Product Guide

McAfee Enterprise Security Manager 9.5.0

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Contents

Preface

This guide provides the information you need to work with your McAfee product.

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About this guide

This information describes the guide's target audience, the typographical conventions and icons used in this guide, and how the guide is organized.

Audience

McAfee documentation is carefully researched and written for the target audience.

The information in this guide is intended primarily for:

- **Administrators** — People who implement and enforce the company's security program.
- **Users** — People who use the computer where the software is running and can access some or all of its features.

Conventions

This guide uses these typographical conventions and icons.

Book title, *term*, *emphasis*	Title of a book, chapter, or topic; a new term; emphasis.
Bold	Text that is strongly emphasized.
`User input, code, message`	Commands and other text that the user types; a code sample; a displayed message.
Interface text	Words from the product interface like options, menus, buttons, and dialog boxes.
Hypertext blue	A link to a topic or to an external website.
ℹ	**Note:** Additional information, like an alternate method of accessing an option.

💡	**Tip:** Suggestions and recommendations.
❗	**Important/Caution:** Valuable advice to protect your computer system, software installation, network, business, or data.
⚠	**Warning:** Critical advice to prevent bodily harm when using a hardware product.

Find product documentation

After a product is released, information about the product is entered into the McAfee online Knowledge Center.

Task

1. Go to the **Knowledge Center** tab of the McAfee ServicePortal at http://support.mcafee.com.
2. In the **Knowledge Base** pane, click a content source:
   - **Product Documentation** to find user documentation
   - **Technical Articles** to find KnowledgeBase articles
3. Select **Do not clear my filters**.
4. Enter a product, select a version, then click **Search** to display a list of documents.

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Introduction

McAfee® Enterprise Security Manager (McAfee ESM) allows security and compliance professionals to collect, store, analyze, and act upon risks and threats from a single location.

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How McAfee Enterprise Security Manager works

McAfee ESM collects and aggregates data and events from security devices, network infrastructures, systems, and applications. It then applies intelligence to that data, by combining it with contextual information about users, assets, vulnerabilities, and threats. It correlates that information to find incidents that are relevant. Using interactive, customizable dashboards, you can drill down on specific events to investigate incidents.

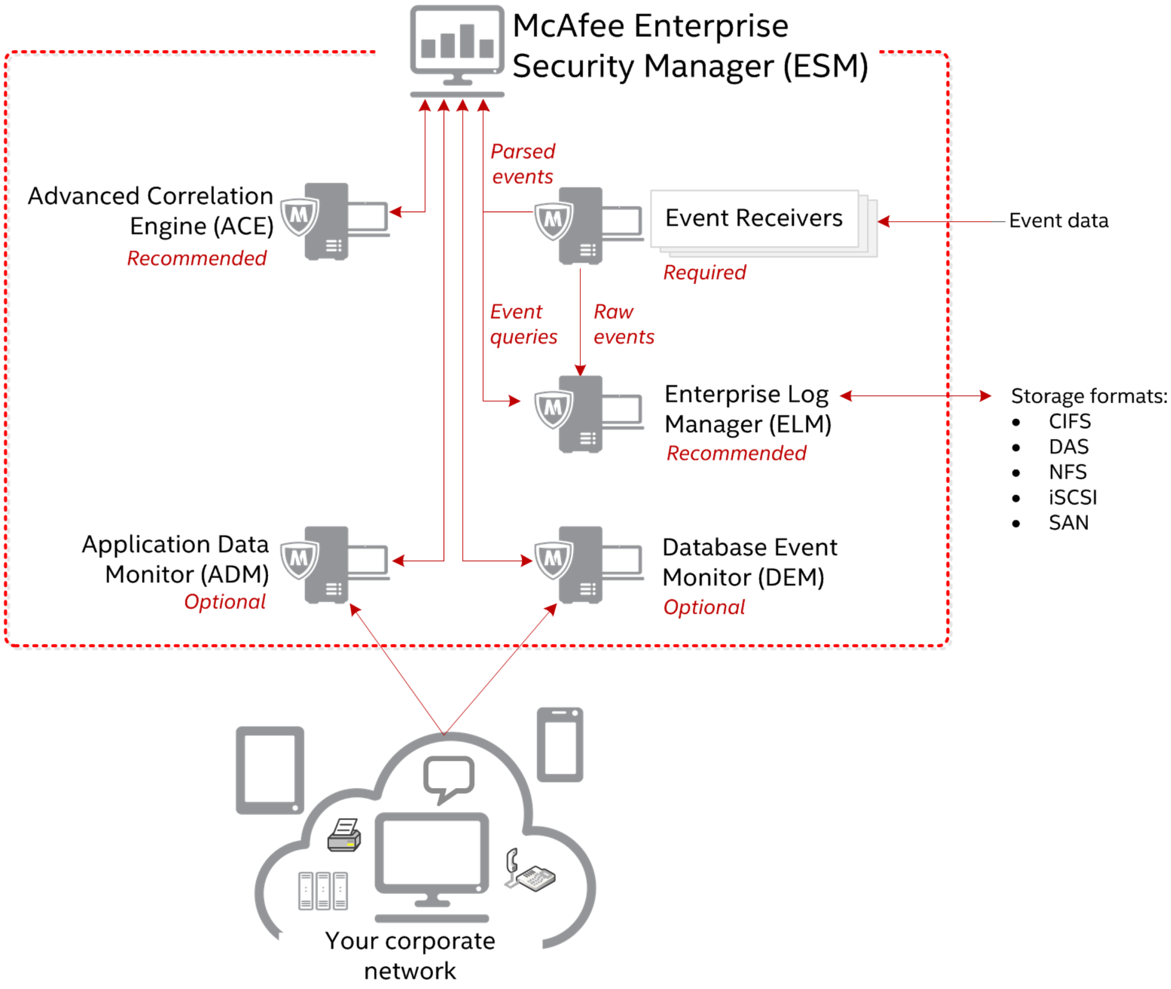
ESM is composed of three layers:

- **Interface** – A browser program that provides the user's interface to the system (referred to as the *ESM console*).
- **Data storage, management, and analysis** – Devices that provide all necessary data manipulation services, including configuration, reporting, visualization, and searching. ESM (required), Advanced Correlation Engine (ACE), Distributed ESM (DESM), and Enterprise Log Manager (ELM) perform these functions.
- **Data acquisition** – Devices that provide the interfaces and services that acquire data from the user's network environment. Nitro Intrusion Prevention System (IPS), Event Receiver (Receiver), Application Data Monitor (ADM), and Database Event Monitor (DEM) perform these functions.

All command, control, and communication functions between the components are coordinated through secure communication channels.

Devices and what they do

The ESM enables you to administer, manage, and interact with all physical and virtual devices in your security environment.



See also

Event Receiver settings on page 55
Enterprise Log Manager (ELM) settings on page 103
Application Data Monitor (ADM) settings on page 120
Database Event Monitor (DEM) settings on page 134
Advanced Correlation Engine (ACE) settings on page 117
Distributed ESM (DESM) settings on page 141
ePolicy Orchestrator settings on page 141
Nitro Intrusion Prevention System (Nitro IPS) settings on page 147

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Getting started

Verify that your ESM environment is current and ready to go.

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About FIPS mode

The Federal Information Processing Standard (FIPS) consists of publicly announced standards developed by the United States Federal government. If you are required to meet these standards, you must operate this system in FIPS mode.

> ! FIPS mode must be selected the first time you log on to the system and can't subsequently be changed.

See also

FIPS mode information on page 14

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FIPS mode information

Due to FIPS regulations, some ESM features aren't available, some available features are not compliant, and some features are only available when in FIPS mode. These features are noted throughout the document and are listed here.

Feature status	Description
Removed features	• High Availability Receivers. • GUI Terminal. • Ability to communicate with the device using SSH protocol. • On the device console, the root shell is replaced by a device management menu.
Features available only in FIPS mode	• There are four user roles that do not overlap: **User**, **Power User**, **Audit Admin**, and **Key & Certificate Admin**. • All **Properties** pages have a **Self-Test** option that allows you to verify that the system is operating successfully in FIPS mode. • If FIPS failure occurs, a status flag is added to the system navigation tree to reflect this failure. • All **Properties** pages have a **View** option that, when clicked, opens the **FIPS Identity Token** page. It displays a value that must be compared to the value shown in those sections of the document to ensure that FIPS hasn't been compromised. • On **System Properties** | **Users and Groups** | **Privileges** | **Edit Group**, the page includes the **FIPS Encryption Self Test** privilege, which gives the group members the authorization to run FIPS self-tests. • When you click **Import Key** or **Export Key** on **IPS Properties** | **Key Management**, you are prompted to select the type of key you want to import or export. • On the **Add Device Wizard**, TCP protocol is always set to Port 22. The SSH port can be changed.

Select FIPS mode

The first time you log on to the system you are prompted to select whether you want the system to operate in FIPS mode. Once this selection is made, it can't be changed.

Task

For option definitions, click **?** in the interface.

1. The first time you log on to the ESM:
   a. In the **Username** field, type `NGCP`.
   b. In the **Password** field, type `security.4u`.

      You are prompted to change your password.
2. Enter and confirm your new password.
3. On the **Enable FIPS** page, click **Yes**.

   The **Enable FIPS** warning displays information requesting confirmation that you want this system to operate in FIPS mode permanently.
4. Click **Yes** to confirm your selection.

Check FIPS integrity

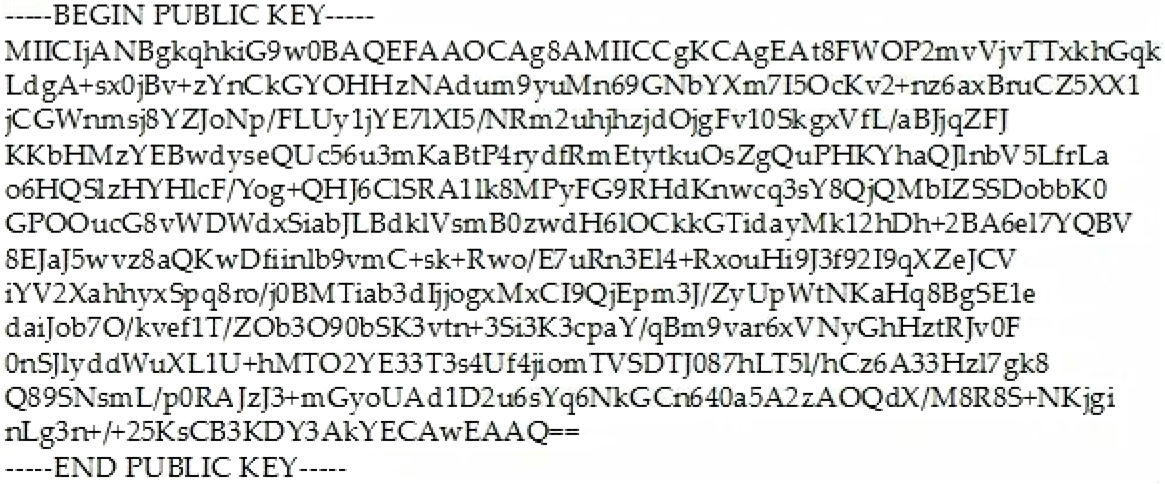
If you are operating in FIPS mode, FIPS 140-2 requires software integrity testing on a regular basis. This testing must be performed on the system and each device.

Task

For option definitions, click **?** in the interface.

1 On the system navigation tree, select **System Properties**, and make sure that **System Information** is selected.

2 Do any of the following.

In this field...	Do this...
FIPS Status	View the results of the most recent FIPS self-test performed on the ESM.
Test or **FIPS Self-Test**	Run the FIPS self-tests, which test the integrity of the algorithms used within the crypto-executable. The results can be viewed on the **Message Log**. If the FIPS self-test fails, FIPS is compromised or device failure is occurring. Contact McAfee Support.
View or **FIPS Identity**	Open the **FIPS Identity Token** page to perform power-up software integrity testing. Compare the value below to the public key that appears on this page:  -----BEGIN PUBLIC KEY----- MIICIjANBgkqhkiG9w0BAQEFAAOCAg8AMIICCgKCAgEAt8FWOP2mvVjvTTxkhGqk LdgA+sx0jBv+zYnCkGYOHHzNAdum9yuMn69GNbYXm7I5OcKv2+nz6axBruCZ5XX1 jCGWnmsj8YZJoNp/FLUy1jYE7lXI5/NRm2uhjhzjdOjgFv10SkgxVfL/aBJjqZFJ KKbHMzYEBwdyseQUc56u3mKaBtP4rydfRmEtytkuOsZgQuPHKYhaQJlnbV5LfrLa o6HQSlzHYHlcF/Yog+QHJ6ClSRA1lk8MPyFG9RHdKnwcq3sY8QjQMbIZSSDobbK0 GPOOucG8vWDWdxSiabJLBdklVsmB0zwdH6lOCkkGTidayMk12hDh+2BA6el7YQBV 8EJaJ5wvz8aQKwDfiinlb9vmC+sk+Rwo/E7uRn3El4+RxouHi9J3f92I9qXZeJCV iYV2XahhyxSpq8ro/j0BMTiab3dIjjogxMxCI9QjEpm3J/ZyUpWtNKaHq8BgSE1e daiJob7O/kvef1T/ZOb3O90bSK3vtn+3Si3K3cpaY/qBm9var6xVNyGhHztRJv0F 0nSJlyddWuXL1U+hMTO2YE33T3s4Uf4jiomTVSDTJ087hLT5l/hCz6A33Hzl7gk8 Q89SNsmL/p0RAJzJ3+mGyoUAd1D2u6sYq6NkGCn640a5A2zAOQdX/M8R8S+NKjgi nLg3n+/+25KsCB3KDY3AkYECAwEAAQ== -----END PUBLIC KEY----- If this value and the public key don't match, FIPS is compromised. Contact McAfee Support.

Adding a keyed device in FIPS mode

There are two methods in FIPS mode to add a device that has already been keyed to an ESM. This terminology and file extensions are useful as you follow these processes.

Terminology

- **Device key** — Contains the management rights that an ESM has for a device, and is not used for crypto.
- **Public key** — The ESM public SSH communication key, which is stored in the authorized keys table of a device.

- **Private key** — The ESM private SSH communication key, which is used by the SSH executable on an ESM to establish the SSH connection with a device.
- **Primary ESM** — The ESM that was originally used to register the device.
- **Secondary ESM** — The additional ESM that communicates with the device.

File extensions for the different export files

- **.exk** — Contains the device key.
- **.puk** — Contains the public key.
- **.prk** — Contains the private key and the device key.

Backup and restore information for a device in FIPS mode

This method is used to back up and restore communication information for a device on the ESM.

It is primarily intended for use in the event of a failure that requires ESM replacement. If the communication information is not exported prior to the failure, communication with the device can't be re-established. This method exports and imports the .prk file.

The private key for the primary ESM is used by the secondary ESM to establish communication with the device initially. Once communication is established, the secondary ESM copies its public key to the device's authorized keys table. The secondary ESM then erases the private key for the primary ESM, and initiates communication with its own public or private key pair.

Action	Steps
Export the .prk file from the primary ESM	1 On the system navigation tree of the primary ESM, select the device with communication information you want to back up, then click the **Properties** icon. 2 Select **Key Management**, then click **Export Key**. 3 Select **Backup SSH Private key**, then click **Next**. 4 Type and confirm a password, then set the expiration date. After the expiration date passes, the person who imports the key is unable to communicate with the device until another key is exported with a future expiration date. If you select **Never Expire**, the key never expires if imported into another ESM. 5 Click **OK**, select the location to save the .prk file created by the ESM, then log out of the primary ESM.
Add a device to the secondary ESM and import the .prk file	1 On the system navigation tree of the secondary device, select the system or group level node you want to add the device to. 2 From the actions toolbar, click **Add Device**. 3 Select the type of device that you want to add, then click **Next**. 4 Enter a name for the device that is unique in this group, then click **Next**. 5 Enter the target IP address of the device, enter the FIPS communication port, then click **Next**. 6 Click **Import Key**, browse to the previously exported .prk file, then click **Upload**. Type the password specified when this key was initially exported. 7 Log out of the secondary ESM.

Enable communication with multiple ESM devices in FIPS mode

You can allow multiple ESMs to communicate with the same device by exporting and importing .puk and .exk files.

This method uses two export and import processes. First, the primary ESM is used to import the secondary ESM device exported .puk file and send the contained secondary ESM public key to the device, thus allowing both ESM devices to communicate with the device. Second, the device's .exk file is exported from the primary ESM and imported into the secondary ESM, thus giving the secondary ESM the ability to communicate with the device.

Action	Steps
Export the .puk file from the secondary ESM	1 On the **System Properties** page of the secondary ESM, select **ESM Management**. 2 Click **Export SSH**, then select the location to save the .puk file. 3 Click **Save**, then log out.
Import the .puk file to the primary ESM	1 In the system navigation tree of the primary ESM, select the device you want to configure. 2 Click the **Properties** icon, then select **Key Management**. 3 Click **Manage SSH Keys**. 4 Click **Import**, select the .puk file, then click **Upload**. 5 Click **OK**, then log out of the primary ESM.
Export the device's .exk file from the primary ESM	1 In the system navigation tree of the primary ESM, select the device you want to configure. 2 Click the **Properties** icon, then select **Key Management**. 3 Click **Export Key**, select the backup device key, then click **Next**. 4 Type and confirm a password, then set the expiration date. ℹ After the expiration date passes, the person who imports the key is unable to communicate with the device until another key is exported with a future expiration date. If you select **Never Expire**, the key never expires if imported into another ESM. 5 Select the .exk file privileges, then click **OK**. 6 Select the location to save this file, then log out of the primary ESM.
Import the .exk file to the secondary ESM	1 In the system navigation tree of the secondary device, select the system or group level node that you want to add the device to. 2 From the actions toolbar, click **Add Device**. 3 Select the type of device you want to add, then click **Next**. 4 Enter a name for the device that's unique to this group, then click **Next**. 5 Click **Import Key**, then browse to the .exk file. 6 Click **Upload** and enter the password that was specified when this key was initially exported. 7 Log out of the secondary ESM.

Troubleshooting FIPS mode

Issues might arise when operating the ESM in FIPS mode.

Issue	Description and resolution
Can't talk to the ESM	• Check the LCD on the front of the device. If it says **FIPS Failure**, contact McAfee Support. • Check for an error condition through the HTTP interface by viewing the ESM FIPS Self-test webpage in a browser. - If a single digit **0** is displayed, indicating that the device has failed a FIPS self-test, reboot the ESM device and attempt to correct the problem. If the failure condition persists, contact Support for further instructions. - If a single digit **1** is displayed, the communication problem is not due to FIPS failure. Contact Support for further troubleshooting steps.
Can't talk to the device	• If there is a status flag next to the device on the system navigation tree, place the cursor over it. If it says **FIPS Failure**, contact McAfee Support by going to the support portal. • Follow the description under the *Can't talk to the ESM* issue.
The file is invalid error when adding a device	You cannot export a key from a non-FIPS device and then import it to a device operating in FIPS mode. Also, you cannot export a key from an FIPS device and then import it to a non-FIPS device. This error appears when you attempt either scenario.

Common Criteria evaluated configuration

The McAfee appliance needs to be installed, configured, and operated in a specific way to be in compliance with the Common Criteria evaluated configuration. Keep these requirements in mind when you are setting up your system.

Type	Requirements
Physical	The McAfee appliance must be: • Protected from unauthorized physical modification. • Located within controlled access facilities, which prevent unauthorized physical access.
Intended usage	The McAfee appliance must: • Have access to all the network traffic to perform its functions. • Be managed to allow for address changes in the network traffic that the Target of Evaluation (TOE) monitors. • Be scaled to the network traffic that it monitors.

Type	Requirements
Personnel	• There must be one or more competent individuals assigned to manage the McAfee appliance and the security of the information it contains. On-site assistance with installation and configuration and on-site training for the operation of the appliance is provided by McAfee engineers for each McAfee customer. • The authorized administrators are not careless, willfully negligent, or hostile, and follow and abide by the instructions provided by the McAfee appliance documentation. • The McAfee appliance must only be accessed by authorized users. • Those responsible for the McAfee appliance must ensure that all access credentials are protected by users in a manner that is consistent with IT security.
Other	• Do not apply software updates to the McAfee appliance as it will result in a configuration other than the Common Criteria evaluated configuration. Contact McAfee Support to obtain a certified update. • On a Nitro IPS device, enabling the **Watchdog Timer** and **Force Bypass** settings in the **Network Interface Settings** page results in a configuration other than the Common Criteria evaluated configuration. • On a Nitro IPS device, using an oversubscription mode setting other than **drop** will result in a configuration other than the Common Criteria evaluated configuration. • Enabling the **Login Security** feature with a RADIUS server will result in secure communication. The IT environment provides for secure transmission of data between the TOE and external entities and external sources. External authentication services can be provided by a RADIUS server. • Using the **Smart Dashboard** functionality of the Check Point firewall console is not part of the TOE. • Using Snort Barnyard is not part of the TOE. • Using the MEF Client is not part of the TOE. • Using the Remedy Ticket System is not part of the TOE.

Log on and off

After you install and set up the devices, you can log on to the ESM console for the first time.

Task

For option definitions, click **?** in the interface.

1. Open a web browser on your client computer and go to the IP address that you set when you configured the network interface.
2. Click **Login**, select the language for the console, then type the default user name and password.
   - Default user name: `NGCP`
   - Default password: `security.4u`
3. Click **Login**, read the **End User License Agreement**, then click **Accept**.
4. Change your user name and password, then click **OK**.

5. Select whether to enable FIPS mode.

   > ! If you are required to work in FIPS mode, you must enable it the first time you log on to the system so that all future operations with McAfee devices are in FIPS mode. We recommend that you do not enable FIPS mode if you are not required to. For more information, see *About FIPS mode*.

6. Follow the instructions to get your user name and password, which are necessary for access to rule updates.

7. Perform initial ESM configuration:

   a. Select the language to be used for system logs.

   b. Select the time zone where this ESM is and the date format to be used with this account, then click **Next**.

   c. Define the settings on the **Initial ESM Configuration** wizard pages. Click the **Show Help** icon ? on each page for instructions.

8. Click **OK**, then click the links for help in getting started or to see the new features that are available in this version of ESM.

9. When you complete your work session, log off using one of these methods:

   - If no pages are open, click **logout** on the system navigation bar in the top-right corner of the console.
   - If pages are open, close the browser.

See also
About FIPS mode on page 13

Customize the logon page

You can customize the logon page to add text, such as company security policies, or a logo.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties** | **Custom Settings**.

2. Do any of the following:

To...	Do this...
Add custom text	1 Click the text box at the top of the page. 2 Type the text you want to add to the **Login** page. 3 Select **Include text on login screen**.
Add a custom image	1 Click **Select Image**. 2 Upload the image you want to use. 3 Select **Include image on login screen**. If you still see the old logo on the **Login** page after uploading a new custom logo, clear the cache on your browser.
Delete a custom image	Click **Delete Image**. The default logo is displayed.

Update the ESM software

Access software updates from the updates server or from a security engineer, then upload them to the ESM.

> To update a primary or redundant ESM, see *Update primary or redundant ESM*.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then click **ESM Management**.
2. On the **Maintenance** tab, click **Update ESM**.
3. Select the file you want to use to update your ESM, then click **OK**.

The ESM reboots and all current sessions are disconnected while the update is installed.

See also

Update primary or redundant ESM on page 186

Obtain and add rule update credentials

The ESM provides policy, parser, and rule updates as part of your maintenance contract. You have 30 days of access before your permanent credentials are required.

Task

For option definitions, click **?** in the interface.

1. Obtain your credentials by sending an email message to Licensing@McAfee.com with this information:
   - McAfee grant number
   - Account name
   - Address

- Contact name
- Contact email address

2. When you receive your customer ID and password from McAfee, select **System Properties** | **System Information** | **Rules Update** on the system navigation tree.
3. Click **Credentials**, then type the customer ID and password.
4. Click **Validate**.

Check for rule updates

The rule signatures used by Nitro IPS to examine network traffic are continuously updated by the McAfee Signature Team and are available for download from the central server at McAfee. These rule updates can be retrieved automatically or manually.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then make sure that **System Information** is selected.
2. In the **Rule Updates** field, check that your license hasn't expired.

   If your license has expired, see *Obtain and add rule update credentials*.
3. If your license is valid, click **Rules Update**.
4. Select one of these options:
   - **Auto check interval** to set up the system to check for updates automatically with the frequency you select
   - **Check Now** to check for updates now
   - **Manual Update** to update the rules from a local file
5. Click **OK**.

See also

Obtain and add rule update credentials on page 21

Change language for event logs

When you logged on to ESM for the first time, you selected the language to be used for event logs such as the health monitor log and device log. You can change this language setting.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties** | **ESM Management**.
2. Click **System Locale**, select a language from the drop-down list, then click **OK**.

Connecting devices

Connect both physical and virtual devices to McAfee ESM to enable real-time forensics, application and database monitoring, advanced rule- and risk-based correlation, and compliance reporting.
As you increase the number of devices on your system, organize them logically. For example, if you have offices in various locations, display those devices by the zone they are in. You can use the predefined displays, as well as design your own custom displays. To further organize devices, you can group them within each custom display.

Contents

Add devices to the ESM console

After you set up and install physical and virtual devices, you must add them to the ESM console.

> **Before you begin**
> Set up and install the devices (see *McAfee Enterprise Security Manager Installation Guide*).

Task

1 On the system navigation tree, click **Local ESM** or a group.

2 On the actions toolbar, click the **Add Device** icon .

3 Select the type of device you are adding, then click **Next**.

4 In the **Device Name** field, enter a name that is unique in this group, then click **Next**.

5 Provide the information requested:

- For McAfee ePO devices — Select a Receiver, type the credentials required to log on to the web interface, then click **Next**. Type the settings to use for communicating with the database.

  > Select **Require user authentication** to limit access to those users who have the username and password for the device.

- For all other devices — Type the target IP address or URL for the device, then type a target SSH port number that is valid to be used with the IP address.

6 Select whether or not to use Network Time Protocol (NTP) settings on the device, then click **Next**.

7 If you have a key that you want to import, select **Import Key** (not available on ELM or Receiver/Log Manager Combo device); otherwise, click **Key Device**.

> Device keys that were originally exported from a pre-8.3.x ESM have no knowledge of the 8.4.0 communication model. Upon upgrade you were required to re-key the device. To have access to devices in versions 9.0.0 or later, you must re-export the key for this device from an ESM that is 8.5.0 or later. Be sure to set any privileges required for the device, like the **Configure Virtual Devices** privilege.

8 Enter a password for this device, then click **Next**.

The ESM tests device communication and reports on the status of the connection.

Select a display type

Select the way you want to display the devices in the system navigation tree.

> **Before you begin**
>
> To select a custom display, you must add it to the system first (see *Manage custom display types*).

Task

1 On the system navigation pane, click the drop-down arrow in the display type field.

2 Select one of the display types.

The organization of the devices on the navigation tree changes to reflect the type you selected for the current work session.

Manage custom display types

You can define how you want the devices on the system navigation tree to be organized by adding, editing, or deleting custom display types.

Task

For option definitions, click **?** in the interface.

1 On the system navigation pane, click the display type drop-down arrow.

2 Do one of the following:

To...	Do this...
Add a custom display type	1 Click **Add Display**. 2 Fill in the fields, then click **OK**.
Edit a custom display type	1 Click the **Edit** icon ✎ next to the display type you want to edit. 2 Make changes to the settings, then click **OK**.
Delete a custom display type	Click the **Delete** icon ✖ next to the display type you want to delete.

Manage a group in a custom display type

You can use groups in a custom display type to organize your devices into logical groupings.

> **Before you begin**
>
> Add a custom display type (see *Manage custom display types*).

Task

For option definitions, click **?** in the interface.

1 On the system navigation pane, click the display type drop-down list.

2 Select the custom display, then do one of the following:

To...	Do this...
Add a new group	1 Click a system or group node, then click the **Add Group** icon on the actions toolbar. 2 Fill in the fields, then click **OK**. 3 Drag-and-drop devices on the display to add them to the group. If the device is part of a tree on the display, a duplicate device node is created. You can then delete the duplicate on the system tree.
Edit a group	Select the group, click the **Properties** icon, then make changes on the **Group Properties** page.
Delete a group	Select the group, then click the **Delete Group** icon. The group and the devices that are in it are deleted from the custom display. The devices are not deleted from the system.

See also

Manage custom display types on page 24

Delete a group or device

When a device is no longer part of the system or you no longer use a group, delete it from the system navigation tree.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, highlight the device or group that you want to delete, then click the **Delete** icon on the actions toolbar.
2. When prompted to confirm, click **OK**.

Delete duplicate devices on the system navigation tree

Duplicate device nodes can appear on the system navigation tree when you drag and drop devices from a system tree into a group or when you have groups set up and then upgrade the ESM software. We recommend that you delete them to avoid confusion.

Task

For option definitions, click **?** in the interface.

1. On the system navigation pane, click the display type drop-down list.
2. Select the **Edit** icon next to the display that includes the duplicate devices.
3. Deselect the duplicate devices, then click **OK**.

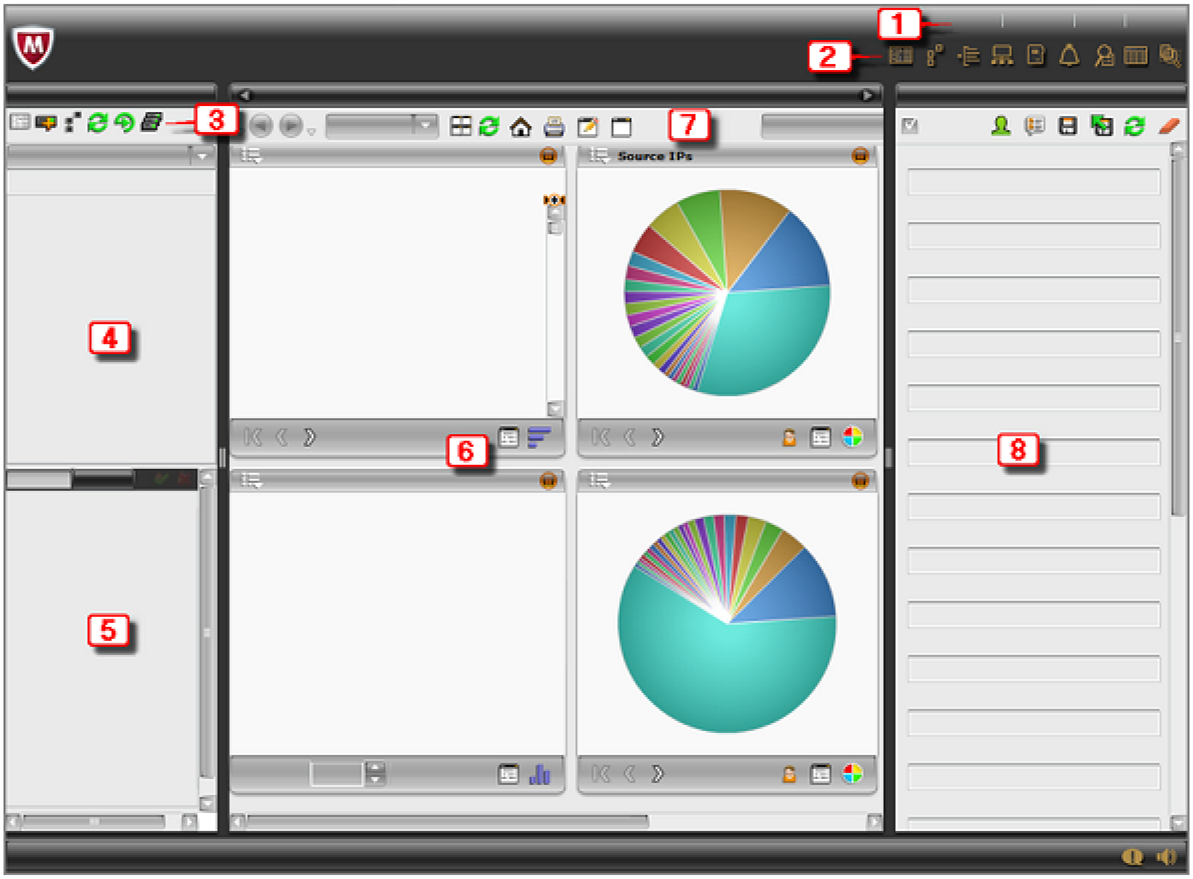
The devices that had duplicates are now listed only in their assigned groups.

Console preferences

You can customize several features on the ESM console by changing the color theme, date and time format, timeout value, and several default settings. You can also set up McAfee® ePolicy Orchestrator® (McAfee ePO™) credentials.

The ESM console

The ESM console gives you real-time visibility to activity on your devices, as well as quick access to alarm notifications and assigned cases.



1 **System navigation toolbar** for general setup functions.

2 **Icons** to access pages that are used frequently.

3 **Actions toolbar** to select functions necessary to configure each device.

4 **System navigation pane** to view the devices on the system.

5 **Alarms and Cases pane** to view alarm notifications and assigned open cases.

6 **Views pane** for event, flow, and log data.

7 **View toolbar** to create, edit, and manage views.

8 **Filters pane** to apply filtering to event-based or flow-based views of data.

Work with console color theme

Customize the ESM console by selecting an existing color theme or designing your own. You can also edit or delete custom color themes.

Task

For option definitions, click **?** in the interface.

1. On the system navigation bar of the ESM console, click **options**.
2. Select an existing color theme, or add, edit, or remove a custom theme.
3. If you click **Add** or **Edit**, select the colors for the custom theme, then click **OK**.

   If you added a new theme, a thumbnail of your colors is added to the **Select a theme** section.
4. Click **OK** to save your settings.

Select console view settings

Set the default settings for the views on the ESM console.

On this page, you can set the system to do this:

- Update the data automatically on an open view
- Change the views that open by default when you start the system
- Change the views that open when you select **Summarize** on an event or flow view

Task

For option definitions, click **?** in the interface.

1. On the system navigation bar of the ESM console, click **options**.
2. On the **Views** page, select your preferences, then click **OK**.

Set console timeout value

The current session on the ESM console remains open as long as there is activity. Define how long there can be no activity before the session closes.

Task

For option definitions, click **?** in the interface.

1. On the system navigation bar of the ESM console, click **options**.
2. In **UI Timeout Value**, select the number of minutes that must pass with no activity, then click **OK**.

   If you select zero (0), the console stays open indefinitely.

Select user settings

The **User Settings** page gives you the option to change several default settings. You can change the time zone, date format, password, default display, and console language. You can also choose whether to show disabled data sources, the **Alarms** tab, and the **Cases** tab.

Task

For option definitions, click **?** in the interface.

1. On the system navigation bar of the ESM console, click **options**.
2. Verify that **User Settings** is selected.
3. Make changes to the settings as needed, then click **OK**.

The console changes its appearance based on your settings.

Set up user credentials for McAfee ePO

You can limit access to a McAfee ePO device by setting up user credentials.

Before you begin

The McAfee ePO device must not be set up to require global user authentication (see **Set up global user authentication**).

Task

For option definitions, click **?** in the interface.

1. On the system navigation bar of the ESM console, click **options**, then select **ePO Credentials**.
2. Click the device, then click **Edit**.

   If the status column for the device says **Not Required**, the device is set up for global user authentication. You can change the status on the **Connection** page for the device (see *Change connection with ESM*).

3. Type the user name and password, test the connection, then click **OK**.

To access this device, users need the user name and password you added.

3

Configuring the ESM

The ESM administers data, settings, updates, and configuration. It communicates with multiple devices simultaneously. When creating the ESM environment, carefully consider your organization's needs and compliance objectives to support your organization's security management life cycle.

Contents

Managing devices

The system navigation pane lists the devices added to the system. You can perform functions on one or more devices and organize them as needed. You can also view health status reports when systems are flagged to resolve existing issues.

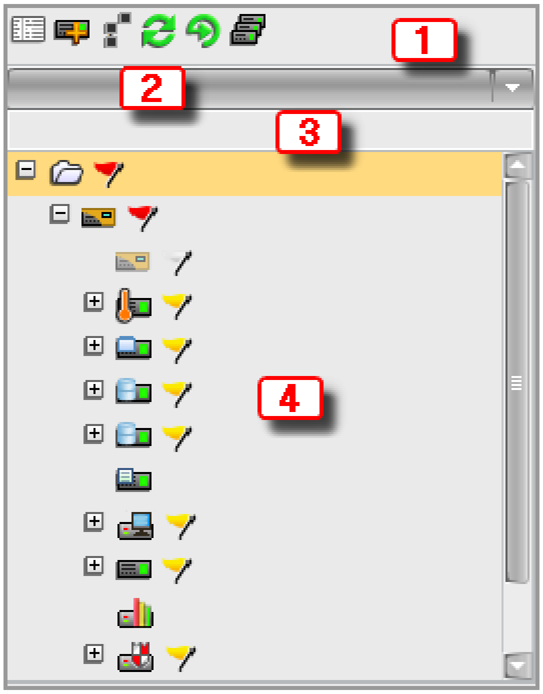


Table 3-1 Feature definitions

This feature...	Allows you to...
1 Actions toolbar	Select an action to be performed on devices in the system navigation tree.
Properties icon	Configure settings for the system or device selected in the system navigation tree.
Add devices icon	Add devices to the system navigation tree.
Health status flags	View device status alerts.
Multi-device management	Start, stop, restart, and update multiple devices individually.
Get events and flows	Retrieve events and flows for devices you select.
Delete a device	Delete the selected device.
Refresh	Refresh the data for all devices.

Table 3-1 Feature definitions *(continued)*

This feature...	Allows you to...
2 Display type	Select the way you want to organize the devices on the tree. The ESM comes with three predefined types: • **Physical Display** — Lists devices hierarchically. The first level is system nodes (Physical Display, Local ESM, and Local ESM base device). The second level is individual devices, and all other levels are the sources you add to the devices (data source, virtual device, and others). Base devices are automatically added under the Local ESM, data source, virtual device, and database server nodes. They have a grayed-out icon and are in parentheses. • **Device Type Display** — Groups devices by type of device (Nitro IPS, ADM, DEM). • **Zone Display** — Organizes devices by zone, which you define using the **Zone Management** feature. You can also add custom display types (see *Organizing your devices*).
3 Quick search	Perform a quick search for a device on the system navigation tree.
4 System navigation tree	View the devices on the system.

See also

Organizing your devices on page 34
Device health status reports on page 50
Manage multiple devices on page 49

View device statistics

View device-specific CPU, memory, queue, and other device-specific details.

> **Before you begin**
>
> Verify that you have the Device Management permission.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select the relevant device, then click the Properties icon ☰.
2. Navigate through the options and tabs until you find **View Statistics**.
3. Click **View Statistics**.

   A graph displays statistics for that device and refreshes every 10 minutes. the metric type. Displaying data requires a minimum of 30 minutes of data. Each metric type contains several metrics, some of them are enabled by default. Click **Displayed** to enable metrics. The fourth column indicates the scale of the corresponding metric.

Add devices to the ESM console

After you set up and install physical and virtual devices, you must add them to the ESM console.

> **Before you begin**
>
> Set up and install the devices (see *McAfee Enterprise Security Manager Installation Guide*).

Task

1. On the system navigation tree, click **Local ESM** or a group.
2. On the actions toolbar, click the **Add Device** icon ⊞.
3. Select the type of device you are adding, then click **Next**.
4. In the **Device Name** field, enter a name that is unique in this group, then click **Next**.
5. Provide the information requested:
   - For McAfee ePO devices — Select a Receiver, type the credentials required to log on to the web interface, then click **Next**. Type the settings to use for communicating with the database.

     > Select **Require user authentication** to limit access to those users who have the username and password for the device.

   - For all other devices — Type the target IP address or URL for the device, then type a target SSH port number that is valid to be used with the IP address.
6. Select whether or not to use Network Time Protocol (NTP) settings on the device, then click **Next**.
7. If you have a key that you want to import, select **Import Key** (not available on ELM or Receiver/Log Manager Combo device); otherwise, click **Key Device**.

   > Device keys that were originally exported from a pre-8.3.x ESM have no knowledge of the 8.4.0 communication model. Upon upgrade you were required to re-key the device. To have access to devices in versions 9.0.0 or later, you must re-export the key for this device from an ESM that is 8.5.0 or later. Be sure to set any privileges required for the device, like the **Configure Virtual Devices** privilege.

8. Enter a password for this device, then click **Next**.

The ESM tests device communication and reports on the status of the connection.

About device keys

For ESM to communicate with a device, it must encrypt all communications using the communications key that is created when the device is keyed.

We recommend that all keys be exported to an alternate, password-encrypted file. They can then be imported to restore communication to a device in the case of an emergency or to export a key to another device.

All settings are stored on the ESM, which means that the ESM console is aware of the keys maintained on the ESM and does not need to import a device key if the ESM is already successfully communicating with the device.

For example, you might make a backup of your settings (which includes device keys) on Monday, then re-key one of your devices on Tuesday. If on Wednesday you realize you needed to restore Monday's settings, you import the key created Tuesday after the settings restoration was complete. Although the restoration reverts the device key to what it was on Monday, the device is still listening only for traffic encoded with Tuesday's key. This key has to be imported before communication with the device is possible.

We recommend not importing a device key into a separate ESM. The export key is used to reinstall a device into the managing ESM for the device, for device management right roles. If you import a device into a second ESM, several device features are not usable, including policy management, ELM logging and management, and data source and virtual device settings. Device administrators can overwrite settings on the device from another ESM. We recommend that you use a single ESM to manage devices attached to it. A DESM can handle the data collection from devices attached to another ESM.

Key a device

After you add a device to the ESM, you must key the device to enable communication. Keying the device adds security by ignoring all outside sources of communication.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select a device, then click the **Properties** icon .
2. Click **Key Management** | **Key Device**.

   If the device has an established connection and can communicate with the ESM, the **Key Device Wizard** opens.
3. Type a new password for the device, then click **Next**.
4. Click **Export Key**, then complete the **Export Key** page, or click **Finish** if you're not going to export it at this time.

Export a key

After keying a device, export the key to a file.

> If your system is operating in FIPS mode, don't follow this procedure. See *Adding a keyed device in FIPS mode* for the correct process.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select a device, then click the **Properties** icon .
2. Click **Key Management** | **Export Key**.
3. Define the settings on the **Export Key** page, then click **OK**.

   The ESM creates the export key file and asks if you want to export it.
4. Click **Yes**, then select where you want the file saved.

   > We recommend that you export a personal backup copy of the device key that is set to **Never Expire** and includes all privileges.

Import a key

Import a key to restore ESM to previous settings or to use it in another ESM or legacy console.

> If your device is version 9.0 or later, you can only import a key from an ESM that is version 8.5 or later.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select a device, then click the **Properties** icon .
2. Click **Key Management** | **Import Key**.

3. Locate and select the saved key file.
4. Click **Upload**, then type the password that was set when this key was exported.

When the key is successfully imported, a page displays the status.

Manage SSH keys

Devices can have SSH communication keys for systems they need to communicate with securely. You can stop communication with these systems by deleting the key.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select a device, then click the **Properties** icon ▤.
2. Click **Key Management**, then click **Manage SSH Keys**.

   The **Manage SSH Keys** page lists the IDs for the ESM that the device communicates with.
3. Highlight the ID and click **Delete** to stop communication with one of the systems listed.
4. Confirm the deletion, then click **OK**.

Update the software on a device

If the software on your device is out of date, upload a new version of the software from a file on the ESM or your local computer.

Before you begin

If you've had your system for more than 30 days, you must obtain and install your permanent credentials to access the updates (see *Obtain and add rule update credentials*).

> If you must comply with Common Criteria and FIPS regulations, do not update the ESM in this way. Call McAfee support to obtain a certified update.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select a device, then click the **Properties** icon ▤.
2. Click device **Management** | **Update Device**.
3. Select an update from the table or click **Browse** to locate it on your local system.

The device restarts with the updated software version.

Organizing your devices

The system navigation tree lists the devices on the system. You can select the way you want them displayed using the display type feature.

As you increase the number of devices on your system, it is helpful to organize them logically so you can find the ones you need to work with. For example, if you have offices in various locations, it might be best to display them by the zone they are in.

You can use the three predefined displays and you can design custom displays. Within each custom display, you can add groups to further organize the devices.

Set up network traffic control on a device

Define a maximum data output value for Receiver, ACE, ELM, Nitro IPS, ADM, and DEM devices.

This feature is helpful when you have bandwidth restrictions and need to control the amount of data that can be sent out by each of these devices. The options are kilobits (Kb), megabits (Mb), and gigabits (Gb) per second.

> Be careful when configuring this feature because limiting traffic might result in data loss.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select the device, then click the **Properties** icon.
2. Click the **Configuration** option for the device, click **Interfaces**, then click the **Traffic** tab.

   The table lists the existing controls.
3. To add controls for a device, click **Add**, enter the network address and mask, set the rate, then click **OK**.

   > If you set the mask to zero (0), all data sent is controlled.
4. Click **Apply**.

The outbound traffic speed of the network address you specified is controlled.

Device configuration

The **Configuration** page for each device provides options to configure device settings such as network interface, SNMP notifications, NTP settings, and ELM logging.

Set up network interfaces

Interface settings determine how the ESM connects to the device. You must define these for each device.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select a device, then click the **Properties** icon.
2. Click the device's **Configuration** option, then click **Interfaces**.
3. Enter the data as requested, then click **Apply**.

All changes are pushed to the device and take effect immediately. Upon applying changes, the device re-initializes, causing all current sessions to be lost.

Managing network interfaces

Communication with a device can take place using the public and private interfaces of the traffic paths. This means that the device is invisible in the network because it doesn't require an IP address.

Management interface

Alternately, network administrators can configure a management interface with an IP address for communication between the ESM and the device. These features of a device require the use of a management interface:

- Full control of bypass network cards
- Use of NTP time synchronization
- Device-generated syslog
- SNMP notifications

Devices are equipped with at least one management interface, which gives the device an IP address. With an IP address, the device can be accessed directly by the ESM without directing communication toward another target IP address or host name.

> Do not attach the management network interface to a public network because it's visible to the public network and its security could be compromised.

For a device running in Nitro IPS mode, there must be two interfaces for each path of network traffic. For IDS mode, there must be a minimum of two network interfaces in the device. You can configure more than one management network interface in the device.

Bypass NIC

A device in bypass mode allows all traffic to pass, including malicious traffic. Under normal circumstances, you can have a one- to three-second loss of connection when the device switches to bypass mode, and an 18-second loss when it switches out. Being connected to certain switches, such as some models of Cisco Catalyst, can change these numbers. In this case, you can have a 33-second loss of connection when the device switches to bypass mode and when it switches out.

If you have the scenario where it takes 33 seconds to reestablish communications, you can enable port fast on the switch port and manually set the speed and duplex to get the times back to normal. Be sure to set all four ports (switch, both on Nitro IPS, and other device) to the same setting or you might have a negotiation problem in bypass mode (see *Set up bypass NICs*).

The available bypass options depend on the type of bypass NIC in the device, Type 2 or Type 3.

Add static routes

A static route is a set of instructions about how to reach a host or network that is not available through the default gateway.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select a device, then click the **Properties** icon.
2. Click **Configuration** | **Interfaces**.
3. Next to the **Static Routes** table, click **Add**.
4. Enter the information, then click **OK**.

Bypass NIC

Under normal circumstances, you can have a one- to three-second loss of connection when the device switches to bypass mode, and an 18-second loss when it switches out. Being connected to certain switches, such as some models of Cisco Catalyst, can change these numbers. In this case, you can have a 33-second loss of connection when the device switches to bypass mode and when it switches out.

If you have the scenario where it takes 33 seconds to reestablish communications, you can enable port fast on the switch port and manually set the speed and duplex to get the times back to normal. Be sure to set all four ports (switch, both on Nitro IPS, and other device) to the same setting or you might have a negotiation problem in bypass mode.

The available bypass options depend on the type of bypass NIC in the device, Type 2 or Type 3.

Set up bypass NICs

On IPS devices, you can define bypass NIC settings to allow all traffic to pass through.

> ADM and DEM devices are always in IDS mode. You can view their bypass NIC type and status but you can't change their settings.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select a device, then click the **Properties** icon.
2. Click **Configuration** | **Interfaces**.
3. On the **Network Interface Settings** page, go to the **Bypass NIC Configuration** section at the bottom.
4. View the type and status or, on an IPS, change the settings.
5. Click **OK**.

Add VLANs and aliases

Add Virtual Local Area Networks (VLANs) and aliases (assigned IP address and netmask pairs that you add if you have a network device that has more than one IP address) to an ACE or ELM interface.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select a device, then click the **Properties** icon.
2. Click device **Configuration**, click **Interfaces**, then click **Advanced**.
3. Click **Add VLAN**, enter the information requested, then click **OK**.
4. Select the VLAN you want to add the alias to, then click **Add Alias**.
5. Enter the information requested, then click **OK**.

Configure SNMP notifications

To configure device-generated SNMP notifications, you must define which traps should be sent and their destinations.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select a device, then click the **Properties** icon.
2. Click **Configuration** | **SNMP**.
3. Define the settings, then click **OK**.

Set up NTP on a device

Synchronize the device time with the ESM using a Network Time Protocol (NTP) server.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select a device, then click the **Properties** icon ☰.
2. Click **Configuration | NTP**.
3. Fill in the information requested, then click **OK**.

Tasks

- *View status of NTP servers* on page 155
  View the status of all the NTP servers on the ESM.

Sync device with ESM

If you have to replace your ESM, import the key for each device to restore the settings. If you don't have a current database backup, you must also sync the data source, virtual device, and database server settings with ESM so they can resume pulling events.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select a device, then click the **Properties** icon ☰.
2. Click **Configuration | Sync Device**.
3. When the sync is completed, click **OK**.

Set up communication with ELM

If you are sending the data from this device to the ELM, **ELM IP** and **SYNC ELM** appear on the device's **Configuration** page, allowing you to update the IP address and sync the ELM with the device.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select a device, then click the **Properties** icon ☰.
2. Click **Configuration**, then do one of the following:

Click...	To do this...
ELM IP	Update the IP address for the ELM to which this device is linked. You must do this if you change the IP address for the ELM or if you change the ELM management interface through which this device communicates with the ELM.
Sync ELM	Sync the ELM with the device if one of them has been replaced. When you use this feature, the SSH communication between the two devices is re-established, using the key for the new device with the previous settings.

Set default logging pool

If you have an ELM device on your system, you can set up a device so the event data it receives is sent to the ELM device. To do this, you must configure the default logging pool.

> ! The device does not send an event to the ELM until after its aggregation time period has expired.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select a device, then click the **Properties** icon .
2. Click **Configuration** | **Logging**.
3. Make the appropriate selections on the pages that open.

You are informed when logging of data from this device to the ELM is enabled.

General device information and settings

Each device has a page that gives general information about the device, such as serial number and software version. You can also define settings for the device like selecting the zone and syncing the clock.

View message logs and device statistics

You can view messages generated by the system, view statistics about the performance of the device, or download a .tgz file containing device status information.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select a device, then click the **Properties** icon .
2. Click device **Management**, then select one of the following:

Option	Description
View Log	Click to view messages that were recorded by the system. Click **Download Entire File** to download the data to a file.
View Statistics	Click to view statistics about the performance of the device such as ethernet interface, ifconfig, and iptables filter.
Device Data	Click to download a .tgz file that contains data about the status of your device. You can use this when you are working with McAfee support to resolve an issue on your system.

Update the software on a device

If the software on your device is out of date, upload a new version of the software from a file on the ESM or your local computer.

Before you begin

If you've had your system for more than 30 days, you must obtain and install your permanent credentials to access the updates (see *Obtain and add rule update credentials*).

If you must comply with Common Criteria and FIPS regulations, do not update the ESM in this way. Call McAfee support to obtain a certified update.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select a device, then click the **Properties** icon .
2. Click device **Management** | **Update Device**.
3. Select an update from the table or click **Browse** to locate it on your local system.

The device restarts with the updated software version.

Enter Linux commands for a device

Use the **Terminal** option to enter Linux commands on a device. This feature is for advanced users and must be used under the direction of McAfee support personnel for an emergency.

> This option is not FIPS-compliant and is disabled in FIPS mode.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select a device, then click the **Properties** icon .
2. Click device **Management** | **Terminal**.
3. Enter the system password, then click **OK**.
4. Enter the Linux commands, export the file, or transfer files.
5. Click **Close**.

Grant access to your system

When you place a support call to McAfee, you might need to grant access so the technical support engineer can see your system.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select a device, then click the **Properties** icon .
2. Click device **Management** | **Connect**.

   The button changes to **Disconnect** and your IP address is provided.
3. Give the IP address to the technical support engineer.

   > You might need to provide additional information, such as the password.
4. Click **Disconnect** to end the connection.

Monitor traffic

If you need to monitor traffic flowing through a DEM, ADM, or IPS device, you can use **TCP Dump** to download an instance of the Linux program running on the device.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select a device, then click the **Properties** icon ☰.
2. Click device **Management**.
3. In the **TCP Dump** section of the page, perform the steps to download the instance.

View device information

View general information about a device. Open the device's **Information** page to see the system ID, serial number, model, version, build, and more.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select a device, then click the **Properties** icon ☰.
2. View the available information, then click **OK**.

Start, stop, reboot, or refresh a device

Start, stop, reboot, or refresh a device on the **Information** page.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select a device, then click the **Properties** icon ☰.
2. Verify that device **Information** is selected, then click **Start**, **Stop**, **Reboot**, or **Refresh**.

Change the device name

When you add a device to the system tree, you give it a name, which is displayed on the tree. This name, the system name, URL, and description, can be changed.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select a device, then click the **Properties** icon ☰.
2. Click **Name and Description**, then change the name, system name, URL, and description, or view the **Device ID** number.
3. Click **OK**.

Add URL link

To view device information on a URL, you can set up the link on the **Name and Description** page for each device. When added, the link is accessible on the **Event Analysis** and **Flow Analysis** views for each device by clicking on the **Launch Device URL** icon 🌐 located at the bottom of the view components.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select a device, then click the **Properties** icon ☰.
2. Click **Name and Description**, then type the URL.
3. Click **OK** to save the changes.

Change connection with ESM

When you add a device to the ESM, you set up its connection with the ESM. You can change the IP address and port, disable SSH communication, and check the status of the connection.

> Changing these settings doesn't affect the device itself. It only affects the way the ESM communicates with the device.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select a device, then click the **Properties** icon ☰.
2. Click **Connection**, then make the changes.
3. Click **Apply**.

Events, flows, and logs

IPS, ADM, and Receiver devices collect events, flows, and logs; ACE and DEM devices collect events and logs; and ELM devices collect logs. Set each device to check for them manually or automatically. In addition, you can aggregate the events or flows generated by a device.

Set up events, flows, and logs downloads

Check for events, flows, and logs manually or set the device to check for them automatically.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select a device, then click the **Properties** icon ☰.
2. Click **Events, Flows & Logs**, **Events & Logs**, or **Logs**.
3. Set up the downloads, then click **Apply**.

Define geolocation and ASN settings

Geolocation provides the real-world geographic location of computers connected to the Internet. *Autonomous System Number (ASN)* is a number that is assigned to an autonomous system and uniquely identifies each network on the Internet.

Both of these types of data can help you identify the physical location of a threat. Source and destination geolocation data can be collected for events.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select a device, then click the **Properties** icon ☰.
2. Click **Events, Flows & Logs** or **Events & Logs**, then click **Geolocation**.
3. Make the selections to generate the information needed, then click **OK**.

You can filter event data using this information.

Aggregating events or flows

An event or flow can potentially be generated thousands of times. Instead of forcing you to sift through thousands of identical events, aggregation allows you to view them as a single event or flow with a count that indicates the number of times it occurred.

Using aggregation uses disk space on both the device and ESM more efficiently because it eliminates the need to store each packet. This feature applies only to rules that have aggregation enabled in the **Policy Editor**.

Source IP and destination IP address

The source IP and destination IP address "not-set" values or aggregated values appear as "::" instead of as "0.0.0.0" in all result sets. For example:

- `::ffff:10.0.12.7` is inserted as `0:0:0:0:0:FFFF:A00:C07` (`A00:C07` is `10.0.12.7`).
- `::0000:10.0.12.7` would be `10.0.12.7`.

Aggregated events and flows

Aggregated events and flows use the first, last, and total fields to indicate the duration and amount of aggregation. For example, if the same event occurred 30 times in the first ten minutes after noon, the **First time** field contains the time 12:00 (the time of the first instance of the event), the **Last time** field contains the time 12:10 (the time of the last instance of the event), and the **Total** field contains the value 30.

You can change the default event or flow aggregation settings for the device as a whole and, for events, you can add exceptions to the device's settings for individual rules (see *Manage event aggregation exceptions*).

Dynamic aggregation is also enabled by default. When it is selected, it replaces the settings for **Level 1** aggregation and increases the settings for **Level 2** and **Level 3**. It retrieves records based on the events, flows, and logs retrieval setting. If it is set for automatic retrieval, the device compresses a record only until the first time that it is pulled by the ESM. If it is set for manual retrieval, a record compresses up to 24 hours or until a new record is pulled manually, whichever comes first. If the compression time reaches the 24-hour limit, a new record is pulled and compression begins on that new record.

Change event or flow aggregation settings

Event aggregation and flow aggregation are enabled by default, and are set on **High**. You can change the settings as needed. The performance of each setting is described on the **Aggregation** page.

Before you begin

You must have **Policy Administrator** and **Device Management** or **Policy Administrator** and **Custom Rules** privileges to change these settings.

Event aggregation is available only for ADM, IPS, and Receiver devices, and flow aggregation for IPS and Receiver devices.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select a device, then click the **Properties** icon.
2. Click **Event Aggregation** or **Flow Aggregation**.
3. Define the settings, then click **OK**.

Manage event aggregation exceptions

You can view a list of the event aggregation exceptions that were added to the system. You can also edit or remove an exception.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select a device, then click the **Properties** icon.
2. Click **Event Aggregation**, then click **View** at the bottom of the screen.
3. Make the needed changes, then click **Close**.

Add exceptions to event aggregation settings

Aggregation settings apply to all events generated by a device. You can create exceptions for individual rules if the general settings don't apply to the events generated by that rule.

Task

For option definitions, click **?** in the interface.

1. On the views pane, select an event generated by the rule you want to add an exception for.
2. Click the **Menu** icon, then select **Modify Aggregation Settings**.
3. Select the field types you want to aggregate from the **Field 2** and **Field 3** drop-down lists.

   The fields you select in **Field 2** and **Field 3** must be different types or an error results. When you select these field types, the description for each aggregation level changes to reflect the selections you made. The time limits for each level depend on the event aggregation setting you defined for the device.

4. Click **OK** to save your settings, then click **Yes** to proceed.
5. Deselect devices if you do not want to roll out the changes to them.
6. Click **OK** to roll out the changes to the devices that are selected.

The **Status** column shows the status of the update as the changes are rolled out.

Virtual devices

You can add virtual devices to some Nitro IPS and ADM device models to monitor traffic, compare traffic patterns, and for reporting.

Purpose and benefits

Virtual devices can be used for several purposes:

- Compare traffic patterns against rule sets. For example, to compare web traffic against web rules, you can set up a virtual device that only looks at web traffic ports and set up a policy where you can enable or disable different rules.
- Reporting. Using it in this manner is like having an automatic filter set up.
- Monitor multiple paths of traffic at once. By using a virtual device, you can have separate policies for each path of traffic and sort different traffic into different policies.

Maximum number of devices per model

The number of virtual devices that can be added to an ADM or Nitro IPS is based on the model:

Device maximum	Model
2	APM-1225 NTP-1225 APM-1250 NTP-1250
4	APM-2230 NTP-2230 NTP-2600 APM-3450 NTP-3450
8	NTP-2250 NTP-4245 NTP-5400
0	APM-VM NTP-VM

How selection rules are used

Selection rules are used as filters to determine which packets are processed by a virtual device.

For a packet to match a selection rule, all filter criteria defined by that rule must be matched. If the packet's information matches all filter criteria for a single selection rule, it is processed by the virtual device that contains the matching selection rule. Otherwise it is passed on to the next virtual device in order, then is processed by the ADM or Nitro IPS itself, as a default, if no selection rules are matched on any virtual devices.

Things to note for IPv4 virtual devices:

- All packets for a single connection are sorted based only on the first packet in the connection. If the first packet in a connection matches a selection rule for the third virtual device in the list, all subsequent packets in that connection go to the third virtual device, even if the packets match a virtual device that is higher in the list.
- Invalid packets (a packet that is not setting up a connection or part of an established connection) are sorted to the base device. For example, you have a virtual device that is looking for packets with a source or destination port of 80. When an invalid packet comes through with a source or destination port of 80, it is sorted to the base device instead of the virtual device that looks for port 80 traffic. Therefore, you see events in the base device that look like they should have gone to a virtual device.

The order that selection rules are listed is important because the first time a packet matches a rule, that packet is automatically routed to that virtual device for processing. For example, you add four selection rules and the fourth one in order is the filter that triggers most often. This means the other filters for this virtual device must be passed over by each packet before getting to the most commonly triggered selection rule. To enhance the efficiency of the processing, make the most commonly triggered filter first in order, instead of last.

Order of virtual devices

The order in which virtual devices are checked is important because the packets coming into the ADM or Nitro IPS device are compared to the selection rules for each virtual device in the order that the virtual devices are set up. The packet makes it to the selection rules for the second virtual device only if it doesn't match any selection rules on the first device.

- To change the order on an ADM device, go to **Edit Virtual Device** page (**ADM Properties** | **Virtual Devices** | **Edit**) and use the arrows to put them in the correct order.
- To change the order on a Nitro IPS device, use the arrows on the **Virtual Devices** page (**IPS Properties** | **Virtual Devices**).

ADM virtual devices

ADM virtual devices monitor traffic on an interface. There can be up to four ADM interface filters on your system. Each filter can be applied to only one ADM virtual device at a time. If a filter is assigned to an ADM virtual device, it does not appear on the list of available filters until it is removed from that device.

Invalid packets (a packet that is not setting up a connection or part of an established connection) are sorted to the base device. For example, if you have an ADM virtual device that is looking for packets with a source or destination port of 80 and an invalid packet comes through with a source or destination port of 80, it is sorted to the base device instead of the ADM virtual device that looks for port 80 traffic. So, you can see events in the base device that look like they should have gone to an ADM virtual device.

Manage selection rules

Selection rules are used as filters to determine which packets will be processed by a virtual device. You can add, edit, and delete selection rules.

The order that selection rules are listed in is important because the first time a packet matches a rule, that packet is automatically routed to that virtual device for processing.

Task

For option definitions, click **?** in the interface.

1. Select an IPS or ADM device node, then click the **Properties** icon ☰.
2. Click **Virtual Devices**, then click **Add**.

   The **Add Virtual Device** window opens.
3. Add, edit, remove, or change the order of the selection rules in the table.

Add a virtual device

You can add a virtual device to some ADM and IPS devices, setting the selection rules that determine which packets are processed by each device.

> **Before you begin**
>
> Make sure that virtual devices can be added to the device you have selected (see *About virtual devices*).

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select an ADM or IPS device, then click the **Properties** icon ☰.
2. Click **Virtual Devices | Add**.
3. Enter the information requested, then click **OK**.
4. Click **Write** to add the settings to the device.

Manage custom display types

You can define how you want the devices on the system navigation tree to be organized by adding, editing, or deleting custom display types.

Task

For option definitions, click **?** in the interface.

1. On the system navigation pane, click the display type drop-down arrow.
2. Do one of the following:

To...	Do this...
Add a custom display type	1 Click **Add Display**. 2 Fill in the fields, then click **OK**.
Edit a custom display type	1 Click the **Edit** icon ✎ next to the display type you want to edit. 2 Make changes to the settings, then click **OK**.
Delete a custom display type	Click the **Delete** icon ✖ next to the display type you want to delete.

Select a display type

Select the way you want to display the devices in the system navigation tree.

Before you begin

To select a custom display, you must add it to the system first (see *Manage custom display types*).

Task

1 On the system navigation pane, click the drop-down arrow in the display type field.

2 Select one of the display types.

The organization of the devices on the navigation tree changes to reflect the type you selected for the current work session.

Manage a group in a custom display type

You can use groups in a custom display type to organize your devices into logical groupings.

Before you begin

Add a custom display type (see *Manage custom display types*).

Task

For option definitions, click **?** in the interface.

1 On the system navigation pane, click the display type drop-down list.

2 Select the custom display, then do one of the following:

To...	Do this...
Add a new group	1 Click a system or group node, then click the **Add Group** icon on the actions toolbar. 2 Fill in the fields, then click **OK**. 3 Drag-and-drop devices on the display to add them to the group. ℹ If the device is part of a tree on the display, a duplicate device node is created. You can then delete the duplicate on the system tree.
Edit a group	Select the group, click the **Properties** icon, then make changes on the **Group Properties** page.
Delete a group	Select the group, then click the **Delete Group** icon. The group and the devices that are in it are deleted from the custom display. The devices are not deleted from the system.

See also

Manage custom display types on page 24

Delete duplicate devices on the system navigation tree

Duplicate device nodes can appear on the system navigation tree when you drag and drop devices from a system tree into a group or when you have groups set up and then upgrade the ESM software. We recommend that you delete them to avoid confusion.

Task

For option definitions, click **?** in the interface.

1. On the system navigation pane, click the display type drop-down list.
2. Select the **Edit** icon next to the display that includes the duplicate devices.
3. Deselect the duplicate devices, then click **OK**.

The devices that had duplicates are now listed only in their assigned groups.

Manage multiple devices

The **Multi-Device Management** option allows you to start, stop, and restart, or update the software on multiple devices at one time.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select the devices you want to manage.
2. Click the **Multi-Device Management** icon on the actions toolbar.
3. Select the operation you want to perform and the devices you want to perform it on, then click **Start**.

Manage URL links for all devices

You can set up a link for each device to view device information on a URL.

> **Before you begin**
>
> Set up the URL site for the device.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then click **Custom Settings** | **Device Links**.
2. To add or edit a URL, highlight the device, click **Edit**, then enter the URL.

   The URL field has a limit of 512 characters.
3. Click **OK**.

You can access the URL by clicking the **Launch Device URL** icon at the bottom of the **Event Analysis** and **Flow Analysis** views for each device.

View device summary reports

The device summary reports show the types and number of devices on the ESM and the last time an event was received by each one. These reports can be exported in comma-separated value (CSV) format.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then click **System Information | View Reports**.
2. View or export the **Device Type Count** or **Event Time** report.
3. Click **OK**.

View a system or device log

System and device logs show events that have taken place on the devices. You can view the summary page, which shows the event count and the times of the first and last event on ESM or device or view a detailed list of events on the **System Log** or **Device Log** page.

Task

For option definitions, click **?** in the interface.

1. View a summary of event data:
   - System data — On **System Properties**, click **System Log**.
   - Device data — On a device's **Properties** page, click **Device Log**.
2. To view the log of events, enter a time range, then click **View**.

The **System Log** or **Device Log** page lists all the events generated during the time range you specified.

Device health status reports

White (informational), yellow (inactivity or device status), or red (critical) health status flags 🚩 appear next to system, group, or device nodes on the system navigation tree when a health status report is available. When you click the flag, the **Device Status Alerts** page provides you with options to view the information and resolve any issues.

A flag on this type of node...	Opens...
System or group	The **Device Status Alerts Summary** page, which is a summary of the status alerts for the devices associated with the system or group. It can display these status alerts: • **Partition deleted** — A database table containing the event, flow, or log data has reached its maximum size and has deleted a partition to add space for new records. Event, flow, and log data can be exported to avoid permanent loss. • **Drive Space** — A hard drive is full or running low on space. This could include the hard drive on the ESM, redundant ESM, or remote mount point. • **Critical** — The device is not working properly and should be fixed. • **Warning** — Something on the device is not functioning the way it should. • **Informational** — The device is working properly but the device status level changed. • **Out of Sync** — The virtual device, data source, or database server settings on the ESM are out of sync with what is actually on the device. • **Rolled over** — The log table for this device ran out of space so it has rolled over. This means that the new logs are writing over the old logs. • **Inactive** — The device has not generated events or flows within the inactivity threshold time period. • **Unknown** — The ESM couldn't connect to the device. **Partition deleted**, **Drive space**, **Rolled over**, and **Informational** flags can be cleared by checking the boxes next to the flags and clicking **Clear Selected** or **Clear All**.
Device	The **Device Status Alerts** page, which has buttons that take you to locations for resolving the problem. It might include these buttons: • **Log** — The **System Log** (for Local ESM) or **Device Log** page shows a summary of all actions that have taken place on the system or device. • **Virtual Devices**, **Data Sources**, **VA Sources**, or **Database Servers** — Lists the devices of this type on the system, allowing you to check for problems. • **Inactive** — The **Inactivity Threshold** page shows the threshold setting for all devices. This flag indicates that the device has not generated an event in the time interval specified.

An informational flag appears whenever a subsystem recovers from a warning or critical status. Here is a description of each type of informational flag.

Status	Description and instructions
Bypass mode	The Network Interface Controller (NIC) is in bypass mode. Possible reasons include the failure of a critical system process, manually setting the device in bypass mode, or other failure. To take the device out of bypass mode, go to device **Properties** | **Configuration** | **Interfaces**.
Deep Packet Inspector not running	The Deep Packet Inspector (DPI) has malfunctioned. It might recover without intervention. If not, restart the device.
Firewall alert program (ngulogd) not running	The Firewall Alert Aggregator (FAA) has malfunctioned. It might recover without intervention. If not, restart the device.
Database not running	The McAfee Extreme Database (EDB) server has malfunctioned. Restarting the device might solve the problem, but the database might need to rebuild.

Status	Description and instructions
Oversubscription mode	If the monitored network is busier than Nitro IPS can handle, network packets might not be inspected. The health monitor generates an alert indicating that the Nitro IPS is oversubscribed. By default, the oversubscription mode value is set to drop. To change the value, navigate to **Policy Editor**, click **Variable** in the **Rule Types** pane, expand the **packet_inspection** variable, and select **Inherit** for the **OVERSUBSCRIPTION _MODE** variable. **Pass** and **Drop** are allowed for this variable.
Control channel not running	The process that services the communication channel with the ESM has failed. A device reboot might remedy the problem.
RDEP or Syslog programs not running	If there is a malfunction with the subsystem that handles the third-party data sources (such as syslog or SNMP), a critical alert is raised. A warning-level alert is raised if the collector hasn't received data from the third-party data source in a certain amount of time. This indicates the data source might be down or not sending data to the Receiver as expected.
Health Monitor unable to communicate with the Deep Packet Inspector controller program	The Health Monitor is unable to communicate with the Deep Packet Inspector to retrieve its status. This could mean that the control program is not running and network traffic might not be passing through the Nitro IPS. Reapplying the policy might resolve the issue.
System logger not running	The system logger is not responding. A reboot of the device might remedy the problem.
Hard drive partition free space low	The amount of free disk space is critically low.
Fan speed alert	Fans are spinning very slowly or not at all. Until the fan can be replaced, keep the device in an air conditioned room to prevent damage.
Temperature Alert	Temperature of critical components is above a certain threshold. Keep the device in an air conditioned room to prevent permanent damage. Check to see if anything is blocking the airflow through the device.
Network errors	There are network errors or excessive collisions on the network. The cause might be a large collision domain or bad network cables.
Problem with a remote mount point	There is a problem with a remote mount point.
Remote mount point free disk space low	The remote mount point free disk space is low.
All data source collectors that have not received communication from a data source for at least 10 minutes	The Receiver has not received any communication from a data source for at least 10 minutes.
Data source collector not running	There is a malfunction with the subsystem that handles the specific third-party data sources (such as syslog or SNMP). The collector hasn't received any data from the third-party data source in a certain amount of time. The data source may be down or not sending data to the Receiver as expected.
Health Monitor unable to get a valid status from a subsystem	The health monitor was unable to get a valid status from a subsystem.
Subsystem recovery from a warning or critical status	When the health monitor is started and stopped, an informational alert is generated. If the health monitor has trouble communicating with other subsystems on the devices, an alert is also generated. Viewing the event log may provide details on the causes of the warning and critical alerts.

Delete a group or device

When a device is no longer part of the system or you no longer use a group, delete it from the system navigation tree.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, highlight the device or group that you want to delete, then click the **Delete** icon on the actions toolbar.
2. When prompted to confirm, click **OK**.

Refresh the devices

You can manually update the devices on the system so their information matches that on the ESM.

- On the actions toolbar, click the **Refresh Devices** icon 🔄.

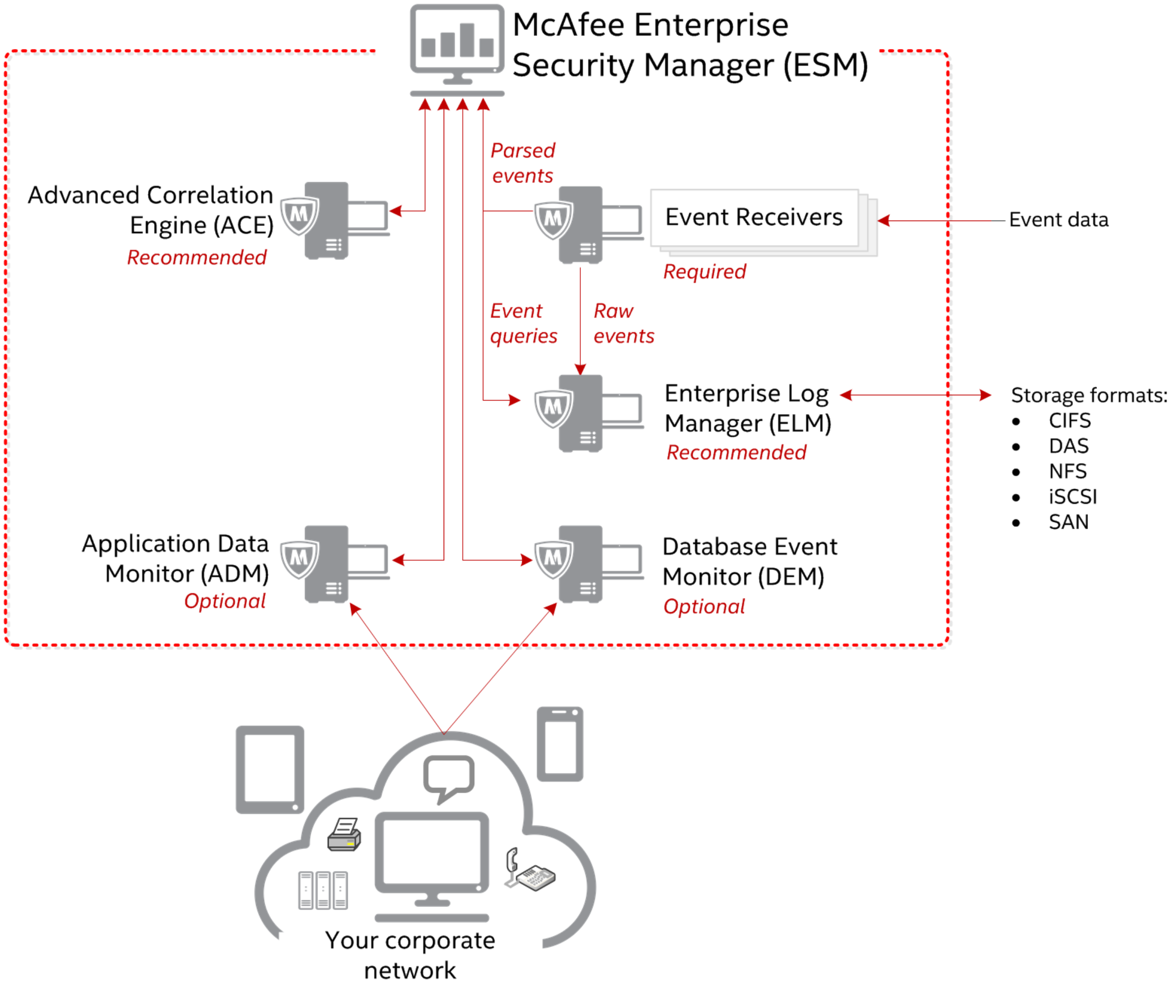
Configuring devices

Connect both physical and virtual devices to McAfee ESM to enable real-time forensics, application and database monitoring, advanced rule- and risk-based correlation, and compliance reporting.

Contents

Devices and what they do

The ESM enables you to administer, manage, and interact with all physical and virtual devices in your security environment.



See also

Event Receiver settings on page 55
Enterprise Log Manager (ELM) settings on page 103
Application Data Monitor (ADM) settings on page 120
Database Event Monitor (DEM) settings on page 134
Advanced Correlation Engine (ACE) settings on page 117
Distributed ESM (DESM) settings on page 141
ePolicy Orchestrator settings on page 141
Nitro Intrusion Prevention System (Nitro IPS) settings on page 147

Event Receiver settings

The **Event Receiver** enables the collection of security events and network flow data from multi-vendor sources including firewalls, virtual private networks (VPNs), routers, Nitro IPS/IDS, NetFlow, sFlow, and others.

The **Event Receiver** allows for the collection of this data and normalizes it into a single manageable solution. This provides you with a single view across devices from multiple vendors, such as Cisco, Check Point, and Juniper, and allows event and flow data collection from Nitro IPS devices and routers that send data feeds to the Receiver.

High Availability Receivers (Receiver-HA) can be used in primary and secondary mode, acting as backups for each other. The secondary Receiver (B) monitors the primary Receiver (A) continuously and new configuration or policy information is sent to both devices. When Receiver B determines that Receiver A failed, it disconnects Receiver A's data source NIC from the network and takes over as the new primary. It remains as the primary until you intervene manually to restore Receiver A as primary.

View streaming events

The **Streaming Viewer** displays a list of events as they are generated by McAfee ePO, McAfee® Network Security Manager, Receiver, data source, child data source, or the client you select. You can filter the list and select an event to display in a view.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select the device you need to view, then click the **View Streaming Events** icon in the actions toolbar.
2. Click **Start** to begin streaming and **Stop** to stop it.
3. Select any of the available actions on the viewer.
4. Click **Close**.

High Availability Receivers

High Availability Receivers are used in primary and secondary mode so that the secondary Receiver can swiftly take over functions when the primary Receiver fails. This provides continuity of data collection that is better than that provided by a single Receiver.

> ! The High Availability Receivers feature is not FIPS-compliant. If you are required to comply with FIPS regulations, do not use this feature.

This setup consists of two Receivers, one acting as the primary or preferred primary and the other as secondary. The secondary Receiver monitors the primary continuously. When the secondary determines that the primary has failed, it stops the primary and takes over its function.

Once the primary is repaired, it becomes the secondary or it becomes the primary once again. This is determined by the option selected in the **Preferred primary device** field on the **HA Receiver** tab (see *Set up Receiver-HA Devices*.

These Receiver models can be purchased with High Availability function:

- ERC-1225-HA
- ERC-2230-HA
- ERC-2250-HA
- ERC-1250-HA
- ERC-1260-HA
- ERC-2600-HA

- ERC-4245-HA
- ERC-4500-HA
- ERC-4600-HA

These models include an Intelligent Platform Management Interface (IPMI) port as well as at least 4 NICs, which are necessary for HA functionality (see *Network ports on Receiver-HA*).

The IPMI cards eliminate the possibility of both DS NICs using the shared IP and MAC at the same time by shutting down the failed receiver. The IPMI cards are connected with a cross-over or straight-through cable to the other Receiver. The Receivers are connected with a cross-over or straight-through cable on the heartbeat NIC. There is a management NIC for communication with the ESM, and a data source NIC for collecting data.

When the primary Receiver is running properly and the secondary Receiver is in secondary mode, this is happening:

- The Receivers communicate constantly over the dedicated heartbeat NIC and the management NIC.
- Any certificates that are received, such as OPSEC or Estreamer, are passed to the other Receiver in the pair.
- All data sources use the data source NIC.
- Each Receiver monitors and reports its own health. This includes internal health items like disk errors, database freezes, and lost links on NICs.
- The ESM communicates with the receivers periodically to determine their status and health.
- Any new configuration information is sent to both the primary and secondary receiver.
- The ESM sends policy to both the primary and secondary receiver.
- Stop/Reboot/Terminal/Call Home apply to each receiver independently.

The following sections describe what happens when Receiver-HA experiences problems.

Primary Receiver failure

Determination of primary Receiver failure is the responsibility of the secondary receiver. It must determine that failure quickly and accurately to minimize data loss. On fail-over, all data since the primary last sent data to the ESM and ELM is lost. The amount of data lost depends on the throughput of the Receiver and the rate at which the ESM pulls data from the Receiver. These competing processes must be carefully balanced to optimize data availability.

When the primary Receiver fails completely (power loss, CPU failure) there is no heartbeat communication with the primary Receiver. Corosync recognizes the loss of communication and marks the primary Receiver as failed. Pacemaker on the secondary Receiver requests that the IPMI card on the primary Receiver shut down the primary Receiver. The secondary Receiver then assumes the shared IP and MAC address, and starts all collectors.

Secondary Receiver failure

The secondary failure process occurs when the secondary Receiver is no longer responding to the heartbeat communication. This means the system has been unable to communicate with the secondary Receiver after attempting to do so for a period of time using the management and heartbeat interfaces.

If the primary is unable to get heartbeat and integrity signals, corosync marks the secondary as failed and pacemaker uses the secondary's IPMI card to shut it down.

Primary health problem

The health of the primary receiver can be severely compromised. Severely compromised health would include a non-responsive database, an unresponsive data source interface, and excessive disk errors.

When the primary Receiver notices a healthmon alert for any of these conditions, it kills the corosync and pacemaker processes and sets a healthmon alert. Killing these processes causes the data collection duties to transfer to the secondary Receiver.

Secondary health problem

When the health of the secondary Receiver is severely compromised, this occurs:

- The secondary Receiver reports health problems to the ESM when queried and kills the corosync and pacemaker processes.
- If the secondary Receiver is still part of the cluster, it removes itself from the cluster and is unavailable in case of primary Receiver failure.
- The health problem is analyzed and a repair attempted.
- If the health problem is resolved, the Receiver is returned to normal operation using the *Return to service* procedure.
- If the health problem is not resolved, the *Replace a failed Receiver* process is initiated.

Returning to service

When a Receiver is returned to service after a failure (for example, restart after a power failure, hardware repair, or network repair), the following occurs:

- Receivers in High Availability mode do not start collecting data on startup. They are in secondary mode until they are set as primary.
- The preferred primary device assumes the role of primary and starts using the shared data source IP to collect data. If there is no preferred primary device, the device that is currently primary starts using the shared data source and collects data.

For details regarding this process, see *Replace a failed Receiver*.

Upgrading Receiver-HA

The Receiver-HA upgrade process upgrades both receivers sequentially, starting with the secondary receiver. It occurs like this:

1. The upgrade tarball file is uploaded to the ESM and applied to the secondary Receiver.
2. You switch the role of the primary and secondary Receiver, using the *Switch Receiver-HA roles* process, so the Receiver that was upgraded is now the primary Receiver and the one that has not yet been upgraded is secondary.
3. The upgrade tarball is applied to the new secondary receiver.
4. You once again switch the role of the primary and secondary Receiver, using the *Switch Receiver-HA roles* process, so the original Receiver roles are assumed once again.

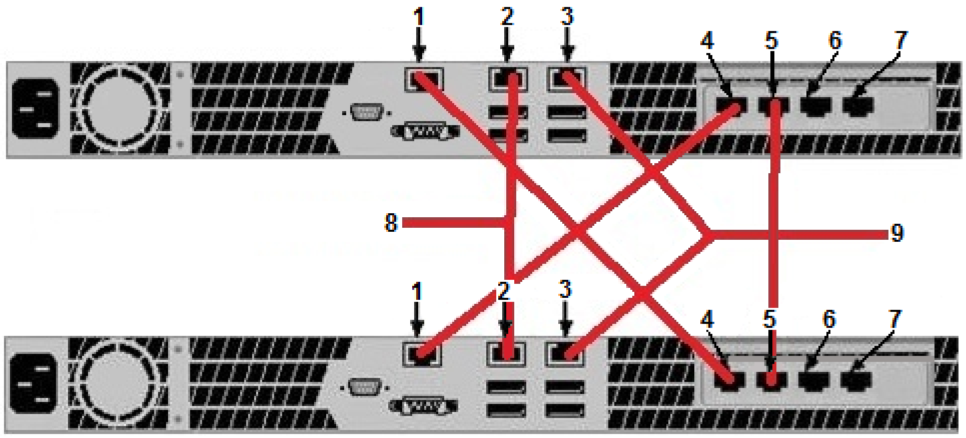
When upgrading, it is best not to have a preferred primary Receiver. Refer to

If your Receiver-HA is set up with a preferred primary, it is best to change the setting before upgrading. On the **HA Receiver** tab (see *Set up Receiver-HA Devices*), select **None** in the **Preferred primary device** field. This allows you to use the **Fail-over** option, which is not available with a preferred primary setting. After both Receivers are upgraded, you can apply the preferred primary setting again.

Network ports on Receiver-HAs

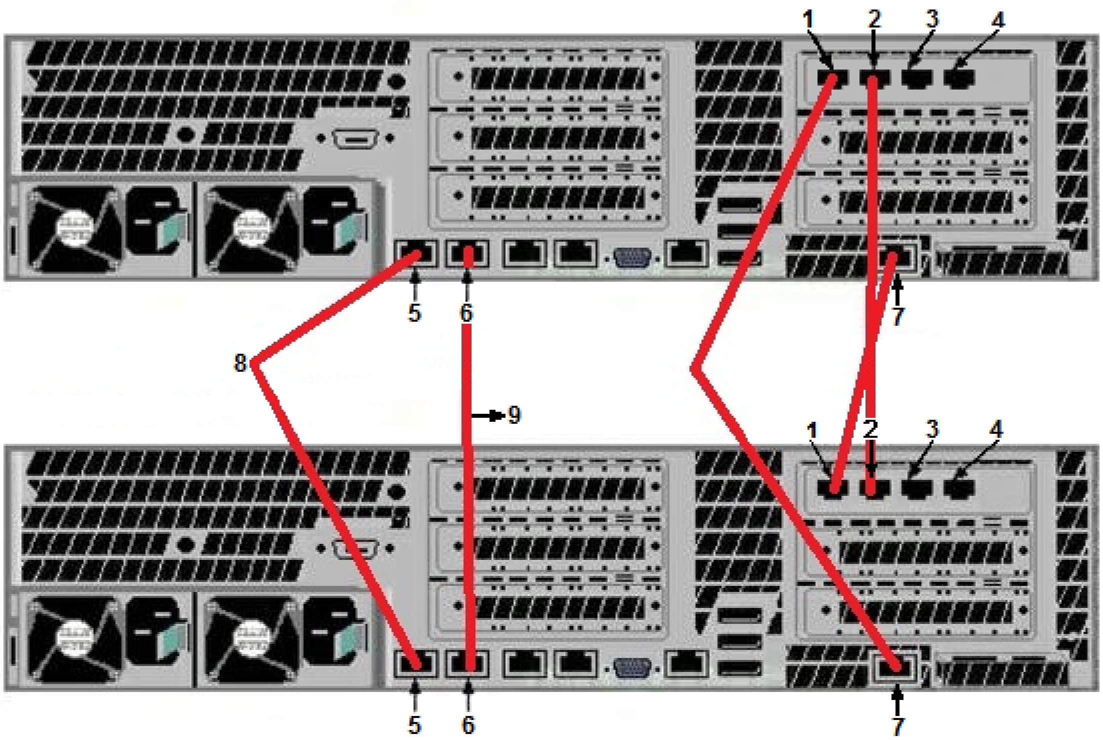
These diagrams show how to connect the network ports on a Receiver-HA.

ERC-1250-HA/1260-HA



1	IPMI
2	Mgmt 2
3	Mgmt 1
4	IPMI NIC
5	Heart beat (HB)
6	Mgmt 2
7	Mgmt 3
8	Data feed
9	Mgmt 1 IP

ERC-2600-HA and ERC-4600-HA



1 IPMI NIC

2 HB

3 Mgmt 2

4 Mgmt 3

5 Mgmt

6 Data

7 IPMI

8 Mgmt1

9 Data feed

Set up Receiver-HA Devices

Define the settings for the Receiver-HA devices.

Before you begin

Add the Receiver that serves as the primary device (see *Add devices to the ESM console*). It must have three or more NICS.

> The High Availability Receivers feature is not FIPS-compliant. If you are required to comply with FIPS regulations, do not use this feature.

Task

For option definitions, click **?** in the interface.

1 On the system navigation tree, select the Receiver that will be the primary HA device, then click the **Properties** icon.

2 Click **Receiver Configuration**, then click **Interface**.

3 Click the **HA Receiver** tab, then select **Setup High Availability**.

4 Fill in the information requested, then click **OK**.

This initiates the process that keys the second Receiver, updates the database, applies `globals.conf`, and syncs the two Receivers.

Reinitialize the secondary device

If the secondary Receiver is taken out of service for any reason, reinitialize it once it's reinstalled.

Task

For option definitions, click **?** in the interface.

1 On the system navigation tree, select **Receiver Properties** for the primary Receiver, then click **Receiver Configuration | Interface | HA Receiver**.

2 Verify that the correct IP address is in the **Secondary Management IP** field.

3 Click **Reinitialize Secondary**.

The ESM performs the necessary steps to reinitialize the Receiver.

Reset HA devices

If you need to reset HA Receivers to the state they were in before being set up as HA devices, you can do so on the ESM console or, if communication with the Receivers fails, on the LCD menu.

- Do one of the following:

To...	Do this...
Reset a Receiver on the ESM console	1 On the system navigation tree, click**Receiver Properties**, then click **Receiver Configuration | Interface**. 2 Deselect **Setup High Availability**, then click **OK**. 3 Click **Yes** on the warning page, then click **Close**. Both Receivers restart after a timeout of about five minutes, returning the MAC addresses to their original values.
Reset the primary or secondary Receiver on the LCD menu	1 On the Receiver's LCD menu, press **X**. 2 Press the down arrow until you see **Disable HA**. 3 Press the right arrow once to display **Disable Primary** on the LCD screen. 4 To reset the primary Receiver, press the checkmark. 5 To reset the secondary Receiver, press the down arrow once, then press the checkmark.

Switch Receiver-HA roles

The user-initiated switch-over process allows you to switch the roles of the primary and secondary Receivers.

You might need to do this when upgrading a Receiver, preparing a Receiver to be returned to the manufacturer, or moving cables on a Receiver. This switch minimizes the amount of data lost.

> If a collector (including the McAfee ePO device) is associated with a Receiver-HA and the Receiver-HA fails over, the collector can't communicate with the Receiver-HA until the switches between the two associate the new MAC address of the failed-over Receiver to the shared IP address. This can take from a few minutes up to a few days, depending on the current network configuration.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select the Receiver-HA device, then click the **Properties** icon ☰.
2. Select **High Availability | Fail-Over**. The following happens:
   - The ESM instructs the secondary Receiver to start using the shared data source IP and collecting data.
   - The secondary Receiver issues a Cluster Resource Manager (CRM) command to switch the shared IP and MAC, and starts the collectors.
   - The ESM pulls all alert and flow data from the primary Receiver.
   - The ESM marks the secondary Receiver as the primary and marks the primary Receiver as the secondary.

Upgrade HA Receivers

The Receiver-HA upgrade process upgrades both Receivers sequentially, starting with the secondary Receiver.

> ! Before starting the upgrade process, go through the *Check Receiver high availability status* process to make sure that the Receiver-HA devices are ready to be upgraded. Failure to do so can result in problems with the device upgrade and downtime.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select the Receiver-HA device, then click the **Properties** icon ☰.
2. Upgrade the secondary Receiver:
   a. Click **Receiver Management**, then select **Secondary**.
   b. Click **Update Device**, then select or browse to the file you want to use and click **OK**.

      The Receiver restarts and the version of software is updated.
   c. On **Receiver Properties**, click **High Availability | Return to Service**.
   d. Select the secondary Receiver, then click **OK**.
3. Change the secondary Receiver to primary by clicking **High Availability | Fail-Over**.
4. Upgrade the new secondary Receiver by repeating step 2.

Check Receiver high availability status

Determine the status of an HA Receiver pair prior to performing an upgrade.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select the primary Receiver-HA device, then click the **Properties** icon ☰.
2. In the **Status** and **Secondary Status** fields, verify that the status is **OK; HA Status: online**.

3. Secure shell, or SSH, to each of the HA Receivers and run the `ha_status` command from the command-line interface on both Receivers. The resulting information shows the status of this Receiver and what this Receiver thinks the status of the other Receiver is. It looks similar to this:

   ```
   OK
   hostname=McAfee1
   mode=primary
   McAfee1=online
   McAfee2=online
   sharedIP=McAfee1
   stonith=McAfee2
   corosync=running
   hi_bit=no
   ```

4. Verify the following in the above:
   - The first line of the response is `OK`.
   - `Hostname` is the same as the host name on the command line minus the Receiver model number.
   - `Mode` is primary if the value of `sharedIP` is this Receiver's host name; otherwise the mode is secondary.
   - The next two lines show the host names of the Receivers in the HA pair and list the running status of each Receiver. The status for both is **online**.
   - `corosync=` shows the running status of corosync, which should be running.
   - `hi_bit` is `no` on one Receiver and `yes` on the other Receiver. It doesn't matter which one is which.

   Make sure that only one of the HA Receivers is set with the hi_bit value. If both HA Receivers are set to the same value you should call McAfee Support before doing the upgrade to correct this misconfigured setting.

5. Secure shell, or SSH, to each of the HA Receivers and run the `ifconfig` command from the command-line interface of both Receivers.
6. Verify the following in the data that is generated:
   - The MAC addresses on eth0 and eth1 are unique on both Receivers.
   - The primary Receiver has the shared IP address on eth1 and the secondary Receiver has no IP address on eth1.

     If both HA Receivers are set to the same value, call McAfee support before upgrading to correct this misconfigured setting.

This spot check ensures the system is functional and that no duplication of IP addresses exists, which means that the devices can be upgraded.

Replace a failed Receiver

If a secondary Receiver has a health problem that can't be resolved, it might be necessary to replace the Receiver. When you receive the new Receiver, install it following the procedures in *McAfee ESM Setup and Installation Guide*. When the IP addresses are set and the cables are plugged in, you can proceed to bring the Receiver back into the HA cluster.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **Receiver Properties** for the HA Receiver, then click **Receiver Configuration | Interface**.
2. Click the **HA Receiver** tab, then verify that **Setup High Availability** is selected.
3. Verify that the IP addresses are correct, then click **Reinitialize Secondary**.

The new Receiver is brought into the cluster and HA mode is enabled.

Troubleshooting failed Receiver

If a Receiver in an HA setup goes down for any reason, the writing of data sources, global settings, aggregation settings, and others, appears to fail and an SSH error appears.

In fact, the settings roll out to the Receiver that is still functioning, but an error appears because it can't sync with the Receiver that is down. Policy, however, does not roll out. In this situation, you have the following options:

- Wait to roll out policy until a secondary receiver is available and synced.
- Remove the Receiver from HA mode, which causes two to five minutes of down time for the HA cluster during which no events are gathered.

Archiving Receiver raw data

Configure the Receiver to forward a backup of the raw data to your storage device for long-term storage.

The three types of storage that are supported by the ESM are Server Message Block/Common Internet File System (SMB/CIFS), Network File System (NFS), and Syslog Forwarding. SMB/CIFS and NFS store, in the form of data files, a backup of all raw data sent to the Receiver by data sources that use the email, estream, http, SNMP, SQL, syslog, and remote agent protocols. These data files are sent to the archive every five minutes. Syslog Forwarding sends the raw data for syslog protocols as a continuous stream of combined syslogs to the device configured in the **Syslog Forwarding** section of the **Data Archival Settings** page. The Receiver can forward to only one type of storage at a time; you can configure all three types, but only one type can be enabled to archive data.

> ! This feature doesn't support Netflow, sflow, and IPFIX data source types.

Define archive settings

To store the raw data of syslog messages, you must configure the settings used by the Receiver for archiving.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **Receiver Properties**, then click **Receiver Configuration** | **Data Archival**.
2. Select the share type and enter the information requested.

   > Port 445 must be opened on the system with the CIFS share to enable a CIFS share connection. Likewise, Port 135 must be opened on the system with the SMB share for an SMB connection to be established.

3. When you are ready to apply the changes to the Receiver device, click **OK**.

View source events for correlation event

You can view the source events for a correlation event on the **Event Analysis** view.

> **Before you begin**
>
> A correlation data source must already exist on the ESM (see *Correlation data source* and *Add a data source*).

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, expand the Receiver, then click **Correlation Engine**.
2. On the view list, click **Event Views**, then select **Event Analysis**.
3. On the **Event Analysis** view, click the plus sign (+) in the first column next to the correlation event.

   > A plus sign appears only if the correlation event has source events.

The source events are listed under the correlation event.

View Receiver throughput statistics

View Receiver usage statistics, which includes the incoming (Collector) and outgoing (parse) data source rates for the last 10 minutes, the last hour, and the last 24 hours.

> **Before you begin**
>
> Verify that you have the Device Management privilege.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select a Receiver, then click the Properties icon ☰.
2. Click **Receiver Management | View Statistics | Throughput.**
3. View the Receiver statistics.

   If incoming rates exceed the output rate by 15 percent, the system flags that row as either critical (in the last 24 hours) or as a warning (in the last hour).

4. Filter the data source by selecting the All, Critical, or Warning options.

5 Select the unit of measure to display the metrics: by number of kilobytes (KBs) or number of records.

6 To refresh the data automatically every 10 seconds, select the **Auto Refresh** checkbox.

7 Sort data by clicking the relevant column title.

Receiver data sources

The McAfee Event Receiver enables the collection of security events and network flow data from multi-vendor sources including firewalls, virtual private networks (VPNs), routers, Nitro IPS/IDS, NetFlow, sFlow, and others. Data sources are used to control how log and event data are gathered by the Receiver. You must add data sources and define their settings so they collect the data you need.

The **Data Sources** page is the starting point to manage the data sources for your Receiver device. It provides a way for you add, edit, and delete data sources, as well as import, export, and migrate them. You can also add child and client data sources.

Add a data source

Configure the settings for the data sources you need to add to the Receiver to collect data.

Task

For option definitions, click **?** in the interface.

1 On the system navigation tree, select the Receiver you want to add the data source to, then click the **Properties** icon ☰.

2 On **Receiver Properties**, click **Data Sources** | **Add**.

3 Select the vendor and the model.

The fields you fill out depend on your selections.

4 Fill in the information requested, then click **OK**.

The data source is added to the list of data sources on the Receiver, as well as to the system navigation tree under the Receiver you selected.

Processing data source with SNMP Trap

The SNMP trap functionality allows a data source to accept standard SNMP traps from any manageable network device that has the capability of sending SNMP traps.

These standard traps are:

- Authentication Failure
- Cold Start
- EGP Neighbor Loss
- Link Down
- Link Up and Warm Start

To send SNMP traps through IPv6, you must formulate the IPv6 address as an IPv4 conversion address. For example, converting 10.0.2.84 to IPv6 looks like this:

2001:470:B:654:0:0:10.0.2.84 or 2001:470:B:654::A000:0254.

If you select **SNMP Trap**, there are three options:

- If a profile has not been selected previously, the **SNMP Data Source Profiles** dialog box opens, allowing you to select the profile to be used.
- If a profile has been selected previously, the **SNMP Data Source Profiles** dialog box opens. To change the profile, click the down arrow in the **System Profiles** field and select a new profile.
- If a profile has been selected previously and you want to change it but the drop-down list on the **SNMP Data Source Profiles** dialog box does not include the profile you need, create a data source SNMP profile.

Manage data sources

You can add, edit, delete, import, export, and migrate data sources, as well as add child and client data sources on the **Data Sources** page.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **Receiver Properties**, then click **Data Sources**.
2. View a list of the data sources on the Receiver and perform any of the available options to manage them.
3. Click **Apply** or **OK**.

SIEM Collector

The SIEM Collector sends Windows Event Logs to a Receiver, using an encrypted connection.

Without the SIEM Collector, Windows event collection is limited to using the WMI protocol or a third-party agent. In many environments, the security policy locks access to the system so that you can't use WMI.

WMI traffic is clear text and only allows access to logs written to the Windows Event Log. You can't access log files created by other services, such as DNS, DHCP, and IIS, or by using another third-party agent.

Using the SIEM Collector as a standalone or as part of an existing McAfee ePolicy Orchestrator implementation, you can add the WMI functionality to existing McAfee agents.

You can also use the SIEM Collector as a hub to collect logs from other systems, via RPC, without adding the SIEM Collector package to every system.

Other functionality includes:

- Plug-in for user-defined SQL database collection (supports SQL Server and Oracle).
- Plug-in for parsing exported Windows Events in .evt or .evtx formats.
- Plug-in for supporting SQL Server C2 auditing (.trc format).

Integrating vulnerability assessment data

Vulnerability Assessment (VA) on the DEM and Receiver allows you to integrate data that can be retrieved from many VA vendors.

You can use this data in several ways.

- Raise an event's severity based on the endpoint's known vulnerability to that event.
- Set the system to automatically learn assets and their attributes (operating system and services detected).
- Create and manipulate the membership of user-defined asset groups.

- Access summary and drill-down information of the network assets.
- Modify **Policy Editor** configuration such as turn on MySQL signatures if an asset is discovered running MySQL.

You can access VA data generated by the system on predefined views or on custom views that you create. The predefined views are:

- **Dashboard Views | Asset Vulnerability Dashboard**
- **Compliance Views | PCI | Test Security Systems and Processes | 11.2 Network Vulnerability Scans**
- **Executive Views | Critical Vuln on Regulated Assets**

To create a custom view, refer to *Add a custom view*.

> If you create a view that includes the **Total Number of Vulnerabilities Count** or **Dial** component, you might see an inflated count of vulnerabilities. This is because the McAfee Threat Intelligence Services (MTIS) feed is adding threats based on the original vulnerability that the VA source reported (see *Asset, threat, and risk assessment*).

The McAfee rules team maintains a rules file that maps a McAfee sigID to a VIN to one or more references to a Common Vulnerabilities and Exposure (CVE) ID, BugTraq ID, Open Source Vulnerability Database (OSVDB) ID, and/or Secunia ID. These vendors report CVE and BugTraq IDs in their vulnerabilities; therefore, CVE and BugTraq IDs are included in this release.

Define a VA system profile

When adding an eEye REM source, the **Add Vulnerability Assessment Source** page gives you the option to use a previously defined system profile. To use this feature, you must first define the profile.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select a DEM or Receiver device, then click the **Properties** icon.
2. Click **Vulnerability Assessment | Add**.
3. In the **VA source type** field, select **eEye REM**.
4. Click **Use System Profile**.
5. Click **Add**, then select **Vulnerability Assessment** in the **Profile Type** field.
6. In the **Profile Agent** field, select the SNMP version for this profile.

   The fields on the page are activated based on the version selected.
7. Fill in the requested information, then click **OK**.

Add a VA source

To communicate with VA sources, you must add the source to the system, configure communication parameters for the VA vendor, schedule parameters to dictate how often data is retrieved, and modify event severity calculations.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select a DEM or Receiver device, then click the **Properties** icon.
2. Click **Vulnerability Assessment**.

3 Add, edit, remove, or retrieve VA sources, and write any changes to the device.

4 Click **Apply** or **OK**.

Retrieve VA data

Once a source is added, you can retrieve the VA data. There are two ways to retrieve VA data from a source: scheduled or immediate. Either type of retrieval can be performed on all VA sources except eEye REM, which must be scheduled.

Task

For option definitions, click **?** in the interface.

1 On the system navigation tree, select **DEM** or **Receiver Properties**, then click **Vulnerability Assessment**.

2 Select the VA source, then select one of these options.

To...	Do this...
Retrieve immediately	• Click **Retrieve**. The job runs in the background and you are informed if the retrieval is successful (see *Troubleshoot VA retrieval* if it is not successful).
Schedule retrieval	1 Click **Edit**. 2 In the **Schedule VA data retrieval** field, select the frequency. 3 Click **OK**. 4 On the **Vulnerability Assessment** page, click **Write** to write the changes to the device.

3 Click **OK**.

4 To view the data, click the **Asset Manager** quick launch icon, then select the **Vulnerability Assessment** tab.

Troubleshooting VA retrieval

When you retrieve VA data, you are informed if it was not successful. Here are some of the reasons the retrieval might be unsuccessful.

This resource...	Causes...
Nessus, OpenVAS, and Rapid7 Metasploit Pro	• Empty directory. • Error in the settings. • Data in the directory was already retrieved, so the data isn't current.
Qualys, FusionVM, and Rapid7 Nexpose	Data in the directory was already retrieved, so the data isn't current.
Nessus	If you wrote over an existing Nessus file when you uploaded a new Nessus file to your FTP site, the date of the file remains the same; therefore, when you perform a VA retrieval, no data is returned because it's perceived as old data. To avoid this situation, either delete the old Nessus file off of the FTP site before uploading the new one, or use a different name for the file you upload.

Available VA vendors

The ESM can integrate with these VA vendors.

VA vendor	Version
Digital Defense Frontline	5.1.1.4
eEye REM (REM events server)	3.7.9.1721
eEye Retina The eEye Retina VA source is like the Nessus data source. You can choose whether to use scp, ftp, nfs, or cifs to grab the .rtd files. You must manually copy the .rtd files to an scp, ftp, or nfs share to pull them. The .rtd files are normally located in the Retina Scans directory.	5.13.0, Audits: 2400
McAfee Vulnerability Manager	6.8, 7.0
Critical Watch FusionVM	4-2011.6.1.48
LanGuard	10.2
Lumension	Support PatchLink Security Management Console 6.4.5 and later
nCircle	6.8.1.6
Nessus	Support Tenable Nessus versions 3.2.1.1 and 4.2 and file formats NBE, .nessus (XMLv2), and .nessus (XMLv1); also, OpenNessus 3.2.1 XML format
NGS	
OpenVAS	3.0, 4.0
Qualys	
Rapid7 Nexpose	
Rapid7 Metasploit Pro You can deduce the severity of a Metasploit exploit that starts with the name Nexpose by adding a Rapid7 VA source to the same Receiver. If it can't be deduced, the default severity is 100.	4.1.4-Update 1, file format XML
Saint	

Auto create data sources

You can set up the Receiver to create data sources automatically, using the five standard rules that come with the Receiver or rules that you create.

Before you begin

Ensure that auto check is selected on the **Events, Flows & Logs** dialog (**System Properties | Events, Flows & Logs**) or click the **Get Events and Flows** icon on the actions toolbar to pull events and/or flows.

Task

For option definitions, click **?** in the interface.

1. On **Receiver Properties**, click **Data Sources | Auto Learn**.
2. On the **Auto Learn** window, click **Configure**.
3. On the **Auto Add Rule Editor** window, ensure that **Enable auto creation** is selected, then select the auto add rules you want the Receiver to use to auto create data sources.
4. Click **Run** if you want to apply the selected rules to the existing auto learned data, then click **Close**.

Add new auto create rules

You can add custom rules to be used by the Receiver to auto create data sources.

Task

For option definitions, click **?** in the interface.

1. On **Receiver Properties**, click **Data Sources | Auto Learn | Configure | Add**.
2. On the **Configure auto add rule** dialog box, add the data needed to define the rule, then click **OK**.

The new rule will be added to the list of auto add rules on the **Auto Add Rule Editor** dialog box. You can then select it so data sources will be created when auto learned data meets the criteria defined in the rule.

Set the date format for data sources

Select the format for dates included in data sources.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select a Receiver, then click the **Add data source** icon ✚.
2. Click **Advanced**, then make a selection in the **Date Order** field:
   - **Default** - Uses the default date order (month before day). When using client data sources, clients using this setting will inherit the date order of the parent data source.
   - **Month before day** - The month goes before the day (04/23/2014).
   - **Day before month** - The day goes before the month (23/04/2014).
3. Click **OK**.

Out-of-sync data sources

As a result of several possible settings, the time on a data source can get out of sync with the ESM. When an out-of-sync data source generates an event, a red flag appears next to the Receiver on the system navigation tree.

You can set up an alarm to notify you when this occurs. You can then manage the data sources that are out of sync by accessing the **Time Delta** page (see *Manage out-of-sync data sources*).

> ℹ Out-of-sync events can be old events or future events.

There are several reasons your data sources can be out of sync with the ESM.

1. The ESM has the incorrect time zone setting (see *Select user settings*).
2. You set the time to the wrong zone when adding the data source (see *Add a data source*).
3. The system has been on for a long time and the timing slips out of sync.
4. You set up the system that way on purpose.
5. The system isn't connected to the Internet.
6. The event is out of sync when it comes in to the Receiver.

See also
Add a data source on page 65
Manage out-of-sync data sources on page 71
Select user settings on page 27

Manage out-of-sync data sources

If you have data sources that are out of sync with the ESM, you can set up an alarm to notify you when events are generated by these data sources. You can then view a list of the data sources, edit their settings, and export this list.

Task

For option definitions, click **?** in the interface.

1. Set up an alarm to notify you when an event comes in to the Receiver, generated by a data source that is out of sync with the ESM.
   - a On the system navigation tree, select the system, then click the **Properties** icon ☷.
   - b Click **Alarms | Add**, type the information requested on the **Summary** tab, then click the **Condition** tab.
   - c Select **Event Delta** in the **Type** field, select how often the ESM should check for out-of-sync data sources, and select the time difference that must exist for the alarm to trigger.
   - d Complete the information in the remaining tabs.
2. View, edit, or export the data sources that are out of sync.
   - a On the system navigation tree, click the Receiver, then click the **Properties** icon.
   - b Click **Receiver Management**, then click **Time Delta**.

Add a child data source

You can add child data sources to help you organize your data sources.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **Receiver Properties**, then click **Data Sources**.
2. On the data sources table, click the data source you want to add a child to.
3. Click **Add Child**, then fill out the fields as you would for a parent data source.
4. Click **OK**.

The data source is added as a child below the parent data source on the table and on the system navigation tree.

Client data sources

You can extend the number of data sources allowed on a Receiver by adding client data sources. For data sources with a syslog, ASP, CEF, MEF, NPP, and WMI collector, you can add up to 65,534 data source clients.

> If the data source is already a parent or child, or if it is a WMI data source and **Use RPC** is selected, this option is not available.
>
> You can add more than one client data source with the same IP address and use the port number to differentiate them. This allows you to segregate your data using a different port for each data type, then forward the data using the same port it came into.
>
> When you add a client data source (see *Client data sources* and *Add a client data source*), you select whether to use the parent data source port or another port.

Client data sources have these characteristics:

- They don't have VIPS, Policy, or Agent rights.
- They aren't displayed on the **Data Sources** table.
- They appear on the system navigation tree.
- They share the same policy and rights as the parent data source.
- They must be in the same time zone because they use the parent's configuration.

> Client WMI data sources can have independent time zones because the time zone is determined by the query sent to the WMI server.

Add a client data source

Add a client to an existing data source to increase the number of data sources allowed on the Receiver.

> **Before you begin**
>
> Add the data source to the Receiver (see *Add a data source*).

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **Receiver Properties**, then click **Data Sources**.
2. Select the data source that you want to add the client to, then click **Clients**.

   The **Data source clients** page lists the clients that are currently part of the selected data source.
3. Click **Add**, fill in the information requested, then click **OK**.

Events go to the data source (parent or client) that is more specific. For example, you have two client data sources, one with an IP address of 1.1.1.1 and the second with an IP address of 1.1.1.0/24, which covers a range. Both are the same type. If an event matches 1.1.1.1, it goes to the first client because it is more specific.

Locate a client

The **Data source clients** page lists all the clients on the system. Because you can have more than 65,000 clients, a search feature is provided so that you can locate a specific one, if needed.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **Receiver Properties**, then click **Data Sources** | **Clients**.

2. Enter the information you want to search for, then click **Search**.

Import a list of data sources

The **Import** option on the **Data Sources** page allows you to import a list of data sources saved in .csv format, eliminating the need to add, edit, or remove each data source individually.

There are two situations in which you use this option:

- To import raw data source data copied from a Receiver in a secured location to a Receiver in an unsecured location. If this is what you are doing, see *Move data sources*.
- To edit the data sources on a Receiver by adding data sources to the existing list, editing existing data sources, or removing existing data sources. If this is what you need to do, follow these steps.

Task

For option definitions, click **?** in the interface.

1. Export a list of the data sources currently on the Receiver.
   - a On the system navigation tree, select **Receiver Properties**, then click **Data Sources**.
   - b Click **Export**, then click **Yes** to confirm the download.
   - c Select the location for the download, change the file name if needed, then click **Save**.

     The list of existing data sources is saved.
   - d Access and open this file.

     A spreadsheet opens listing the data for the data sources currently on the Receiver (see *Spreadsheet fields when importing data sources*).

2. Add, edit, or remove data sources on the list.
   - a In column A, specify the action to be taken with that data source: add, edit, or remove.
   - b If you are adding or editing data sources, enter the information in the spreadsheet columns.

     > ℹ You can't edit the policy or the name of the data source.
   - c Save the changes made to the spreadsheet.

   > ℹ You can't edit a data source to make it a data source from a client data source or the other way around.

3. Import the list to the Receiver.
   - a On the system navigation tree, select **Receiver Properties**, then click **Data Sources**.
   - b Click **Import**, then select the file and click **Upload**.

     > ℹ You can't change the policy or the name of the data source

     The **Import Data Sources** page opens, listing the changes that have been made to the spreadsheet.

c To import the changes, click **OK**.

The changes that are formatted correctly are added.

d If there are errors in the formatting of the changes, a **Message Log** describes the errors.

e Click **Download Entire File**, then click **Yes**.

f Select the location for the download to be saved, change the name of the file if needed, then click **Save**.

g Open the file that downloaded.

It lists the data sources that have errors.

h Correct the errors, then save and close the file.

i Close **Message Log** and **Import Data Sources**, then click **Import** and select the file that you saved.

Import Data Sources lists the data sources that you corrected.

j Click **OK**.

Spreadsheet fields for importing data sources

The spreadsheet you use to import data sources has several columns; some are required and some are used only for specific data source types.

Fields required for all data sources

Column	Description	Details
op	Operation to be performed on the data source	Enter one of these functions in the **op** column: • **add** = Add a data source. • **edit** = Modify an existing data source. • **remove** = Remove without reassigning. If this column is left blank, no action is taken on the data source.
rec_id	Receiver ID	This Device ID number can be found on the Receiver's **Name and Description** page.
dsname	Name for the data source	Must be unique on the Receiver.

Fields used by all data sources

Column	Description	Details
ip	Valid IP address for the data source	• It is required except if the protocol = 'corr'. • Validation is performed for enabled data sources only. Excludes: • Protocols: cifs, nfs, ftp, scp, http • Collector = 'curl' or 'mount' • SNMPTrap - Not valid if other data sources use SNMP trap and IPAddress matches. • nfxsql - Not valid if combination of IPAddress, 'dbname', and 'port' found. • netflow or opsec - Not valid if combination of IPAddress and 'port' found. • mef is the collector (if parser is mef, collector is automatically mef) - Not valid if mef and protocol are found.
model		Entry must be an exact match, except for clients with MatchByFlag = 1 (match by IPAddress)
vendor		Entry must be an exact match, except for clients with MatchByFlag = 1 (match by IPAddress)
parent_id	ID of the parent data source	Required if it's an agent or client. If this ID is a name, an attempt is made to find the data source parent with this name that is a child of the specified Receiver.
child_type	Type of data source child	Required: 0 = not a child, 1 = agent, 2 = client
match_type	Client matching	Required when adding or editing data sources: 1 = match by IP address, 2 = match by third-party type
parsing	Data source enabled flag	Enabled flag (yes/no), default is yes

Fields used by data sources that are not clients

Column	Description	Details
snmp_trap_id	Profile ID for snmp trap	Default is **0**.
elm_logging	Log to elm (yes/no)	Default is **no**.
pool	Elm pool name	Default is blank.
meta-vendor		Default is blank.
meta-product		Default is blank.
meta_version		Default is blank.
url	Event details URL	Default is blank.
parser	Data format parsing method	Default is **Default**.
collector	Data retrieval method	Default is **Default**. If **parser** is **mef**, **collector** is set to **mef**. Scp, http, ftp, nfs, cifs are okay if flat file format is supported for the protocol.

Fields required if the format is CEF or MEF

Column	Description	Details
encrypt	Data source encryption flag	Default is **F**. Also used if **Format** is **Default**, **Retrieval** is **mef**, and **Protocol** is **gsyslog**. Encryption must be the same for all mef with same IP address.
hostname	Host name or host ID	Default is blank. Optional if **Protocol** is **gsyslog** or **syslog** — Must be unique. Optional if **Protocol** is **nas**.
aggregate	Syslog relay	Valid values are blank and **syslogng**. Default is blank. Also used if **Format** is **Default**, **Retrieval** is **Default**, and **Protocol** is **gsyslog**.
tz_id	Time zone ID	Default is blank. Also used if **Format** is **Default** and one of the following is true: • **Protocol** is **syslog** and **Model** is not **Adiscon Windows Events**. • **Protocol** is **nfxsql**. • **Protocol** is **nfxhttp**. • **Protocol** is **email**. • **Protocol** is **estream**. Also used for some flat file support

Other fields

Column	Description	Details
profile_id	The profile name or ID	Default is blank. If the profile name cannot find the profile record, an error is logged.
exportMcAfeeFile	Data source transport flag	Default is no. If yes, this data source is included in data source transport.
exportProfileID	The remote share profile name	Default is blank.
mcafee_formated_file	Parse raw data file flag	Default is no. If yes, the parsing method uses the raw data file.
mcafee_formated_file_xsum	Use check sum flag	Default is no. If yes, use the check sum before parsing the raw data file.
mcafee_formated_file_ipsid	The original Nitro IPS ID	Required if using the raw data file.
zoneID	Name of the zone	Default is blank.
policy_name	Policy name or ID	Default is blank. Used only when adding new data sources. This value is not updated on an edit operation.

Fields validated for specified protocols

The vendor and model determines the protocol, except when format is **Default** or **CEF**, and **Retrieval** is not **Default** or **MEF**. Then the protocol is the **Retrieval** value. These fields are validated for the specified protocol, if no profile is specified.

Table 3-2 Netflow Fields — Start at Column AF

Column	Description	Details
netflow_port		Default is 9993.
netflow_repeat_enabled	Forwarding enabled	Default is F.

Table 3-2 Netflow Fields — Start at Column AF *(continued)*

Column	Description	Details
netflow_repeat_ip	Forwarding IP address	Required if repeat_enabled = T. Default is blank.
netflow_repeat_port	Forwarding port	Default is 9996.

Table 3-3 rdep Fields — Start at Column AJ

Column	Description	Details
rdep_sdee_username		Required
rdep_sdee_password		Required
rdep_sdee_interval		Default is 60 seconds.

Table 3-4 opsec Fields — Start at Column AM

Column	Description	Details
opsec_parent	Parent flag (device type)	Required (T/F). T = data source is a parent. F = data source is not a parent
opsec_authentication	Use authentication flag	Used if parent = T, default is F
opsec_appname	Application name	Required if authentication = T, optional if F, default is blank
opsec_actkey	Activation key	Required if authentication = T, optional if F, default is blank
opsec_parent_id	Data source parent name	Parent name - required if parent = F. An error is logged if the data source parent name cannot find the parent data source.
opsec_port		Used if parent = T, default is 18184
opsec_encryption	Use encryption flag	Used if parent = T, default is F
opsec_comm_method	Communication method	Used if parent = T, default is blank. Must be a valid value: • '' (blank) • 'asym_sslca' • 'asym_sslca_comp' • 'asym_sslca_rc4' • 'asym_sslca_rc4_comp' • 'ssl_clear' • 'sslca' • 'sslca_clear' • 'sslca_comp' • 'sslca_rc4' • 'sslca_rc4_comp'
opsec_server_entity_dn	Server entity distinguished name	Default is blank. Used if parent = T. Required if DeviceType = Log Server/CLM or Secondary SMS/CMA.
opsec_collect_audit_events	Event collection type audit events flag	Used if parent = T, default is "yes"

Table 3-4 opsec Fields — Start at Column AM *(continued)*

Column	Description	Details
opsec_collect_log_events	Event collection type log events flag	Used if parent = T, default is "yes".
opsec_type	Device type	Required. Valid values for this field are: **Value** — **Name in thin-client drop-down** 0 — SMS/CMA 1 — Security Device 2 — Log Server/CLM 3 — Secondary SMS/CMA

Table 3-5 wmi Fields — Start at Column AY

Column	Description	Details
wmi_use_rpc	Use RPC flag	Default is **no**.
wmi_logs	Event logs	Default is **SYSTEM,APPLICATION,SECURITY**.
wmi_nbname	NetBIOS name	Required if **Retrieval** = **Default**, otherwise optional. Default is blank.
wmi_username	User name	Required if **Retrieval** = **Default**, otherwise optional. Default is blank.
wmi_password	Password	Required if **Retrieval** = **Default**, otherwise optional. Default is blank.
wmi_interval		Default is **600**.
wmi_version		Default is **0**.

Table 3-6 gsyslog Fields — Start at Column BF

Column	Description	Details
gsyslog_autolearn	Support generic syslogs flag	Valid values: **T**, **F**, **COUNT**. Default is **F**.
gsyslog_type	Generic rule assignment	Required if **autolearn** = **T**; otherwise optional. Default is **49190**.
gsyslog_mask		Used if **Retrieval** is **Default**. Default is **0**.

Table 3-7 corr Field — Column BI

Column	Description	Details
corr_local	Use local data flag	Default is **F**. If the Receiver model is ERC-VM-25 or ERC-VM-500, the data source is not added. Otherwise, there can be no other data sources using this Protocol.

Table 3-8 sdee Fields — Start at Column BJ

Column	Description	Details
sdee_username		Required
sdee_password		Required
sdee_uri		Default is **cgi-bin/sdee-server**.
sdee_interval		Default is **600 seconds**.
sdee_port		Default is **443**.
sdee_proxy_port		Default is **8080**.
sdee_use_ssl		Default is **T**.
sdee_proxy_ip		Required if **use_proxy** = **T**. Default is blank.

Table 3-8 sdee Fields — Start at Column BJ *(continued)*

Column	Description	Details
sdee_proxy_username		Required if **use_proxy** = **T**. Default is blank.
sdee_proxy_password		Required if **use_proxy** = **T**. Default is blank.
sdee_use_proxy		Default is **F**.

Table 3-9 mssql Fields — Start at Column BU

Column	Description	Details
mssql_parent	Device type	Default is **T**. **Server** = **T**. **Managed device** = **F**
mssql_port		Used if parent = **T**. Default is **1433**.
mssql_interval		Used if parent = **T**. Default is **600 seconds**.
mssql_username		Required if parent = **T**. Default is blank.
mssql_password		Required if parent = **T**. Default is blank.
mssql_parent_id	Parent name	Required if parent = **F**. An error is logged if the parent name cannot find the data source.

Table 3-10 syslog Fields — Start at Column CA

Column	Description	Details
syslog_untrust_iface	Most untrusted interface	Required if **Vendor** is **CyberGuard**.
syslog_burb	Internet burb name	Required if **Vendor** is McAfee and **Model** is McAfee Firewall Enterprise.
syslog_sg_mc	Management center flag	Optional if **Vendor** is Stonesoft Corporation, default is no
syslog_nsm	Security manager flag	Optional if **Vendor** is Juniper Networks and Model is Netscreen Firewall/Security Manager or Netscreen IDP, default is no
syslog_wmi_syslog_format		Optional if **Vendor** is Microsoft and Model is Adiscon Windows Events, default is 0
syslog_wmi_version		Optional if **Vendor** is Microsoft and Model is Adiscon Windows Events, default is Windows 2000
syslog_aruba_version		Optional if **Vendor** is Aruba, default is 332
syslog_rev_pix_dir	Invert network values	Optional if **Vendor** is Cisco and Model is PIX/ASA or Firewall Services Module, default is no
syslog_aggregate	Syslog relay	Valid values are blank and **Vendor**. Default is blank.
syslog_require_tls	T/F	Indicates if TLS is being used for this data source.
syslog_syslog_tls_port		The port to be used for syslog TLS if it is being used.
syslog_mask	Mask for IP address	(Optional) Enables you to apply a mask to an IP address so that a range of IP addresses can be accepted. A zero (**0**) in the field means that no mask is used. Default is **0**.

Table 3-11 nfxsql Fields — Start at Column CM

<table>
<tr><th>Column</th><th>Description</th><th>Details</th></tr>
<tr><td>nfxsql_port</td><td></td><td>Default depends on vendor and model:
<table>
<tr><th>Default</th><th>Vendor</th><th>Model</th></tr>
<tr><td>9117</td><td>Enterasys Networks</td><td>Dragon Sensor or Dragon Squire</td></tr>
<tr><td>1433</td><td>IBM</td><td>ISS Real Secure Desktop Protector or ISS Real Secure Network or ISS Real Secure Server Sensor</td></tr>
<tr><td>1433</td><td>McAfee</td><td>ePolicy Orchestrator or ePolicy Orchestrator firewall or ePolicy Orchestrator host IPS</td></tr>
<tr><td>3306</td><td>Symantec</td><td>Symantec Mail Security for SMTP</td></tr>
<tr><td>1433</td><td>Websense</td><td>Websense Enterprise</td></tr>
<tr><td>1433</td><td>Microsoft</td><td>Operations Manager</td></tr>
<tr><td>1433</td><td>NetIQ</td><td>NetIQ Security Manager</td></tr>
<tr><td>1433</td><td>Trend Micro</td><td>Control Manager</td></tr>
<tr><td>1433</td><td>Zone Labs</td><td>Integrity Server</td></tr>
<tr><td>1433</td><td>Cisco</td><td>Security Agent</td></tr>
<tr><td>1127</td><td>Sophos</td><td>Sophos Antivirus</td></tr>
<tr><td>1433</td><td>Symantec</td><td>Symantec Antivirus Corporate Edition Server</td></tr>
<tr><td>443</td><td>all others</td><td></td></tr>
</table>
</td></tr>
<tr><td>nfxsql_userid</td><td></td><td>Required</td></tr>
<tr><td>nfxsql_password</td><td></td><td>Required</td></tr>
<tr><td>nfxsql_dbname</td><td>Database name</td><td>(Optional) Default is blank.</td></tr>
<tr><td>nfxsql_splevel</td><td>Service Pack level</td><td>Used if <b>Vendor</b> is <b>IBM</b> and <b>Model</b> is <b>ISS Real Secure Desktop Protector</b> or <b>ISS Real Secure Network</b> or <b>ISS Real Secure Server Sensor</b>. Default is <b>SP4</b>.</td></tr>
<tr><td>nfxsql_version</td><td></td><td>(Optional)
• Default is <b>9i</b> if <b>Vendor</b> is <b>Oracle</b> and <b>Model</b> is <b>Oracle Audits</b>.
• Default is <b>3.6</b> if <b>Vendor</b> is McAfee and <b>Model</b> is ePolicy Orchestrator or ePolicy Orchestrator <b>Firewall</b> or ePolicy Orchestrator <b>Host IPS</b>.</td></tr>
<tr><td>nfxsql_logtype</td><td>Logging type</td><td>Required if <b>Vendor</b> is <b>Oracle</b> and <b>Model</b> is <b>Oracle Audits</b> (FGA, GA, or both).</td></tr>
<tr><td>nfxsql_sid</td><td>Database SID</td><td>Optional if <b>Vendor</b> is <b>Oracle</b> and <b>Model</b> is <b>Oracle Audits</b>. Default is blank.</td></tr>
</table>

Table 3-12 nfxhttp Fields — Start at Column CU

Column	Description	Details
nfxhttp_port		Default is **433**.
nfxhttp_userid		Required
nfxhttp_password		Required
nfxhttp_mode		Default is **secure**.

Table 3-13 email Fields — Start at Column CY

Column	Description	Details
email_port		Default is **993**.
email_mailbox	Mail protocol	Default is **imap pop3**.
email_connection	Connection type	Default is **ssl clear**.
email_interval		Default is **600 seconds**.
email_userid		Required
email_password		Required

Table 3-14 estream Fields — Start at Column DE

Column	Description	Details
These fields are in the spreadsheet. However, a certification file is required, so they are currently ignored.		
jestream_port		Default is **993**.
jestream_password		Required
jestream_estreamer_cert_file		Required
jestream_collect_rna		

Table 3-15 file source Fields — Start at Column DI

Column	Description	Details
Used for Protocols cifs, ftp, http, nfs, scp.		
fs_record_lines	Number of lines per record	Used if **flat file support**. Default is **1**.
fs_file_check	Interval	Default is **15 minutes**.
fs_file_completion		Default is **60 seconds**.
fs_share_path		Default is blank.
fs_filename	Wildcard expression	Required
fs_share_name		Required if **Protocol** is **cifs** or **nfs** (not used otherwise).
fs_username		Used if **Protocol** is **cifs**, **ftp**, or **scp**. Default is blank.
fs_password		Used if **Protocol** is **cifs**, **ftp**, or **scp**. Default is blank.
fs_encryption		Used if **Protocol** is **ftp** or **http**. Default is **no**. Also used if **flat file support** and **Protocol** are **ftp**.
fs_port		Used if **Protocol** is **ftp**, default is **990**. If **Protocol** is **http**, default is **443**. Also used if **flat file support** and **Protocol** are **ftp**. Default is **80**.
fs_verify_cert	Verify SSL certificate	Used if **Protocol** is **ftp** or **http**. Default is **no**. Also used if **flat file support** and **Protocol** are **ftp**.
fs_compression		Used if **Protocol** is **scp** or **sftp**. Default is **no**.
fs_login_timeout		Used if **Protocol** is **scp**. Default is **1 second**.
fs_copy_timeout		Used if **Protocol** is **scp**. Default is **1 second**.
fs_wmi_version		Used if **flat file support** and **Vendor** are **Microsoft** and **Model** is **Adiscon Windows Events**. Default is **Windows 2000**.
fs_aruba_version		Used if **flat file support** and **Vendor** are **Aruba**. Default is **332**.

Table 3-15 file source Fields — Start at Column DI *(continued)*

Column	Description	Details
fs_rev_pix_dir	Invert network values	Used if **flat file support** and **Vendor** are **Cisco** and **Model** is **PIX/ASA** or **Firewall Services Module**. Default is **no**.
fs_untrust_iface	Most untrusted interface	Required if **flat file support** and **Vendor** are **CyberGuard**.
fs_burb	Internet burb name	Required if **flat file support** and **Vendor** are McAfee and **Model** are McAfee Firewall Enterprise.
fs_nsm	Security manager flag	Optional if **flat file support** and **Vendor** are **Juniper Networks** and **Model** are **Netscreen Firewall/Security Manager** or **Netscreen IDP**. Default is **no**.
fs_autolearn	Support generic syslog	Optional if **flat file support** and **Retrieval** are **gsyslog**. Valid values: **T**, **F**, **COUNT**. Default is **F**.
fs_type	Generic rule assignment	Required if **autolearn** = **T**; otherwise optional. Default is **49190**.
fs_binary		Default is **no**.
fs_protocol		Default is **'** **— Used if parser is Default and collector is nfs File Source**.
fs_delete_files		

Table 3-16 sql_ms Fields — Start at Column EH

Column	Description	Details
sql_ms_port		Default is **1433**.
sql_ms_userid		Required
sql_ms_password		Required
sql_ms_dbname	Database name	

Table 3-17 nas Field — Column EL

Column	Description	Details
nas_type		Default is **49190** (User Defined 1). This field is only used for McAfee/ PluginProtocol data sources.

Table 3-18 ipfix Field — Column EM

Column	Description	Details
ipfix_transport		Required. Valid values are **TCP** and **UDP**. **TCP** is the default.

Table 3-19 snmp Fields — Start at Column EN

Column	Description	Details
snmp_authpass	Authentication password	Required if: • **traptype** = **v3trap** and **secLevel** = **authPriv** or **authNoPriv**. • **traptype** = **v3inform** and **secLevel** = **authPriv** or **authNoPriv**.
snmp_authproto	Authentication protocol	Valid values are **MD5** or **SHA1**. Required if: • **traptype** = **v3trap** and **secLevel** = **authPriv** or **authNoPriv**. • **traptype** = **v3inform** and **secLevel** = **authPriv** or **authNoPriv other traptypes**. Default is **MD5**.
snmp_community	Community name	Required if **traptype** = **v1trap**, **v2trap**, **v2inform**.
snmp_engineid		Required if **traptype** = **v3trap**

Table 3-19 snmp Fields — Start at Column EN *(continued)*

Column	Description	Details
snmp_privpass	Privacy password	Required if: • **traptype** = **snmpv3trap** and **secLevel** = **authPriv** • **traptype** = **snmpv3inform** and **secLevel** = **authPriv**
snmp_privproto	Privacy protocol	Valid values are: **DES** and **AES**. Required if: • **traptype** = **snmpv3trap** and **secLevel** = **authPriv** • **traptype** = **snmpv3inform** and **secLevel** = **authPriv** Other **traptypes**, default is **DES**.
snmp_seclevel	Security level	Valid values are: **noAuthNoPriv**, **authNoPriv**, and **authPriv**. Required if **traptype** = **v3trap** or **v3inform**. Other **traptypes**, default is **noAutNoPriv**.
snmp_traptype		Required. Valid values are: **v1trap**, **v2trap**, **v2inform**, **v3trap**, and **v3inform**.
snmp_username		Required if **traptype** = **snmpv3** or **snmpv3inform**.
type	Default rule assignment	Required. Default is **49190**.
snmp_version		Populated automatically.

Table 3-20 sql_ws — Start at Column EY

Column	Description	Details
sql_ws_port		(Optional) Default depends on the vendor. Default for **Websense** is **1433**.
sql_ws_userid		Required
sql_ws_password		Required
sql_ws_dbname		(Optional) Default is blank.
sql_ws_db_instance	Database instance name	Required

Table 3-21 sql — Start at Column FD

Column	Description	Details
sql_port	Port used to connect to database	
sql_userid	Database user ID	
sql_password	Database password	
sql_dbinstance	Name of database instance	
sql_config_logging		Valid values are **0** (for the **SQL Server Express Database**) and **1** (for the **SQL Database**)
sql_protocol		If the value for **sql_config_logging** is **1**, this is **gsql**.
sql_dbname	Database name	

Table 3-22 oracleidm — Start at Column FK

Column	Description	Details
oracleidm_port	Port used to connect to the Oracle Identify Manager database	
oracleidm_userid	User ID for the Oracle Identify Manager database	

Table 3-22 oracleidm — Start at Column FK *(continued)*

Column	Description	Details
oracleidm_password	Password for the Oracle Identify Manager database	
oracleidm_ip_address	IP address for the Oracle Identify Manager database	
oracleidm_dpsid	TNS name of the connection being used	

Table 3-23 text — Start at Column FP

Column	Description	Details
ℹ	Fields used for ePolicy Orchestrator data source.	
text_dbinstance	Database instance in which the ePolicy Orchestrator database is running	
text_dbname	Name of the ePolicy Orchestrator database	
text_password	Password for the ePolicy Orchestrator database	
text_port	Port used to connect to the ePolicy Orchestrator database	
text_userid	User ID for the ePolicy Orchestrator database	

Table 3-24 gsql — Start at Column FU

Column	Description	Details
gsql_port		(Optional) Default depends on the vendor. Default for **Websense** is **1433**.
gsql_userid		Required
gsql_password		Required
gsql_dbname		(Optional) Default is blank.
gsql_db_instance	Database instance name	Required
gsql_nsmversion	NSM version	Required. If it is left blank, it defaults to version 6.x.

Migrate data sources to another Receiver

You can reallocate or redistribute data sources between Receivers on the same system.

This can be particularly useful if you purchase a new Receiver and want to balance the data sources and associated data between the two Receivers, or if you purchase a larger replacement Receiver and need to transfer the data sources from the current Receiver to the new one.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **Receiver Properties** for the Receiver with the data sources, then click **Data Sources**.
2. Select the data sources to be migrated, then click **Migrate**.
3. Select the new Receiver in the **Destination Receiver** field, then click **OK**.

Move data sources to another system

To move data sources from one Receiver to another on a different system, you must select the data sources to be moved, save them and their raw data to a remote location, then import them to the other Receiver.

Before you begin

To perform this function, you must have device management rights on both Receivers.

Use this process to move data sources from a Receiver located in a secured location to a Receiver in an unsecured location.

There are limitations when exporting data source information:

- You can't transport flow data sources (for example, IPFIX, NetFlow, or sFlow).
- The source events of correlated events do not display.
- If you make a change to the correlation rules on the second Receiver, the correlation engine doesn't process those rules. When the correlation data is transported, it inserts those events from the file.

To...	Do this...
Select the data sources and remote location	1 On the system navigation tree, select **Receiver Properties**, then click **Data Source**. 2 Select the data source, then click **Edit**. 3 Click **Advanced**, then select **Export in NitroFile**. The data is exported to a remote location and is configured using profile. 4 Click **OK**. From now on, the raw data generated by this data source is copied to the remote share location.
Create raw data file	1 Access the remote share location where the raw data is saved. 2 Save the raw data that has been generated in a location that allows you to move the file to the second Receiver (such as a jump drive that you can carry to the unsecured location).
Create a file that describes the data sources	1 On the system navigation tree, select **Receiver Properties**, then click **Data Source** | **Import**. 2 Locate the file of data sources you moved and click **Upload**. 3 On the **Remote share profile** list, select the location where you saved the raw data files. If the profile isn't listed, click **Remote share profile** and add the profile. 4 Click **OK**. The data sources are added to the second Receiver and will access the raw data through the remote share profile.
Import raw data and data source files	1 On the system navigation tree, access **Data Sources** on the second Receiver, then click **Import**. 2 Locate the file of data sources you moved and click **Upload**. The **Import Data Sources** page lists the data sources to be imported. 3 On the **Remote share profile** list, select the location where you saved the raw data files. If the profile is not listed, click **Remote share profile** and add the profile (see *Configure profiles*). 4 Click **OK**.

Set up data source auto-learning

Set up the ESM to learn IP addresses automatically.

Before you begin

Make sure that ports are defined for Syslog, MEF, and flows (see *Set up the interfaces*).

The firewall on the Receiver opens for the time you designate, so the system can learn a set of unknown IP addresses. You can then add to the system as data sources.

> ℹ When you upgrade, auto-learning results are deleted from the **Auto Learn** page. If there are auto-learn results you haven't taken action on before upgrading, you must run auto-learning after performing the upgrade to collect those results again.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **Receiver Properties**, then click **Data Sources** | **Auto Learn**.
2. Define the settings as needed, then click **Close**.

View files generated by data sources

To view files generated by data sources, you must access the **View Files** page. They can't be seen on an ESM view.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select the McAfee data source.
2. On the actions toolbar, click the **View Files** icon.
3. Do one of the following:
   - Type a file name in the **File name filter** field to locate a specific file.
   - Change the settings in the **Time Range** field to display only the files generated during that time.
   - Click **Refresh** to update the list of files.
   - Select a file on the list, then click **Download** to download the file.
4. Click **Cancel** to close the page.

User-defined data source types

This table lists the user-defined types and their corresponding name or entry, which is displayed in the data source editor.

ID	Device Model	Vendor	Protocol	Rule Name Prefix	Rule Editor Type
49190	User Defined 1	N/A	syslog	UserDefined1_	Generic
49191	User Defined 2	N/A	syslog	UserDefined2_	Generic
49192	User Defined 3	N/A	syslog	UserDefined3_	Generic
49193	User Defined 4	N/A	syslog	UserDefined4_	Generic
49194	User Defined 5	N/A	syslog	UserDefined5_	Generic
49195	User Defined 6	N/A	syslog	UserDefined6_	Generic
49196	User Defined 7	N/A	syslog	UserDefined7_	Generic
49197	User Defined 8	N/A	syslog	UserDefined8_	Generic
49198	User Defined 9	N/A	syslog	UserDefined9_	Generic
49199	User Defined 10	N/A	syslog	UserDefined10_	Generic

Supported data sources

McAfee adds support for new data sources on a regular bases. Receivers can have a maximum of 2000, 200, or 50 data sources on them.

To view a list of data sources that are currently supported, see https://kc.mcafee.com/corporate/index?page=content&id=PD25060

These devices can have 2,000 data sources associated with them:

- ERC-1225
- ERC-1250
- ERC-2230
- ERC-2250
- ERC-2600
- ERC-3450
- ERC-4245
- ERC-4600
- ENMELM-2250
- ENMELM-4245
- ENMELM-4600
- ENMELM-5205
- ENMELM-5600
- ENMELM-5750
- ENMELM-6000
- ELMERC-2230
- ELMERC-2250
- ELMERC-2600
- ELMERC-4245
- ELMERC-4600
- ESMREC-4245
- ESMREC-5205
- ESMREC-5510

ERC-110 allows only 50 data sources and all others can have a maximum of 200.

These are the maps of the data source ranges:

- Data source types: 1–48,999
- User-defined types: 49,001–49,999
- McAfee reserved (for example, rule sets): 50,001–65,534

> If you are using a McAfee Firewall Enterprise Event Reporter (ERU), only McAfee data sources are available.

Configuration for specific data sources

Some data sources require more information and special configuration settings.

See these sections in this appendix for details.

- Check Point
- IBM Internet Security Systems SiteProtector
- McAfee ePolicy Orchestrator
- ePolicy Orchestrator 4.0
- NSM-SEIM
- Big Fix
- Common Event Format
- ArcSight
- Security Device Event Exchange
- Advanced syslog parser

- Syslog Relay Support
- Adiscon
- WMI event log

WMI event log

WMI is the Microsoft implementation of Web-Based Enterprise Management (WBEM) as defined by the Distributed Management Task Force (DMTF).

It is the primary management technology for Windows operating systems, permitting management information to be shared between management applications. The ability to obtain management data from remote computers is what makes WMI useful.

> WMI is not FIPS-compliant. If you are required to comply with FIPS regulations, do not use this feature.

WMI event logs are set up as a data source and sent through the Receiver. The Receiver polls the Windows server on a set interval and collects the events. The WMI collector can collect events from any event log on the Windows box. By default, the Receiver collects security, administration, and event logs. You have the ability to enter other log files, such as Directory Service or Exchange. The event log data gets collected in the packet data and can be viewed through the event table details.

> Administrative or backup operator privileges are required for WMI event logs, except when using Windows 2008 or 2008 R2 if the data source and user are set up correctly (see *Pull Windows security logs*).

These additional devices are supported from the WMI data source:

- McAfee Antivirus
- Windows
- Microsoft ISA Server
- Microsoft Active Directory
- Microsoft SQL Server
- RSA Authentication Manager
- Symantec Antivirus
- Microsoft Exchange

> For instructions on setting up syslog WMI through Adiscon, see *Adiscon Set up*.

When you are setting up a WMI data source, the vendor is **Microsoft** and the model is **WMI Event Log**.

Set up to pull Windows security logs

When using Windows 2008 or 2008 R2, Windows security logs can be pulled by users who do not have administrator privileges if the WMI Event Log data source and the user are set up correctly.

Task

For option definitions, click **?** in the interface.

1. Create a new user on the Windows 2008 or 2008 R2 system where you want to read event logs.
2. Assign the user to the Event Log Readers group on the Windows system.
3. Create a new Microsoft WMI Event Log data source on the McAfee Event Receiver, entering the credentials for the user created in Step 1 (see *Add a data source*).
4. Select **Use RPC** box, then click **OK**.

Correlation data source

A correlation data source analyzes data flowing from an ESM, detects suspicious patterns within the data flow, generates correlation alerts that represent these patterns, and inserts these alerts into the Receiver's alert database.

A suspicious pattern is represented by data interpreted by correlation policy rules, which you can create and modify. These types of rules are separate and distinct from Nitro IPS or firewall rules and have attributes that specify their behavior.

Only one correlation data source can be configured on a Receiver, in a similar fashion to configuring syslog or OPSEC. Once you have configured a Receiver's correlation data source, you can roll out the correlation’s default policy, edit the base rules in this correlation's default policy, or add custom rules and components and then roll out the policy. You can enable or disable each rule and set the value of each rule's user-definable parameters. For details regarding the Correlation Policy, see *Correlation rules*.

When you are adding a correlation data source, the vendor is **McAfee** and the model is **Correlation Engine**.

When the correlation data source is enabled, the ESM sends alerts to the correlation engine on the Receiver.

Severity and action maps

The severity and action parameters have slightly different usages. The goal with these is to map a value from the syslog message to a value that fits into the system's schema.

- severity_map — Severity is shown as a value between 1 (least severe) and 100 (most severe) assigned to events matching the rule. In some cases, the device sending the message may show severity as a number 1–10, or as text (high, medium, low). When this happens, it can't be captured as the severity so a mapping must be created. For example, here is a message coming from McAfee IntruShield that shows severity in text form.

  ```
  <113>Apr 21 07:16:11 SyslogAlertForwarder: Attack NMAP: XMAS Probe (Medium)\000
  ```

  The syntax for a rule using severity mapping would look like this (severity mapping is in bold for emphasis only):

  ```
  alert any any any -> any any (msg:"McAfee Traffic"; content:"syslogalertforwarder";
  severity_map:High=99,Medium=55,Low=10; pcre:"(SyslogAlertForwarder)\x3a\s+Attack\s+
  ([^\x27]+)\x27([^\x28]+)\x28"; raw; setparm:application=1; setparm:msg=2;
  setparm:severity=3; adsid:190; rev:1;)
  ```

  severity_map : High=99,Medium=55,Low=10. This maps the text to a number in the format we can use.

  setparm : severity=3. This says to take the third capture and set it equal to the severity. All setparm modifiers work this way.

- action_map — Used just like severity. Action represents the action the third-party device took. The goal with action is to create a mapping that is useful to the end user. For example, here is a failed logon message from OpenSSH.

  ```
  Dec 6 10:27:03 nina sshd[24259]: Failed password for root from 10.0.12.20 port
  49547 ssh2
  ```

  ```
  alert any any any -> any any (msg:"SSH Login Attempt"; content:"sshd";
  action_map:Failed=9,Accepted=8;
  ```

  ```
  pcre:"sshd\x5b\d+\x5d\x3a\s+((Failed|Accepted)\s+password)\s+for\s+((invalid|
  illegal)\s+user\s+)?(\S+)\s+from\s+(\S+)(\s+(\S+)\s+port\s+(\d+))?"; raw;
  setparm:msg=1; setparm:action=2; setparm:username=5; setparm:src_ip=6; adsid:190;
  rev:1;)
  ```

The action (`Failed`) is mapped to a number. This number represents the different actions we can use in our system. Below is the full list of usable action types.

- 0 = null
- 1 = pass
- 2 = reject
- 3 = drop
- 4 = sdrop
- 5 = alert
- 6 = default
- 7 = error
- 8 = success
- 9 = failure
- 10 = emergency
- 11 = critical
- 12 = warning
- 13 = informational
- 14 = debug
- 15 = health
- 16 = add
- 17 = modify
- 18 = remove
- 19 = start
- 20 = stop
- 21 = noticed
- 22 = trusted
- 23 = untrusted
- 24 = false positive
- 25 = alert-reject
- 26 = alert-drop
- 27 = alert-sdrop
- 28 = restart
- 29 = block
- 30 = clean
- 31 = clean-fail
- 32 = continue
- 33 = infected
- 34 = move
- 35 = move-fail
- 36 = quarantine
- 37 = quarantine-fail
- 38 = remove-fail
- 39 = denied

In this example, `Failed` is mapped from the syslog message to 9, which the system reports as `Failure`.

Here is a breakdown of the structure for a rule.

```
Alert any any any -> any any (msg:”Login Attempt”; content:”sshd”; action_map or
severity_map (if you need it); pcre:”your regular expression goes here”; raw;
setparm:data_tag_goes_here; adsid:190; rev:1;)
```

Advanced syslog parser

The Advanced Syslog Parser (ASP) provides a mechanism for parsing data out of syslog messages based on user-defined rules. The rules instruct the ASP how to recognize a given message and where in that message-specific event data resides such as Signature IDs, IP addresses, ports, user names, and actions.

The ASP can be utilized for syslog devices that are not specifically identified in the **Add Data Source** page or when the Source Specific Parser doesn't correctly interpret messages or fully interpret data points related to received events. It is also ideal for sorting through complex log sources such as Linux and UNIX servers. This functionality requires you to write rules (see *Add Rules to the Advanced Syslog Parser)* tailored to your Linux or UNIX environment.

You can add an ASP data source to the Receiver by selecting Syslog as the vendor (see *Add a Data Source*). Once you have done this, follow the device manufacturer's directions to configure your syslog device to send syslog data to the Receiver's IP address.

When you add an ASP source, you must apply a policy before collects event data. If you enable **Generic Syslog Support**, you can apply a policy with no rules and begin generically collecting event data.

> ! Some data sources including Linux and UNIX servers can produce large amounts of non-uniform data that results in the Receiver not properly grouping the similar event occurrence together. This results in an appearance of a large range of different events when in actuality the same event is simply repeating, but with varying syslog data sent to the Receiver.

Adding rules to your ASP allows you to get the most from your event data. The ASP uses a format very similar to Snort.

```
ACTION Protocol Src_ip Src_port -> Dst_ip Dst_port (keyword: option; keyword:
option;...;)
```

> ℹ When concatenating a literal value with a PCRE subcapture in versions 9.0.0 and later, put the literals in quotes individually if they contain spaces or other characters and leave the PCRE subcapture references unquoted.

Rules are defined as follows.

Section	Field	Description
Rule Header		The rule header contains the Alert action and the any any any format. The rule is: `ALERT any any any -> any any`
	Action	What to do with the event when a match occurs. Options are: • ALERT — Log the event • DROP — Log the event but don't forward • SDROP — Don't log the event or forward • PASS — Forward if defined, but don't log
	Protocol	If the event defines a protocol, then filter the effective match based on the protocol.
	Src/Dst IP	If the event defines a source or destination IP address, then filter the effective match based on that address.
	Src/Dst Port	If the event defines a source or destination port, then filter the effective match based on that port.
Rule Body		The rule body contains the majority of the match criteria and defines how the data must be parsed and logged into the ESM database. Elements of the Rule Body are defined in keyword-option pairs. Some keywords have no following option.
	msg	(Required) The message to associate with this rule. This is the string displayed in the ESM Thin Client for reporting purposes unless overridden with a pcre/setparm detected message (see below). The first work of the msg isthe category name followed by actual message (msg: "category rule message").
	content	*(Optional — one or more)* The content keyword is a non-wildcard text qualifier to pre-filter Events as they pass through the rule set, which can also contain spaces (for example, content: "search 1"; content "something else")

Section	Field	Description
	procname	On many UNIX and Linux systems, the process name (and process ID) is part of a standardized syslog message header. The procname keyword can be used to filter Event matches for the Rule. Used to exclude or filter Event matches where two processes on a Linux or UNIX server may have similar or the same message text.
	adsid	The data source ID to use. This value overrides the **Default Rule Assignment** in the data source editor.
	sid	Signature ID of the Rule. This is the match ID used in the ESM Thin Client unless overridden with a pcre/setparm detected sid.
	rev	Rule revision. Used to track changes.
	severity	Value between 1 (least severe) and 100 (most severe) assigned to events matching the rule.
	pcre	The PCRE keyword is a Perl Compatible Regular Expression match against incoming events. The PCRE is quote delimited and all occurrences of "/" is treated as a normal character. Content in parentheses isheld for the use of the setparm keyword. The PCRE keyword can be modified by nocase, nomatch, raw and setparm keywords.
	nocase	Causes the PCRE content to be matched whether the case matches or not.
	nomatch	Inverts the PCRE match (equivalent to !~ in Perl).
	raw	Compare the PCRE to the entire syslog message including header data (Facility, daemon, date, host/IP, process name and process ID). Normally the header is not used in the PCRE match.
	setparm	Can occur more than once. Each set of parentheses in the PCRE is assigned a number in order of occurrence. Those numbers can be assigned to data tags (for example: setparm:username=1). This takes the captured text in the first set of parentheses and assigns it to the user name data tag. Recognized tags are listed in the table below.

Tag	Description
* sid	This captured parameter overrides the matched rule's sid.
* msg	This captured parameter overrides the matched rule's message or name.
* action	This captured parameter indicates what action the third-party device took.
* protocol	
* src_ip	This replaces the syslog source's IP which is the default source IP of an event.
* src_port	
* dst_ip	
* dst_port	
* src_mac	
* dst_mac	
* dst_mac	
* genid	This is used to modify the sid as stored in the database, used for non-McAfee snort matches in snort preprocessors.
* url	Reserved, but not used yet.
* src_username	First/source user name.
* username	Alternate name for src_username.
* dst_username	Second/destination user name.

Tag	Description
* domain	
* hostname	
* application	
* severity	Must be an integer.
* action map	Allows you to map specific actions of your product to the McAfee actions. The action map is case sensitive. Example: alert any any any -> any any (msg:"OpenSSH Accepted Password"; content:"Accepted password for "; action_map:Accepted=8, Blocked=3; pcre:"(Accepted)\s+password\s+for\s+(\S+)\s+from\s+(\d+\.\d+\.\d+\.\d+)\s+port\s+(\d+)"; setparm:action=1; sid:31; rev:1;)). See *Severity and Action Map* for details.
* severity map	Allows you to map specific severities of your product to the McAfee severity. Like the action map, the severity map is case sensitive. Example: alert any any any -> any any (msg:"OpenSSH Accepted Password"; content:"Accepted password for "; severity_map:High=99, Low=25, 10=99, 1=25; pcre:"(Accepted)\s+password\s+for\s+(\S+)\s+from\s+(\d+\.\d+\.\d+\.\d+)\s+port\s+(\d+)"; setparm:action=1; sid:31; rev:1;))pri(?:\x3d|\x3a)\s*(?:p\x5f)?([^\x2c]+). See *Severity and Action Map* for details.
* var	This is another way to use setparms. The beneficial use, however, is the use of creating one value from multiple captures of multiple PCREs. You can create more than one PCRE that captures only a small portion of your string rather than one large PCRE with multiple captures. Here's an example of capturing a user name, domain, and creating an email address to store in the objectname field. • Syntax = var:field=${PCRE:Capture} • PCRE = not the actual PCRE but the number of the pcre. If your rule has two PCRE's you would have a PCRE of 1 or 2. • Capture = not the actual capture but the number (first, second or third capture [1,2,3]) • Sample Message: A man named Jim works for McAfee. • PCRE: (Jim).*?(McAfee) • Rule: alert any any any -> any any (msg:"Var User Jim"; content:"Jim"; pcre:"(Jim)"; pcre:"(McAfee)"; var:src_username=${1:1}; var:domain=${2:1}; var:objectname=${1:1}@${2:1}.com raw; classtype:unknown; adsid:190; sev: 25; sid:610061000; rev:1; normID:1209008128; gensys:T;) • Mapped Source User: Jim • Mapped Domain: McAfee • Mapped objectname: Jim@McAfee.com
* sessionid	This is an integer.
* commandname	This is a string value.
* objectname	This is a string value.
* event_action	This tag is used to set a default action. You can't use event_action and action_map in the same rule. For example, if you had an event for a Successful Login you could use the event_action tag and default the action to success (for example, event_action:8;).

Tag	Description
* firsttime_fmt	Used to set the first time of the event. See list of formats.
* lasttime_fmt	Used to set the last time of the event. See list of formats. You can use this with a setparm or a var (var:firsttime="${1:1}" or setparm:lasttime="1"). For example: alert any any any -> any any (msg:"SSH Login Attempt"; content:"content"; firsttime_fmt:"%Y-%m-%dT%H:%M:%S.%f"; lasttime_fmt:"%Y-%m-%dT%H:%M:%S.%f" pcre:"PCRE goes here; raw; setparm:firsttime=1; setparm:lasttime=1; adsid:190; rev:1;) For current formats supported, see http://pubs.opengroup.org/onlinepubs/009695399/functions/strptime.html for more detail. %Y - %d - %m %H : %M : %S %m - %d - %Y %H : %M : %S %b %d %Y %H : %M : %S %b %d %Y %H - %M - %S %b %d %H : %M : %S %Y %b %d %H - %M - %S %Y %b %d %H : %M : %S %b %d %H - %M - %S %Y %H : %M : %S %Y %H - %M - %S %m - %d - %Y %H : %M : %S %H - %M - %S %Y is 4-digit year %m is month number (1-12) %d is date (1-31) %H is hours (1-24) %M is minutes (0-60) %S is seconds (0-60) %b is month abbreviation (jan, feb)

This is an example of a rule that identifies a password based on OpenSSH login and pulls from the event’s source IP address, source port, and user name:

```
alert any any any -> any any (msg:"OpenSSH Accepted Password";content:"Accepted
password for ";pcre:"Accepted\s+password\s+for\s+(\S+)\s+from\s+(\d+\.\d+\.\d+\.\d+)\s
+port\s+(\d+)";setparm:username=1;setparm:src_ip=2;setparm:src_port=3;sid:31;rev:1;)
```

For PCRE Resources Online, visit http://perldoc.perl.org/perlre.html.

Add an ASP data source with different encoding

The ESM reads UTF-8 encoded data. If you have an ASP data source that generates data with different encoding, you must indicate that when adding the data source.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, click a Receiver, then click the **Add Data Source** icon .
2. Select **Generic** in the **Data Source Vendor** field, then **Advanced Syslog Parser** in the **Data Source Model** field.
3. Enter the information requested, and select the correct encoding in the **Encoding** field.

The data from this data source is formatted so that it can be read by the Receiver when it is received.

Security Device Event Exchange (SDEE)

The SDEE format describes a standard way of representing events generated by various types of security devices. The SDEE specification indicates that SDEE events are transported using the HTTP or HTTPS protocols. HTTP servers using SDEE to provide event information to clients are called SDEE providers, while the initiators of the HTTP requests are called SDEE clients.

Cisco has defined some extensions to the SDEE standard, calling it the CIDEE standard. The Receiver can act as an SDEE client requesting CIDEE data generated by Cisco intrusion prevention systems.

Unlike some of the other types of data sources supported by the Receiver, SDEE uses a "pull" model instead of a "push" model. This means that periodically the Receiver contacts the SDEE provider and requests any events generated since the time of the last event was requested. Each time events are requested from the SDEE provider, they are processed and stored into the Receiver's event database, ready to be retrieved by the ESM.

You can add a SDEE provider to a Receiver as a data source by selecting Cisco as the vendor and IOS IPS (SDEE) as the data source model (see *Add a data source*).

The Receiver is able to extract this information from an SDEE/CIDEE event:

- Source and destination IP addresses
- Source and destination ports
- Protocol
- Event time
- Event count (CIDEE provides a form of event aggregation, which the Receiver honors)
- Signature ID and sub-ID
- The ESM event ID is calculated from the SDEE signature ID and the CIDEE sub-signature ID using the following formula:

  ESMI ID = (SDEE ID * 1000) + CIDEE sub-ID

  So, if the SDEE signature ID is 2000 and the CIDEE sub-signature ID is 123, the ESMI event ID would be 2000123.
- VLan
- Severity
- Event description
- Packet contents (if available).

If the Receiver is connecting to the SDEE provider for the first time, the current date and time is used as a starting point for requesting events. Future connections request all events since the last successful pull.

Configure ePolicy Orchestrator 4.0

The McAfee Event Receiver Data Source for ePolicy Orchestrator now supports ePolicy Orchestrator 4.0. ePolicy Orchestrator 4.0 stores events in SQL Server database. The ePolicy Orchestrator data source connects to this SQL server database through JDBC to pull events information. A new user name (ID) and password must be created within the ePolicy Orchestrator database for use in conjunction with the data source for ePolicy Orchestrator.

Task

For option definitions, click **?** in the interface.

1. Log in to the ePolicy Orchestrator database server.
2. Launch **SQL Server Enterprise Manager** by selecting **Start** | **All Programs** | **Microsoft SQL Server** | **Enterprise Manager**.
3. Expand the Console Root node several times to view the items located under the Security folder.
4. Right-click the **Logins** icon, then select **New Login** from the menu.
5. On the **SQL Server Login Properties-New Login** page, fill in the following on the **General** tab:
   - a In the **Name** field, enter the user name you want to use for data source for ePolicy Orchestrator to connect to the ePolicy Orchestrator database (for example, nfepo).
   - b In **Authentication**, select **SQL Server Authentication Password**, then enter the password.
   - c In **Defaults**, select the ePolicy Orchestrator database (ePO4_<hostname>) from the **Database** drop-down list.

   > If you leave default **Database** as master, data source for ePolicy Orchestrator fails to pull events.

6. On the **Database Access** tab, select **Permit** associated with the ePolicy Orchestrator database.
7. For **Permit in Database Role**, select **db_datareader**, then click **OK**.
8. Confirm the new password, then click **OK**.

Add an ArcSight data source

Add data sources for an ArcSight device.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select the Receiver node .
2. Click the **Add Data Source** icon on the actions toolbar.
3. Select **ArcSight** in the **Data Source Vendor** field, then select **Common Event Format** in the **Data Source Model** field.
4. Type a name for the data source, then type the ArcSight IP address.
5. Complete the remaining fields (see *Add a Data Source*).
6. Click **OK**.
7. Set up a data source for each source that forwards data to the ArcSight device.

The data received from ArcSight is parsed so it can be viewed on the ESM console.

Common Event Format (CEF)

ArcSight currently converts events from 270 data sources to Common Event Format (CEF) using smart connectors. CEF is an interoperability standard for event- or log-generating devices. It contains the most relevant device information and makes it easy to parse and use events.

The event message doesn't need to be explicitly generated by the event producer. The message is formatted using a common prefix composed of fields delimited by a bar (|) character. The prefix is mandatory and all specified fields must be present. Additional fields are specified in the extension. The format is:

```
CEF:Version|Device Vendor|Device Product|Device Version|deviceEventClassId|Name|
Severity|Extension
```

The extension part of the message is a placeholder for additional fields. Following are definitions for the prefix fields:

- **Version** is an integer and identifies the version of the CEF format. Event consumers use this information to determine what the fields represent. Currently only version 0 (zero) is established in the above format. Experience might show that other fields must be added to the "prefix" and therefore require a version number change. Adding new formats is handled through the standards body.
- **Device Vendor**, **Device Product**, and **Device Version** are strings that uniquely identify the type of sending device. No two products may use the same device-vendor and device-product pair. There is no central authority managing these pairs. Event producers have to ensure that they assign unique name pairs.
- **DeviceEventClassId** is a unique identifier per event-type. This can be a string or an integer. DeviceEventClassId identifies the type of event reported. In the intrusion detection system (IDS) world, each signature or rule that detects certain activity has a unique deviceEventClassId assigned. This is a requirement for other types of devices as well, and helps correlation engines deal with the events.
- **Name** is a string representing a human-readable and understandable description of the event. The event name should not contain information that is specifically mentioned in other fields. For example: "Port scan from 10.0.0.1 targeting 20.1.1.1" is not a good event name. It must be: "Port scan." The other information is redundant and can be picked up from the other fields.
- **Severity** is an integer and reflects the importance of the event. Only numbers from 0 to 10 are allowed, where 10 indicates the most important event.
- **Extension** is a collection of key-value pairs. The keys are part of a predefined set. The standard allows for including additional keys as outlined later. An event can contain any number of key-value pairs in any order, separated by spaces. If a field contains a space, such as a file name, this is okay and can be logged in exactly that manner. For example:

```
fileName=c:\Program Files\ArcSight is a valid token.
```

Here is a sample message to illustrate appearance:

```
Sep 19 08:26:10 zurich CEF:0|security|threatmanager|1.0|100|worm successfully stopped|
10|src=10.0.0.1 dst=2.1.2.2 spt=1232
```

If you use NetWitness, your device needs to be configured correctly to send the CEF to the Receiver. By default, the CEF format when using NetWitness will look as follows:

```
CEF:0|Netwitness|Informer|1.6|{name}|{name}|Medium | externalId={#sessionid}
proto={#ip.proto} categorySignificance=/Normal categoryBehavior=/Authentication/Verify
categoryDeviceGroup=/OS categoryOutcome=/Attempt categoryObject=/Host/Application/
Service act={#action} deviceDirection=0 shost={#ip.host} src={#ip.src}
```

```
spt={#tcp.srcport} dhost={#ip.host} dst={#ip.dst} dport={#tcp.dstport}
duser={#username} dproc=27444 fileType=security cs1={#did} cs2={#password} cs3=4 cs4=5
cn1={#rid} cn2=0 cn3=0
```

The correct format requires you to change "dport" above to "dpt."

Adiscon setup

Syslog WMI is supported through Adiscon.

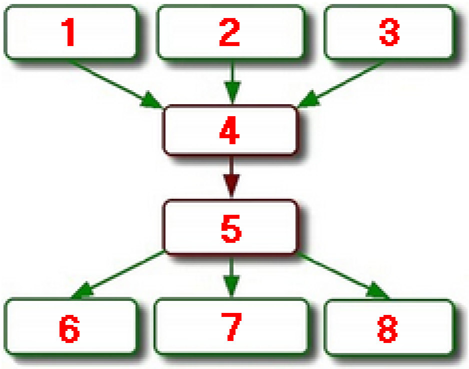
The following format string must be used in Event Reporter for the Microsoft Adiscon Windows Events Data Source to work properly:

```
%sourceproc%,%id%,%timereported:::uxTimeStamp%,%user%,%category%,%Param0%;%Param1%;
%Param2%;%Param3%;%Param4%;%Param5%;%Param6%;%Param7%;%Param8%;%Param9%;%Param10%;
%Param11%;%Param12%;%Param13%;%Param14%;%Param15%
```

Syslog relay support

Forwarding events from various devices through a syslog relay server to the Receiver requires additional steps.

You must add a single syslog relay data source to accept the stream of data and additional data sources. This allows the Receiver to split up the stream of data into the originating data sources. Sylog-ng and Splunk are supported. This diagram describes this scenario:



1	Cisco ASA Device	**5**	Data Source 1 — Syslog Relay
2	SourceFire Snort Device	**6**	Data Source 2 — Cisco ASA
3	TippingPoint Device	**7**	Data Source 3 — SourceFire Snort
4	Syslog Relay	**8**	Data Source 4 — TippingPoint

Using this scenario as an example, you must set up the syslog relay data source (5) to receive the stream of data from the syslog relay (4), selecting **syslog** in the **Syslog relay** field. Once the syslog relay data source is set up, add the data sources for the individual devices (6, 7, and 8), selecting **None** in the **Syslog relay** field, because this device is not a syslog relay server.

The **Upload Syslog Messages** feature does not work on a syslog relay setup.

The header on the syslog must be configured to look like the following example: `1 <123> 345 Oct 7 12:12:12 2012 mcafee.com httpd[123]`

where

`1 =`	syslog version (optional)
`345 =`	syslog length (optional)
`<123> =`	facility (optional)
`Oct 7 12:12:12 2012 =`	date; hundreds of formats are supported (required)
`mcafee.com`	hostname or ip address (ipv4 or ipv6) (required)
`httpd =`	application name (optional)
[123]	application pid (optional)
: =	a colon (optional)

> The host name and data fields can appear in either order. An IPv6 address can be enclosed in brackets [ ].

Run NSM-SIEM configuration tool

Prior to setting up an NSM data source, you must run the NSM-SIEM Configuration Tool.

Task

For option definitions, click **?** in the interface.

1. Download the configuration tool.
   a. Browse to the McAfee Product Download website.
   b. Enter the customer grant number that was provided to you, in the **Download My Products** search box.
   c. Click **Search**. The product update files are found under the MFE **<product name> <version>** downloads link.
   d. Read the McAfee EULA and click **I Agree**.
   e. Download the **NSM-SIEM Configuration Tool** files.
2. Run the configuration tool on the NSM server.

   The tool must find the default path to the NSM. If it does not locate it, browse to it.
3. Enter the NSM SQL user, password, and database name that was entered in the install of NSM.
4. Enter the SIEM user name and password on the data source and Receiver IP address where the data source is added.

These are entered on the data source screen.

Setting up ePolicy Orchestrator

You can set up multiple ePolicy Orchestrator data sources all pointing to the same IP address with different names in the database name field.

This allows you to set up as many ePolicy Orchestrator data sources as you choose and have them all point to a different database on your central server. Fill in the **User ID** and **Password** fields with the information that provides access to the ePolicy Orchestrator database, and the **Version** field with the version of the ePolicy Orchestrator device. The default port is 1433.

> **Database Name** is required. If the database name contains a dash, you must enclose the name in brackets (for example, [ePO4_WIN-123456]).

The **ePO Query** option allows you to query the ePolicy Orchestrator device and create client data sources. If the default **Match by type** is selected in the **Use client data sources** field and you click **ePO Query**, the ePolicy Orchestrator device is queried and any supported ePolicy Orchestrator products are added as client data sources.

These products are supported if they are fully integrated into ePolicy Orchestrator:

- ANTISPYWARE
- DLP
- EPOAGENT
- GSD
- GSE
- HOSTIPS
- MNAC
- POLICYAUDITOR
- SITEADVISOR
- VIRUSCAN
- SOLIDCORE

If **Match on IP** is selected, the ePolicy Orchestrator device is queried and creates client data sources for all the endpoints in the ePolicy Orchestrator database. If more than 256 endpoints exist in the ePolicy Orchestrator database, multiple data sources are created with clients.

McAfee risk assessment date is acquired from ePolicy Orchestrator servers. You can specify multiple ePolicy Orchestrator servers from which to acquire McAfee Risk Advisor data. The McAfee Risk Advisor data is acquired via a database query from the ePolicy Orchestrator SQL Server database. The database query results in an IP versus reputation score list, and constant values for the low reputation and high reputation values are provided. All ePolicy Orchestrator and McAfee Risk Advisor lists merge, with any duplicate IPs getting the highest score. This merged list is sent, with low and high values, to any ACE devices for scoring SrcIP and DstIP fields.

When you add an ePolicy Orchestrator data source and click **OK** to save it, you are asked if you want to use this data source to configure McAfee Risk Advisor data. If you click **Yes**, a data enrichment source and two ACE scoring rules (if applicable) are created and rolled out. To view these, go to the **Enable data enrichment** and **Risk correlation scoring** pages. To use the scoring rules, you must create a risk correlation manager (see *Add a risk correlation manager*).

IBM Internet Security System SiteProtector

The Receiver is capable of retrieving events from an Internet Security Systems (ISS) SiteProtector server by querying the Microsoft SQL Server database SiteProtector used to store its events.

Unlike some of the other types of data sources supported by the Receiver, retrieving events from a SiteProtector server is done using a "pull" model instead of a "push" model. This means that periodically, the Receiver contacts the SiteProtector database and requests any new events since the last event pulled. Each time events are retrieved from the SiteProtector server they are processed and stored in the Receiver's event database, ready to be retrieved by the ESM.

There are two device type options available: **Server** and **Managed Device**. Setting up a data source with the Server device type selected is the minimum requirement to gather events from a SiteProtector server.

Once a SiteProtector Server data source is configured, all events gathered from SiteProtector show up as belonging to that data source, without regard to the actual asset that reported the event to the SiteProtector server. To have events further categorized according to the managed asset that reported the event to SiteProtector, you can set up additional SiteProtector data sources with the **Managed Device** device type selected.

The **Advanced** option at the bottom of the page allows you to define a URL that can be used to launch specific URLs when viewing event data. You can also define a vendor, product, and version to be used for Common Event Format (CEF) event forwarding. These settings are optional.

For the Receiver to query the SiteProtector database for events, the Microsoft SQL Server installation hosting the database used by SiteProtector must accept connections from the TCP/IP protocol.

> See your Microsoft SQL Server documentation for steps on how to enable this protocol and define the port used for these connections (the default is port 1433).

When the Receiver is connecting to the SiteProtector database for the first time, new events generated after the current time are retrieved. Future connections request all events that occurred after the last event that was successfully retrieved.

The Receiver extracts this information from a SiteProtector event:

- Source and destination IP addresses (IPv4)
- Source and destination ports
- Protocol
- Event time
- Event count
- VLan
- Severity
- Event description

Set up Check Point

Set up data sources that cover Provider 1, Check Point High Availability, and most standard Check Point environments.

Your first step is to add the parent Check Point data source (see *Add a data source*). You must add a data source for the log server if your parent data source is not acting as a log server and you have a dedicated log server. Also add child data sources as needed. If you are in a high availability environment, you must add a child data source for each secondary SMS/CMA.

Task

For option definitions, click **?** in the interface.

1. Add a parent data source for your SMS/CMA where the OPSEC application/certificate is stored or, if on a Receiver-HA, your primary SMS/CMA.

   > OPSEC is not FIPS-compliant. If you are required to comply with FIPS regulations, do not use this feature (see *Appendix A*).

2. Click **Options**.
3. On the **Advanced Settings** page, select the communication method, then type the **Server Entity Distinguished Name** of this data source.
4. Click **OK** twice.
5. Do the following, if needed:

If you receive this error...	Do the following...
SIC Error for lea: Client could not choose an authentication method for service lea	1 Verify that you selected the correct settings for **Use Authentication** and **Use Encryption** when you added the Check Point data source. If you selected **Use Authentication** only, the OPSEC client attempts to communicate with the log server using "sslca_clear". If you selected **Use Authentication** and **Use Encryption**, the OPSEC client attempts to communicate with the log server using "sslca." If you selected neither, the OPSEC client attempts to communicate with the log server using "none." 2 Verify that the OPSEC application you are using to communicate with the Check Point log server has **LEA** selected in the **Client Entities** section. 3 If both of these steps verify correctly, locate the sic_policy.conf file on your Check Point Log Server installation. For example, on a Linux-based R65 system, the file is located in /var/opt/CPshrd-R65/conf. 4 When you determine which communication method (authentication method in the file) allows LEA communication method to the Log Server, select that communication method on the **Advanced Settings** page as **Communication Method**.
SIC Error for lea: Peer sent wrong DN: <expected dn>	• Provide a string for the **Server Entity Distinguished Name** text box by entering the string that represents "<expected dn>" in the error message. An alternative is to find the distinguished name for the Check Point Log Server by looking at the Check Point Log Server's network object in the Smart Dashboard UI. The DN of the SMS/CMA will be like that of the DN for the OPSEC app, just replace the first entry with CN=cp_mgmt. For instance consider an OPSEC app DN of CN=mcafee_OPSEC,O=r75..n55nc3. The SMS/CMA DN will be CN=cp_mgmt,O=r75..n55nc3. The DN of the log server would be like this, CN=CPlogserver,O=r75..n55nc3.

6 Add a child data source for every firewall, log server, or secondary SMS/CMA that is managed by the parent data source that you set up (see *Add a child data source*).

The device type for all firewall/gateway data sources is **Security Device**. The **Parent Report Console** defaults to the parent data source.

McAfee rulesets

This table lists the McAfee rulesets along with the external data source IDs.

Data Source ID	Display Name	Corresponding RSID	Rule Range
50201	Firewall	0	2,000,000–2,099,999
50202	Custom Firewall	0	2,200,000–2,299,999
50203	Custom Signatures	0	5,000,000–5,999,999
50204	Internal	0	3,000,000–3,999,999
50205	Vulnerability and Exploit	2	N/A
50206	Adult Content	5	N/A
50207	Chat	8	N/A
50208	Policy	11	N/A
50209	Peer to Peer	14	N/A
50210	Multimedia	17	N/A

Data Source ID	Display Name	Corresponding RSID	Rule Range
50211	Alpha	25	N/A
50212	Virus	28	N/A
50213	Perimeter Secure Application	31	N/A
50214	Gateway	33	N/A
50215	Malware	35	N/A
50216	SCADA	40	N/A
50217	MCAFEESYSLOG	41	N/A

Receiver asset sources

An asset is any device on the network that has an IP address. The **Asset** tab on the **Asset Manager** allows you to create assets, modify their tags, create asset groups, add asset sources, and assign an asset to an asset group. It also allows you to manipulate the assets that are learned from one of the VA vendors.

The **Asset Sources** feature on **Receiver Properties** allows you to retrieve data from your **Active Directory**, if you have one. Once this process is completed, you can filter event data by selecting the retrieved users or groups in the **Source User** and **Destination User** view query filter fields. This improves your ability to provide compliance data for requirements like PCI. An ESM can have only one asset source. Receivers can have multiple asset sources.

If two asset discovery sources (such as Vulnerability Assessment and Network Discovery) find the same asset, the discovery method with the highest priority adds the asset it discovered to the table. If two discovery sources have the same priority, the last one that discovers the asset takes priority over the first.

Add asset source

To retrieve data from an **Active Directory**, you must configure a Receiver.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **Receiver Properties**, then click **Asset Sources**.
2. Click **Add**, then fill in the information requested.
3. Click **OK**, then click **Write** on the **Asset Sources** page.

Enterprise Log Manager (ELM) settings

ELM supports the storage and management of, access to, and reporting of log data.

The data received by ELM is organized in storage pools, each composed of storage devices. A retention time is associated with each storage pool and the data is retained in the pool for the period specified. Government, industry, and corporate regulations require that logs be stored for different periods of time.

The ELM provides the capability to set up search and integrity-check jobs. Each of these jobs accesses the stored logs and retrieves or checks the data that you define in the job. You can then view the results and choose to export the information.

The information provided applies to all these ELM device models:

- ENMELM-5205 (ESM/Log Manager Combo)
- ENMELM-5510 (ESM/Log Manager Combo)
- ENMELM-4245 (ESM/Log Manager Combo)
- ELM-5205
- ELM-5510
- ELM-5750
- ELMERC-4245 (Receiver/Log Manager Combo)
- ELMERC-2250 (Receiver/Log Manager Combo)
- LMERC 2230 (Receiver/Log Manager Combo)

To configure an ELM, you must know:

- The sources that are storing logs on the ELM
- The storage pools that are required and their data retention times
- The storage devices that are required to store the data

Generally, you know the sources that store logs on the ELM and the storage pools that are required. However, what is unknown is the necessary storage devices that store the data. The best approach to addressing this uncertainty is:

1. Make a conservative estimate of the storage requirements.

   > As of 9.0.0, ELM storage pools require 10% of the allocated space for mirroring overhead. Make sure to take this 10% into account when calculating the required space.

2. Configure ELM storage devices to meet the estimated requirements.
3. Acquire logs on the ELM for a short period.
4. Use ELM storage statistics information to change the storage device configurations to accommodate the actual data storage requirements.

Preparing to store data on the ELM

There are several steps you must take to configure an ELM to store data.

Step	Action	Description
1	Define data retention times	Based on ELM installation requirements, define the number of different data retention times needed. These are common data retention times: • SOX – 7 years • PCI – 1 year • GLBA – 6 years • EU DR Directive – 2 years • Basel II – 7 years • HIPAA – 6 or 7 years • NERC – 3 years • FISMA – 3 years
2	Define sources of log data	The goal here is to define all sources of logs that are stored on the ELM and to estimate the average log byte size and average logs generated per day for each. This only needs to be an estimate. It might be easier to estimate the average log byte size and average logs generated per day for types of sources (such as Firewall, router, Nitro IPS, ADM, DEM, ELM), then estimate the number of sources for each type. The next step requires the association of each source with a retention time defined in Step 1, so be sure to take that into consideration when estimating source types (for example, SOX Firewall, PCI DEM).

Step	Action	Description
3	Define storage pools	Based on ELM installation requirements, associate each source of logs, or source, with a data retention time, defining the set of storage pools required for the ELM installation.
4	Estimate storage pool size requirements	For each storage pool, estimate its storage requirements using one of the following equations: • Using individual sources: IRSGB = 0.1*(DRTD*SUM(DSAB*DSALPD))/(1024*1024*1024) Where IRSGB= Initial required storage in gigabytes DRTD = Data retention time in days SUM() = The sum for all data sources DSAB = Data source average bytes per log DSALPD = Data source average logs per day • Using source types: IRSGB = 0.1*(DRTD*SUM(NDS*DSTAB*DSTALPD))/(1024*1024*1024) Where IRSGB= Initial required storage in gigabytes DRTD = Data retention time in days NDS = Number of data sources of a data source type SUM() = The sum for all data source types DSTAB = Data source type average bytes per log DSTALPD = Data source type average logs per day
5	Create initial storage devices	Create one or more ELM storage devices so they are large enough to store each IRSGB worth of data (see *Add a storage device*).
6	Create storage pools	For each storage pool you defined in Step 3, create an ELM storage pool using the associated retention time from Step 1, the associated IRSGB values from Step 4, and the associated storage devices from Step 5 (see *Add a storage pool*).
7	Start logging data	Configure sources to send their logs to the ELM, and let them do so for one or two days.
8	Refine storage pool size requirement estimates	For each storage pool created in Step 6, refine its storage requirement estimate using the following equation: RSGB = 1.1*DRTD*SPABRPD/(1024*1024*1024) Where RSGB = Required storage in gigabytes DRTD = Data retention time in days SPABRPD = Storage pool's daily “Avg. byte rates” value from its Statistical Report
9	Modify or create storage devices	For each RSGB value from Step 8, modify or create ELM storage devices so that they are large enough to store RSGB worth of data.
10	Modify storage pools	If needed, modify each storage pool created in Step 6 by adding storage devices created in Step 9, or increase existing storage device allocation.

Setting up ELM storage

To store logs, the ELM must have access to one or more storage devices. The storage requirement for an ELM installation is a function of the number of data sources, their logging characteristics, and their data retention time requirements. The storage requirement varies over time because all are likely to change during the life of an ELM installation.

For details regarding estimating and adjusting the storage requirements for your system, see *ELM settings*.

ELM storage terminology

Review these terms to work with ELM storage:

- **Storage Device** — A data storage device accessible to an ELM. Some ELM models offer an onboard storage device, some offer a SAN connection capability, and some both. All ELM models offer a NAS connection capability.
- **Storage Allocation** — A specific amount of data storage on a specific storage device (for example, 1TB on a NAS storage device).
- **Data Retention Time** — The amount of time a log is stored.
- **Storage Pool** — One or more storage allocations, which together specify a total amount of storage, coupled with a data retention time that specifies the maximum number of days a log is to be stored.
- **Log Source** — Any source of logs that an ELM stores.

ELM storage device types

When you are adding a storage device to an ELM, you must select the type of device it is. There are a few things to keep in mind when you are adding or editing the device.

Device type	Details
NFS	If you need to edit the remote mount point of the storage device containing the ELM Management Database, use the Migrate DB option to move the database to a different storage device (see *Migrate ELM database*). You can then safely change the remote mount point field and move the database back to the updated storage device.
CIFS	• Using the CIFS share type with Samba server versions greater than 3.2 can result in data loss. • When connecting to a CIFS share, don't use commas in your password. • If you are using a Windows 7 computer as a CIFS share, see *Disable HomeGroup file sharing*.
iSCSI	• When connecting to an iSCSI share, don't use commas in your password. • Attempting to attach multiple devices to one IQN can cause data loss and other configuration problems.
SAN	The SAN option is available only if there is a SAN card installed on the ELM and there are SAN volumes available.

Disable HomeGroup file sharing

Windows 7 requires you to use HomeGroup file sharing, which works with other Windows 7 computers but not with Samba. To use a Windows 7 computer as a CIFS share, you must disable HomeGroup file sharing.

Task

For option definitions, click **?** in the interface.

1. Open the Windows 7 **Control Panel**, then select **Network and Sharing Center**.
2. Click **Change advanced sharing settings**.
3. Click **Home or Work** profile and make sure it is labeled as your current profile.
4. Turn on network discovery, file and printer sharing, and public folder.
5. Go to the folder you want to share using CIFS (try the public folder first) and right click it.
6. Select **Properties**, then click the **Sharing** tab.
7. Click **Advanced sharing**, then select **Share this folder**.
8. (Optional) Change the share name and click **Permissions**.

   Make sure you have permissions set as you want (a checkmark in Change = writeable). If you've enabled password-protected shares, you'll have to tweak settings here to make sure that your Ubuntu user is included for permission.

Add a storage device to link to a storage pool

To add a storage device to the list of storage locations, you must define its parameters.

> When editing a storage device, you can increase the size, but you can't reduce it. A device can't be deleted if it's storing data.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **ELM Properties**, then click **Storage Pools**.
2. Click **Add** next to the top table.
3. On the **Add Storage Device** page, fill in the requested information.
4. Click **OK** to save the settings.

   The device is added to the list of available ELM storage devices.

You can edit or delete storage devices from the table on the **Storage Pools** page.

Add or edit a storage pool

A storage pool includes one or more storage allocations and a data retention time. Add them to the ELM to define where ELM logs are stored and how long they must be retained.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **ELM Properties**, then click **Storage Pool**.
2. Click **Add** or **Edit** next to the bottom table, then fill in or change the information requested.
3. Click **OK**.

You can edit the parameters after they are saved, and you can delete a storage pool as long as it, and the devices allocated to it, isn't storing data.

Move a storage pool

You can move a storage pool from one device to another.

> **Before you begin**
>
> Set up the storage device you want to move the storage pool to as a mirror of the device currently holding the pool (see *Add mirrored ELM data storage*).

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select the ELM device holding the storage pool, then click the **Properties** icon ☰.
2. Click **Storage Pools**.
3. In the **Storage Pools** table, click the mirrored devices listed under the pool to be moved.
4. Click **Edit**, and from the **Data Storage Devices** drop-down list, select the device that mirrors the storage pool to be moved.

   It is now the main data storage device.
5. To mirror the new data storage device, select a device from the **Mirrored Data Storage Device** drop-down list, then click **OK**.

Reduce storage allocation size

If a storage device is full due to space allocated for storage pools, you might need to reduce the amount of space defined for each allocation. This might be necessary to allocate space on this device for more storage pools or for the full-text indexer.

> ℹ If the allocation size reduction affects data, the data is moved to other allocations in the pool if the space is available. If it is not available, the oldest data is deleted.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **ELM Properties**, then click **Storage Pool**.
2. On the bottom table, select the pool to be reduced, then click **Reduce Size**.
3. Enter the amount you want to reduce the storage by, then click **OK**.

Mirroring ELM data storage

You can set up a second ELM storage device to mirror the data collected on the main device.

If the main device goes down for any reason, the backup device continues storing the data as it comes in. When the main device comes back on line, it automatically syncs with the backup, then resumes storing the data as it arrives. If the main device goes down permanently, you can reassign the backup to become the main on the ESM, then designate a different device to mirror it.

When either of the devices go down, a health status flag 🚩 appears next to the ELM device on the system navigation tree.

A mirrored storage pool might lose connection with its storage device. The loss can be due to:

- The file server or the network between the ELM and the file server has failed.
- The file server or network is shut down for maintenance.
- An allocation file is accidentally deleted.

When there is a problem with the mirror, the storage devices show a warning icon ⚠ in the **Storage Pools** table. You can then use the **Rebuild** function to repair it.

Add mirrored ELM data storage

Any storage device added to the list of available devices that has the needed space, can be used to mirror the data saved on an ELM storage device.

> **Before you begin**
>
> Add the two devices you want to use to mirror each other to the ESM.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **ELM Properties**, then click **Storage Pools**.
2. Click **Add** next to the bottom table
3. On the **Add Storage Pool** page, enter the information requested, then click **Add** to select the storage device and mirroring device.

   A device can be assigned to more than one pool at a time.

4. Click **OK** twice.

Rebuild a mirrored storage pool

If a mirrored storage pool loses connection with its storage devices, you can use the **Rebuild** function to repair it.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **ELM Properties**, then click **Storage Pool**.
2. Hover over the mirrored devices that are showing a warning icon.

   A tool tip informs you that the ELM allocation is rebuilding or that the mirrored device needs to be rebuilt.

3. To rebuild the mirrored devices, click on the devices, then click **Rebuild**.

When the process is complete, you are notified that the allocation rebuilt successfully.

Disable a mirroring device

To stop using a device as a storage pool mirroring device, you must select a different device to replace it or select **None**.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select the ELM currently holding the mirroring storage pool in the system navigation tree, then click the **Properties** icon ▤.
2. Click **Storage Pools**, then select the mirrored devices in the **Storage Pool** table and click **Edit**.
3. Do one of the following:
   - If the device selected in the **Mirrored Data Storage Device** field is the one you want to disable, click the drop-down arrow in that field and select a different device to mirror the data storage device or select **None**.
   - If the device selected in the **Data Storage Device** field is the one you want to disable, click the drop-down arrow in that field and select a different device to act as the data storage device.
4. Click **OK** to save the changes.

If the device is no longer a mirroring device, it still appears in the **Storage Device** table.

Set up external data storage

There are three types of external storage that can be set up to store ELM data: iSCSI, SAN, and DAS. Once you connect these external storage types to the ELM, you can set them up to store data from the ELM.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **ELM Properties**, then click **Data Storage**.
2. Click the **iSCSI**, **SAN**, or **DAS** tab, then follow the required steps.
3. Click **Apply** or **OK**.

Add an iSCSI device

To use an iSCSI device for ELM storage, you must configure connections to the device.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **ELM Properties**, then click **Data Storage**.
2. On the **iSCSI** tab, click **Add**.
3. Enter the information requested, then click **OK**.

   If the connection is successful, the device and its IQNs are added to the **iSCSI Configuration** list, as well as the **Device Type** list on the **Add Storage Device** page (see *Add a storage device*).

   > Once an IQN begins storing ELM logs, the iSCSI target can't be deleted. Due to this limitation, make sure to set up your iSCSI target with sufficient space for ELM storage.

4. Prior to using an IQN for ELM storage, select it on the list, then click **Format**.

5. To check its status as it is formatting, click **Check Status**.
6. To discover or rediscover the IQNs, click the iSCSI device, then click **Discover.**

   > Attempts to assign more than one device to an IQN can result in data loss.

Format a SAN storage device to store ELM data

If you have a SAN card on your system, you can use it to store ELM data.

> **Before you begin**
>
> Install a SAN card on your system (see *Install the qLogic 2460 SAN adapter* in the **McAfee ESM** Installation Guide, or contact McAfee support).

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **ELM Properties**, then click **Data Storage**.
2. Click the **SAN** tab, then check the status of the SAN volumes that were detected.
   - **Format required** — The volume must be formatted and doesn't appear on the list of available volumes on the **Add Storage Device** page.
   - **Formatting** — The volume is in the process of being formatted and doesn't appear on the list of available volumes.
   - **Ready** — The volume is formatted and has a recognizable file system. These volumes can be used to store ELM data.
3. If a volume is not formatted and you want it to store data, click it, then click **Format**.

   > When you format a volume, all stored data is deleted.

4. To check if formatting is complete, click **Refresh**.

   If formatting is completed, the status changes to **Ready**.
5. To view the details of a volume at the bottom of the page, click the volume.

You can now set up the formatted SAN volume as a storage device for ELM storage.

Assign a DAS device to store data

You can assign available DAS devices to store ELM data.

> **Before you begin**
>
> Set up DAS devices.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select the ELM you will assign the DAS device to, then click the **Properties** icon ☰.

   > On an all-in-one device, you can assign the DAS to the ESM by selecting the ESM, then clicking the **Properties** icon.

2 Click **Data Storage**, then click the **DAS** tab.

The **DAS** table lists the devices that are available for storage.

3 On the table, click one of the devices that has not been assigned to store ELM or ESM data.

4 Click **Assign**, then click **Yes** on the warning page.

> ⚠ Once you assign a device, you can't change it.

The ELM restarts.

ELM redundancy

You can provide redundancy for your logging by adding a standby ELM to the current standalone ELM on your system.

To enable redundancy, define the IP addresses and other network information on two ELMs (see *Set up ELM redundancy*). The standby ELM must have storage devices with enough combined space to match the storage on the active ELM. Once they are set up, the configuration on both ELMs is synchronized, and the standby ELM maintains the synchronization of data between both devices.

There are several actions you perform when working with ELM redundancy: switch over, return to service, suspend, remove, and view status. All actions are available on the **ELM Properties | ELM Redundancy** page.

Switch over

If the primary ELM goes down or needs to be replaced, select **Switch ELM**. The standby ELM becomes active and the system associates all logging devices to it. Logging and configuration actions are locked during the switch-over process.

Return to service

If the standby ELM goes down, you must return it to service when it is brought back up. If no changes to configuration files are detected, redundancy continues as before. If differences are detected in the files, redundancy continues for the storage pools that do not have problems, but an error status is returned, that one or more pools are out of configuration. You must fix these pools manually.

If the standby ELM has been replaced or reconfigured, the system detects it and prompts you to re-key the standby ELM. The active ELM then syncs all configuration files to the standby, and redundancy continues as before.

Suspend

You can suspend communication with the standby ELM if it is down or is going to be down for any reason. All communication stops and error notifications for redundancy are masked. When the standby ELM is brought back up, follow the return to service process.

Disable redundancy on the ELM

You can disable ELM redundancy by selecting **Remove**. The active ELM saves a copy of the redundancy configuration files. If this backup file is found when enabling ELM redundancy, you are asked if you want to restore the saved configuration files.

View status

You can view details on the state of data synchronization between the active and standby ELM by selecting **Status**.

Set up ELM redundancy

If you have a standalone ELM device on your system, you can provide redundancy for logging by adding a standby ELM.

Before you begin

You must have a standalone ELM installed (see *McAfee Enterprise Security Manager 9.5.0 Installation Guide*) and added to the ESM console (see *Add devices to the ESM console*). You must also have a standby ELM installed but not added to the console. Ensure that there is no data on the standby ELM. Contact McAfee support if you need to perform a factory reset.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, click the ELM, then click the **Properties** icon ☰.
2. On the **ELM Properties** page, click **ELM Redundancy**, then click **Enable**.
3. Type the IP address and password for the standby ELM, then click **OK**.
4. On the **ELM Properties** page, click **Storage Pools**, and verify that the **Active** tab is selected.
5. Add storage devices to the active ELM (see *Add a storage device to link to a storage pool*).
6. Click the **Standby** tab, then add storage devices that have enough combined space to match the storage on the active ELM.
7. Add one or more storage pools to each ELM (see *Add or edit a storage pool*).

The configuration on both ELMs is now synchronized and the standby ELM maintains the synchronization of data between both devices.

Managing ELM compression

Compress the data coming in to the ELM to save disk space or process more logs per second.

The three options are **Low** (default), **Medium**, and **High**. This table shows details about each level.

Level	Compression rate	Percentage of maximum compression	Percentage of maximum logs processed per second
Low	14:1	72%	100%
Medium	17:1	87%	75%
High	20:1	100%	50%

ℹ Actual compression rates vary depending on the content of the logs.

- If you are more concerned with saving disk space and less concerned with the number of logs you can process per second, choose high compression.
- If you are more concerned with processing more logs per second than you are with saving disk space, then choose low compression.

Set ELM compression

Select the compression level for the data coming in to the ELM to save disk space or process more logs.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **ELM Properties**, then click **ELM Configuration | Compression**.
2. Select the ELM compression level, then click **OK**.

You are notified when the level is updated.

View results of a search or integrity check

When a search or integrity check job is completed, you can view the results.

> **Before you begin**
>
> Run a search or integrity check job that produces results.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **ELM Properties**.
2. Click **Data**, then select the **Search Logs and Files** or **Integrity Check** tab.
3. Highlight the job that you want to view on the **Search Results** table, then click **View**.

The **ELM search results** page displays the results of the job.

> All ELM searches can be lost if you remove more than one extra VM drive from the ESM at one time. To avoid losing the results, export the ELM search results.

Back up and restore ELM

If there is a system failure or data loss, you must back up the current settings on ELM devices. All configuration settings, including the ELM logging database, are saved. The actual logs that are stored on the ELM are not backed up.

We recommend that you mirror the devices that store the log data on the ELM, and mirror the ELM management database. The mirroring feature provides real-time log data backup.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **ELM Properties**.
2. Make sure that **ELM Information** is selected, then click **Backup & Restore**.
3. Do one of the following:

To...	Do this...
Back up ELM now	Provide the requested information, then click **Backup Now**.
Back up ELM settings automatically	Select the frequency and provide the information.
Restore backup now	Click **Restore Backup Now**. The ELM database is restored to the settings from a previous backup.

Restore ELM management database and log data

To replace an ELM, restore the management database and log data to the new ELM. For this to work, the database and log data must be mirrored.

> To restore the data from an old ELM to a new ELM, don't create a new ELM using the **Add Device** wizard.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **ELM Properties** for the ELM that must be replaced.

   A warning page lets you know that the system can't locate the ELM.

2. Close the warning page, then click **Connection**.
3. Enter the IP address for the new ELM, then click **Key Management** | **Key Device**.

   You are informed when the new device is keyed successfully.

4. Enter the password that you want associated with this device, then click **Next**.
5. Click **ELM Information** | **Backup & Restore** | **Restore ELM**.
6. Re-sync each device logging to the ELM by clicking **Sync ELM** on the **Properties** | **Configuration** page for each device.

The management database and ELM data storage are restored on the new ELM. This process can take several hours.

Enable faster ELM searches

The full-text indexing engine indexes ELM logs. When it is enabled, it provides faster ELM search speeds because it limits the number of files that must be searched.

> **Before you begin**
>
> Define the storage device and space allocated to the indexer. The number of ELM logs that can be indexed vary based on the space you allocate for the indexer.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **ELM Properties**, then click **ELM Configuration** | **Full Text Index**.
2. Make the required selections on the **Select Full Text Indexer Location** page.
3. Click **OK** to save the settings.

View ELM storage usage

Viewing the usage of storage on the ELM can help you make decisions regarding space allocation on the device.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **ELM Properties**, then click **ELM Management**.
2. Click **View Usage**.

   The **Usage Statistics** page opens, showing the statistics for the storage device and pools on the ELM.
3. Click **OK**.

Migrating ELM database

The ELM management database stores the records that keep track of the logs sent to the ELM. The amount of disk space that is available on your ELM device to store the management database depends on the model.

When you first add the device, the system verifies if it has enough disk space to store the records. If it doesn't, you are prompted to define an alternate location for management database storage. If the device does have enough disk space but you prefer to save the database in an alternative location, you can use **Migrate DB** on the **ELM Properties** page to set up that location.

Migrate DB can be used at any time. However, if you migrate the management database once it contains records, the ELM session is on hold for several hours until the migration is complete, based on the number of records it contains. We recommend that you define this alternative location when you first set up the ELM device.

Define an alternate storage location

To store ELM management database records in a location not on the ELM, you must define the alternate storage location. You can also select a second device to mirror what is stored.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **ELM Properties**, then click **ELM Configuration** | **Migrate DB**.
2. Select the storage device and a mirrored device.
3. Click **OK**.

Replace an ELM mirrored management database

If a mirrored management database storage device is having a problem, you might need to replace it.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select the ELM device with the management database storage device that's experiencing the problem, then click the **Properties** icon ☰.
2. Click **ELM Configuration**, then select **Migrate DB**.
3. In the **Data Storage Devices** field, select the device listed in the **Mirrored Data Storage Device** drop-down.
4. Select a new device in the **Mirrored Data Storage Device** field or select **None** to stop mirroring.

> If the device you want isn't listed on the drop-down list, add the device to the **Storage Device** table first.

Retrieving ELM data

To retrieve data from the ELM, you must create search and integrity-check jobs on the **Data** page.

An integrity-check job checks if the files that you define have been altered since they were originally stored. This can alert you to unauthorized modification of critical system or content files. The results of this check show which files were altered. If none of the files were altered, you are notified that the check was successful.

The system is limited to a total of 50 searches and integrity-check jobs at one time. If there are more than 50 on the system, you are informed that your search can't be performed. If you have existing searches on the system, you can delete them so that your new search can be performed. If you do not have existing searches, the system administrator deletes existing searches or integrity-check jobs initiated by other users for your search to be performed.

Once you initiate a search, it continues to run until it is complete or it reaches one of the limits you have set, even if you close the **Data** page. You can return to this screen to check on the status, which is displayed in the **Search Results** table.

Create a search job

To search the ELM for files that match your criteria, you must define a search job on the **Data** page. None of the fields on this screen are required; however, the better you are able to define your search, the more likely you are to retrieve the data you require in the least amount of time.

> ELM search speed increased in version 9.2.0. For this increase to take effect when you upgrade to versions after 9.2.0 from versions prior to 9.2.0, you must enable the Full-Text Indexer (FTI) system.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **ELM Properties**, then click **Data**.
2. On the **Search Logs and Files** tab, fill in the information requested, then click **Search**.

Create an integrity-check job

You can check if files were altered since they were originally stored by creating an integrity-check job on the **Data** page. None of the fields on the **Integrity Check** tab are required; however, the better you are able to define your search, the more likely you are to verify the integrity of the data you require in the least amount of time.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **ELM Properties**, then click **Data**.
2. Click the **Integrity Check** tab, make the requested selections, then click **Search**.

Advanced Correlation Engine (ACE) settings

McAfee Advanced Correlation Engine (ACE) identifies and scores threat events in real time, using both rule- and risk-based logic.

Identify what you value (users or groups, applications, specific servers, or subnets) and ACE alerts you if the asset is threatened. Audit trails and historical replays support forensics, compliance, and rule tuning.

Configure ACE using real-time or historical modes:

- **Real-time mode** — analyzes events as they are collected for immediate threat and risk detection.
- **Historical mode** — replays available data collected through either or both correlation engines for historical threat and risk detection. When ACE discovers new zero-day attacks, it determines whether your organization was exposed to that attack in the past, for *subzero day* threat detection.

ACE devices supplement the existing event correlation capabilities for ESM by providing two dedicated correlation engines. Configure each ACE device with its own policy, connection, event and log retrieval settings, and risk managers.

- **Risk correlation —** generates a risk score using rule-less correlation. Rule-based correlation only detects known threat patterns, requiring constant signature tuning and updates to be effective. Rule-less correlation replaces detection signatures with a one-time configuration: Identify what is important to your business (such as a particular service or application, a group of users, or specific types of data). **Risk Correlation** then tracks all activity related to those items, building a dynamic risk score that raises or lowers based on real-time activity.

  When a risk score exceeds a certain threshold, ACE generates an event and alerts you to growing threat conditions. Or, the traditional rule-based correlation engine can use the event as a condition of a larger incident. ACE maintains a complete audit trail of risk scores for full analysis and investigation of threat conditions over time.

- **Rule-based correlation** — detects threats using traditional rule-based event correlation to analyze collected information in real time. ACE correlates all logs, events, and network flows with contextual information, such as identity, roles, vulnerabilities, and more—to detect patterns indicative of a larger threat.

  Event Receivers support network-wide, rule-based correlation. ACE complements this capability with a dedicated processing resource that correlates larger volumes of data, either supplementing existing correlation reports or off-loading them completely.

Configure each ACE device with its own policy, connection, event and log retrieval settings, and risk managers.

Select ACE data type

ESM collects both event and flow data. Select which data to send to the ACE. Default is event data only.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **ACE Properties**, then click **ACE Configuration**.
2. Click **Data**, then select **Event Data**, **Flow Data**, or both.
3. Click **OK**.

Add a correlation manager

To use rule or risk correlation, you must add rule or risk correlation managers.

> **Before you begin**
>
> There must be an ACE device on the ESM (see *Add devices to the ESM console*).

Task

For option definitions, click **?** in the interface.

1 On the system navigation tree, select **ACE Properties**, then click **Correlation Management**.

2 Select the type of manager you want to create, then click **OK**.

3 If you selected **Rule Correlation**, complete the **Main** and **Filters** tabs. If you selected **Risk Correlation**, complete the **Main**, **Fields**, **Thresholds**, and **Filters** tabs.

4 Click **Finish**.

Add a risk correlation manager

You must add managers to help calculate the levels of risk for the fields that you designate.

Task

For option definitions, click **?** in the interface.

1 On the system navigation tree, select **ACE Properties**, then click **Risk Correlation Management**.

2 Click **Add**, then fill in the information requested on each tab.

3 Click **Finish**, then click **Write** to write the managers to the device.

Add risk correlation score

You must add conditional statements that assign a score to a targeted field.

Task

For option definitions, click **?** in the interface.

1 On the system navigation tree, select **ACE Properties**, then click **Risk Correlation Scoring**.

2 Click **Add**, then fill in the requested information.

3 Click **OK**.

Using historical correlation

The historical correlation option allows you to correlate past events.

When a new vulnerability is discovered, it's important to check your historical events and logs to see if you were exploited in the past. Using ACE's easy network replay feature, historical events can be played through the **Risk Correlation** rule-less correlation engine and through the standard rule-based event correlation engine, letting you examine historical events against today's threat landscape. This can be useful in these situations:

- You did not have correlation set up at the time certain events were triggered and you notice that correlating them might have revealed valuable information.
- You are setting up a new correlation based on events triggered in the past and you want to test the new correlation to confirm that it provides the desired results.

Be aware of the following when using historical correlation:

- Real-time correlation is discontinued until you disable historical correlation.
- The risk distribution is skewed by event aggregation.
- When you move the risk manager back to real-time risk correlation, the thresholds must be tuned.

To set up and run historical correlation you must:

1. Add a historical correlation filter.
2. Run a historical correlation.
3. Download and view the correlated historical events.

Add and run historical correlation

To correlate past events, you must set up an historical correlation filter, then run the correlation.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **ACE Properties**, the click **Historical**.
2. Click **Add**, fill in the information requested, then click **OK**.
3. Select **Enable Historical Correlation**, then click **Apply**.

   Real-time correlation is discontinued until you disable historical correlation.
4. Select the filters you want to run, then click **Run Now**.

The ESM reviews the events, applies the filters, and packages the events that apply.

Download and view the historical correlation events

Once you have run the historical correlation, you can download and view the events it generated.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **ACE Properties**, then click **Events and Logs** | **Get Events**.

   The events that resulted from running the historical correlation are downloaded to the ESM.
2. Close **ACE Properties**.
3. To view the data:
   a. On the system navigation tree, select the ACE device you just ran the historical data for.
   b. On the time period drop-down list on the view toolbar, select the period of time you specified when setting up the run.

The view pane displays the results of the query.

Application Data Monitor (ADM) settings

McAfee Application Data Monitor (ADM) tracks all use of sensitive data on the network, analyzing underlying protocols, session integrity, and application contents.

When ADM detects a violation, it preserves all details of that application session for use in incident response and forensics or for compliance audit requirements. At the same time, ADM provides visibility into threats that masquerade as legitimate applications.

ADM can detect when sensitive information is transmitted inside email attachments, instant messages, file transfers, HTTP posts, or other applications. Customize ADM's detection capabilities by defining your own dictionaries of sensitive and confidential information. ADM can then detect these sensitive data types, alert appropriate personnel, and log the transgression to maintain an audit trail.

ADM monitors, decodes, and detects anomalies in the following application protocols:

- File transfer: FTP, HTTP, SSL (setup and certificates only)
- Email: SMTP, POP3, NNTP, MAPI
- Chat: MSN, AIM/Oscar, Yahoo, Jabber, IRC
- Webmail: Hotmail, Hotmail DeltaSync, Yahoo mail, AOL Mail, Gmail
- P2P: Gnutella, bitTorrent
- Shell: SSH (detection only), Telnet

ADM accepts rule expressions and tests them against monitored traffic, inserting records into the event table of the database for each triggered rule. It stores the packet that triggered the rule in the event table's packet field. It also adds application level metadata to the dbsession and query tables of the database for every triggered rule. It stores a text representation of the protocol stack in the query table's packet field.

ADM can generate the following types of event:

- **Metadata** - ADM generates one metadata event for each network transaction, with details such as addresses, protocol, file type, file name. The application places the metadata events in the query table and groups the events through the session table. For example, if one FTP session transfers three files, ADM groups them together.
- **Protocol anomaly** - Protocol anomalies are hard-coded into the protocol modules and include events, such as a Transmission Control Protocol (TCP) packet being too short to contain a valid header and a Simple Mail Transfer Protocol (SMTP) server returning an invalid response code. Protocol anomaly events are rare and are placed in the event table.
- **Rule trigger** - Rule expressions generate rule trigger events, detecting anomalies in the metadata generated by the Internet Communications Engine (ICE). These events might include anomalies such as protocols used outside of normal hours or an SMTP server unexpectedly talking FTP. Rule trigger events must be rare and are placed in the event table.

The event table contains one record for each detected protocol anomaly or rule trigger event. The event records link to the session and query tables through the sessionid, where more detail about the network transfers (metadata events) that triggered the event is available. Each event also links to the packet table where the raw packet data for the packet that triggered the event is available.

The session table contains one record for each group of related network transfers (such as, a group of FTP file transfers on the same session). The session records link to the query table through the sessionid where more details about the individual network transfers (metadata events) are found. In addition, if a transfer within the session causes a protocol anomaly or triggers a rule, there is a link to the event table.

The query table contains one record for each metadata event (content transfers that take place on the network). The query records link to the session table with the sessionid. If the network transfer represented by the record triggers a protocol anomaly or rule, there is a link to the event table. There is also a link to the packet table using the text field where a textual representation of the full protocol or content stack is found.

Set ADM time zone

The ADM device is set to GMT but ADM code is expecting the device to be set to your time zone. As a result, rules use the time trigger as if you are in GMT and not when you expect them to.

You can set the ADM to the time zone that you expect. This is then taken into account when evaluating the rules.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **ADM Properties**, then click **ADM Configuration**.
2. Click **Time Zone**, then select your time zone.
3. Click **OK**.

Display password on Session Viewer

The **Session Viewer** allows you to see the details of the latest 25,000 ADM queries in a session. The rules for some of the events might be password-related. You can select whether you want the passwords to display on the **Session Viewer**. By default, passwords aren't displayed.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **ADM Properties**, then click **ADM Configuration**.

   The **Passwords** option states that logging is **Off**.
2. Click **Passwords**, select **Enable password logging**, then click **OK**.

   The system executes the command and informs you when it's completed.

The **Passwords** option now states that logging is **On**.

Application Data Monitor (ADM) dictionaries

When writing ADM rules, use dictionaries that translate keys captured from the network into a defined value. Or, list keys without a value that defaults to Boolean true when the keys are present.

ADM dictionaries allow you to specify a file's keys quickly instead of having to write an individual rule for each word. For example, set up a rule to select email containing specific words, compile a dictionary with naughty words, and import that dictionary. You can create a rule like the following to check for emails with content that includes a word in the dictionary:

```
protocol == email && naughtyWords[objcontent]
```

When writing rules with the ADM rule editor, you can select the dictionary you want the rule to reference.

Dictionaries support up to millions of entries.

Adding a dictionary to a rule involves the following steps:

1. Setting up and saving a dictionary that lists the keys and, when needed, the values.
2. Managing the dictionary on the ESM.
3. Assigning the dictionary to a rule.

Setting up an ADM dictionary

A dictionary is a plain text file that consists of one entry per line. There are single column and double column dictionaries. Double columns include a key and a value.

Keys can be IPv4, MAC, number, regular expression, and string. Value types are boolean, IPv4, IPv6, MAC, number, and string. A value is optional and will default to boolean true if not present.

Values in a single or double column dictionary must be one of the supported ADM types: String, Regular Expression, Number, IPv4, IPv6, or MAC. ADM dictionaries must follow these formatting guidelines:

Type	Syntax Rules	Examples	Content Matched
String	• Strings must be enclosed in double quotes • Double quotes found within a String must be escaped using the backslash character before each quotation mark	"Bad Content" "He said, \"Bad Content\""	Bad Content He said, "Bad Content"
Regular Expression	• Regular expressions are enclosed with single forward slashes • Forward slashes and reserved regular expression characters within the regular expression must be escaped with the backslash character	/[Aa]pple/ /apple/i / [0-9]{1,3}\.[0-9]{1,3}\.[0-9]\.[0-9]/ /1\/2 of all/	Apple or apple Apple or apple IP Addresses: 1.1.1.1 127.0.0.1 1/2 of all
Numbers	• Decimal Values (0-9) • Hexadecimal Values (0x0-9a-f) • Octal Values (0-7)	Decimal Value Hexadecimal Value Octal Value	123 0x12ab 0127
Booleans	• Can be true or false • All lower case	Boolean Literals	true false
IPv4	• Can be written in standard dotted-quad notation • Can be written in CIDR notation • Can be written in long format with full masks	192.168.1.1 192.168.1.0/24 192.168.1.0/255.255.255.0	192.168.1.1 192.168.1.[0 – 255] 192.168.1.[0 – 255]

The following is true about dictionaries:

- Lists (multiple values separated by commas enclosed in brackets) are not allowed in dictionaries.
- A column can only consist of a single supported ADM type. This means that different types (string, regex, IPv4) cannot be mixed and matched within a single ADM dictionary file.
- They can contain comments. All lines starting with the pound character (#) are considered a comment within an ADM dictionary.
- Names can only consist of alphanumeric characters and underscores, and be of a total length less than or equal to 20 characters.
- Lists are not supported within them.
- Prior to ADM 8.5.0, they must be edited or created outside of the ESM with a text editor of your choice. They can be imported or exported from the ESM to facilitate modifying or creating new ADM dictionaries.

ADM dictionary examples

The ADM engine can match object content or any other metric or property with a single column dictionary for true or false (exists in the dictionary or does not exist in the dictionary).

Table 3-25 Single column dictionary examples

Type of dictionary	Example
String dictionary with common spam words	“Cialis” “cialis” “Viagra” “viagra” “adult web” “Adult web” “act now! don’t hesitate!”
Regular expression dictionary for authorization key words	/(password|passwd|pwd)[^a-z0-9]{1,3}(admin|login|password|user)/i /(customer|client)[^a-z0-9]{1,3}account[^a-z0-9]{1,3}number/i /fund[^a-z0-9]{1,3}transaction/i /fund[^a-z0-9]{1,3}transfer[^a-z0-9]{1,3}[0-9,.]+/i
String dictionary containing hash values for known bad executables	"fec72ceae15b6f60cbf269f99b9888e9" "fed472c13c1db095c4cb0fc54ed28485" "feddedb607468465f9428a59eb5ee22a" "ff3cb87742f9b56dfdb9a49b31c1743c" "ff45e471aa68c9e2b6d62a82bbb6a82a" "ff669082faf0b5b976cec8027833791c" "ff7025e261bd09250346bc9efdfc6c7c"
IP addresses of critical assets	192.168.1.12 192.168.2.0/24 192.168.3.0/255.255.255.0 192.168.4.32/27 192.168.5.144/255.255.255.240

Table 3-26 Double column dictionary examples

Type of dictionary	Example
String dictionary with common spam words and categories	“Cialis” “pharmaceutical” “cialis” “pharmaceutical” “Viagra” “pharmaceutical” “viagra” “pharmaceutical” “adult web” “adult” “Adult web” “adult” “act now! don’t hesitate!” “scam”
Regular expression dictionary for authorization key words and categories	/(password|passwd|pwd)[^a-z0-9]{1,3}(admin|login|password|user)/i “credentials” /(customer|client)[^a-z0-9]{1,3}account[^a-z0-9]{1,3}number/i “pii” /fund[^a-z0-9]{1,3}transaction/i “sox” /fund[^a-z0-9]{1,3}transfer[^a-z0-9]{1,3}[0-9,.]+/i “sox”
String dictionary containing hash values for known bad executables and categories	"fec72ceae15b6f60cbf269f99b9888e9" “Trojan” "fed472c13c1db095c4cb0fc54ed28485" “Malware” "feddedb607468465f9428a59eb5ee22a" “Virus” "ff3cb87742f9b56dfdb9a49b31c1743c" “Malware” "ff45e471aa68c9e2b6d62a82bbb6a82a" “Adware” "ff669082faf0b5b976cec8027833791c" “Trojan” "ff7025e261bd09250346bc9efdfc6c7c" “Virus”
IP addresses of critical assets & groups	192.168.1.12 “Critical Assets” 192.168.2.0/24 “LAN” 192.168.3.0/255.255.255.0 “LAN” 192.168.4.32/27 “DMZ” 192.168.5.144/255.255.255.240 “Critical Assets”

Manage ADM dictionaries

Once you set up and save a new dictionary, you must import it to the ESM. You can also export, edit, and delete it.

Task

For option definitions, click **?** in the interface.

1 On the **Policy Editor**, click **Tools**, then select **ADM Dictionary Manager**.

The **Manage ADM Dictionaries** screen lists the four default dictionaries (botnet, foullanguage, icd9_desc, and spamlist) and any dictionaries that were imported to the system.

2 Perform any of the available actions, then click **Close**.

Reference an ADM dictionary

When a dictionary is imported to the ESM, you can refer to it when writing rules.

Before you begin

Import the dictionary to the ESM.

Task

For option definitions, click **?** in the interface.

1. In the **Rule Types** pane of the **Policy Editor**, click **New** | **ADM Rule**.
2. Add the requested information and drag-and-drop a logical element to the **Expression Logic** area.
3. Drag-and-drop the **Expression Component** icon ⚙ on the logical element.
4. On the **Expression Component** page, select the dictionary in the **Dictionary** field.
5. Fill in the remaining fields, then click **OK**.

ADM rule reference material

This appendix includes material that can assist you when adding ADM rules to the **Policy Editor**.

ADM rules syntax

The ADM rules are very similar to C expressions.

The main difference is a more extensive set of literals (numbers, strings, regular expressions, IP addresses, MAC addresses, and Booleans). String terms can be compared with string and Regex literals to test their content but they can also be compared with numbers to test their length. Numeric, IP address, and MAC address terms can only be compared with the same type of literal value. The only exception is that everything can be treated as a Boolean to test for its existence. Some terms can have multiple values, for example the following rule would trigger for PDF files inside .zip files: type = = application/zip && type = = application/pdf.

Table 3-27 Operators

Operator	Description	Example
&&	Logical AND	protocol = = http && type = = image/gif
||	Logical OR	time.hour < 8 || time.hour > 18
^ ^	Logical XOR	email.from = = "a@b.com" ^^email.to = = "a@b.com"
!	Unary NOT	! (protocol = = http | | protocol = = ftp)
= =	Equal	type = = application/pdf
! =	Not equal	srcip ! = 192.168.0.0/16
>	Greater	objectsize > 100M
> =	Greater or equal	time.weekday > = 1
<	Less	objectsize < 10K
< =	Less or equal	time.hour < = 6

Table 3-28 Literals

Literal	Example
Number	1234, 0x1234, 0777, 16K, 10M, 2G
String	"a string"
Regex	/[A-Z] [a-z]+/
IPv4	1.2.3.4, 192.168.0.0/16, 192.168.1.0/255.255.255.0

Table 3-28 Literals *(continued)*

Literal	Example
MAC	aa:bb:cc:dd:ee:ff
Bool	true, false

Table 3-29 Type operator compatibility

Type	Operators	Notes
Number	= =, ! =, >, > =, <, < =	
String	= =, ! =	Compare content of string with String/Regex
String	>, > =, <, <=	Compare length of string
IPv4	= =, ! =	
MAC	= =, ! =	
Bool	= =, ! =	Compare against true/false, also supports implied comparison with true, for example the following tests whether the email.bcc term occurs: email.bcc

Table 3-30 ADM regex grammar

Basic operators	
|	Alternation (or)
*	Zero or more
+	One or more
?	Zero or one
( )	Grouping (a | b)
{ }	Repeating Range {x} or {,x} or {x,} or {x,y}
[ ]	Range [0-9a-z] [abc]
[^]	Exclusive Range [^abc] [^0-9]
.	Any Character
\	Escape Character

Escapes	
\d	Digit [0-9]
\D	Non-Digit [^0-9]
\e	Escape (0x1B)
\f	Form Feed (0x0C)
\n	Line Feed (0x0A)
\r	Carriage Return (0x0D)
\s	White Space
\S	Not White Space

Escapes	
\t	Tab (0x09)
\v	Vertical Tab (0x0B)
\w	Word [A-Za-z0-9_]
\W	Not Word
\x00	Hex Representation
\0000	Octal Representation
^	Start of line
S	End of line
	ℹ The start of line and end of line anchors (^ and $) don't work for objcontent.

POSIX character classes	
[:alunum:]	Digits and letters
[:alpha:]	All letters
[:ascii:]	ASCII Characters
[:blank:]	Space and tab
[:cntrl:]	Control characters
[:digit:]	Digits
[:graph:]	Visible characters
[:lower:]	Lowercase letters
[:print:]	Visible characters and spaces
[:punct:]	Punctuation and Symbols
[:space:]	All whitespace characters
[:upper:]	Uppercase characters
[:word:]	Word characters
[:xdigit:]	Hexadecimal Digit

ADM rule term types

All terms in an ADM rule have a specific type.

Each term is either an IP address, a MAC address, a number, a string, or a boolean. In addition there are two extra literal types: regular expressions and lists. A term of a specific type can generally only be compared against a literal of the same type or a list of literals of the same type (or a list of lists of ...). There are three exceptions to this rule:

1 A string term can be compared against a numeric literal to test its length. The following rule triggers if a password is fewer than eight characters long (password is a string term): password < 8

2 A string term can be compared against a regular expression. The following rule triggers if a password only contains lower case letters: password == /^[a-z]+$/

3 All terms can be tested against boolean literals to test whether they occur at all. The following rule triggers if an email has a CC address (email.cc is a string term): email.cc == true

Type	Format description
IP addresses	• IP address literals are written in standard dotted-quad notation, they are not enclosed in quotes: 192.168.1.1 • IP addresses can have a mask written in standard CIDR notation, there must not be any white space between the address and the mask: 192.168.1.0/24 • IP addresses can also have masks written out in long form: 192.168.1.0/255.255.255.0
Mac addresses	• MAC address literals are written using standard notation, as with IP addresses, they are not enclosed in quotes: aa:bb:cc:dd:ee:ff
Numbers	• All numbers in ADM rules are 32-bit integers. They can be written in decimal: 1234 • They can be written in hexadecimal: 0xabcd • They can be written in octal: 0777 • They can have a multiplier appended to multiply by 1024 (K), 1048576 (M) or 1073741824 (G): 10M
Strings	• Strings are enclosed in double quotes: "this is a string" • Strings can use standard C escape sequences: "\tThis is a \"string\" containing \x20escape sequences\n" • When comparing a term against a string, the whole term must match the string. If an email message has a from address of someone@somewhere.com then the following rule will not trigger: email.from == “@somewhere.com” • To match only a part of a term, a regular expression literal should be used instead. String literals must be used when possible because they are more efficient. All email address and URL terms are normalized before matching so it is not necessary to take account of things like comments within email addresses.
Booleans	• The boolean literals are true and false.

Type	Format description
Regular expressions	• Regular expression literals use the same notation as languages like Javascript and Perl, enclosing the regular expression in forward slashes: /[a-z]+/ • Regular expressions can be followed by standard modifier flags, though "i" is the only one currently recognized (case-insensitive): /[a-z]+/i • Regular expression literals should use the POSIX Extended syntax. Currently Perl extensions work for all terms except the content term but this might change in future versions. • When comparing a term against a regular expression, the regular expression matches any substring within the term unless anchor operators are applied within the regular expression. The following rule triggers if an email is seen with an address of “someone@somewhere.com”: email.from == /@somewhere.com/
Lists	• List literals consist of one or more literals enclosed in square brackets and separated by commas: [1, 2, 3, 4, 5] • Lists might contain any kind of literal, including other lists: [192.168.1.1, [10.0.0.0/8, 172.16.128.0/24]] • Lists must only contain one kind of literal, it's not valid to mix strings and numbers, strings and regular expressions, IP addresses and MAC addresses. • When a list is used with any relational operator other than not-equal (!=), then the expression is true if the term matches any literal in the list. The following rule triggers if the source IP address matches any of the IP addresses in the list: srcip == [192.168.1.1, 192.168.1.2, 192.168.1.3] • It is equivalent to: srcip == 192.168.1.1 || srcip == 192.168.1.2 || srcip == 192.168.1.3 • When used with the not-equal (!=) operator, the expression is true if the term doesn't match all of the literals in the list. The following rule triggers if the source IP address is not 192.168.1.1 or 192.168.1.2: srcip != [192.168.1.1, 192.168.1.2] • It is equivalent to: srcip != 192.168.1.1 && srcip != 192.168.1.2 • Lists might also be used with the other relational operators, though it doesn't make a lot of sense. The following rule triggers if the object size is greater than 100 or if the object size is greater than 200: objectsize > [100, 200] • It is equivalent to: objectsize > 100 || objectsize > 200

ADM rule metric references

Here are lists of metric references for ADM rule expressions, which are available on the **Expression Component** page when you are adding an ADM rule.

For Common Properties and Common Anomalies, the parameter-type value you can enter for each one is shown in parentheses after the metric reference.

Common Properties

Property or term	Description
Protocol (Number)	The application protocol (HTTP, FTP, SMTP)
Object Content (String)	The content of an object (text inside a document, email message, chat message). Content matching is not available for binary data. Binary objects can, however, be detected using Object Type (objtype)
Object Type (Number)	Specifies the type of the content as determined by ADM (Office Documents, Messages, Videos, Audio, Images, Archives, Executables)
Object Size (Number)	Size of the object. Numeric multipliers K, M, G can be added after the number (10K, 10M, 10G)

Property or term	Description
Object Hash (String)	The hash of the content (currently MD5)
Object Source IP Address (Number)	The source IP address of the content. IP address can be specified as 192.168.1.1, 192.168.1.0/24, 192.168.1.0/255.255.255.0
Object Destination IP Address (Number)	The destination IP address of the content. IP address can be specified as, 192.168.1.1, 192.168.1.0/24, 192.168.1.0/255.255.255.0
Object Source Port (Number)	The source TCP/UDP port of the content
Object Destination Port (Number)	The destination TCP/UDP port of the content
Object Source IP v6 Address (Number)	The source IPv6 address of the content
Object Destination IPv6 Address (Number)	The destination IPv6 address of the content
Object Source MAC Address (mac name)	The source MAC address of the content (aa:bb:cc:dd:ee:ff)
Object Destination MAC Address (mac name)	The destination MAC address of the content (aa:bb:cc:dd:ee:ff)
Flow Source IP Address (IPv4)	Source IP address of the flow. IP address can be specified as 192.168.1.1, 192.168.1.0/24, 192.168.1.0/255.255.255.0
Flow Destination IP Address (IPv4)	Destination IP address of the flow. IP address can be specified as 192.168.1.1, 192.168.1.0/24, 192.168.1.0/255.255.255.0
Flow Source Port (Number)	Source TCP/UDP port of flow
Flow Destination Port (Number)	Destination TCP/UDP port of flow
Flow Source IPv6 Address (Number)	Source IPv6 address of the flow
Flow Destination IPv6 Address (Number)	Destination IPv6 address of the flow
Flow Source MAC Address (mac name)	Source MAC address of the flow
Flow Destination MAC Address (mac name)	Destination MAC address of flow
VLAN (Number)	Virtual LAN ID
Day of Week (Number)	The day of the week. Valid values are 1–7; 1 is Monday.
Hour of Day (Number)	The hour of the day set to GMT. Valid values are 0–23.
Declared Content Type (String)	Type of the content as specified by the server. In theory, Object Type (objtype) is always the actual type and Declared Content-type (content-type) is not trustworthy because it can be spoofed by the server/application.
Password (String)	Password used by the application for authentication.
URL (String)	Website URL. Applies only to HTTP protocol.
File Name (String)	Name of the file being transferred.
Display Name (String)	
Host Name (String)	Host name as specified in DNS lookup.

Common Anomalies

- User logged off (Boolean)
- Authorization error (Boolean)
- Authorization successful (Boolean)
- Authorization failed (Boolean)

Protocol-specific properties

In addition to providing properties that are common across most protocols, ADM also provides protocol-specific properties that can be used with ADM rules. All protocol-specific properties are also available in the **Expression Component** page when adding an ADM rule.

Examples of protocol-specific properties

These properties apply to these tables:

```
*   Detection only
**  No decryption, captures X.509 certificates and encrypted data
*** Via RFC822 module
```

Table 3-31 File transfer protocol modules

FTP	HTTP	SMB*	SSL**
Display Name File Name Host Name URL	Display Name File Name Host Name Referer URL All HTTP headers	Display Name File Name Host Name	Display Name File Name Host Name

Table 3-32 Email protocol modules

DeltaSync	MAPI	NNTP	POP3	SMTP
Bcc***	Bcc	Bcc***	Bcc***	Bcc***
Cc***	Cc	Cc***	Cc***	Cc***
Display Name	Display Name	Display Name	Display Name	Display Name
From***	From	From***	From***	From***
Host Name	Host Name	Host Name	Host Name	Host Name
Subject***	Subject	Subject***	Subject***	To***
To***	To	To***	To***	Subject***
	User Name		User Name	

Table 3-33 Webmail protocol modules

AOL	Gmail	Hotmail	Yahoo
Attachment Name	Attachment Name	Attachment Name	Attachment Name
Bcc***	Bcc***	Bcc***	Bcc***
Cc***	Cc***	Cc***	Cc***
Display Name	Display Name	Display Name	Display Name
File Name	File Name	File Name	File Name
Host Name	Host Name	Host Name	Host Name
From***	From***	From***	From***
Subject***	Subject***	Subject***	Subject***
To***	To***	To***	To***

Protocol anomalies

Beyond the common properties and protocol-specific properties, ADM also detects hundreds of anomalies in low-level, transport, and application protocols. All protocol anomaly properties are of type Boolean and are available in the **Expression Component** page when you are adding an ADM rule.

Table 3-34 IP

Term	Description
ip.too-small	IP packet is too small to contain a valid header.
ip.bad-offset	IP data offset goes past end of packet.
ip.fragmented	IP packet is fragmented.
ip.bad-checksum	IP packet checksum doesn't match data.
ip.bad-length	IP packet totlen field goes past end of packet.

Table 3-35 TCP

Term	Description
tcp.too-small	TCP packet is too small to contain a valid header.
tcp.bad-offset	TCP packet's data offset goes past end of packet.
tcp.unexpected-fin	TCP FIN flag set in non-established state.
tcp.unexpected-syn	TCP SYN flag set in established state.
tcp.duplicate-ack	TCP packet ACKs data that's already been ACKed.
tcp.segment-outsidewindow	TCP packet is outside the window (TCP module's small window, not real window).
tcp.urgent-nonzero-withouturg- flag	TCP urgent field is non-zero but URG flag isn't set.

Table 3-36 DNS

Term	Description
dns.too-small	DNS packet is too small to contain a valid header.
dns.question-name-past-end	DNS question name goes past the end of the packet.

Table 3-36 DNS *(continued)*

Term	Description
dns.answer-name-past-end	DNS answer name goes past the end of the packet.
dns.ipv4-address-length-wrong	IPv4 address in DNS response is not 4 bytes long.
dns.answer-circular-reference	DNS answer contains circular reference.

Database Event Monitor (DEM) settings

McAfee Database Event Monitor (DEM) consolidates database activity into a central audit repository and provides normalization, correlation, analysis, and reporting of that activity. If network or database server activity matches known patterns indicating malicious data access, DEM generates an alert. In addition, all transactions are logged for use in compliance.

DEM enables you to manage, edit, and adjust database monitoring rules from the same interface that provides analysis and reporting. You can easily adjust specific database monitoring profiles (which rules are enforced, what transactions are logged), reducing false-positives and improving security overall.

DEM non-intrusively audits the interactions of your users and applications with your databases by monitoring network packets similar to intrusion detection systems. To ensure that you can monitor all database server activity over the network, coordinate your initial DEM deployment with your networking, security, compliance, and database teams.

Your network teams use span ports on switches, network taps, or hubs to replicate database traffic. This process allows you to listen to or monitor the traffic on your database servers and create an audit log.

Visit the McAfee website for information about supported database server platforms and versions.

Operating system	Database	DEM appliance	DEM agent
Windows (all versions)	Microsoft SQL Server[1]	MSSQL 7, 2000, 2005, 2008, 2012	MSSQL 2000 (SP4), 2005, 2008
Windows, UNIX/Linux (all versions)	Oracle[2]	Oracle 8.x, 9.x, 10 g, 11 g (c), 11 g R2[3]	Oracle 8.0.3+, 9.x, 10.x, 11.x
	Sybase	11.x, 12.x, 15.x	11.x, 12.x, 15.x
	DB2	8.x, 9.x, 10.x	7.1.x, 8.x, 9.x
	Informix (available in 8.4.0 and later)	11.5	--
Windows, UNIX/Linux (all versions)	MySQL	Yes, 4.x, 5.x, 6.x	Yes, 4.1.22.x, 5.0.3x
	PostgreSQL	7.4.x, 8.4.x, 9.0.x, 9.1.x	--
	Teradata	12.x, 13.x, 14.x	--
	InterSystems Cache	2011.1.x	--
UNIX/Linux (all versions)	Greenplum	8.2.15	--
	Vertica	5.1.1-0	--
Mainframe	DB2/zOS	All versions	Partner agent option

Operating system	Database	DEM appliance	DEM agent
AS400	DB2	All versions	--
1 Packet decryption support for Microsoft SQL Server is available in version 8.3.0 and later. 2 Packet decryption support for Oracle is available in version 8.4.0 and later. 3 Oracle 11 g is available in version 8.3.0 and later.			

The following applies to these servers and versions:

- Both 32-bit and 64-bit versions of operating systems and database platforms are supported.
- MySQL is supported on Windows 32-bit platforms only.
- Packet decryption is supported for MSSQL and Oracle.

Update DEM license

The DEM comes with a default license. If you change the capabilities of the DEM, McAfee sends you a new license in an email message and you must update it.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **DEM Properties**, then click **DEM Configuration**.
2. Click **License | Update License**, then paste the information sent to you by McAfee in the field.
3. Click **OK**.

   The system updates the license and informs you when it's done.
4. Roll out the policy to the DEM.

Sync DEM configuration files

When DEM configuration files are out of sync with the DEM device, you must write the configuration files to the DEM.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **DEM Properties**, then click **DEM Configuration**.
2. Click **Sync Files**.

A message displays the status of the sync.

Configure advanced DEM settings

These advanced settings change or increase the performance of the DEM.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **DEM Properties**, then click **DEM Configuration**.
2. Click **Advanced**, then define the settings or deselect options if you begin to experience a heavy load on the DEM.
3. Click **OK**.

Apply DEM configuration settings

Changes made to DEM configuration settings must be applied to the DEM. Should you neglect to apply any configuration changes, the **Apply** option on **DEM Configuration** allows you to do so for all DEM configuration settings.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **DEM Properties**, then click **DEM Configuration**.
2. Click **Apply**.

A message informs you when the configuration settings are written to the DEM.

Defining actions for DEM events

Action Management settings on the DEM define actions and operations for events, which are used in the DEM's filtering rules and data access policies. You can add custom actions and set the **Operation** for default and custom actions.

The DEM comes with default actions, which you can see by clicking **Edit Global** on the **Action Management** page, and these default operations:

- **none**
- **ignore**
- **discard**
- **scripts**
- **reset**

If you select **Script** as the operation, an alias name (SCRIPT ALIAS) is required, pointing to the actual script (SCRIPT NAME) that must be executed when the criticality event occurs. The script is passed two environment variables, ALERT_EVENT and ALERT_REASON. ALERT_EVENT contains a colon-separated list of metrics. DEM provides a sample bash script /home/auditprobe/conf/sample/process_alerts.bash to demonstrate how the criticality action can be captured in a script.

When working with actions and operations, keep this in mind:

- Actions are listed in order of priority.
- An event does not take an action such as sending an SNMP trap or page unless you specify this as the alert action.
- When a rule qualifies for more than one alert level, only the highest alert level is actionable.
- Events are written to an event file regardless of the action. The only exception is a **Discard** operation.

Add a DEM action

If you add an action to DEM action management, it appears on the list of available actions for a DEM rule in the **Policy Editor**. You can then select it as the action for a rule.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, click the **Policy Editor** icon , then click **Tools** | **DEM Action Manager**.

   The **DEM Action Management** page lists the existing actions in order of priority.

   > You can't change the priority order of the default actions.

2 Click **Add**, then enter a name and description for this action.

You can't delete a custom action once it's added.

3 Click **OK**.

The new action is added to the **DEM Action Management** list.

The default operation for a custom action is **None**. To change this, see *Set the operation for a DEM action*.

Edit a DEM custom action

Once you have added an action to the DEM action management list, you might need to edit its name or change its priority.

Task

For option definitions, click **?** in the interface.

1 On the system navigation tree, click the **Policy Editor** icon , then click **Tools** | **DEM Action Manager**.

2 Click the custom action you need to change and do one of the following:

- To change the priority order, click the up or down arrows until it is in the correct position.
- To change the name or description, click **Edit**.

3 Click **OK** to save your settings.

Set the operation for a DEM action

All rule actions have a default operation. When you add a custom DEM action, the default operation is **None**. You can change the operation of any action to **Ignore**, **Discard**, **Script**, or **Reset**.

Task

For option definitions, click **?** in the interface.

1 On the system navigation tree, select **DEM Properties**, then click **Action Management**.

2 Highlight the action you want to edit, then click **Edit**.

3 Select an operation, then click **OK**.

Working with sensitive data masks

Sensitive data masks prevent unauthorized viewing of sensitive data by replacing the sensitive information with a generic string, called the mask. Three standard sensitive data masks are added to the ESM database when you add a DEM device to the system, but you can add new ones and edit or remove existing ones.

These are the standard masks:

- Sensitive mask name: Credit Card Number Mask

  Expression: ((4\d{3})|(5[1-5]\d{2})|(6011))-?\d{4}-?\d{4}-?\d{4}|3[4,7]\d{13}

  Substring Index: \0

  Masking Pattern: ####-####-####-####

- Sensitive mask name: Mask First 5 Chars of SSN

  Expression: (\d\d\d-\d\d)-\d\d\d\d

  Substring Index: \1

  Masking Pattern: ###-##

- Sensitive mask name: Mask User Password in SQL Stmt

  Expression: create\s+user\s+(\w+)\s+identified\s+by\s+(\w+)

  Substring Index: \2

  Masking Pattern: ********

Manage sensitive data masks

To protect sensitive information entered on the system, you can add sensitive data masks and edit or remove existing ones.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **DEM Properties**, then click **Sensitive Data Masks**.
2. Select an option, then enter the requested information.
3. Click **OK**, then click **Write** to add the settings to the DEM.

Managing user identification

Much of security is based on a simple principle that users have to be identified and distinguished from each other, yet generic user names are often used to access the database. Identifier management provides a way to capture the real user name if it exists anywhere in the query, using REGEX patterns.

Applications can be quite easily instrumented to take advantage of this security feature. Two defined identifier rules are added to the ESM database when you add a DEM device to the system.

- Identifier Rule Name: Get User Name from SQL Stmt

  Expression: select\s+username=(\w+)

  Application: Oracle

  Substring Index: \1

- Identifier Rule Name: Get User Name from Stored Procedure

  Expression: sessionStart\s+@appname='(\w+)', @username='(\w+)',

  Application: MSSQL

  Substring Index: \2

Advanced user correlation is possible by correlating the DEM, application, web server, system, and identity and access management logs in the ESM.

Add a user identifier rule

To associate database queries with individuals, you can use the existing user identifier rules or add a new rule.

Task

For option definitions, click **?** in the interface.

1 On the system navigation tree, select **DEM Properties**, then click **Identifier Management**.

2 Click **Add**, then enter the information requested.

3 Click **OK**, then click **Write** to write the settings to the DEM.

About database servers

Database servers monitor database activity. If activity seen on a database server matches a known pattern that indicates malicious data access, an alert is generated. Each DEM can monitor a maximum of 255 database servers.

DEM currently supports the following database servers and versions:

OS	Database	DEM Appliance	DEM Agent
Windows (all versions)	Microsoft SQL Server[1]	MSSQL 7, 2000, 2005, 2008, 2012	MSSQL 2000 (SP4), 2005, 2008
Windows UNIX/Linux (all versions)	Oracle[2]	Oracle 8.x, 9.x, 10g, 11g[3], 11g R2	Oracle 8.0.3+, 9.x, 10.x, 11.x
	Sybase	11.x, 12.x, 15.x	11.x, 12.x, 15.x
	DB2	8.x, 9.x, 10.x	7.1.x, 8.x, 9.x
	Informix (see note 4)	11.5	--
	MySQL	Yes, 4.x, 5.x, 6.x	Yes, 4.1.22.x, 5.0.3x

OS	Database	DEM Appliance	DEM Agent
	PostgreSQL	7.4.x, 8.4.x, 9.0.x, 9.1.x	--
	Teradata	12.x, 13.x, 14.x	--
	InterSystem Cache	2011.1.x	--
UNIX/Linux (all version)	Greenplum	8.2.15	--
	Vertica	5.1.1-0	--
Mainframe	DB2/zOS	All versions	Partner agent option
AS 400	DB2	All versions	--

1 Packet decryption support for Microsoft SQL Server is available in versions 8.3.0 and later.

2 Packet decryption support for Oracle is available in versions 8.4.0 and later.

3 Oracle 11g is available in version 8.3.0 and later.

4 Informix support is available in versions 8.4.0 and later.

- Both 32-bit and 64-bit versions of OS and database platforms are supported.
- DEM agents are supported on all OS versions of Windows, UNIX, and Linux.
- DEM agents require java virtual machine (JVM).
- MySQL is supported on Windows 32-bit platforms only.
- Packet decryption is supported for MSSQL & Oracle.

Manage database servers

The **Database Server** page is the starting point for managing settings for all database servers for your DEM device.

Task

For option definitions, click **?** in the interface.

1 On the system navigation tree, select **DEM Properties**, then click **Database Servers**.

2 Select any of the available options.

3 Click **OK**.

Manage database discovery notifications

The DEM has a database discovery feature that provides an exception list of database servers that are not being monitored. This allows a security administrator to discover new database servers added to the environment and illegal listener ports opened to access data from databases. When this is enabled, you receive an alert notification that shows up on the **Event Analysis** view. You can then choose whether to add the server to those being monitored on your system.

Task

For option definitions, click **?** in the interface.

1 On the system navigation tree, select **DEM Properties**, then click **Database Servers** | **Enable**.

You are notified when it's enabled.

2 Click **OK** to close **DEM Properties** .

3. To view the notifications, click the DEM device on the system navigation tree, then select **Event Views | Event Analysis**.

4. To add the server to your system, select the **Event Analysis** view, then click the **Menu** icon and select **Add Server**.

Distributed ESM (DESM) settings

Distributed ESM (DESM) provides a distributed architecture that allows a parent ESM to connect to and gather data from up to 100 devices. The parent pulls data from the device based on filters that you define. In addition, you can seamlessly drill down to data that originated and remains on the device ESM.

The DESM must approve the parent ESM to allow it to pull events. The parent can set filters, sync data sources, and push its custom types. It can't get rules or events from the DESM until it is approved.

If you log on with administrator rights to the DESM, a notification appears stating, "This ESM has been added as a Distributed ESM on another server. Waiting for approval to connect." When you click **Approve Hierarchical ESMs**, you can select the type of communication the parent ESM can have with the DESM.

The parent ESM doesn't manage devices belonging to device ESM. The parent ESM shows the System Tree of the device ESM to which it is directly connected. It does not pull events from or display any of the devices' child ESM. Toolbars are disabled for all DESM children.

The parent does not manage data that resides on device ESM. Instead, a subset of the device from the ESM data is transferred and stored on the parent ESM, based on the filters you define.

Add DESM filters

Data transferred from the device ESM to the parent DESM depend on user-defined filters. When these filters are saved, it's equivalent to applying the filter on the device ESM, so the appropriate hashes or bitsets can be generated. Because the purpose of the DESM feature is to allow you to gather specific data from the device ESM (not ALL data), you must set filters for data to be retrieved from the device ESM.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **DESM Properties**, then click **Filters**.

2. Enter the requested data, then click **OK**.

ePolicy Orchestrator settings

You can add an ePolicy Orchestrator device to the ESM, with its applications listed as children on the system navigation tree. Once authenticated, you can access functions from the ESM, and assign ePolicy Orchestrator tags to source or destination IP addresses directly and to events generated by alarms.

You must associate the ePolicy Orchestrator with a Receiver because the events are pulled from the Receiver, not ePolicy Orchestrator.

> You must have read permissions on the master database and ePolicy Orchestrator database to use ePolicy Orchestrator.

If the McAfee ePO device has a McAfee® Threat Intelligence Exchange server, it is added automatically when you add the McAfee ePO device to the ESM (see *Threat Intelligence Exchange integration*).

Launch ePolicy Orchestrator

If you have an ePolicy Orchestrator device or data source on the ESM, and the ePolicy Orchestrator IP address is on your Local Network, you can launch the ePolicy Orchestrator interface from the ESM.

Before you begin

Add an ePolicy Orchestrator device or data source to the ESM.

This feature is available on ePolicy Orchestrator 4.6 and later.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select a view.
2. Select a result from a bar, list, pie, graph, or table component that returns source IP or destination IP data.
3. On the component's menu, click **Action** | **Launch ePO**.
    - If you only have one ePolicy Orchestrator device or data source on the system and you selected a source IP or destination IP in Step 1, ePolicy Orchestrator launches.
    - If you have more than one ePolicy Orchestrator device or data source on the system, select the one you want to access and ePolicy Orchestrator launches.
    - If you selected an event or flow on a table component in Step 1, select whether you want to access the source IP or destination IP address, then ePolicy Orchestrator launches.

McAfee ePO device authentication

Authentication is required before using McAfee ePO tagging or actions, or McAfee Real Time for McAfee ePO.

There are two types of authentication:

- Single global account — If you belong to a group that has access to a McAfee ePO device, you can use these features after entering the global credentials.
- Separate account for each device per user — You need privileges to view the device in the device tree.

When you use actions, tags, or McAfee Real Time for McAfee ePO, use the selected method of authentication. If the credentials aren't found or are invalid, you are prompted to enter valid credentials, which you must save for future communication with the device.

Running reports, data enrichment, and dynamic watchlists in the background through McAfee Real Time for McAfee ePO uses the originally supplied McAfee ePO credentials.

Setting up separate account authentication

Global account authentication is the default setting. There are two things you must do to set up separate account authentication.

1. Verify that **Require user authentication** is selected when adding the McAfee ePO device to the ESM or when you set up its connection settings (see *Add devices to the ESM console* or *Change connection with ESM*).
2. Enter your credentials on the **Options** page (see *Add McAfee ePO authentication credentials*).

Add McAfee ePO authentication credentials

Before using McAfee ePO tagging or actions, or McAfee Real Time for McAfee ePO, you must add the authentication credentials to the ESM.

> **Before you begin**
>
> Install a McAfee ePO device on the ESM (see *Add devices to the ESM console*).
>
> Contact your system administrator if you don't have the user name and password for the device.

Task

For option definitions, click **?** in the interface.

1. On the system navigation bar of the ESM console, click **options**, then click **ePO Credentials**.
2. Click the device, then click **Edit**.
3. Provide the user name and password, then click **Test Connection**.
4. Click **OK**.

Assign ePolicy Orchestrator tags to IP address

The **ePO Tagging** tab lists the available tags. You can assign tags to events generated by an alarm and view if an alarm has ePolicy Orchestrator tags. You can also select one or more tags on this page and apply them to an IP address.

> To access the tagging functionality, you must have the **Apply, exclude, and clear tags** and **Wake up agents; view Agent Activity Log** permissions on ePolicy Orchestrator.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **ePO Properties**, then click **Tagging**.
2. Complete the requested information, then click **Assign**.

The selected tags are applied to the IP address.

McAfee Risk Advisor data acquisition

You can specify multiple ePolicy Orchestrator servers from which to acquire the McAfee Risk Advisor data. The data is acquired through a database query from the ePolicy Orchestrator SQL Server database.

The database query results in an IP versus reputation score list, and constant values for the low reputation and high reputation values are provided. All ePolicy Orchestrator and McAfee Risk Advisor lists are merged, with any duplicate IPs getting the highest score. This merged list is sent, with low and high values, to any ACE devices used for scoring SrcIP and DstIP fields.

When you add ePolicy Orchestrator, you are asked if you want to configure McAfee Risk Advisor data. If you click **Yes**, a data enrichment source and two ACE scoring rules (if applicable) are created and rolled out. To view these, go to the **Data Enrichment** and **Risk Correlation Scoring** pages. If you want to use the scoring rules, you must create a risk correlation manager.

Enable McAfee Risk Advisor data acquisition

When you enable McAfee Risk Advisor data acquisition on ePolicy Orchestrator, a score list is generated and sent to any ACE device to be used for scoring SrcIP and DstIP fields.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **ePO Properties** | **Device Management**, then click **Enable**.

   You are informed when acquisition is enabled.

2. Click **OK**.

Perform McAfee Real Time for McAfee ePO actions

Execute McAfee Real Time for McAfee ePO actions on the results of a question from the ESM and component that display an IP address in the view.

> **Before you begin**
>
> Design and run a McAfee Real Time for McAfee ePO question (see *Query McAfee ePO for McAfee Real Time for McAfee ePO dashboard*).

Task

For option definitions, click **?** in the interface.

1. On the ESM console, click the menu icon ☰ on a view component that shows the results of a McAfee Real Time for McAfee ePO question.

2. Highlight **Actions**, then click **Real Time for ePO Actions**.

3. On the **Devices** tab, select the McAfee ePO device to perform the action on.

4. On the **Actions** tab, click an action from the list of available actions for the selected devices.

5. On the **Filters** tab, specify a set of filters to apply to the question, then click **Finish**.

   ℹ Filters aren't available from the McAfee ePO dashboard or components.

Threat Intelligence Exchange integration

Threat Intelligence Exchange verifies the reputation of executable programs on the endpoints connected to these files.

When you add a McAfee ePO device to the ESM, the system automatically detects if a Threat Intelligence Exchange server is connected to the device. If it is, the ESM starts listening in on the DXL and logging events.

When the Threat Intelligence Exchange server is detected, Threat Intelligence Exchange watchlists, data enrichment, and correlation rules are added automatically and Threat Intelligence Exchange alarms are enabled. You receive a visual notification, which includes a link to the summary of the changes made. You are also notified if the Threat Intelligence Exchange server is added to the McAfee ePO server after the device has been added to the ESM.

Once Threat Intelligence Exchange events are generated, you can view their execution history (see *View Threat Intelligence Exchange execution history and set up actions*) and select the actions you want to take on the malicious data.

Correlation rules

Six correlation rules are optimized for Threat Intelligence Exchange data. They generate events that you can search and sort through.

- TIE — GTI reputation changed from clean to dirty
- TIE — Malicious file (SHA-1) found on increasing number of hosts
- TIE — Malicious file name found on increasing number of hosts
- TIE — Multiple malicious files found on single host
- TIE — TIE reputation changed from clean to dirty
- TIE — Increase in malicious files found across all hosts

Alarms

The ESM has two alarms that might trigger when important Threat Intelligence Exchange events are detected.

- **TIE bad file threshold exceeded** triggers from the correlation rule **TIE - Malicious file (SHA-1) found on increasing number of hosts**.
- **TIE unknown file executed** triggers from a specific TIE event and adds information to the **TIE data source IPs** watchlist.

Watchlist

The **TIE data source IPs** watchlist maintains a list of systems that have triggered the **TIE unknown file executed** alarm. It is a static watchlist with no expiration.

Threat Intelligence Exchange execution history

You can view the execution history for any Threat Intelligence Exchange event (see *View Threat Intelligence Exchange execution history and set up actions*), which includes a list of the IP addresses that have attempted to execute the file. On this page, you can select an item and take any of these actions:

- Create a new watchlist.
- Append the information to a watchlist.
- Create a new alarm.
- Add the information to a blacklist.
- Export the information to a .csv file.

View Threat Intelligence Exchange execution history and set up actions

The Threat Intelligence Exchange execution history page displays a list of systems that have executed the file associated with the event you selected.

Before you begin

An ePolicy Orchestrator device with an attached Threat Intelligence Exchange server on the ESM must exist.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree of the ESM console, click the ePolicy Orchestrator device.
2. On the views drop-down list, select **Event Views** | **Event Analysis**, then click the event.
3. Click the menu icon ☰, then select **Actions** | **TIE Execution History**.

4. On the **TIE Execution History** page, view the systems that have executed the Threat Intelligence Exchange file.
5. To add this data to your workflow, click a system, click the **Actions** drop-down menu, then select an option to open its ESM page.
6. Set up the action you selected (see the online Help for instructions).

Query McAfee ePO devices for a report or view

You can query multiple McAfee ePO devices for a report or view if they are integrated with McAfee Real Time for McAfee ePO.

> **Before you begin**
>
> Verify that McAfee ePO devices to be queried are integrated with McAfee Real Time for McAfee ePO.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, click the system, click the **Properties** icon , then click **Reports**.
2. Click **Add**, fill out sections 1 through 4, then click **Add** in section 5.
3. On the **Report Layout** editor, drag and drop a **Table**, **Bar Chart**, or **Pie Chart** component.
4. On the **Query Wizard**, select **Real Time for McAfee EPO** on the drop-down list, , then select the element or question for the query.
5. Click **Next**, click **Devices**, then select the McAfee ePO devices to be queried.
6. (Optional) Click **Filters**, add filter values for the query, then click **OK**.
7. If you selected **Custom ePO Question** on the drop-down list, click **Fields**, select the elements that you want to include in the question, then click **OK**.
8. Click **Finish** to close the **Query Wizard**, define the properties in the **Properties** pane, then save the report.

Query McAfee ePO devices for data enrichment

You can query multiple McAfee ePO devices for data enrichment if they are integrated with McAfee Real Time for McAfee ePO.

> **Before you begin**
>
> Verify that McAfee ePO devices to be queried are integrated with McAfee Real Time for McAfee ePO.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select the system, click the **Properties** icon , then click **Data Enrichment**.
2. Click **Add**, type a name, then make the selections on the **Main** tab.

3. On the **Source** tab, select McAfee Real Time for McAfee ePO in the **Type** field, then select the devices in the **Device** field.

4. Set the remaining settings on the **Query**, **Scoring**, and **Destination** tabs, then click **Finish**.

Query McAfee ePO devices for McAfee Real Time for McAfee ePO dashboard

You can run a query of multiple McAfee ePO devices on the McAfee Real Time for McAfee ePO dashboard view.

> **Before you begin**
>
> Verify that McAfee ePO devices to be queried are integrated with McAfee Real Time for McAfee ePO.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, click the McAfee ePO devices to be queried.

2. On the ESM console, click the views list, then select McAfee Real Time for McAfee ePO.

3. Select the filters in the **Filters** pane:

   a. In the **Elements** section, click the open field and select the elements for the query.

   b. In the **Filters** section, select the type of filter, then type the filter in the open field.

   c. Select the filter action, then type the value.

4. Click the **Run Query** icon 🔄.

Nitro Intrusion Prevention System (Nitro IPS) settings

The McAfee Nitro Intrusion Prevention System (Nitro IPS) device detects sophisticated network intrusion attempts and actively records and thwarts these attempts. The Nitro IPS device includes an embedded data manager (used for administration, data acquisition, and analysis) and advanced intrusion analytics such as anomaly detection.

The device selectively passes, drops, and logs packets as they arrive, based on a user-defined rule set specified by an industry-standard rule language. Each Nitro IPS device contains a fully functional firewall component controlled by industry-standard firewall rules providing low-level packet inspection capabilities and an industry-standard system log.

Anomaly Detection Wizard

Anomaly detection is accessible for any Nitro IPS or virtual device but is only useful for those that have been gathering flow data. The **Rate-Based Anomaly Detection Wizard** shows a list and description of all the variables available on the selected device.

Certain firewall rules are rate-based. A rate-based rule is a rule that triggers an alert only if your network traffic exceeds the thresholds defined by firewall-category variables in the **Policy Editor**. The default values for these variables might not make sense for your network's traffic, so the **Rate-Based Anomaly Detection Wizard** provides the ability to analyze graphs of your network flow data as it relates to these parameters. You can then select the default values, specify your own value, or choose to have the ESM analyze your data and try to make some best guesses as to what these values should be based on the history of your network's traffic. Every network is different, so we recommend that you familiarize yourself with your traffic history by reviewing these visual analysis reports and choosing values that fit your needs.

The wizard performs many complicated computations to calculate suggested values for the rate-based anomaly parameters and to present you with a visual analysis of your network traffic patterns. If your Nitro IPS, virtual device, Receiver, and data source have a large amount of flow data, it is suggested that you limit the time range used in these calculations. Use a few days or a week of normal network activity as a baseline for calculating these values. Using a longer time period may cause these calculations to take longer than desired.

Here is a list of the rate-based anomaly firewall rules and the variables that affect their operation:

Rule	Variables
Large inbound byte rate	LARGE_INBOUND_BYTE_RATE_LIMIT, LARGE_INBOUND_BYTE_RATE_SECONDS
Large inbound bytes	LARGE_INBOUND_BYTES_LIMIT
Large inbound network connections rate	LARGE_IB_CONN_RATE_BURST, LARGE_IB_CONN_RATE_LIMIT
Large inbound packet rate	LARGE_INBOUND_PACKET_RATE_LIMIT, LARGE_INBOUND_PACKET_RATE_SECS
Large inbound packet	LARGE_INBOUND_PACKETS_LIMIT
Large outbound byte rate	LARGE_OUTBOUND_BYTE_RATE_LIMIT, LARGE_OUTBOUND_BYTE_RATE_SECONDS
Large outbound network connection rate	LARGE_OB_CONN_RATE_BURST, LARGE_OB_CONN_RATE_LIMIT
Large outbound packet rate	LARGE_OUTBOUND_PACKET_RATE_LIMIT, LARGE_OUTBOUND_PACKET_RATE_SECS
Large outbound packets	LARGE_OUTBOUND_PACKETS_LIMIT
Long connection duration	LONG_DURATION_SECONDS

Edit anomaly detection variables

The **Rate-based Anomaly Detection Wizard** lists the anomaly detection variables and provides several options you can use to analyze the rate-based anomaly detection data.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select a Nitro IPS or virtual device that gathers flow data, then click the **Properties** icon ☰.
2. Click **Edit** in the **Anomaly Detection Wizard** field.
3. Perform any of the available functions, then click **OK**.

Generate an Analysis Report

The **Analysis Report** provides a visual analysis of various aspects of your network traffic.

This report is useful for getting a feel of your network traffic patterns through visual inspection. The data you gather can help you make decisions when choosing values for the rate-based anomaly rule parameters.

> ℹ To generate a report, the device must have at least 10,000 flows generated.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select a Nitro IPS that has been gathering flow data, then click the **Properties** icon.
2. Click **Edit** in the **Anomaly Detection Wizard** field.
3. Click **Analysis** | **Analysis Report**, then select the time range and variable for the report.
4. Click **OK**.

The report is generated. The vertical and horizontal scales can be zoomed in and out by clicking and dragging the circular icons on the chart axes, if available.

Access firewall and standard rules

Rules are added and maintained on the **Policy Editor**. However, you can read, write, view, export, and import firewall and standard rules from the IPS or IPS virtual devices.

> Rules should not be regularly maintained from this page. Changing the rules in this way causes the device policy settings to be out-of-sync with the settings in the **Policy Editor**.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **IPS Properties**, then click **Firewall Rules** or **Standard Rules**.
2. Select any of the options, then click **OK**.

IPS or virtual device blacklist

The blacklist blocks traffic as it flows through the device before it is analyzed by the deep packet inspection engine.

Using the **Blacklist Editor**, you can manually manage blocked sources, blocked destinations, and exclusion settings for the device. You can also select whether you want this device to be subjected to the **Global Blacklist** settings. The **Include Global Blacklist** checkbox at the top of the editor must be selected if you want this device to include these settings.

The **Blacklist Editor** screen includes three tabs:

- **Blocked Sources** — Matches against the source IP address of traffic passing through the device.
- **Blocked Destinations** — Matches against the destination IP address of traffic passing through the device.
- **Exclusions** — Provides immunity from being automatically added to either of the blacklists. Critical IP addresses (for example, DNS and other servers or system administrators' workstations) can be added to the exclusions to make sure that they are never automatically blacklisted, regardless of what events they might generate.

Entries in both the **Blocked Sources** and the **Blocked Destinations** tab can be configured to narrow the effect of the blacklist to a specific destination port.

Hosts can also be added to or removed from the blacklist manually. When one of the tabs in the **Blacklist Editor** is selected, you can add or modify an entry. Fields required to add an entry include **IP Address**, **Port** (versions 6.2.x and later), and **Duration** (permanent or temporary). There is also an optional **Description** field.

Keep this in mind when adding entries:

- **Add** and **Modify** are enabled based on the information you change. When you change the IP address or port, **Add** is enabled. If you change the duration or description, **Modify** is enabled.
- Entries in the **Blocked Sources** and **Blocked Destination** lists can be configured to blacklist on all ports or a specific port.
- Entries that use a masked range of IP addresses must be configured with the port set to **any** (0) and the duration must be permanent.
- Entries can be added temporarily (specified in minutes, hours, or days) or permanently. However, entries in the **Exclusions** must be permanent.
- While these lists require IP address format, a tool is included to help add meaning to these addresses. After entering an IP address or host name in the **IP Address** field, the button next to that control says **Resolve** or **Lookup**, based on the value entered. Selecting **Resolve** resolves the entered host name and populates the **IP Address** field with that information, and moves the host name to the **Description** field. Selecting **Lookup** performs a lookup on the IP address and populates the **Description** field with the results of that lookup. Some websites have more than one IP address, or have IP addresses that are not always the same, so don't rely on this tool to ensure blocking of some websites.

You can select IP addresses on the list and view events they generated on a summary report. This allows you to see the events the offenders triggered, events that were added to the blacklist, or other attacks they might have instigated before being blacklisted.

The **Blacklist Editor** also allows you to apply, reload, and remove events.

Manage the IPS blacklist

You can manage the IPS blacklist on the **Blacklist Editor**. You can add, modify, or delete items, write changes to the blacklist, read new and updated information from the device, view events generated by the offending IP addresses, and lookup or resolve a host name or IP address.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **IPS Properties**, then click **Blacklist** | **Editor**.
2. Select the **Blocked Sources**, **Blocked Destinations**, or **Exclusions** tab.
3. Perform the actions you want, then click **Close**.

Configure auto-blacklist

The **Auto-Blacklist Settings** page allows you to manage auto-blacklist configuration settings for the device.

> Auto-blacklist configuration is performed on a per-device basis.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **IPS Properties**, then click **Blacklist** | **Settings**.
2. Define the settings as needed, then click **OK**.

McAfee Vulnerability Manager settings

The McAfee Vulnerability Manager can be added to the ESM as a device, allowing you to start a scan on the McAfee Vulnerability Manager from the ESM. This is useful if you purchased a McAfee Vulnerability Manager device and want to run it from the ESM.

McAfee Vulnerability Manager must be associated with a Receiver because the events are pulled from the Receiver, not the McAfee Vulnerability Manager.

Obtain McAfee Vulnerability Manager certificate and passphrase

You must obtain the McAfee Vulnerability Manager certificate and passphrase before setting up McAfee Vulnerability Manager connections. This task is not performed on the ESM.

Task

For option definitions, click **?** in the interface.

1. On the server that is running Foundstone Certificate Manager, run Foundstone Certificate Manager.exe.
2. Click the **Create SSL Certificates** tab.
3. In the **Host Address** field, type the host name or IP address for the system hosting the web interface for McAfee Vulnerability Manager, then click **Resolve**.
4. Click **Create Certificate using Common Name** to generate the passphrase and a .zip file.
5. Upload the .zip file and copy the passphrase that was generated.

Run McAfee Vulnerability Manager scans

The **Scans** page shows all the vulnerability scans that are running or have run from McAfee Vulnerability Manager, and their status. When you open this page, an API checks if there are default web login credentials. If there are, the scan list is populated based on those credentials, and is updated every 60 seconds. You can initiate a new scan from this page as well.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **MVM Properties**, then click **Scans**.
2. Click **New Scan** and enter the information requested.
3. Click **OK**.

When the scan is complete it's added to the list of scans.

Set up McAfee Vulnerability Manager connection

You must set up McAfee Vulnerability Manager connections to the database to pull the vulnerability assessment data from McAfee Vulnerability Manager, and to the web user interface to perform scans on McAfee Vulnerability Manager.

> **Before you begin**
>
> You must obtain the McAfee Vulnerability Manager certificate and passphrase

Changing these settings doesn't affect the device itself. It only affects the way the device communicates with the ESM.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **MVM Properties**, then click **Connection**.
2. Fill in the information requested, then click **OK**.

McAfee Network Security Manager settings

The McAfee Network Security Manager can be added to the ESM as a device, allowing you to access the functions from the ESM. This is useful if you purchased a device and want to access it from the ESM.

When you add a McAfee Network Security Manager device to the ESM, the sensors on the device are listed as children under the device on the system navigation tree. The device must be associated with a Receiver because the events are pulled from the Receiver, not the McAfee Network Security Manager.

Add a blacklist entry

The McAfee Network Security Manager applies blacklisting through the sensors. The **Blacklist** page displays the blacklist entries that were defined for the sensor that you select. From this page, you can add, edit, and delete blacklist items.

> You must be a super user to use the blacklist function.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **NSM Properties**, click **Blacklist**, then select a sensor.
2. To apply the global blacklist entries to this sensor, select **Include Global Blacklist**.

   The global blacklist item is added to the list. If there are duplicate IP addresses, the global blacklist address overwrites the McAfee Network Security Manager address.

   > Once you select this option, it can't be undone automatically. You must delete items manually.

3. Click **Add**, fill in the information requested, then click **OK**.

The entry appears on the blacklist until its duration expires.

Add or delete a removed blacklist entry

Any entry that was initiated on the ESM with a duration that hasn't expired, but is not returned on the list of blacklist entries when the McAfee Network Security Manager (Manager) is queried, is displayed with a **Removed** status and a flag icon.

This condition occurs if the entry was removed, but the removal was not initiated on the ESM. You can re-add this entry to or delete it from the blacklist.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **NSM Properties**, then click **Blacklist**.
2. Select the removed entry on the list of blacklist entries, then click **Add** or **Delete**.
3. Click **Apply** or **OK**.

Configuring ancillary services

Ancillary services include Remedy servers, Network Time Protocol (NTP) servers, and DNS servers. Configure these servers to communicate with ESM.

Contents

General system information

On the **System Properties** | **System Information** page, you can see general information about your system and the status of various functions. On the **System Log** page, you can see events that have taken place on the system or devices.

You can refer to this information when you speak with McAfee support about your system, when you are setting up features such as event or flow aggregation, or to check on the status of a rules update or system backup.

- **System**, **Customer ID**, **Hardware**, and **Serial Number** provide information about the system and its current operational status.
- **Database Status** shows when the database is performing other functions (for example, a database rebuild or background rebuild) and the status of those functions. An **OK** status means that the database is operating normally.
- **System Clock** shows the date and time that **System Properties** was last opened or refreshed.
- **Rules Update**; **Events, Flows & Logs**; and **Backup & Restore** show the last time the rules were updated; events, flows, and logs were retrieved; and a backup and restore was performed.
- When in FIPS mode, **FIPS self-test** and **Status** show the last time a FIPS self-test was performed and its status.
- **View Reports** shows the **ESM Device Type Count** and **Event Time** reports.

Configure Remedy server settings

If you have a Remedy system set up, you must configure the remedy settings so the ESM can communicate with it.

> **Before you begin**
>
> Set up your Remedy system.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then click **Custom Settings** | **Remedy**.
2. On the **Remedy Configuration** page, enter the information for your Remedy system, then click **OK**.

When you select **Send event to Remedy** on the **Event Analysis** view, the email is populated with the information that you entered on this page.

Defining message settings

When you define the action settings for an alarm or set up the delivery method for a report, you can choose to send a message. To do this, you must connect the ESM to your mail server and configure the recipients you want to send email, SMS, SNMP, or syslog messages to.

Alarm notifications can be sent using the SNMP v1 protocol. SNMP uses User Datagram Protocol (UDP) as the transport protocol for passing data between managers and agents. In a typical SNMP setup, an agent such as the ESM, can forward events to an SNMP server (usually referred to as a Network Management Station [NMS]) using packets of data known as traps. This can be useful when you want to receive event reports from the ESM in the same way notifications are received from other agents in the network. Due to size limitations of the SNMP trap packets, each line of the report is sent in a separate trap.

Query CSV reports generated by the ESM can also be sent using syslog. The query CSV reports are sent one line per syslog message, with the data of each line of the query results arranged in comma-separated fields.

Connect your mail server

Configure the settings to connect to your mail server so you can send alarm and report messages.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, click **Email Settings**, and enter the host and port for your email server.
2. Provide the information requested to connect to your mail server.
3. Click **Apply** or **OK** to save the settings.

See also
Manage recipients on page 154

Manage recipients

Alarm or report messages can be sent in several formats, each of which has a list of recipients that you can manage. Email addresses can be grouped so you can send a message to several recipients at once.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then click **Email Settings**.
2. Click **Configure Recipients**, then select the tab you want to add them to.
3. Click **Add**, then add the requested information.
4. Click **OK**.

The recipient is added to the ESM and you can select them anywhere recipients are used throughout the ESM.

Set up NTP on a device

Synchronize the device time with the ESM using a Network Time Protocol (NTP) server.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select a device, then click the **Properties** icon ☰.
2. Click **Configuration** | **NTP**.
3. Fill in the information requested, then click **OK**.

Tasks

- *View status of NTP servers* on page 155
  View the status of all the NTP servers on the ESM.

View status of NTP servers

View the status of all the NTP servers on the ESM.

> **Before you begin**
>
> Add NTP servers to the ESM or devices (see *System time synchronization* or *Set up NTP on a device*).

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, do one of the following:
   - Select **System Properties** | **System Information**, then click **System Clock**.
   - On the system navigation tree, select a device, click the **Properties** icon, then select **Configuration** | **NTP**.
2. Click **Status**, view the NTP server data, then click **Close**.

See also

System time synchronization on page 161
Set up NTP on a device on page 38

Configure network settings

Configure the way ESM connects to your network by adding ESM server gateway and DNS server IP addresses, defining proxy server settings, setting up SSH, and adding static routes.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then click **Network Settings**.
2. Fill in the information to configure the connection to your network.
3. Click **Apply** or **OK**.

Tasks

- *Set up the IPMI port on ESM or devices* on page 158
  Configure the network for the IPMI port to set up IPMI on the ESM or its devices.
- *Set up network traffic control on the ESM* on page 159
  Define a maximum data output value for the ESM.
- *Set up DHCP* on page 160
  Dynamic Host Configuration Protocol (DHCP) is used on IP networks for dynamically distributing network configuration parameters, such as IP addresses for interfaces and services.
- *Set up DHCP on VLAN* on page 160
  Dynamic Host Configuration Protocol (DHCP) is used on IP networks for dynamically distributing network configuration parameters, such as IP addresses for interfaces and services.

Managing network interfaces

Communication with a device can take place using the public and private interfaces of the traffic paths. This means that the device is invisible in the network because it doesn't require an IP address.

Management interface

Alternately, network administrators can configure a management interface with an IP address for communication between the ESM and the device. These features of a device require the use of a management interface:

- Full control of bypass network cards
- Use of NTP time synchronization
- Device-generated syslog
- SNMP notifications

Devices are equipped with at least one management interface, which gives the device an IP address. With an IP address, the device can be accessed directly by the ESM without directing communication toward another target IP address or host name.

> Do not attach the management network interface to a public network because it's visible to the public network and its security could be compromised.

For a device running in Nitro IPS mode, there must be two interfaces for each path of network traffic. For IDS mode, there must be a minimum of two network interfaces in the device. You can configure more than one management network interface in the device.

Bypass NIC

A device in bypass mode allows all traffic to pass, including malicious traffic. Under normal circumstances, you can have a one- to three-second loss of connection when the device switches to bypass mode, and an 18-second loss when it switches out. Being connected to certain switches, such as some models of Cisco Catalyst, can change these numbers. In this case, you can have a 33-second loss of connection when the device switches to bypass mode and when it switches out.

If you have the scenario where it takes 33 seconds to reestablish communications, you can enable port fast on the switch port and manually set the speed and duplex to get the times back to normal. Be sure to set all four ports (switch, both on Nitro IPS, and other device) to the same setting or you might have a negotiation problem in bypass mode (see *Set up bypass NICs*).

The available bypass options depend on the type of bypass NIC in the device, Type 2 or Type 3.

Set up network interfaces

Interface settings determine how the ESM connects to the device. You must define these for each device.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select a device, then click the **Properties** icon ▤.
2. Click the device's **Configuration** option, then click **Interfaces**.
3. Enter the data as requested, then click **Apply**.

All changes are pushed to the device and take effect immediately. Upon applying changes, the device re-initializes, causing all current sessions to be lost.

Add VLANs and aliases

Add Virtual Local Area Networks (VLANs) and aliases (assigned IP address and netmask pairs that you add if you have a network device that has more than one IP address) to an ACE or ELM interface.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select a device, then click the **Properties** icon ▤.
2. Click device **Configuration**, click **Interfaces**, then click **Advanced**.
3. Click **Add VLAN**, enter the information requested, then click **OK**.
4. Select the VLAN you want to add the alias to, then click **Add Alias**.
5. Enter the information requested, then click **OK**.

Add static routes

A static route is a set of instructions about how to reach a host or network that is not available through the default gateway.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select a device, then click the **Properties** icon ▤.
2. Click **Configuration | Interfaces**.
3. Next to the **Static Routes** table, click **Add**.
4. Enter the information, then click **OK**.

Bypass NIC

Under normal circumstances, you can have a one- to three-second loss of connection when the device switches to bypass mode, and an 18-second loss when it switches out. Being connected to certain switches, such as some models of Cisco Catalyst, can change these numbers. In this case, you can have a 33-second loss of connection when the device switches to bypass mode and when it switches out.

If you have the scenario where it takes 33 seconds to reestablish communications, you can enable port fast on the switch port and manually set the speed and duplex to get the times back to normal. Be sure to set all four ports (switch, both on Nitro IPS, and other device) to the same setting or you might have a negotiation problem in bypass mode.

The available bypass options depend on the type of bypass NIC in the device, Type 2 or Type 3.

Set up bypass NICs

On IPS devices, you can define bypass NIC settings to allow all traffic to pass through.

> ADM and DEM devices are always in IDS mode. You can view their bypass NIC type and status but you can't change their settings.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select a device, then click the **Properties** icon .
2. Click **Configuration** | **Interfaces**.
3. On the **Network Interface Settings** page, go to the **Bypass NIC Configuration** section at the bottom.
4. View the type and status or, on an IPS, change the settings.
5. Click **OK**.

IPMI port set up on ESM or devices

You can set up the IPMI port on the ESM or any of its devices.

This enables you to perform several actions:

- Plug the IPMI Network interface controller (NIC) into a switch so that it is available to IPMI software.
- Access an IPMI-based Kernel-based Virtual Machine (KVM).
- Set the IPMI password for the default user after upgrade to ESM 9.4.0.
- Access IPMI commands like power-on and power status.
- Reset the IPMI card.
- Perform a warm and cold reset.

Set up the IPMI port on ESM or devices

Configure the network for the IPMI port to set up IPMI on the ESM or its devices.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select the system or any of the devices, then click the **Properties** icon .
2. Access the **Network Settings Advanced** tab.
   - On the ESM, click **Network Settings** | **Advanced**.
   - On a device, click the **Configuration** option for the device, then click **Interfaces** | **Advanced**

3 Select **Enable IPMI Settings**, then type the VLAN, IP address, netmask, and gateway for the IPMI.

> If **Enable IPMI Settings** is grayed out on device BIOS, you need to update the system BIOS. SSH to the device and open the `/etc/areca/system_bios_update/Contents-README.txt` file.

4 Click **Apply** or **OK**.

> If you are upgrading your device, you might receive a message telling you to change the password or re-key the device. If you receive this message, change the system password or re-key the device to set a new password to configure the IPMI.

Set up network traffic control on the ESM

Define a maximum data output value for the ESM.

This feature is helpful when you have bandwidth restrictions and need to control the amount of data that can be sent out by each ESM. The options are kilobits (Kb), megabits (Mb), and gigabits (Gb) per second.

> Be careful when configuring this feature because limiting traffic might result in data loss.

Task

For option definitions, click **?** in the interface.

1 On the system navigation tree, select the system, then click the **Properties** icon.

2 Click **Network Settings**, then click the **Traffic** tab.

The table lists the existing controls.

3 To add controls for a device, click **Add**, enter the network address and mask, set the rate, then click **OK**.

> If you set the mask to zero (0), all the data sent is controlled.

4 Click **Apply**.

The outbound traffic speed of the network address you specified is controlled.

Working with host names

The host name of a device is usually more useful than the IP address. You can manage host names so that they are associated with their corresponding IP address.

On the **Hosts** page, you can add, edit, remove, lookup, update, and import host names, as well as set the time after which an auto-learned host name expires.

When you view event data, you can show the host names associated with the IP addresses in the event by clicking the **Show host names** icon located at the bottom of view components. If existing events are not tagged with a host name, the system searches the host table on the ESM and tags the IP addresses with their host names. If the IP addresses are not listed on the host table, the system performs a Domain Name System (DNS) lookup to locate the host names. The search results then show up in the view and are added to the host table. On the host table, this data is marked as **Auto Learned** and expires after the period of time designated in the **Entries expire after** field located below the host table on the **System Properties | Hosts** page. If the data has expired, another DNS lookup is performed the next time you select the **Show host names** option on a view.

The host table lists auto-learned and added host names and their IP addresses. You can add information to the host table manually by entering a host name and IP address individually or by importing a tab-delimited list of host names and IP addresses. The more data you enter in this manner, the less time is spent on DNS look ups. If you enter a host name manually, it doesn't expire, but you can edit or remove it.

Manage host names

Perform all the actions necessary to manage host names on the **Hosts** page such as adding, editing, importing, removing, or looking them up. You can also set the expiration time for auto-learned hosts.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then click **Hosts**.
2. Select an option and enter the information requested.
3. Click **Apply** or **OK**.

Set up DHCP

Dynamic Host Configuration Protocol (DHCP) is used on IP networks for dynamically distributing network configuration parameters, such as IP addresses for interfaces and services.

When you set up the ESM to deploy in the cloud environment, DHCP is enabled automatically and assigns an IP address. When not in the cloud environment, you can enable and disable DHCP services on the ESM, non-HA Receiver, ACE, and ELM if you have Device Management rights. This would be useful if you need to reset the IP addresses for your network.

Aliases are disabled when DHCP is enabled.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select the system or a device, then click the **Properties** icon.
2. Do one of the following:
   - For the ESM, click **Network Settings**, then click the **Main** tab.
   - For a device, select the device's **Configuration** option, click **Interfaces**, then click the **Network** tab.
3. Click **Setup** for the **Interface 1** field, then select **DHCP**.

   For devices other than Receivers, you are informed that the changes require an ESM server restart.
4. Click **OK**.

Set up DHCP on VLAN

Dynamic Host Configuration Protocol (DHCP) is used on IP networks for dynamically distributing network configuration parameters, such as IP addresses for interfaces and services.

When you set up the ESM to deploy in the cloud environment, DHCP is enabled automatically and assigns an IP address. When not in the cloud environment, you can enable and disable DHCP services on the VLANs, ESM, non-HA Receiver, ACE, and ELM if you have Device Management rights. This would be useful if you need to reset the IP addresses for your network.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select the system or a device, then click the **Properties** icon ☰.
2. Do one of the following:
   - For the ESM, click **Network Settings**, then click the **Main** tab.
   - For a device, select the device's **Configuration** option, click **Interfaces**, then click the **Network** tab.
3. Click **Setup** for the **Interface 1** field, then click **Advanced**.
4. Click **Add VLAN**, type the **VLAN**, then select **DHCP**.
5. Click **OK** to return to the **Network Settings** page, then click **Apply**.

For devices other than Receivers, you are informed that the changes require an ESM server restart.

System time synchronization

Since activities generated by the ESM and its devices are time stamped, it is important that the ESM and devices be synchronized to keep a constant frame of reference for data they gather. You can set the ESM system time or select to have the ESM and devices synchronized to an NTP server.

Set up system time

Before you begin

If you want to add NTP servers to the ESM, set up the NTP servers and have their authorization keys and key IDs.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties** and ensure **System Information** is selected.
2. Click **System Clock (GMT)**, define the settings, then click **OK**.

   ℹ NTP server addresses on IPS class devices must be IP addresses.

The server information is saved in the configuration file. You can then access the list of NTP servers again and check their status.

Sync device clocks

You can sync the device clocks with the ESM clock so that the data generated by the various systems reflects the same time setting.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties** or device **Properties**, then click **Sync** in the **Sync Device Clock** field.

   You are informed when the sync is complete or if there is a problem.

2. Click **Refresh** to update the data on the **System Information** or device **Information** page.

Install a new certificate

The ESM ships with a default self-signed security certificate for esm.mcafee.local. Most web browsers display a warning that the certificate's authenticity can't be verified. Once you obtain the SSL key certificate pair that you want to use for your ESM, you must install it.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then click **ESM Management**.
2. On the **Key Management** tab, click **Certificate**.
3. Make the selections, then click **Close**.

Configure profiles

Define profiles for syslog-based traffic so you can perform setups that share common information without entering the details each time. You can also add a remote command profile (URL or Script) and use it on a view or an alarm.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then click **Profile Management**.
2. To add a profile, click **Add** on the **System Profiles** tab, then fill in the profile data.
3. To add a remote command, click the **Remote Command** tab, then fill in the requested information.
4. Click **OK**.

SNMP configuration

Configure the settings used by the ESM to send link up and down and cold and warm start traps, both from the ESM and each device; retrieve Management Information Base (MIB)-II system and interface tables; and allow discovery of the ESM through an SNMP walk.

SNMPv3 is supported with NoAuthNoPriv, AuthNoPriv, and AuthPriv options, using MD5 or Secure Hash Algorithm (SHA) for authentication and Data Encryption Standard (DES) or Advanced Encryption Standard (AES) for encryption (MD5 and DES are not available in FIPS compliance mode).

SNMP requests can be made to an ESM for ESM, Receiver, and Nitro IPS health information, and SNMPv3 traps can be sent to an ESM to add to the blacklist of one or more of its managed Nitro IPS devices. All McAfee appliances can also be configured to send link up and down traps and warm and cold boot traps to one or more destinations of your choosing (see *SNMP and the McAfee MIB*).

Configure SNMP settings

Define the settings used by the ESM for inbound and outbound SNMP traffic. SNMP queries can only be performed by users whose user names don't include a space.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then click **SNMP Configuration**.
2. Enter the required information on the **SNMP Requests** and **SNMP Traps** tabs.
3. Click **OK**.

Set up SNMP trap for power failure notification

Select an SNMP trap to notify you of general hardware failures and DAS power failures, to keep the system from shutting down due to a power failure.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select the system, then click the **Properties** icon.
2. Click **SNMP Configuration**, click the **SNMP Traps** tab, then select **General Hardware Failure**.
3. Click **Apply** or **OK**.

When a power supplies fails, an SNMP trap is sent and a health status flag appears next to the device on the system navigation tree.

You can add an alarm to trigger when a failure occurs (see *Add a power failure notification alarm*).

Create an SNMP trap as an action in an alarm

You can send SNMP traps as an action within an alarm.

> **Before you begin**
>
> Prepare the SNMP trap Receiver (only required if you don't have an SNMP trap Receiver).

For option definitions, click **?** in the interface.

Task

1. Create an SNMP profile to tell the ESM where to send the SNMP traps.
   a. On the system navigation tree, select the system then click the **Properties** icon.
   b. Click **Profile Management**, then select **SNMP Trap** in the **Profile Type** field.
   c. Fill in the remaining fields, then click **Apply**.
2. Configure SNMP on the ESM.
   a. On **System Properties**, click **SNMP Configuration**, then click the **SNMP Traps** tab.
   b. Select the port, select the types of traps to send, then select the profile you added in Step 1.
   c. Click **Apply**.
3. Define an alarm with **SNMP Trap** as an action.
   a. On **System Properties**, click **Alarms**, then click **Add**.
   b. Fill in the information requested on the **Summary**, **Condition**, and **Devices** tabs, selecting **Internal Event Match** as the condition type, then click the **Actions** tab.
   c. Select **Send Message**, then click **Configure** to select or create a template for SNMP messages.
   d. Select **Basic SNMPTrap** in the **SNMP** field, or click **Templates**, then click **Add**.
   e. Select an existing template or click **Add** to define a new template.
   f. Return to the **Alarm Settings** page, then proceed with alarm setup.

Add a power failure notification alarm

Add an alarm to notify you when either of the ESM power supplies fail.

> **Before you begin**
>
> Set up a General Hardware Failure SNMP trap (see *Set up SNMP trap for power failure notification*).

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select the system, then click the **Properties** icon ☰.
2. Click **Alarms**, click **Add**, add the requested data on the **Summary** tab, then click the **Condition** tab.
3. In the **Type** field, select **Internal Event Match**.
4. In the **Field** field, select **Signature ID**, then type `306-50086` in the **Value(s)** field.
5. Fill in the remaining information on each tab as needed, then click **Finish**.

An alarm triggers when a power supply fails.

SNMP and the McAfee MIB

Several aspects of the McAfee product line can be accessed through SNMP. The McAfee MIB defines the object identifiers (OIDs) for each object or characteristic of interest.

The MIB defines object groups for:

- **Alerts** — An ESM can generate and send alert traps using Event Forwarding. A Receiver can receive alert traps by configuring a McAfee SNMP data source.
- **Flows** — A Receiver can receive flow traps by configuring a McAfee SNMP data source.
- **ESM Health Requests** — An ESM can receive and respond to health requests for itself and the devices it manages.
- **Blacklist** — An ESM can receive traps defining entries for blacklists and quarantine lists, which it then applies to the Nitro IPS devices it manages.

The McAfee MIB also defines textual conventions (enumerated types) for values including:

- the action performed when an alert was received
- flow direction and state
- data source types
- blacklist actions

The McAfee MIB is syntactically SNMPv2 Structure of Management Information (SMI)-compliant. McAfee products that use SNMP can be configured to work over SNMPv1, SNMPv2c, and SNMPv3, including authentication and access control.

Health requests are made by using the SNMP `GET` operation. The SNMP `GET` operation is used by SNMP manager applications to retrieve values from the managed objects maintained by the SNMP agent (in this case, the ESM). The applications typically perform an SNMP GET request by providing the host name of the ESM and OIDs, along with the specific instance of the OID.

The ESM responds with a return value or with an error. For example, a health request and response for the health of the Nitro IPS with Nitro IPS ID 2 might look like this:

Request and response OID	Units	Response value	Meaning
1.3.6.1.4.1.23128.1.3.2.1.2		Internal Nitro IPS	Nitro IPS name
1.3.6.1.4.1.23128.1.3.2.2.2		2	ESM unique identifier of the Nitro IPS
1.3.6.1.4.1.23128.1.3.2.3.2		1	Communication with the Nitro IPS is available (1) or not available (0)"
1.3.6.1.4.1.23128.1.3.2.4.2		Ok	Status of the Nitro IPS
1.3.6.1.4.1.23128.1.3.2.5.2		off	Status of the Nitro IPS's bypass NICs
1.3.6.1.4.1.23128.1.3.2.6.2		Nitro IPS	Nitro IPS mode (Nitro IPS or IDS)
1.3.6.1.4.1.23128.1.3.2.7.2	percent	2	Percentage combined instantaneous CPU load
1.3.6.1.4.1.23128.1.3.2.8.2	MB	1010	Nitro IPS RAM total
1.3.6.1.4.1.23128.1.3.2.9.2	MB	62	Available RAM
1.3.6.1.4.1.23128.1.3.2.10.2	MB	27648	Total HDD space partitioned for Nitro IPS database
1.3.6.1.4.1.23128.1.3.2.11.2	MB	17408	Free HDD space available for Nitro IPS database
1.3.6.1.4.1.23128.1.3.2.12.2	seconds since 1970-1-1 00:00:00.0 (GMT)	120793661	Current system time on the Nitro IPS
1.3.6.1.4.1.23128.1.3.2.13.2		7.1.3 20070518091421a	Nitro IPS version information and buildstamp
1.3.6.1.4.1.23128.1.3.2.14.2		ABCD:1234	Nitro IPS machine ID
1.3.6.1.4.1.23128.1.3.2.15.2		Nitro IPS	Nitro IPS model number
1.3.6.1.4.1.23128.1.3.2.16.2	alerts per minute	140	Alert rate (per minute) for last 10 minutes
1.3.6.1.4.1.23128.1.3.2.17.2	flows per minute	165	Flow rate (per minute) for last 10 minutes

Using the example above, the SNMP manager makes a request to the SNMP agent, the ESM. The numbers mean:

- 1.3.6.1.4.1.23128 — The McAfee Internet Assigned Numbers Authority (IANA)-assigned enterprise number
- 1.3.2 — A Nitro IPS health request
- The second to last number (1–17 above) — For requesting the various aspects of Nitro IPS health
- The final number (2) — The specific instance of the OID, the Nitro IPS ID

The ESM responds by populating the OID bindings with the results of the health request.

The following tables show the meaning of the ESM and Receiver OIDs.

Table 3-37 ESM health

Request and response OID	Units	Response value	Meaning
1.3.6.1.4.1.23128.1.3.1.1	percent	4	Percentage combined instantaneous CPU load
1.3.6.1.4.1.23128.1.3.1.2	MB	3518	Total RAM
1.3.6.1.4.1.23128.1.3.1.3	MB	25	Available RAM
1.3.6.1.4.1.23128.1.3.1.4	MB	1468006	Total HDD space partitioned for ESM database
1.3.6.1.4.1.23128.1.3.1.5	MB	1363148	Free HDD space available for ESM database
1.3.6.1.4.1.23128.1.3.1.6	seconds since 1970-1-1 00:00:0.0 (GMT)	1283888714	Current system time on the ESM
1.3.6.1.4.1.23128.1.3.1.7		8.4.2	ESM version and buildstamp
1.3.6.1.4.1.23128.1.3.1.8		4EEE:6669	Machine ID of the ESM
1.3.6.1.4.1.23128.1.3.1.9		ESM	ESM model number

Table 3-38 Receiver health

Request and response OID	Units	Response value	Meaning
1.3.6.1.4.1.23128.1.3.3.1		Receiver	Receiver name
1.3.6.1.4.1.23128.1.3.3.2		2689599744	ESM unique identifier of the Receiver
1.3.6.1.4.1.23128.1.3.3.3		1	Indicates that communication with the Receiver is available (1) or not available (0)
1.3.6.1.4.1.23128.1.3.3.4		Ok	Indicates the status of the Receiver
1.3.6.1.4.1.23128.1.3.3.5	percent	2	Percentage combined instantaneous CPU load
1.3.6.1.4.1.23128.1.3.3.6	MB	7155	Total RAM
1.3.6.1.4.1.23128.1.3.3.7	MB	5619	Available RAM
1.3.6.1.4.1.23128.1.3.3.8	MB	498688	Total HDD space partitioned for Receiver database
1.3.6.1.4.1.23128.1.3.3.9	MB	472064	Free HDD space available for Receiver database
1.3.6.1.4.1.23128.1.3.3.10	seconds since 1970-1-1 00:00:0.0 (GMT)	1283889234	Current system time on the Receiver

Table 3-38 Receiver health *(continued)*

Request and response OID	Units	Response value	Meaning
1.3.6.1.4.1.23128.1.3.3.11		7.1.3 20070518091421a	Receiver version and buildstamp
1.3.6.1.4.1.23128.1.3.3.12		5EEE:CCC6	Machine ID of the Receiver
1.3.6.1.4.1.23128.1.3.3.13		Receiver	Receiver model number
1.3.6.1.4.1.23128.1.3.3.14	alerts per minute	1	Alert rate (per minute) for last 10 minutes
1.3.6.1.4.1.23128.1.3.3.15	flows per minute	2	Flow rate (per minute) for last 10 minutes

Events, flows, and blacklist entries are sent using SNMP traps or inform requests. An alert trap sent from an ESM configured to do Event Forwarding might look something like this:

OID	Value	Meaning
1.3.6.1.4.1.23128.1.1.1	780	ESM alert ID
1.3.6.1.4.1.23128.1.1.2	6136598	Device alert ID
1.3.6.1.4.1.23128.1.1.3	Internal Nitro IPS	Device Name
1.3.6.1.4.1.23128.1.1.4	2	Device ID
1.3.6.1.4.1.23128.1.1.5	10.0.0.69	Source IP
1.3.6.1.4.1.23128.1.1.6	27078	Source Port
1.3.6.1.4.1.23128.1.1.7	AB:CD:EF:01:23:45	Source MAC
1.3.6.1.4.1.23128.1.1.8	10.0.0.68	Destination IP
1.3.6.1.4.1.23128.1.1.9	37258	Destination Port
1.3.6.1.4.1.23128.1.1.10	01:23:45:AB:CD:EF	Destination MAC
1.3.6.1.4.1.23128.1.1.11	17	Protocol
1.3.6.1.4.1.23128.1.1.12	0	VLAN
1.3.6.1.4.1.23128.1.1.13	1 Flow direction	
1.3.6.1.4.1.23128.1.1.14	20	Event count
1.3.6.1.4.1.23128.1.1.15	1201791100	First time
1.3.6.1.4.1.23128.1.1.16	1201794638	Last time
1.3.6.1.4.1.23128.1.1.17	288448	Last time (microseconds)
1.3.6.1.4.1.23128.1.1.18	2000002	Signature ID
1.3.6.1.4.1.23128.1.1.19	ANOMALY Inbound High to High	Signature description
1.3.6.1.4.1.23128.1.1.20	5	Action taken
1.3.6.1.4.1.23128.1.1.21	1	Severity

OID	Value	Meaning
1.3.6.1.4.1.23128.1.1.22	201	Data source type or result
1.3.6.1.4.1.23128.1.1.23	0	Normalized signature ID
1.3.6.1.4.1.23128.1.1.24	0:0:0:0:0:0:0:0	IPv6 source IP
1.3.6.1.4.1.23128.1.1.25	0:0:0:0:0:0:0:0	IPv6 destination IP
1.3.6.1.4.1.23128.1.1.26		Application
1.3.6.1.4.1.23128.1.1.27		Domain
1.3.6.1.4.1.23128.1.1.28		Host
1.3.6.1.4.1.23128.1.1.29		User (source)
1.3.6.1.4.1.23128.1.1.30		User (destination)
1.3.6.1.4.1.23128.1.1.31		Command
1.3.6.1.4.1.23128.1.1.32		Object
1.3.6.1.4.1.23128.1.1.33		Sequence Number
1.3.6.1.4.1.23128.1.1.34		Indicates whether generated in trusted or untrusted environment
1.3.6.1.4.1.23128.1.1.35		ID of session that generated the alert

The numbers mean:

- 1.3.6.1.4.1.23128 — The McAfee IANA-assigned enterprise number
- 1.1 — A Nitro IPS health request
- The final number (1–35) — For reporting the various characteristics of the alert

For the full details of McAfee MIB definition, see https://x.x.x.x/BrowseReference/NITROSECURITY-BASE-MIB.txt, where x.x.x.x is the IP address of your ESM.

Managing the database

Manage the ESM database to provide information and settings as you set up features on your system.

You can manage database index settings, view and print information about the database memory utilization of events and flows, configure storage locations for inactive partitions, configure the data retention policy for events and flows, and configure how the database allocates space for event and flow data.

If you have more than four CPUs on a VM, you can use the additional storage space for system storage, data storage, and high performance storage.

If you remove more than one drive from the ESM VM at one time, all previous ELM searches can be lost. To avoid this, export the ELM search results before performing this process.

See also
Manage accumulator indexing on page 171
Manage database index settings on page 171
Set up data retention limits on page 170
View database memory utilization on page 172

Set up ESM data storage

There are three types of external storage that can be set up to store ESM data: Internet Small Computer System Interface (iSCSI), Storage Area Network (SAN), and Direct-attached storage (DAS). Once these are connected to the ESM, you can set them up to store data from the ESM.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then click **Database** | **Data Storage**.
2. Click either of the tabs, select an action, then fill in the information requested.
3. Click **Cancel** to close the page.

See also
Set up data retention limits on page 170

Set up ESM VM data storage

If your ESM VM has more than four CPUs, the **VM Data** option is available on the **Database** page, allowing you to use the additional storage you have available for the VM's system storage, data storage, and high performance storage.

Each drop-down list on the **Data Allocation** page includes the available storage drives that are mounted on the VM.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then click **Database** | **VM Data**.
2. In each field, select the drive you want the data stored on. Each drive can only be selected once.
3. Click **OK**.

Increase number of available accumulator indexes

Due to the number of enabled standard indexes on the ESM, you can only add five indexes to an accumulator field. If you need more than five, you can disable standard indexes that you are not currently using, such as sessionid, src/dst mac, src/dst port, src/dst zone, src/dst geolocation, up to a maximum of 42.

Task

For option definitions, click **?** in the interface.

> ❗ The ESM uses standard indexes when generating queries, reports, alarms, and views. If you disable any of them, then try to generate a query, report, alarm, or view that uses them, you are notified that it can't be processed because an index is disabled. You are not told which index is affecting the process. Due to this limitation, do not disable standard indexes unless you determine it is absolutely necessary.

1. On the system navigation tree, select **System Properties**, then click **Database**.
2. Click **Settings**, then click the **Accumulator Indexing** tab.
3. From the drop-down list, click **Standard Indexes**, then select **Show standard indexes**.

   The standard indexes are listed in the **Enabled** area.
4. Click the standard indexes to be disabled, then click the arrow to move them to the **Available** area.

   The number in the **remaining** statement in the top right corner of the page increases with each standard index that you disable.

You can now enable more than five accumulator indexes for the accumulator field that you select (see *Manage accumulator indexing*).

Set up inactive partitions archive

ESM divides data into partitions. When a partition reaches its maximum size, it becomes inactive and is deleted. You can configure a storage location for inactive partitions so they aren't deleted.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then click **Database** | **Archival**.
2. Fill in the fields, which vary depending on the type you select.
3. Click **OK** to save the settings.

As partitions become inactive, they are copied to this location and are listed on the **Event Partitions** and **Flow Partitions** tabs.

Set up data retention limits

If you have a configuration that is sending historical data to the system, you can select the length of time that you want events and flows maintained as well as limit the amount of historical data inserted.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then click **Database** | **Data Retention**.
2. Select how long you want events and flows retained and if you want to restrict historical data.
3. Click **OK**.

See also

Set up ESM data storage on page 169

Define data allocation limits

The maximum number of event and flow records that are maintained by the system is a fixed value. Data allocation allows you to set how much space to allocate for each, and how many records are searched to optimize querying.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then click **Database** | **Data Allocation**.
2. Click the markers on the number lines and drag them to the desired numbers, or click the arrows in the **Events** and **Flows** fields.
3. Click **OK**.

Manage database index settings

Configure options for indexing specific fields of data in the database. If data is not indexed, it's stored but is not displayed in most query results.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then click **Database** | **Settings**.
2. To change the current settings in the **Events** and **Flows** columns, click the item you want to change and select a new setting from the drop-down list.
3. If you select **Custom** in the **Port** columns, the **Port Values** screen opens so you can select or add a new port value.
4. Click **OK**.

Manage accumulator indexing

If you have custom fields that pull numeric data from a source, accumulator indexing can perform sums or averages over time on this data. You can accumulate several events together and average their value or generate a trending value.

> **Before you begin**
>
> Set up an accumulator indexing custom type (see *Create custom types*).

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then click **Database**.
2. Click **Settings**, then click the **Accumulator Indexing** tab.
3. Select the indexes, then click **OK**.

You can now set up an accumulator query to display the results.

See also
Manage queries on page 250
Create custom types on page 262

View database memory utilization

View and print tables that detail how database memory is being used.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then click **Database** | **Memory Use**.

   The **Events** and **Flows** tables list the memory utilization of the database.

2. To print the reports, click the **Print** icon 🖨.

Working with users and groups

Users and groups must be added to the system so that they have access to the ESM, its devices, its policies, and their associated privileges.

When in FIPS mode, ESM has four possible user roles: **User**, **Power User**, **Key & Certificate Admin**, and **Audit Admin**. When not in FIPS mode, there are two types of user accounts: **System Administrator** and **General User**.

The **Users and Groups** page has two sections:

- **Users** — Names of users, the number of sessions that each user has open currently, and the groups to which they belong.
- **Groups** — Names of groups and a description of the privileges assigned to each one.

> You can sort the tables by clicking **Username**, **Sessions**, or **Group Name**.

Group privileges

When you set up a group, you set the privileges for the members of the group. If you select **Limit access of this group** on the **Privileges** page of **Add Group** (**System Properties** | **Add Group**), access to these features is limited.

- **Alarms** — The users in the group have no access to alarm management recipients, files, or templates. They can't create, edit, remove, enable, or disable alarms.
- **Case Management** — Users can access all features except **Organization**.
- **ELM** — Users can perform enhanced ELM searches but can't save them or access ELM device properties.
- **Reports** — Users can only run a report that emails the output to them.
- **Watchlists** — Users can't add a dynamic watchlist.
- **Asset Manager** and **Policy Editor** — Users can't access these features.
- **Zones** — Users can view only zones they have access to in their list of zones.
- **System Properties** — Users can access only **Reports** and **Watchlists.**
- **Filters** — Users can't access **String Normalization**, **Active Directory**, **Assets**, **Asset Groups**, or **Tags** filter tabs.
- Actions toolbar — Users can't access device management, multi-device management, or Event Streaming Viewer.

Add a user

If you have system administrator privileges, you can add users to the system so that they can have access to the ESM, its devices, policies, and associated privileges. Once added, user settings can be edited or removed.

Task

For option definitions, click **?** in the interface.

1 On the system navigation tree, select **System Properties | Users and Groups**.

2 Enter the system administrator password, then click **OK**.

3 In the **Users** section, click **Add**, then fill in the information requested.

4 Click **OK**.

Users are added to the system with the privileges assigned to the groups they belong to. User names appear in the **Users** section of the **Users and Groups** page. An icon appears next to each user name, indicating whether the account is enabled. If the user has administrator privileges, a royalty icon appears next to their name.

Select user settings

The **User Settings** page gives you the option to change several default settings. You can change the time zone, date format, password, default display, and console language. You can also choose whether to show disabled data sources, the **Alarms** tab, and the **Cases** tab.

Task

For option definitions, click **?** in the interface.

1 On the system navigation bar of the ESM console, click **options**.

2 Verify that **User Settings** is selected.

3 Make changes to the settings as needed, then click **OK**.

The console changes its appearance based on your settings.

Setting up security

Use login security to set up standard login settings, configure the access control list (ACL), and define Common Access Card (CAC) settings. You can also enable Remote Authentication Dial In User Service (RADIUS), Active Directory, and Lightweight Directory Access Protocol (LDAP) authentication (only available if you have system administrator privileges).

ESM security features

The McAfee family of Nitro IPS solutions is designed to be difficult to find on a network and even harder to attack. Nitro IPS devices have no IP stack by default, so packets can't be addressed directly to the Nitro IPS.

Communication with a Nitro IPS is achieved through the McAfee Secure Encrypted Management (SEM) technology. SEM is an in-band Advanced Encryption Standard (AES) encrypted channel that mitigates the risk of playback or man-in-the-middle types of attacks.

> A Nitro IPS device communicates only when addressed by an authorized ESM via the SEM channel. It does not initiate communications on its own. Communication between an ESM and the ESM console is also sent over an AES.

The ESM retrieves authenticated and encrypted signature and software updates from the McAfee central server from an encrypted communication mechanism. Mechanisms, both hardware- and software-based, are in place to make sure devices are managed only from a properly authorized ESM.

Define standard login settings

Adjust the settings for standard login procedures by defining how many login attempts can be made in a specified period of time, how long the system can be inactive, password settings, and whether to show the last user ID upon login.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then click **Login Security**.
2. Set the options on the **Standard** tab.
3. Click **OK** or **Apply**.

Define logon password settings

There are several settings that you can define for the system logon password.

> **Before you begin**
>
> You must have system administrator rights.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select System Properties, then click Login Security.
2. Click the **Passwords** tab, make your selections, then click **Apply** or **OK**.

Configure RADIUS authentication settings

Configure the ESM to authenticate users to a RADIUS server.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then click **Login Security**.
2. Select the **RADIUS** tab, then fill in the fields for the primary server. A secondary server is optional.
3. Click **OK** or **Apply**.

When the server is enabled, all users except the system administrator authenticate with the RADIUS server. If authentication is disabled, users who are set up for RADIUS authentication can't access the ESM.

Set up the access control list

Set up a list of IP addresses that can be allowed to access or blocked from accessing your ESM.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then click **Login Security**.
2. Click **ACL Settings**, then add IP addresses to the list.
3. Click **OK** to save the settings and close the **Access Control List**.

You can edit or remove IP addresses from the ACL list.

CAC settings

You can authenticate to the ESM by providing CAC credentials through the browser rather than by entering a user name and password.

CACs contain a client certificate that identifies the user, similar to the way a server certificate identifies a website. If you enable the CAC feature, we assume that you are familiar with CAC-based authentication. You know which browsers support this functionality and are familiar with the Electronic Data Interchange Personal Identifier (EDI-PI) associated with CACs.

Certificates are occasionally revoked. Certificate revocation lists (CRL) provide a way that systems can be made aware of these revocations. You can manually upload a .zip file containing CRL files.

ActivClient is the only supported CAC middleware on Windows. To use CAC authentication on the ESM from Windows using Internet Explorer, ActivClient must be installed on the client computer. Once ActivClient is installed, it is used to manage CAC credentials instead of the native Smart Card manager in Windows. The ActivClient software is most likely already installed if the client accesses other CAC-enabled websites. Instructions on setting up ActivClient and where to go to download the software can be obtained at http://militarycac.com/activclient.htm or from your organization's intranet.

> When relying on CAC validation for application authenticity, the security of the system is dependent on the security of the Certificate Authority (CA). If the CA is compromised, CAC-enabled logins are also compromised.

Configure CAC login

To set up CAC login, you must enable the CAC login feature, upload the chain of CA root certificates, and enable a CAC user by setting the user name to the card holder's 10-digit EDI-PI. Once this is done, card holders can access the ESM in a CAC-enabled browser without being prompted for a user name or password.

> ESM supports the Gemalto card reader. Please call McAfee Support If you need assistance with your card reader.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, click **Login Security**, then select the **CAC** tab.
2. Enter the information and make the selections requested, then click **OK**.
3. Enable each CAC user.
   - a. On **System Properties**, click **Users and Groups**, then enter the system password.
   - b. In the **Users** table, highlight the name of the user, then click **Edit**.

c Replace the name in the **Username** field with the 10-digit EDI-PI.

d (Optional) Enter the user's name in the **User Alias** field, then click **OK**.

Configure Active Directory authentication settings

You can configure the ESM to authenticate users to an **Active Directory**. When it is enabled, all users, except the system administrator, authenticate with the **Active Directory**. If authentication is disabled, users who are set up for **Active Directory** authentication can't access the system.

Before you begin

- Set up an **Active Directory** that can be accessed from the ESM.
- Create a group (see *Set up user groups*) with the same name as the **Active Directory** group that has access to the ESM. For example, if you name the group "McAfee Users," you must go to **System Properties** | **Users and Groups** and add a group named "McAfee Users."

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then click **Login Security**.
2. Click the **Active Directory** tab, then select **Enable Active Directory Authentication**.
3. Click **Add**, then add the information requested to set up the connection.
4. Click **OK** on the **Active Directory Connection** page.

Set up user credentials for McAfee ePO

You can limit access to a McAfee ePO device by setting up user credentials.

Before you begin

The McAfee ePO device must not be set up to require global user authentication (see **Set up global user authentication**).

Task

For option definitions, click **?** in the interface.

1. On the system navigation bar of the ESM console, click **options**, then select **ePO Credentials**.
2. Click the device, then click **Edit**.

> If the status column for the device says **Not Required**, the device is set up for global user authentication. You can change the status on the **Connection** page for the device (see *Change connection with ESM*).

3. Type the user name and password, test the connection, then click **OK**.

To access this device, users need the user name and password you added.

Disable or re-enable a user

If a user exceeds the allowed failed login attempts within the timeframe set in **Login Security**, use this feature to re-enable the account. You might also use this feature if you need to block user access temporarily or permanently without deleting the user from the system.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties** | **Users and Groups**.
2. In the **Users** table, highlight the user name, then click **Edit**.
3. Select or deselect **Disable account**, then click **OK**.

The icon next to the user name on **Users and Groups** reflects the status of the account.

Authenticate users to an LDAP server

You can configure the ESM to authenticate users to an LDAP server.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then click **Login Security**.
2. Click the **LDAP** tab.
3. Fill in the fields, then click **Apply** or **OK**.

When it is enabled, all users, except the system administrator, must authenticate with the LDAP server. If authentication is disabled, users who are set up for LDAP authentication can't access the system.

Set up user groups

Groups consist of users who inherit the settings of the group. When a group is added, devices, policies, and privileges must be assigned.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then click **Users and Groups** | **Add**.
2. Fill in the information requested on each tab, then click **OK**.

The group is added to the **Groups** table on the **Users and Groups** page.

Add a group with limited access

To restrict specific users' access to features on the ESM, create a group that includes those users. This option limits their access to alarms, case management, ELM, reports, watchlists, asset management, policy editor, zones, system properties, filters, and the actions toolbar (see *Working with users and groups*). All other features are disabled.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select the system, then click the **Properties** icon ☰.
2. Click **Users and Groups**, then type the system password.

3. Do one of the following:
   - If the group is already set up, select it on the **Group** table, then click **Edit**.
   - If you are adding a group, click **Add** next to the **Groups** table, fill in the name and description, then select users.
4. Click **Privileges**, then select **Limit access of this group**.

   Most privileges are disabled.
5. From the remaining list of privileges, select the privileges that you want this group to have.
6. Click each tab and define the rest of the settings for the group.

Backing up and restoring system settings

Save current system configuration settings automatically or manually so they can be restored in case of system failure or data loss. You can also set up and save current settings to a redundant ESM.

A standard backup saves all configuration settings, including those for policy, as well as SSH, Network, and SNMP files. When you add a new ESM device, **Backup & Restore** is enabled to backup every 7 days. You can back up events, flows, and logs received by the system. The first backup of event, flow, or log data saves only data from the start of the current day. Subsequent backups save data starting at the time of the last backup.

> If you back up events, flows, or logs to the ESM, the disk space on the ESM is reduced. We recommend that you periodically download or delete backup files from the local ESM.

To restore the system, you can select one or more backup files on the ESM, a local computer, or a remote location to revert all of your settings and data to a previous state. When you perform this function, all changes made to the settings after the backup was created are lost. For example, if you are performing a daily backup and want to restore the data from the last three days, select the last three backup files. The events, flows, and logs from the three backup files are added to the events, flows, and logs that are currently on the ESM. All settings are then overwritten with the settings contained in the most recent backup.

Back up ESM settings and system data

There are multiple ways to back up the data on the ESM. When you add a new ESM, **Backup & Restore** is enabled to backup every seven days. You can disable it or make changes to the default settings.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then click **System Information** | **Backup & Restore**.
2. Define the settings for any of these items:
   - Automatic backup
   - Manual backup
   - Redundant ESM
   - Restore the system to a previous backup
3. Click **OK** to close the **Backup & Restore** page.

See also

Restore ESM settings on page 179
Work with backup files on ESM on page 179

Restore ESM settings

In the case of system failure or data loss, you can restore your system to a previous state by selecting a backup file.

Task

> If the database contains the maximum allowed records and the records being restored are outside of the range of current data on the ESM, the records are not restored. To save and access data outside of that range, you must have inactive partition archiving set up (see *Set up data retention limits*).

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then click **System Information** | **Backup & Restore** | **Restore Backup**.
2. Select the type of restore you need to perform.
3. Select the file you want to restore or enter the information for the remote location, then click **OK**.

Restoring a backup can take a long time, based on the size of the restore file. The ESM is offline until the full restore is completed. During this time, the system tries to reconnect every 5 minutes. When the process is completed, the **Login** page appears.

See also

Set up data retention limits on page 170

Restore backed up configuration files

You can restore SSH, Network, SNMP and other configuration files that were backed up on the ESM for each device.

> **Before you begin**
>
> Back up configuration files on the ESM (see *Back up ESM settings and system data*).

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, click the device, then click the **Properties** icon ☰.
2. Click the **Configuration** option for the device, click **Restore Config**, then click **Yes** on the confirmation page.

Work with backup files on ESM

The backup files that were saved to the ESM can be downloaded, deleted, or viewed. You can also upload files to add them to the list of backup files.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then click **File Maintenance**.
2. In the **Select Type** drop-down list, select **Backup Files**.
3. Select the action you want to perform.
4. Click **OK**.

See also
Back up ESM settings and system data on page 178

Manage file maintenance

The ESM stores backup, software update, alarm log, and report log files. You can download, upload, and remove files from each of these lists.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then click **File Maintenance**.
2. In the **Select File Type** field, select **Backup Files**, **Software Update Files**, **Alarm Log Files**, or **Report Files**.
3. Select the files, then click one of the options.
4. Click **Apply** or **OK**.

See also
Back up ESM settings and system data on page 178

Redundant ESM

The redundant ESM feature allows you to save current ESM settings to redundant ESM that can be converted to the primary ESM in case of system failure or data loss. This feature is only available to users with system administrator privileges.

Once you set up a redundant ESM, the configuration and policy data from the primary ESM is automatically synced every five minutes with the redundant ESM. To set up a redundant ESM you must define the settings for the redundant device, which receives the settings and data from the primary device, and define the settings for the primary device, which sends the backup settings and data to the redundant device. The redundant ESM must be configured before the primary ESM can connect to it.

> The ESM redundancy feature is not available on an ESMREC combo device.

Set up redundant ESM

To save your system settings on a redundant ESM, you must set up each ESM so they communicate with each other.

Task

For option definitions, click **?** in the interface.

1 On the system navigation tree, select **System Properties**, then click **System Information** | **Backup & Restore** | **Redundancy**.

2 In the **ESM Type** field, ensure that **Primary** is selected.

3 Enter the information for the primary ESM, then select or add the redundant ESMs.

> You can add a maximum of five redundant ESMs.

4 Select the **Redundant** radio button, then type the IP address for the primary ESM and select the SSH port.

5 Click **OK**.

You are warned that a service restart is required which causes all users to lose their connection to the ESM.

6 Click **Yes** to continue with the sync.

Replace a redundant ESM

If a redundant ESM quits working, you can replace it with a new one.

> **Before you begin**
>
> Add the new redundant ESM to the system.

Task

For option definitions, click **?** in the interface.

1 On the system navigation tree, select **System Properties**, and make sure that **System Information** is selected.

2 Click **Backup & Restore** | **Redundancy**, then select **Primary** and type the new redundant IP address in the **Redundant ESM IP Address** field.

3 Select **Redundant** and make sure that the primary ESM IP address is correct.

4 Select **Primary**, then click **Connect** to verify that the two devices are communicating.

5 Select **Sync Entire ESM**, then click **OK**.

Managing the ESM

You can perform several operations to manage the software, logs, certificate, feature files, and communication keys for the ESM.

Tab	Option	Definition
Configuration	**Manage Logs**	Configure the types of events that are logged on the event log.
	ESM Hierarchy	Configure data options when working with hierarchical ESM devices.
	Obfuscation	Define global settings to mask selected data on any alert record that is sent out in event forwarding or sent to a parent ESM.

Tab	Option	Definition
	Logging	Send internal events to the ELM for storage. This data can be used for auditing.
	System Locale	Select the system language to use for logging events such as health monitor and device log.
	Name Map	Deselect the ports and protocols to have them display raw numbers instead of names. For example, if you deselect **Source Port** or **Destination port,** *http:80* displays as *80*. If you select *Protocols*, raw number *17* displays as *udp*.
Key Management	**Certificate**	Install a new Secure Socket Layer (SSL) certificate.
	Regenerate SSH	Regenerate the private or public SSH key pair to communicate with all devices.
	Export All Keys	Export the communication keys for all devices on the system, instead of exporting them one at a time.
	Restore All Keys	Restore the communication keys for all or selected devices, which were exported using the **Export All Keys** function.
Maintenance	**Update ESM**	Update ESM software from the McAfee rules and updates server or a McAfee security engineer.
	ESM Data	Download a .tgz file that contains information regarding the status of the ESM. This status can assist McAfee Support troubleshoot and resolve issues.
	Task manager	View the queries running on the ESM and stop them, if needed.
	Shutdown	Shut down the ESM. You are warned that this action causes all users to lose communication with the ESM.
	Reboot	Stop and restart the ESM. You are warned that this action causes all users to lose communication with the ESM.
	Terminal	ℹ This feature is for advanced users only. Enter Linux commands on the ESM. The terminal is only a partial batch mode emulator and not all commands are available. • The terminal doesn't keep a present working directory. • You can't use `cd` to go to another directory. • Full path names must be used. • The > or >> operators do not work; all results are returned to the screen.
	Get Features	If you have purchased additional features, enable them on your ESM by downloading an encrypted file that contains information about features that your ESM supports.
	Set Features	Install the file you downloaded with **Get features**.

Tab	Option	Definition
	Connect	Give McAfee support access to your system when you call for support. ℹ This option is not FIPS-compliant and is not available when operating in FIPS mode.
	View Statistics	Access the following information for any ESM device: • Memory and swap space utilization statistics. • Input/output and transfer rate statistics. • CPU utilization. • Queue length and load averages. • System switching activity.

See also

Access a remote device on page 187
Regenerate SSH key on page 185
Manage recipients on page 154
Types of events on page 183
Manage logs on page 183
Install a new certificate on page 162
Set up ESM logging on page 184
Mask IP addresses on page 184
Export and restore communication keys on page 185
Available Linux commands on page 187
Use Linux commands on page 187

Manage logs

There are several types of events that are generated on the ESM. You can select the ones you want saved in the event log.

Task

For option definitions, click **?** in the interface.

1 On the system navigation tree, select **System Properties**, then click **ESM Management**.

2 Click **Manage logs**, then select the event types you want to log.

3 Click **OK**.

Types of events

These are the event log types generated on the ESM.

Event type	Events logged
Authentication	Login, logout, and user account changes. ℹ To be in compliance with FIPS regulations, **Authentication Mode** is always set to **None**.
Backup	Database backup process.
Blacklist	Blacklist entries sent to the device.
Device	Any device changes or communications such as getting events, flows, and logs.
Event Forwarding	Event forwarding changes or errors.

Event type	Events logged
Health Monitor	Device status events.
Notifications	Notification changes or errors.
Policy	Policy management and applying policies.
Rule Server	Download and validation of rules downloaded from the rule server. ⓘ When in FIPS mode, rules should not be updated through the rule server.
System	System setting changes and table rollover logging.
Views	Changes to views and queries.

Mask IP addresses

You can select to mask specific data on event records sent out in event forwarding or to a parent ESM.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then click **ESM Management** | **ESM Hierarchy**.
2. Select **Obfuscate** for the ESMs that you want to mask data on.

   The **Obfuscation Fields Selection** page opens.
3. Select the fields that you want to mask.
4. Click **OK**.

Once this is set up, if a parent ESM requests a packet from a child ESM, the data you selected is masked.

Set up ESM logging

If you have an ELM device on your system, you can set up the ESM so the internal event data it generates is sent to the ELM device. To do so, you must configure the default logging pool.

> **Before you begin**
>
> Add an ELM device to your system.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then click **ESM Management**.
2. On the **Configuration** tab, click **Logging**.
3. Make the requested selections, then click **OK**.

Change language for event logs

When you logged on to ESM for the first time, you selected the language to be used for event logs such as the health monitor log and device log. You can change this language setting.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties | ESM Management**.
2. Click **System Locale**, select a language from the drop-down list, then click **OK**.

Export and restore communication keys

Export the communication keys for all devices on the system to a single file. Once you export the communication keys, you can restore them when needed.

- On the system navigation tree, select **System Properties | ESM Management**, then click the **Key Management** tab.

To...	Do this...
Export all communication keys	1 Click **Export All Keys**. 2 Set the password for the keys file, then click **OK**. 3 Select the location to save the file, then click **Save**.
Restore all communication keys	1 Click **Restore All Keys**. 2 Locate the file you set up when you exported the keys, then click **Open**. 3 Click **Upload**, then enter the password you set. 4 Select the devices you need to restore, then click **OK**.

Regenerate SSH key

Regenerate the private or public SSH key pair to communicate with all devices.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then click **ESM Management**.
2. On the **Key Management** tab, click **Regenerate SSH**.

   You are warned that the new key replaces the old key.
3. Click **Yes**.

When the key is regenerated, it replaces the old key pair on all the devices managed by the ESM.

Queries task manager

If you have administrator or master user rights, you can access the **Task Manager**, which displays the list of queries running on the ESM. From here, you can close specific queries if they affect system performance. Long running queries have a higher likelihood of affecting performance.

> ! The intent of this feature is to troubleshoot ESM runtime issues, not to close queries. Use this feature with assistance from McAfee support.

Characteristics of the task manager include:

- You can close report, view, watchlist, execute and export, alarm, and external API queries on the system. You cannot close system queries.
- When you click a query, the details are displayed in the **Query Details** area.
- By default, the list refreshes automatically every five seconds. If you select a query and the list auto-refreshes, it remains selected and the details are updated. If the query is complete, it no longer appears on the list.
- If you do not want the list to auto-refresh, deselect **Auto refresh list**.
- To view system tasks, which are tasks that haven't been identified yet, deselect **Hide system tasks**.
- The columns on the table can be sorted.
- You can select and copy the data in the **Query Details** area.
- If a query can be closed, it has a delete icon ✖ in the last column. When you click it, a dialog box requests confirmation.

Manage queries running on ESM

The **Task Manager** displays a list of the queries that are running on the ESM. You can view their status and delete any that affect system performance.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select the system, then click the **Properties** icon.
2. Click **ESM Management**, click the **Maintenance** tab, then click **Task Manager**.
3. Review and take action on the list of running queries.

Update primary or redundant ESM

If you are updating a primary or redundant ESM, you must follow specific steps to avoid losing the event, flow, and log data.

Task

For option definitions, click **?** in the interface.

1. Disable the collection of alerts, flows, and logs.
   a. On the system navigation tree, select **System Information**, then click **Events, Flows, & Logs**.
   b. Deselect **Auto check every**.
2. Update the primary ESM.
3. Update the redundant ESM. This takes additional time if there are redundancy files to process.
4. Enable the collection of alerts, flows, and logs by selecting **Auto check every** once again.

> If the update fails, see *Update to version 9.3*.

Access a remote device

If a device is set up at a remote location, use the **Terminal** option to run Linux commands to see the device. This feature is for advanced users and must be used under the direction of McAfee Support personnel for emergency situations.

> This option is not FIPS-compliant and is disabled in FIPS mode.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then click **ESM Management**.
2. On the **Maintenance** tab, click **Terminal**.
3. Enter the system password, then click **OK**.
4. Enter Linux commands as needed and export to save the contents to a file.

   > The export doesn't include results that were cleared from the **Terminal** page during the current terminal session.

5. Click **Close**.

See also

Available Linux commands on page 187

Use Linux commands

You can use the **Terminal** option to enter Linux commands on the ESM. This feature is for advanced users. Use it only under the direction of McAfee support for an emergency.

> This option is not FIPS-compliant and is disabled in FIPS mode.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then click **ESM Management**.
2. On the **Maintenance** tab, click **Terminal**, type the system password, then click **OK**.
3. Type Linux commands (see *Available Linux commands*).
4. Click **Clear** to delete the contents of the page, if needed.
5. (Optional) Click **Export** to save the contents to a file.

   > The export doesn't include results that were cleared from the terminal page during the current terminal session.

Available Linux commands

These are the commands available on the **Terminal** page.

Terminal page commands

- getstatsdata
- ps
- echo
- date

- grep
- ifconfig
- kill
- sensors
- service
- cat
- rm
- iptables
- updatedb
- cp
- ethtool
- df
- tar
- netstat
- sar
- tail
- locate
- tcpdump -c -w
- ip6tables

These are the available commands that are modified before execution.

This command...	Changed to...
II	ll--classify
ping	ping -c 1
ls	ls--classify
top	top -b -n 1
ping6	ping6 -c 1

For information about the getstatsdata command, see *Gather statistical data for troubleshooting* in Appendix D. For information about all other commands, see http://www.linuxmanpages.com.

Using a global blacklist

A blacklist is a way to block traffic as it flows through a Nitro IPS or virtual device before it is analyzed by the deep packet inspection engine.

You can use the **Nitro IPS Blacklist** option to set up a blacklist for individual Nitro IPS devices on the ESM. With **Global Blacklist**, you can set up a blacklist that applies to all Nitro IPS devices managed by the ESM. This feature only allows permanent blacklist entries. To set up temporary entries, you must use the **Nitro IPS Blacklist** option.

Each Nitro IPS and virtual device can use the global blacklist. The feature is disabled on all devices until you enable it.

The **Global Blacklist Editor** page includes three tabs:

- **Blocked Sources** — Matches against the source IP address of traffic passing through the device.
- **Blocked Destinations** — Matches against the destination IP address of traffic passing through the device.
- **Exclusions** — Provides immunity from being automatically added to either of the blacklists. Critical IP addresses (for example, DNS and other servers or system administrators' workstations) can be added to the exclusions to ensure that they are never automatically blacklisted regardless of the events they might generate.

> Entries in both **Blocked Sources** and **Blocked Destinations** can be configured to narrow the effect of the blacklist to a specific destination port.

When adding entries:

- **Add** is enabled when you change the IP address or the port.
- Entries in the **Blocked Sources** and **Blocked Destinations** lists can be configured to blacklist on all ports, or a specific port.
- Entries that use a masked range of IP addresses must be configured with the port set to any (0) and the duration must be permanent.
- While these lists require IP address format, there are a few tools included to help add meaning to these addresses. After typing an IP address or host name in the **IP Address** field, the button next to that control says either **Resolve** or **Lookup** based on the value entered. If it says **Resolve**, clicking on it resolves the entered host name, populates the **IP Address** field with that information, and moves the host name to the **Description** field. Otherwise, clicking **Lookup** performs a lookup on the IP address and populates the **Description** field with the results of that lookup.

> Some websites have more than one IP address, or have IP addresses that are not always the same. Don't rely on this tool to ensure blocking of some websites.

Set up a global blacklist

Set up a global blacklist that is common to all the devices you select so you don't have to enter the same information on multiple device.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then click **Global Blacklist**.
2. Select the **Blocked Sources**, **Blocked Destinations**, or **Exclusions** tab, then manage blacklist entries.
3. Select the devices that must use the global blacklist.
4. Click **Apply** or **OK**.

What is data enrichment

You can enrich events sent by the upstream data source with context not in the original event (such as an email address, phone number, or host location information). This enriched data becomes part of the parsed event and is stored with the event just like the original fields.

Set up data enrichment sources by defining how to connect to the database and access one or two table columns within that database. Then define which devices receive the data and how to enrich that data, both events and flows.

You can also edit or remove data enrichment sources, as well as run a query on the **Data Enrichment** page. To do so, select the source and click **Edit**, **Remove**, or **Run Now**.

> Events that trigger on the ESM are not enriched. Data acquisition takes place on the ESM, not on the devices.

There is a connector to the relational data source in Hadoop HBase, using the key-value pairs from the source for enrichment. The identity mapping in HBase can be pulled to a Receiver regularly to enrich events.

Add data enrichment sources

Add a data enrichment source and define which devices receive the data.

Task

For option definitions, click **?** in the interface.

1 On the system navigation tree, select **System Properties**, then click **Data Enrichment** | **Add**.

Tabs and fields on the **Data Enrichment Wizard** vary based on the enrichment type you select.

2 On each of the tabs, complete the fields, then click **Next**.

3 Click **Finish**, then click **Write**.

4 Select the devices you want to write the data enrichment rules to, then click **OK**.

Set up McAfee Real Time for McAfee ePO™ data enrichment

When you select the McAfee Real Time for McAfee ePO source on the **Data Enrichment Wizard**, you can test your query and choose the columns for **Lookup** and **Enrichment**

Task

For option definitions, click **?** in the interface.

1 On the system navigation tree, select the system, then click the **Properties** icon.

2 Click **Data Enrichment**, then click **Add** and complete the information on the **Main** tab.

3 On the **Source** tab, select **Real Time for ePO** in the **Type** field, select the device, then click the **Query** tab.

4 Add the information requested, then click **Test**.

If the query doesn't generate the information you need, make adjustments to the settings.

Add Hadoop HBase data enrichment source

Pull HBase identity mapping through a Receiver to enrich events by adding Hadoop HBase as a data enrichment source.

Task

For option definitions, click **?** in the interface.

1 On the system navigation tree, select **System Properties**, then click **Data Enrichment**.

2 On the **Data Enrichment Wizard**, fill in the fields on the **Main** tab, then click the **Source** tab.

3 In the **Type** field, select **Hadoop HBase (REST)**, then type the host name, port, and name of the table.

4 On the **Query** tab, fill in the lookup column and query information:

a Format **Lookup Column** as `columnFamily:columnName`

b Populate the query with a scanner filter, where the values are Base64 encoded. For example:

```
<Scanner batch="1024">
<filter>
{
"type": "SingleColumnValueFilter",
"op": "EQUAL",
"family": " ZW1wbG95ZWVJbmZv",
"qualifier": "dXNlcm5hbWU=",
"latestVersion": true,
"comparator": {
"type": "BinaryComparator",
"value": "c2NhcGVnb2F0"
}
}
</filter>
</Scanner>
```

5 Complete the information on the **Scoring** and **Destination** tabs.

Add Hadoop Pig data enrichment source

You can leverage Apache Pig query results to enrich Hadoop Pig events.

Task

For option definitions, click **?** in the interface.

1 On the system navigation tree, select **System Properties**.

2 Click **Data Enrichment**, then click **Add**.

3 On the **Main** tab, fill in the fields, then click the **Source** tab. In the **Type** field, select **Hadoop Pig** and fill in: Namenode host, Namenode port, Jobtracker host, and Jobtracker port.

> Jobtracker information is not required. If Jobtracker information is blank, NodeName host and port are used as the default.

4 On the **Query** tab, select the **Basic** mode and fill in the following information:

a In **Type**, select **text file** and enter the file path in the **Source** field (for example, `/user/default/file.csv`). Or, select **Hive DB** and enter an HCatalog table (for example, `sample_07`).

b In **Columns**, indicate how to enrich the column data.

For example, if the text file contains employee information with columns for SSN, name, gender, address, and phone number, enter the following text in the **Columns** field: `emp_Name:2`, `emp_phone:5`. For Hive DB, use the column names in the HCatalog table.

c In **Filter**, you can use any Apache Pig built-in expression to filter data. See Apache Pig documentation.

d If you defined column values above, you can group and aggregate that column data. Source and Column information is required. Other fields can be blank. Using aggregation functions require that you specify groups.

5 On the **Query** tab, select the **Advanced** mode and enter an Apache Pig script.

6. On the **Scoring** tab, set the score for each value returned from the single column query.
7. On the **Destination** tab, select the devices to which you want to apply enrichment.

Add Active Directory data enrichment for user names

You can leverage Microsoft Active Directory to populate Windows events with the full user display names.

> **Before you begin**
>
> Verify that you have the System Management privilege.

For option definitions, click **?** in the interface.

Task

1. On the system navigation tree, select **System Properties**.
2. Click **Data Enrichment**, then click **Add**.
3. On the **Main** tab, enter a descriptive **Enrichment Name**, in the form `Full_Name_From_User_ID`.
4. Set both the **Lookup Type** and **Enrichment Type** to **String**.
5. Set **Pull Frequency** to **daily**, unless Active Directory is updated more frequently.
6. Click **Next** or the **Source** tab.
   a. In the **Type** field, select **LDAP**.
   b. Fill in the IP address, user name, and password.
7. Click **Next** or the **Query** tab.
   a. In the **Lookup Attribute** field, enter `sAMAccountName`.
   b. In the **Enrichment Attribute** field, enter `displayName`.
   c. In **Query**, enter `(objectClass=person)` to return a list of all objects in Active Directory classified as a person.
   d. Test the query, which returns a maximum of five values, regardless of the number of actual entries.
8. Click **Next** or the **Destination** tab.
   a. Click **Add**.
   b. Select your Microsoft Windows data source.
   c. In the **Lookup Field**, select the **Source User** field.

      This field is the value that exists in the event, which is used as the index for the lookup.
   d. Select the **Enrichment Field**, where the enrichment value is written in the form `User_Nichname` or `Contact_Name`.
9. Click **Finish** to save.
10. After writing the enrichment settings to the devices, click **Run Now** to retrieve the enrichment values from the data source until the **Daily Trigger Time** value occurs.

    The **Full Name** is written into the **Contact_name** field.

4

Managing cyber threats

McAfee ESM allows you to retrieve indicators of compromise (IOC) from remote sources and quickly access related IOC activity in your environment.

Cyber threat management enables you to set up automatic feeds that generate watchlists, alarms, and reports, giving you visibility to actionable data. For example, you can set up a feed that automatically adds suspicious IP addresses to watchlists to monitor future traffic. That feed can generate and send reports indicating past activity. Use **Event Workflow views** > **Cyber Threat Indicators** views to drill down quickly to specific events and activity in your environment.

Contents

Set up cyber threat management

Set up feeds to retrieve indicators of compromise (IOC) from remote sources. You can then use these feeds to generate watchlists, alarms, and reports that allow users to access related IOC activity in your environment.

> **Before you begin**
>
> Verify that you have the following permissions:
>
> - Cyber Threat Management - allows user to set up a cyber threat feed.
> - Cyber Threat User - allows user to view the data generated by the feed.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, click **System Properties**.
2. Click **Cyber Threat Feeds**, then click **Add**.
3. On the **Main** tab, enter the feed name.

4 On the **Source** tab, select the source data type and its connection credentials. Click **Connect** to test the connection.

> Supported sources include McAfee Advanced Threat Defense and MITRE Threat Information Exchange (TAXII).

5 On the **Frequency** tab, identify how often the feed pulls the IOC files (pull frequency). Available pull frequencies include: every x minutes, daily, hourly, weekly, or monthly. Specify the daily trigger time.

6 On the **Watchlist** tab, select which property or field in an IOC file to append to an existing watchlist. You can add watchlists for any supported property or field.

If the watchlist you need does not yet exist, click **Create New Watchlist**.

7 On the **Backtrace** tab, identify which events (default) and flows to analyze, matching data to analyze, and how far back to analyze data against this feed.

a Choose to analyze events, flows, or both.

b Indicate how far back (in days) to analyze the events and flows.

c Specify what action you want ESM to take if the backtrace finds a data match.

d For alarms, select an assignee and severity.

8 Return to the **Main** tab, then select **Enabled** to activate this feed.

9 Click **Finish**.

See also

View cyber threat feed results on page 194

View cyber threat feed results

View indicators of compromise (IOC) from external data sources, identified by your organization's cyber threat feeds. Quickly drill down to the threat details, file descriptions, and corresponding events for each indicator source.

Before you begin

Verify that you have the Cyber Threat User permission, which allows you to view the results of your organization's cyber threat feeds.

Task

For option definitions, click **?** in the interface.

1 On the ESMconsole, **Default Summary**, select **Event Workflow Views | Cyber Threat Indicators**.

2 Choose the time period for the view.

3 Filter by feed name or supported IOC data types.

4 Perform any standard view action, including:

- Create or append to a watchlist.
- Create an alarm.
- Execute a remote command.

- Create a case.
- Look around or last look around.
- Export the indicator to a CSV or HTML file.

5 Drill down to threat details using the **Description**, **Details**, **Source Events**, and **Source Flows** tabs

See also
Set up cyber threat management on page 193

5

Working with content packs

When a specific threat situation occurs, respond immediately by importing and installing the relevant content pack from the rules server. Content packs contain use-case driven correlation rules, alarms, views, reports, variables, and watchlists to address specific malware or threat activity. Content packs enable you to respond to threats without wasting time creating tools from scratch.

Import content packs

McAfee creates use-case driven content packs, complete with correlation rules, alarms, views, reports, variables, or watchlists to address specific malware activity.

Before you begin

Verify that you have the following permissions:

- System Management
- User Administration

Task

For option definitions, click **?** in the interface.

1 Check for rule updates on page 22

> Online users receive available content packs automatically as part of rules updates. Offline users must download and import individual content packs manually from the rules hosting site.

2 On the system navigation tree, click **System Properties**.

3 Click **Content Packs**.

4 To import and install a new content pack, click **Browse**.

> Checking for rules updates automatically downloads any new or updated content packs.

a Click **Import** and browse to the content pack file you want to import.

b Click **Upload**.

A message indicates the status of the import.

c Click the content pack to review the details of what is included in that pack.

d Select the wanted pack, then select to install that content pack.

5 To update or uninstall an existing contact pack, check the wanted pack and click **Update** or **Uninstall**.

> Use caution when updating existing content packs. If you previously customized any content pack elements, the update might overwrite those customized elements.

6 To uninstall an existing content pack, check the wanted pack and click **Uninstall**.

6

Working with alarms

Contents

How ESM alarms work

You can configure the system to provide real-time alarms.

When an alarm is triggered, it is automatically added to the **Alarms** log, located under the system navigation tree, as well as to the **Triggered Alarms View**. You can also configure an alarm action to:

- Log an event to the ESM
- Provide a visual and auditory alert.
- Create a case for a specific person or group.
- Execute a script.
- Update a watchlist.
- Send an event to remedy.
- Send a text or email.

The **Alarms** log pane shows the total number of alarms currently listed, by severity:

Symbol	Severity	Range
🟥	high	66–100
🟧	medium	33–65
⬜	low	1–32

Once an alarm is added, it begins to trigger when the conditions are met. If you set the **Maximum Condition Trigger Frequency** to 15 minutes, the first alarm triggers when the number of events specified in **Event Count** occur within a 15-minute period. Events that come in during the first 15 minutes don't trigger the alarm.

You can acknowledge, delete, and view details of any of the triggered alarms. When you acknowledge a triggered alarm, it no longer appears on the **Alarms** log, but is still listed on the **Triggered Alarms** view. When you delete an alarm, it is removed from the **Alarms** log as well as from the **Triggered Alarms** view.

If you select the **Visual Alert** action on the **Alarm Settings** page, the visual alert closes after 30 seconds if it hasn't been closed, acknowledged, or deleted. The audio alert you select plays until you close, acknowledge, or delete the visual alert or click the audio icon to stop the audio alert.

> You can select whether to show the **Alarms** log pane on the **Options** page (see *Select user settings*).

See also
Select user settings on page 27

Create an alarm

Add an alarm so it triggers when the conditions you define are met.

> **Before you begin**
>
> You must have administrator rights or belong to an access group with the **Alarm Management** privilege.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then click **Alarms** | **Add**.
2. Complete the information on the **Summary**, **Condition**, **Actions**, and **Escalation** tabs.

   > See *UCAPL alarms* for a list and description of alarms to help you meet Unified Capabilities Approved Products List (UCAPL) requirements.

3. Click **Finish.**

The alarm is added to the list on the **Alarms** page and is triggered when its conditions are met.

Tasks

- *Set up correlation alarm to include source events* on page 203
  If you add tags to an **Internal Event Match** alarm that uses a correlation event as the match, the source events information is included in the results.
- *Add a Field Match alarm* on page 203
  A **Field Match** alarm matches on multiple fields of an event, and triggers as soon as the device receives and parses the event.
- *Add an alarm to rules* on page 204
  To be notified when events are generated by specific rules, you can add an alarm to those rules.
- *Create an SNMP trap as an action in an alarm* on page 163
  You can send SNMP traps as an action within an alarm.
- *Add a power failure notification alarm* on page 164
  Add an alarm to notify you when either of the ESM power supplies fail.
- *Add a health monitor event alarm* on page 206
  Health monitor rules generate events that appear under a base device in the system navigation tree.
- *Copy an alarm* on page 213
  You can use an existing alarm as a template for a new alarm by copying and saving it with a different name.

UCAPL alarms

You can add several alarm types to meet UCAPL requirements.

See *Create an alarm* to set up the general alarm settings then follow the steps in this table.

Alarm type	Description
Adjustable threshold for failed logins reached	To trigger an alarm when an adjustable threshold is reached for a number of failed logins for the same user, create a **Internal Event Match** alarm matching on **Signature ID**, then enter a value of `306-36`.
Threshold for no activity reached	To trigger an alarm when a user account is locked because the no-activity threshold is reached, create a **Internal Event Match** alarm matching on **Signature ID**, then enter a value of `306-35`.
Allowed concurrent sessions reached	To trigger an alarm if a user attempts to log on to the system after the number of allowed concurrent sessions has been reached, create a **Internal Event Match** alarm matching on **Signature ID**, then enter a value of `306-37`.
Failed system file integrity check	To trigger an alarm in the event of a failed system file integrity check, create a **Internal Event Match** alarm matching on **Signature ID**, then enter a value of `306-50085`.
Certificates are about to expire	To trigger an alarm when common access card (CAC) or web server certificates are about to expire, create a **Internal Event Match** alarm matching on **Signature ID**, then enter a value of `306-50081`, `306-50082`, `306-50083`, `306-50084`. The alarm triggers 60 days prior to expiration and then on a weekly basis thereafter. The number of days is not configurable at this time.

Alarm type	Description
SNMP trap sent when system state not approved	To configure an SNMP trap as an alarm action so that a trap is sent to the NMS when it detects that the system is no longer operating in an approved or secure state, do this: 1 Create an alarm matching on any condition, then go to the **Actions** tab and select **Send Message**. 2 Click **Add Recipients | SNMP**, select the recipient, then click **OK**. 3 In the **Send Message** field, click **Configure**, click **Templates**, then click **Add**. 4 Select **SNMP Template** in the **Type** field, enter the text for the message, then click **OK**. 5 On the **Template Management** page, select the new template, then click **OK**. 6 Complete the remaining alarm settings.
Syslog message sent when system state not approved	To configure a syslog message as an alarm action so that a syslog message is sent to the NMS when it detects that the system is no longer operating in an approved or secure state, do this: 1 Create an alarm matching on any condition, go to the **Actions** tab, then select **Send Message**. 2 Click **Add Recipients | Syslog**, select the recipient, then click **OK**. 3 In the **Send Message** field, click **Configure**, then click **Templates**, and click **Add**. 4 Select **Syslog Template** in the **Type** field, enter the text for the message, then click **OK.** 5 On the **Template Management** page, select the new template, then click **OK**. 6 Complete the remaining alarm settings.
Security log fails to record required events	To configure an SNMP trap to be sent to notify an appropriate Network Operations Center (NOC) within 30 seconds if a security log fails to record required events, do the following: 1 Go to **System Properties | SNMP Configuration | SNMP Traps** or **device Properties | device Configuration | SNMP**. 2 Select the security log failure trap, then configure one or more profiles for the traps to be sent to, then click **Apply**. SNMP traps are sent to the SNMP profile recipient with the message "Failed to write to the security log."
Audit functions start up or shut down	To configure an SNMP trap to be sent when the audit functions (such as the database, cpservice, IPSDBServer) start up or shut down, access **SNMP traps** or **SNMP Settings** (see previous item), and select **Database Up/Down Traps**. Configure one or more profiles for the traps to be sent to, and click **Apply**.
Session exists for each administrative role	To trigger an alarm when an administrative session exists for each of the defined administrative roles, create a **Internal Event Match** alarm matching on **Signature ID**, then enter the values 306-38 for Audit Administrator, 306-39 for Crypto Administrator, and 306-40 for Power User. You can also set up separate alarms.

See also
Create an alarm on page 200

Set up correlation alarm to include source events

If you add tags to an **Internal Event Match** alarm that uses a correlation event as the match, the source events information is included in the results.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select the system, then click the **Properties** icon .
2. Click **Alarms**, click the **Settings** tab, then click **Templates**.
3. On the **Template Management** page, click **Add**, then complete the information requested.
4. In the **Message Body** section, place your cursor where you want to insert the tags, then click the **Insert Field** icon , and select **Source Event Block**.
5. Place your cursor inside the tags, click the **Insert Field** icon again, then select the information you want to include when the correlation alarm triggers.

The message body field looks like the following example if you include the source IP, destination IP, and severity of the event in the message:

```
Alarm: [$Alarm Name]
Assignee: [$Alarm Assignee]
Trigger Date: [$Trigger Date]

Summary: [$Alarm Summary]
[$SOURCE_EVENTS_START]

Source IP: [$Source IP]
Dest IP: [$Destination IP]
Severity: [$Average Severity]
[$SOURCE_EVENTS_END]
```

> If the alarm is not triggered by a correlated event, the message does not include the data.

Add a Field Match alarm

A **Field Match** alarm matches on multiple fields of an event, and triggers as soon as the device receives and parses the event.

> The alarm condition that was previously called **Field Match** is now called **Internal Event Match**.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select the system, click the **Properties** icon , then click **Alarms**.
2. Click **Add**, type the alarm name and select the assignee, then click the **Condition** tab.

3. In the **Type** field, select **Field Match**, then set up the conditions for the alarm.
   - a. Drag-and-drop the **AND** or **OR** icon (see *Logic Elements* in the Product Guide) to set up the logic for the alarm's condition.
   - b. Drag-and-drop the **Match Component** icon onto the logic element, then complete the **Add Filter Field** page.
   - c. In the **Maximum Condition Trigger Frequency** field, select the amount of time to allow between each condition to prevent a flood of notifications. Each trigger only contains the first source event that matches the trigger condition, not the events that occurred within the trigger frequency period. New events that match the trigger condition do not cause the alarm to trigger again until after the maximum trigger frequency period.

     > If you set it to zero, all events generate an alarm.

4. Click **Next** and select the devices to be monitored for this alarm. This alarm type supports Receivers, local Receiver-Enterprise Log Managers (ELMs), Receiver/ELM combos, ACEs, and Application Data Monitors (ADMs).
5. Click the **Actions** and **Escalation** tabs and define the settings, then click **Finish**.

The alarm writes out to the device.

> If the alarm fails to write out to the device, an out-of-sync flag appears next to the device in the system navigation tree. Click the flag, then click **Sync Alarms**.

Add an alarm to rules

To be notified when events are generated by specific rules, you can add an alarm to those rules.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, click the **Policy Editor** icon on the actions toolbar.
2. Select the type of rule in the **Rule Types** pane.
3. Select one or more rules in the rules display area.
4. Click the **Alarms** icon .
5. Define the alarm's settings.

See also

Create an alarm on page 200

Create an SNMP trap as an action in an alarm

You can send SNMP traps as an action within an alarm.

> **Before you begin**
>
> Prepare the SNMP trap Receiver (only required if you don't have an SNMP trap Receiver).

For option definitions, click **?** in the interface.

Task

1 Create an SNMP profile to tell the ESM where to send the SNMP traps.

   a On the system navigation tree, select the system then click the **Properties** icon .

   b Click **Profile Management**, then select **SNMP Trap** in the **Profile Type** field.

   c Fill in the remaining fields, then click **Apply**.

2 Configure SNMP on the ESM.

   a On **System Properties**, click **SNMP Configuration**, then click the **SNMP Traps** tab.

   b Select the port, select the types of traps to send, then select the profile you added in Step 1.

   c Click **Apply**.

3 Define an alarm with **SNMP Trap** as an action.

   a On **System Properties**, click **Alarms**, then click **Add**.

   b Fill in the information requested on the **Summary**, **Condition**, and **Devices** tabs, selecting **Internal Event Match** as the condition type, then click the **Actions** tab.

   c Select **Send Message**, then click **Configure** to select or create a template for SNMP messages.

   d Select **Basic SNMPTrap** in the **SNMP** field, or click **Templates**, then click **Add**.

   e Select an existing template or click **Add** to define a new template.

   f Return to the **Alarm Settings** page, then proceed with alarm setup.

Add a power failure notification alarm

Add an alarm to notify you when either of the ESM power supplies fail.

> **Before you begin**
>
> Set up a General Hardware Failure SNMP trap (see *Set up SNMP trap for power failure notification*).

Task

For option definitions, click **?** in the interface.

1 On the system navigation tree, select the system, then click the **Properties** icon .

2 Click **Alarms**, click **Add**, add the requested data on the **Summary** tab, then click the **Condition** tab.

3 In the **Type** field, select **Internal Event Match.**

4 In the **Field** field, select **Signature ID**, then type `306-50086` in the **Value(s)** field.

5 Fill in the remaining information on each tab as needed, then click **Finish**.

An alarm triggers when a power supply fails.

Add a health monitor event alarm

Health monitor rules generate events that appear under a base device in the system navigation tree.

The signature IDs of the health monitor events can be used in the **Values** field of a **Internal Event Match** alarm to generate an alarm based on health monitor events. The **Health Monitor Event Summary** report is then generated as the alarm's action.

For option definitions, click **?** in the interface.

- There are a couple of ways to set up a health monitor event alarm.

To set up an alarm...	Do this...
Before a health monitor event is generated	1 Follow the process to create an alarm (see *Create an alarm*). 2 On the system navigation tree, click **Condition**, then select the **Internal Event Match** type. 3 On the **Field** line, select **Signature ID**. 4 In the **Values** field, enter the signature ID for the health monitor rules (see *Health monitor signature IDs*). 5 Complete the remaining information as described in *Create an alarm*.
If a health monitor event already exists	1 On the system navigation tree, click the base device for the system (--------), then select a view that displays the health monitor event (**Event Analysis** or **Default Summary**). 2 Click the event, then click the **Menu** icon . 3 Select **Actions** | **Create new alarm from**, then click **Signature ID**. 4 Fill out the remaining settings for the alarm.

See also

Create an alarm on page 200

Health monitor signature IDs

This list describes the health monitor rules and their signature IDs, type, device, and severity. Use these rules to create an alarm that notifies when a health monitor rule event is generated.

Rule name	Signature ID	Description	Type	Device	Severity
A physical network interface connection has been made or removed	306-50080	Network interface settings modified, via an SSH session.	Software Monitor	ESM	Medium
A RAID error has occurred	306-50054	RAID errors encountered.	Hardware Monitor	All	High
Account disabled due to inactivity	306-35	User account disabled, due to inactivity.	Software Monitor	ESM	Medium
Account disabled due to max login failures	306-36	User account disabled, due to maximum logon failures.	Software Monitor	ESM	High
Add/Edit Remote Command	306-60	Alarm remote command added or deleted.	Software Monitor	ESM	Low

Rule name	Signature ID	Description	Type	Device	Severity
Advanced Syslog Parser collector state change alert	306-50029	ASP parser stopped or started.	Software Monitor	Receiver	Medium
APM distiller process	306-50066	ADM PDF/DOC text extraction engine stopped or started.	Software Monitor	APM	Medium
Approved configuration mismatch	146-7	Network discovery device change approved.	Software Monitor	ESM	Low
Archive configuration change	306-3	ESM archival settings changed.	Software Monitor	ESM	Low
Archive process state change alert	306-50051	Receiver archiving process stopped or started.	Software Monitor	APM/REC/IPS/DBM	Medium
Asset vulnerable to event	146-10, 306-10	Vulnerability event created.	Software Monitor	ESM	Low
Audit administrator user login	306-38	UCAPL event, audit administrator logon.	Software Monitor	ESM	Low
Backup configuration change	306-1	ESM backup configuration settings modified.	Software Monitor	ESM	Low
Backup performed	306-2	Backup performed on the system.	Software Monitor	ESM	Low
Blue Martini parser alert	306-50071	Blue Martini parser stopped or started.	Software Monitor	Receiver	Medium
Bypass NIC state alert	306-50001	NIC entered or exited bypass status.	Software Monitor	IPA/ADM/IPS	Medium
CAC cert has expired	306-50082	ESM CAC certificate expired.	Software Monitor	ESM	High
CAC cert will expire soon	306-50081	ESM CAC certificate expires soon.	Software Monitor	ESM	Medium
Case modified	306-70	Case modified.	Software Monitor	ESM	Low
Case status added/modified/deleted	306-73	Case status changed.	Software Monitor	ESM	Low
Communication channel state change alert	306-50013	Control channel stopped or started.	Software Monitor	All	Medium
Configuration capture failed (device error)	146-4	Network discovery device error.	Software Monitor	ESM	Low
Configuration capture failed (device unreachable)	146-3	Network discovery device unreachable.	Software Monitor	ESM	Low
Configuration captured	146-5	Network discovery configuration checked successfully.	Software Monitor	ESM	Low
Configuration policy failure	146-8	Not used in system.	Software Monitor	ESM	Low
Configuration policy pass	146-9	Not used in system.	Software Monitor	ESM	Low

Rule name	Signature ID	Description	Type	Device	Severity
Data allocation configuration change	306-7	ESM data allocation settings changed.	Software Monitor	ESM	High
Data partitions free disk space alert	306-50005	Free space on each partition is low (for example, hada_hd has 10% free space).	Software Monitor	All	Medium
Data retention configuration change	306-6	ESM data retention configuration changed.	Software Monitor	ESM	High
Database detection services state alert	306-50036	DBM auto detection service stopped or started.	Software Monitor	All	Medium
Deep packet inspector state change alert	306-50008	Deep packet inspection engine on IPS or ADM stopped or started.	Software Monitor	All	Medium
Delete remote command	306-61	Alarm remote command removed.	Software Monitor	ESM	Low
Deleted events	306-74	User deleted ESM events.	Software Monitor	ESM	Low
Deleted flows	306-75	User deleted ESM flows.	Software Monitor	ESM	Low
Device add	306-18	New device added to the system.	Software Monitor	ESM	Low
Device delete	306-19	Existing device deleted from the system.	Software Monitor	ESM	Low
Device possibly down	146-2	Network discovery event stating a device. can be down.	Software Monitor	ESM	Low
Device unreachable	146-1	Network discovery device added to ESM is unreachable.	Software Monitor	ESM	Low
Disk drive failure alert	306-50018	Checks and verifies integrity of all hard disks (internal or DAS).	Hardware Monitor	All	High
ELM archive process state change alert	306-50045	ELM compressing engine stopped or started.	Software Monitor	APM/REC/ IPS/DBM	Medium
ELM EDS FTP	306-50074	ELM SFTP program stopped or started.	Software Monitor	ELM	Medium
ELM file process	306-50065	ELM reinsertion engine stopped or started. If a log fails for any reason, it attempts the insert again. If the process of reinsertion fails, this rule triggers.	Software Monitor	ELM	Medium
ELM FTI alert	306-50064	ELM Full Text Indexing engine stopped or started.	Software Monitor	ELM	Medium
ELM mount point state change alert	306-50053	ELM remote storage (CIFS, NFS, ISCSI, SAN) stopped or started.	Software Monitor	ELM	Medium

Rule name	Signature ID	Description	Type	Device	Severity
ELM query engine state change alert	306-50046	ELM Jobs process - all ELM jobs, such as ELM queries and inserts, stopped or started.	Software Monitor	ELM	Medium
ELM redundant storage	306-50063	ELM Mirror stopped or started.	Software Monitor	ELM	Medium
ELM system database error	306-50044	ELM database stopped or started.	Software Monitor	ELM	High
Email collector state change alert	306-50040	Cisco MARS collector stopped or started.	Software Monitor	Receiver	Medium
EPO tags applied	306-28	McAfee ePO tags applied.	Software Monitor	ESM	Low
Error communicating with ELM	306-50047	Communication with ELM failed.	Software Monitor	APM/REC/IPS/DBM	High
Error in SSH communication	306-50077	Device issues communicating with the ELM (such as, version difference, change in key).	Software Monitor	All	High
ESM reboot	306-32	ESM rebooted.	Software Monitor	ESM	Medium
ESM shutdown	306-33	ESM shut down.	Software Monitor	ESM	Medium
eStreamer Collector alert	306-50070	eStreamer collector stopped or started.	Software Monitor	Receiver	Medium
eStreamer Collector state change alert	306-50041	eStreamer collector stopped or started.	Software Monitor	Receiver	Medium
Event partition detach	306-4	Event partition detached.	Software Monitor	ESM	Low
Execute remote command	306-62	Alarm remote command executed.	Software Monitor	ESM	Low
Failed login due to maximum concurrent sessions reached	306-37	User failed to log on because the maximum concurrent sessions were reached.	Software Monitor	ESM	High
Failed to format SAN device	306-50057	SAN on ELM failed to format; user must retry.	Hardware Monitor	ESM	High
Failed user login	306-31	User failed to log on.	Software Monitor	ESM	Medium
File collector state change alert	306-50049	Mountcollector program stopped or started.	Software Monitor	Receiver	Medium
File deleted	306-50	Any file that can be added or removed, such as ESM log or sound file removed.	Software Monitor	ESM	Low
Filter process state change alert	306-50050	Filter program on the device stopped or started (filter rules).	Software Monitor	Receiver	Medium
Firewall alert aggregator state change alert	306-50009	Firewall aggregator on the IPS or ADM stopped or started.	Software Monitor	IPS/ADM/IPS	Medium

Rule name	Signature ID	Description	Type	Device	Severity
Flow partition detach	306-5	Flow partition detached.	Software Monitor	ESM	Low
Get VA data failure	306-52	ESM failed to obtain VA data.	Software Monitor	ESM	Medium
Get VA data success	306-51	ESM obtained VA data.	Software Monitor	ESM	Low
Health monitor internal alert	306-50027	Health Monitor process stopped or started.	Software Monitor	All	Medium
HTTP collector state change alert	306-50039	HTTP collector stopped or started.	Software Monitor	Receiver	Medium
Indexing configuration change	306-8	ESM indexing settings changed.	Software Monitor	ESM	Medium
Invalid SSH key	306-50075	Device issues communicating with ELM, such as version differences, change in key.	Software Monitor	All	High
IPFIX collector state change alert	306-50055	IPFIX (flow) collector stopped or started.	Software Monitor	Receiver	Medium
Key & certificate administrator user login	306-39	UCAPL event, Crypto admin logon.	Software Monitor	ESM	Low
Log partition rolled off	306-34	Oldest partitions for the database log table rolled off.	Software Monitor	ESM	Low
Log partitions free disk space alert	306-50004	Log partition (/var) is low on free space.	Software Monitor	All	Medium
McAfee EDB database server state change alert	306-50010	Database stopped or started.	Software Monitor	All	Medium
McAfee ePO Collector alert	306-50069	McAfee ePO collector stopped or started.	Software Monitor	Receiver	Medium
McAfee Event Format state change alert	306-50031	McAfee Event Format collector stopped or started.	Software Monitor	Receiver	Medium
McAfee SIEM device communication failure	306-26	ESM cannot communicate with another device.	Software Monitor	ESM	High
Microsoft Forefront Threat Management Gateway alert	306-50068	Forefront Threat Management Gateway collector stopped or started.	Software Monitor	Receiver	Medium
MS-SQL retriever state change alert	306-50035	MS SQL collector stopped or started (any data source for MS SQL).	Software Monitor	Receiver	Medium
Multi-event log alert	306-50062	jEMAIL collector stopped or started.	Software Monitor	Receiver	Medium
MVM scan initiated	306-27	MVM scan started.	Software Monitor	ESM	Low
NetFlow collector state change alert	306-50024	NetFlow (flow) collector stopped or started.	Software Monitor	Receiver	Medium

Rule name	Signature ID	Description	Type	Device	Severity
New user account	306-13	New user added to the system.	Software Monitor	ESM	Low
NFS/CIFS collector state change alert	306-50048	Remote mount for NFS or CIFS stopped or started.	Software Monitor	Receiver	Medium
NitroFlow collector state change alert	306-50026	NitroFlow (flows on device) stopped or started.	Software Monitor	Receiver	Medium
No SSH key found	306-50076	Device issues communicating with the ELM, such as version differences, change in key.	Software Monitor	All	High
NSM add/edit Blacklist	306-29	NSM Blacklist entry added or edited.	Software Monitor	ESM	Low
NSM delete Blacklist	306-30	NSM Blacklist entry deleted.	Software Monitor	ESM	Low
OPSEC retriever state change alert	306-50028	OPSEC (Check Point) collector stopped or started.	Software Monitor	Receiver	Medium
OPSEC retriever state change alert	306-50034	OPSEC (Check Point) collector stopped or started.	Software Monitor	Receiver	Medium
Oracle IDM Collector alert	306-50072	Oracle IDM Collector stopped or started.	Software Monitor	Receiver	Medium
Oversubscription alert	306-50012	ADM or IPS entered or exited oversubscription mode.	Software Monitor	IPS/ADM/IPS	Medium
Plug-in Collector/Parser alert	306-50073	Plug-in collector/parser stopped or started.	Software Monitor	Receiver	Medium
Policy add	306-15	Policy added to the system.	Software Monitor	ESM	Low
Policy delete	306-17	Policy deleted from the system.	Software Monitor	ESM	Low
Policy modify	306-16	Policy changed in the system.	Software Monitor	ESM	Low
Previous configuration mismatch	146-6	Network discovery device configuration changed.	Software Monitor	ESM	Low
Receiver HA	306-50058	Any HA process stopped or started (Corosync, HA Control script).	Software Monitor	Receiver	Medium
Receiver HA Opsec configuration	306-50059	Not in use.	Software Monitor	Receiver	Low
Redundant ESM out of sync	306-76	Redundant ESM out of sync.	Software Monitor	ESM	High
Remote NFS mount point state change alert	306-50020	NFS ELM mount stopped or started.	Software Monitor	ELM	Medium
Remote share/mount point free disk space alert	306-50021	Free space on remote mount point is low.	Software Monitor	ESM	Medium

Rule name	Signature ID	Description	Type	Device	Severity
Remote SMB/CIFS share state change alert	306-50019	Remote SMB/CIFS mount point stopped or started.	Software Monitor	Receiver	Medium
Risk Correlation state change alert	306-50061	Risk Correlation engine stopped or started.	Software Monitor	ACE	Medium
Root partitions free disk space alert	307-50002	Free space on the root partitions is low.	Software Monitor	All	Medium
Rule add	306-20	Rule added to the system, such as ASP, filter, or correlation.	Software Monitor	ESM	Low
Rule delete	306-22	Rule deleted from the system.	Software Monitor	ESM	Low
Rule modify	306-21	Rule changed in the system.	Software Monitor	ESM	Low
Rule update failure	306-9	ESM rule update failed.	Software Monitor	ESM	Medium
SDEE retriever state change alert	306-50033	SDEE collector stopped or started.	Software Monitor	Receiver	Medium
sFlow collector state change alert	306-50025	sFlow (flow) collector stopped or started.	Software Monitor	Receiver	Medium
SNMP collector state change alert	306-50023	SNMP collector stopped or started.	Software Monitor	Receiver	Medium
SQL collector state change alert	306-50038	SQL collector (old NFX) stopped or started.	Software Monitor	Receiver	Medium
Symantec AV collector state change alert	306-50056	Symantec AV collector stopped or started.	Software Monitor	Receiver	Medium
Syslog Collector state change alert	306-50037	Syslog collector stopped or started.	Software Monitor	Receiver	Medium
System admin user login	306-40	System administrator logged on to the system.	Software Monitor	ESM	Low
System integrity check failure	306-50085	Non-ISO foreign program or process running on the system is flagged.	Software Monitor	All	High
System logger state change alert	306-50014	System logging process stopped or started.	Software Monitor	All	Medium
Task (query) terminated	306-54	Task manager task closed.	Software Monitor	ESM	Low
Temporary partitions free disk space alert	306-50003	Temporary (/tmp) partition low on disk space.	Software Monitor	All	Medium
Text log parser state change alert	306-50052	Textparser process stopped or started.	Software Monitor	Receiver	Medium
User account change	306-14	User account changed.	Software Monitor	ESM	Low
User device failed login	306-50079	SSH user failed to log on.	Software Monitor	ESM	Low
User device login	306-50017	Not used in system.	Software Monitor	ESM	Low

Rule name	Signature ID	Description	Type	Device	Severity
User device logout	306-50078	SSH user logged out.	Software Monitor	ESM	Low
User login	306-11	User logged on to the system.	Software Monitor	ESM	Low
User logout	306-12	User logged out of the system.	Software Monitor	ESM	Low
VA Data Engine status alert	306-50043	VA (vaded.pl) engine stopped or started.	Software Monitor	Receiver	Medium
Variable add	306-23	Policy variable added.	Software Monitor	ESM	Low
Variable delete	306-25	Policy variable deleted.	Software Monitor	ESM	Low
Variable modify	306-24	Policy variable changed.	Software Monitor	ESM	Low
Web Server cert has expired	306-50084	ESM web server certificate expired.	Software Monitor	ESM	High
Web Server cert will expire soon	306-50083	ESM web server certificate expires soon.	Software Monitor	ESM	Medium
Websense Collector alert	306-50067	Websense collector stopped or started.	Software Monitor	Receiver	Medium
WMI Event Log collector state change alert	306-50030	WMI collector stopped or started.	Software Monitor	Receiver	Medium

Copy an alarm

You can use an existing alarm as a template for a new alarm by copying and saving it with a different name.

Task

For option definitions, click **?** in the interface.

1 On the system navigation tree, select **System Properties**, then click **Alarms**.

2 Select the alarm you want to copy, then click **Copy**.

The **Alarm Name** page displays the name of the current alarm followed by `_copy`.

3 Change the name, then click **OK**.

4 To make changes to the alarm settings, select the copied alarm and click **Edit**.

5 Change the settings as needed.

See also

Create an alarm on page 200

Enable or disable alarm monitoring

Alarm monitoring is enabled by default. You can disable it, then re-enable it as needed.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then click **Alarms**.
2. Click the **Settings** tab, then click **Disable.**

   Alarm monitoring stops and the button changes to **Enable.**
3. Click **Enable** to resume monitoring alarms.

Customize summary for triggered alarms and cases

Select the data to include in the alarm summary and the case summary of **Field Match** and **Internal Event Match** alarms.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select the system, then click the **Properties** icon .
2. On the **System Properties** page, click **Alarms**, then click **Add**.
3. On the **Condition** tab, select the **Field Match** or **Internal Event Match** type.
4. Click the **Actions** tab, click **Create a case for**, click the variables icon , then select the fields to include in the case summary.
5. Click **Customize triggered alarm summary**, click the variables icon , then select the fields to include in the summary for the triggered alarm.
6. Type the other information requested to set up the alarm (see *Create an alarm*), then click **Finish**.

Manage alarm message templates

One of the actions available when setting up an alarm is **Send Message**. This allows you to forward alarm information to email or selected Short Message Services (SMS), SNMP, or Syslog recipients. You can add templates to define the information that you want in these messages, designing them to include what is most useful to the recipient. You can then select the template when you define the action for an alarm.

You can add templates to define the information that you want in these messages, designing them to include what is most useful to the recipient. You can then select the template when you define the action for an alarm.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then click **Alarms**.
2. Click the **Settings** tab, then click **Templates**.
3. View the list of existing templates or select any of the available options, then click **OK**.

Manage alarm audio files

You can upload and download audio files to use them for audio alerts.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then click **Alarms**.
2. Click the **Settings** tab, then click **Audio**.
3. Download, upload, remove, or play audio files, then click **Close**.

Manage alarm recipients

When you are defining the action settings for an alarm, you can send a message to recipients. You can manage the recipients lists from the **Alarms** page.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then click **Alarms**.
2. Click the **Settings** tab, then click **Recipients**.
3. Select the type of recipients list you want to manage, then add, edit, or remove recipients.

Manage alarms

When an alarm is triggered, you can acknowledge it, delete it, or view the details. You can also unacknowledge an alarm, change the assignee, and create a case from an alarm.

Task

For option definitions, click **?** in the interface.

1. Access one of these:
   - **Alarm** log pane — Located below the system navigation tree.
   - Visual pop-up alert — Opens when an alarm triggers.
   - **Details** page — Opens when you click the **Details** icon 🔍 on the **Alarms** log pane.

2 Do any of the following:

To...	Do this...
Acknowledge an alarm	Click the **Acknowledge** icon .
Unacknowledge an alarm	Click the **Unacknowledge** icon .
Delete an alarm	Click the **Delete** icon .
View alarm details	On the **Alarms** log pane or visual pop-up alert, click the **Details** icon .
Change assignee	On the **Details** page, click **Assignee** and select a name.
Create a case from an alarm	On the **Details** page, click **Create Case**.

Tasks

- *View alarm reports queue* on page 216
  If you selected **Generate reports** as the action for an alarm, you can view or make changes to the reports that are waiting to run, and view the completed reports.
- *Manage alarm report files* on page 216
  After an alarm report runs, it's added to the list of available reports on the ESM. You can view this list and perform various actions.

See also
Add a case on page 267

View alarm reports queue

If you selected **Generate reports** as the action for an alarm, you can view or make changes to the reports that are waiting to run, and view the completed reports.

Task

For option definitions, click **?** in the interface.

1 On the system navigation tree, select **System Properties**, click **Alarms**, then click the **Settings** tab.

2 Do one of the following:

- To view or cancel reports queued to run, click **View**.
- To view and manage completed reports, click **Files**.

3 Click **Close**.

Manage alarm report files

After an alarm report runs, it's added to the list of available reports on the ESM. You can view this list and perform various actions.

Task

For option definitions, click **?** in the interface.

1 On the system navigation tree, select **System Properties**, then click **Alarms**.

2 Click the **Settings** tab, click **Files**, then select whether to download or remove reports from the list, or upload reports to this list.

3 Click **Close**.

7

Working with events

The ESM enables you to identify, collect, process, correlate, and store billions of events and flows, keeping all information available for queries, forensics, rules validation, and compliance.

Contents

Events, flows, and logs

Events, *flows*, and *logs* record different types of activities that occur on a device.

An *event* is an activity recorded by a device as a result of a rule on your system. A *flow* is the record of a connection made between IPs, at least one of which is on your HOME_NET. A *log* is a record of an event that occurred to a device on your system. Events and flows have source and destination IP addresses, ports, Media Access Control (MAC) addresses, a protocol, and a first and last time (indicating the duration between the initiation of the connection to its termination). However, there are several differences between events and flows:

- Because flows are not an indication of anomalous or malicious traffic, they are more common than events.
- A flow is not associated with a rule signature (SigID) like an event is.
- Flows are not associated with event actions such as alert, drop, and reject.
- Certain data is unique to flows, including source and destination bytes, and source and destination packets. *Source bytes and packets* are the number of bytes and packets transmitted by the source of the flow, while the *destination bytes and packets* are the number of bytes and packets transmitted by the destination of the flow.
- Flows have direction: An *inbound flow* is defined as a flow that originates from outside of the HOME_NET. An *outbound flow* originates from outside the HOME_NET. This variable is defined in a policy for a Nitro IPS.

Events and flows generated by the system can be seen on views, which you can select on the views drop-down list. Logs are listed on the **System Log** or **Device Log** accessed from the **Properties** page for the system or each device.

Set up events, flows, and logs downloads

Check for events, flows, and logs manually or set the device to check for them automatically.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select a device, then click the **Properties** icon.
2. Click **Events, Flows & Logs**, **Events & Logs**, or **Logs**.
3. Set up the downloads, then click **Apply**.

Limit time for data collection

You can schedule a daily time range to limit when the ESM pulls data from each device and when data is sent to the ELM from each device.

> **Before you begin**
>
> Disable **Dynamic Aggregation** and set **Level 1 Aggregation** to between 240 and 360 minutes (see *Change event or flow aggregation settings*).

You can use this feature to avoid using the network at peak times, leaving the bandwidth available for other applications. This does delay data delivery to the ESM and ELM, so determine if this delay is acceptable in your environment.

Task

For option definitions, click **?** in the interface.

> Be careful when configuring this feature because scheduling event, flow, and log collection might result in data loss.

1. On the system navigation tree, select the device, then click the **Properties** icon.
2. Select one of the following:
   - **Events, Flows & Logs**
   - **Events & Logs**
   - **Logs**
3. Select **Define daily data pull time range**, then set the start time and end time for the time range.

The ESM collects data from the device and the device sends data to the ELM for logging during the time range you defined. When you set this up on an ELM, it defines when the ESM collects data from the ELM and when the ESM sends data to the ELM for logging.

Define inactivity threshold settings

When you set an inactivity threshold for a device, you are notified when no events or flows are generated in the specified period of time. If the threshold is reached, a yellow health status flag appears next to the device node on the system navigation tree.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, make sure that **System Information** is selected, then click **Events, Flows, & Logs**.
2. Click **Inactivity Settings**.
3. Highlight the device, then click **Edit**.
4. Make changes to the settings, then click **OK**.

Get events and flows

Retrieve events and flows for the devices you select on the system navigation tree.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select the system, a group, or a device.
2. Click the **Get Events and Flows** icon on the actions toolbar, then follow the required steps.
3. Once the download is complete, select a view to display these events and flows on, then click the **Refresh Current View** icon on the views toolbar.

Check for events, flows, and logs

You can set the ESM to check for events, flows, and logs automatically or you can check for them manually. The rate at which you check for them depends on your system's level of activity and how often you want to receive status updates. You can also specify which devices should check for each type of information and set the inactivity threshold settings for the devices managed by the ESM.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then click **Events, Flows, & Logs**.
2. Make the selections and changes for event, flow, and log retrieval.
3. Click **OK**.

See also

Define inactivity threshold settings on page 220

Define geolocation and ASN settings

Geolocation provides the real-world geographic location of computers connected to the Internet. *Autonomous System Number (ASN)* is a number that is assigned to an autonomous system and uniquely identifies each network on the Internet.

Both of these types of data can help you identify the physical location of a threat. Source and destination geolocation data can be collected for events.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select a device, then click the **Properties** icon.
2. Click **Events, Flows & Logs** or **Events & Logs**, then click **Geolocation**.
3. Make the selections to generate the information needed, then click **OK**.

You can filter event data using this information.

Get events and flows

Retrieve events and flows for the devices you select on the system navigation tree.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select the system, a group, or a device.
2. Click the **Get Events and Flows** icon on the actions toolbar, then follow the required steps.
3. Once the download is complete, select a view to display these events and flows on, then click the **Refresh Current View** icon on the views toolbar.

Aggregating events or flows

An event or flow can potentially be generated thousands of times. Instead of forcing you to sift through thousands of identical events, aggregation allows you to view them as a single event or flow with a count that indicates the number of times it occurred.

Using aggregation uses disk space on both the device and ESM more efficiently because it eliminates the need to store each packet. This feature applies only to rules that have aggregation enabled in the **Policy Editor**.

Source IP and destination IP address

The source IP and destination IP address "not-set" values or aggregated values appear as "::" instead of as "0.0.0.0" in all result sets. For example:

- `::ffff:10.0.12.7` is inserted as `0:0:0:0:0:FFFF:A00:C07` (`A00:C07` is `10.0.12.7`).
- `::0000:10.0.12.7` would be `10.0.12.7`.

Aggregated events and flows

Aggregated events and flows use the first, last, and total fields to indicate the duration and amount of aggregation. For example, if the same event occurred 30 times in the first ten minutes after noon, the **First time** field contains the time 12:00 (the time of the first instance of the event), the **Last time** field contains the time 12:10 (the time of the last instance of the event), and the **Total** field contains the value 30.

You can change the default event or flow aggregation settings for the device as a whole and, for events, you can add exceptions to the device's settings for individual rules (see *Manage event aggregation exceptions*).

Dynamic aggregation is also enabled by default. When it is selected, it replaces the settings for **Level 1** aggregation and increases the settings for **Level 2** and **Level 3**. It retrieves records based on the events, flows, and logs retrieval setting. If it is set for automatic retrieval, the device compresses a record only until the first time that it is pulled by the ESM. If it is set for manual retrieval, a record compresses up to 24 hours or until a new record is pulled manually, whichever comes first. If the compression time reaches the 24-hour limit, a new record is pulled and compression begins on that new record.

Change event or flow aggregation settings

Event aggregation and flow aggregation are enabled by default, and are set on **High**. You can change the settings as needed. The performance of each setting is described on the **Aggregation** page.

> **Before you begin**
>
> You must have **Policy Administrator** and **Device Management** or **Policy Administrator** and **Custom Rules** privileges to change these settings.

> Event aggregation is available only for ADM, IPS, and Receiver devices, and flow aggregation for IPS and Receiver devices.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select a device, then click the **Properties** icon.
2. Click **Event Aggregation** or **Flow Aggregation**.
3. Define the settings, then click **OK**.

Add exceptions to event aggregation settings

Aggregation settings apply to all events generated by a device. You can create exceptions for individual rules if the general settings don't apply to the events generated by that rule.

Task

For option definitions, click **?** in the interface.

1. On the views pane, select an event generated by the rule you want to add an exception for.
2. Click the **Menu** icon, then select **Modify Aggregation Settings**.
3. Select the field types you want to aggregate from the **Field 2** and **Field 3** drop-down lists.

   > The fields you select in **Field 2** and **Field 3** must be different types or an error results. When you select these field types, the description for each aggregation level changes to reflect the selections you made. The time limits for each level depend on the event aggregation setting you defined for the device.

4. Click **OK** to save your settings, then click **Yes** to proceed.
5. Deselect devices if you do not want to roll out the changes to them.
6. Click **OK** to roll out the changes to the devices that are selected.

The **Status** column shows the status of the update as the changes are rolled out.

Manage event aggregation exceptions

You can view a list of the event aggregation exceptions that were added to the system. You can also edit or remove an exception.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select a device, then click the **Properties** icon ☰.
2. Click **Event Aggregation**, then click **View** at the bottom of the screen.
3. Make the needed changes, then click **Close**.

Setting up event forwarding

Event forwarding allows you to send events from the ESM to another device or facility by Syslog or SNMP (if enabled). You must define the destination, and can select if you want to include the packet and obfuscate the IP data. You can add filters so the event data is filtered before it is forwarded.

This isn't a substitute for log management, because it's not a full set of digitally signed logs from each device in your environment.

Configure event forwarding

You can set up an event forwarding destination to forward event data to a syslog or SNMP server.

> ℹ The number of event forwarding destinations in use, in combination with the rate and number of events that are being retrieved by your ESM, can affect overall ESM performance.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then click **Event Forwarding**.
2. On the **Event Forwarding Destinations** page, select **Add**, **Edit**, or **Remove**.
3. If you selected to add or edit a destination, define the settings.
4. Click **Apply** or **OK**.

Add event forwarding destinations

Add an event forwarding destination to the ESM to forward event data to a syslog or SNMP server.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then click **Event Forwarding**.
2. Click **Add**, then fill in the requested information.
3. Click **OK**.

See also

Event forwarding agents on page 225

Event forwarding agents

These are the event forwarding agents and the information contained within the packets when they are forwarded. You select the agent in the **Format** field on the **Add Event Forwarding Destination** page.

Agent	Contents
Syslog (McAfee 9.2)	ESM IP McAfee ESM (part of syslog header), SigID, SigMessage, SrcIP, DstIP, SrcPort, DstPort, SrcMac, DstMac, Protocol, VLan, Flow (whether the event is generated by the initiator of the connection or the recipient of the connection), EventCount, FirstTime (in UNIX time format), LastTime (in UNIX time format), LastTime_usec, Event Subtype, Severity, InternalID (event ID on the ESM), EventID, IPSID, IPSName (datasource name : IP address), DSID (Datasource ID), Source IPv6, Dest IPv6, Session ID, Sequence, Trusted flag, Normalized ID, GUID Source, GUID Dest, Agg 1 Name, Agg 1 Value, Agg 2 Name, Agg 2 Value, Agg 3 Name, Agg 3 Value. The following string fields are also in quotes because they might contain a semicolon: Application, Command, Domain, Host, Object, Destination User, Source User, User-defined type 8, User-defined type 9, User-defined type 10, User-defined type 21, User-defined type 22, User-defined type 23, User-defined type 24, User-defined type 25, User-defined type 26, User-defined type 27. Packet (packet contents follow Base 64 encoding only if the "copy packet" option is "on" for the rules in the policy editor and the option is checked while setting up event forwarding on the ESM).
Syslog (McAfee 8.2)	ESM IP McAfee ESM (part of syslog header), SigID, SigMessage, SrcIP, DstIP, SrcPort, DstPort, SrcMac, DstMac, Protocol, VLan, Flow (whether the event is generated by the initiator of the connection or the recipient of the connection), EventCount, FirstTime (in UNIX time format), LastTime (in UNIX time format), LastTime_usec, Event Subtype, Severity, InternalID (event ID on the ESM), EventID, IPSID, IPSName (datasource name : IP address), DSID (Datasource ID), Source IPv6, Dest IPv6, Session ID, Sequence, Trusted flag, Normalized ID. The following string fields are also in quotes because they might contain a semicolon: Application, Command, Domain, Host, Object, Destination User, Source User, User-defined type 8, User-defined type 9, User-defined type 10. Packet (packet contents follow Base 64 encoding only if the "copy packet" option is "on" for the rules in the policy editor and the option is checked while setting up event forwarding on the ESM).
Syslog (Nitro)	ESM IP, "McAfee ESM," SigID, SigMessage, SrcIP, DstIP, SrcPort, DstPort, SrcMac, DstMac, Protocol, VLan, Flow (whether the event is generated by the initiator of the connection or the recipient of the connection), EventCount, FirstTime (in UNIX time format), LastTime (in UNIX time format), LastTime_usec, Event Subtype, Severity, internalID (event ID on the ESM), event ID, IPSID, IPSName, DSID (Datasource ID), Packet (packet contents follow Base 64 encoding).
Syslog (ArcSight)	"McAfee," MachineID, "ArcSite Notification," "Line 1," Group Name, IPS Name, LastTime mm/dd/yyy HH:nn:ss.zzz, LastTime usec, FirstTime mm/dd/yyy HH:nn:ss.zzz, SigID, Class Name, Event Count, Src IP, Src Port, Dst IP, Dst Port, Protocol, Event Subtype, Event Device ID (internal id for the event from the device), Event ESM ID (internal id for the event from the ESM), Rule Message, Flow (whether the event is generated by the initiator of the connection or the recipient of the connection), VLAN, Src MAC, Dst MAC, Packet (packet contents follow Base 64 encoding).
Syslog (Snort)	snort:, [sigid:smallsigid:0], Signature Message or "Alert," [Classification: ClassName], [Priority: ClassPriority], {Protocol}, SrcIP:SrcPort -> DstIP:DstPort, SrcIP -> DstIP, Packet (packet contents follow Base 64 encoding).
Syslog (Audit Logs)	time (seconds since the epoch), status flag, user name, log category name (blank for 8.2.0, populated for 8.3.0+), device group name, device name, log message.

Agent	Contents
Syslog (Common Event Format)	Current date and time, ESM IP, CEF version 0, vendor = McAfee, product = ESM model from /etc/McAfee Nitro/ipsmodel, version = ESM version from /etc/buildstamp, sig id, sig message, severity (0 to 10), name/value pairs, deviceTranslatedAddress
Syslog (Standard Event Format)	<#>YYYY-MM-DDTHH:MM:SS.S [IP Address] McAfee_SIEM: { "source": { "id": 144120685667549200, "name": "McAfee Email Gateway (ASP)", "subnet": "::ffff:10.75.126.2/128" }, "fields": { "packet": { "encoding": "BASE64" } }, "data": { "unique_id": 1, "alert_id": 1, "thirdpartytype": 49, "sig": { "id": 5000012, "name": "Random String Custom Type" }, "norm_sig": { "id": 1343225856, "name": "Misc Application Event" }, "action": "5", "src_ip": "65.254.48.200", "dst_ip": "0.0.0.0", "src_port": 38129, "dst_port": 0, "protocol": "n/a", "src_mac": "00:00:00:00:00:00", "dst_mac": "00:00:00:00:00:00", "src_asn_geo": 1423146310554370000, "firsttime": "2014-05-09T20:43:30Z", "lasttime": "2014-05-09T20:43:30Z", "writetime": "2014-05-09T20:44:01Z", "src_guid": "", "dst_guid": "", "total_severity": 25, "severity": 25, "eventcount": 1, "flow": "0", "vlan": "0", "sequence": 0, "trusted": 2, "session_id": 0, "compression_level": 10, "reviewed": 0, "a1_ran_string_CF1": "This is data for custom field 1", "packet": "PDE0PjA5MDUyMDE0IDIwOjE4OjQ0fDIxfDY1LjI1NC40OC4yMDAtMzgxMjl8MXwxMDJ8U3BhbSBNZXNzYWdlIHR5cGU6IFRydXN0ZWRTb3VyY2UgU2lnbmF0dXJlIENvbmZpZGVuY2UgPSBISUdILiBDb25uZWN0aW9uOiA2NS4yNTQuNDguMjAwLTM4MTI5KElQLVBvcnQpfFRoaXMgaXMgZGF0YSBm b3IgY3VzdG9tIGZpZWxkIDF8W10A"

Enable or disable event forwarding

Enable or disable event forwarding on the ESM.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then click **Event Forwarding**.
2. Click **Settings**, then select or deselect **Event Forwarding Enabled**.
3. Click **OK**.

Modify settings for all event forwarding destinations

Change some settings for all existing event forwarding destinations at one time.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then click **Event Forwarding**.
2. Click **Settings**, then set the options.
3. Click **OK**.

Add event forwarding filters

Set up filters to limit the event data forwarded to a syslog or SNMP server on the ESM.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then click **Event Forwarding**.
2. Click **Add**, then click **Event Filters**.
3. Fill in the filter fields, then click **OK**.

Edit event forwarding filter settings

Change filter settings for event forwarding after they are saved.

> **Before you begin**
>
> When editing a device filter, you must have access to all the devices in the filter. To enable access to the devices, see *Set up user groups*.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then click **Event Forwarding**.
2. Click **Edit**, then click **Event Filters**.
3. Make the changes, then click **OK**.

See also
Set up user groups on page 177

Sending and forwarding events with Standard Event Format

Standard Event Format (SEF) is a Java Script Object Notation (JSON)-based event format to represent generic event data.

SEF format forwards events from the ESM to a Receiver on a different ESM, as well as from the ESM to a third party. You can also use it to send events from a third party to a Receiver by selecting SEF as the data format when creating the data source.

When setting up event forwarding with SEF from ESM to ESM, you need to perform four steps:

1. Export data sources, custom types, and custom rules from the ESM that is forwarding the events.
   - To export the data sources, follow the instructions in *Move data sources to another system*.
   - To export the custom types, open **System Properties**, click **Custom Types**, then click **Export**.
   - To export the custom rules, follow the instructions in *Export rules*.
2. On the ESM with the Receiver you are forwarding to, import the data sources, custom types, and custom rules that you just exported.
   - To import the data sources, follow the instructions in *Move data sources to another system*.
   - To import the custom types, open **System Properties**, click **Custom Types**, then click **Import**.
   - To import the custom rules, follow the instructions in *Import rules*.

3. On the ESM that is receiving the events from another ESM, add an ESM data source.

   — On the system navigation tree, click the Receiver device you want to add the data source to, then click the **Add Data Source** icon .

   — On the **Add Data Source** page, select **McAfee** in the **Data Source Vendor** field, then **Enterprise Security Manager (SEF)** in the **Data Source Model** field.

   — Complete the requested information, then click **OK**.

4. Add the event forwarding destination on the sending ESM.

   — Click the system on the system navigation tree, then click the **Properties** icon .

   — Click **Event Forwarding**, then click **Add**.

   — On the **Add Event Forwarding Destination** page, select **syslog (Standard Event Format)** in the **Format** field, then complete the remaining fields with the information for the ESM you are forwarding to, and click **OK**.

Managing reports

Reports show data from events and flows managed on the ESM. You can design your own or run one of the predefined reports and send it in PDF, HTML, or CSV format.

Predefined reports

The predefined reports are divided into these categories:

- Compliance
- Executive
- McAfee ADM
- McAfee Database Activity Monitoring (DAM)
- McAfee DEM
- McAfee Event Reporter

They generate data based on events.

User-defined reports

When you create a report, you design the layout on the **Report Layout** editor by selecting the orientation, size, font, margins, and header and footer. You can also include components, setting them up to display the data as desired.

All layouts are saved and can be used for multiple reports. When you add a report, you are given the option to design a new layout, use an existing one as is, or use an existing one as a template and edit its features. You can also remove a report layout when it is no longer needed.

See also

Add a report condition on page 230
Set start month for quarterly reports on page 228
Add report layout on page 229

Set start month for quarterly reports

If you are running reports on a quarterly basis, you must define the first month of Quarter 1. Once this is defined and stored in the system table, reports run quarterly based on that start date.

Task

For option definitions, click **?** in the interface.

1. On the ESM console, select **System Properties**, then click **Custom Settings**.
2. In the **Specify which month should be used** field, select the month.
3. Click **Apply** to save the setting.

Add a report

Add reports to the ESM and set them to run on a regular basis, at intervals you define, or run when you select them manually. You can select an existing report layout or create a new one using the **Report Layout** editor.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then click **Reports**.
2. Click **Add**, then define the settings on the **Add Report** page.
3. Click **Save**.

The report is added to the table on the **Reports** page and runs as defined in the **Condition** field.

Add report layout

Design the layout for a report if the predefined layouts do not meet your needs.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then click **Reports**.
2. Click **Add** to open the **Add Report** page, then complete sections 1, 2, and 3.
3. In section 4, select **Report PDF** or **Report HTML**.
4. In section 5, click **Add** to open the **Report Layout** editor.
5. Set up the layout to display the data generated by the report.

The layout is saved and can be used as is for other reports or as a template that you can edit.

Include an image in PDFs and reports

You can set up the ESM so exported PDFs and printed reports include the image shown on the **Login** screen.

> **Before you begin**
>
> Add the image to the **Custom Settings** page (see *Customize the login page*).

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then click **Custom Settings**.
2. Select **Include image in exported PDF from Views or printed reports**.
3. Click **OK**.

See also
Customize the logon page on page 20

Add a report condition

Add conditions so they are available when setting up a report.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then click **Reports**.
2. Click **Conditions**, then enter the information requested.
3. Click **OK** to save the settings.

This option appears on the list of available conditions when you select the condition for a report.

Display host names in a report

You can configure reports to use DNS resolution for source and destination IP addresses on reports.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select the system, then click the **Properties** icon ☰.
2. Click **Reports**, then click **Add** and fill in the requested information in sections 1 through 4.
3. In section 5, click **Add**, then drag-and-drop a **Table**, **Bar Chart**, or **Pie Chart** component and complete the **Query Wizard**.
4. In the **Query** section of the **Properties** pane on the **Report Layout** editor, select **Resolve IPs to Hostnames**.

In addition to appearing in the report, you can view the results of the DNS lookup on the **Hosts** table (**System Properties** | **Hosts**).

Description of *contains* and *regex* filters

The *contains* and *regex* filters provide you with wildcard capabilities on both index string data and non-indexed string data. These filters have syntax requirements.

These commands can be used in any field that allows text or string data. Most text fields are denoted by the case insensitivity icon Aa next to the filter field name. Other fields that allow `contains` do not have that icon. For a full list of fields, see the *Fields supporting the* `contains` *feature* section.

Syntax and Examples

The basic syntax for contains is `contains(somevalue)` and for regex is `regex(someregularexpression).`

To make it case insensitive, click the case insensitive icon Aa or include the `/i` regular expression notation, as in `regex(/somevalue/i)`. The search returns any value that contains `somevalue`, regardless of case.

The NOT ! and OR or icons apply to the regex and contains values. If you want the results to show the values that do not contain some value, enter the value and click the NOT icon. If you want the results to show values that have one value or another, enter the values and click the OR icon.

Example #1 - A simple search

Indexed fields: `contains(stra)`, `regex(stra)`

Non-indexed fields: `stra`

Result: Returns any string with `stra` , such as administrator, gmestrad, or straub.

Example #2 - An OR search

Indexed fields: `contains(admin,NGCP)`, `regex((admin|NGCP))`

Non-indexed fields: `admin,NGCP`

Results: Returns any string within the field that contains admin or NGCP. The extra set of parentheses is required for the regex OR to function.

Example #3 - A search for special characters, such as in service accounts

A dollar sign:

Indexed fields: `contains($)`, `regex(\x24)` or `regex(\$)`

Non-indexed fields: `$`

Results: Either of these returns any string within the field that contains a `$`. Go to http://www.ascii.cl for a list of HEX values for the characters.

> With regex, if you try to use the `$` without scaling it, the result set returns empty. PCRE escape sequence is a better search method to use.

A percent sign:

Indexed fields: `contains(%)`, `regex(\x25)`or `regex(\%)`

Non-indexed fields: `%`

A backslash:

Indexed fields: `contains(\)`, `regex(\x5c)` or `regex(\\)`

Non-indexed fields: `\`

Dual back slashes

Indexed fields: `contains(\\)`, `regex(\x5c\x5c)` or `regex(\\\)`

Non-indexed fields: `\\`

In some cases, if you do not use the HEX value or the slash with regex, you may get an *Invalid Regular Expression (ER5-0015)* error.

Example #4 - Search using the * wildcard

Indexed fields: `contains (ad*)`

Non-indexed fields: `ad*`

Results: Returns any string that starts with `ad`, such as administrator and address.

Example #5 - Search using Regular Expression

```
regex(nitroguard/x28[3-4]/x29[com|info}+)
```

```
(3)www(10)nitroguard(3)com(0)
```

```
(3)www(10)nitroguard(4)info(0)
```

```
(3)www(10)nitroguard(3)gov(0)
```

```
(3)www(10)nitroguard(3)edu(0)
```

```
(3)www(10)nitroguard(7)oddball(0)
```

These domains are from Microsoft DNS events.

Results: This regular expression picks out a specific string. In this case, it's `nitroguard`, a 3- or 4-digit primary domain, and `com` or `info`. This regex matches the first two expressions but not the others. These are examples to show how regex can be used with the feature. Your expressions will be much different.

Caveats

- Using `regex` with values of less than three characters causes higher overhead and slower query performance. We suggest that all queries have more than three characters.
- This filter can't be used in correlation rules or alarms. The only exception is that it can be used in correlation rules with name/value custom types.
- Using `contains` or `regex` with NOT can cause higher overhead and slower query performance.

Bloom filter description

For information regarding a bloom filter, see http://en.wikipedia.org/wiki/Bloom_filter

Fields supporting the `contains` and `regex` feature

Access_Resource	File_Operation_Succeeded	Referer
Application	File_Path	Registry_Key
Application_Protocol	File_Type	Registry_Value
Area	Filename	Request_Type
Authoritative_Answer	Forwarding_Status	Response_Code
Bcc	From	Return_Code

Caller_Process
Catalog_Name
Category
Cc
Client_Version
Command
Contact_Name
Contact_Nickname
Cookie
Creator_Name
Database_ID
Database_Name
Datacenter_ID
Datacenter_Name
DB2_Plan_Name
Delivery_ID
Description
Destination User
Destination_Directory
Destination_Filename
Destination_Hostname
Destination_Logo_ID
Destination_Network
Destination_UserID
Destination_Zone
Detection_Method
Device_Action
Direction
Directory
DNS_Class
DNS_Name
DNS_Type
Domain
Event_Class
External_Application
External_DB2_Server
External_Hostname
External_SessionID
Facility
From_Address
FTP_Command
Host
HTTP_Req_Cookie
HTTP_Req_Host
HTTP_Req_Method
HTTP_Req_Referer
HTTP_Req_URL
HTTP_User_Agent
Incomtin_ID
Interface
Interface_Dest
Job_Name
Job_Type
Language
Local_User_Name
Logical_Unit_Name
Logon_Type
LPAR_DB2_Subsystem
Mail_ID
Mailbox
Mainframe_Job_Name
Malware_Insp_Action
Malware_Insp_Result
Management_Server
Message_ID
Message_Text
Method
NTP_Client_Mode
NTP_Opcode
NTP_Request
NTP_Server_Mode
Object
Object_Type
Operating_System
Policy_Name
Privileged_User
Process_Name
Query_Response
RTMP_Application
Sensor_Name
Sensor_Type
Sensor_UUID
Session_Status
Signature ID
Signature_Name
SNMP_Error_Code
SNMP_Item
SNMP_Item_Type
SNMP_Operation
SNMP_Version
Source User
Source_Context
Source_Logon_ID
Source_Network
Source_UserID
Source_Zone
SQL_Command
SQL_Statement
Step_Count
Step_Name
Subject
SWF_URL
Table_Name
Target_Class
Target_Context
Target_Process_Name
TC_URL
Threat_Category
Threat_Handled
Threat_Name
To
To_Address
URL
URL_Category
User_Agent
User_Nickname
Version

File_Operation	Reason	Virtual_Machine_ID
		Virtual_Machine_Name

These custom types can use `contains` and `regex`:

Views

- String
- Random string
- Name/value
- Hashed strings

Case management

- Notes
- Summary
- History

Working with ESM views

The ESM retrieves information about events, flows, assets, and vulnerabilities logged by a device. The information is correlated and inserted into the McAfee Security Event Aggregation and Correlation (MSEAC) engine.

Contents

Using ESM views

Using the MSEAC engine, the data retrieved by the ESM can be analyzed and reviewed through a powerful and flexible report viewer. This viewer is the center section of the ESM console. The view shows the data for the devices you have selected on the system navigation tree.

When the ESM console is launched, the default view appears (see *Change the default view*). You can use the view features to select another predefined view (see *Predefined views*) or create a new view (see *Add a custom view*) to run a query so you can see what is occurring on your network (see *ESM views toolbar*). You can also use the various options on the views toolbar, component menu, and component toolbar to interact with the views and their data.

A progress bar is visible in each component of the views pane when a query is run. If you pass the cursor over it, it shows the amount and percentage of time that has elapsed in the execution of each component's query. To cancel a query to free up ESM resources, click the delete icon to the right of the progress bar.

On a view, source IP and destination IP address not-set values or aggregated values appear as "::" instead of as "0.0.0.0" in all result sets. For example, ::ffff:10.0.12.7 is inserted as 0:0:0:0:0:FFFF:A00:C07 (A00:C07 is 10.0.12.7); ::0000:10.0.12.7 would be 10.0.12.7.

View session details

You can view the details of an event with a session ID and save them to a csv file on the **Session Viewer**.

To have a session ID, an event must reside within a session. A session is the result of a connection between a source and destination. Events that are internal to the device or ESM do not have session IDs.

Task

For option definitions, click **?** in the interface.

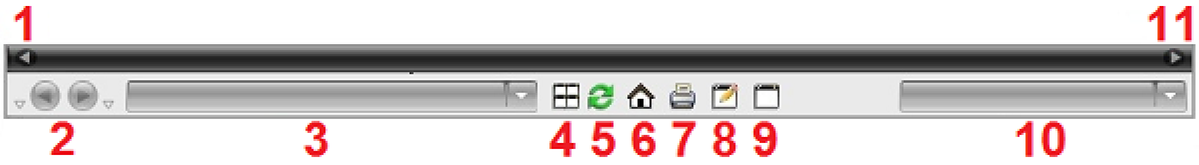
1. On the view drop-down list, select the view that has the session you need to view.
2. Select the event, click the menu icon on the component title bar, then select **Event Drilldown** | **Events**.
3. Click the event, click the **Advanced Details** tab, then click the **View session data** icon ▤ next to the **Session ID** field.

The **Session Viewer** opens, displaying the details of the session.

Views toolbar

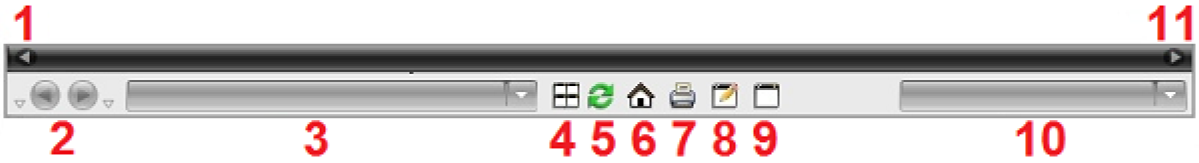
The views toolbar, which is located at the top of the views pane, has several options you will use when setting up the views.

Table 7-1



Option	Description
1 — **Hide Device Tree**	Click to expand the current view by hiding the device tree pane.
2 — View navigation	Navigate back and forth between previous views.
3 — View list	Select a view from the drop-down list, which lists all the predefined and custom views selected to display on this list.
4 — **Manage views**	Manage all the views (see *Manage the views*). You can select which views you want to include on the view list, add folders, and rename, delete, copy, import, and export views.
5 — **Refresh current view**	Refresh all data that is currently displayed in the view pane.
6 — Default view	Go back to default view.

Table 7-1



(continued)

Option	Description
7 — **Print current view**	Print a copy of the current view. The print options are: • **Scale to fit all components on one page** — The components that are part of the view are sized so the view fits on one page. • **Print each component on a separate page** — Each component that is part of the view is printed on a separate page. If you click **Scale component to fit page**, each component is sized to fill the page. • **Print viewable area only** — Only the portion of the view that is visible on the screen is printed. • **Export to PDF** — The view is saved as a PDF file.
8 — **Edit current view**	Modify the view currently being displayed, if it is a custom view. Clicking this option opens the **View Editing Toolbar** (see *Create a custom view*).
9 — **Create a new view**	Create a new custom view (see *Create a custom view*).
10 — Timeframe	Specify the timeframe for the information that you want displayed in the view.
11 — **Hide Filters**	Click to expand the current view by hiding the filters pane.

Predefined views

The drop-down list on the views toolbar gives you access to the views that come with the system, as well as any custom views you add.

These are the different types of predefined views.

- **Asset, Threat & Risk** views summarize asset, threat, and risk data and their possible effects on your system.
- **Compliance Views** assist in streamlining regulation compliance activities.
- **Dashboard Views** provide an overview of specific aspects of the system.
- The **Device Status** view shows the status of the devices selected on the system navigation tree. If you click a device in the view, the health information for the selected device appears in the bottom half of the view.
- **Enhanced ELM Search** provides you with real-time tracking of the search progress and results. This view is available only if there is an ELM on the system (see *Enhanced ELM Search View*).
- **Event Views** break down the information generated by events associated with the device selected on the system navigation tree.

- **Executive Views** provide an overview of aspects of the system that are of most interested to non-IT employees.
- **Flow Views** break down the information recorded about each flow (or connection) made through the Nitro IPS (see *Flow views*).
- **McAfee Event Reporter** includes product-specific views for many McAfee products.
- **Risk Views** are used with the ACE default manager. To properly view data for custom managers, custom views must be built.
- **Event Workflow Views** includes these views:
  - **Triggered Alarms** – View and manage the alarms triggered when alarm conditions are met (see *Triggered Alarms* view).
  - **Case Management** – View and manage the cases on the system (see *View all cases*).

Flow views

A *flow* is a record of a connection made through the device. When flow analysis is enabled on the Nitro IPS, data is recorded about each flow, or connection, made through the Nitro IPS.

Flows have source and destination IP addresses, ports, Mac addresses, a protocol, and a first and last time (indicating duration between the start and finish of the connection).

Because flows are not an indication of anomalous or malicious traffic, there are more flows than events. A flow is not associated with a rule signature (SigID) like an event. Flows are not associated with event actions such as Alert, Drop, and Reject.

Certain data is unique to flows, including source and destination bytes and source and destination packets. *Source bytes* and *packets* indicate the number of bytes and packets transmitted by the flow's source. The *destination bytes* and *packets* indicate the number of bytes and packets transmitted by the flow's destination. Flows have direction: an *inbound flow* is defined as a flow that originates from outside the HOME_NET. An *outbound flow* originates from inside the HOME_NET. This variable is defined in a policy for a Nitro IPS.

To view flow data, you must enable your system to log flow data. You can then view flows on the **Flow Analysis** view.

Enable flow logging

To view flow analysis data for a Nitro IPS, you must enable two firewall variables.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select a device.
2. Click the **Policy Editor** icon, then select **Variable** in the **Rule Types** pane.
3. Expand the **Firewall** category in the rule display pane.
4. On the **INBOUND_CONNECTION_STATISTICS** row, deselect **Inherit** to break the inherit value, then type `Yes` and click **OK**.
5. For **OUTBOUND_CONNECTION_STATISTICS**, deselect **Inherit** to break the inherit value, then type `Yes` and click **OK**.

Enhanced ELM search view

The **Enhanced ELM Search** view is available when there is at least one ELM device on the system. It allows you to perform more detailed searches and provides real-time tracking of search progress and results when you perform a search of logs on one or more ELM.

This view takes advantage of the archive statistical reporting capabilities on the ELM to provide real-time information about the amount of data that must be searched, allowing you to limit the query to minimize the number of files to be searched.

To enable faster search speeds when using **Enhanced ELM Search**, you must enable the full-text indexing engine, which increases the speed because it limits the number of files searched. For this increase to take effect, all existing ELM logs must be indexed. Once the indexer is enabled, indexing can take up to a few weeks, depending on the speed of the system and the number of logs that are collected. Search performance does not decrease during this time, but only improves as the ELM logs are indexed. To enable full-text indexing, see *Enable faster ELM searches*.

While the search is processing, the graphs show the estimated results:

- **Results Time Distribution** graph — Displays the estimates and results based on a time distribution. The bottom axis changes depending on what is selected in the time frame drop-down list.
- **Data Source Results** graph — Displays the estimates and results per data source based on the data sources of the devices selected on the system navigation tree.
- **Device Type Results** graph — Displays the estimates and results per device type based on the devices selected on the system navigation tree.

These graphs are populated before the searching begins and are updated as results are found. You can select one or more bars on the **Data Source Results** or **Device Type Results** graphs, or highlight a section of the **Results Time Distribution** graph. Click **Apply Filters** to narrow the search once the results have started coming in. This allows you to drill down to the search results, and to limit the amount of data that needs to be searched. When the search is finished, these graphs display the actual results.

Perform an enhanced ELM search

Search the logs on one or more ELM devices for information that you define. If the full text indexer is enabled, you can perform faster ELM searches because it limits the number of files that must be searched.

Task

For option definitions, click **?** in the interface.

1. On the view pane, select **Enhanced ELM search** from the drop-down list.
2. If there is more than one ELM device on the system, select the devices to search from the drop-down list next to the text field.
3. Type a normal text search or regular expression in the text field.

   > This field doesn't support full-text indexing vocabulary, such as *XOR* and *NOT*. It does support *AND* and *OR*.

4. If you want a time frame other than **Current Day**, select it on the drop-down list.
5. On the system navigation tree, select the devices that you want to search.

6. If needed, select one or more of these options:
   - **Case Insensitive** — Makes the search case-insensitive.
   - **Regular Expression** — Treats the term in the search field as a regular expression.
   - **Does NOT Contain Search Term** — Returns matches that don't contain the term in the search field.
7. Click **Search**.

   The results are displayed in the **Search Results** section of the view.
8. Do any of the following during the search or after it is completed.

Option	Definition
Save search	Save the results of this search, even if you navigate away from the view. Saved searches can be viewed on the **ELM Properties** | **Data** page.
Download search results file	Download the results to the location you designate.
Copy selected items to clipboard	Copy the items you select to the clipboard, so you can paste them into a document.
View data details	Show details for any logs that you select in the **Search Results** table.

View and manage triggered alarms

This view lists the triggered alarms and alarms that aren't deleted. You can perform several actions to manage these alarms.

Task

For option definitions, click **?** in the interface.

1. On the ESM console, select the quick launch **Alarms** icon to open the **Triggered Alarms** view.
2. Do one of the following:

To...	Do this...
Acknowledge an alarm	• To acknowledge one alarm, click the checkbox in the first column of the triggered alarm that you want to acknowledge. • To acknowledge several, highlight the items, then click the **Acknowledge Alarm** icon at the bottom of the view. Acknowledged alarms are removed from the **Alarms** pane but remain on the **Triggered Alarms** view.
Delete an alarm from the system	• Select the triggered alarm that you want to delete, then click the **Delete Alarm** icon .
Filter the alarms	• Enter the information that you want to use as the filter in the **Filters** pane, then click the **Refresh** icon .

To...	Do this...
Change the assignee for alarms	1 If the data details tabs aren't showing at the bottom of the view, click the **View data details** icon. 2 Select the alarms, then click **Assignee** and select the new assignee.
Create a case for alarms	1 Make sure that the data details tabs are showing. 2 Select the alarms, then click **Create Case** and make the selections you need.
View details about an alarm	1 Make sure that the data details tabs are showing at the bottom of the view. 2 Select the alarm and do one of the following: • Click the **Triggering Event** tab to view the event that triggered the selected alarm. Double-click the event to view a description. The **Triggering Event** tab isn't always available because some alarm conditions aren't met by a single event. • Click the **Condition** tab to see the condition that triggered the event. • Click the **Action** tab to see the actions that occurred as a result of the alarm and the ePolicy Orchestrator tags assigned to the event.
Edit triggered alarm settings	1 Click the triggered alarm, then click the **Menu** icon and select **Edit Alarm**. 2 On the **Alarm Settings** page, make the changes (click **Help** icon on each tab for instructions), then click **Finish**.

Add a custom view

Custom views include components that allow you to display the information you want to see.

Task

For option definitions, click **?** in the interface.

1. On the views toolbar, click the **Create New View** icon, then click and drag a component from the **View Editing Toolbar** (see *View components*).
2. On the **Query Wizard**, make selections so that the view generates the data you want displayed (see *Working with the **Query Wizard***), then click **Finish**.

   The data is displayed in the component that you added.
3. Do any of the following:

To...	Do this...
Move the component	Click the component's title bar, then drag and drop it.
Display host names instead of IP addresses by default	Click the **Show host names** icon on the toolbar of a component displaying IP addresses (see *Managing host names*).
Customize the component	Click the component, then make changes to the settings in the **Properties** pane (see *Customizing components*).

To...	Do this...
Add more components to the view	1 Click and drag a component. 2 On the **Query Wizard**, make selections so that the view generates the data you want displayed, then click **Finish**.
Save the view	1 Click **Save** or **Save As**, then enter a name for the view. ℹ To save it in an existing folder, select the folder. 2 Click **OK**.
Copy and paste a component	1 Click the component that you want to copy. 2 Click **Copy**, then click **Paste**.
Delete a component	Select the component, then click **Delete**.
Exit the view editor without saving a view	Delete all components, then close the **View Editing** toolbar.

View components

Create custom views to display event, flow, asset, and vulnerabilities data in a way that is most useful to you.

Each view consists of components you select on the **View Editing Toolbar** and set up to display the data. When you select one, the **Query Wizard** opens, allowing you to define details about the data displayed in the component.

Description of view components

There are 13 different components you can add to a custom view. You can use them to set up the view to display data in the best format.

Component	Description
Control Dial	Shows the data at a glance. It is dynamic, and can be linked to other components in the console. It updates as you interact with the ESM console. Each dial includes a baseline indicator (▲▼). Gradients around the outer edge of the dial turn red above the baseline indicator. Optionally, the entire dial can change color to represent anomalous behavior: turning yellow when within a certain threshold of a baseline, or red when that threshold is exceeded. The **Rate** option allows you to adjust the rate of the data that you are viewing. For example, if you are looking at **Current Day** and **Total Events** and change the rate to hour, you see the number of events per hour for the given day. This option is disabled if the query you are viewing is already averaged, such as **Average Severity** or **Average Bytes**.
Source and Destination Graph	Displays the overview activity for event or flow IP addresses. The event option allows you to specify IP addresses and view all attacks performed on the specified IP addresses, as well as view all attacks that the specified IP addresses performed on others. The flow option allows you to specify IP addresses and view the IP addresses that have connected to them, as well as view the connections the IP addresses made. This graph includes an open field at the bottom of the component that allows you to view the source and destination events or flows for a specific IP address. Type the address in the field or select one that you used previously, then click the **Refresh** icon 🔄.

Component	Description
Pie Chart	Displays the queried information in a pie graph. It is useful when you have fewer categories to view (for example, a protocol or action query).
Table	Displays the query information in several columns. This component is useful to show event and flow data at its finest granularity.
Bar Chart	Displays the queried information in a bar graph, allowing you to compare the size of each result in a given time range.
List	Displays the selected query data in a list format. This component is useful when you want to view a more detailed list of items in a smaller space.
Distribution	Shows a distribution of events and flows over a period of time. You can set intervals to look at specific time slices to shape the data.
Note Area	A blank component that is used for text-based notes. It allows you to write notes that are related to the current view.
Count	Displays the total events, assets, vulnerabilities, or flows queried for a specific view.
Title	Allows you to create a title or heading for your view. It can be placed anywhere on your view.
Network Topology	Allows you to view the data represented across the network. You can also custom build a view that can be used hand-in-hand with network discovery data (see *Add devices to network topology component*).
Geolocation Map	Shows the destination and source location of alerts and flows on a geolocation map. Options on this component allow you to switch between marking city, state, country, and world areas; zoom in and out; and select locations using the **Ctrl** and **Shift** keys.
Filter List	Displays a list of users and groups in your Active Directory. Once the **Filter List** component is added, other components can be bound to it by clicking the down arrow in the **Source User** or **Destination User** filter fields on the **Query Wizard** and selecting **Bind to Active Directory List**. You can also view event and flow data associated with the **Active Directory** by clicking the menu icon.

Customizing components

When you are adding or editing a component, several options are available in the **Properties** pane that can be used to customize it. The available options depend on the component selected.

Option	Definition
Title	Change the title of a component.
Width and Height	Set the dimensions of the component. You can also click and drag the boundary line.
X and Y	Set the location of the component on the view. You can also click the title bar of the component, then drag and drop it.
Edit Query	Make changes to the current query. When you click this button, the **Query Wizard** opens (see *Working with the* ***Query Wizard***).
Show Control Bar	Set whether to display the control bar at the bottom of the component.
Page Size	Set how many records are displayed per page if there is more data than can be displayed at once.

Option	Definition
Show Others Value	If this option is selected, an **Others** value is displayed at the bottom of a chart or list component. It gives the total of all records that are not displayed on the current page. For example, if you are looking at page two of a record set, the **Others** category is the sum of the values from page one and all pages after page two.
Show Legend	Display a legend below or to the right of a pie chart.
Show Values	Include the value for each item on a bar chart.
Show Labels	Include a label for each bar on a bar chart. You can set the maximum number of characters that can be displayed in a label. If it is set at 0, there will be no maximum limit on the label.
Show baseline averages	Select whether to compare current data with historical data on a distribution or bar chart, or control dial. There are two different options to use when displaying baseline data: • **Automatic time range** — If this option is selected, the baseline data is correlated by using the same time period that is being used for the current query for the past five intervals. For example, if you are querying the current day on a Monday, the baseline data is calculated for the same time for the last five Mondays. Fewer intervals are used if no data exists for a given interval. The values that are gathered from each interval are then averaged to calculate the current baseline value. • **Use specific time range** — Selecting this time range allows you to specify a start and end time that should be used to calculate an average. When this option is used, it is calculated as a single time period. For distribution reports, it produces a flat-line average. Baseline data is displayed on distribution charts with a blue line. The line is flat if the **Use specific time range** option was selected or if there is not enough data to calculate a correlated value. The line is curved (assuming different values for each time period are displayed) if a correlated value is calculated. The bar chart displays an arrow indicator at the baseline point for each bar. If the current value is greater than the baseline value, the bar is red above the baseline marker. If the bar chart is displaying rule severity, the bar color does not change for the baseline value. An additional option allows you to set a margin value to be displayed with the baseline data. The margin value is calculated from the baseline value. For example, if the baseline value is 100 and the margin above is 20%, the margin value will be calculated as 120. Turning this feature on displays the margin area for each bar in a bar chart. A distribution chart calculates the average value of the baseline and displays a shaded area above and below the baseline that indicates the margin area.
Device List	Drag and drop devices to the **Network Topology** component or the **Logical Device Groupings** tree.
Logical Device Groupings	Create folders to group the devices for the **Network Topology** component.
Background	Select the color of the background of the view. **Background Image URL** allows you to import an image to use as the background.

Add devices to network topology component

Network topology allows you to get event and flow data from the devices or device tree and view the data represented across the network.

> **Before you begin**
>
> You must discover your network before the list of devices appears (see *Network discovery*).

It also allows you to custom build a view that can be used with network discovery data. Once you have created a network topology view, you must customize it to display the event or flow information (see *Add a custom view*).

Task

For option definitions, click **?** in the interface.

1. When you are adding or editing a view, click, drag, and drop the **Event Network Topology** component.

   The **Properties** pane displays the **Device List** and the **Logical Device Groupings** tree.

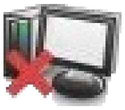
2. From the **Device List** or **Folder List**, select a device or folder and do one of the following:
   - To add the device or folder to the component, drag and drop it on the component.
   - To add the device or folder to a group in the **Logical Device Groupings** tree, click **Add**, enter a name for the folder and click **OK**, then drag and drop the device in the folder.

3. Arrange the devices.

Devices that are physically connected to the system connect with a straight black line on the component. Blue or red curved lines indicate a data path.

Device details on Network Topology components

You can view specific device details on a **Network Topology** component when you double click a device. This screen allows you to view interface and endpoint information such as port summary, total devices, and status of devices.

Option	Definition
Port Summary for	Shows which port you are currently viewing.
Total	Gives the total number of devices.
Above Baseline Average	States the number of devices above the current baseline average
	Represents a work station.
	Indicates that the interface has alert data associated with it, and the data is below the baseline average.
	Indicates that the interface has alert data associated with it, and the data is above the baseline average.
	Indicates that the interface has no alert data associated with it.
	Indicates that the administrative state is down (not just operationally down).
	Represents a router.
	Indicates that the switch port is up.

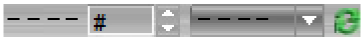
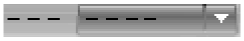
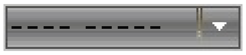
Option	Definition
?	Represents an unknown device.
⇄	Represents an unmanaged device.
✗	Indicates that the ESM can't communicate with the device through SNMP, network discovery, or ping.

Component toolbar

The component toolbar, located at the bottom of each component in a view, provides several actions you can perform to the data on the component. The available actions depend on the type of component.

Option	Definition
✓	**Mark event(s) as reviewed** — Mark specific events once you have reviewed them. You can then use the **Change event state filter** drop-down list to show only reviewed events or only events that haven't been reviewed.
▦	**Assign events to a case or remedy** — Assign events to a case (see *Manage Cases*) or send an email message to the Remedy system (if one is set up). When you click this icon, you can select: • Create a new case • Add events to a case • Send event to Remedy (see *Send a Remedy Email*)
🌐	**Launch device URL** — Launch the URL that is associated with the selected event, if you added one for the device (see *Add a URL*). If you did not define one, you are prompted to add it.
👤	**Show** or **Hide host names** — Show or hide the host names associated with the IP addresses on the view (see *Managing host names*).
Chart type icons	**Change chart type** — Change the type of chart displaying the data. The icon for this feature will be the component icon for the current chart type.

Option	Definition
☰	**View** or **Hide data details** — Show or hide details about the selected event. There are several tabs in this section: • **Details**: Shows the available information for the event or flow selected. • **Advanced Details**: Shows information regarding the source network device, destination network device, and remedies. You can search for events or flows by their IDs, if you have sufficient rights to view those records, by clicking the magnifying glass icon to the right of the **Event ID** or **Flow ID** field. • **Geolocation**: Shows the location of the source and destination of the selected event. • **Description**: Gives the name, description and signature or rule associated with the event. • **Notes**: Allows you to add notes to the event or flow, which appear each time you view that particular item. • **Packet**: Retrieves the contents of the packet that generated the selected event. You can perform the following functions on this tab: ◦ Select the format to view the packet. ◦ Retrieve the packet data by clicking ⬅. ◦ Save the packet on your computer by clicking 💾. If it is a packet capture (PCAP) (such as Nitro IPS events, ADM events, Estreamer events from the Receiver), it will be saved with a .pcap extension and can be opened in any PCAP-viewing program. If it isn't, it will be saved as a text file. ◦ Set it to retrieve the packet automatically when you click an event. ◦ Search for information in the packet by entering the keyword in the **Find text** field and clicking 🔍. ℹ Do not use special characters such as brackets or parentheses in the **Find text** field. • **Source Events**: When a correlation or vulnerability event is selected, displays the set of events that caused the event to be generated. • **ELM Archive**: If you enter text in the **Find Text** field, retrieves data that is archived on the ELM. If the event is aggregated, a Receiver or ACE device will display up to 100 aggregated events. • **Custom Types**: If you defined custom types (see *Custom type filters*), shows the custom type fields and the data from this event that belongs in these fields. • **Information**: Shows information such as device name, IP address, operating system and device version, system

Option	Definition
	description, system contact person, and the system physical location. - **Interfaces**: Shows the port name, port speed, VLAN, administrative state, and operational state. - **Neighbors**: Shows specific information regarding the neighboring devices such as local interface, neighbor device, and neighbor interface.
	**Change interval period and rate** — Set how often you want the data in the chart to be refreshed.
	**Set rate** Select the rate for the data that is displayed (none, per second, per minute, per hour, per day, per week, per month).
	IP address — View the source and destination events or flows for a specific IP address. Type the address in the field or select one that you have used previously and click the **Refresh** icon ⟳.
	Geolocation options — Switch between marking city, state, country, and world areas; zoom in and out; and select locations using the **Ctrl** and **Shift** keys.
	Change page — Navigate through the data when there is more than one page.
	**Change event state filter** — Select the type of events or flows to display in the analysis list. You can view all events, only events that have been reviewed, only events that have not been reviewed, events that have been remedied, all flows, open flows only, or closed flows only.
▾◀▶▾	History Buttons — Scroll forward and backward through the changes made on the view.
or	**View Data Paths** or **Hide Data Paths** — Hide or view the line that connects two devices with event or flow data connections.
	Hide Text — Hide or show the labels on the device in the Network Topology view.

Send a remedy email

If you set up a remedy system, you can send an email message to notify the system of an event that requires a remedy. When you follow this process, you receive a remedy case number to add to the event record.

A remedy system is set up by the user and has no connection to McAfee Nitro IPS.

Task

For option definitions, click **?** in the interface.

1. On an event view, highlight the event that requires remedial action.
2. Click the **Assign events to a case or Remedy** icon, then select **Send event to Remedy**.
3. Add the **Prefix**, **Keyword**, and **Enterprise User ID**.

4 (Optional) Add information under **Details**, which contains information generated by the system regarding the event.

5 Click **Send**.

Component menu options

Most components on a view have a menu ☰ that lists the component's available options. This table lists the possible items.

Option		Definition
Drilldown (Event, Flow, Asset)		View further details for the data type you select on the drill-down lists. A new view displays the details.
Summarize or **Summarize by**		View other event or flow data that shares characteristics of the events you selected. For example, if you are looking at a port scan event on the analysis screen and you want to see other events generated by the same attacker, click the event, select **Summarize By**, then click **Source IP**.
Modify aggregation settings		Create an exception to the general aggregation settings for an individual rule (see *Add exceptions to event aggregation settings*).
Actions	**Create new watchlist**	Select events on a view and add them to a new watchlist (see *Watchlists*).
	Append to watchlist	Select events on a view and add them to an existing watchlist.
	Create new alarm	Select events on a view and create an alarm based on their values (see *Create an alarm*).
	Perform MVM scan	Initiate a McAfee Vulnerability Manager scan if your system includes is an McAfee Vulnerability Manager device.
	Launch ePO	Open the ePolicy Orchestrator interface (see *Launch ePolicy Orchestrator*).
	TIE Execution History	When a TIE event is selected, open the **TIE Execution History** page to view the IP addresses that have attempted to execute the selected file. From this page you can create a new watchlist, append a file to a watchlist, create a new alarm, blacklist a file, export a file to CSV, or add ePolicy Orchestrator tags to the file.
Show Rule		View the rule that generated the event.
IP Address details		Look up information about a source or destination IP address or port. You can view threat details and the results of the WHOIS Lookup for the selected IP address.
ASN Lookup		Retrieve a WHOIS record using the ASN identifier.
Browse Reference		Open your default web browser and connect to the McAfee online signature database, which provides information about the signature that generated the selected event.
Set Remedy Case ID		Add the remedy case ID, which you received when you sent an event email to the Remedy system, to the event record for future reference (see *Add remedy case ID to event record*).
Blacklist		Add the IP address from the selected event to the blacklist. Selecting this option opens the **Blacklist Editor**, which has the IP address field populated with the data from the selected event (see *IPS or virtual device blacklist*).
Search ELM		Perform a search for information contained on the ELM about the event that you select. The **Enhanced ELM Search** page opens, populated with the data you select (see *Perform an enhanced ELM search*).
Change VLAN		Change the VLAN for any selected device. You can select from 1–12 devices.

Option	Definition
Disable or Enable Port(s)	Single or multi-select any interface or endpoint. Depending on what you select, the disable or enable option appears. For example, if you select five interfaces and one is enabled and the other four are disabled, you can only disable the port. However, if you select one port that is disabled, the **Enable Port(s)** option is available.
View Events or View Flows	View the events generated by a flow or the flows generated by an event.
Export	Export a view component to PDF, text, CSV, or HTML format (see *Export a component*).
Delete	Delete events or flows from the database. You must belong to a group with event privileges and you can delete only the records that are currently selected, the current page of data, or a maximum number of pages starting at page 1.
Mark as reviewed	Flag events as reviewed. You can mark all the records in the result set, the current page, or selected records.
Create custom firewall rule	Create a custom firewall rule based on properties of the selected event or flow. When you click **Create Custom Firewall Rule**, the **New Rule** page opens (see *Add custom ADM, database, or correlation rule*).
Create custom rule	Create a custom rule using the signature that triggered a particular alert as a starting point. This option is available when you select alerts generated by standard (non-firewall) rules. When you click **Create Custom Rule**, the **New Rule** page opens (see *Add custom ADM, database, or correlation rule*).

Perform a WHOIS or ASN lookup

On a table component, you can perform a WHOIS lookup to find information about a source or destination IP address. **ASN Lookup**, available on any ASN query on a bar chart and any flow record on a table component that has ASN data, retrieves a WHOIS record using the ASN identifier.

Task

For option definitions, click **?** in the interface.

1. Select an IP address or flow record with ASN data listed on a table component, or an ASN query bar on a bar chart component.
2. Click the menu ☰, then select **IP Address Details** or **ASN Lookup**.
3. To look up another IP address or identifier:
   - On the **WHOIS** tab page, select an IP address from the drop-down list and enter the host name.
   - On the **ASN Lookup** page, type in the numbers or select one from the drop-down list.

Add remedy case ID to event record

When you send an event email to the remedy system, you receive a Case ID number. You can add it to the event record for reference purposes.

Task

For option definitions, click **?** in the interface.

1. Highlight the event on the **Event Analysis** view, then click the menu ☰.
2. Select **Set Remedy Case ID**, type the number, and click **OK**.

Export a component

You can export the data on an ESM view component. Chart components can be exported in text or PDF formats and table components in common separated values (CSV) or HTML.

When exporting the current page of a chart, distribution, or table component on a view, the exported data matches exactly what you see when you initiate the export. If you export more than one page, the query runs again as it exports the data, so it might be different from what you see on the component.

Task

For option definitions, click **?** in the interface.

1. On a view, click the menu for the component you want to export, then click **Export**.
2. Select one of the following formats:
   - **Text** — Export the data in text format.
   - **PDF** — Export the data and an image.
   - **Image to PDF** — Export only the image.
   - **CSV** — Export a list in comma-delimited format.
   - **HTML** — Export the data in a table.
3. On the **Export** page, specify the data that you want to export.
   - If you selected **Text** or **PDF**, you can export the current page of data or a maximum number of pages starting at page 1.
   - If you selected **Image to PDF**, the image is generated.
   - If you selected **CSV** or **HTML**, you can export only the selected items, just the current page of data, or a maximum number of pages, starting at page 1.
4. Click **OK**

The export file is generated and you are prompted to download the resulting file.

Working with the Query Wizard

Each report or view on the ESM gathers data based on the query settings for each component.

When adding or editing a view or report, define the query settings for each component on the **Query Wizard** by selecting the query type, the query, the fields to include, and the filters to use. All the queries on the system, both predefined and custom, are listed on the wizard so you can select the data you want gathered by the component. You can also edit or remove queries, and copy an existing query to use as a template to set up a new query.

Manage queries

The ESM comes with predefined queries that you can select on the **Query Wizard** when adding or editing a report or view. You can edit some of the settings on these queries and you can add and remove custom queries.

Task

For option definitions, click **?** in the interface.

1. Do one of the following to access the **Query Wizard**.

To...	Do this...
Add a new view	1 Click the **Create New View** icon located on the view toolbar. 2 Drag-and-drop a component from the **View Editing Toolbar** to the view pane. The **Query Wizard** opens.
Edit an existing view	1 Select the view you want to edit. 2 Click the **Edit Current View** icon located on the view toolbar. 3 Click the component that you want to edit. 4 Click **Edit Query** in the **Properties** pane. The **Query Wizard** opens on the second page.
Design the layout for a new report	1 On **System Properties**, click **Reports**. 2 Click **Add**. 3 In section 5 of the **Add Report** page, click **Add**. 4 Drag and drop a component in the report layout section. The **Query Wizard** opens.
Edit the layout on an existing report	1 On **System Properties**, click **Reports**. 2 Select the report to edit, then click **Edit**. 3 In section 5 of the **Edit Report** page, select an existing layout, then click **Edit**. 4 Click the component in the report layout section, then click **Edit Query** in the **Properties** section. The **Query Wizard** opens on the second page.

2 On the **Query Wizard**, do one of the following:

To do this...	Do this...
Add a new query	1 Select the query that you want to use as a template, then click **Copy**. 2 Type the name for the new query, then click **OK**. 3 On the list of queries, click the one that you just added, then click **Next**. 4 On the second page of the wizard, change the settings by clicking the buttons.
Edit a custom query	1 Select the custom query that you want to edit, then click **Edit**. 2 On the second page of the wizard, change the settings by clicking the buttons.
Remove a custom query	Select the custom query that you want to remove, then click **Remove**.

3 Click **Finish**.

Bind components

When a view component is linked to another component using data binding, the view becomes interactive.

Selecting one or more items in the parent component causes the results displayed in the child component to change, as if a drill-down was executed. For example, if you bound a parent bar chart source IP component to a child bar chart destination IP component, making a selection in the parent component causes the child component to execute its query using the selected source IP as a filter. Changing the selection in the parent component refreshes the data in the child component.

> Data binding only allows one field to be bound to another.

Task

For option definitions, click **?** in the interface.

1. Create the parent and child components, then select the child component.
2. On the **Properties** pane, click **Edit Query** | **Filters**.

   The **Query Filters** page opens with the parent and child queries enabled.
3. From the child query drop-down list, select **Bind to**.
4. Click **OK**, then click **Finish**.

Comparing values

Distribution graphs have an option that allows you to overlay an additional variable on top of the current graph.

In this way, two values can be compared to easily show the relationships, for example, between total events and average severity. This feature provides valuable data comparisons over time, at a glance. This feature is also useful for saving screen real-estate when building large views, by combining results onto a single distribution graph.

The comparison is limited to the same type as the selected query. For example, if an event query is selected, you can compare with the fields from the event table only, not the flow or assets and vulnerabilities table.

When you apply the query parameters to the distribution chart, it runs its query as normal. If the comparison field is enabled, a secondary query is run for the data at the same time. The distribution component displays the data for both data sets on the same graph, but uses two separate vertical axes. If you change the chart type (lower-right corner of component), both sets of data continue to display.

Compare graph values

You can compare the data in a distribution graph with a variable you select.

Task

For option definitions, click **?** in the interface.

1. Select the **Create new view** icon or the **Edit current view** icon .
2. Click the **Distribution** icon , then drag and drop it on the view to open the **Query Wizard**.
3. Select the query type and the query, then click **Next**.

4 Click **Compare**, then select the field that you want to compare to the query you selected.

5 Click **OK**, then click **Finish**.

6 Move the component to the correct location on the view, then:

- Click **Save** if you are adding the component to an existing view.
- Click **Save As** and add the name for the view if you are creating a new view.

Set up stacked distribution for views and reports

Set up the distribution component on a view or report so that you can see the distribution of events related to a specific field.

You can select the field to stack by when you add the component to a view or report. When you access the view, you can change the settings, set the time interval, and set the chart type and details.

> You can't use the **Stacking** and **Compare** features in the same query.

Task

For option definitions, click **?** in the interface.

1 Drag and drop the **Distribution** component on a view (see *Add a custom view*) or a report (see *Add report layout*), then select the type of query.

> Stacking is not available for **Collection Rate** or **Average** (for example, **Avg Severity Per Alert** or **Avg Duration Per Flow**) distribution queries.

2 On the second page of the **Query Wizard**, click **Stacking**, then select the options.

3 Click **OK** on the **Stacking Options** page and **Finish** on the **Query Wizard**.

The view is added. You can change the settings, and set the time interval and chart type by clicking the **Chart Options** icon ⚙.

Manage views

Managing views provides a quick way for you to copy, import, or export more than one view at a time, as well as select the views to include on the list of views and assign permission for specific users or groups to access individual views.

Task

For option definitions, click **?** in the interface.

1 On the ESM console, click the **Manage Views** icon ⊞.

2 Perform any of the available options, then click **OK**.

Look around an event

From the **Event Analysis** view, you can look for events that match one or more of the fields in the event within the time frame you select before and after the event.

Task

For option definitions, click **?** in the interface.

1. On the ESM console, click the views list, then select **Event Views** | **Event Analysis**.
2. Click an event, click the menu icon, then click **Look Around**.
3. Select the number of minutes before and after the time of the event that you want the system to search for a match.
4. Click **Select filter**, select the field that you want the search to match on, then type the value.

   The results are displayed on the **Look Around Results** view.

   > If you leave this view, then want to return to it later, click **Last Look Around** on the **Event Analysis** menu.

View the IP address details of an event

If you have a McAfee® Global Threat Intelligence™ (McAfee GTI) license from McAfee, you have access to the new **Threat Details** tab when you perform an **IP Address Details** lookup. When you select this option, details about the IP address are returned, including risk severity and geolocation data.

Before you begin

Purchase a McAfee GTI license (see *McAfee GTIWatchlist*).

> If your McAfee GTI license has expired, contact your McAfee Sales Engineer or McAfee support.

Task

For option definitions, click **?** in the interface.

1. On the ESM console, select a view that includes a table component such as **Event Views** | **Event Analysis**.
2. Click an IP address, click the menu icon on any component that has an IP address, then click **IP Address Details**.

The **Threat Details** tab lists the data for the selected IP address. You can copy the data to the system clipboard.

> The **IP Address Details** option has replaced the **WHOIS Lookup** option on the context menu. However, the **IP Address Details** page includes a **WHOIS Lookup** tab that shows this information.

Change the default view

The **Default Summary** view appears in the view pane by default when you first log on to the ESM console. You can change this default view to any of the predefined or custom views on the ESM.

Task

For option definitions, click **?** in the interface.

1. On the ESM console navigation bar, click **Options**, then select **Views**.
2. On the **Default System View** drop-down list, select the new default view, then click **OK**.

Filtering views

In the filters pane located on the main ESM console, you can set up filters to be applied to views. Any filters that are applied to a view are carried forward to the next view that is opened.

When you first log on to the ESM, the default filters pane includes the **Source User**, **Destination User**, **Source IP**, and **Destination IP** filter fields. You can add and delete filter fields, save filter sets, change the default set, manage all filters, and launch the string normalization manager.

An orange funnel icon appears in the upper-right corner of the view pane to alert you when filters are applied to the view. If you click this orange icon, all filters are cleared and the query is executed again.

Anywhere you have comma-separated filter values such as variables, global filters, local filters, normalized strings, or report filters, you must use quotes if they are not part of a watchlist. If the value is `Smith,John`, you must type `"Smith,John"`. If there are quotes in the value, you must enclose the quotes in quotes. If the value is `Smith,"Boy"John`, you must enter it as `"Smith,""Boy""John"`.

> You can use `contains` and `regex` filters (see **Description of contains and regex filters**).

Filter a view

Filters help you view details about selected items on a view. If you enter filters and refresh the view, the data in the view reflects the filters you added.

Task

For option definitions, click **?** in the interface.

1. On the ESM console, click the drop-down list of views, then select the view you want to filter.
2. In the **Filter** pane, fill in the fields with the data you want to filter on in one of these ways:
   - Type the filter information in the appropriate field. For example, to filter the current view to see only the data that has a source IP address of 161.122.15.13, type the IP address in the **Source IP** field.
   - Type a `contains` or `regex` filter (see *Description of* `contains` *and* `regex` *filters*).
   - Click the **Display filter list** icon next to the field and select the variables or watchlists to filter on.
   - On the view, select the data you want to use as the filter, then click the field on the **Filter** pane. If the field is blank, it is auto-populated with the data you selected.

   > For **Average Severity**, use a colon (:) to enter a range. For example, 60:80 is a severity range of 60 to 80.

3. Do any of the following:

To...	Do this...
View data that matches more than one filter	Enter the values in each field.
View data that matches some filter values and excludes others	1 Enter the filter values that you want to include and exclude. 2 Click the **NOT** icon ! next to the fields you want to exclude.

To...	Do this...
View data that matches regular and OR filters	1 Enter the filter values in the regular and the **OR** fields. 2 Click the **OR** icon next to the fields that have the **OR** values. The view includes the data that matches the values in the fields not marked **OR**, and matches either of the values in the fields marked **OR**. ⓘ At least two fields must be marked **OR** for this filter to work.
Make the filter values case-insensitive	Click the **Case-insensitive** icon Aa next to the appropriate filter field.
Replace normalized strings with their aliases	Click the string normalization icon next to the appropriate filter field.

4 Click the **Run Query** icon .

The view is refreshed and the records matching the values you entered are displayed in the view. An orange filter icon appears in the upper-right corner of the view pane, indicating that the data in the view is a result of filters. If you click the icon, the filters are cleared and the view shows all the data.

Filters pane

The filters pane provides options to help you set filters for the views.

Icon	Meaning	Description
	Hints	Have a tooltip appear when you click in a filter field.
	Launch string normalization manager	Filter on a string and its aliases (see *String normalization*).
	Run query	Apply the current filters to the view. You must click this icon when you change a filter value and want to apply it to the current view.
	Clear all	Clear all filters from the filters pane.
⚙	**Filter set options**	Select an action to take with the filter sets. • **Make Default** — Saves the filter values that you entered as your default. These filters are applied automatically when you log on. • **Restore Default** — Reverts the filters to your default values so that you can run the query on the default filter set. • **Save Populated Filters** — Saves the current filter set and adds it to the list of available filters, where you select it when adding a filter. Type a name for the set, then select the folder where you want to save the set. • **Manage Filters** — Opens the **Managing Filter Sets** page, where you organize the available filter sets.
Enter a Field or Filter Set		Select a filter field or filter set to filter the view by. When you click the field, a drop-down menu lists all possible filters and filter sets.
	Display filter list	Select the variables or watchlists to filter on.
!	**NOT**	To view data that matches some filter values and excludes others, click next to the fields that you want to exclude.

Icon	Meaning	Description
OR	**OR**	To view data that matches regular and **OR** filters, click this icon next to the fields that have the **OR** values. The view includes the data that matches the values in the fields not marked **OR**, and matches either of the values in the fields marked **OR**. ℹ At least two fields must be marked **OR** for this filter to work.
Aa	**Case-insensitive**	To make the filter values case-insensitive, click this icon.
👤	String normalization	Click to replace normalized strings with their aliases.
🔍	View set filters	Click to view a list of the filters included in a set.
↗	Replace value	Click to replace the current value with the value that is in the value set.
⊗	**Remove this filter**	Click to remove the filter field from the current filters.

Add UCF and Windows event ID filters

One of the challenges for regulation compliance support is the ever-changing nature of regulations. Unified Compliance Framework (UCF) is an organization that maps the specifics of each regulation to harmonized control IDs. As regulations change, these IDs are updated and pushed to the ESM.

- You can filter by Compliance ID to select the required compliance or specific sub-components, or by Windows event IDs.

To...	Do this...
Add UCF filters	1 In the **Filters** pane, click the filter icon next to the **Compliance ID** field. 2 Select the compliance values you want to use as filters, then click **OK** | **Run Query** ↻.
Add Windows event ID filters	1 Click the filter icon next to the **Signature ID**. 2 On **Filter Variables**, select the **Windows** tab. 3 Type the Windows Event IDs (comma separated) in the text field, or select the values you want to filter by on the list.

Watchlists

A *watchlist* is a grouping of a specific type of information that can be used as a filter or as an alarm condition.

It can be global or specific to a user or group and can be static or dynamic. A *static watchlist* consists of specific values that you enter or import. A *dynamic watchlist* consists of values that result from a regular expression or string search criteria that you define.

A watchlist can include a maximum of 1,000,000 values. The list of values on the **Add Watchlist** or **Edit Watchlist** pages can display up to 25,000 values. If there are more, you are informed that there are too many values to display. If you want to edit a watchlist by adding values that increase the total number to more than 25,000, you must export the existing list to a local file, add the new values, then import the new list.

You can set up the values on a watchlist to expire. Each value is time-stamped and expires when the duration specified is reached, unless it refreshes. Values refresh if an alarm triggers and adds them to the watchlist. You can refresh the values set to expire by appending them to the list using the **Append to watchlist** option on the menu of a view component (see *Component menu options*).

The ESM provides a connector to the relational data source in Hadoop HBase, using the key-value pairs from the source. This data can be used in a watchlist (see *Add Hadoop HBase watchlist*). For example, it can be fed into alarms that trigger when values in the watchlist are found in new events.

Add a watchlist

Add a watchlist to the ESM so that you can use it as a filter or in an alarm condition.

Task

For option definitions, click **?** in the interface.

1 Access the **Watchlists** page in one of these ways:

- On the ESM console, click the **Watchlists** quick launch icon.
- On the system navigation tree, click **System Properties**, then click **Watchlists**.

The **Watchlists** table shows all watchlists on the system.

> **GTI Malicious IPs** and **GTI Suspicious IPs** appear on the table, but don't contain data unless you purchased a McAfee GTI license from McAfee. Contact your McAfee Sales Engineer or McAfee support to purchase a license.

2 Click **Add**, then fill in the information requested.

3 Click OK to add the new watchlist to the **Watchlists** table.

See also

McAfee GTI watchlist on page 258

McAfee GTI watchlist

McAfee GTI watchlists contain more than 130 million suspicious and malicious IP addresses and their severities, gathered by McAfee. These watchlists can be used to trigger alarms, to filter data in reports and views, as a filter in rule correlation, and as a scoring source for a Risk Correlation Manager on an ACE.

To add the data from the lists to your system, you must purchase a McAfee GTI license from McAfee. Once you do, the lists are added to your system the next time you download rules. This process can take several hours due to the size of the database.

> You must have an Internet connection to download the lists. They can't be downloaded off line.

These lists cannot be viewed or edited, but the **Watchlists** table (**System Properties** | **Watchlists**) indicates whether the list is *active* (contains values) or *inactive* (does not contain values).

To purchase the McAfee GTI license, contact your McAfee Sales Engineer or McAfee Support.

Create a watchlist of threat or IOC feeds from the Internet

You can create a watchlist that can be refreshed periodically to automatically pull threat or Indicator of Compromise (IOC) feeds from the Internet.

On this watchlist, you can preview the data to be retrieved through the HTTP request, as well as add regular expressions to filter this data.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, click the system, then click the **Properties** icon .
2. Click **Watchlists**, then click **Add**.
3. Complete the **Main** tab, selecting **Dynamic**.
4. Click the **Source** tab, select **HTTP/HTTPS** in the **Type** field.
5. Complete the information requested on the **Source**, **Parsing**, and **Values** tabs.

> The **Raw data** field on the **Parsing** tab is populated with the first 200 lines of the html source code. It is just a preview of the web site, but is enough for you to write a regular expression to match on. A **Run Now** or scheduled update of the watchlist includes all matches from your regular expression search. This feature supports RE2 syntax regular expressions, such as `(\d{1,3}\.\d{1,3}\.\d{1,3}\.\d{1,3})` to match on an IP address.

Add a Hadoop HBase watchlist

Add a watchlist using Hadoop HBase as the source.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select the system, click the **Properties** icon , then click **Watchlists**.
2. On the **Main** tab of the **Add Watchlist** wizard, select **Dynamic**, enter the information requested, then click the **Source** tab.
3. Select **Hadoop HBase (REST)** in the **Types** field, then type the host name, port, and name of the table.
4. On the **Query** tab, fill in the lookup column and query information:
   a. Format **Lookup Column** as `columnFamily:columnName`
   b. Populate the query with a scanner filter, where the values are Base64 encoded. For example:

```
<Scanner batch="1024">
<filter>
{
"type": "SingleColumnValueFilter",
"op": "EQUAL",
"family": " ZW1wbG95ZWVJbmZv",
"qualifier": "dXNlcm5hbWU=",
"latestVersion": true,
"comparator": {
"type": "BinaryComparator",
"value": "c2NhcGVnb2F0"
}
}
</filter>
</Scanner>
```

5. Click the **Values** tab, select the value type, then click the **Run Now** button.

String normalization

Use string normalization to set up a string value that can be associated with alias values and to import or export a .csv file of string normalization values.

This enables you to filter the string and its aliases by selecting the string normalization icon next to the appropriate field in the **Filter** pane. In the case of the John Doe user name string, you define a string normalization file where the primary string is `John Doe` and its aliases are, for example, `DoeJohn`, `JDoe`, `john.doe@gmail.com`, and `JohnD`. You can then enter John Doe in the **User_Nickname** filter field, select the string normalization filter icon next to the field, and refresh the query. The resulting view displays all events associated with John Doe and his aliases, enabling you to check for login inconsistencies where source IPs match but user names do not. This feature can also assist you in meeting regulations requiring that you report privileged user activity.

Manage string normalization files

Before you can use a string normalization file, you must add it to the ESM.

Task

For option definitions, click **?** in the interface.

1. On the **Filters** pane, click the **Launch string normalization manager** icon 👤.
2. Perform any of the available actions, then click **Close**.

Create a string normalization file to import

If you create a .csv file of aliases, you can import it on the **String Normalization** page so that it can be used as a filter.

Task

For option definitions, click **?** in the interface.

1. In a text or spreadsheet program, type the aliases using this format:

   ```
   command, primary string, alias
   ```

   Possible commands are `add`, `modify`, and `delete`.

2. Save it as a .CSV file, then import the file.

Custom type filters

Custom type fields can be used as filters for views and reports and to create custom rules, to define and then access data that is most relevant to you.

The data generated by these custom type fields can be viewed in the **Details** section of the **Event Analysis** or **Flow Analysis** view.

You can add, edit, or remove custom types as well as export and import them. Use the **Edit** page to change the name. If it is a custom data type, you can also change the subtype settings.

Export or import custom types

When you export custom types, all are exported to the location that you select. When you import a file of custom types, the imported data replaces the current custom types on the system.

Custom queries

When you are setting up a custom query for a view, the predefined custom types appear as options when you are selecting the fields for the query. If you add a custom type as a field in the query, it acts as a filter. If the information that you are querying has no data for that custom type, the query table returns with no results. To avoid this, select the user field (Custom Field 1 through 10 in the **Event Field** column of the table) that returns the results that you need instead of using the custom type.

For example, let's say you want the query results to include source user data, if there is any. If you select **Source User** as a query field, it acts as a filter and, if the information you are querying has no source user data, the query returns no results. However, if you select User Field 7, which is designated as the user field for source user, it doesn't act as a filter and appears as a column in the table of results. If there is source user data, it appears in this column. If there isn't data for this field, the User Field 7 column is blank but other columns are populated.

Custom data type

When you select **Custom** in the **Data Type** field, you can define the meaning of each field in a multiple field log.

For example, a log (100300.351) contains three fields (100, 300.35, 1). The custom subtype allows you to specify what each of these fields is (integer, decimal, Boolean). For example:

- Initial log — `100300.351`
- 3 Subtypes — `Integer|decimal|boolean`
- Custom Subtype — `100|300.35|1`

> The subtypes can include a maximum of 8 bytes (64 bits) of data. **Space Usage** displays the number of bytes and bits used. When the maximum is exceeded, this field states, in red, that the space has been exceeded, for example: `Space Usage: 9 of 8 bytes, 72 of 64 bits.`

Name/value custom type

If you select the **Name/Value Group** data type, you can add a custom type that includes a group of name/value pairs that you specify. You can then filter views and queries by these pairs, and use them in field match alarms.

These are some of the characteristics of this feature:

- The name/value group fields must be filtered using a regular expression.
- The pairs can be correlated so they are selectable in the **Correlation rule editor**.
- The values part of the pair can only be collected through the Advanced Syslog Pareser (ASP).
- The maximum size for this custom type is 512 characters, which include the names. If it is larger than that, the values are cut off when collected. McAfee recommends that you limit the size and number of names.
- The names must consist of more than two characters.
- The name/value custom type can have up to 50 names.
- Each name in the name/value group is displayed in the global filter as <name of the group> - <name>.

Regular expression format for non-indexed custom types

Follow this formatting for non-indexed and indexed string, random string, and hashed string custom types:

- You can use `contains(<regular expression>)` syntax or just type a value into the non-indexed random string or hashed string fields, then filter custom types.
- You can use `regex()` syntax.
- With `contains()`, if you put a comma-separated filter into a non-indexed custom type field (Tom,John,Steve), the system performs a regular expression. The comma and asterisk act as a bar (|) and a period followed by the asterisk (.*) in a contains or non-indexed random string or hashed string field. If you type a character such as an asterisk (*), it is replaced with a period followed by the asterisk (.*).
- An invalid regular expression or a missing closing or opening parenthesis can cause an error telling you that you have a bad regular expression.
- You can only use a single `regex()` or `contains()` in non-indexed and indexed string, random string, and hashed string custom type filter fields.
- The Signature ID field now accepts `contains(<on part or all of a rule message>)` and `regex(<on part of a rule message>)`.
- A common search filter for `contains` is a single value, not a single value with a `.*` before and after.

Here are some common search filters:

- A single value
- Multiple values separated by commas, which are converted into a regular expression
- A `contains` statement with a * that acts like .*
- Advanced regular expressions, where you can use the `regex()` syntax

See *Description of `contains` and `regex` filters* .

Create custom types

Add custom types to use as filters if you have administrator privileges.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select **System Properties**, then click **Custom Types**.
2. Click **Add**, then complete the requested information.
3. Click **OK** to save the custom type.

Predefined custom types table

If you have administrator privileges, you can view a list of the predefined custom types on the custom types table (**System Properties | Custom Types**). If you do not have administrator privileges, use this list of predefined custom types.

Name	Data type	Event field	Flow field
Application	String	Custom Field - 1	None
Application_Layer	Signature ID	None	Custom Field - 4
Application_Protocol	String	Custom Field - 1	None
Authoritative_Answer	String	Custom Field - 10	None
Bcc	String	Custom Field - 9	None

Name	Data type	Event field	Flow field
Cc	String	Custom Field - 8	None
Client_Version	String	Custom Field - 9	None
Command	String	Custom Field - 2	None
Confidence	Unsigned Integer	Custom Field - 8	None
Contact_Name	String	Custom Field - 6	None
Contact_Nickname	String	Custom Field - 8	None
Cookie	String	Custom Field - 9	None
Database_Name	String	Custom Field - 8	None
Destination User	String	Custom Field - 6	Custom Field - 1
Destination_Filename	String	Custom Field - 9	None
Direction	String	Custom Field - 10	None
DNS_Class	String	Custom Field - 8	None
DNS_Name	String	Custom Field - 5	None
DNS_Type	String	Custom Field - 6	None
Domain	String	Custom Field - 3	None
End_Page	Unsigned Integer	Custom Field - 9	None
File_Operation	String	Custom Field - 5	None
File_Operation_Succeeded	String	Custom Field - 6	None
Filename	String	Custom Field - 3	None
Flow_Flags	Unsigned Integer	None	Custom Field - 1
From	String	Custom Field - 5	None
Hops	Unsigned Integer	Custom Field - 8	None
Host	String	Custom Field - 4	None
HTTP_Layer	Signature ID	None	Custom Field - 5
HTTP_Req_Cookie	String	None	Custom Field - 3
HTTP_Req_Host	String	None	Custom Field - 5
HTTP_Req_Method	String	None	Custom Field - 6
HTTP_Req_Reference	String	None	Custom Field - 4
HTTP_Req_URL	String	None	Custom Field - 2
HTTP_Resp_Length	Unsigned Integer	None	Custom Field - 5
HTTP_Resp_Status	Unsigned Integer	None	Custom Field - 4
HTTP_Resp_TTFB	Unsigned Integer	None	Custom Field - 6
HTTP_Resp_TTLB	Unsigned Integer	None	Custom Field - 7
HTTP_User_Agent	String	None	Custom Field - 7
Interface	String	Custom Field - 8	None
Job_Name	String	Custom Field - 5	None
Language	String	Custom Field - 10	None
Local_User_Name	String	Custom Field - 5	None
Message_Text	String	Custom Field - 9	None

Name	Data type	Event field	Flow field
Method	String	Custom Field - 5	None
Nat_Details • NAT_Address • NAT_Port • NAT_Type	Custom • IPv4 Address • Unsigned Integer • Unsigned Integer	Custom Field - 9	Custom Field - 1
Network_Layer	Signature ID	None	Custom Field - 1
NTP_Client_Mode	String	Custom Field - 5	None
NTP_Offset_To_Monitor	Unsigned Integer	Custom Field - 8	None
NTP_Opcode	String	Custom Field - 10	None
NTP_Request	String	Custom Field - 9	None
NTP_Server_Mode	String	Custom Field - 6	None
Num_Copies	Unsigned Integer	Custom Field - 6	None
Object	String	Custom Field - 5	None
Object_Type	String	Custom Field - 2	None
Priority	Unsigned Integer	Custom Field - 8	None
Query_Response	String	Custom Field - 9	None
Referer	String	Custom Field - 10	None
Response Time • Seconds • Milliseconds	Custom • Unsigned Integer • Unsigned Integer	Custom Field - 10	None
RTMP_Application	String	Custom Field - 9	None
Session_Layer	String	None	Custom Field - 3
SNMP_Error_Code	String	Custom Field - 10	None
SNMP_Item	String	Custom Field - 6	None
SNMP_Item_Type	String	Custom Field - 8	None
SNMP_Operation	String	Custom Field - 5	None
SNMP_Version	String	Custom Field - 9	None
Source User	String	Custom Field - 7	
Start_Page	Unsigned Integer	Custom Field - 8	None
Subject	String	Custom Field - 10	None
SWF_URL	String	Custom Field - 5	None
TC_URL	String	Custom Field - 6	None
To	String	Custom Field - 6	None
Transport_Layer	Signature ID	None	Custom Field - 2
URL	String	Custom Field - 8	None
User_Agent	String	Custom Field - 6	None
User_Nickname	String	Custom Field - 5	None
Version	String	Custom Field - 10	None

Add Time custom types

You can add custom types that enable you to store time data.

Time - Seconds Precision stores time data down to the second. **Time - Nanosecond Precision** stores time down to the nanosecond. It includes a floating point number with nine precision values representing the nanoseconds.

> If you select **Index** when adding this custom type, the field shows up as a filter on queries, views, and filters. It doesn't appear in distribution components and isn't available in data enrichment, watchlists, or alarms.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select the system, click the **Properties** icon, then click **Custom Types | Add**.
2. In the **Data Type** field, click **Time - Seconds Precision** or **Time - Nanosecond Precision**, fill in the remaining information, then click **OK**.

Name/value custom types

The name/value custom type consists of a group of name/value pairs that you specify. You can filter views and queries by these pairs, and use them in **Internal Event Match** alarms.

Here are some of the characteristics of this feature:

- The name/value group fields must be filtered using a regular expression.
- They can be correlated so they are selectable in the **Correlation rule editor**.
- The values part of the pair can only be collected through ASP.
- The maximum size for this custom type is 512 characters, which includes the names. Characters beyond 512 are cut off when collected. McAfee recommends that you limit the size and number of names.
- The names must consist of more than two characters.
- The name/value custom type can have up to 50 names.
- Each name in the name/value group is displayed in the global filter as <name of the group> - <name>.

Add name/value group custom type

If you add a group of name/value pairs, you can filter views and queries by them and use them in **Internal Event Match** alarms.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select the system, then click the **Properties** icon.
2. Click **Custom Types**, then click **Add**.
3. In the **Data Type** field, click **Name/Value Group**, fill in the remaining information, then click **OK**.

8

Managing cases

Use the ESM case manager to assign and track work items and support tickets associated with network events. To access this feature, you must be part of a group that has the **Case Management User** privilege enabled.

There are five ways to add a case:

- On the **Case Management** view
- On the **Cases** pane, without linking to an event
- On the **Event Analysis** view, linking it to an event
- When you set up an alarm
- On a triggered alarm notification

Contents

Add a case

Your first step in tracking a task generated as the result of a network event is to add a case to the case management system.

Task

For option definitions, click **?** in the interface.

1. On the **Cases** pane, click the **Add Case** icon .
2. Fill in the information requested, then click **OK**.

The case is added to the **Cases** pane of the user the case is assigned to. If you selected **Email case**, an email is also sent (see *Email a case*).

Create a case from an event

To track an event on the **Event Analysis** view, create a case. This enables workflow tracking.

Task

For option definitions, click **?** in the interface.

1. On the views list, select **Event Views** | **Event Analysis**.
2. Click the event, click the menu icon , then click **Actions** | **Create a new case**.
3. Complete the information requested, then click **OK** to save the case.

The new case includes the event data in the **Message** table.

Add events to an existing case

Add one or more events to an existing case to keep track of actions taken in response to those events.

Task

For option definitions, click **?** in the interface.

1. On the views pane, select **Event Views** from the view drop-down list, then click **Event Analysis**.
2. Select the events, then do one of the following:
   - Click the **Assign Events to a Case or Remedy** icon and select **Add events to a case**.
   - Click the **Menu** icon , highlight **Actions**, then click **Add events to a case**.
3. Select the case and click **Add**.

   The **Case Details** page lists the event ID in the **Messages** table.
4. Click **OK**, then click **Close**.

Edit or close a case

If you have **Case Management Administrator** privileges, you can modify any case on the system. If you have **Case Management User** privileges, you can modify only cases that are assigned to you.

Task

For option definitions, click **?** in the interface.

1. Access **Case Details** in one of these ways.

For...	Do this...
A case assigned to you	1 Select the case on the **Cases** pane. 2 Click the **Edit Case** icon .
A case not assigned to you	1 Click the **Open Case Management** icon in the **Cases** pane. 2 Select the case to be modified. 3 Click the **Edit Case** icon at the bottom of the view.

2. Edit the settings or close the case in the **Status** field.
3. Click **OK** to save the changes.

The changes are recorded in the **Notes** section of the **Case Details** page. If you closed the case, it no longer appears on the **Cases** pane, but remains on the **Case Management** list with the status changed to **Closed**.

View case details

If you have **Administrator** rights on the ESM you can view and take action on any case on the ESM. All the users in a group can view any case in their group.

Task

For option definitions, click **?** in the interface.

1. On the **Cases** pane, click the **Open Case Management** icon .

   The **Case Management** view opens, listing all cases on the system.
2. Review the data on the **Notes** and **Source Events** tabs.
3. For further details, double-click the case, then review the information on the **Case Details** page.

Add case status levels

The case manager comes with two status levels: **Open** and **Closed**. You can add other statuses that cases can be assigned to.

Task

For option definitions, click **?** in the interface.

1. On the **Cases** pane, click the **Open Case Management** icon .
2. On the **Case Management** view, click the **Case Management Settings** icon on the bottom toolbar, then click **Add**.

3 Type a name for the status, then select if you want this status to be the default for new cases.

4 Select if you want cases with this status to be shown in the **Cases** pane, then click **OK**.

Email cases

Set the system to automatically send an email message to the person or group a case is assigned to, every time a case is added or reassigned.

> **Before you begin**
>
> You must have **Case Management Administrator** privileges.

You can also email a case notification manually, and include case notes and event details.

To...	Do this...
Email a case automatically	1 On the **Cases** pane, click the **Open Case Management** icon. 2 Click the **Case Management Settings** icon. 3 Select **Send an email when a case is assigned**, then click **Close**. Email addresses for the users must be on the ESM (see *Setup users*).
Email an existing case manually	1 On the **Cases** pane, select the case you want to email, then click the **Edit Case** icon. 2 On **Case Details**, click **Email Case**, then fill in the **From** and **To** fields. 3 Select whether you want to include the notes and attach a CSV file of the event details. 4 Type any notes you want to include in the email message, then click **Send**.

View all cases

If you have **Administrative** privileges on the ESM, you can manage all cases on the system, whether they are currently open or closed. **Case Management Administrator** privileges give you the ability to create statuses, organizations, and set the automatic email functionality.

Task

For option definitions, click **?** in the interface.

1 On the **Cases** pane, click the **Open Case Management** icon.

The **Case Management** view open.

2 Do any of the following:

To do this...	Do this...
Add a case	Click the **Add Case** icon on the toolbar at the bottom of the view.
View or edit the selected case	Click the **Edit Case** icon on the toolbar at the bottom of the view.
Email the selected case	Click the **Email Case** icon on the toolbar at the bottom of the view.
Set a case up to send an email when a case is added or changed	Click the **Case Management Settings** icon on the toolbar at the bottom of the view.
Add or edit the statuses available for cases	Click the **Case Management Settings** icon and click **Add**, **Edit**, or **Delete**.
View the notes, history, and source events for the case you select	Click **Notes**, **History**, or **Source Events**. When you click **Source Events**, the **Source Event details** tabs open. If the tabs aren't visible or if they are visible and you want to hide them, click the **View Source Event details** icon on the toolbar at the bottom of the view. The **History** tab records any time a user views a case. If the same user views a case more than once within five minutes, it doesn't update the record each time.
Filter the cases	On the **Filters** pane, select or type the data you want to filter the cases by, then click the **Run Query** icon. The list of cases changes to show only the ones that meet the filter criteria.

Generate case management reports

There are six case management reports available on the ESM.

Task

For option definitions, click **?** in the interface.

1 On the **System Properties** page, click **Reports** | **Add**.

2 Complete sections 1, 2, and 3.

3 In section 4, select **Query CSV**.

4 In section 5, select the case management report to run.

- **Case Management Summary** — Includes case ID numbers, the severity assigned to the cases, their status, the users they are assigned to, the organizations where they are assigned (if any), the date and time that the cases were added, the date and time that the cases were updated (if they have been), and the case summaries.

- **Case Management Details** — Includes all information in the **Case Management Summary** report as well as the ID numbers of the events linked to the cases and the information included in the notes sections of the cases.

- **Case Time to Resolution** — Shows the length of time that it took between status changes (for example, the differential between the **Open** time stamp and **Closed** time stamp). By default, it lists the cases with a status of **Closed** by **Case ID** number as well as severity, organization, **Created** date, last update, summary, and time difference.

- **Cases per Assignee** — Includes the number of cases assigned to a user or group.

- **Cases per Organization** — Includes the number of cases per organization.
- **Cases per Status** — Includes the number of cases per status type.

5 Complete section 6 (see *Description of* `contain` *and* `regex` *filters*), then click **Save**.

The report is saved and added to the **Reports** list.

9

Working with the Asset Manager

The **Asset Manager** provides a centralized location that allows you to discover, manually create, and import assets.

On the **Asset** tab, you can create a group to contain one or more assets. You can perform the following operations on the entire group:

- Change the attributes for all assets in the group.

  This change is not persistent. If you add an asset to a changed group, it will not automatically inherit the previous settings.

- Use drag and drop operations.
- Rename a group if necessary.

Asset groups allow you to categorize assets in ways that are unavailable with asset tagging. For example, if you want to create an asset group for each building on your campus. The asset consists of an IP address and a collection of tags. The tags describe the operating system the asset is running and a collection of services for which the asset is responsible.

There are two ways that the tags of an asset can be defined: by the system when an asset is retrieved or by the user when an asset is added or edited. If the system sets up the tags, they are updated each time the asset is retrieved if they have changed. If the user sets up the tags, the system will not update the tag when the asset is retrieved, even if they have changed. If you add or edit the tags of an asset but you want the system to update them when the asset is retrieved, click **Reset**. You must complete this action each time you change the tag settings.

Configuration management is part of standard compliance regulations such as PCI, HIPPA, and SOX. It allows you to monitor any changes that might be made to the configuration of your routers and switches, thus preventing system vulnerabilities. On the ESM, the configuration management feature enables you to:

- Set the frequency with which devices must be polled.
- Select the discovered devices on which to check configuration.
- Identify a retrieved configuration file as the default for the device.
- View the configuration data, download the data to a file, and compare the configuration information of the two devices.

Contents

Manage assets

An asset is any device on the network that has an IP address.

On the **Asset** tab of the **Asset Manager**, you can create assets, modify their tags, create asset groups, add asset sources, and assign an asset to an asset group. You can also manipulate the assets that are learned from one of the vulnerability assessment vendors.

Task

For option definitions, click **?** in the interface.

1. Click the **Asset Manager** quick launch icon .
2. Make sure the **Asset** tab is selected.
3. Manage the assets as needed, then click **OK**.

Tasks

- *Define old assets* on page 274
  The **Old Assets** group on the **Asset Manager** allows you to store assets that haven't been detected in the period of time that you define.

Define old assets

The **Old Assets** group on the **Asset Manager** allows you to store assets that haven't been detected in the period of time that you define.

Task

For option definitions, click **?** in the interface.

1. Click the **Asset Manager** quick launch icon .
2. On the **Asset** tab, double-click the **Old Assets** group on the list of assets.
3. Select the number of days since an asset was last detected before it must be moved to the **Old Assets** folder, then click **OK**.

Set up configuration management

Configuration management retrieves the configuration files of devices that have been successfully discovered using the CLI profile. Once the network discovery process is completed, you must set up configuration management.

Task

For option definitions, click **?** in the interface.

1. Click the **Asset Manager** quick launch icon, then select the **Configuration Management** tab.
2. Perform any of the available actions, then click **OK**.

Tasks

- *Manage retrieved configuration files* on page 275
  There are several things you can do to manage the files that are retrieved when the configuration of your routers and switches is checked.

Manage retrieved configuration files

There are several things you can do to manage the files that are retrieved when the configuration of your routers and switches is checked.

> **Before you begin**
>
> Retrieve configuration files (see *Set up configuration management*).

Task

For option definitions, click **?** in the interface.

1. Click the **Asset Manager** quick launch icon, then select the **Configuration Management** tab.
2. Perform any of the available actions in the **Retrieved configuration files** section of the page.

Network Discovery

Network Discovery shows the physical locations where events have occurred on your network, increasing your ability to track down events.

Network Discovery is for advanced users with extensive network knowledge and is an assigned privilege only. You must have privileges enabled to create and view **Network Discovery** and modify the switch settings on **Network Port Control**.

> **Network Discovery** from SNMPv3, Telnet, or SSH is not FIPS-compliant. If you are required to comply with FIPS regulations, do not use these features.

Discover the network

The first step in mapping your network is discovering the network. You must set the parameters before initiating the scan.

Task

For option definitions, click **?** in the interface.

1. Click the **Asset Manager** quick launch icon, then select the **Network Discovery** tab.
2. Click **Settings**, then click **Add** on the **Configure Network Settings** page to add the parameters for this discovery.
3. Complete the **Network Discovery Parameters** settings.
4. Click **OK**. The parameters you defined are added to the **Configure Network Settings** list.
5. Perform other actions as needed.
6. Click **Discover Network** to initiate the scan. If you must stop the discovery, click **Stop Discovery**.

   The **Network Device** section of the page is populated with the data from the scan.
7. Click **OK**.

Manage the IP exclusion list

You can add IP addresses to the **IP Exclusion List** if you want to exclude them from the network discovery search.

Task

For option definitions, click **?** in the interface.

1. Click the **Asset Manager** quick launch icon, then select the **Network Discovery** tab.
2. Click **IP Exclusion list**.
3. Add a new address, edit, or remove an existing one.
4. Click **OK** to save your changes.

Discover endpoints

When you set up your network, add IP addresses to the exclusion list, and discover your network, you must discover endpoints connected to your devices.

Task

For option definitions, click **?** in the interface.

1. Click the **Asset Manager** quick launch icon, then select the **Network Discovery** tab.
2. Click **Discover Endpoint** to initiate the scan now.

   The results and status of the scan are listed in the **Endpoint Devices** section of the page.
3. To schedule auto discovery of the endpoints, select **Auto discover every** and select the frequency.

View a map of the network

You can generate a graphical representation of your network that allows you to maneuver the devices to any position.

Task

For option definitions, click **?** in the interface.

1. Click the **Asset Manager** quick launch icon, then click the **Network Discovery** tab.
2. Click **Network Map**.

   The graphical representation of your network opens.
3. Move devices or roll your mouse over a device to view its properties.

Change Network Discovery behavior

You can change the default ping, number of end station, and concurrent devices settings of **Network Discovery**.

Task

For option definitions, click **?** in the interface.

1. On the ESM console, click the **Asset Manager** quick launch icon.
2. Click the **Network Discovery** tab, click **Settings**, then click **Advanced**.
3. Change the settings as needed, then click **OK**.

Asset Sources

You can retrieve data from your **Active Directory**, if you have one, or an Altiris server using **Asset Sources**.

Active Directory allows you to filter event data by selecting the retrieved users or groups in the **Source User** or **Destination User** view query filter fields. This improves your ability to provide compliance data for requirements like PCI. Altiris and **Active Directory** retrieve assets such as computers with IP addresses, and add them to the assets table.

> In order to retrieve assets on Altiris, you must have **Asset Manager** privileges on the Altiris Management Console.

Active Directory doesn't typically store IP address information. The system uses DNS to query for the address once it gets the name from **Active Directory**. If it can't find the address of the computer, it doesn't get added to the **Assets** table. For this reason, the DNS server on the system needs to contain the DNS information for **Active Directory** computers.

You can add IP addresses to **Active Directory**. If you do this, modify the `networkAddress` attribute on your computer objects so the system uses those IP addresses instead of querying DNS.

Manage asset sources

Retrieve data from your Active Directory or an Altiris server.

Task

For option definitions, click **?** in the interface.

1. Click the **Asset Manager** quick launch icon, then click the **Asset Sources** tab.

   The **Asset Sources** tree shows the ESM and Receivers on the system, and their current asset sources.

   > An ESM can have one and Receivers can have multiple asset sources.

2. Select a device then select either of the available actions.

Manage vulnerability assessment sources

You can retrieve data from a variety of VA vendors using **Vulnerability Assessment**. To communicate with the desired VA sources, you must add the source to the system. Once a source is added to the system, you can retrieve the VA data.

Task

For option definitions, click **?** in the interface.

1. Click the **Asset Manager** quick launch icon, then click the **Vulnerability Assessment** tab.
2. Add, edit, remove, or retrieve VA sources, then write them to the device.
3. Click **OK**.

Zone Management

Zones can be used to categorize devices and data sources on your network.

This enables you to organize devices and the events they generate into related groupings by geographic location and IP address. For example, if you have offices on the East Coast and the West Coast and you want the events generated by each office to be grouped together, you add two zones and assign the devices whose events must be grouped to each of the zones. To group the events from each office by specific IP addresses, you add subzones to each of the zones.

Manage zones

Zones help you categorize your devices and data sources by geolocation or ASN. You must add zones, either individually or importing a file exported from another machine, and assign the devices or data sources to the zones.

Task

For option definitions, click **?** in the interface.

1. Click the **Asset Manager** quick launch icon, then select **Zone Management**.
2. Add a zone or subzone, edit or remove existing zones, or import or export zone settings.
3. Rollout any changes you make, then click **OK**

Add a zone

The first step in zone management is to add the zones used to categorize your devices and data sources. They can be added individually using the **Add Zone** feature or you can import a file that was exported from another system. When a zone is added, you can edit its settings when required.

Task

For option definitions, click **?** in the interface.

1. Click the **Asset Manager** quick launch icon , then click **Zone Management**.
2. Enter the information requested and assign devices to the zone, then click **OK**.

Export zone settings

You can export the zone settings from your ESM so you can import them to another ESM.

Task

For option definitions, click **?** in the interface.

1. Click the **Asset Manager** icon , then click **Zone Management**.
2. Click **Export**, then select the type of file you want to export.
3. Click **OK** and select the file to download now.

Import zone settings

This import feature allows you to import a zone file as is, or edit the data before importing it.

> **Before you begin**
>
> Export a file of zone settings from another ESM so that it can be imported to your ESM.

Task

For option definitions, click **?** in the interface.

1. Open the zone settings file that you want to import.
   - If this file is an import zone definition file, it has eight columns: Command, Zone Name, Parent Name, Geo Location, ASN, Default, IPStart, and IPStop.
   - If it is an import device to zone assignment file, it has three columns: Command, Device Name, and Zone Name.
2. Enter commands in the **Command** column to specify the action to be taken for each line when it is imported.
   - `add` — Import the data in the line as it is.
   - `edit` — (Zone definition file only) Import the data with any changes you make to the data.

     > To make changes to a subzone range, you must remove the existing range, then add the range with the changes. You can't edit it directly.

   - `remove` — Delete the zone matching this line from the ESM.
3. Save the changes you made, then close the file.

4. Click the **Asset Manager** quick launch icon , then click the **Zone Management** tab.
5. Click **Import**, then select the type of import it will be.
6. Click **OK**, then locate the file to be imported and click **Upload**.

   The system notifies you if errors are detected in the file.
7. If there are errors, make the necessary corrections to the file and try again.
8. Roll out the changes to update the devices.

Add a subzone

Once you have added a zone, you can add subzones to further categorize the devices and events by IP address.

> **Before you begin**
>
> Add zones on the **Zones Management** tab.

Task

For option definitions, click **?** in the interface.

1. Click the **Asset Manager** quick launch icon , then click the **Zone Management** tab.
2. Select a zone, then click **Add Sub-zone**.
3. Fill in the information requested, then click **OK**.

Asset, threat, and risk assessment

McAfee Threat Intelligence Services (MTIS) and the vulnerability assessment sources on your system generate a list of known threats. The severity of these threats and the criticality of each of your assets are used to calculate the level of risk to your enterprise.

Asset Manager

When you add an asset to your **Asset Manager** (see *Manage assets*), you assign a criticality level. This setting represents how critical the asset is to your operation. For example, if you have one computer managing your enterprise setup and it doesn't have a backup, its criticality is high. If, however, you have two computers managing your setup, each with a backup, the criticality level is considerably lower.

You can select whether to use or ignore an asset in risk calculation for your enterprise on the **Edit** menu of the **Asset** tab.

Threat Management

The **Threat Management** tab on the **Asset Manager** shows a list of known threats, their severity, the vendor, and whether they are used when calculating risk. You can enable or disable specific threats so that they are or are not used to calculate risk. You can also view the details for the threats on the list. These details include recommendations for dealing with the threat as well as countermeasures you can use.

Pre-defined views

Three pre-defined views (see *Working with ESM views*) summarize and display asset, threat, and risk data:

- **Asset threat summary** — Displays the top assets by risk score and threat levels, and threat levels by risk.
- **Recent threat summary** — Displays recent threats by vendor, risk, asset, and available protection products.
- **Vulnerability summary** — Displays vulnerabilities by threats and assets.

Details of individual items on these views can be accessed from the component menus.

Custom views

Options have been added to the **Query Wizard** to enable you to set up custom views (see *Add a custom view*) that display the data you need.

- On the **Dial Control** and **Count** components, you can display the average enterprise risk score and the total enterprise risk score.
- On the **Pie Chart**, **Bar Chart**, and **List** components, you can display the assets at risk, product threat protection, threat by asset, threat by risk, and threat by vendor.
- On the **Table** component, you can display assets, most recent threats, top assets by risk score, and top threats by risk score.

Manage known threats

Select which known threats to use in risk calculations.

Each threat has a severity rating. This rating and the criticality rating for your assets are used to calculate the overall severity of a threat to your system.

Task

For option definitions, click **?** in the interface.

1. On the ESM console, click the **Asset Manager** quick launch icon.
2. Click the **Threat Management** tab to display the list of known threats.
3. Select a known threat, then do one of the following:
   - Click **Threat Details** to view the details about the threat.
   - If the **Calculate Risk** column says **Yes** and you do not want it to be used in risk calculations, click **Disable**.
   - If the **Calculate Risk** column says **No**, and you want it to be used in risk calculations, click **Enable**.
4. Click **OK**.

10

Managing policies and rules

Create, apply, and view policy templates and rules.

Contents

Understanding the Policy Editor

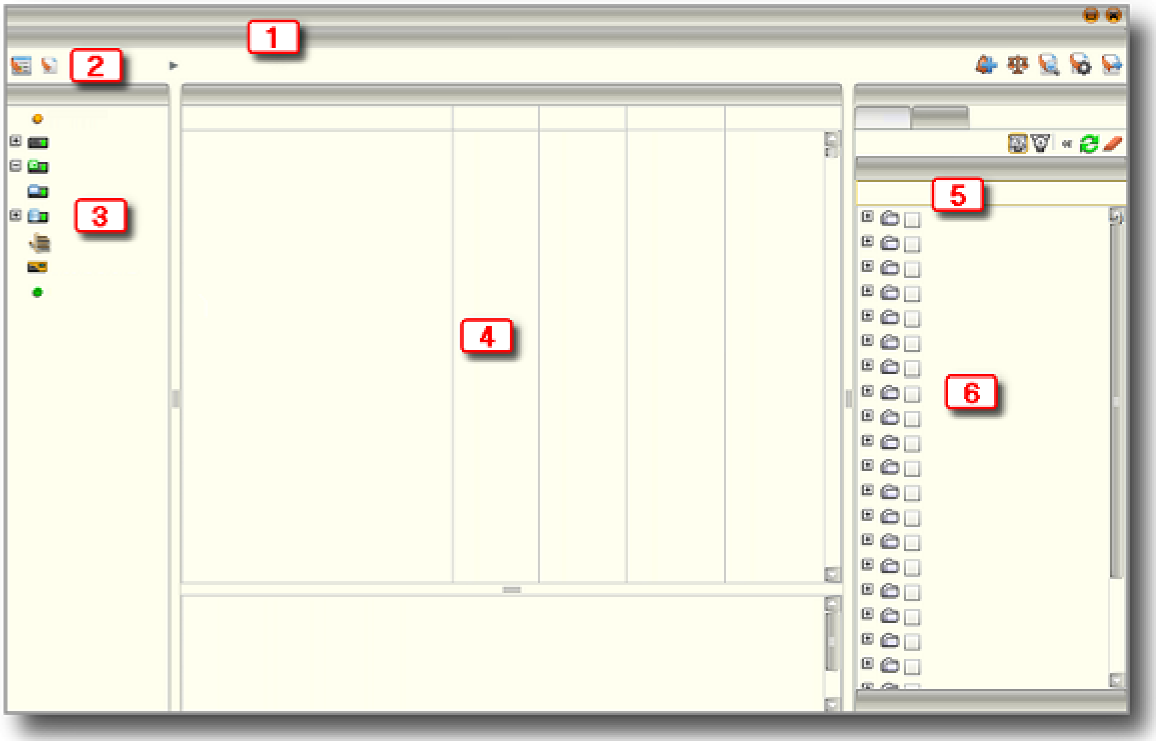
The **Policy Editor** allows you to create policy templates and customize individual policies.

Policy templates, as well as policy settings on any device, can inherit values from their parents. Inheritance allows policy settings applied to a device to be infinitely configurable while maintaining a level of simplicity and ease-of use. Each policy that is added, with all devices, has an entry in the **Policy Tree**.

> When operating in FIPS mode, do not update rules through the rule server. Instead, update them manually (see *Check for rule updates*).

The McAfee rule server maintains all rules, variables, and preprocessors with predefined values or usages. The **Default Policy** inherits its values and settings from these McAfee-maintained settings, and is the ancestor of all other policies. Settings for all other policies and devices inherit their values from the **Default Policy** by default.

To open the editor, click the **Policy Editor** icon, or select the system or device node in the navigation tree and click the **Policy Editor** icon in the actions toolbar .



1 Menu bar

2 Bread crumb navigation pane

3 Rule types pane

4 Rule display

5 Tag search field

6 Filters/Tagging pane

The types of rules listed in the **Rule Types** pane vary based on the type of device selected in the system navigation tree. The bread crumb navigation pane displays the hierarchy of the policy you have selected. To change the current policy, click the policy's name on the bread crumb navigator pane and click the arrow in the bread crumb navigator pane, which displays the children of the policy. Or, click the **Policy Tree** icon . The menu on the **Policy Tree** lists the things you can do to a policy.

When you select a type in the **Rule Type** pane, all rules of that type are listed in the rule display section. The columns list the specific rule parameters that you can adjust for each rule (except for **Variable** and **Preprocessor**). You can change the settings by clicking the current setting and selecting a new one from the drop-down list.

The **Filters/Tagging** pane filters rules displayed in the **Policy Editor** so that you can view only those that meet your criteria, or add tags to the rules to define their functions.

The Policy Tree

The **Policy Tree** lists the policies and devices on the system.

The **Policy Tree** allows you to:

- Navigate to view the details of a specific policy or device
- Add a policy to the system
- Modify the order of the policies or devices
- Locate any policy or device by name
- Rename, delete, copy or copy and replace, import, or export a policy

Icon	Description
	Policy
	Device is out of sync
	Device is staged
	Device is up-to-date
	Virtual Device is out of sync
	Virtual Device is staged
	Virtual Device is up-to-date
	Data Source is out of sync
	Data Source is staged
	Data Source is up-to-date
	ADM is out of sync
	DEM is out of sync

Manage policies on the Policy Tree

Manage the policies on the system by taking actions on the **Policy Tree**.

Task

For option definitions, click **?** in the interface.

1. On the ESM console, click the **Policy Editor** icon , then click the **Policy Tree** icon .
2. Do any of the following:

To...	Do this...
View the rules of a policy	• Double-click the policy. The rules are listed in the rule display section of the **Policy Editor**.
Make a policy the child of another	• Select the child, then drag-and-drop it on the parent. You can only drag-and-drop devices onto policies.
Locate a policy or device	• Type the name in the search field.
Add a new policy	1 Select the policy that you want to add a new policy to, then click the **Policy Tree Menu Items** icon . 2 Click **New**, enter a name for the policy, then click **OK**.

To...	Do this...
Rename a policy	1 Select the policy you want to rename, then click the **Policy Tree Menu Items** icon. 2 Click **Rename**, enter the new name, then click **OK**.
Delete a policy	1 Select the policy you want to delete, then click the **Policy Tree Menu Items** icon. 2 Click **Delete**, then click **OK** on the confirmation page.
Copy a policy	1 Select the policy you want to copy, then click the **Policy Tree Menu Items** icon. 2 Click **Copy**, enter a name for the new policy, then click **OK**.
Move devices to a policy	1 Select the devices that you need to move, then click the **Policy Tree Menu Items** icon ☰. 2 Highlight **Move**, then select the policy you want to move the devices to.
Copy and replace a policy	1 Select the policy you want to copy, click the **Policy Tree Menu Items** icon, then select **Copy and Replace**. 2 In **Select Policy**, select the policy you want to replace. 3 Click **OK**, then click **Yes**. The settings of the policy you copied are applied to the policy you replaced, but the name remains the same.
Import a policy	The import occurs from the currently selected device down. 1 Select the level on the tree where you want to import the new policy, click the **Policy Tree Menu Items** icon, then select **Import**. 2 Browse to and upload the file you want to import. ℹ If an error message appears, see *Troubleshoot Import Policy* for a solution. 3 Select the import options that you want to use, then click **OK**.
Export a policy	1 Select the policy that you want to export. The export includes the selected node and up in the hierarchy. Only standard rules with custom settings or custom rules are exported, so at least one of these must be selected for the **Export** option to enable. 2 Click **Menu**, then select **Export**. 3 Select the export options you want to use, click **OK**, then select the location to save the exported policy file.

3 To close the **Policy Tree**, double-click a policy or device, or click the close icon ✖.

Rule types and their properties

The **Rule Types** pane of the **Policy Editor** page allows you to access all rules by type.

You can import, export, add, edit, and perform various operations on a rule once it is selected. The functions that you can perform are limited by the type of rule.

All rules are based on a hierarchy system in which each rule inherits its usage from its parent. The rule (except for **Variable** and **Preprocessor** rules) is marked with an icon to indicate where it inherits its usage, and the icon has a dot on the lower-left corner if the inheritance chain broke somewhere below the current row.

Icon	Description
⋮	Indicates that the usage for this item is determined by the parent's setting. Most rules are set to inherit by default, but the usage can be changed.
▪⋮	Indicates that the inheritance chain is broken at this level and the inheritance value is turned off. The current rule usage is used when the inheritance chain is broken.
┳	Indicates that the inheritance chain is broken at this level. Items below this point do not inherit any further up the chain. This setting is useful to force rules to use their default.
⋰	Indicates a custom value; you set the value to something other than the default.

Properties

When a rule type is selected, the rule display pane shows all rules of that type on the system and their property settings. These properties can include **Action**, **Severity**, **Blacklist**, **Aggregation**, and **Copy Packet**.

This property...	Allows you to...
Action	Set the action performed by this rule. The available options are based on the type of rule. Blacklist items can't move on to their destination; if **Pass** is selected in the **Blacklist** column, the system automatically changes it to **Alert**.
Severity	Select the severity of the rule portion when the rule is triggered. Severity is based on 1 to 100, with 100 being the most severe.
Blacklist	Auto-create a blacklist entry on a per rule basis when the rule is triggered on the device. You can choose whether to blacklist only the IP address or the IP address and port.
Aggregation	Set per rule aggregation for events that are created when a rule is triggered. The aggregation settings defined on the **Event Aggregation** pages (see *Aggregate events or flows*) apply only to those rules that are set in the Policy Editor.
Copy Packet	Copy packet data to the ESM, which is useful in the event of lost communication. If there is a copy of the packet data, you can access the information by retrieving the copy.

Change these settings by clicking the current setting and selecting another.

Variables

A *variable* is a global setting or a placeholder for information that is user- or site-specific. Many rules use variables.

We recommend that you have extensive knowledge of Snort format before adding or modifying variables.

Variables are used to make rules behave in a specific way, which might vary from device to device. The ESM has many pre-set variables, but also provides the ability to add custom variables. When adding a rule, these variables appear as options in the drop-down list for the field type selected in the **Type** field on the **New Variable** page.

Each variable has a default value, but we recommend that you set some values that correspond to the specific environment of each device. No spaces are allowed when entering a variable name. If a space is necessary, use the underscore (_) character. To maximize the effectiveness of a device, it is particularly important to set the HOME_NET variable to the home network being protected by the specific device.

This table shows a list of common variables and their default values.

Variable names	Description	Default	Default description
EXTERNAL_NET	Everyone outside of the protected network	!$HOME_NET	Port 80
HOME_NET	Local protected network address space: (10.0.0.0/80)	Any	Same as HOME_NET
HTTP_PORTS	Web server ports: 80 or 80:90 for a range between 80 and 90	80	Any port except the HTTP_PORTS
HTTP_SERVE RS	Addresses of web servers: 192.168.15.4 or [192.168.15.4,172.16.61.5]	$HOME_NET	Same as HOME_NET
SHELLCODE_PORTS	Anything but web server ports	!$HTTP_PORTS	Same as HOME_NET
SMTP	Mail server addresses	$HOME_NET	Same as HOME_NET
SMTP_SERVERS	Mail server addresses	$HOME_NET	Same as HOME_NET
SQL_SERVERS	Addresses of SQL DB servers	$HOME_NET	Same as HOME_NET
TELNET_SERVERS	Addresses of telnet servers	$HOME_NET	Same as HOME_NET

Variables that come with the system can be modified. Custom variables can be added, modified, or deleted.

You can assign types to custom variables. Variable types are used when filtering rules for reporting and they determine the field in which the variables are available when adding or modifying a rule. Variable types are global in nature, and any changes that are made are reflected on all levels of the policy.

Manage variables

When you select the variable rule type on the **Policy Editor**, you can take several actions to manage both custom and predefined variables.

Task

For option definitions, click **?** in the interface.

1 Click the **Policy Editor** icon.

2 On the **Rule Types** pane, select **Variable**.

3 Do any of the following:

To...	Do this...
Add a new category	1 Select **New** | **Category**. 2 Enter a name for the new category, then click **OK**.
Add a custom variable	1 In the rules display pane, select the category, then click **New**. 2 Select **Variable**, then define the requested settings. 3 Click **OK**.
Modify a variable	1 In the rules display pane, select the variable to be modified. 2 Select **Edit**, then click **Modify**. 3 Modify the value or description, then click **OK**.
Delete a custom variable	1 In the rules display pane, select the variable to be removed. 2 Select **Edit**, then click **Delete**.
Import a variable	1 Select **File**, then click **Import** | **Variables**. 2 Click **Import**, then browse and upload the file. The import file must be a .txt file containing the following information in this format: VariableName;VariableValue; CategoryName (optional); Description (optional). If one field is missing, a semi-colon must be in place to act as a place holder.
Modify the type of custom variable	1 Select the custom variable. 2 Click **Edit**, then select **Modify**. 3 Change the variable type. When the variable type is set to something other than **No Type Selected** and committed, you can't change the value. 4 Click **OK** to save changes.

Detect TCP protocol anomalies and session hijacking

You can detect and alert on TCP protocol anomalies and check to TCP session hijacking using the Stream5 preprocessor variable.

Task

For option definitions, click **?** in the interface.

1 On the ESM console, click the **Policy Editor** icon .

2 In the **Rule Types** pane, click **Variable**.

3 In the rules display pane, click **preprocessor**, then select **STREAM5_TCP_PARAMS**.

4 On the **Modify Variable** page, add one of the following in the **Value** field:

- To detect and alert on TCP protocol anomalies, add `detect_anomalies` after **policy first**.
- To check for TCP session hijacking, add `detect_anomalies check_session_hijacking` after **policy first**.

Preprocessor rules

Preprocessors provide a way to unify anomaly detection and packet inspection in the McAfee Nitro IPS and IDS.

Preprocessors are vital to the accurate detection of many rules. Use the preprocessors that apply to your network configuration. Parameters for the preprocessors can be changed by editing the respective preprocessor variable under the **Variables** rule type in the **Policy Editor**.

Type	Description
RPC Normalization	Normalizes RPC protocol-specific traffic into a uniform way for detection purposes only. This preprocessor can prevent RPC fragmentation-related attacks from bypassing the Nitro IPS.
Portscan Detection	Generates an event if it detects a Portscan on the devices on the trusted side of your network. Once you have correctly set the HOME_NET variable, you should modify the variable SFPORTSCAN_PARMS (Variables | preprocessor) to read: `proto { all } scan_type { all } sense_level { medium } ignore_scanners` This is added to the sfportscan variable to eliminate what the Nitro IPS recognizes are port scans from the HOME_NET. Networks that place the Nitro IPS or IDS near a router or firewall that does Network Address Translation (NAT) appear to be portscanning to the Nitro IPS. Modifying the variable reduces what looks like false positive events. HOME_NET can't be set to “any” for ignore_scanners to work properly.
ZipZap	When serving web (HTTP) content, many web servers accept requests from web browsers, indicating that the web content can be compressed before it is sent. While this saves network bandwidth, compressed webpages cannot be analyzed by a device. The ZipZap preprocessor causes the web server to return this data in a raw, uncompressed and analyzable format. Enabling this preprocessor increases the amount of bandwidth used by web traffic.
Target-based IP Defragmenter	Models the actual targets on the network instead of merely modeling the protocols and looking for attacks within them. It uses the sfxhash data structure and linked lists for data handling internally, allowing it to have predictable and deterministic performance in any environment, which aids in managing heavily fragmented environments.
Web Request Normalization	Normalizes web requests into a uniform way for detection purposes only. It's always enabled; however, you are not allowed to make changes. There are two types of Web Request Normalization preprocessors, one for use with versions up to 8.2.x and the other for 8.3.0 and later. This preprocessor detects these attacks: • Web directory traversal attacks (http://something.com/./attack.cmd) • Double-encoded strings (http://something.com/%25%32%35%25%33%32%25%33%30attack.cmd) • Unicode normalization • Invalid characters in a web request URI
Target-based TCP Reassembly and TCP/UDP Session Tracking	Tracks sessions. It is a Stream5 preprocessor so the rule flow and flow bits keywords are usable with TCP and UDP traffic.

Manage preprocessor rules

Turn each preprocessor on or off, and set its inheritance.

Task

For option definitions, click **?** in the interface.

1. In the **Rule Types** pane on the **Policy Editor**, click **IPS** | **Preprocessor**.
2. Select **Inherit**, **On**, or **Off** for the active rules.

Firewall rules

Firewall rules are used to detect network events based on packet information such as protocol, port, or IP address on a Nitro IPS.

The firewall policy scans incoming packets and makes decisions based on initial information found before the packet is passed to the deep packet inspection engine. Firewall rules will block things like spoofed and invalid IP addresses. They also track the rate and size of network traffic.

These are the types of firewall rules:

- **Anomaly** — Detects anomalies. Many anomaly-based rules coincide with one another and are used with the values set in the **Variables** tab. For example, the rule **Long Connection Duration** and the variable **Long Duration Seconds** are used together to determine the number of seconds before the rule is triggered. To see more specific details on each rule, look at the detail section, located at the bottom of the page.
- **Anti-Spoof** — Detects invalid IP addresses. For example, if a reserved internal IP address is seen entering the network through a device, the anti-spoof rule is triggered.
- **Blacklist** — Determines the action to be taken on packets that are being sent to or from a blacklisted IP address or port.
- **DHCP** — Turns on and off the capability to allow DHCP traffic through a device.
- **IPv6** — Detects IPv6 traffic.
- **Port-Block** — Blocks certain ports.

Anomaly detection

Certain firewall rules are rate-based. A *rate-based rule* is a rule that only triggers an alert if your network traffic exceeds the thresholds defined by firewall-category variables in the **Policy Editor**. The default values for these variables might not make sense for your network's traffic, so the **Rate-Based Anomaly Detection Wizard** provides the ability to analyze graphs of your network flow data as it relates to these parameters (see *Anomaly Detection wizard*).

Firewall exceptions

Firewall exceptions are sometimes necessary to allow certain types of traffic to pass through the firewall that would otherwise be blocked. For example, if a valid internal address comes from the outside network, such as a VPN, it triggers an Incoming Bogons alert. To stop the alert, you must set up an exception to the firewall rule.

You can also select to treat an exception as an exception to the patterns defined in other exceptions, creating an exception to the exception list (in other words, include an address or block of addresses). If an address needs to be checked against a firewall rule and the IP address is in a block of addresses that has already been accepted, it can be excluded from the exception list by entering the IP address (or mask) and selecting the box.

As an example, the exception list already contains the block of addresses 10.0.0.0/24. All addresses in this range are an exception to the rule. If the source address 10.0.0.1 is active for this rule, select **Treat this as an exception to the patterns defined in other exceptions** and type 10.0.0.1 in the source field. The firewall rule then applies to 10.0.0.1, but not to any other address in the 10.0.0.0/24 block, because 10.0.0.1 is now the exception to the exception list.

Add a custom firewall rule

Typically, the default firewall rules are sufficient to protect the network. However, there might be an occasion where you need to add rules specific to a protected system or environment.

Task

For option definitions, click **?** in the interface.

1. In the **Rule Types** pane of the **Policy Editor**, select **IPS** | **Firewall**.
2. Select **New**, then click **Firewall Rule**.
3. Define the settings, then click **OK**.

The filters in the new rule are applied and the new rule appears in the rule display pane. If you click the filter icon ▼, the filtering is cleared.

Add firewall exceptions

Add exceptions to firewall rules to allow network events from specified protocols, IP addresses, or ports to pass through the firewall.

Task

For option definitions, click **?** in the interface.

1. On the **Policy Editor**, select **IPS** | **Firewall**.
2. In the rule display pane, click the rule that you want to add an exception to.

   > For help finding the rule, use filters in the **Filters/Tagging** pane (see *Filter rules*).

3. Select **New**, then click **Firewall Exception**.
4. Click **Add**, then select or type the values that define this exception.
5. Click **OK**.

Deep packet inspection rules

Deep packet inspection rules evaluate the contents of a packet and compare them with patterns in the rule signatures. When there is a match, the specified action is taken.
The BASE filter (in the **Filters/Tagging** pane) provides protection against known intrusions that might be damaging to a system or its data. The same is true for the MALWARE and VIRUS filters. POLICY and MULTIMEDIA filters inhibit or alert on network activities associated with user-defined network usage specifications and are not associated with potentially dangerous network intrusions. These are the general filter group types:

- Protective rules (BASE, MALWARE, PERIMETER, VIRUS)
- Policy rules (CHAT, MULTIMEDIA, PEERTOPEER, POLICY, SECURE APPLICATION GATEWAY)

Typically, the default rules are sufficient for protecting the network. However, there might be an occasion where rules specific to a protected system or environment are required. You can add custom deep packet inspection rules to the ESM (see *Add Deep Packet Inspection rules*).

Add deep packet inspection rules

Add a custom deep packet inspection rule when one is needed for a protected system or environment.

Task

For option definitions, click **?** in the interface.

1. On the **Policy Editor**, select **Nitro IPS** | **Deep Packet Inspection**.
2. Click **New**, then select **Deep Packet Inspection Rule**.
3. Define the settings, then click **OK**.

The filters in the new rule are applied and the new rule appears in the rule display pane. If you click the filter icon, the filtering is cleared and all the deep packet inspection rules are displayed.

Add deep packet inspection attribute

When you add or edit a deep packet inspection rule, one of the necessary steps is assigning attributes to the rule. These attributes define the action for the rule. You can add and delete custom options to the existing list so that they can be assigned to a rule.

Task

For option definitions, click **?** in the interface.

1. On the **Policy Editor**, select **IPS** | **Deep Packet Inspection** | **Add**.
2. From the drop-down list, select the category for this attribute.
3. In the **Options** field, select the action associated with this attribute.
4. Enter a value for the option selected, then click **OK**.

The option name and value are added to the **Rule options** table. Select the value to edit or delete it.

Internal rules

The **Internal** rule type contains rules with signature IDs between 3,000,000 and 3,999,999, which are internal alerts and do not have signatures like other rules do. These rules can only be enabled or disabled.

This rule type is available only when a Nitro IPS or virtual device is selected in the system navigation tree.

Manage internal rules

View the list of existing internal rules or change their status.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, select a Nitro IPS or virtual device.
2. In the **Rule Types** pane of the **Policy Editor**, select **IPS** | **Internal**.
3. In the **Enable** column, click **Select All**, **Select None**, or select or deselect individual rules.

Filter rules

Filter rules allow you to specify the action to take when data that you define is received by the Receiver.

Data order

Filter rules are written to the Receiver in this data order:

1. All non "catch-all" rules.
   a. stop = true and parse = false and log = false
   b. stop = true and parse = true and log = true
   c. stop = true and parse = true and log = false
   d. stop = true and parse = false and log = true
2. All "catch-all" rules

Rule order

If you have **Policy Administrator** rights, you can define the order that you want the Filter rules to run in. These rules then run in the most effective order to generate the data you need (see *Set order for ASP and Filter rules*).

Add Filter rules

You can add Filter rules to the **Policy Editor**.

Task

For option definitions, click **?** in the interface.

1. On the **Policy Editor**, select **Receiver** | **Filter**.
2. Select **New**, then click **Filter Rule**.
3. Complete the fields, then click **OK**
4. To enable the rule, select the rule in the rule display pane, click the setting in the **Action** column, then click **enabled**.

ASP rules

The ASP provides a mechanism to parse data out of syslog messages based on user-defined rules.

The rules instruct the ASP how to recognize a given message and where data resides in that message-specific event, such as signature IDs, IP addresses, ports, user names, and actions.

It is also ideal for sorting through complex log sources such as Linux and UNIX servers. This functionality requires you to write rules tailored to your Linux or UNIX environment.

> Knowledge of regular expressions is needed to use this feature.

When the system receives an ASP log, the time format has to match the format specified in the ASP rule. If it doesn't, the log isn't processed. You can add multiple custom time formats to increase the likelihood that the time format for the log matches (see *Add time format to ASP rules*).

If you have **Policy Administrator** rights, you can define the order for running the ASP rules. These rules then generate the data you need (see *Set order for ASP and Filter rules*).

Add a custom ASP rule

The **Advanced Syslog Parser Rule** editor allows you to create rules to parse ASP log data.

Task

For option definitions, click **?** in the interface.

1. On the **Policy Editor**, select **Receiver** | **Advanced Syslog Parser**.
2. Select **New**, then click **Advanced Syslog Parser Rule**.
3. Click each tab and fill in the information requested.
4. Click **Finish**.

Set order for ASP and Filter rules

If you have **Policy Administrator** rights, you can now set the execution order for Filter or ASP rules. This option sorts your rules efficiently to give you the data that you need most.

Task

For option definitions, click **?** in the interface.

1. On the ESM console, click the **Policy Editor** icon .
2. On the **Operations** menu, select **Order ASP Rules** or **Order Filter Rules**, then select a data source in the **Data source type** field.

   The left pane is populated with the rules that are available to put in order. The ordered rules are in the right pane.
3. On the **Standard Rules** or **Custom Rules** tab, move a rule from the left pane to the right pane (drag and drop or use the arrows), placing them above or below **Unordered Rules**.

   Unordered Rules represents the rules in the left pane, which are those that are in default order.
4. Use the arrows to reorder the rules, then click **OK** to save the changes.

Add time formats to ASP rules

When the system receives an Advanced Syslog Parser (ASP) log, the time format has to match the format specified in the ASP rule.
You can add multiple custom time formats to increases the likelihood that the time format for the log will match one of the given formats.

Task

For option definitions, click **?** in the interface.

1. On the ESM console, click the **Policy Editor** icon .
2. In the **Rule Types** pane, click **Receiver** | **Advanced Syslog Parser**.
3. After the ASP rules download, do one of the following:
   - To edit an existing rule, click the rule, then click **Edit** | **Modify**.
   - To add a new rule, click **New** | **Advanced Syslog Parser Rule**, then complete the **General**, **Parsing**, and **Field Assignment** tabs.
4. Click the **Mapping** tab, then click the plus icon above the **Time Format** table.

5 Click in the **Format** field, then select the time format.

6 Select the time fields that you want to use this format.

> **First Time** and **Last Time** refer to the first and last time the event is generated. Any **Custom Type** time fields that you added to the ESM (see *Custom type filters*) are also listed.

7 Click **OK**, then complete the remaining information on the **Mapping** tab.

Data source rules

The list of data source rules includes predefined and auto learned rules.

The Receiver auto learns data source rules as it processes the information sent to it by the data sources that are associated with the Receiver.

The **Data Source** option in the **Rule Types** pane is only visible when a policy, data source, **Advanced Syslog Parser**, or Receiver is selected in the system navigation tree. The description area at the bottom of the page gives detailed information concerning the selected rule. All rules have a severity setting that dictates the priority associated with a rule. The priority impacts how the alerts generated for these rules are shown for reporting purposes.

Data source rules have a defined default action. The Receiver assigns it to the event subtype associated with the rule. You can change this action (see *Set data source rule actions*).

Set data source rule actions

Data source rules have a defined default action. The Receiver assigns this action to the event subtype associated with the rule. You can change this action.

You can set the value of the event subtype per data source rule. This means that you can set rule actions for dashboards, reports, parsing rules, or alarms with different values, such as the outcome of a selective access rule (permit/deny).

Task

For option definitions, click **?** in the interface.

1 On the ESM console, click the **Policy Editor** icon , then select **Receiver** | **Data Source** in the **Rule Types** pane.

2 Click in the **Subtype** column for the rule you want to change, then select the new action.

- Select **enable** to populate the event subtype with the default action, **alert**.
- Select **disable**, if you don't want to collect events for the corresponding rule.
- Select any other action to populate the event subtype with that action.

Manage auto-learned data source rules

View a list of all auto-learned data source rules and edit or delete them.

Task

For option definitions, click **?** in the interface.

1 On the **Policy Editor**, select **Receiver** | **Data Source**.

2 On the **Filters/Tagging** pane, click the **Advanced** bar at the bottom of the pane.

3. On the **Origin** drop-down list, select **user defined**, then click the **Run Query** icon 🔄.

   All the auto-learned data source rules are listed in the display pane.

4. Select the rule you want to edit or delete, click **Edit**, then select **Modify** or **Delete Auto Learned Rules**.
   - If you selected **Modify**, change the name, description, or normalized ID, then click **OK**.
   - If you selected **Delete Auto Learned Rules**, select the correct option, then click **OK**.

Windows events rules

Windows events rules are used to generate events that are Windows related.

They are data source rules for Windows events and are separated from the data source rule type because they are a common use case. All rules of this type are defined by McAfee. You can't add, modify, or delete them, but you can change their property settings.

ADM rules

McAfee ADM is a series of network appliances powered by the ICE Deep Packet Inspection (DPI) Engine.

The ICE Engine is a software library and collection of protocol and content plug-in modules that can identify and extract content from raw network traffic in real time. It can fully reassemble and decode application level content, transforming cryptic network packet streams into easily readable content as if it were being read from a local file.

The ICE engine is capable of automatically identifying protocols and content types without the need to rely on fixed TCP port numbers or file extensions. ICE engine does not rely on signatures to perform its analysis and decoding, instead its modules implement full parsers for each protocol or content type. This results in extremely accurate identification and decoding of content and allows content to be identified and extracted even when that content is compressed or otherwise encoded and, therefore, doesn’t pass over the network in clear text.

As a result of this highly accurate identification and decoding, the ICE engine is able to offer a uniquely deep view of network traffic. For example, the ICE engine could receive a PDF document stream that traversed the network inside a .zip file, as a BASE-64 encoded attachment to an SMTP email from a SOCKS proxy server.

This application and document-awareness allow the ADM to provide invaluable security context. It can detect threats that can't be easily detected by a traditional IDS or Nitro IPS, such as:

- Leak of sensitive information and documents or communication policy violations.
- Unauthorized application traffic (for example, who’s using Gnutella?).
- Applications being used in unexpected ways (for example, HTTPS on non-standard port).
- Potentially malicious documents (for example, document does not match its extension).
- New generation of exploits (for example, PDF document with an embedded executable).

The ADM also detects malicious traffic patterns by detecting anomalies in application and transport protocols (for example, an RPC connection is malformed or TCP destination port is 0).

Supported applications and protocols

There are more than 500 supported applications and protocols in which ADM can monitor, decode, and detect anomalies. Here is a sample list:

- Low-level network protocols — TCP/IP, UDP, RTP, RPC, SOCKS, DNS, and others
- Email — MAPI, NNTP, POP3, SMTP, Microsoft Exchange
- Chat — MSN, AIM/Oscar, Yahoo, Jabber, IRC
- Webmail — AOL Webmail, Hotmail, Yahoo! Mail, Gmail, Facebook, and MySpace email
- P2P — Gnutella, bitTorrent
- Shell — SSH (detection only), Telnet
- Instant messaging — AOL,ICQ, Jabber, MSN, SIP, and Yahoo
- File transfer protocols — FTP, HTTP, SMB, and SSL
- Compression and extraction protocols — BASE64, GZIP, MIME, TAR, ZIP, and others
- Archive files — RAR Archives, ZIP, BZIP, GZIP, Binhex, and UU-encoded archives
- Installation packages — Linux packages, InstallShield cabinets, Microsoft cabinets
- Image files — GIFs, JPEGs, PNGs, TIFFs, AutoCAD, Photoshop, Bitmaps, Visio, Digital RAW, and Windows icons
- Audio files — WAV, MIDI, RealAudio, Dolby Digital AC-3, MP3, MP4, MOD, RealAudio, SHOUTCast, and more
- Video files — AVI, Flash, QuickTime, Real Media, MPEG-4 , Vivo, Digital Video (DV), Motion JPEG, and more
- Other applications and files — Databases, spreadsheets, faxes, web applications, fonts, executable files, Microsoft Office applications, games, and even software development tools
- Other protocols — Network printer, shell access, VoIP, and peer-to-peer

Key concepts

Key to understanding how ADM works is an awareness of the following concepts:

- **Object** — An object is an individual item of content. An email is an object but also an object container since it has a message body (or two) and attachments. An HTML page is an object which may contain additional objects such as images. A .zip file and each file within the .zip file are all objects. ADM unpacks the container and treats each object inside as its own object.
- **Transaction** — A transaction is a wrapper around the transfer of an object (content). A transaction contains at least one object; however, if that object is a container, like a .zip file, then the single transaction might contain several objects.
- **Flow** — A flow is the TCP or UDP network connection. A flow might contain many transactions.

DEM rules

The true power of McAfee DEM lies in the way it captures and normalizes the information in network packets.

DEM also has the ability to create complex rules using logical and regular expressions for pattern matching, which provides the ability to monitor database or application messages with virtually no false positives. The normalized data (metrics) vary for each application because some application protocols and messages are richer than others. Filter expressions must be carefully crafted, not only the syntax but also by making sure that the metric is supported for the application.

The DEM ships with a default set of rules. Default compliance rules monitor significant database events such as logon/logoff, DBA-type activity such as DDL changes, suspicious activity, and database attacks that are typically required to achieve compliance requirements. You can enable or disable each default rule and set the value of each rule's user-definable parameters.

These are the types of DEM rules: Database, data access, discovery, and transaction tracking.

Rule types	Description
Database	The DEM default rule set includes rules for each supported database type and common regulations like SOX, PCI, HIPAA, and FISMA. You can enable or disable each of the default rules and set the value of each rule's user-definable parameters. In addition to using the rules that are shipped with the DEM, you can create complex rules using logical and regular expressions. This provides the ability to monitor database or application messages with virtually no false positives. Because some application protocols and messages are richer than others, the normalized data (metrics) vary for each application. Rules can be as complex as you require and include both Logical and Regular Expression operators. A Rule Expression can be applied against one or more metrics available for the application.
Data access	The DEM’s data access rules provide the ability to track unknown access paths into the database and send alerts in real time. Common violations in database environments, such as application developers accessing production systems using application logon IDs, can be easily tracked once you create the appropriate data access rules.

Rule types	Description
Discovery	The DEM's database discovery rules provides an exception list of database servers, of the types supported by the ESM, that are on the network but are not being monitored. This allows a security administrator to discover new database servers being added to the environment and illegal listener ports opened to access data from databases. The discovery rules (**Policy Editor** | **DEM Rule Type** | **Discovery**) are out-of-box rules that can't be added to or edited. When the discovery option on the database servers page is enabled (**DEM Properties** | **Database Servers** | **Enable**), the system uses these rules to search for database servers that are on the network, but are not listed under the DEM on the system navigation tree.
Transaction tracking	Transaction tracking rules allow you to track database transactions and auto-reconcile changes. For example, the time-consuming process of tracking database changes and reconciling them with authorized work orders in your existing change ticketing system can be fully automated. Use of this feature is best understood with an example: The DBA, as a matter of procedure, would execute the start tag stored procedure (spChangeControlStart in this example) in the database where the work would be performed before actually beginning the authorized work. The **Transaction Tracking** feature in the DEM allows the DBA to include up to three optional string parameters as argument to the tag in the correct sequence: **1** ID **2** Name or DBA Initials **3** Comment For example, `spChangeControlStart '12345', 'mshakir', 'reindexing app'` When the DEM observes the spChangeControlStart procedure being executed, it not only logs the transaction but also the parameters (ID, Name, Comment) as special information. Once the work is complete, the DBA executes the end tag stored procedure (spChangeControlEnd) and optionally includes one ID parameter, which must the same as the ID in the begin tag). When the DEM observes the end tag (and ID) it can associate all activity between the start tag (which has the same ID) and end tag as a special transaction. You can now report by transactions and search by ID, which in this work order reconciliation example could be the change control number. You can also use transaction tracking to log start and end of a trade execution or even begin and commit statements to report by transactions instead of queries.

DEM rule metric references

Here is a list of metric references for DEM rule expressions, which are available on the **Expression Component** page when you are adding a DEM rule.

Name	Definition	Database Types
Application Name	The name that identifies the database type to which the rule applies.	MSSQL, Oracle, DB2, Sybase, MySQL, Informix, PIServer, InterSystems Cache
Begin Time	Start timestamp of the query.	MSSQL, Oracle, DB2, Sybase, MySQL, Informix, PostgreSQL, Teradata, PIServer, InterSystems Cache
Begin Time Skew	Captures the server clock time skews.	MSSQL, Oracle, DB2, Sybase, MySQL, PostgreSQL, Teradata, PIServer, InterSystems Cache

Name	Definition	Database Types
Client IP	Client's IP address.	MSSQL, Oracle, DB2, Sybase, MySQL, Informix, PostgreSQL, Teradata, PIServer, InterSystems Cache
Client Name	Name of the client machine.	MSSQL, Oracle, DB2, Sybase, Informix, PIServer, InterSystems Cache
Client PID	Process ID assigned by the operating system to the client process.	MSSQL, DB2, Sybase, MySQL
Client Port	Port number of the client socket connection.	MSSQL, Oracle, DB2, Sybase, MySQL, Informix, PostgreSQL, Teradata, PIServer, InterSystems Cache
Command Name	Name of the MySQL command.	MSSQL, Oracle, DB2, Sybase, Informix
Command Type	Type of MySQL command: DDL, DML, Show or Replication.	MSSQL, Oracle, DB2, Sybase, MySQL, Informix, PostgreSQL, Teradata, PIServer, InterSystems Cache
Data In	Total number of bytes in the inbound query packet.	MSSQL, Oracle, DB2, Sybase, MySQL, Informix, PostgreSQL, Teradata, PIServer, InterSystems Cache
Data Out	Total number of bytes in the outbound result packets.	MSSQL, Oracle, DB2, Sybase, MySQL, Informix, PostgreSQL, Teradata, PIServer, InterSystems Cache
Database Name	Name of the database being accessed.	MSSQL, DB2, Sybase, MySQL, Informix, PostgreSQL, PIServer, InterSystems Cache
End Time	End of the completion timestamp query.	MSSQL, Oracle, DB2, Sybase, MySQL, Informix, PostgreSQL, Teradata, PIServer, InterSystems Cache
Error Message	Contains the message text associated with the SQLCODE and SQLSTATE variables in the SQL Communication Area (SQLCA) data structure which provides information about the success or failure of requested SQL statements.	DB2, Informix
Message Number	A unique message number assigned by the database server to each error.	MSSQL, Oracle, Sybase, MySQL, Informix, PostgreSQL, Teradata, InterSystems Cache
Message Severity	Severity level number between 10 and 24, which indicates the type and severity of the problem.	MSSQL, Sybase, Informix
Message Text	Full text of the message.	MSSQL, Oracle, Sybase, MySQL, Informix, PostgreSQL, Teradata, InterSystems Cache

Name	Definition	Database Types
Network Time	Time taken to send the result set back to the client (response_time - server_response_time).	MSSQL, Oracle, DB2, Sybase, MySQL, Informix, PostgreSQL, Teradata, PIServer, InterSystems Cache
NT Client Name	Windows machine name from which the user logged in.	MSSQL
NT Domain Name	Windows domain name from which user logged in.	MSSQL
NT User Name	Windows user login name.	MSSQL
Object Name		MSSQL, Oracle, DB2, Sybase, MySQL, Informix
OSS User Name		Oracle
Package Name	A package contains control structures used to execute SQL statements. Packages are produced during program preparation and created using the DB2 subcommand BIND PACKAGE.	DB2
Packets In	Number of packets comprising the query.	MSSQL, Oracle, DB2, Sybase, MySQL, Informix, PostgreSQL, Teradata, PIServer, InterSystems Cache
Packets Out	Number of packets comprising the return result set.	MSSQL, Oracle, DB2, Sybase, MySQL, Informix, PostgreSQL, Teradata, PIServer, InterSystems Cache
Password		MSSQL, Oracle, DB2, Sybase, MySQL, Informix, PostgreSQL, InterSystems Cache
Password Length		MSSQL, Oracle, DB2, Sybase, MySQL, Informix, PostgreSQL, InterSystems Cache
Query Block Size	Query block is the basic unit of transmission for query and result set data. Specifying the query block size enables the requester, which may have resource constraints, to control the amount of data that is returned at any one time.	DB2, Informix
Query Exit Status	Exit status of a query.	MSSQL, Oracle, DB2, Sybase, MySQL, Informix, PostgreSQL, Teradata, InterSystems Cache
Query Number	A unique number assigned to each query by the AuditProbe monitoring agent starting with zero for the first query and incrementing by one.	MSSQL, Oracle, DB2, Sybase, MySQL, PostgreSQL, Teradata, PIServer, InterSystems Cache
Query Text	The actual SQL query sent by the client.	MSSQL, Oracle, DB2, Sybase, MySQL, Informix, PostgreSQL, Teradata, PIServer, InterSystems Cache
Query Type	An integer number assigned to different type of queries.	MSSQL, Oracle, Sybase
Real User Name	Client user login name.	

Name	Definition	Database Types
Response Content		MSSQL, Oracle, DB2, Sybase, MySQL, Informix
Response Time	End-to-end response time of the query (server_response_time + network_time).	MSSQL, Oracle, Sybase, MySQL, Informix, PostgreSQL, Teradata, InterSystems Cache
Return Rows	Number of rows in the return result set.	MSSQL, Oracle, DB2, Sybase, MySQL, Informix, PostgreSQL, Teradata, PIServer, InterSystems Cache.
Security Flag	Security flag metric whose value is set to 1 (TRUSTED) or 2 (UNTRUSTED) when access policy file criteria specified by the administrator is met. Value of 3 indicates that policy file criteria were not met. Value of 0 indicates that security monitoring has not been turned on.	MSSQL, Oracle, DB2, Sybase, MYSQL, Informix, PostgreSQL, Teradata, PIServer, InterSystems
Security Mechanism	The security mechanism that is used to validate the user's identity (for example, User ID and password).	DB2
Server IP	IP address of the database server host.	MSSQL, Oracle, DB2, Sybase, MySQL, Informix, PostgreSQL, Teradata, InterSystems Cache
Server Name	This is the name of the server. The host name is assigned as the server name by default.	MSSQL, Oracle, DB2, Sybase, Informix, PIServer, InterSystems Cache
Server Port	Port number of the server.	MSSQL, Oracle, DB2, Sybase, MySQL, Informix, PostgreSQL, Teradata, InterSystems Cache
Server Response Time	Initial response from the database server to the client query.	MSSQL, Oracle, DB2, Sybase, MySQL, Informix, PostgreSQL, Teradata, PIServer, InterSystems Cache
Severity Code		DB2
SID	Oracle system identifier.	Oracle, Informix, PostgreSQL, Teradata, PIServer, InterSystems Cache
SPID	Database system process ID assigned to each unique connection/session.	MSSQL, Sybase

Name	Definition	Database Types
SQL Code	Whenever an SQL statement executes, the client receives a SQLCODE which is a return code that provides additional DB2-specific information about an SQL error or warning: • SQLCODE EQ 0, indicates execution was successful. • SQLCODE GT 0, indicates execution was successful with a warning. • SQLCODE LT 0, indicates execution was not successful. • SQLCODE EQ 100, indicates that no data was found. The meaning of SQLCODEs other than 0 and 100 varies with the particular product implementing SQL.	
SQL Command	Type of SQL command.	
SQL State	DB2 SQLSTATE is an additional return code that provides application programs with common return codes for common error conditions found among the IBM relational database systems.	DB2
User Name	Database user login name.	MSSQL, Oracle, DB2, Sybase, MySQL, Informix, PostgreSQL, Teradata, PIServer, InterSystems Cache

Correlation rules

The fundamental purpose of the correlation engine is to analyze data flowing from ESM, detect interesting patterns within the data flow, generate alerts that represent these patterns, and insert these alerts into the Receiver's alert database. The correlation engine is enabled when a correlation data source is configured.

Within the correlation engine, an interesting pattern results in data interpreted by a correlation rule. A correlation rule is totally separate and distinct from a firewall or standard rule and has an attribute that specifies its behavior. Each receiver gets a set of correlation rules from an ESM (deployed correlation rule set), which is composed of zero or more correlation rules with any user-defined parameter values set. Like firewall and standard rule sets, a base correlation rule set will be included with every ESM (base correlation rule set), and updates to this rule set are deployed to ESM devices from the rule update server.

> The rules on the rule update server include default values. When you update the base correlation engine rule set, you must customize these default values so they properly represent your network. If you deploy these rules without changing the default values, they can generate false positives or false negatives.

Only one correlation data source can be configured per Receiver, in a fashion similar to configuring syslog or OPSEC. Once the correlation data source is configured, you can edit the base correlation rule set to create the deployed correlation rule set using the **Correlation Rule Editor**. You are allowed to enable or disable each correlation rule and set the value of each rule's user definable parameters.

In addition to enabling or disabling the correlation rules, the **Correlation Rule Editor** allows you to create custom rules and create custom correlation components that can be added to correlation rules.

View correlation rule details

Correlation rules now display details about what caused the rule to trigger. This information can help you tune for false positives.

Details are always gathered at the time of request in the user interface. However, for rules that use dynamic watchlists or other values that might change often, you can set the rule to get details immediately after triggering. This reduces the chance that details are no longer available.

Task

For option definitions, click **?** in the interface.

1. Set each rule to show the details immediately:
   - a. On the ESM console, click the **Correlation** quick launch icon.

     The **Policy Editor** opens with the **Correlation** rule type selected.
   - b. Click in the **Details** column for the rule and select **On**.

     > You can select more than one rule at a time.
2. View the details:
   - a. On the system navigation tree, click **Rule Correlation** under the ACE device.
   - b. On the view list, select **Event Views | Event Analysis**, then click the event you want to view.
   - c. Click the **Correlation Details** tab to view the details.

Add custom ADM, database, or correlation rules

In addition to using the predefined ADM, Database, or Correlation rules, you can create complex rules using logical and regular expressions. The editors you use to add these different rule types are very similar to each other so they are described in the same sections.

Task

For option definitions, click **?** in the interface.

1. In the **Rule Types** pane of the **Policy Editor**, select **ADM**, **DEM | Database**, or **Correlation**.
2. Click **New**, then select the rule type you are adding.
3. Enter the information requested, then drag-and-drop logical elements and expression components from the toolbar to the **Expression Logic** area to build the rule's logic.
4. Click **OK**.

Tasks

- *Add parameters to a correlation rule or component* on page 307
  The parameters of a correlation rule or component control the behavior of the rule or component when it executes. Parameters are not required.
- *Add or edit a data access rule* on page 309
  DEM data access policies provide the ability to track unknown access paths into the database and to send events in real-time.
- *Add or edit a transaction tracking rule* on page 310
  Transaction tracking rules track database transactions and auto-reconcile changes, as well as log start and end of a trade execution or begin and commit statements to report by transactions instead of queries.
- *Manage custom ADM, DEM, or correlation rules* on page 310
  Copy a predefined rule and use it as a template for a custom rule. When you add a custom rule, you can edit the settings, copy and paste it to use it as a template for a new custom rule, or delete it.
- *Set up rule and report for database audit trails* on page 311
  A **Privileged User Audit Trails** report allows you to view the audit trail for modifications made to the database or to track access to a database or table that was associated with a specific database event.

Logic elements

When you add an ADM, database, and correlation rule or correlation component, you must build the core functionality of the rule by dragging the logical elements to the **Expression Logic** or **Correlation Logic** area. The logical elements set the framework for the rule.

Element		Description
●	AND	Functions the same as a logical operator in a computer language. Everything that is grouped under this logical element must be true for the condition to be true. Use this option if you want all the conditions under this logical element to be met before a rule is triggered.
	OR	Functions the same as a logical operator in a computer language. Only one condition grouped under this element has to be true for this condition to be true. Use this element if you want only one condition to be met before the rule is triggered.
	SET	For correlation rules or components, this element allows you to define more than one condition and select the number of conditions that must be true for the rule to be triggered. For example, if you have three conditions in the set and two of them must be met before the rule is triggered, the set reads "2 of 3."

Each of these elements has a menu with at least two of these options:

- **edit** — You can edit the default settings (see *Edit logic elements default settings*).
- **remove logical element** — You can delete the selected logical element. If it has any children, they aren't deleted and move up in the hierarchy.

  > ℹ This doesn't apply to the root element (the first one in the hierarchy). If you remove the root element, all the children are also removed.

- **remove logical element and all of its children** — You can delete the selected element and all of its children from the hierarchy.

When you set up the rule's logic, you must add components to define the conditions for the rule. For correlation rules, you can also add parameters to control the behavior of the rule or component when it executes.

Edit logical elements

The AND, OR, and SET logical elements have default settings. These can be changed on the **Edit Logic Element** page.

Task

For option definitions, click **?** in the interface.

1. On the rule editor, drag-and-drop a logic element in the **Expression Logic** or **Correlation Logic** area.
2. Click the **Menu** icon for the element you want to edit , then click **Edit**.
3. Change the settings, then click **OK**.

Add parameters to a correlation rule or component

The parameters of a correlation rule or component control the behavior of the rule or component when it executes. Parameters are not required.

Task

For option definitions, click **?** in the interface.

1. On the **Correlation Rule** or **Correlation Component** pages, click **Parameters**.
2. Click **Add**, then enter a name for the parameter.
3. Select the type of parameter you want this to be, then select or deselect the values.

   > **List** and **Range** values can't be used at the same time. A list value cannot include a range (1–6 8, 10, 13). The correct way to write it is 1, 2, 3, 4, 5, 6, 8, 10, 13.

4. To select the default value for the parameter, click the **Default Value Editor** icon .
5. If you do not want the parameter to be externally visible, deselect **Externally Visible**. The parameter is local to the scope of the rule.
6. Type a description of this parameter, which appears in the **Description** text box on the **Rule Parameter** page when the parameter is highlighted.
7. Click **OK**, then click **Close**.

Example of custom correlation rule or component

Add a correlation rule or component.

The rule we are going to add in this example generates an alert when the ESM detects five unsuccessful login attempts from a single source on a Windows system, followed by a successful login, all within 10 minutes.

1. In the **Rule Types** pane of the **Policy Editor**, click **Correlation**.
2. Click **New**, then select **Correlation Rule**.
3. Type a descriptive name, then select the severity setting.

   > Because an event generated by this rule could indicate that an unauthorized person has accessed the system, an appropriate severity setting is 80.

4. Select the normalization ID, which could be **Authentication** or **Authentication | Login**, then drag-and-drop the **AND** logic element.

   > Select **AND** because there are two types of actions that need to occur (login attempts first, then a successful login).

5. Click the **Menu** icon ☰, then select **Edit**.
6. Select **Sequence** to indicate that the actions (first, five unsuccessful login attempts and second, a successful login) must occur sequentially, then set the number of times this sequence must occur, which is "1."
7. Set the period of time the actions need to occur in, then click **OK**.

   > Since there are two actions that require time windows, the 10-minute period must be divided between the two. For this example, five minutes is the period of time for each action. Once the unsuccessful attempts have occurred within five minutes, the system begins to listen for a successful login from the same IP source within the next five minutes.

8. In the **Group by** field, click the icon, move the **Source IP** option from the left to the right, indicating that all actions must come from the same source IP, then click **OK**.
9. Define the logic for this rule or component.

To do this...	Do this...
Specify the type of filter that identifies the events of interest (in this case, multiple failed login attempts against a Windows system).	1 Drag-and-drop the **Filter** icon and drop it on the AND logic element. 2 On the **Filter Fields Component** page, click **Add**. 3 Select **Normalization Rule** | **In**, then select: - **Normalization** - **Authentication** - **Login** - **Host Login** - **Multiple failed login attempts against a Windows host** 4 Click **OK** .
Set the number of times the login failure needs to occur and the period of time in which they must occur.	1 Drag-and-drop the **AND** logic element to the **Filter** bar. The **AND** element is used because there are five separate attempts that must occur. The element allows you to set the number of times and the length of time that they must occur. 2 Click the **Menu** icon for the **AND** element you just added, then click **Edit**. 3 In the **Threshold** field, enter **5** and remove other values that are present. 4 Set the **Time Window** field to **5**. 5 Click **OK**.
Define the second filter type that needs to occur, which is the successful login.	1 Drag-and-drop the **Filter** icon to the bottom prong of the first **AND** logic element's bracket. 2 On the **Match Component** page, click **Add**. 3 In the fields, select **Normalization Rule** | **In**, then select: - **Normalization** - **Authentication** - **Login** - **Host Login** 4 Click **OK** to return to the **Match Component** page. 5 To define "successful," click **Add**, select **Event Subtype** | **In**, then click the **Variables** icon and click **Event Subtype** | **success** | **Add**. 6 Click **OK** to return to the **Policy Editor**.

The new rule is added to the list of correlation rules on the **Policy Editor**.

Add or edit a data access rule

DEM data access policies provide the ability to track unknown access paths into the database and to send events in real-time.

Common violations in database environments, such as application developers accessing production systems using application logon IDs, can be easily tracked when create the appropriate data access policies.

Task

For option definitions, click **?** in the interface.

1. In the **Rule Types** pane on the **Policy Editor**, select **DEM** | **Data Access**.
2. Do one of the following:
   - To add a new rule, select **New**, then click **Data Access Rule**
   - To edit a rule, select the rule in the rules display pane, then click **Edit** | **Modify**.
3. Fill in the information, then click **OK**.

Add or edit a transaction tracking rule

Transaction tracking rules track database transactions and auto-reconcile changes, as well as log start and end of a trade execution or begin and commit statements to report by transactions instead of queries.

Task

For option definitions, click **?** in the interface.

1. On the **Policy Editor**, select **DEM** | **Transaction Tracking**.
2. Do one of the following:
   - To add a new rule, click **New**, then click **Transaction Tracking Rule**.
   - To edit a rule, select the rule on the rules display pane, then click **Edit** | **Modify**.
3. Fill in the information, then click **OK**.

Manage custom ADM, DEM, or correlation rules

Copy a predefined rule and use it as a template for a custom rule. When you add a custom rule, you can edit the settings, copy and paste it to use it as a template for a new custom rule, or delete it.

Task

For option definitions, click **?** in the interface.

1. On the **Policy Editor**, select **ADM** or **DEM** | **Database**, **Data Access**, or **Transaction Tracking**.
2. Do any of the following:

To...	Do this...
View all custom ADM or DEM rules	1 Select the **Filter** tab in the **Filters/Tagging** pane. 2 Click the **Advanced** bar at the bottom of the pane. 3 In the **Origin** field, select **user-defined**. 4 Click **Run Query**. The custom rules of the type you select are listed in the rule display pane.
Copy and paste a rule	1 Select a predefined or custom rule. 2 Click **Edit** | **Copy** 3 Click **Edit** | **Paste**. The rule you copied is added to the list of existing rules, with the same name. 4 To change the name, click **Edit** | **Modify**.
Modify a custom rule	1 Select the custom rule. 2 Click **Edit** | **Modify**.
Delete a custom rule	1 Select the custom rule. 2 Click **Edit** | **Delete**.

Set up rule and report for database audit trails

A **Privileged User Audit Trails** report allows you to view the audit trail for modifications made to the database or to track access to a database or table that was associated with a specific database event.

After the parameters for generating this report are set up, you receive compliance report notifications that display the audit trail associated with each event. To generate the audit trail events, you must add a **Data Access** rule and a **Privileged User Audit Trails** report.

Task

For option definitions, click **?** in the interface.

1. In the **Rule Types** pane of the **Policy Editor**, select **DEM** | **Data Access**.
2. Highlight **DEM - Template Rule - Trusted Use Access From IP Range** in the rules display pane.
3. Click **Edit** | **Copy**, then click **Edit** | **Paste**.
4. Change the name and properties of the new rule.
   a. Highlight the new rule, then select **Edit** | **Modify**.
   b. Enter a name for the rule, then type the user name.
   c. Select the **Untrusted** action type, then click **OK**.
5. Click the **Rollout** icon .
6. Set up the report:
   a. On **System Properties**, click **Reports** | **Add**.
   b. Fill in sections 1 – 3, and 6.

   c. In section 4, select **Report PDF** or **Report HTML**
   d. In section 5, select **Compliance | SOX | Privileged User Audit Trails (Database)**.
   e. Click **Save**.

7. To generate the report, click **Run Now**.

ESM rules

ESM rules are used to generate events that are related to the ESM.

All the rules of this type are defined by McAfee. They can be used to generate compliance or auditing reports that show what has occurred on the ESM. You cannot add, modify, or delete them. You can, however, change the property settings (see *Rule types and their properties*).

Normalization

Rules are named and described by each vendor. As a result, the same type of rule often has different names, making it difficult to gather information for the types of events that are occurring.

McAfee compiled, and continually updates, a list of normalized IDs that describe rules so that events can be grouped into useful categories. When you click **Normalization** in the **Rule Types** pane of the **Policy Editor**, these IDs, names, and descriptions are listed.

These event features offer the option to organize event information using normalized IDs:

- View component fields — **Normalized Event Summary** is an option when defining fields for an event query in the pie chart, bar chart, and list components (see *Manage a query*).
- View component filters — When you are creating a new view, you can select to filter event data on a component by the normalized IDs (see *Manage a query*).
- View filters — **Normalized ID** is an option on the list of view filters (see *Filtering views*).
- View list — A **Normalized Event Summary** view is available on the list of **Event Views**.

The **Details** tab on the **Event Analysis** view lists the normalization ID for the events that appear on the list.

When you are adding **Normalized ID** filters to a new or existing view, you can:

- Filter by all the normalized IDs in a first-level folder. A mask (/5 for a first-level folder) is included at the end of the ID to indicate that the events will also be filtered by the child IDs of the selected folder.
- Filter by the IDs in a second- or third-level folder. A mask (/12 for a second-level folder, /18 for a third-level folder) is included at the end of the ID to indicate that the events are filtered by the child IDs of the selected subfolder. The fourth level doesn't have a mask.
- Filter by a single ID.
- Filter by multiple folders or IDs at one time using the **Ctrl** or **Shift keys** to select them.

Enable Copy Packet

When **Copy Packet** is enabled for a rule, the packet data is copied to the ESM. If enabled, packet data is included within the source event data of an **Internal Event Match** or **Field Match** alarm.

Task

For option definitions, click **?** in the interface.

1. On the ESM console, click the **Policy Editor** icon .
2. In the **Rule Types** pane, click the type of rule that you want to access, then locate the rule in the rule display pane.
3. Click the current setting in the **Copy Packet** column, which is **off** by default, then click **on**.

Default Policy settings

You can set up the default policy to operate in alerts only mode or oversubscription mode. You can also view the status of the rule updates and initiate an update.

Alerts Only Mode

Policies can be applied to Nitro IPS and virtual devices in **Alerts Only Mode**.

When **Alerts Only Mode** is turned on, all enabled rules are sent to the devices with a usage of alerts, even if the rule is set to a blocking action such as **Drop**. When viewing the events generated, the **Event Subtype** column lists the action as **Alert**, followed by the action taken if it was not in **Alerts Only Mode**, such as **Alert-Drop**. This is useful for system administrators who are still becoming familiar with their network traffic patterns, allowing them to analyze events generated without actively blocking any events, but seeing the action that is taken when **Alerts Only Mode** is turned off.

Turning on **Alerts Only Mode** doesn't change individual usage settings for individual rules in the **Policy Editor**. For example, when it is on, a rule might be sent to the Nitro IPS or virtual device with a usage of alerts even though its usage in the **Policy Editor** is set to **Drop** (with the exception of a rule set to **Pass**, which remains in that mode). This allows you to easily turn **Alerts Only Mode** on and off without otherwise affecting your policy settings. **Alerts Only Mode** does not affect disabled rules. Rules are never sent to a device when set to **Disable**.

Enable Alerts only mode

If you want all enabled rules sent to the devices with a usage of alerts, you must turn on the **Alerts only mode** feature. Inheritance applies to this setting so this policy's setting overrides the value it would otherwise inherit.

Task

For option definitions, click **?** in the interface.

1. On the **Policy Editor**, click the **Settings** icon .
2. In the **Alerts only mode** field, select **On**.

Set up Oversubscription Mode

Oversubscription Mode defines how packets are handled if the device's capacity is exceeded. In each case, the packet is recorded as an event.

Task

For option definitions, click **?** in the interface.

1. On the **Policy Editor**, click the **Settings** icon .
2. In the **Oversubscription Mode** field, click **Update**.
3. In the **Value** field, enter the functionality.
   - a Pass (pass or 1) allows packets that would be discarded to pass unscanned.
   - b Drop (drop or 0) drops packets that exceed the device's capacity.
   - c To pass or drop a packet without generating an event, enter `spass` or `sdrop`.
4. Click **OK**.

> As of version 8.1.0, changing **Oversubscription Mode** affects the device and its children (virtual devices). For this change to take effect, you must change the mode on the parent device.

View policy update status for devices

View a summary of the status of policy updates for all devices on the ESM.

This helps determine when you must roll out updates to your system.

Task

For option definitions, click **?** in the interface.

1. On the **Policy Editor**, click the **Settings** icon .
2. In the **Status** field, view the number of devices that are up to date, out of date, and scheduled for an auto rollout.
3. Click **Close**.

Rule operations

There are several operations you can perform on the rules to manage them and generate the information needed.

Manage rules

ADM, **DEM**, **Deep Packet Inspection**, **Advanced Syslog Parser**, and **Correlation** rules can be viewed, copied, and pasted. Custom rules of these types can be modified or deleted. Standard rules can be modified, but must be saved as a new custom rule.

Task

For option definitions, click **?** in the interface.

1. In the **Rule Types** pane of the **Policy Editor**, select the type of rule that you want to work with.
2. Do any of the following:

To do this...	Do this...
View custom rules	1 Select the **Filter** tab in the **Filters/Tagging** pane. 2 At the bottom of the pane, click the **Advanced** bar. 3 In the **Origin** field, select **user defined**, then click **Run Query** 🔄.
Copy and paste a rule	1 Select a predefined or custom rule. 2 Select **Edit** | **Copy**, then select **Edit** | **Paste**. The rule you copied is added to the list of existing rules, with the same name. 3 To change the name, select **Edit** | **Modify** .
Modify a rule	1 Highlight the rule you want to view, then select **Edit** | **Modify**. 2 Change the settings, then click **OK**. If it's a custom rule, it's saved with the changes. If it is a standard rule, you are prompted to save the changes as a new custom rule. Click **Yes**. ℹ If you did not change the name of the rule, it is saved with the same name and a different sigID. You can change the name by selecting the rule, then selecting **Edit** | **Modify**.
Delete a custom rule	• Select the custom rule. • Select **Edit** | **Delete**.

Import rules

You can import a set of rules that has been exported from another ESM and save it to your ESM.

Task

For option definitions, click **?** in the interface.

1. In the **Rule Types** pane of the **Policy Editor**, click the type of policy or rules you are importing.
2. Click **File** | **Import**, then select **Rules**.

   ℹ These changes are not tracked so they can't be undone.

3. Click **Import Rules**, then browse to the file you want to import and select **Upload.**

   The file is uploaded to the ESM.

4. On the **Import Rules** page, select the action to take if rules being imported have the same ID as existing rules.
5. Click **OK** to import the rules, resolving the conflicts as indicated.

The contents of the file are reviewed and the appropriate options are enabled or disabled, depending on the contents of the selected file.

Conflicts when importing correlation rules

When you export correlation rules, a file is created that contains the rule data. It doesn't, however, include referenced items such as variables, zones, watchlists, custom types, and assets, which this rule might use.

When the export file is imported to another ESM, any referenced items contained in the rule that do not exist on the importing system results in a rule conflict. For example, if rule one references variable $abc, and no variable is defined on the importing system that is named $abc, this condition is a conflict. Conflicts are logged and the rule is flagged as in conflict.

Conflicts are resolved by creating the needed referenced items (manually or through import where applicable) or editing the correlation rule and changing the references within the rule.

If there are rules in conflict, a page is displayed immediately after the import process indicating which rules are in conflict or which failed. Rules can be edited to resolve conflicts from that page, or the page can be closed. Rules in conflict are flagged with an exclamation mark icon indicating their status. Editing a conflicted rule in the rule editor presents a conflicts button, which when clicked, displays the conflict detail for that rule.

Import variables

You can import a file of variables and change their type. If there are conflicts, the new variable is automatically renamed.

> **Before you begin**
>
> Set up the file to be imported.

Task

For option definitions, click **?** in the interface.

1. In the **Rule Types** pane of the **Policy Editor**, click **Variable.**
2. Click **File** | **Import** | **Variables**, then browse to the file of variables and click **Upload**.

   If there are conflicts or errors in the file, the **Import - Error Log** page opens informing you of each issue.
3. On the **Import Variable(s)** page, click **Edit** to change the **Type** for the selected variables.
4. Click **OK**.

Export rules

Export custom rules or all the rules in a policy and then import them to another ESM.

Task

For option definitions, click **?** in the interface.

1. In the **Rule Types** pane of the **Policy Editor**, click the type of rules you are exporting.
2. Access a list of the custom rules of the type you selected:
   a. In the **Filter/Tagging** pane, make sure the **Filter** tab is selected.
   b. Click the **Advanced** bar at the bottom of the pane.

c On the **Origin** drop-down list, select **user defined**.

d Click the **Run Query** icon .

3 Select the rules you want to export, then click **File** | **Export** | **Rules**.

4 On the **Export Rules** page, select the format to use when exporting the rules.

5 On the **Download** page, click **Yes**, select the location, then click **Save**.

> If you open the csv file using Microsoft Excel, some of the UTF-8 characters might be corrupted. To correct this, open the **Text Import Wizard** in Excel and select **Delimited** and **Comma**.

Set rules to auto-blacklist

You can mark rules to auto-blacklist. The IP address or IP address and port of the offender is added to the blacklist when the conditions you define are met.

Task

For option definitions, click **?** in the interface.

1 In the **Rule Types** pane of the **Policy Editor**, expand **IPS**, then select the type of rule. For example, to set virus rules to auto-blacklist, select **Deep Packet Inspection**.

2 On the **Filters** tab in the **Filters/Tagging** pane, select the filter. Using the previous example, select **Virus**.

3 Click the **Refresh** icon.

The filtered rules are listed in the rules display area.

4 Click the header in the **Blacklist** column or select rules on the list, then click **IP** or **IP & port**.

5 Roll out the changes by clicking the **Rollout** icon in the upper-right corner, then close the **Policy Editor**.

6 Select a Nitro IPS or virtual device on the system navigation tree, then click the **Properties** icon .

7 Click **Blacklist**, then click **Settings**.

8 On the **Auto-Blacklist Settings** page, define the settings, then click **OK**.

Filter existing rules

When you select a rule type in the **Policy Editor**, all the rules of the selected type are listed in alphabetical order, by default. You can list them by time or use tags to filter the rules so you can view only those that meet your criteria.

Task

For option definitions, click **?** in the interface.

1 In the **Rule Types** pane of the **Policy Editor**, select the type of rule you want to filter.

2 Make sure that the **Filter** tab is selected in the **Filters/Tagging** pane.

3 Do any of the following:

To...	Do this...
Filter with multiple tags	• Select categories or tags, then click the **Run Query** icon . Only those rules that meet all filters are displayed.
View rules that meet either of the filters you select	1 Select more than one category or tag. 2 Click the **or** icon, then click the **Run Query** icon. Fields that are affected by inheritance (**Action**, **Severity**, **Blacklist**, **Aggregation**, and **Copy Packet**) cannot be filtered using the **or** icon.
Search for a specific tag	1 Type the tag's name in the **Type here to search for a tag** field. 2 Select the one you need from the list of options.
List the rules by the time they were created	• Click the **Sort on Time** icon on the toolbar, then click the **Run Query** icon.
List the rules in alphabetical order	• Click the **Sort on Name** icon on the toolbar, then click the **Run Query** icon.
Clear the filtering	• Click the orange filter icon on the rules display pane title bar . The filters are cleared and all the rules are once again displayed in the rule display pane.
Clear the filter tags	• Click the **Clear All** icon on the toolbar. The tags are cleared but the list of rules remains filtered.
Filter by signature ID	1 Click the **Advanced** bar at the bottom of the **Filter** pane. 2 Type the signature ID, then click the **Run Query** icon.
Filter by name or description	1 In the **Advanced** pane, enter the name or description. 2 For the results, regardless of case, click the case-insensitive icon Aa.
Filter by device type, normalized ID, or action	1 In the **Advanced** pane, click the **Filter** icon . 2 On the **Filter Variables** page, select the variable.
Compare the differences in the policy-based settings for a rule type and its immediate parent	• In the **Advanced** pane, select **View Exceptions**, then click the **Run Query** icon.
Filter by severity, blacklist, aggregation, copy packet, origin, and rule status	• Select the filter from the drop-down list in each of these fields.
View only custom rules	• Select **user-defined** in the **Origin** field in the **Advanced** pane, then click the **Run Query** icon.
View rules created in a specific time period	1 Click the calendar icon next to the **Time** field on the **Advanced** pane. 2 On the **Custom Time** page, select the start and stop time, click **OK**, then click the **Run Query** icon.

View a rule's signature

If you access the McAfee online signature database, you can view information about the signature for a rule. This option is available for firewall, deep packet inspection, and data source rules.

Task

For option definitions, click **?** in the interface.

1. In the **Rule Types** pane of the **Policy Editor**, select the type of rule you want to view.
2. Select a rule in the rule display pane.
3. Click **Operations**, then select **Browse Reference**.

   The **NTAC Vulnerability Summary** screen opens in your browser.
4. To view the summary of a signature, click on the links in the **Signatures** section of the screen.

Retrieve rule updates

The rule signatures used by a Nitro IPS or virtual device to examine network traffic are continuously updated by the McAfee Signature Team and are available for download from the central server. These rule updates can be retrieved automatically or manually.

Task

> See *Override action on downloaded rules* to set up overrides for the actions taken when rules are retrieved from the server.

For option definitions, click **?** in the interface.

1. On the **Policy Editor**, click the **Settings** icon.
2. On the **Rules Update** line, click **Update**.
3. Set the ESM to retrieve the updates automatically or check for updates now.
4. If updates were downloaded manually, click the **Rollout** icon to apply them.
5. To view the manual updates, do the following:
   1. In the **Filters/Tagging** pane, click the **Advanced** bar.
   2. In the **Rule Status** field, selected **Updated**, **New**, or **Update/New** to indicate the type of updated rules you want to view.
   3. Click the **Run Query** icon.

The updated rules are listed with a starburst icon if they are added or an exclamation mark if they are modified.

Clear updated rule status

When rules are modified or added to the system. You can clear these markings once you have had the opportunity to review the updates.

Task

For option definitions, click **?** in the interface.

1. In the **Rule Types** pane of the **Policy Editor**, select the type of rule you want to clear.
2. Do one of the following:

To...	Do this...
Clear all the rule status markings	1 Click **Operations**, then select **Clear Updated Rule Status**. 2 Click **All**.
Clear selected rules	1 In the **Filters/Tagging** pane, click the **Advanced** bar. 2 In the **Rule Status** field, select **Updated**, **New**, or **Updated/New** to indicate the type of marking you want to clear. 3 Click the **Run Query** icon . The rules with the selected markings are listed in the rule display pane. 4 Select the rules to be cleared. 5 Click **Operation** | **Clear Updated Rule Status** | **Selected**.

Compare rule files

You can compare the policy state (applied, current, rollback, or staged) of Nitro IPS, Receiver, ADM, and DEM rule files.

This is helpful if you need to see what would change if you apply the current policy to a device. In that case, you would compare the current rules and the applied rules.

Task

For option definitions, click **?** in the interface.

1. On the system navigation tree, click a Nitro IPS, Receiver, ADM, or DEM device.
2. Click the **Policy Editor** icon in the actions toolbar, then click **Tools** | **Compare Rule Files**.
3. Make the selections, view the results, then click **Close**.

View the rule change history

You can view the rules that were changed, updated, or added to the system, as well as the latest version of each rule.

Task

For option definitions, click **?** in the interface.

1. On the **Policy Editor**, click **Tools** | **Rule Change History**.
2. On the **Rule History** page, view the changes made to rules, or click the **Rule Version** tab to see the latest version of each rule.
3. Click **Close**.

Create a new watchlist of rules

A watchlist is a grouping of specific types of information that can be used as filters or as an alarm condition so you are notified when they occur in an event. These watchlists can be global or specific to an ESM user or group.

Task

For option definitions, click **?** in the interface.

1. In the **Rule Types** pane of the **Policy Editor**, select the type of rule, then select the rules that you want to have on this watchlist.
2. Click **Operations**, then select the **Create new watchlist** option.

   The **Add Watchlist** page lists the rules you selected.
3. Type a name, then make sure the **Static** radio button is selected.

   See *Add a new watchlist* to add a dynamic watchlist.
4. Select the type of data this watchlist is watching for, then select the assignee.

   A user with administrator privileges can assign a watchlist to anyone or any group on the system. If you do not have administrator privileges, you can only assign watchlists to yourself and groups you are a member of.
5. To add more values to the watchlist, you can do so in the following ways:
   - To import a file of values in new-line-separated values format, click **Import**, then select the file.
   - To add individual values, type one value per line in the **Values** box.

     Maximum number of values is 1000.
6. To receive an alarm when an event is generated that contains any of the values on this watchlist, click **Create Alarm**.
7. Click **OK**.

Add rules to a watchlist

After creating a watchlist, you might need to add rule values to it. The **Append to watchlist** option provides a way for you to do that.

Task

For option definitions, click **?** in the interface.

1. In the **Rule Types** pane of the **Policy Editor**, select the type of rule.
2. Select the rules you want to append to the watchlist in the rule display pane.
3. Click the **Operations** menu, then select **Append to watchlist**.
4. Select the watchlist you want to append the rules to, and click **OK**.

Assign tags to rules or assets

You can assign tags to rules, indicating their attributes, and then filter the rules by their tags. The ESM has a predefined set of tags but also provides you with the ability to add new tags and new tag categories.

The **Tags** tab is not available for Variable, Preprocessor, or Normalization rule types.

Task

For option definitions, click **?** in the interface.

1. In the **Rule Types** pane of the **Policy Editor**, select the type of rule you want to tag.
2. Click the **Tags** tab in the **Filters/Tagging** pane.
3. Do any of the following:

To...	Do this...
Add a new tag category	1 Click the **New Category Tag** icon . 2 Type the name for the category. 3 If you want this tag to be used in event severity calculation, select **Use tag for event severity calculation**, then click **OK**. The category is added with a base tag. You can add new tags under this category.
Add a new tag	1 Click the category you want to add the tag to, then click the **New Tag** icon . 2 Type the name for the tag. 3 If you want this tag to be used in event severity calculation, select **Use tag for event severity calculation**, then click **OK**.
Edit an existing category or tag	1 Click the category or tag you want to edit, then click the **Edit Tag** icon . 2 Change the name or setting, then click **OK**.
Delete a custom tag	1 Highlight the tag you want to delete, then click the **Remove Tag** icon . 2 Click **Yes** to confirm.

Modify aggregation settings

Aggregated events are events that have fields that match.

Aggregation is selected by default and you can choose the type of aggregation to be used for all events generated on a device on the **Event Aggregation** page for each device. You can modify the aggregation settings for individual rules.

Task

For option definitions, click **?** in the interface.

1. In the **Rule Types** pane of the **Policy Editor**, select the type of rule.
2. Select the rule for which you want to modify aggregation settings.

3 Click **Operations** on the toolbar and select **Modify Aggregation Settings**.

4 Select the field types you want to aggregate from the **Field 2** and **Field 3** drop-down lists.

> The fields you select must be different types or an error results.

5 Click **OK** to save the settings.

6 If you made changes that affect the way devices aggregate, you are asked if you want to roll out the changes. Do the following:

   a Click **Yes**.

   The **Aggregation Exceptions Rollout** page shows the status of the devices affected by this change. All devices that are out of date are checked.

   b If needed, deselect the checkmark from the devices you do not want to apply the changes to.

   c Click **OK** to roll out the changes.

The **Status** column reflects the status of the update as the changes are rolled out.

Override action on downloaded rules

When rules are downloaded from the central server at McAfee, they have a default action assigned to them.

You can define an override action for rules of the type that you select when they are downloaded. If there is no override action defined, the rules take their default action.

Task

For option definitions, click **?** in the interface.

1 On the **Policy Editor**, click **Tools**, then select **New Rule Configuration**.

The **New Rule Configuration** page lists overrides that exist for the **Default Policy**.

2 Set the override action settings, then click **Close**.

Severity weights

Event severity is calculated based on the severity weight given to assets, tags, rules, and vulnerabilities.

Each of the four severities is weighted in the final calculation. This final calculation is the sum of each of the four severities multiplied by their respective weights. The **Severity Weights** page shows the weights that are associated with the assets, tags, rules, and vulnerability groups. The sum of the settings must equal 100. When you change one setting, some or all other settings are affected. Here is a description of each type of severity:

Severity type	Descriptions
Asset	An asset is an IP address, optionally within a zone. The asset severity of an event is determined as follows: 1 The destination IP address and destination zone of the event are compared against all assets. If a match is found, the severity of that asset is used as the asset severity for this event. 2 If no destination IP address and destination zone match is found, the source IP address and source zone of the event are compared against all assets. If a source IP address and source zone match is found, the severity of the asset is used as the asset severity for this event. 3 If no matches are found, the asset severity is zero.
Tag	The tag severity is calculated using both McAfee and user-defined tags. For a tag to be used in the severity calculation, it must be set for both the rule and asset of the event. If the rule or asset does not have any tags defined or if there were no asset matches, the tag severity is zero. To calculate the tag severity, the number of matching rule and asset tags is multiplied by 10. The tag severity is limited to 100.
Rule	The rule severity is the severity set for the event when it was created. It is based on the event's rule severity, as set in the **Policy Editor**, and any data enrichment configured for the event's collector.
Vulnerability	If VA SVE information is available for an event's asset and rule, then the highest severity of all matching asset and rule VA SVEs is used for the vulnerability severity, otherwise zero it used.

Set the severity weights

Asset, tag, rule, and vulnerability severities are weighted when calculating event severity. You must define these severities.

Task

For option definitions, click **?** in the interface.

1 On the **Policy Editor**, click the **Severity Weights** icon .

2 Define the settings, then click **OK**.

View policy change history

You can view or export a log of the changes that have been made to the policy. This log can hold a maximum of 1GB of data. When it reaches this limit, the oldest files are deleted as needed.

Task

For option definitions, click **?** in the interface.

1 On the **Policy Editor**, click the **View Policy Change History** icon .

2 View or export a log, then click **Close**.

Apply policy changes

When you make changes to policies, you must roll out the changes to apply them. Changes made at the default policy level are applied to all policies when you roll out to all devices.

Task

For option definitions, click **?** in the interface.

1. On the **Policy Editor**, click the **Rollout** icon .
2. Select how you want the rollout to occur.
3. Click **OK**.

After each device completes the rollout, the status of the policy will indicate a successful rollout. If the rollout command was unsuccessful, a page shows a summary of the failed commands.

Manage priority traffic

You can set up traffic to pass through the Nitro IPS without being tested against any rules.

For example, it might be necessary to set up Voice over Internet Protocol (VoIP) traffic to cross over the Nitro IPS without taking time to check.

Task

For option definitions, click **?** in the interface.

1. On the **Policy Editor**, click the **Variable** rule type.
2. Expand the **priority_traffic** category, then click **PRIORITY_TRAFFIC_LIST**.
3. Click **Edit**, then select **Modify**.
4. Manage the settings, then click **OK**.

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