



User Manual

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1 Introduction

Enterprise System Manager allows you to:

- Maximize uptime of your exacqVision Enterprise servers with constant server health monitoring. Receive email notifications or use ESM's browser-based dashboard to receive immediate notification of system errors and warnings.
- Instantly assess all exacqVision Enterprise servers from anywhere using the intuitive dashboard to visually confirm their health from a PC browser, tablet or smart phone.
- Automatically send highly flexible email notifications regarding errors and warnings such as VMS recorder offline, storage warnings, drive failures, temperature alarms, or disconnected cameras. Allow individual users or groups of users to be e-mailed real-time or periodically for over 25 user-selectable errors and warnings.
- Reduce software maintenance time with scheduled software updates. Quickly schedule hundreds or thousands of servers to receive the latest exacqVision features.
- Monitor camera health and events to confirm camera uptime and proper positioning.



2 Hardware/Software Requirements

MINIMUM SERVER REQUIREMENTS (less than 50 servers, up to five simultaneous client connections)

Processor: Intel i3-4100 or better

RAM: 8GB

Hard drive: 100GB SSD

Network: 25 Kbps per server, plus 512 Kbps per simultaneous client connection

Operating system: Windows Server 2008 R2 or Windows 7

RECOMMENDED SERVER REQUIREMENTS (500 or more servers, up to 25 simultaneous client connections)

Processor: Intel E3-1275 Xeon or better

RAM: 16GB (32GB for over 1,000 servers)

Hard drive: 250GB SSD

Network: 50 Kbps average, 1 Mbps peak per video

Operating system: Windows Server 2012 or Windows 8

Email host: SMTP email server

PC CLIENT MINIMUM REQUIREMENTS

Processor: Intel Atom Z3470 or better

RAM: 1GB

Network: 512 Kbps

Browser: Internet Explorer 9, Chrome 31, Safari 7, Mozilla Firefox 25

PORTS

Connection to exacqVision servers: port 22609*

Web Service running on exacqVision servers: port 80*

*RELATED KNOWLEDGE BASE ARTICLES:

How do I change the listen port for exacqVision Server in Windows 7?

<https://exacq.com/kb/?kbid=32907>

How do I change the listen port for exacqVision Server in Ubuntu Linux?

<https://exacq.com/kb/?kbid=59098>

How do I change the port of my Web Server in Windows 7?

<https://exacq.com/kb/?kbid=56365>

How do I change the port of my Web Server in Ubuntu Linux?

<https://exacq.com/kb/?kbid=50095>

3 Installation

PRE-INSTALLATION NOTES:

- ESM can be installed on a Linux or Windows platform.
- You must have administrator privileges for Windows installation, or root access for Linux installations.
- If you are using an existing external database, you must have network connectivity between the ESM system and the database.
- If you are using the Microsoft SQL Server Windows Authentication method, the user account that runs the installer must also have Windows Authentication access on the external database.
- Select the default database option unless you have an existing database that you want to use. In that case, the installer will use the credentials for the database; you do not need to manually export and import the schema.

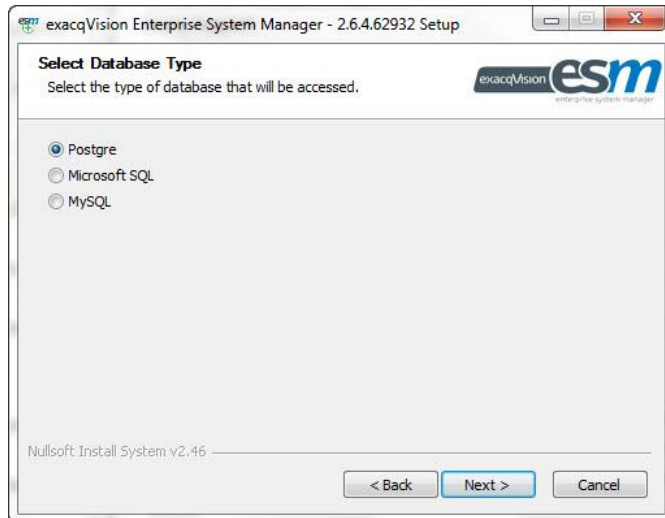
To install Enterprise System Manager, complete the following steps:

1. Run the EXE file and follow the onscreen prompts.
2. Enter an HTTP and HTTPS port. If a selected port is in use, you must select an unused port before you are allowed to continue.

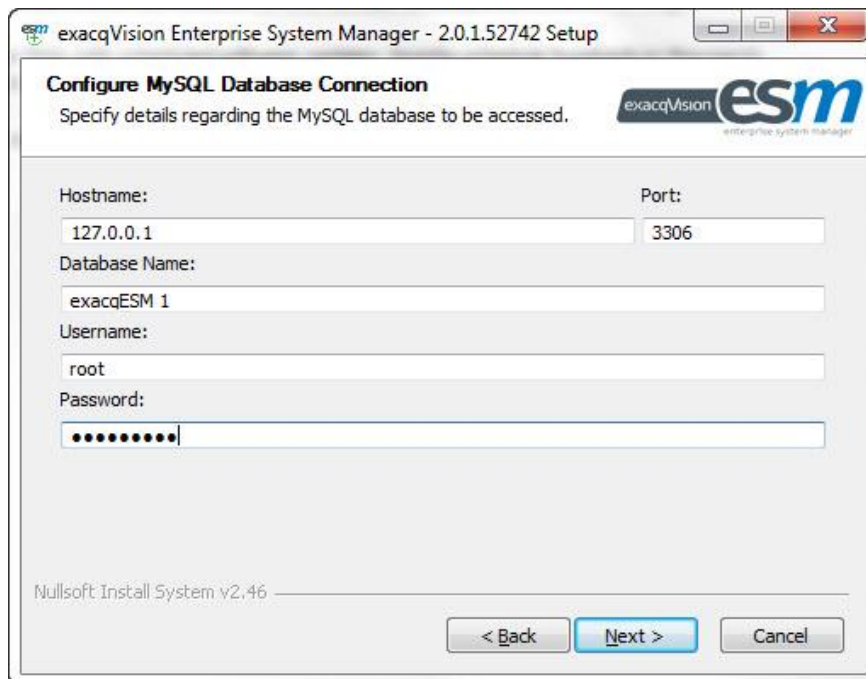


3. When the database types appear, select the type as follows:

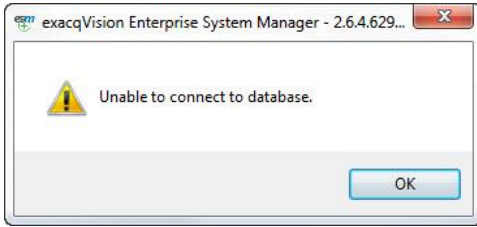
- **Postgres** (most simple choice for those with no existing database or database experience)
- **Microsoft SQL** (to connect to an existing Microsoft SQL database)
- **MySQL** (to connect to an existing MySQL database)



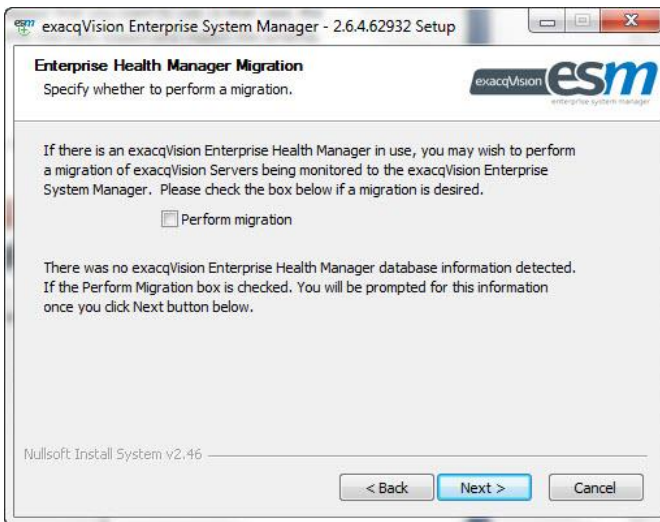
4. Configure the ESM database connection to match your database. If ESM and the database are located on the same server, enter 127.0.0.1 as the hostname, as shown in the following example. You cannot advance past this step without valid credentials.



NOTE: If you are unable to connect to the database at this point, ensure the credentials are valid and verify network connectivity to the database.



5. Select Perform Migration only if updating from a **legacy version** (ExacqVision Enterprise Health Manager). ESM will migrate the servers monitored by the legacy software, and it will not prompt for legacy database credentials if the ESM installation is on the same computer as the legacy installation.



6. Click Write Schema File to save the SQL file of the database, if desired.



7. Complete the installation process to launch a browser and connect to ESM.

POST-INSTALLATION NOTES:

- If you connect to ESM from a browser on a separate computer, you must use the IP address of the computer on which you installed ESM.
- The default admin username and password are **admin** and **admin256**. It is highly recommended that you change the admin password.
- To license the ESM installation, see the Licensing section of this manual.

4 Add a Server

To add an exacqVision server for ESM to monitor, complete the following steps:

NOTE: An exacqVision Server must have a valid and current Enterprise license to be monitored by ESM. You can find an exacqVision system's license information by opening its System page on the Config (Setup) page.

1. Select [add] next to Servers.
2. Enter all the information about the video server, including the IP address or hostname, Port number, and user name/password of an administrator account used to connect to the server.
3. Select a server group. Every server must be part of a group, and the default group is shown in the Group drop-down list.
4. If you want to stream video from the server on the camera pages, enter the IP address or hostname of an exacqVision web service associated with the server, along with a username and password used to connect to the web service. Checking "Use server credentials" will use server's address/username/password to attempt a connection with a web service.
5. Failover allows you to automatically or manually switch recording from one server to a spare if this server fails. You can select a Failover Group, or you can designate this server as a spare. Spare servers cannot be configured for regular recording. For more information, see the "Failover Groups" section of this document.
6. Select Browse to load a picture of the video server for easy identification among many servers in the install location.
7. In the Additional Data field, enter other optional information about the server that can assist an ESM user.
8. Click Save to complete the configuration, or click Save & New to repeat these steps for another server.
9. All cameras and events associated with the added servers are then displayed in the ESM dashboard (not shown; see Dashboard section for details).

To import server lists from exacqVision Client, complete the following steps:

1. Export the list from the Add Systems page in exacqVision Client (not shown).
2. Select [add] next to Servers in ESM

3. Select the Bulk Add Servers page.
4. Click Browse and then locate the exported file from exacqVision Client.
5. Enter the username, password, and server group.
6. Click Add Servers.

The server list displays all detected servers, along with networking and configuration information.

Server Name	Group Name	Address	User Name	Serial	Version	Status	SSA Through
Aarons Sandbox Server	root	10.16.15.147	admin	E0-69-95-2E-86-7D	7.2.0.85081	Health Warning	05/15/2017 1 a.m.
Spare 2	root	10.16.1.103	admin	7C-05-07-0F-DD-E5	7.0.3.82314	Health Warning	02/09/2018 midnight
Test Server	root	10.16.1.102	admin	ER1308025625	7.1.3954.84707	Health Warning	09/03/2016 1 a.m.
Test Server	testgroup	10.16.1.102	admin	ER1308025625	7.1.3954.84707	Health Warning	09/03/2016 1 a.m.

The icons at the top of the page allow you to:



select search and display options to include more or fewer entries or columns



edit port, credential, and web server configuration information for all listed servers



apply the most recently saved configuration to all listed servers



delete all displayed servers

Click on Upcoming Actions to display a list of any scheduled activities on a connected server. You can open, edit, or delete the action from this list.

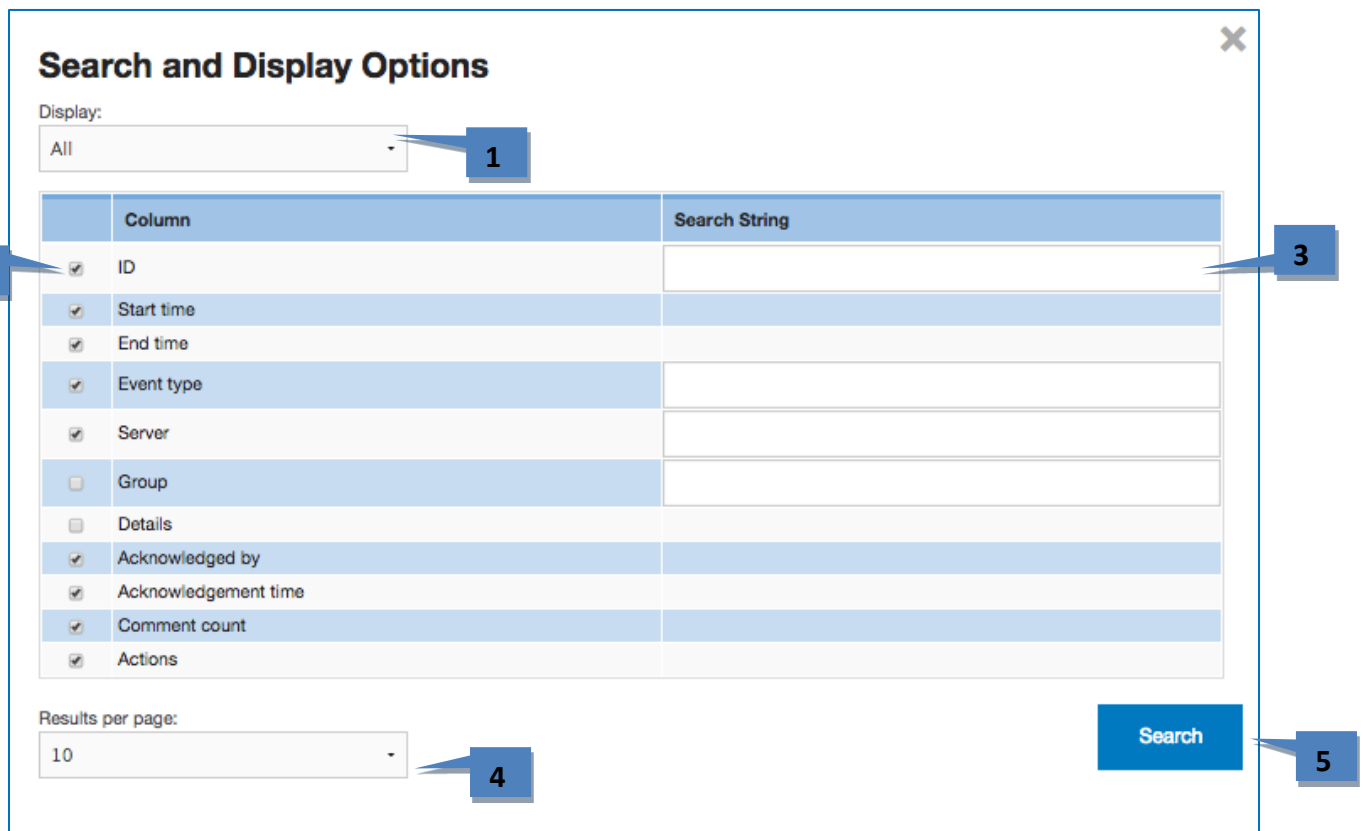
Server	Scheduled Time	Configuration	Actions
2UZH1606TWin-KVM.A	March 12, 2015, 9:21 a.m.	Backup A	

List Display Tips

Many ESM pages, including Users, Groups, Cameras, Servers (List), Events and Alerts, contain Search and Display Options, which allow the user to select all the information columns displayed on a page.

1. Some lists have a quick display filter which allows user to easily pick from a preset list of filters.
2. Not all columns are displayed by default, so view the options on each page to make sure you are displaying the appropriate information for your situation. To display a column, click the checkbox by its name.
3. The Search String column allows you to find information in certain columns by searching for any matching text.
4. Results per page allows you to pick how many list entries are displayed
5. Clicking Search will update the list display


To open Search and Display Options, click .



The screenshot shows a dialog box titled "Search and Display Options" with a close button (X) in the top right corner. It contains the following elements:

- 1:** A "Display:" dropdown menu currently set to "All".
- 2:** A table with two columns: "Column" and "Search String". The "Column" column has checkboxes next to each item. The "Search String" column has empty text input boxes.
- 3:** A callout pointing to the "Search String" input boxes.
- 4:** A "Results per page:" dropdown menu currently set to "10".
- 5:** A blue "Search" button.

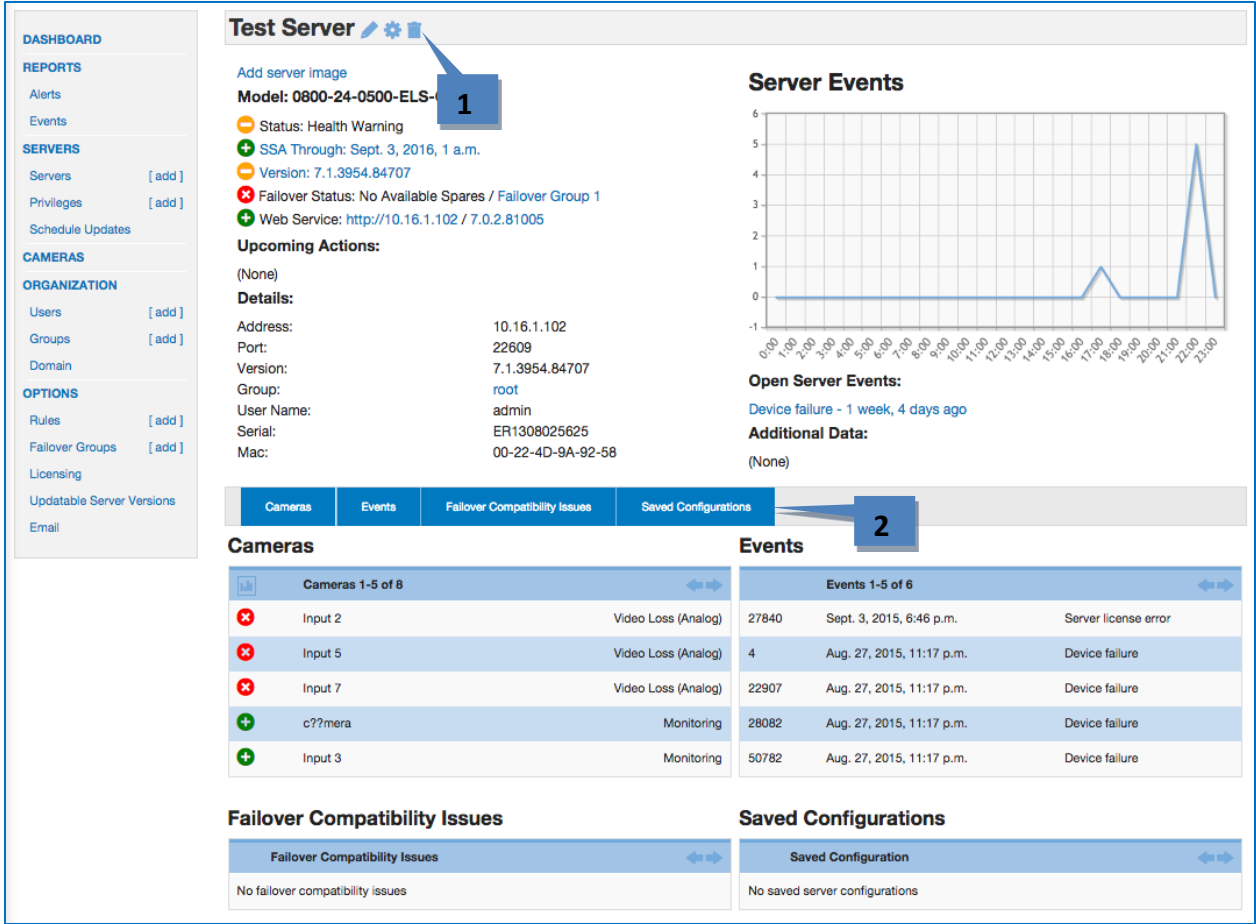
Column	Search String
<input checked="" type="checkbox"/> ID	
<input checked="" type="checkbox"/> Start time	
<input checked="" type="checkbox"/> End time	
<input checked="" type="checkbox"/> Event type	
<input checked="" type="checkbox"/> Server	
<input type="checkbox"/> Group	
<input type="checkbox"/> Details	
<input checked="" type="checkbox"/> Acknowledged by	
<input checked="" type="checkbox"/> Acknowledgement time	
<input checked="" type="checkbox"/> Comment count	
<input checked="" type="checkbox"/> Actions	





Many columns can be sorted by clicking the column name. Status columns can be sorted by clicking .

To remove filters from any displayed list, click .

To quickly find devices, servers, and other information on any page, type a word or phrase in the search box on any page and press Enter. Results can take up to 30 seconds to appear.

To view a server's detail page, select its entry on the server list. This displays all the details about the server, along with several options:



Test Server    

Add server image
Model: 0800-24-0500-ELS 1

- Status: Health Warning
- SSA Through: Sept. 3, 2016, 1 a.m.
- Version: 7.1.3954.84707
- Failover Status: No Available Spares / Failover Group 1
- Web Service: <http://10.16.1.102 / 7.0.2.81005>

Upcoming Actions:
 (None)

Details:






Address: 10.16.1.102
 Port: 22609
 Version: 7.1.3954.84707
 Group: root
 User Name: admin
 Serial: ER1308025625
 Mac: 00-22-4D-9A-92-58

Server Events

Open Server Events:
 Device failure - 1 week, 4 days ago





Additional Data:
 (None)

Cameras **Events** **Failover Compatibility Issues** **Saved Configurations** 2

Cameras 1-5 of 8			Events 1-5 of 6		
	Input 2	Video Loss (Analog)	27840	Sept. 3, 2015, 6:46 p.m.	Server license error
	Input 5	Video Loss (Analog)	4	Aug. 27, 2015, 11:17 p.m.	Device failure
	Input 7	Video Loss (Analog)	22907	Aug. 27, 2015, 11:17 p.m.	Device failure
	c??mera	Monitoring	28082	Aug. 27, 2015, 11:17 p.m.	Device failure
	Input 3	Monitoring	50782	Aug. 27, 2015, 11:17 p.m.	Device failure

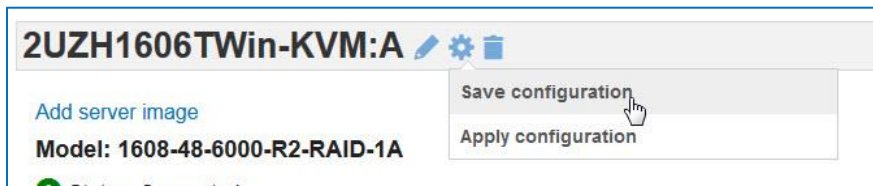
Failover Compatibility Issues	Saved Configuration
No failover compatibility issues	No saved server configurations

1. The icons at the top of the page allow you to:

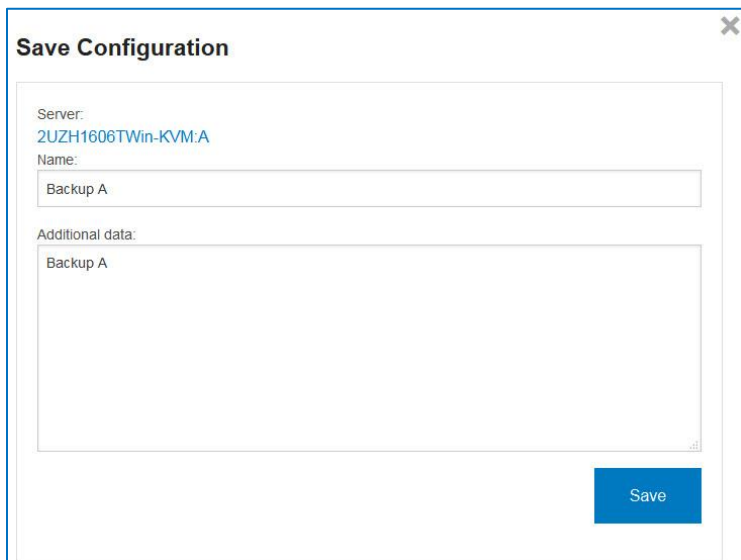
-  edit the server's configuration
-  save the current configuration as a backup, or load a saved configuration (see next page)
-  delete the server
-  manually failover the server for maintenance (if available)

2. The user can hide or show certain tables at the bottom of the page by clicking their title buttons.

To save a server configuration, click the  icon and select Save Configuration.



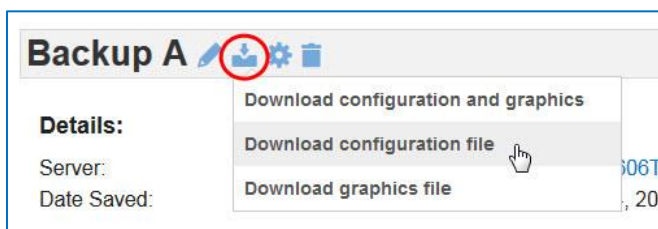
This opens the Save Configuration window. Enter a name for the configuration, along with any notes. Click Save.



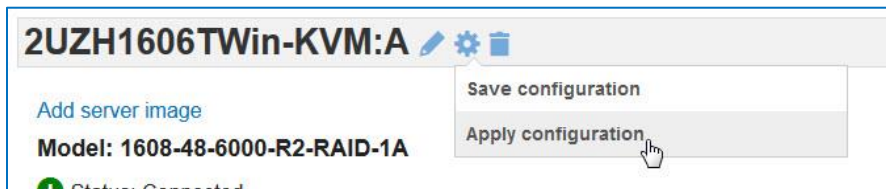
The saved configuration is now listed at the bottom of the server's detail page. (If you do not see the list of saved configurations, make sure the blue Saved Configurations button is selected.)



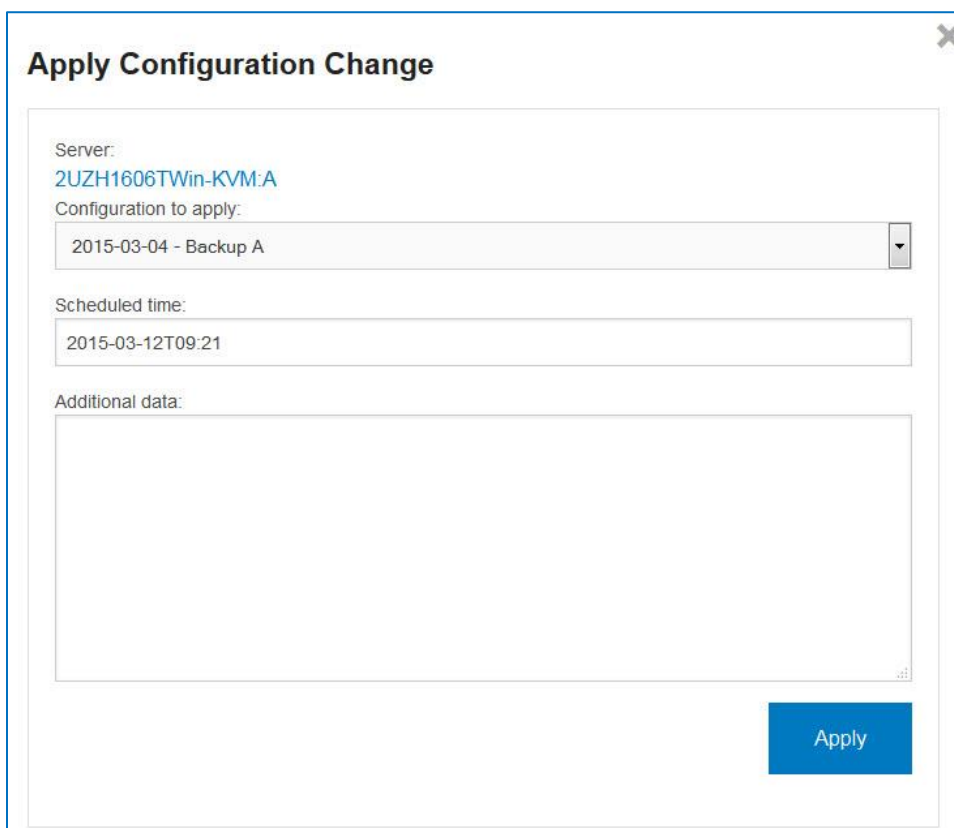
To download the configuration file for export to exacqVision Client, click the saved configuration in the Saved Configurations table to navigate to the configuration's detail page and then click the download icon (circled in the image below). In the pop-up menu, select the type of configuration information you want to download. In the browser window, choose a name and location for the file, and then click OK.



To load a saved configuration, click the  icon and select Apply Configuration.



This opens the Apply Configuration Change window. Select the configuration to apply from the drop-down list. If you do not want to apply the configuration change immediately, change the Scheduled Time. Click Apply to enable the configuration change.




NOTE: If you have any difficulty selecting a date from a calendar when you attempt to apply a server configuration change, type the date and time using a yyyy-mm-ddThh:mm format (yyyy=year; mm=month; dd=date; hh=hour; mm=minute). The “T” should not be replaced by any other number or character.

If you scheduled the configuration change for a later time and date, it appears in the Upcoming Actions section of the server’s detail page. You can edit or unschedule the upcoming action by clicking the appropriate link.

Test Server

[Add server image](#)

Model: 0800-24-0500-ELS-G2

 Status: Health Warning

 SSA Through: Sept. 3, 2016, 1 a.m.

 Version: 7.1.3954.84707

 Failover Status: No Available Spares / Failover Group 1

 Web Service: <http://10.16.1.102> / 7.0.2.81005

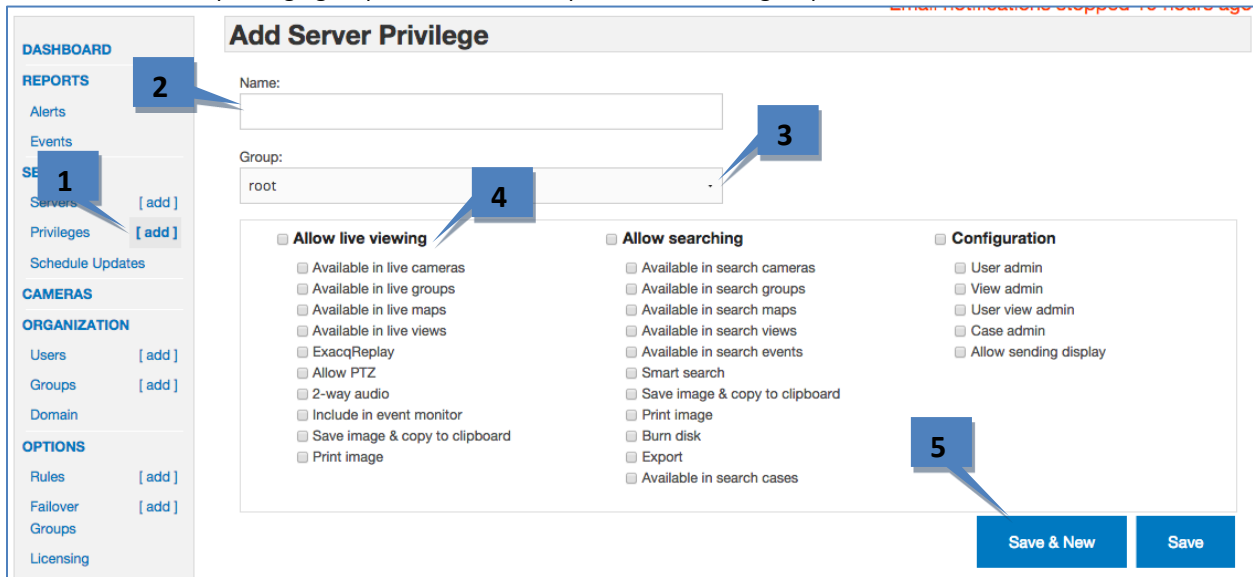
Upcoming Actions:

Apply [test config](#) on Sept. 8, 2015, 6:36 p.m. [[edit](#) | [unschedule](#)]

Details:

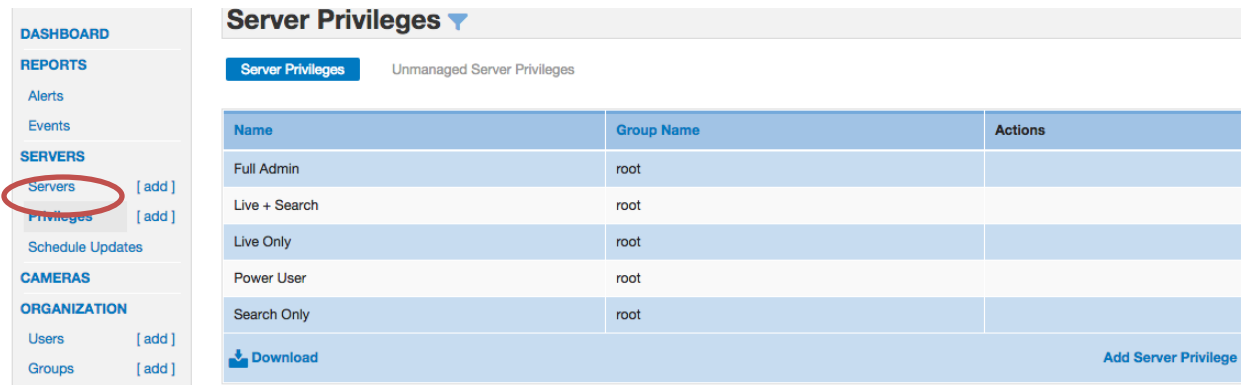
Address:	10.16.1.102
Port:	22609
Version:	7.1.3954.84707
Group:	root
User Name:	admin
Serial:	ER1308025625
Mac:	00-22-4D-9A-92-58


To create a custom privilege group for a server, complete the following steps:



1. Click [add] next to Privileges.
2. Enter a name for the custom privilege group.
3. Select the group or subgroup that should use the custom privilege group.
4. Select all the permissions that should be associated with the privilege group.
5. Click Save to complete the configuration, or Save & New to repeat these steps for another custom group.

The group is then listed on the Privileges page, along with the default privilege groups that are shown here:



NOTE: Unmanaged Server Privileges contain users with multiple different privileges. To sync the user privilege to other servers in ESM, click the link icon .

5 Organization

The Organization menu allows you to configure users and server groups, which consist of monitored systems with identical settings of monitored features. All servers must be part of a group, and all monitored events apply to all servers in the group. The Groups page lists all groups, along with the number of servers and users associated with the groups.

The screenshot shows the Exacq software interface. On the left is a navigation menu with sections: DASHBOARD, REPORTS (Alerts, Events), SERVERS (Servers [add], Privileges [add], Schedule Updates), CAMERAS, ORGANIZATION (Users [add], Groups [add], Domain), and OPTIONS. The 'ORGANIZATION' section is highlighted with a red box. The main content area is titled 'Group List' and contains a table with the following data:

Group Name	Parent	Total Servers	Total Users
Engineering	root	0	0
Fallover Testing Servers	root	0	0
Product Management	root	0	0
root	—	0	2


Below the table are two buttons: 'Download' (with a download icon) and 'Add Group'.



Every server is associated with one group. To add a group, complete the following steps:

1. Select [add] next to Groups.
2. Select the Parent group from the drop-down list. By default, root is the top level of the group hierarchy. The new group can be created in root, or it can be created in any groups that have previously been created.
3. Enter a name for the new group.
4. Select a method by which to resolve user and privilege conflicts and synchronize accounts and privileges. The automated options are an easy way to automatically reverse any undesired or unauthorized changes to user accounts and privileges.
 - a. Inherit from parent group – use the parent group’s resolution setting.
 - b. Manually resolve conflicts – all synchronization conflicts in a group will be display on the group, user, privilege, and server detail pages for user’s review.
 - c. Automatically resolve conflicts – Any user, server, or privilege that gets created in ESM will be automatically created on all the servers that are in the group.
 - d. Automatically resolve conflicts and remove unmanaged server users – Same as above option, but selecting this will ensure that any user or privilege that gets created directly on any of the servers in the group will be removed.
5. Click Save to complete the group configuration, or Save & New to complete the first group and configure another.

The screenshot shows the 'Add Group' form with the following fields and buttons:

- Parent group:** A dropdown menu with 'root' selected.
- Group name:** A text input field.
- Synchronization conflict resolution:** A dropdown menu with 'Inherit from parent group' selected.
- Buttons:** 'Save & New' and 'Save'.

When you select a group from the Groups list, you can view details about the group. You can also click the  button to export the server list. This list can be imported on the Add Systems page in exacqVision Client.

testgroup  


Parent Group:
root

Sub-Groups:

- groupA
- groupB


Synchronization Conflicts
(None)

Domain Associations
Servers
Users
Privileges


Domain Associations 

Everyone In Exacq	Power User	ESM Access / Admin
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

Servers

Server 1 of 1		
 Test Server	testgroup	Health Warning

Users

User 1 of 1	
 test user	Sept. 8, 2015, 6:10 p.m.

Privileges

Privileges 1-5 of 5	
 Full Admin	root
 Live + Search	root
 Live Only	root
 Power User	root
 Search Only	root

The Add User page contains the following options:

1. Click [add] next to Users.
2. Enter a user name, password, name, and group information for the new user.
3. Select the server privileges that the user should have. The default list of privileges matches the default user permission levels available on exacqVision systems. Any custom privilege levels that have been created are also listed.
4. Select ESM Access if you want to enable web access to ESM for this user.
NOTE: The following options are enabled only if ESM Access is selected.
5. Select Is Admin to allow the user to add servers, add users, and schedule updates. A global admin (an admin without a group) can also see the Options menu and Add Group menu item; a user assigned to a group can schedule updates and add servers only for that group. For example, a global admin can create multiple groups, one for each group administrator. The global admin could manage which server updates are available to the group admin, and the group admin could add servers, schedule updates, and add users to their group.
6. Enter the user's first name and last name.
7. If desired, browse to an image that identifies the user.
8. Enter the user's email address.
9. Throttle Email Count allows you to limit the number of emails that can be sent over the period of time entered in Throttle Minutes. This can be used to prevent an extreme number of notifications over a short period of time.
10. Batch Email Frequency allows you to send a single email containing all notifications in increments as short as every 15 minutes. You can also choose to send the batch email even if no qualifying activity has occurred during the selected time period.
11. Click Save to create the user and push it to the selected group and its subgroups, or click Save & New to create the user and configure another.

DASHBOARD

REPORTS

- Alerts
- Events

SERVERS

- Servers [add]
- Privileges [add]
- Schedule Updates

CAMERAS

ORGANIZATION

- Users [add]
- Groups [add]
- Domain

OPTIONS

- Rules [add]
- Failover [add]
- Groups
- Licensing
- Updatable Server Versions
- Email

Add User

User name:

Password:

Group:

Server Settings

Server privilege:

ESM Settings

ESM access

Is admin

First name:

Last name:

Image: No file chosen

Email address:

Throttle email count:

Throttle minutes:

Batch email frequency:

Send batch with no activity

The Domain Details page allows you view all connection properties of a domain. Click View All Domain Groups to display a list of all domain groups that have been imported from the domain. If no domain has been added, clicking the Domain link will display the domain form

DASHBOARD

REPORTS

- Alerts
- Events

SERVERS

- Servers [add]
- Privileges [add]
- Schedule Updates

CAMERAS

ORGANIZATION

- Users [add]
- Groups [add]
- Domain

OPTIONS

- Rules [add]
- Failover [add]
- Groups
- Licensing
- Updatable Server
- Versions
- Email

10.38.78.178

Details:

Binding Username: julianagel@cfsad.com

Port: 389

Security: (None)

Schema: Active Directory (Nested)

Time Between Queries: 5 minutes

Search Criteria:

User Search Base Dn: OU=CFS
Users,DC=cfsad,DC=com

Group Search Base Dn: OU=Fishers,OU=FS,OU=Groups,OU=US,OU=CFS
Objects,DC=cfsad,DC=com

Group Search Filter: (objectClass=group)

Attribute Names:

Attribute Name For Username: userPrincipalName

Attribute Name For First Name: givenName

Attribute Name For Last Name: sn

Attribute Name For Email: mail

Address:

Additional Data:

(None)

Group Associations

[view all domain groups]

+ Synchronized with domain: 58 seconds ago

Domain Group	ESM Group	Server Privilege	ESM Access	Actions
Everyone In Exacq	Failover Testing Servers	(No Server Access)	Yes / User	
Exacq Software Engineering	Engineering	Power User	Yes / User	

[Add Association](#)

The Group Associations table displays all associations between the domain's groups and the ESM groups. You can add to this list by using the Add Association link, and then selecting a Domain Group and ESM Group and whether the group should be an admin group. Click Associate when finished.

Add Group Associations

Domain: cfsad.com

Domain group: Dynamics GP Users

Server privilege: (No Server Access)

ESM group: root


ESM access

Is admin

Associate

Existing Associations

Domain Group	ESM Group	Server Privilege	ESM Access	Actions
Everyone In Exacq	Demo Servers	(No Server Access)	Yes / Admin	
SPNA-Exacq_Engineers	root	(No Server Access)	Yes / Admin	

Click the Edit button  on the Domain Details page to edit any of the connection settings. For information about any of the fields available on the domain editing page, click Help On This Page and then Next until you see the applicable information. Click Apply when finished.

Edit cfsad.com

Hostname or IP:

Binding username:

Password:

Port:

Security:

Schema:

Minutes between queries:

Additional data:

Search criteria

User search base DN:

Group search base DN:

Group search filter:

Attribute names

Attribute name for username:

Attribute name for first name:

Attribute name for last name:

Attribute name for email address:

6 Schedule Updates

Select Schedule Updates to install new exacqVision Server software to the servers at a specific time. If there is no connection the Internet, you can manually download software updates to a portable drive, load it to the ESM server, and then have the video servers obtain it directly from the ESM server.

The Updatable Server Versions page shows all the server versions available to be applied as updates. Only global administrators and admins not assigned to groups can see this information.

The screenshot displays the 'Server Versions' page. The main content area lists several server models, each with a count of zero in parentheses: Edge AXIS ARTPEC3 (0), Edge AXIS ARTPEC4 (0), Edge IQEYE (0), Edge ISD (0), Linux (0), Edge VIVOTEK (0), and Edge VIVOTEK FISHEYE (0). To the right, the 'Update Server Manifest' section contains two blue buttons: 'Refresh From Exacq' and 'Refresh From Zip File', along with a checkbox labeled 'Show All Versions'. The left sidebar shows a navigation menu with categories like DASHBOARD, REPORTS, SERVERS, CAMERAS, ORGANIZATION, and OPTIONS. The 'Updatable Server Versions' option under the SERVERS category is highlighted with a red rectangular box.

The right side of the page allows you to do the following:

- **Refresh From Exacq.** If the system is connected to the Internet, use this option to obtain a list of available software releases.
- **Refresh from ZIP File.** If the system is not connected to the Internet, complete the following steps:
 1. On an Internet-connected computer other than the ESM server, obtain a ZIP file from the Software Updates Packaging Utility at the following location:
<https://www.exacq.com/support/downloads.php?type=softwareUpdatesPackagingUtil>
 2. Connect to the network on which the ESM server is located.
 3. Open the ESM interface and select the Upload Custom ZIP File button.
 4. Browse to the ZIP file and upload it to the ESM server.

After you select either option, a list of available versions and installers are displayed. On the update page, select the versions that you want to update the servers to

To schedule updates, complete the following steps:

1. Click Schedule Updates.
2. If you don't want all servers to be updated on the same schedule, select Filter Options. Enter all applicable information to identify the servers for which you want to schedule updates.
3. Select the software version from the drop-down list. **Select the software version with the highest version number unless specifically instructed by Exacq Technical Support.**
4. Select the date and time for the update from the drop-down list.




NOTE: Alternatively, type the date and time using a yyyy-mm-ddThh:mm format (yyyy=year; mm=month; dd=date; hh=hour; mm=minute). The "T" should not be replaced by any other number or character. See the image below for an example.

5. Click Add to Scheduled Updates.
6. Verify that the servers are now listed in the Scheduled Updates table. To remove a server from the list, click Unschedule.

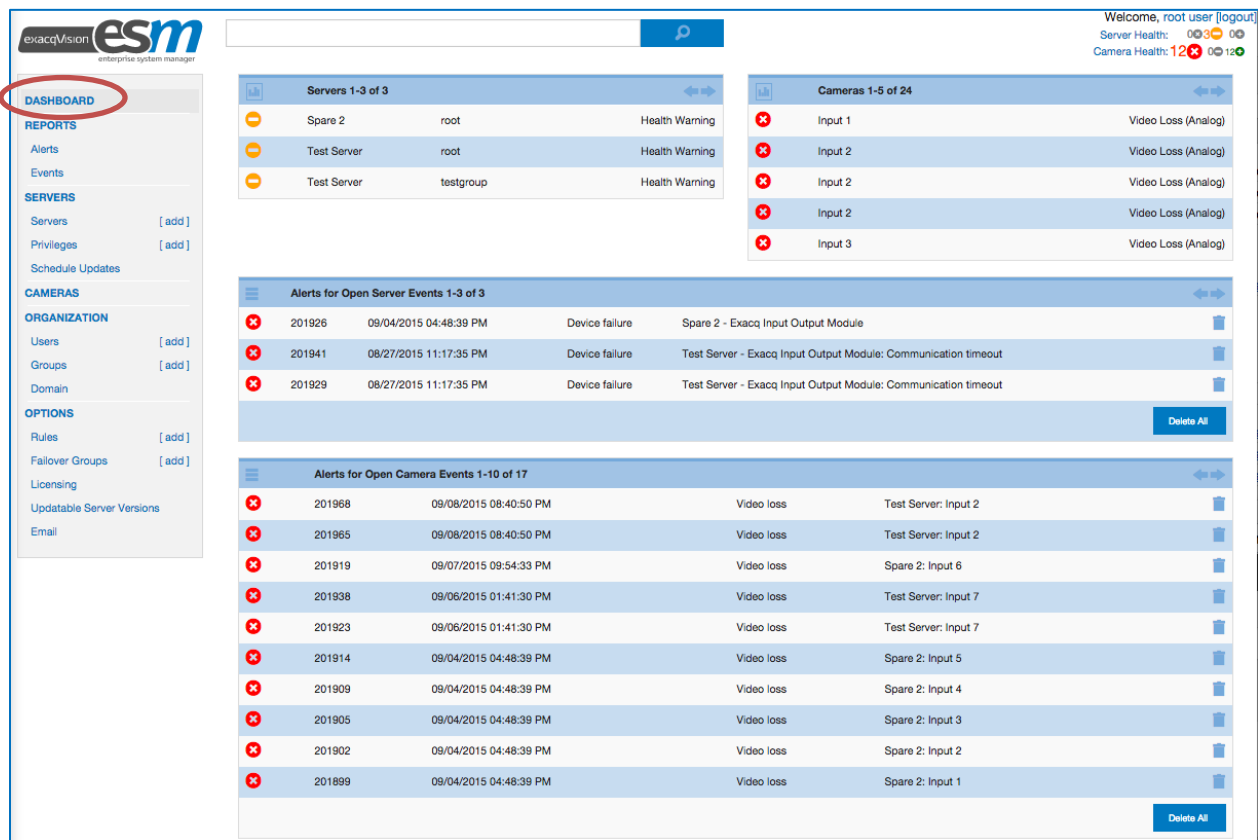
The screenshot shows the 'Schedule Server Updates' interface. On the left is a navigation sidebar with categories: DASHBOARD, REPORTS (Alerts, Events), SERVERS (Servers [add], Privileges [add], Schedule Updates), CAMERAS, ORGANIZATION (Users [add], Groups [add], Domain), and OPTIONS (Rules [add], Failover [add], Groups, Licensing). The main content area is titled 'Schedule Server Updates' and contains three sections: 'Servers to Update', 'Update Parameters', and 'Scheduled Updates'.
1. A callout points to the 'Schedule Updates' link in the sidebar.
2. A callout points to the 'filter options' link above a table of servers.
3. A callout points to the 'Version to be installed' dropdown menu, which is currently set to '7.0.3.82314'.
4. A callout points to the 'Date and time of install' dropdown menu, which is currently set to '09/03/2015, 02:24 PM'.
5. A callout points to the 'Add to Scheduled Updates' button.
6. A callout points to the 'Scheduled Updates' table, which currently displays 'No currently scheduled updates'.

7 Dashboard

The ESM Dashboard displays lists of added servers, all cameras associated with the servers, and alerts set up by the user pertaining to the events happening on all servers and cameras. The color-coded indicators display the following information:


	Server or camera not detected Alert for occurring and unacknowledged event
	Health warning on server (such as temperature, storage alarm, archive alarm, CPU fan) Server license subscription expiring soon Alert for unacknowledged but open event Alert for unacknowledged but closed event
	Server or camera connected and operating Alert for acknowledged and closed event

The indicators at the top-right corner of the screen indicate the total number of servers and cameras in each of those categories.



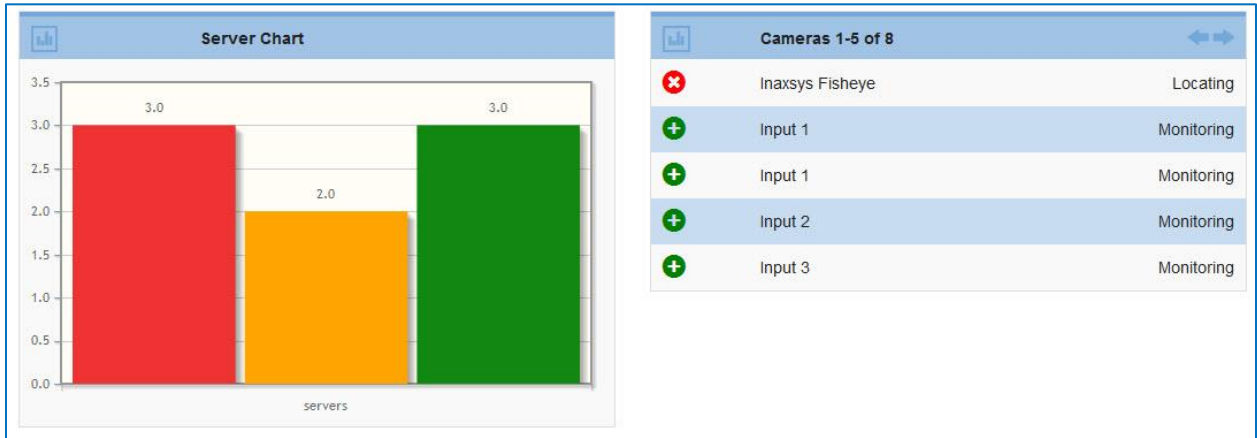
The screenshot shows the Exacq ESM Dashboard interface. The top navigation bar includes the 'esm' logo, a search bar, and user information: 'Welcome, root user [logout]', 'Server Health: 00 00 00', and 'Camera Health: 12 00 12'. The left sidebar contains a navigation menu with 'DASHBOARD' highlighted in a red circle, along with sections for Reports, Servers, Cameras, and Organization. The main content area is divided into several panels:


- Servers 1-3 of 3:** A table listing servers with their status indicators (minus signs).
- Cameras 1-5 of 24:** A table listing camera inputs with status indicators (red X's).
- Alerts for Open Server Events 1-3 of 3:** A table showing server-related alerts with details like event ID, timestamp, and description.
- Alerts for Open Camera Events 1-10 of 17:** A table showing camera-related alerts with details like event ID, timestamp, and description.

- The right and left arrows  allow you to scroll through additional pages of servers, cameras, and alerts.
- For servers and cameras, you can alternate between list and chart views by clicking the chart icon in each table:

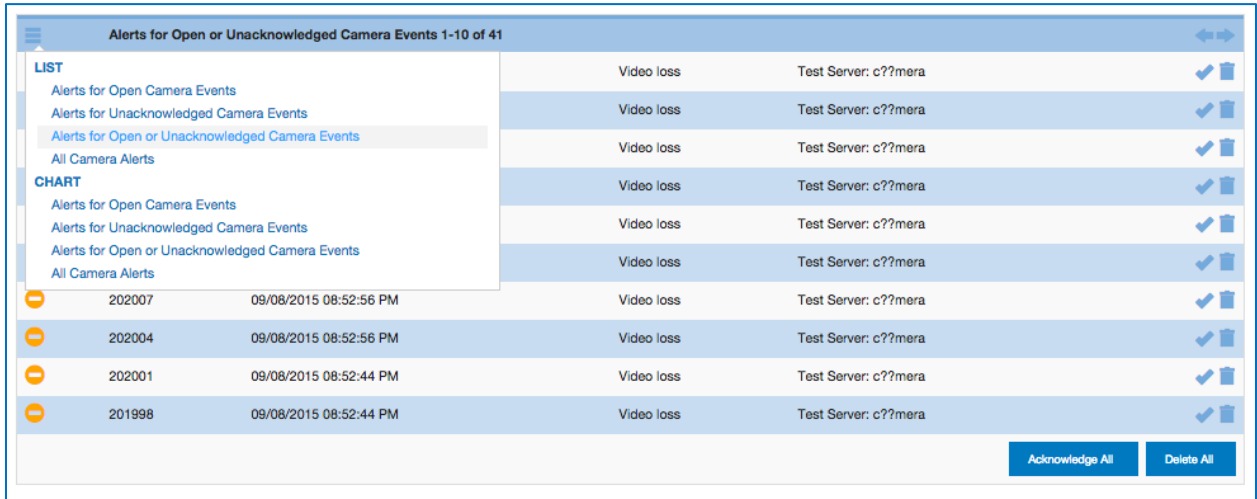


This example shows the servers in chart format and the cameras in list format:






- For server or camera alerts, user can view either a list or a chart. You can also select whether to display open events, unacknowledged (or both), or all alerts. Click the list icon  to switch between these options.

This example shows camera alerts for events that are either open or unacknowledged in list format:



ID	Time	Event Type	Location	Actions
202007	09/08/2015 08:52:56 PM	Video loss	Test Server: c??mera	✓ [trash]
202004	09/08/2015 08:52:56 PM	Video loss	Test Server: c??mera	✓ [trash]
202001	09/08/2015 08:52:44 PM	Video loss	Test Server: c??mera	✓ [trash]
201998	09/08/2015 08:52:44 PM	Video loss	Test Server: c??mera	✓ [trash]

To acknowledge all alerts currently displayed in the list, click the Acknowledge All button in the lower-right corner. To acknowledge/unacknowledged individual alerts, click the check  or  icons in the alert row.

To delete all displayed alerts, click the Delete All button in the lower-right corner. To delete an individual alert, click the trash  icon in the alert row. Note that deleting alerts simply removes the alert from all alert lists. The underlying event can still be viewed in the Event List under Reports menu.

For more information on alert definitions see Rules section of the manual.

For more information on acknowledging alerts and events, see the Reports section of this manual.

8 Reports

Reports allows you to

- View, acknowledge, unacknowledge and delete server and camera alerts.
- View, acknowledge and unacknowledge server and camera events.

ID	Start Time	Event Type	Server	Acknowledged By	Acknowledgement Time	Comment Count	Actions
162440	09/04/2015 04:48:39 PM	Device failure	Spare 2	—	—	0	
162441	08/27/2015 11:17:35 PM	Device failure	Test Server	—	—	0	
162445	08/27/2015 11:17:35 PM	Device failure	Test Server	—	—	0	

An event is a noteworthy occurrence on the server (all events are documented below). All events, except for video motion are automatically logged and can be viewed in the event list. To log motion events, an alert rule for motion must be created (see Rules section of this manual).

Events can be acknowledged and unacknowledged, but cannot be deleted. To acknowledge all displayed events at once, click the check icon at the top of the list. To acknowledge/unacknowledge individual events, click the check or x icon in the event row.

Clicking on the event row will display the event detail page.

ID	Start Time	Event Type	Server	Acknowledged By	Acknowledgement Time	Comment Count	Actions
201926	09/04/2015 04:48:39 PM	Device failure	Spare 2	—	—	0	
201929	08/27/2015 11:17:35 PM	Device failure	Test Server	—	—	0	
201941	08/27/2015 11:17:35 PM	Device failure	Test Server	—	—	0	

The alert list displays only those events for which the user has set up a notification via the Rules page. Alerts are set up for a specific user and can be customized to match user's needs.

Acknowledging an alert will acknowledge the underlying event. To acknowledge all alerts/events at once, click the check icon at the top of the list. To acknowledge/unacknowledge individual alerts/events, click the check or x icon in the alert row.

Alerts can be deleted. To delete a specific alert, click the trash icon in the alert row. To delete all displayed alerts, click the trash icon at the top of the list.

The event detail page can be viewed by clicking either the event or any of the alerts generated by that event.

Test Server Server license error at 09/03/2015 06:46:33 PM

● Closed and Unacknowledged Event
[Acknowledge Event.](#)

Details:

Event Id: 27840
 Event Type: Server license error
 Server: [Test Server](#)
 Start Time: Sep 03, 2015, 06:46:33 p.m.
 End Time: Sep 03, 2015, 07:32:03 p.m.
 Duration: 0:45:30

Event History (11)

- Viewed by [root user](#) - Sept. 8, 2015, 10:17 p.m.
- Viewed by [root user](#) - Sept. 8, 2015, 10:17 p.m.
- Viewed by [root user](#) - Sept. 8, 2015, 10:17 p.m.
- Viewed by [root user](#) - Sept. 8, 2015, 10:17 p.m.
- Viewed by [root user](#) - Sept. 8, 2015, 10:17 p.m.
- Comment by [root user](#) - Sept. 8, 2015, 10:17 p.m.
- Viewed by [root user](#) - Sept. 8, 2015, 10:17 p.m.
- Viewed by [root user](#) - Sept. 8, 2015, 10:17 p.m.
- Viewed by [root user](#) - Sept. 8, 2015, 10:16 p.m.
- Comment by [root user](#) - Sept. 8, 2015, 10:16 p.m.

...
[\[view all history entries \]](#)

Add Comments

enter new comment here...

[Add Comment](#)

Comment History (2)

[root user](#) - 16 seconds ago
Another comment

[root user](#) - a minute ago
This is a test comment

On the event detail page, user can view a history of all the users that have viewed, acknowledged, or commented on the event as well as add any helpful comments about the event or the circumstances leading up to the event. If either the history of the comment list is not displayed in full, click [view all history/comment entries]

Available Events

The following events (except video motion) are automatically monitored and can be viewed on the event list. An alert can be set up for any of these events. See the “Rules” section of this manual.

Camera Events	Definition
Video Loss	Analog or IP video signal lost.
Video Motion	Camera has detected motion.
Camera Disconnected	Network cannot connect to analog or IP camera.
Camera Analytics	An analytics event defined on the camera has been detected

Server Events	Definition
Access Control Connection Alarm	An error in connecting to the access control panel
Archive Alarm	Failure on archiving target, such as bad mount point.
Archive Task Alarm	Archive task failed.
Button Press	Button input on server pressed.
Content Age Alarm*	Video deleted before configured retention period. For example, the server is configured to retain video for 30 days, but the server does not have enough space to store that much video.*
Core Throttling	Server load requires that video frames be discarded to compensate.

Device Failure	Capture card malfunctioned.
Device Temperature	Capture card temperature not within recommended range.
Fan Alarm	Fan has failed on capture board
Fanspeed sensor alarm	System fan not operating at recommended speed.
Input Trigger	Discrete input on a hybrid server (or IP camera with alarm input) activated.
Login Failure	Login attempt failed on server.
Network Activity	Any unexpected network activity on the server's network
Power Supply Alarm	Alarm on a server with redundant power supply.
Server Disconnected	Connection to server lost.
Server License Error	Invalid license on server.
Server License Warning	License will expire in less than 30 days.
Soft Trigger	Signal sent from Client to server.
Storage Alarm	Drive capacity threshold reached.
Storage Hardware Alarm	Server storage malfunctioned.
Temperature Sensor Alarm	System temperature not within recommended range.
Update Downloading	Software update download in progress.
Update Failure	Server software update failed.
Update Installing	Server software update installing.
Update Pending	Server restarting after software update.
Update Success	Server software update completed.
Voltage Sensor Alarm	System voltage not in recommended range.

*When a new system starts recording video for the first time, a content age alarm will not be triggered even though the age of the oldest recorded video is lower than the desired oldest content. This event cannot be triggered until the system automatically deletes data when the storage capacity is filled earlier than desired.

For information about troubleshooting Content Age Alarm events, see <https://crm.exacq.com/kb/?kbid=64975>.

9 Rules

The Rules page allows you to configure email or dashboard notifications based on a wide variety of situations. To create a rule, complete the following steps:

The screenshot shows the 'Add Rule' configuration page. On the left is a sidebar with navigation options: DASHBOARD, REPORTS (Alerts, Events), SERVERS (Servers, Privileges, Schedule Updates), CAMERAS, ORGANIZATION (Users, Groups, Domain), and OPTIONS (Rules, Failover Groups, Licensing, Updatable Server Versions, Email). The main area is titled 'Add Rule' and contains an 'If' row with dropdowns: '30 out of 31 events', 'starts', 'in any group', 'on any server', and 'for any camera'. Below it is a 'Then' row with dropdowns: 'display alert' and 'to root user'. An 'Add Rule' button is located at the bottom right. Numbered callouts indicate: 1. Select [add] next to Rules in the sidebar; 2. Use the drop-down lists in the If row; 3. Use the drop-down lists in the Then row; 4. Click Add Rule to save the rule.

1. Select [add] next to Rules.
2. Use the drop-down lists in the If row to select the combination of events/servers/cameras that requires notification.
3. Use the drop-down lists in the Then row to select the timing and method for user to receive the notification.
4. Click Add Rule to save the rule.

Repeat this procedure to create as many rules as needed to cover all situations that require an email notification.

Email Rules

Email rule will send an email notification to the specified users. For example, the rule below will send an email to root and test users when a login failure event happens on any server in testgroup.

The screenshot shows the 'Add Rule' configuration page with a specific rule. The 'If' row is configured with: 'login failure', 'starts', 'in testgroup', and 'on any server'. The 'Then' row is configured with: 'send email', 'immediately', and 'to root user and test user'. An 'Add Rule' button is located at the bottom right.

Alert Rules

Alert rules allow the user to customize what is visible on their dashboard. It is recommended that users select only those events that are most important to them to help make them more visible. The rule below will display an alert on the test user's dashboard if Input 3 on Test Server is disconnected or an archive alarm event occurs on Test Server.

Add Rule

if **camera disconnected or archive alarm** starts in **testgroup** on **Test Server** for **Input 3**

then **display alert** to **test user**

Add Rule

Duration Rules

Duration rules allow you to avoid sending and receiving large numbers of notifications for certain frequent events, such as the video loss that intermittently occurs on a camera that fails to consistently stream video. For example, the following rule would generate an email when video loss occurs, but only if the duration of video loss is at least five seconds. Any momentary losses of video would be ignored as part of this rule for sending notifications.

Add Rule

The "lasts for at least" condition does not support the following events: button press, dvr board temperature, fan alarm, server disconnected, update failure, update success.

if **video loss** event **lasts for at least** **seconds** in **any group** on **any server** for **any camera**

then **send email** **immediately** to **root user**

Add Rule

NOTE: Duration rules do not apply to certain instantaneous events, such as those shown in the message in the illustration.

Rules List

Rules +

My Rules


If any event starts in any group on any server for any camera
then send email immediately to me [edit](#) | [delete](#)

If any of 28 events starts in root on any server for any camera
then display alert to me [edit](#) | [delete](#)

Rules Created By Others

If any of 30 events starts in any group on any server for any camera
then send email immediately to me

Rules list displays all rules that user has created as well as all rules created by other users that affect the logged in user. Only the rules owned by the logged in user can be edited or deleted.

Click [add] or plus  icon to add a new rule.

10 Licensing

The Licensing page allows you to update the ESM license. To obtain or update a license, complete the following steps:


The screenshot shows the Exacq web interface. On the left is a navigation menu with categories: DASHBOARD, REPORTS (Alerts, Events), SERVERS (Servers, Privileges, Schedule Updates), CAMERAS, ORGANIZATION (Users, Groups, Domain), and OPTIONS (Rules, Failover, Groups). The 'Licensing' option is highlighted in blue. A callout box with the number '2' points to this menu item. The main content area is titled 'Licensing' and contains a green plus icon followed by the text 'This installation is licensed for use.' Below this is a section titled 'To activate ESM' with three bullet points: 'Receive licensing e-mail with activation website link', 'Download esm.id file for this installation', and 'Submit the esm.id file to the activation website'. A blue button labeled 'Upload ESM Key File' is positioned below the list. A callout box with the number '3' points to the 'Download esm.id file for this installation' link. At the top of the main content area, a callout box with the number '6' points to the 'Licensing' header.

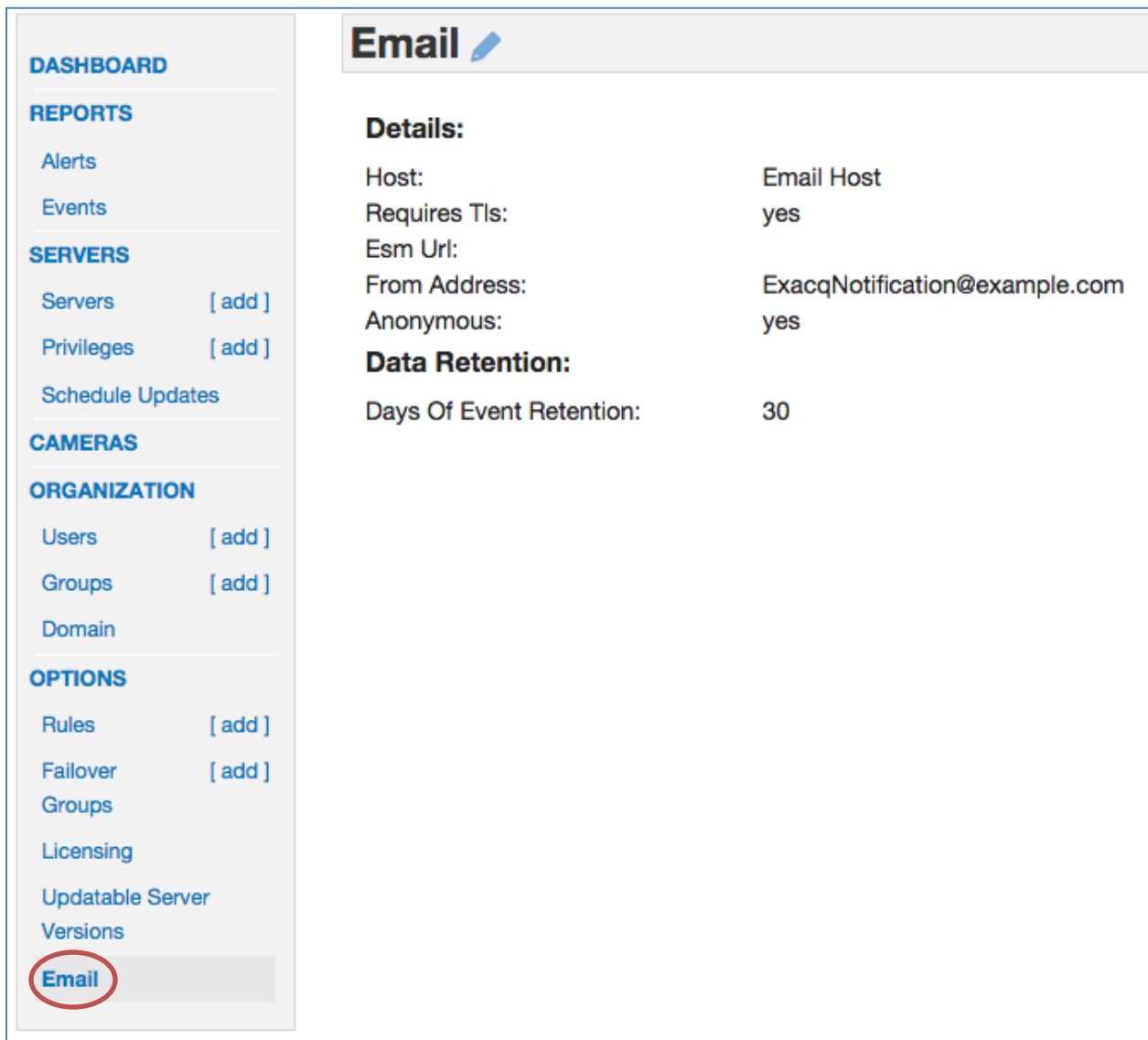
1. You should receive a licensing email that includes a link to the activation web site and licensing instructions (not shown here).
2. Select Licensing.
3. To download the ESM.ID file, click Download ESM.ID File For This Activation on the Licensing page. If the system is not connected to the Internet, save the file to a portable storage device.
4. Submit the ESM.ID file on the activation web site (not shown here). Obtain an ESM key file and save it to the system, or to a portable storage device if the system isn't connected to the Internet.
5. Apply the ESM key file by clicking Upload ESM Key File on the Licensing page and then browsing to the file's location.
6. After uploading the license file, ESM displays "This Installation is Licensed for Use" at the top of the Licensing page.


11 Email Options

The Email page allows you to configure the email server used by ESM. Click Edit to enter or modify the email server information.

The Email page also contains a data retention setting, which allows you to automatically delete monitoring data after a certain number of days.

Click the Edit button  to change any email server or data retention settings.



Email 	
Details:	
Host:	Email Host
Requires Tls:	yes
Esm Url:	
From Address:	ExacqNotification@example.com
Anonymous:	yes
Data Retention:	
Days Of Event Retention:	30

12 Failover Groups

Failover groups consist of associated protected servers and spare servers. If a protected server experiences hardware failure and cannot record video, ESM automatically fails over the recording configuration to a spare server. When the protected server is restored, recording switches back from the spare server to the protected server. You can also manually failover to a spare server if you need to perform maintenance on a protected server.

The following configurations are included in failover:

- Cameras
- Recording schedules
- Users
- Event Linking
- Saved layouts, views, groups, and maps
- Serial profiles
- Archiving
- Notification rules
- Auto Export rules

The following configurations are **not** included in failover:

- System IP address
- Storage (recorded video remains on the system where it was recorded)
- Analog cameras
- Camera licenses and software agreements

Each protected and spare server can be included in only one failover group, and each failover group must contain at least one protected server and one spare server. If multiple spare servers are available and a protected server fails, ESM selects the available spare server that is most compatible with the protected server. The Failover Group List shows the number of spares and protected servers in each failover group:

Name	Spare Servers	Protected Servers
Failover Group	0	0

To add a Failover Group, complete the following steps:

The screenshot shows the 'Add Failover Group' form in a web application. On the left is a sidebar menu with categories: DASHBOARD, REPORTS (Alerts, Events), SERVERS (Servers [add], Privileges [add], Schedule Updates), CAMERAS, ORGANIZATION (Users [add], Groups [add], Domain), and OPTIONS (Rules [add], Failover Groups [add]). The main form area is titled 'Add Failover Group' and contains the following fields and controls:

- Name:** A text input field with callout 2 pointing to it.
- Spare Servers:** A dropdown menu showing '(No Selected Servers)' with callout 3 pointing to it.
- Protected Servers:** A dropdown menu showing '(No Selected Servers)' with callout 4 pointing to it.
- Timeout prior to automatic failover (in seconds):** A text input field containing '30' with callout 5 pointing to it.
- Buttons:** Two blue buttons, 'Save & New' and 'Save', with callout 6 pointing to the 'Save' button.
- Callout 1:** Points to the '[add]' link next to 'Failover Groups' in the sidebar menu.

1. Select [add] next to Failover Groups (or click Add Failover Group from the Failover Group List).
2. Enter a name for the Failover Group.
3. Select one or more spare servers. Servers are designated as spares on the server configuration page (see the "Add A Server" section of this document for more information). Any designated spare server that has not been associated with another failover group can be selected.
4. Select one or more protected servers. Cameras connected to these protected servers will be automatically recorded on a spare server if the protected server fails.
5. Select a timeout value, which is the number of seconds the protected servers must fail to record before the automatic failover begins.
6. Click Save to add the failover group to the Failover Group List, as shown on the previous page or Save & New to repeat the steps for a new group

When you select a Failover Group from the Failover Group List, information about the group is displayed:

Failover Group

Details:
Timeout before automatic failover: 30 seconds

Failover Compatibility Issues:
(No Compatibility Issues)

Spare Servers

Spare
Click here to add a spare

Protected Servers

Protected Server 1 of 1
Test Server
No Available Spares

Note the Failover Compatibility Issues section. Protected servers and spare servers in the same failover group do not need to be identical, but certain differences could be important. For example:

- If a spare server is licensed for 16 cameras and a protected server is licensed for 32 cameras, only the first 16 cameras that connect to the spare server after a failover are recorded.
- If a spare server has less memory or hard drive space, recording performance could be reduced compared to the performance on the protected server.
- Servers with previous versions that do not support failover, or certain types of servers such as exacqVision Edge servers, will be listed as Not Supported.

Appendix A: SSL Certification for Apache

To configure and enable SSL certification for Apache in ESM, complete the following steps:

1. Obtain a signed certificate from an authority such as VeriSign.
2. Rename the artifacts before the extension to “server” (server.crt, for example).
3. Save the artifacts to the following directory:

Linux: /usr/local/exacq/esm/apache_solr/apache2/conf/

Windows: \exacqVisionESM\apache_solr\apache2\conf\

4. To force any user of ESM to redirect to https, open the httpd.conf file (found in the location from the previous step. (at the above location)
5. In that opened file, remove the pound sign (#) from the following lines:

```
#RewriteCond %{SERVER_PORT} !^443$  
#RewriteRule ^/(.*) https://%{HTTP_HOST}/$1 [NC,R=301,L]
```