update Cameras HID Origo Connection Create HID Origo Connection Delete HID Origo Connection Listing HID Origo Connection Send Invitation HID Origo Connection Update Intrusion Panel New Intrusion Panel Create Intrusion Panel Edit Intrusion Panel Update

Permissions	Rights
	Intrusion Panel Detail Update SALTO Server Create SALTO Server Listing SALTO Server Update Virdi Biometric Create Virdi Biometric Listing Virdi Biometric Update
Delete External Systems	Image Devices Delete Exacq Server Delete External Systems Delete Avigilon Server Remove Salient Server Delete Milestone Server Delete SALTO Server Delete Virdi Biometric Delete
Mercury Security panels only Add, modify and delete custom certificates	Certificates Create Certificates Destroy Certificates Edit Certificates Listing Certificates New Certificates Show Certificates Update
View Maps	Maps Listing Maps Show
Add and modify Maps	Maps New Maps Edit Maps Create Maps Update Maps Edit and Add Detail
Delete Maps	Maps Delete
View Collaboration	Collaboration Listing Collaboration Show

Permissions	Rights
Edit Collaboration	Collaboration New Collaboration Edit Collaboration Create Collaboration Update Collaboration Type Change New/Edit Collaboration Assign Event Types Collaboration Connection Test Collaboration Table Change Collaboration Database Search Collaboration Edit (gw-change) Collaboration Identity Write/Logs Collaboration Identity Read/Logs Identity Collabs Preview Collaboration CSV Recurring, Directory List Collaboration CSV Recurring, remote
Delete Collaboration	Collaboration Delete
View account details, batch jobs, and job specifications	Identities MyAccount Batch Job Specification Index Batch Job Specification New Batch Job Index View Batch Update Schedules

Permissions	Rights
Create, edit, and delete batch jobs and job specifications	Batch Job Specification Edit Batch Job Specification Activate Batch Job Specification PostProcess Batch Job Specification JobSpecificationList Batch Job Specification Create Batch Job Specification Update Batch Job Create Batch Job New Batch Job Update Batch Job List Batch Job Output Custom Report Schedule Reset Custom UI Settings System Settings Localize Batch Job Specification Destroy Batch Job Destroy

Troubleshooting

Events

To view events, do one of the following:

- Select **Monitor** > **Events** and search for events.
- Select **Physical Access** > **Doors**, the door name and then the **Transactions** tab.

Note: The default event names and event types in this section may be customized in your ACM application. For more information, see *Customizing ACM System Events* on page 327.

Door Events

When a door is not operating as expected, review the event transactions.

Note: The event transactions depend on events that are sent from locks and devices over various technologies. Allow time for the events to appear in the ACM application.

Source Type: Door

ASSA ABLOY IP doors refer to hard-powered PoE (Power over Ethernet) locks and battery-powered Wi-Fi locks.

SALTO doors refer to online and standalone doors.

Event	Description	Device
Communications		
Door service was offline before system audit	The audit buffer got full before audits could be retrieved from the lock.	Control locks, LE, LEB, NDE, NDEB, RM, RU
Out of Sync	The door is out of sync with the DSR and ACM system.	ASSA ABLOY IP doors
RF loss / Lock offline	Any of: • Communication to the linked device over radio frequency was disconnected. • Lock is offline.	Control locks, LE, LEB, LE (RSI mode), NDE, NDEB, RM, RU
Door held open		
Door held masked	A door held masked event occurred.	ASSA ABLOY IP doors

Event	Description	Device
Door held open	A door held open event occurred.	ASSA ABLOY IP doors and Schlage AD-400, LE, LEB, LE (RSI mode), NDE, NDEB, RM, RU
Door held unmasked	A door held unmasked event occurred.	ASSA ABLOY IP doors
Forced Door		
Forced door	A forced door event occurred.	ASSA ABLOY IP doors and Schlage AD-400, LE, LEB, LE (RSI mode), NDE, NDEB, RM, RU
Forced door masked	A forced door masked event occurred.	ASSA ABLOY IP doors
Forced door unmasked	A forced door unmasked event occurred.	ASSA ABLOY IP doors
Invalid Credential		
Attempt to open Locked Door	Access was attempted when the door mode was set to Locked No Access.	ASSA ABLOY IP doors
Duress Detected - Access Denied	A duress code was detected at the door, and therefore, access was denied.	Mercury doors with PIN keypad
Expired Card Attempt	No access granted when an expired token was swiped at the reader. *For LE, LEB, NDE and NDEB locks.* In the Deactivate Date field, the token expires at the start of the specified hour. For example, if 17:00:00 is specified, the token expires at 16:00:00. *For ASSA ABLOY IP and Control locks.* In the Deactivate Date field, the token expires at the start of the specified minute and second. For example, if 17:10:10 is specified, the token expires at 17:10:00. To resolve this issue, do any of: • Set the Deactivate Date to the next date. • Set the Deactivate Date to the same date and next hour (for LE, LEB, NDE and NDEB), or next minute and second (Control).	ASSA ABLOY IP doors, Control locks, LE, LEB, NDE, NDEB
Invalid Card - Before Activation	An invalid card was detected before its activation.	Schlage AD-400 and LE (RSI mode)

Event	Description	Device
Invalid card format	An invalid card format occurred.	Schlage AD-400 and LE (RSI mode)
Invalid Card Schedule	Access was attempted outside of the allowed date and timed access for the identity.	Any door
Unknown card	The swiped card is not known to the door because the token was not downloaded.	ASSA ABLOY IP doors and Schlage AD-400 and LE (RSI mode)
Invalid PIN code has been entered	The card was not granted access to the door due to an invalid PIN code.	Any door
Valid card at an unauthorized reader	A valid card was presented at an unauthorized reader.	Schlage AD-400 and LE (RSI mode)
Maintenance		
Door has been restored	The door mode or custom mode has been restored.	SALTO online door
Magnetic Tamper	A magnetic tamper event occurred.	LE, LEB, NDE, NDEB, RU, RM
Token capacity exceeded	A token cannot be added due to the lock capacity limit.	ASSA ABLOY IP doors
Power		
Door Critical Battery	The battery power supply was running critically low on the device.	ASSA ABLOY IP doors, Control locks, LEB, NDEB, RM, RU
Door low battery	The battery power supply was running low on the device.	ASSA ABLOY IP doors, Control locks, LEB, NDEB, RM, RU
System		
Deadbolt	A deadbolt was used.	Schlage AD-400
Door has been added	*For Offline Wi-Fi locks*. The lock on the door has been externally commissioned through the ENGAGE gateway application.	LE, LEB, NDEB
Door has been locked	The door has been locked.	Any door
Door has been unlocked	The door has been unlocked.	Any door
Door in card only mode	A door in Card Only mode was detected.	Schlage AD-400 and LE (RSI mode)

Event	Description	Device
Door opened	The door is open.	ASSA ABLOY IP, Mercury Security, HID and Schlage IP doors
Escape and Return Unlock Active	The Escape and Return mode is active (Exit Leaves Open or Toggle and Exit Leaves Open door mode).	SALTO doors with no control unit
Escape and Return Unlock Inactive	The Escape and Return mode is inactive (Exit Leaves Open or Toggle and Exit Leaves Open door mode).	SALTO doors with no control unit
Host Rex, Door not used	A request to exit was initiated but the door was not used.	Schlage AD-400
Host Rex, Door used	A request to exit was initiated and the door was used.	Schlage AD-400
Host Rex, Non-verified	A request to exit was initiated (non-verified).	Schlage AD-400
Host Rex, Use Pending	A request to exit was initiated and door use is pending.	Schlage AD-400
Motor Stall	A motor stall occurred.	Schlage AD-400
Rex Pressed, Door used	The door handle was used.	ASSA ABLOY IP, Mercury Security, HID, SALTO and Schlage IP doors; LE (RSI mode)
Tamper		
Bezel Tamper	A bezel tamper occurred.	Schlage AD-400 and LE (RSI mode)
Bluetooth Tamper - Door	A Bluetooth configuration device was connected to the door, which caused the door to disconnect from the gateway. To resolve this issue: • Disconnect the configuration device.	Control locks, LEB, NDEB, RM, RU
Keyswitch	A physical key was used to access the door.	ASSA ABLOY IP and Schlage AD-400
Reader/Device Tamper	A tamper event occurred in any of: • The reader or linked device. • The cover of the crash bar or push bar.	Control locks, LEB, NDEB, RM, RU

Event	Description	Device
User audit		
Door grant request	A door grant request was initiated.	Schlage AD-400 and LE (RSI mode)
Valid Credential		
Keypad Code Grant	The correct access code was entered at the door that is configured for Keypad Only door mode. **Note:** No event is logged when an incorrect keypad code is entered at the door.	SALTO online doors
Invalid key	The access code on the key is no longer valid.	SALTO online doors
Local Grant	Access was granted to an identity that has access to the door and has swiped the card.	Any door
Local Grant - Duress - Not Used	Access was granted to an identity that has access to the door and has not entered a duress keypad code or duress PIN during a security situation.	Mercury doors with PIN keypad
Local Grant - Duress - Used	Access was granted to an identity that has access to the door and has entered a duress keypad code or a duress PIN during a security situation.	Mercury doors with PIN keypad, SALTO online doors

Control Lock Events

IP-connected doors only

Source Type: Door

Event	Description	Device
System		
Deadbolt	Any of: • The deadbolt was locked (extended) after a Local Grant event. • Deadbolt usage.	Control locks
NORMAL - Deadbolt	Any of: • The deadbolt was unlocked (retracted) after a Local Grant event. • Deadbolt usage.	Control locks

RU and RM Device Events

IP- and RSI-connected doors only

Source Type: Door

Event	Description	Device
Communications		
DPS communication failure	A DPOS communication failure has occurred.	RU, RM
Maintenance		
Dogging mechanism failure	The latch hook in the push bar did not release and requires intervention by personnel to unlock the door.	RU
Latch mechanism failure	The latch bolt did not retract during exit and requires intervention by personnel.	RU, RM
System		
Unlock on next exit request	The ACM system sent an Unlock on next exit request to the door.	RU
Tamper		
Door has been locked manually	The door in DNE state was locked by personnel using the hex key.	RU, RM
Door has been unlocked manually	The door was unlocked by personnel using the hex key and pressing the push bar.	RU, RM
Door security compromised	The latch in the push bar was not extended due to tampering of the closed door.	RU, RM
Unlock on next exit (manual)	The latch in the push bar was retracted by personnel using the hex key, which sets up the door to be unlocked by the next person who presses the push bar.	RU, RM

Panel Events

Source Type: Panel

Event	Description	Device
Communications		
Panel offline	The panel is offline.	Mercury Security panel, SALTO server, Schalge ENGAGE gateway (RSI mode)
Maintenance		

Event	Description	Device
Maximum panel schedule count exceeded	The maximum number of schedules configured for a panel has been exceeded. For Mercury Security and ASSA ABLOY IP-enabled doors, the limit is 255 schedules. For Schlage IP/PoE mode doors, the limit is 16 intervals in all schedules combined. For SALTO doors, the limit is 1024 schedules. To resolve this issue, do any of the following: • Assign fewer schedules to the panel. • Identify unneeded schedules on the Schedules tab on the panel page. • Move hardware to a different or new panel.	ASSA ABLOY DSR, Mercury Security panel, SALTO server, Schlage ENGAGE gateway (IP and RSI mode)
Panel Firmware Download Started	A panel firmware download request has started in the ACM application.	Mercury Security panel
Panel Full Parameter Download Started	A panel parameter download request has started in the ACM application.	Mercury Security panel
Panel Full Token Download Started	A panel token download request has started in the ACM application.	SALTO server
Panel sync request completed	A panel sync request has completed in the ACM application.	SALTO server
Panel sync request started	A panel sync request has started (and not completed yet) in the ACM application.	SALTO server
Tamper		
Panel transaction limit reached	The maximum number of transactions configured for the subpanel was reached.	Mercury Security panel

SALTO Key Events

Source Type: Credentials

Event	Description	Device
User Audit		
Key Assignment completed	A key was assigned to a token in the ACM system.	SALTO doors
Key Assignment started	A key assignment to a token was started in the ACM system.	SALTO doors

Event	Description	Device
Key Cancelled	A key was cancelled in the ACM system.	SALTO doors
Key Update completed	A key update was completed in the ACM system.	SALTO doors
Key Update started	A key update was started in the ACM system.	SALTO doors

Subpanel Events

Source Type: Subpanels

Event	Description	Device
Communications		
Subpanel offline	The subpanel is offline.	Schalge ENGAGE gateway subpanel (RSI mode)

System Events

Source Type: System

Event	Description
System	
Expired Transactions Removed	The expired transactions were removed from the appliance when the threshold was reached. For more information, see the Max Days Stored setting.
Transaction log exceeded 85%	The transactions stored in the appliance have exceeded 85% of the maximum stored transactions threshold.*
Transaction log exceeded 95%	The transactions stored in the appliance have exceeded 95% of the maximum stored transactions threshold.*
Transaction log exceeded threshold	The transactions stored in the appliance were purged when the threshold was exceeded. For more information, see the Max Stored Transactions setting.*
User Audit	
CSR Created	An SSL certificate signing request (CSR) was created in the ACM application.
New Cert Generated	A new SSL certificate was generated in the ACM application.
New Cert Taken Into Use	A new SSL certificate was applied to the appliance.
New Cert Uploaded - Failure	The new SSL certificate was not uploaded to the appliance.
New Cert Uploaded - Success	The new SSL certificate was uploaded to the appliance.

* See also *Appliance Transactions Indicators* on page 53.

User Events

Source Type: System

Event	Description
User Audit	
CSR Created	An SSL certificate signing request (CSR) was created in the ACM application.
New Cert Generated	A new SSL certificate was generated in the ACM application.
New Cert Taken Into Use	A new SSL certificate was applied to the appliance.
New Cert Uploaded - Failure	The new SSL certificate was not uploaded to the appliance.
New Cert Uploaded - Success	The new SSL certificate was uploaded to the appliance.

Appendix: pivCLASS Configuration

Note: Refer to this information only if you are installing ACM and are required to use the Federal Information Processing Standard (FIPS) 140-2 certified cryptographic module and pivCLASS solution for FIPS 201-2 certified sites.

Overview

This section is intended for ACM operators who are using the pivCLASS application, authentication module (PAM) and pivCLASS readers to validate the authenticity of Personal Identification Verification (PIV) and PIV-Interoperable (PIV-I) cards. The NIST cryptographic functionality enables ACM™ system to comply with FIPS 140-2 requirements.

The FIPS-certified crytographic module and pivCLASS readers are supported on all ACM platforms.

Prerequisites

Partners who install the pivCLASS application, authentication module (PAM) and pivCLASS readers are recommended to take pivCLASS software and public key infrastructure (PKI) at the door certification training. For more information, see **Genuine HID Academy Learning Center**.

Enabling FIPS 140-2 Encryption on ACM Appliances

Follow these steps if:

- If you are required to use ciphers that are certified as compliant with the Federal Information Processing Standard (FIPS) Publication 140-2 (a U.S. government computer security standard used to approve cryptographic modules, titled "Security Requirements for Cryptographic Modules").
- If you are using only door controllers that support the cryptographic module certified by the U.S. government with the ACM system; see **National Institute of Standards and Technology (NIST) certificate #3661**. Only Mercury LP-series controllers support this cryptographic module.

To enable FIPS 140-2 encryption on an ACM appliance:

1. On the **Appliance** page, select the **Use FIPS 140-2 compliant ciphers only** checkbox.

   This setting is system-wide and triggers an automatic restart of the ACM appliance when it is selected.

   When this checkbox is:

   - Not Enabled (the default) — A cipher that is not FIPS compliant is used to encrypt traffic in the ACM system.
   - Enabled — The ACM system uses the ciphers supported by the NIST #3661 cryptographic module. Only the ciphers covered by this certificate are used.

   A warning message is displayed.

2. Click **OK** to confirm.

   The ACM appliance is restarted, and now the ACM system is using the FIPS 140-2 encryption. No additional steps are required to configure Mercury panels.

Enabling Large Encoded Card Format and Embedded Authorization on Panels

Use the following fields when you add a panel to the ACM system, depending on the type of authentication in use at your site.

Authentication Subsystem	Enable Large Encoded Card Format	Embedded Auth
None	(uncheck)	None
pivCLASS with external PAM	(check)	None
pivCLASS embedded AAM for Mercury LP4502 only	(check)	pivCLASS

On the Panel: Add page:

- For Mercury LP4502 model only. In the **Embedded Auth** field, select **pivCLASS**. The Enable Large Encoded Card Format field is automatically selected.
- For all other types of Mercury controllers. Select the **Enable Large Encoded Card Format** field (non-reversible; see Note below):
  - Used for internal numbers that are larger than 64 bits. For example, 128-bit and 200-bit cards need the 32-character Federal Agency Smart Credential Number (FASC-N) or Card Holder Unique Identifier (CHUID) for PIV-I cards. Large Encoded card formats are used with FIPS 201 certified pivCLASS readers; see **Approved Product List (APL) #10122**.
  - Used typically to enable authentication by pivCLASS readers at FIPS 201-2 certified sites.

Note: The panel cannot be reconfigured after this setting is selected. To accept any other card format other than large formats, delete it and re-add it to the ACM system.

Updating Firmware

To update the firmware of the Mercury LP4502 panel:

1. On the Panels list, select the panel and then on the Status tab, click **Firmware**.
2. To add support for the authentication module on the panel, install the **pivCLASS-Embedded-Auth_Pkg_05_10_27_#145.crc** firmware version.

   To remove the authentication module from the panel, install the **pivCLASS-Embedded-Auth-Removal_Pkg_01_00_00_#14.crc** firmware version.
3. To verify the installation of the firmware, review the panel status page which shows the name and version of the pivCLASS package along with the authentication module and firmware versions.
4. For pivCLASS embedded AAM for Mercury LP4502 only. After the firmware is installed, you must configure communication between the panel and pivCLASS service. For more information about configuring the pivCLASS-Embedded-Auth fields on the Configuration Manager for the panel, refer to Mercury documentation.

Adding Doors

When adding a door with pivCLASS embedded AAM for the Mercury LP4502 model, do the following:

- Ensure the **Name** field is updated as follows. If your site uses pivCLASS-compliant credentials to authenticate credentials, the **Name** of the door that you enter in the ACM system must match the reader name entered in the Description field of the reader in the pivCLASS registration system. Before adding doors, ensure you that you know the reader name entered in the pivCLASS registration system, as they must be identical. For more information about pivCLASS-compliant registration software, refer to pivCLASS documentation.
- Select the LP4502 panel name in the **Panel** field.
- Ensure the **Assurance Profile** field is updated as follows.

  For LP4502 with AAM only; does not appear for external PAM. Select a pivCLASS security level appropriate for the pivCLASS compliant door at the site; for example, CAK (PIV).

  Each profile refers to a protected area that is defined by NIST SP 800-116, titled "A Recommendation for the Use of PIV Credentials in PACS," and is secured by an identification method in accordance with the FIPS 201 standard, titled "Personal Identity Verification (PIV) of Federal Employees and Contractors."

  For more information about each authentication method, refer to pivCLASS Service documentation.
- To support the selected **Assurance Profile** for a pivCLASS configured door, it is recommended to set the Door Mode to **Card Only**. Note also, the Disabled, Unlocked and Locked No Access door actions supercede the Assurance Profile.

Adding Reader Templates

When adding a reader template, do the following:

- Ensure the **Baud Rate** for the pivCLASS reader is updated as follows:

Note: It recommended to specify a **Baud Rate** that is higher than the default **9600** (default) rate and to lower the baud rate, if reader issues occur. In addition, end users should hold the pivCLASS card on the pivCLASS reader for more than 5 seconds for smooth operation.

Assigning Large Encoded Formats to Panels

If the **Enable Large Encoded Card Format** checkbox is enabled, the **128 bit Large Encoded** and **200 bit Large Encoded** card formats are automatically generated for the panel:

- On the Door: Edit page, select the **Operations** tab and ensure a large encoded card format is assigned to the panel in the **Members** box under **Card Formats**.

Viewing Identities and Tokens

When adding an identity, do the following:

Note: ACM identity management is not used to create pivCLASS users. However, you can view identities and their tokens. You must use the pivCLASS registration system to add these identities in the ACM system. For more information about using pivCLASS-compliant registration software to add identities to the ACM system, refer to pivCLASS documentation. After these identities have been added, they can be searched, edited and modified to provide physical and logical access. If necessary, you can produce and print badges, assign to groups, roles, delegations, and so on, as you can for any other identity.

When viewing a token for an identity the following fields are read-only:

- The **Token Type** field displays **PIV** for a Personal Identification Verification (PIV) card for government employees or PIV-I for a PIV-Interoperable (PIV-I) card for government contractors.
- For PIV-I card only. The **CHUID** field displays the Card Holder Unique Identifier of the PIV-I card.

Monitoring Events

You can monitor pivCLASS events on the Monitor Events page.

Note: pivCLASS events may be configured from **Physical Access** > **Events** and searching on **Name:** contains pivCLASS.

Glossary

2

2-person control

Under this rule, all access and actions requires the presence of two authorized people at all times. Two people are necessary to either enter or exit a door.

A

ACM

Access Control Manager. Available in Enterprise, Enterprise Plus, Professional and Virtual Appliance platforms.

B

Badge template

The format designed for a user badge on which information from the Identities feature is placed. Templates are designed using the Badge Designer.

BLE

Bluetooth Low Energy, a wireless communication protocol.

C

CHUID

Card Holder Unique Identifier. Used in PIV-I cards.

CoS

Change of State

D

Debounce

Due to mechanical properties of a switch, when a switch is closed, there is a period of time in which the electrical connection "bounces" between open and closed. To a microcontroller, this "bouncing" can be interpreted as multiple button pushes. To

suppress the "bouncing", the controller software is designed to anticipate it. This is known as "debouncing a switch".

dogging

The action of turning the hex key and pressing the push bar to retract the latchbolt, which unlocks the perimeter door on the outside and allows a person to enter the building. Can be done remotely or manually.

Door contacts

Input devices that detect changes in door position. This is generally done by measuring resistance across a circuit connecting part of the door jamb to the door itself. If the door is opened, the resistance drops.

DPOS

Door position switch. These input devices are more commonly called door contacts.

E

EOL

End-Of-Line (EOL) are resistors that supervise the wiring between the alarm panel and the switch. Preset resistance levels must be maintained at input points or an alarm event is triggered.

F

Failover

When an appliance fails, a configured standby appliance is able to automatically, or manually, take its place so that the system can continue to run.

FAS-N

Federal Agency Smart Credential Number. A 32-character number generated for FASC-N or CHUID for PIV-I cards.

FIPS

Federal Information Processing Standard. The U.S. government's security standards for approving cryptographic modules and personnel identification

methods. Only Mercury LP-series controllers with NIST certificate #2389 support the cryptographic module. Compliance requirements include: FIPS Publication 140-2 — a U.S. government computer security standard for approving cryptographic modules, titled "Security Requirements for Cryptographic Modules"; FIPS Publication 201-2 — a U.S. government standard for identifying federal government personnel, titled "Personal Identity Verification (PIV) of Federal Employees and Contractors."

Flow control

The process of managing the rate of data transmission between two nodes to prevent a fast sender from over running a slow receiver.

I

Interlock

A defined action that occurs within a panel at a destination device whenever an event occurs at the source device. For example, a REX input device (source); receives a request to exit and passes the order to the door strike device (destination); to open the door latch. For each interlock, a source and a destination device (or group of devices) is defined.

L

LDAP

Lightweight Directory Access Protocol is an open, industry standard application protocol for accessing and maintaining distributed directory information services over a network. An LDAP database in the Access Control Manager system typically includes user details, connected hardware details, events, alarms and other system configuration details.

M

Mag Lock

Magnetic locks work only with DC current, usually 12 to 24 volts. Never connect a magnetic lock to AC current of any voltage. All magnetic locks are fail safe. This means that they need a constant source of current to remained locked. If power is removed the lock will open. If this is a concern use a back-up power supply. All magnetic locks are silent even when powered and locked. 300 pound pull magnetic locks work well in light duty installations such as cabinetry.

N

Netmask

In administering Internet sites, a netmask is a string of 0's and 1's that mask or screen out the network part of an IP address(IP) so that only the host computer part of the address remains. The binary 1's at the beginning of the mask turn the network ID part of the IP address into 0's. The binary 0's that follow allow the host ID to remain. A frequently-used netmask is 255.255.255.0. (255 is the decimal equivalent of a binary string of eight ones.) Used for a Class C subnet (one with up to 255 host computers), the \".0\" in the \"255.255.255.0\" netmask allows the specific host computer address to be visible.

NIST

National Institute of Standards and Technology. The U.S. government's standards body for approving software cryptographic modules in door controllers and personnel identification methods. Standards include: NIST SP 800-116, "Using Personal Identity Verification (PIV) Credentials In Physical Access Control Systems (PACS)"; NIST SP 800-131A, "Transitioning the Use of Cryptographic Algorithms and Key Lengths."

P

PACS

Physical Access Control System. An access control solution for securing people, property and assets. ACM is a PACS.

Panel

Panels are controllers that connect to one or more doors (door controllers) and their associated readers, inputs, and outputs.

PIV

Personal Identification Verification. A card issued to U.S. government employees and includes FASC-N information.

PIV-I

PIV - Interoperable. A card issued to U.S. government contractors and includes CHUID and FASC-N information.

Postgres

An object-relational database management system (ORDBMS) available for many platforms including Linux, FreeBSD, Solaris, Microsoft Windows and Mac OS X. Also callsed PostgreSQL.

R

redundancy

see Failover

Replication

The process of copying and synchronizing the LDAP database between two or more appliances so that they share the same configuration information.

REX

Request to exit. REX devices include crash bars and exit buttons.

RQE

Request to exit. Normally these are crash bars or buttons.

RTN

Return to normal. This is normally associated with an event that effectively cancels an original event. For example, a door open too long event is canceled by a door closed RTN.

S

SCP

Secure Copy Protocol is the most basic backup protocol and does not require much adjustment before it can work properly. It can work effectively on Linux and other Unix-like systems. To start work, its enough to install the SCP program on the server and establish the connection.

SFTP

Secure File Transfer Protocol is a network protocol that provides file management functionality over any reliable data stream. This protocol assumes that it is run over a secure channel, such as Secure Shell Protocol (SSH), that the server has already

authenticated the client, and that the identity of the client user is available to the protocol.

SMTP

Simple Mail Transfer Protocol (SMTP) is an Internet standard for electronic mail (e-mail) transmission across Internet Protocol (IP) networks.

SNMP

A UDP-based network protocol used mostly in network management systems to monitor network-attached devices for conditions that warrant administrative attention.

Strike

Electric strikes are often used for "buzz in" types of systems. Electric strikes come in many varieties. They can be 12 or 24 volts or even higher voltage and they may take AC or DC current and some even take both. They may be fail safe or fail secure. A fail safe electric strike needs power to keep it locked. A fail secure electric strike stays locked even without power. The most common by far is a fail secure.

Subpanels

If your system supports a hierarchical structure, subpanels are specialty panels that are controlled by a primary panel. One primary panel can be connected to a large number of specialty subpanels, incorporating an array of devices such as single and multiple door modules, keypads, input modules and output modules.

T

TLS

Transport Layer Security (TLS) and its predecessor, Secure Sockets Layer (SSL), are cryptographic protocols which are designed to provide communication security over the Internet.

Token

The entry data required to enable an employee or visitor to access a location. This typically includes a PIN number and, if a physical badge or keycard is required, a number on the card.

U

undogging

The action of turning the hex key and releasing the push bar to extend the latchbolt, which locks the perimeter door on the outside and prevents a person from entering the building. Can be done remotely or manually.