McAfee™

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Product Guide

Revision B

McAfee Data Loss Prevention 11.0.0

For use with McAfee ePolicy Orchestrator

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Deployment and installation

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Preface

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

Contents

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.
- **Security officers** — People who determine sensitive and confidential data, and define the corporate policy that protects the company's intellectual property.

Conventions

This guide uses these typographical conventions and icons.

Italic	Title of a book, chapter, or topic; a new term; emphasis
Bold	Text that is emphasized
`Monospace`	Commands and other text that the user types; a code sample; a displayed message
Narrow Bold	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:** Extra information to emphasize a point, remind the reader of something, or provide an alternative method
💡	**Tip:** Best practice information
❗	**Caution:** Important 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

On the **ServicePortal**, you can find information about a released product, including product documentation, technical articles, and more.

Task

1. Go to the **ServicePortal** at https://support.mcafee.com and click the **Knowledge Center** tab.
2. In the **Knowledge Base** pane under **Content Source**, click **Product Documentation**.
3. Select a product and version, then click **Search** to display a list of documents.

1 Product overview

Data loss occurs when confidential or private information leaves the enterprise as a result of unauthorized communication through channels such as applications, physical devices, or network protocols.

McAfee® Data Loss Prevention (McAfee DLP) identifies and protects data within your network. McAfee DLP helps you understand the types of data on your network, how the data is accessed and transmitted, and if the data contains sensitive or confidential information. Use McAfee DLP to build and implement effective protection policies while reducing the need for extensive trial and error.

Contents

What is McAfee DLP?

McAfee DLP is a suite of products, each of which protects different types of data in your network.

- **McAfee® Data Loss Prevention Endpoint (McAfee DLP Endpoint)** — Inspects and controls content and user actions on endpoints.
- **McAfee® Device Control** — Controls the use of removable media on endpoints.
- **McAfee® Data Loss Prevention Discover (McAfee DLP Discover)** — Scans file, Box, SharePoint, and database repositories to identify and protect sensitive data. Registration scans extract fingerprint information from file repositories and store the signatures in a registered documents database.
- **McAfee® Data Loss Prevention Prevent (McAfee DLP Prevent)** — Works with your web proxy or MTA server to protect web and email traffic.
- **McAfee® Data Loss Prevention Prevent for Mobile Email (McAfee DLP Prevent for Mobile Email)** — Works with MobileIron to monitor Microsoft Exchange ActiveSync or Microsoft Office 365 ActiveSync requests.
- **McAfee® Data Loss Prevention Monitor (McAfee DLP Monitor)** — Passively scans unencrypted network traffic for potential data loss incidents.

Key features

McAfee DLP includes these features.

Advanced protection — Leverage fingerprinting, classification, and file tagging to secure sensitive, unstructured data, such as intellectual property and trade secrets.

McAfee DLP provides comprehensive protection for all potential leaking channels, including removable storage devices, the cloud, email, instant messaging, web, printing, clipboard, screen capture, and file-sharing applications.

Compliance enforcement — Ensure compliance by addressing day-to-day end-user actions, such as emailing, cloud posting, and downloading to removable media devices.

Scanning and discovery — Scan files and databases stored on local endpoints, shared repositories, or the cloud to identify sensitive data.

End-user education — Provide real-time feedback through educational pop-up messages to help shape corporate security awareness and culture.

Centralized management — Integrate natively with McAfee® ePolicy Orchestrator® (McAfee® ePO™) software to streamline policy and incident management.

How it works

All McAfee DLP products identify sensitive data or user activity, take action on policy violations, and create incidents of violations.

Detect and identify

McAfee DLP identifies data on your network when that data:

- Is used or accessed by a user
- Is in transit across or outside your network
- Resides on a local file system or shared repository

React and protect

The software can take different actions on sensitive data, such as:

- Report an incident
- Block user access
- Move or encrypt files
- Quarantine emails that contain the data

Monitor and report

When policy violations are discovered, McAfee DLP creates an incident with details of the violation.

Categorizing data

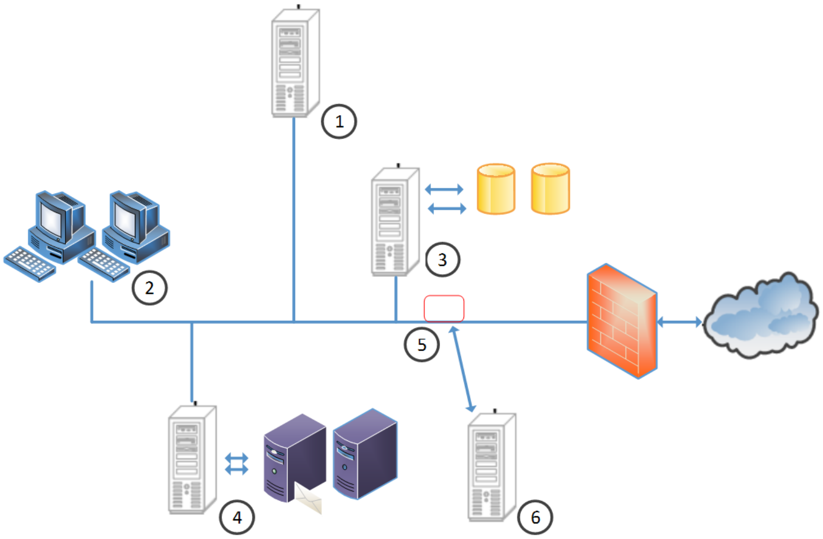
McAfee DLP collects data and categorizes it by vectors — *Data in Motion*, *Data at Rest*, and *Data in Use*.

Data vector	Description	Products
Data in Use	The actions of users on endpoints, such as copying data and files to removable media, printing files to a local printer, and taking screen captures.	• McAfee DLP Endpoint • McAfee Device Control
Data in Motion	Live traffic on your network. Traffic is analyzed, categorized, and stored in the McAfee DLP database.	• McAfee DLP Prevent • McAfee DLP Prevent for Mobile Email • McAfee DLP Monitor
Data at Rest	Data residing in file shares, databases, and repositories. McAfee DLP can scan, track, and perform remedial actions on Data at Rest.	• McAfee DLP Discover • McAfee DLP Endpoint discovery

How McAfee DLP products interact

Installing all McAfee DLP products allows you to use the full feature set of the product suite.

This diagram shows a simplified network where all McAfee DLP products and McAfee ePO are deployed.



Reference	Description	Data vector
1	McAfee ePO handles policy configuration and incident management for all McAfee DLP products.	Not applicable
2	McAfee DLP Endpoint and McAfee Device Control monitor and restrict users' data use. McAfee DLP Endpoint also scans endpoint file systems and email.	• Data in Use • Data at Rest
3	McAfee DLP Discover scans files from local or cloud repositories and local databases to find sensitive information. Registration scans store signatures in a database. The signatures can be used to define scans or policies for McAfee DLP Prevent and McAfee DLP Monitor.	Data at Rest

Reference	Description	Data vector
4	• McAfee DLP Prevent receives email from MTA servers. It analyzes the messages, adds appropriate headers based on configured policy, and sends the emails to a single MTA server, also known as the *Smart Host*. • McAfee DLP Prevent receives web traffic from web proxy servers. It analyzes the web traffic, determines if the traffic should be allowed or blocked, and sends the traffic back to the appropriate web proxy server. • McAfee DLP Prevent for Mobile Email receives email from a MobileIron Sentry server. It analyzes the email and attachments and creates incidents, or saves evidence, based on mobile protection rules.	Data in Motion
5	McAfee DLP Monitor acquires network packets through a network tap. Traffic from your email and web servers, and from data going to and from your network shares is copied to McAfee DLP Monitor.	Not applicable
6	McAfee DLP Monitor analyzes the network traffic, then creates incidents or saves evidence for the supported protocols. It applies network communication rules, web protection rules, or email protection rules.	Data in Motion

McAfee DLP Endpoint and McAfee Device Control — Controlling endpoint content and removable media

McAfee DLP Endpoint inspects enterprise users' actions on sensitive content on their computers.

McAfee Device Control prevents unauthorized use of removable media devices. McAfee DLP Endpoint includes all McAfee Device Control functionality, and, in addition, protects against data loss through a broad set of potential data-loss channels.

Key features

McAfee Device Control:

- Controls what data can be copied to removable devices, or controls the devices themselves. It can block devices completely or make them read-only.
- Blocks executables on removable media from running. Exceptions can be made for required executables such as virus protection.
- Provides protection for USB drives, smartphones, Bluetooth devices, and other removable media

McAfee DLP Endpoint protects against data loss from:

- Clipboard software
- Cloud applications
- Email (including email sent to mobile devices)
- Network shares
- Printers
- Screen captures

- Specified applications and browsers
- Web posts

The McAfee DLP classification engine applies definitions and classification criteria that define the content to be protected, and where and when the protection is applied. Protection rules apply the classification criteria and other definitions to protect the sensitive content.

Rules	Supported by
Data Protection	• McAfee DLP Endpoint • McAfee Device Control (removable storage protection rules only)
Device Control	• McAfee DLP Endpoint • McAfee Device Control
Discovery	• McAfee DLP Endpoint (endpoint discovery) • McAfee DLP Discover

The McAfee DLP Endpoint discovery crawler runs on the local endpoint, searching local file system and email storage files and applying policies to protect sensitive content.

How it works

McAfee DLP Endpoint safeguards sensitive enterprise information:

- Applies policies that consist of definitions, classifications, rule sets, endpoint client configurations, and endpoint discovery schedules
- Monitors the policies and blocks actions on sensitive content, as needed
- Encrypts sensitive content before allowing the action
- Creates reports for review and control of the process, and can store sensitive content as evidence

How the client software works

The McAfee DLP Endpoint client software is deployed as a McAfee Agent plug-in, and enforces the policies defined in the McAfee DLP policy. The McAfee DLP Endpoint client software audits user activities to monitor, control, and prevent unauthorized users from copying or transferring sensitive data. It then generates *events* recorded by the McAfee ePO Event Parser.

Event Parser

Events generated by the McAfee DLP Endpoint client software are sent to the McAfee ePO Event Parser, and recorded in tables in the McAfee ePO database. Events are stored in the database for further analysis and used by other system components.

Online/offline operation

You can apply different device and protection rules, depending on whether the managed computer is *online* (connected to the enterprise network) or *offline* (disconnected from the network). Some rules also allow you to differentiate between computers within the network and those connected to the network by VPN.

McAfee DLP Endpoint on the Microsoft Windows platform

Windows-based computers can be protected with either McAfee Device Control or McAfee DLP Endpoint. The McAfee DLP Endpoint client software uses advanced discovery technology, text pattern recognition, and predefined dictionaries. It identifies sensitive content, and incorporates device management and encryption for added layers of control.

Information Rights Management (IRM) software protects sensitive files using encryption and management of access permissions. McAfee DLP Endpoint supports Microsoft Rights Management Service (RMS) and Seclore FileSecure as complementary methods of data protection. A typical use is to prevent copying files that are not IRM protected.

Classification software verifies that emails and other files are consistently classified and protectively labeled. McAfee DLP Endpoint integrates with Titus Message Classification to create email protection rules based on the applied classifications. It integrates with other Titus classification clients through the Titus SDK to create other protection rules based on the applied classifications.

Screen reader support

Job Access With Sound (JAWS), the widely used screen reader software for the visually impaired, is supported on endpoint computers. The following McAfee DLP Endpoint features are supported:

- **End-user notification pop-up** — If the pop-up dialog box is set to close manually (in DLP Policy Manager), dialog text is read allowing a visually impaired person to navigate the buttons and links.
- **End-user justification dialog** — The combo box is accessible with the tab key, and justification can be selected with arrow keys.
- **End-user console Notification History tab** — When the tab is selected, JAWS reads, "Notification history tab selected." There is no actionable content. All information in the right pane is read.
- **End-user console Discovery tab** — When the tab is selected, JAWS reads, "Discovery tab selected." There is no actionable content. All information in the right pane is read.
- **End-user console Tasks tab** — When the tab is selected, JAWS reads, "Tasks tab selected." All steps are accessible with the tab key, and appropriate instructions are read.
- **End-user console About tab** — When the tab is selected, JAWS reads, "About tab selected." There is no actionable content. All information in the right pane is read.

Multiple user sessions

The McAfee DLP Endpoint client software supports Fast User Switching (FUS) with multiple user sessions on those versions of the Windows operating system that support FUS. Virtual desktop support can also lead to multiple users sessions on a single host computer.

Endpoint console

The endpoint console was designed to share information with the user and to facilitate self-remediation of problems. It is configured on the Client Configuration | User Interface Service tab.

On Windows-based computers, the console is activated from the icon in the System Tray by selecting Manage Features | DLP Endpoint Console. Fully configured, it has four tabbed pages:

- **Notifications History** — Displays events, including details of aggregated events.
- **Discovery** — Displays details of discovery scans.
- **Tasks** — Generates ID codes and enter release codes for agent bypass and quarantine.
- **About** — Displays information about agent status, active policy, configuration, and computer assignment group, including revision ID numbers.

McAfee DLP Endpoint on the OS X platform

McAfee DLP Endpoint for Mac prevents unauthorized use of removable devices and provides protection for sensitive content on endpoints and network shares.

McAfee DLP Endpoint for Mac supports removable storage and plug-and-play device rules. It also supports the following data protection rules:

- Application file access protection rules
- Cloud protection rules
- Network share protection rules
- Removable storage protection rules

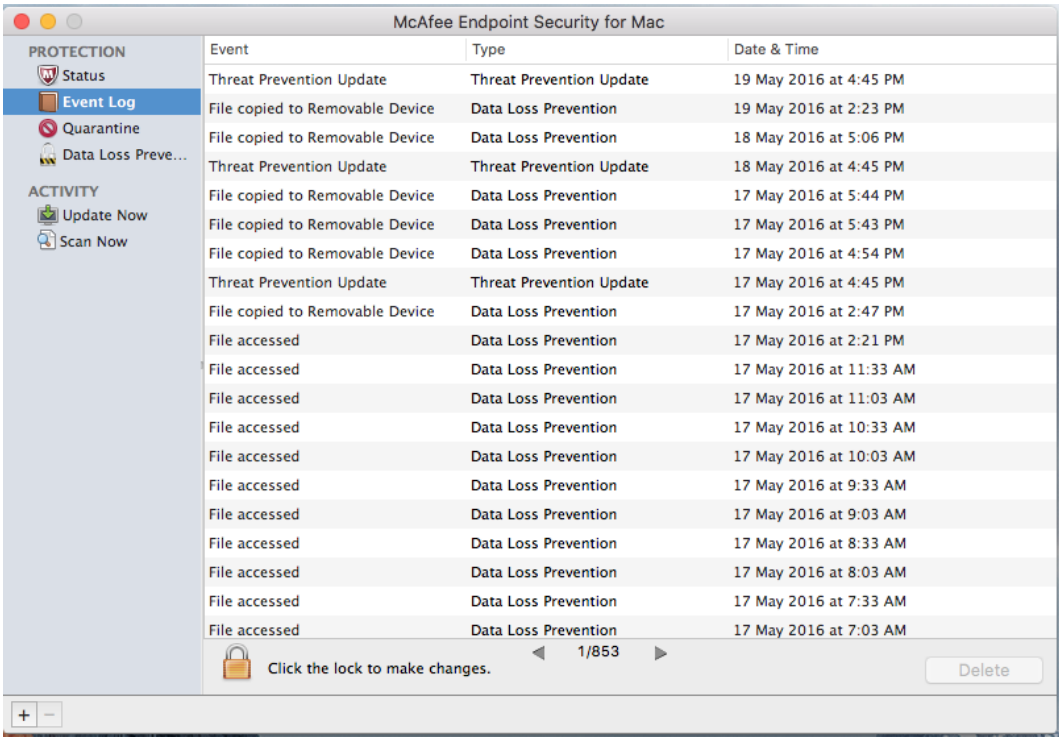
You can identify sensitive content with classifications, as on Windows-based computers, but registered documents and tagging are not supported.

Other supported features are:

- Manual classification
- Text extraction
- Evidence encryption
- Business justification definitions

Endpoint console

On Mac endpoints, the console is activated from the McAfee menulet on the status bar. The Dashboard is integrated with other installed McAfee software such as McAfee® VirusScan® for Mac, and displays an overview of the status of all installed McAfee software. The Event Log page displays recent McAfee software events. Click an entry to view the details.



Event	Type	Date & Time
Threat Prevention Update	Threat Prevention Update	19 May 2016 at 4:45 PM
File copied to Removable Device	Data Loss Prevention	19 May 2016 at 2:23 PM
File copied to Removable Device	Data Loss Prevention	18 May 2016 at 5:06 PM
Threat Prevention Update	Threat Prevention Update	18 May 2016 at 4:45 PM
File copied to Removable Device	Data Loss Prevention	17 May 2016 at 5:44 PM
File copied to Removable Device	Data Loss Prevention	17 May 2016 at 5:43 PM
File copied to Removable Device	Data Loss Prevention	17 May 2016 at 4:54 PM
Threat Prevention Update	Threat Prevention Update	17 May 2016 at 4:45 PM
File copied to Removable Device	Data Loss Prevention	17 May 2016 at 2:47 PM
File accessed	Data Loss Prevention	17 May 2016 at 2:21 PM
File accessed	Data Loss Prevention	17 May 2016 at 11:33 AM
File accessed	Data Loss Prevention	17 May 2016 at 11:03 AM
File accessed	Data Loss Prevention	17 May 2016 at 10:33 AM
File accessed	Data Loss Prevention	17 May 2016 at 10:03 AM
File accessed	Data Loss Prevention	17 May 2016 at 9:33 AM
File accessed	Data Loss Prevention	17 May 2016 at 9:03 AM
File accessed	Data Loss Prevention	17 May 2016 at 8:33 AM
File accessed	Data Loss Prevention	17 May 2016 at 8:03 AM
File accessed	Data Loss Prevention	17 May 2016 at 7:33 AM
File accessed	Data Loss Prevention	17 May 2016 at 7:03 AM

Figure 1-1 McAfee DLP Endpoint for Mac endpoint display

To activate the agent bypass screen, select Preferences from the menulet.

McAfee DLP Discover — Scanning files, repositories, and databases

McAfee DLP Discover runs on Microsoft Windows servers and scans network file systems and databases to identify and protect sensitive files and data.

McAfee DLP Discover is a scalable, extensible software system that can meet the requirements of any size network. Deploy McAfee DLP Discover software to as many servers throughout the network as needed.

Key features

Use McAfee DLP Discover for:

- Detecting and classifying sensitive content
- Creating registered document signature databases
- Moving or copying sensitive files
- Integrating with Microsoft Rights Management Service to apply protection to files
- Automating IT tasks such as finding blank files, determining permissions, and listing files that changed within a specified time range

How it works

McAfee ePO uses McAfee® Agent to install and deploy the McAfee DLP Discover software to a *Discover server* — a designated Windows Server.

McAfee ePO applies the scan policy to Discover servers, which scan the repository or database at the scheduled time. The data collected and the actions applied to files depend on the scan type and configuration. For database scans, the only actions available are to report the incident and store evidence.

Use McAfee ePO to perform configuration and analytics tasks such as:

- Displaying available Discover servers
- Configuring and scheduling scans
- Configuring policy items such as definitions, classifications, and rules
- Reviewing data analytics and inventory results
- Reviewing incidents generated from remediation scans

Supported repositories

McAfee DLP Discover supports local network and cloud repositories.

File repositories:

- Box
- Common Internet File System (CIFS)
- SharePoint 2010 and 2013

SharePoint Enterprise Search Center (ESS) websites are not supported. An ESS website is a consolidation that does not contain files, but only links to the original files. For ESS websites, scan the actual site collections or the entire web application.

Databases:

- Microsoft SQL
- MySQL, commercial editions only
- Oracle

Types of scans

McAfee DLP Discover supports four scan types — inventory, classification, remediation, and document registration.

Inventory scans

Use inventory scans to give you a high-level view of what types of files exist in the repository. This scan collects only metadata — the files are not fetched. McAfee DLP Discover sorts scanned metadata into different content types and analyzes attributes such as file size, location, and file extension. Use this scan to create an overview of your repository or for IT tasks such as locating infrequently used files. You can run inventory scans on all supported file repositories and databases.

Classification scans

Use classification scans to help you understand the data that exists in the targeted repository. By matching scanned content to classifications such as text patterns or dictionaries, you can analyze data patterns to create optimized remediation scans. You can run classification scans on all supported file repositories and databases.

Remediation scans

Use remediation scans to find data that is in violation of a policy. You can run remediation scans on all supported file repositories and databases. You can monitor, apply a Rights Management policy, copy, or move files to an export location. All actions can produce incidents that are reported to the Incident Manager in McAfee ePO.

For database scans, you can monitor, report incidents, and store evidence.

Registration scans

Use document registration scans to extract content from files based on selected fingerprint criteria, and save the data to a signature database.

The registered documents can define classification and remediation scans, or policies for McAfee DLP Prevent and McAfee DLP Monitor. You can run document registration scans only on supported file repositories, not on databases. A file can potentially be picked up by more than one document registration scan. In that case, it is classified based on more than one set of criteria, and its signatures are recorded in more than one registered document.

McAfee DLP Prevent — Protecting email and web traffic

McAfee DLP Prevent integrates with an MTA server or web proxy to monitor email and web traffic and prevent potential data loss incidents.

Protecting email traffic

McAfee DLP Prevent integrates with any MTA that supports header inspection.

Key features

McAfee DLP Prevent interacts with your email traffic, generates incidents, and records the incidents in McAfee ePO for subsequent case review.

How it works

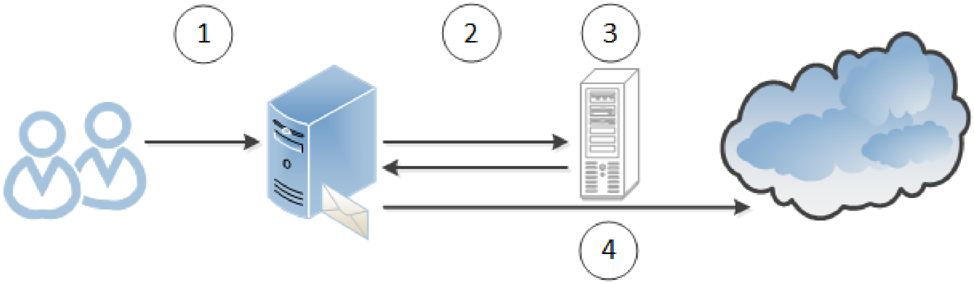


Figure 1-2 McAfee DLP Prevent email traffic flow

1. **Users** — Incoming or outgoing email messages go to the MTA server.
2. **MTA server** — Forwards the email messages to McAfee DLP Prevent.
3. **McAfee DLP Prevent** — Receives SMTP connections from the MTA server and:
   - Decomposes the email message into its component parts
   - Extracts the text for fingerprinting and rule analysis
   - Analyzes the email message to detect policy violations
   - Adds an X-RCIS-Action header
   - Sends the message to the configured Smart Host.

   In this example, the configured Smart Host is the original MTA.
4. **MTA server** — Based on information it gets from the X-RCIS-Action header, the MTA server acts on the email message.

Protecting web traffic

Key features

McAfee DLP Prevent receives ICAP connections from a web proxy server, analyzes the content, and determines if the traffic should be allowed or blocked.

How it works

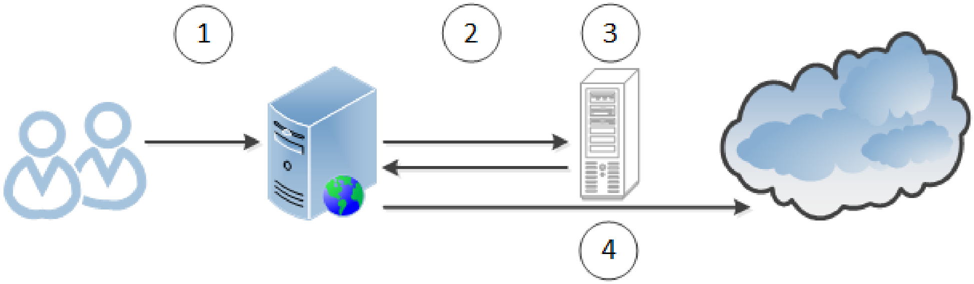


Figure 1-3 McAfee DLP Prevent web traffic flow

Step	Description
1	Users send web traffic to the web proxy server.
2	The web proxy server forwards the web traffic to McAfee DLP Prevent.
3	McAfee DLP Prevent inspects the web traffic, and returns a response to the web proxy server to allow the traffic through to the destination server or deny access. The web proxy server sends the inspected web traffic to the appropriate destinations.

McAfee DLP Monitor — Analyzing network traffic

Use McAfee DLP Monitor to learn about the quantity and types of data transferred across the network. McAfee DLP Monitor does not block or change network traffic, so you can integrate it into a production environment without impacting live traffic.

Types of protection rules

McAfee DLP Monitor can apply one of these McAfee DLP protection rules to your network traffic.

- **Email Protection** — By default, McAfee DLP Monitor inspects SMTP traffic using email protection rules, which incorporate protocol-specific information such as sender and recipient email addresses.
- **Web Protection** — By default, McAfee DLP Monitor inspects HTTP and FTP traffic using web protection rules, which incorporate protocol-specific information such as the URL.
- **Network Communication Protection** — McAfee DLP Monitor can inspect all supported traffic using network communication protection rules, which do not incorporate any protocol-specific information.

  If you don't want to analyze SMTP, HTTP, or FTP traffic with email and web protection rules, you can configure McAfee DLP Monitor to use network communication protection rules. Go to **Menu** | **Policy Catalog** | **DLP Appliance Management** | **McAfee DLP Monitor Settings**.

> Using **Email Protection** and **Web Protection** rules allows you to share rules with McAfee DLP Prevent.

Supported protocols

McAfee DLP Monitor inspects several protocols.

- SMTP*
- IMAP*
- POP3*
- Telnet
- FTP
- IRC

- HTTP
- LDAP
- SMB**

McAfee DLP Monitor can also analyze traffic that is encapsulated in SOCKS.

* These protocols support STARTTLS (plain text initial connection converted to TLS/SSL after STARTTLS command). McAfee DLP Monitor treats these protocols as encrypted and does not analyze them if STARTTLS is used.

** Data transferred using SMB might be encrypted depending on the version of the protocol and your configuration.

McAfee DLP Monitor does not analyze the content of encrypted connections directly. You can use a dedicated gateway (for example, the SSL Tap feature in Web Gateway), to intercept the encrypted connection and send the decrypted data to McAfee DLP Monitor for analysis. See the documentation for your gateway for information. If McAfee DLP Monitor cannot classify a connection as a known protocol, it shows the connection as unknown.

McAfee DLP Prevent for Mobile Email — Protecting mobile email

McAfee DLP Prevent for Mobile Email integrates with MobileIron Mobile Device Management (MDM) servers to analyze email sent to mobile devices.

Key features

McAfee DLP Prevent for Mobile Email analyzes email traffic from Microsoft Exchange ActiveSync or the Microsoft Office 365 ActiveSync, generates incidents, and records the incidents and evidence in McAfee ePO for subsequent case review.

How it works

Using the ActiveSync feature in Microsoft Exchange, mobile email applications can connect directly to Exchange to send and receive emails. This email traffic doesn't use SMTP, so it can't be detected by McAfee DLP Prevent email protection. The MobileIron MDM Sentry server acts as a front-end ActiveSync proxy that intercepts mobile email traffic.

McAfee DLP Prevent for Mobile Email is a reverse proxy for Microsoft Exchange server. It receives ActiveSync requests from the MobileIron Sentry server and delegates them to Microsoft Exchange. It then analyzes the response from Microsoft exchange and identifies confidential corporate information opened by email clients on Mobile devices connected to the corporate exchange server. Sensitive content triggers an event in the **DLP Incident Manager** for subsequent case review.

Interaction with other McAfee products

McAfee DLP integrates with other McAfee products, increasing the functionality of the product suite.

Product	Description
McAfee ePO	All McAfee DLP products integrate with McAfee ePO for configuration, management, monitoring, and reporting.
McAfee® Email Gateway	Integrates with McAfee DLP Prevent to provide email protection.
McAfee® File and Removable Media Protection (FRP)	Integrates with McAfee DLP Endpoint to encrypt sensitive files. Not supported on McAfee DLP Endpoint for Mac.

Product	Description
McAfee® Logon Collector	Integrates with McAfee DLP Monitor and McAfee DLP Prevent for user authentication information.
McAfee® Web Gateway	Integrates with McAfee DLP Prevent to provide web protection.

Deployment and installation

Determine the deployment option that best suits your environment, then install the extension. Depending on your McAfee DLP products, install the McAfee DLP Endpoint clients to endpoints, install the McAfee DLP Discover server package, or install the McAfee DLP Appliance Management extension and appliance.

2 Planning your deployment

Prepare your environment for installation.

Contents

Basic McAfee DLP implementation

The recommended installation for a simple McAfee DLP implementation is on a single McAfee ePO server.

For recommendations on using a separate server for the McAfee ePO database in more complex installations, see the *McAfee ePolicy Orchestrator Hardware Sizing and Bandwidth Usage Guide*.

The recommended architecture includes:

- **McAfee ePO server** — Hosts the embedded McAfee DLP extension and the DLP Classification, Incident Manager, Operations, and Case Management modules. It communicates with the McAfee DLP Discover, McAfee DLP Prevent, and McAfee DLP Monitor servers, and with the McAfee DLP Endpoint software on the managed endpoints.
- **Administrator workstation** — Accesses McAfee ePO and the McAfee DLP module consoles in a browser.

Optional components include:

- **Managed endpoints** — Apply the security policies using the McAfee DLP Endpoint client software.
- **McAfee DLP Discover server** — Scans network repositories and databases, classifies data, and applies security policies (remediation).
- **McAfee DLP Prevent server** — Analyzes email and web traffic and applies security policies.
- **McAfee DLP Monitor server** — Monitors network traffic and applies security policies.

See also

Default ports used by McAfee DLP on page 242

Deployment options

The McAfee DLP product suite offers several options for integration in your network.

McAfee DLP Endpoint or Device Control options

The McAfee DLP extension can run on physical or virtual servers. Large networks typically divide the workload by LAN or workgroup, and McAfee DLP can assign different policies to different groups. Reporting can be by group, or a rollup data server task can collect data from several servers to produce a single report.

McAfee DLP supports multiple versions of McAfee DLP Endpoint with the backward compatibility option in **DLP Settings**.

McAfee DLP Endpoint performs cryptographic operations in a way that is compliant with FIPS 140-2. You can use settings in the Windows registry to turn FIPS 140-2 compliancy on and off.

McAfee DLP Discover options

McAfee DLP Discover can run on physical or virtual servers. You can install one or multiple Discover servers on your network using McAfee ePO (recommended) or manually.

McAfee DLP Discover performs cryptographic operations in a way that is compliant with FIPS 140-2. You can use settings in the Windows registry to turn FIPS 140-2 compliancy on and off.

Make sure that any servers you use for McAfee DLP Discover meet these requirements:

- The server has McAfee Agent installed and running.
- The server is communicating with McAfee ePO.
- The server is added to the McAfee ePO **System Tree**.

To store and distribute registered document signature databases, make sure the servers meet these additional requirements:

- The master registration server and the secondary servers have McAfee DLP Discover software installed. For the server to be a Master Redis server, the role is set to **DLP Server**.

  This is done automatically when you install or upgrade from McAfee ePO. When installing manually, use this command:

  ```
  DiscoverServerInstallx64.exe SERVER_ROLE=DLP
  ```

  McAfee DLP Discover uses the open-source Redis in-memory data structure store for signature databases. Redis is installed with McAfee DLP Discover server software on all servers. The difference between a McAfee DLP Discover server (one that can run scans) and a master registration server is the server role. On McAfee DLP Discover servers, Redis runs in read-only mode.

- Verify that the **redis-server.exe** process is running.

For information about installing and running McAfee Agent, see the *McAfee Agent Product Guide*.

McAfee DLP Prevent options

You can add McAfee DLP Prevent appliances to clusters to balance the load and ensure high availability in case of failure. McAfee DLP Prevent can also be set up as a standalone appliance on physical or virtual hardware.

- Virtual appliances can run on your own VMware ESX or ESXi server.
- You can install McAfee DLP Prevent on model 4400 or 5500 appliances.
- You can install a VMware ESX or ESXi server on model 4400 or 5500 appliances.

Cluster setup

Best practice: Run McAfee DLP Prevent appliances as part of a cluster.

A cluster of McAfee DLP Prevent appliances contains a primary node (the *master*) and a number of secondary nodes (*cluster scanners*). The nodes listen on the same virtual IP address (VIP) and must be in the same network segment. The master is responsible for distributing email and web traffic for analysis between itself and the cluster scanners. If the master fails, any of the cluster scanners can take over the primary role. When the original master recovers, it rejoins the cluster as a cluster scanner.

The Cluster ID and virtual IP address must be unique.

MTA requirements

An MTA server must meet these requirements to integrate with McAfee DLP Prevent.

- The MTA must send all or a portion of email traffic to McAfee DLP Prevent. *Example*: In some environments, it might be preferable for McAfee DLP Prevent to process only mail going to or from public sites, such as Gmail, rather than processing every email sent and received on the network.
- The MTA must be able to inspect email headers so that it can distinguish email arriving from McAfee DLP Prevent and act on the header strings that McAfee DLP Prevent adds to the email messages. If certain actions are not supported on the MTA server, do not configure rules on McAfee DLP Prevent to use these actions.
- Your MTA must ensure that email messages received from McAfee DLP Prevent are routed to the intended destination, and not back to McAfee DLP Prevent. *Example*: Routing might be defined using a port number or source IP address, or by checking if X-RCIS-Action headers are present.

McAfee DLP Prevent for Mobile Email requirements

The McAfee DLP Prevent for Mobile Email software can run on physical or virtual servers. The requirements are the same as for the McAfee DLP Discover server software. Do not run both products from the same server.

McAfee DLP Monitor options

McAfee DLP Monitor is registered with McAfee ePO and passively assesses your network without blocking traffic.

- Analyze the traffic of well-known TCP protocols to identify users or devices that send a high volume of unknown traffic, which might indicate a violation of company policy.
- Analyze points of data loss without impacting your network to help you plan your data loss prevention strategy.
- Support protocols that are not proxied by other email or web gateways.
- Monitors network traffic for devices which do not have McAfee DLP installed.

High-level steps for implementation

1. Connect the appliance to your network.
2. Install McAfee DLP Monitor.
3. Enable relevant predefined policies and rules.
4. Create additional rules and policies.

5. Review incidents generated by McAfee DLP Monitor.
6. Tune rules as needed to reduce false positives.

Best practice: To use McAfee DLP Monitor and McAfee DLP Prevent on the same network, install McAfee DLP Monitor first to see how traffic flows through your network.

Network placement

The placement of McAfee DLP Monitor determines what data is analyzed. McAfee DLP Monitor can connect to any switch in your network using, for example, a SPAN port or network tap. Typically, it connects to the LAN switch before the WAN router. This placement makes sure that McAfee DLP Monitor analyzes all connections entering or leaving the network.

McAfee DLP Monitor Capture port 1 must be connected to a network port that transmits all the packets you want it to analyze.

Deployment scenarios

Due to the number of McAfee DLP products and the ways to implement them, deployments often differ from network to network.

Deploying McAfee DLP Endpoint in Citrix environments

McAfee DLP Endpoint for Windows can be installed on Citrix controllers for XenApp and XenDesktop.

Using McAfee DLP Endpoint for Windows in Citrix environments has the following requirements:

- Citrix XenApp 6.5 FP2, or 7.8
- Citrix XenDesktop 7.0, 7.5, or 7.8

Deploy McAfee Agent and McAfee DLP Endpoint client to the Citrix controllers, as to any endpoint. Deploy a McAfee DLP Endpoint for Windows client policy to the Citrix controllers.

McAfee DLP Endpoint client does not need to be deployed to the endpoints to work with Citrix. Citrix Receiver 4.4.1000 is all that is required. When the Windows endpoint connects to the Citrix controller and opens files or emails, rules are enforced.

How it works

Protection rules in Citrix have the following differences from McAfee DLP Endpoint installed on an enterprise computer:

- Citrix Device Rules are not supported when using a separate controller server with XenApp 7.8.
- Screen capture protection rules are not supported. This is because the screen capture is activated from the endpoint computer where the rule cannot take effect. For screen capture protection, install McAfee DLP Endpoint client on the endpoint computer.
- Clipboard protection rules are supported, but without pop-up notifications or events. This is because the attempted copy action takes place on the Citrix controller, where rules are supported, but the attempted paste action takes place on the endpoint, and cannot activate the popup or generate an event.

These limitations do not apply if you use RDP to connect to the Citrix controller.

Running McAfee Device Control on air-gapped computers

Device Control can be used to control the use of removable devices connected to air-gapped systems.

Security for air-gapped systems includes limiting the removable devices that are commonly used with these systems to recognized devices and authorized uses.

Three slightly different systems can be described as air-gapped systems. Setting up each for Device Control protection represents a different scenario.

1. Computers connected to the enterprise intranet, but isolated from the Internet
2. An isolated computer network that includes a McAfee ePO server
3. Isolated computers, where the only way to get information in or out is by using removable storage devices

How it works

For scenario 1, McAfee Agent is deployed to the air-gapped computers. The system then works in the normal way, receiving policies from McAfee ePO and sending incidents to the McAfee ePO server. All communication remains in the intranet.

For scenario 2, configurations and policies can be created on the main McAfee ePO server. Create a backup and save to a removable storage device. Take the backup to the isolated McAfee ePO server, and copy it using the **Restore** button in **DLP Settings**.

Scenario 3 uses the policy injection mode of operation. The Device Control client is configured to get policies from a specified folder. Policies created on an external McAfee ePO server are then manually copied to that folder. In this mode of operation, McAfee Agent Events are stored in a local folder, and must be manually copied to the McAfee ePO server at regular intervals. If Device Control is configured with removable storage protection rules, agent events include evidence, incidents, and operational events.

Planning your DLP policy

Understand the workflows and policy components to help you plan your DLP approach.

McAfee DLP workflow

Use this workflow as general guidance for working with your McAfee DLP products.

- **Understand the data** — Detect and identify what data is on your network.
  1. Use McAfee DLP to passively monitor the data and user actions on the network. You can use predefined rules or create a basic policy.
  2. Review incidents and analyze scan results to see potential policy violations. Use this information to begin creating an effective policy.
- **Configure policy** — Use rules to react to violations to protect data.
  1. Classify and define sensitive data by configuring classifications and definitions.
  2. Track sensitive data and files with content fingerprinting and registered documents.
  3. Protect data with scans and rules. Configure the action to take when sensitive data is discovered, accessed, or transmitted.

- **Monitor results** — Monitor incidents and create reports.
  1. Review incidents for false positives and genuine policy violations.
  2. Group related incidents into cases, which can be escalated to other departments, such as legal or Human Resources.
- **Refine policy** — Fine-tune your policy as needed. Continue monitoring incidents and scan results, adjusting the policy based on the types of violations and false positives you find.

The McAfee DLP protection process

McAfee DLP features and policy components make up a protection process that fits into the overall workflow.

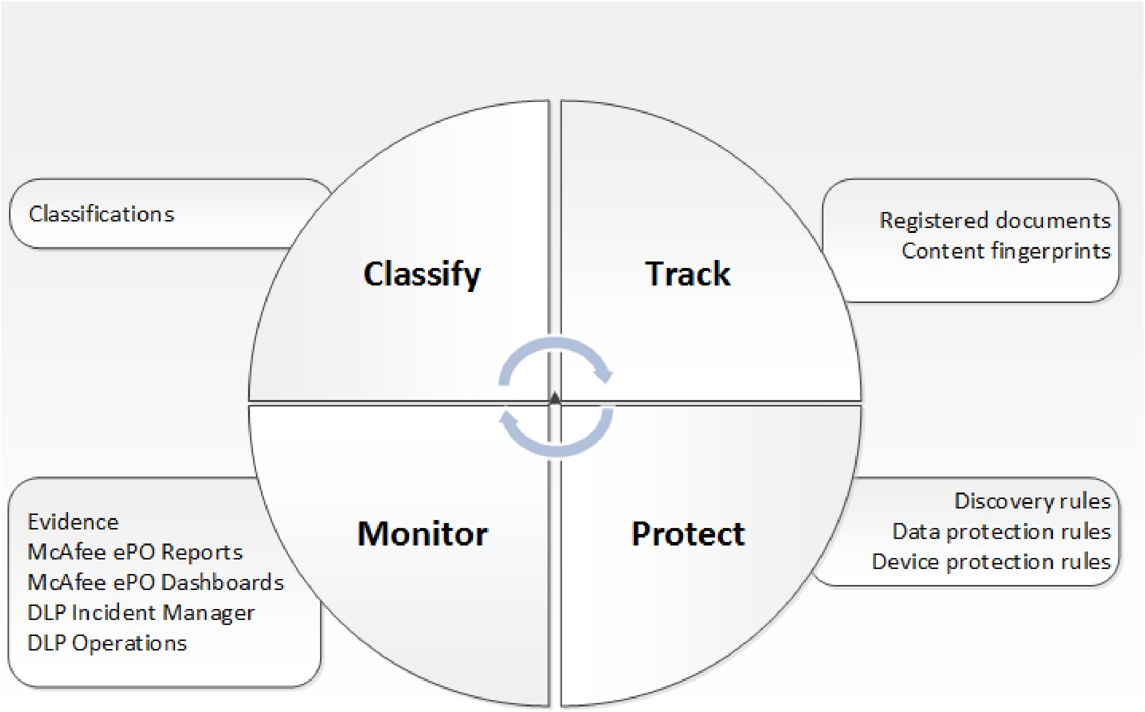


Figure 2-1 The McAfee DLP protection process

Classify

To protect sensitive content, start by defining and classifying sensitive information to be protected.

Content is classified by defining *classifications* and *classification criteria*. Classification criteria defines the conditions on how data is classified. Methods to define criteria include:

- **Advanced patterns** — Regular expressions combined with validation algorithms, used to match patterns such as credit card numbers
- **Dictionaries** — Lists of specific words or terms, such as medical terms for detecting possible HIPAA violations
- **True file types** — Document properties, file information, or the application that created the file
- **Source or destination location** — URLs, network shares, or the application or user that created or received the content

McAfee DLP Endpoint and McAfee DLP appliances support third-party classification software. You can classify email or other files using Titus classification clients – Titus Message Classification, Titus Classification for Desktop, and Titus Classification Suite. To implement Titus support, the Titus SDK must be installed on the endpoint computers.

Track

McAfee DLP can track content based on storage location or the application used to create it.

The mechanisms used to track content are:

- Content fingerprinting — Supported on McAfee DLP Endpoint for Windows only.
- Registered documents — Supported on McAfee DLP Endpoint for Windows, McAfee DLP Discover, McAfee DLP Prevent, and McAfee DLP Monitor.

  Manual registration, performed in the **Classification** module, is supported on McAfee DLP Endpoint for Windows, McAfee DLP Monitor, and McAfee DLP Prevent. Automatic registration, performed by McAfee DLP Discover registration scans, is supported on all other McAfee DLP products.

- Manual classifications — Created by McAfee DLP Endpoint users, but supported on all McAfee DLP products.

Content fingerprinting

Content *fingerprinting* is a technique for identifying and tracking content. The administrator creates a set of content fingerprinting criteria. The criteria define either the file location or the application used to access the file, and the classification to place on the files. The McAfee DLP Endpoint client tracks any file that is opened from the locations, or by the applications, defined in the content fingerprinting criteria and creates fingerprint signatures of these files in real time when the files are accessed. It then uses these signatures to track the files or fragments of the files. Content fingerprinting criteria can be defined by application, UNC path (location), or URL (web application).

Support for persistent fingerprint information

Content fingerprint signatures are stored in a file's extended file attributes (EA) or alternate data streams (ADS). When such files are accessed, McAfee DLP Endpoint software tracks data transformations and maintains the classification of the sensitive content persistently, regardless of how it is being used. For example, if a user opens a fingerprinted Word document, copies a few paragraphs of it into a text file, and attaches the text file to an email message, the outgoing message has the same signatures as the original document.

For file systems that do not support EA or ADS, McAfee DLP Endpoint software stores signature information as a metafile on the disk. The metafiles are stored in a hidden folder named ODB$, which the McAfee DLP Endpoint client software creates automatically.

Signatures and content fingerprinting criteria are not supported in McAfee Device Control.

Registered documents

The registered documents feature is based on pre-scanning all files in specified repositories (such as the engineering SharePoint) and creating signatures of fragments of each file in these repositories. McAfee DLP Endpoint and the network McAfee DLP products use slightly different versions of registered documents.

McAfee DLP Endpoint uses manual registration. Signatures of files are manually uploaded to a McAfee ePO database by McAfee DLP. These signatures are then distributed to all managed endpoints. The McAfee DLP Endpoint client is then able to track any paragraph copied from one of these documents and classify it according to the classification of the registered document signature. McAfee DLP Prevent and McAfee DLP Monitor also access the McAfee ePO database to use registered documents.

McAfee DLP Discover runs registration scans on file repositories. The signatures created by this automatic registration are stored in signature databases on servers designated as **DLP Servers**. They are used by McAfee DLP Discover to create classification and remediation scans. They are also used by McAfee DLP Prevent and McAfee DLP Monitor to define rules.

Registered documents use extensive memory, which might affect performance, because each document that the McAfee DLP software inspects is compared to all registered document signatures to identify its origin.

Best practice: To minimize the number of signatures and the performance implications of this technique, use registered documents to track only the most sensitive documents.

Manual classification

Users working with manual classification have the option of applying content fingerprints or content classifications to their files. Manually applied content fingerprinting is identical to the automatically applied fingerprinting described previously. Manually applied content classifications embed a physical tag in the file which can be used to track the file wherever it is copied, but do not create signatures. Content copied from these files into other files can't be tracked.

Manual classification is supported on Microsoft Windows and Mac computers. If a user tries to classify a file type that doesn't support tagging (for example, TXT files), an error message displays.

Protect

Create rules to identify sensitive data and take appropriate action.

Rules are made up of conditions, exceptions, and actions. Conditions contain multiple parameters — such as classifications — to define the data or user action to identify. Exceptions specify parameters to exclude from triggering the rule. Actions specify how the rule behaves when a rule is triggered, such as blocking user access, encrypting a file, and creating an incident.

Data Protection rules

Data protection rules are used by McAfee DLP Endpoint, Device Control, McAfee DLP Prevent, and McAfee DLP Monitor to prevent unauthorized distribution of classified data. When a user tries to copy or attach classified data, McAfee DLP intercepts the attempt and uses the data protection rules to determine which action to take. For example, McAfee DLP Endpoint can halt the attempt and display a dialog box to the user. The user inputs the justification for the attempt, and processing continues.

McAfee DLP Prevent uses web and email protection rules to monitor and take action on communication from an MTA server or web proxy server.

McAfee DLP Monitor can apply the network communication protection, email protection, or web protection rules to analyze supported traffic on your network.

McAfee Device Control uses only removable storage data protection rules.

Device Control rules

Device Control rules monitor and potentially block the system from loading physical devices such as removable storage devices, Bluetooth, Wi-Fi, and other plug-and-play devices. Device Control rules consist of device templates and reaction specifications, and can be assigned to specific end-user groups by filtering the rule with end-user group definitions.

Application control rules

Application control rules block the application rather than blocking the content. For example, a web application control rule blocks a specified URL by name or by reputation.

Discovery rules

Discovery rules are used by McAfee DLP Endpoint and McAfee DLP Discover for file and data scanning.

Endpoint Discovery is a crawler that runs on managed computers. It scans the local endpoint file system and the local email (cached) inbox and PST files. Local file system and email storage discovery rules define whether the content is to be quarantined, tagged, or encrypted. These rules can also define whether the classified file or email is reported as an incident, and whether to store the file or email as evidence included in the incident.

> File system scans are not supported on server operating systems.

McAfee DLP Discover scans file and database repositories and can move or copy files, apply Rights Management policies to files, and create incidents.

Rule sets

Rules are organized into rule sets. A rule set can contain any combination of rule types.

Policies

Policies contain active rule sets and are deployed from McAfee ePO to the McAfee DLP Endpoint client software, Discovery server, or a McAfee DLP appliance. McAfee DLP Endpoint policies also contain policy assignment information and definitions.

See also
Supported protocols on page 23

Monitor

Review incidents for policy violations that have occurred.

Monitoring functions include:

- **Incident management** — Incidents are sent to the McAfee ePO Event Parser and stored in a database. Incidents contain the details about the violation, and can optionally include evidence information. You can view incidents and evidence as they are received in the **DLP Incident Manager** console.
- **Case management** — Group related incidents into cases for further review in the **DLP Case Management** console.
- **Operational events** — View errors and administrative events in the **DLP Operations** console.
- **Evidence collection** — For rules that are configured to collect evidence, a copy of the data or file is saved and linked to the specific incident. This information can help determine the severity or exposure of the event. Evidence is encrypted using the AES algorithm before being saved.
- **Hit highlighting** — Evidence can be saved with highlighting of the text that caused the incident. Highlighted evidence is stored as a separate encrypted HTML file.
- **Reports** — McAfee DLP Endpoint can create reports, charts, and trends for display in McAfee ePO dashboards.

Policy workflow

McAfee DLP products use a similar workflow for creating policies.

A policy consists of rules, grouped into rule sets. Rules use classifications and definitions to specify what McAfee DLP detects. Rule reactions determine the action to take when data matches the rule.

Use the following workflow for creating policies.

1. Create classifications and definitions.
2. Create data protection, device, and discovery rules. All rules require either classifications or definitions in the rule.
3. Assign rule sets to DLP policies. For McAfee DLP Discover, create scan definitions.
4. Assign and deploy the policies in the System Tree. For McAfee DLP Discover, apply policy to the Discover servers.

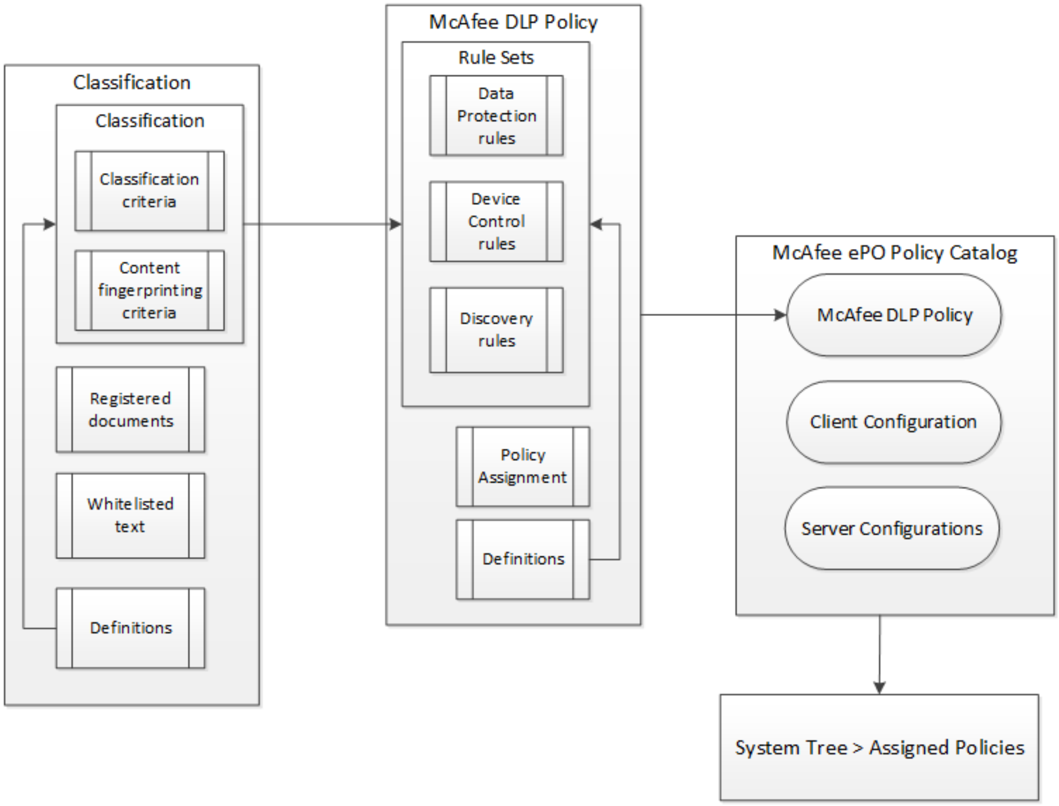


Figure 2-2 How policy components make up a policy

The options and availability for these components vary depending on which McAfee DLP you use.

See also

Shared policy components on page 39

Best practice McAfee DLP Discover workflow

Use this workflow as guidance when implementing McAfee DLP Discover, especially in new environments.

1. To collect metadata from the files in your organization's repositories, run an inventory scan. The scan results help you understand which files reside in the repositories.
2. Configure classifications to detect classified or sensitive information. Use these classifications to define and run a classification scan.
3. Use the results of the classification scan to see where sensitive information resides.
4. Configure a remediation scan to encrypt sensitive files or move them to a more secure repository.

5 Continue to run scans regularly, monitoring scan results and any incidents generated. Refine scans based on the results or changes in your organization's policy.

6 Registered documents have a significant RAM impact. Run registration scans only on the most sensitive repositories.

Shared policy components

McAfee DLP products share many policy configuration components.

Component	Device Control	McAfee DLP Endpoint	McAfee DLP Discover	McAfee DLP Prevent and McAfee DLP Monitor
Definitions	X	X	X	X
Classifications	X*	X	X	X
Content classification criteria	X*	X	X	X
Content fingerprinting criteria		X		
Manual classifications		X	X**	X**
Registered documents		Manual registration only	Automatic registration only	Manual and automatic registration
Whitelisted text		X		X
Rules and rule sets	X	X	X	X
Client configuration	X	X		
Server configuration			X	X
Evidence	X*	X	X	X
Rights management		X	X	

*Device Control uses classifications, content classification criteria, and evidence only in removable storage protection rules.

**McAfee DLP Discover, McAfee DLP Monitor, and McAfee DLP Prevent can analyze files for manual classifications, but these products can't assign manual classifications.

Deployment checklist

Before installing McAfee DLP products, verify that you have all information needed for a successful deployment.

Table 2-1 McAfee DLP Endpoint and Device Control considerations

Determine	Consideration
Work impact	Test new installations or upgrades on a subnet of the production network. Set new rules to **No Action** and monitor the results in the DLP Incident Manager to gauge the impact. Adjust rule parameters to match requirements before implementing in the production network. In large organizations, full-scale deployment is typically done in phases to minimize impact and allow time for troubleshooting.
Type of deployment (physical or virtual)	Virtual deployments have additional limitations. See the relevant *Sizing Guide* for details.

Table 2-2 McAfee DLP Discover considerations

Determine	Consideration
Discover servers	Determine how many and which Windows servers to install the McAfee DLP Discover server software. To enable the registered documents feature, a DLP server (McAfee DLP Discover server with server role set to DLP) is required for the Redis Master Database.
Server installation method	Determine whether to install the McAfee DLP Discover software through McAfee ePO or manually.
Repositories	• Create a list of the repositories to scan. Gather the paths and credentials for these repositories and verify that McAfee DLP Discover supports these repository types. • Determine if non-standard ports need to be defined. If yes, configure the firewall to allow them.

Table 2-3 McAfee DLP Prevent considerations

Determine	Consideration
Security	• Use out-of-band management on a network that McAfee ePO can access to isolate management and network traffic. • LAN1 traffic must not be accessible from outside your organization. • Connect any baseboard management controller (BMC) interface to a dedicated secure management network. • Control who can access the physical or virtual appliance console. **Best practice:** Use the encrypted channel for your ICAP traffic. **Best practice:** Disable all unused services.
Network information	• Network interfaces — Verify that these are statically assigned IP addresses, rather than dynamically assigned IP addresses. • Logon account — The appliance has a local administrator account for logging on to the appliance console. To make the account secure, you need to change the default password. • In a cluster environment, the virtual IP address must be in the same subnet as the appliance IP address.
Remote Management Module (RMM)	(Hardware appliances only) If you intend to use the RMM for appliance management, use a secure or closed network to connect to the RMM.

Table 2-4 McAfee DLP Monitor considerations

Determine	Consideration
Security	• Use out-of-band management on a network that McAfee ePO can access to isolate management and network traffic. • When clustering is enabled, LAN1 traffic must not be accessible from outside your organization. You do not have to connect LAN1 if you are not using clustering. • Connect any baseboard management controller (BMC) interface to a dedicated secure management network. • Control who can access the physical or virtual appliance console.
Network information	• Determine the most appropriate place in your network to attach the McAfee DLP Monitor appliance Capture port 1. For example, consider using a SPAN port or a network tap. • Network interfaces — Verify that these are statically assigned IP addresses, rather than dynamically assigned IP addresses. • Logon account — The appliance has a local administrator account for logging on to the virtual machine shell. To make the account secure, change the default password. • In a cluster environment, the virtual IP address must be in the same subnet as the appliance LAN1 IP addresses.
Remote Management Module (RMM)	(Hardware appliances only) If you intend to use the RMM for appliance management, use a secure or closed network to connect to the RMM.

3 Installing McAfee DLP

Install the extensions and packages needed for your products and perform any initial configurations.

ℹ All McAfee DLP products use the McAfee DLP extension for McAfee ePO. Install this as your starting point.

Contents

Download product extensions and installation files

Download the files for your installation.

Before you begin

Locate the grant number you received after purchasing the product.

You can also use the McAfee ePO Software Manager (**Menu** | **Software** | **Software Manager**) to view, download, and install the software.

Task

1 In a web browser, go to www.mcafee.com/us/downloads/downloads.aspx.

2 Enter your grant number, then select the product and version.

3 On the **Software Downloads** tab, select and save the appropriate file.

Product	File description	File name
All products	McAfee Data Loss Prevention extension	DLP_Mgmt_*version*_Package.zip
McAfee DLP Endpoint, Device Control	Client software	• **Device Control** — HDLP_Agent_Device_Control_*version*_x.zip • **Microsoft Windows** —HDLP_Agent_*version*_x.zip • **Mac OS X** — DLPAgentInstaller.zip
McAfee DLP Discover	Server package	McAfeeDLPDiscover*version*Licensed.zip

Product	File description	File name
McAfee DLP Prevent and McAfee DLP Monitor	McAfee DLP Appliance Management extension	dlp-appliance-management-package-*version*-extensions.zip
	AME extension	appliance-management-package-*version*-extensions.zip
	Common UI extension	commonui-core-package-*version*-extensions.zip
	Installation image	• **Virtual appliance** • McAfee-PS-*version*.ps.hw8.hdd.ova • McAfee-MS-*version*.ms.hw8.hdd.ova • **Hardware appliance** • McAfee-PS-*version*.iso • McAfee-MS-*version*.iso
McAfee DLP Prevent for Mobile Email	Server package	N/A

Install and license the McAfee DLP extension

The extension provides the user interface for configuring McAfee DLP in McAfee ePO.

> **Before you begin**
>
> Verify that the McAfee ePO server name is listed under Trusted Sites in the Internet Explorer security settings.

Tasks

- *Install the extension using the Software Manager* on page 44
  You can use the Software Manager to install, upgrade, and remove extensions.
- *Install the extension manually* on page 45
  Install the extension using the **Extensions** page.
- *License McAfee DLP* on page 45
  Provide the license to access the McAfee DLP consoles.
- *Applying backward compatibility* on page 48
  Backward-compatible policies allow you to use the new extension format with older client versions, providing large enterprises with an orderly upgrade path.

Install the extension using the Software Manager

You can use the Software Manager to install, upgrade, and remove extensions.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Software** | **Software Manager**.
2. In the left pane, expand **Software (by Label)** and select **Data Loss Prevention**.
3. Select your McAfee DLP product.

If you are installing McAfee DLP Prevent or McAfee DLP Monitor, select the entry for McAfee DLP Appliance Management, which installs all of the necessary extensions:

- McAfee DLP
- Common UI
- Appliance Management Extension
- McAfee DLP Appliance Management

4 For all available software, click **Check In**.

5 Select the checkbox to accept the agreement, then click **OK**.

The extension is installed. Extensions that are checked in appear in the **Checked In Software** list. As new versions of the software are released, you can use the **Update** option to update the extensions.

Install the extension manually

Install the extension using the **Extensions** page.

> **Before you begin**
>
> Download the McAfee DLP extension from the McAfee download site.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1 In McAfee ePO, select **Menu** | **Software** | **Extensions**, then click **Install Extension**.

2 Browse to the extension .zip file and click **OK**.

The installation dialog box displays the file parameters to verify that you are installing the correct extension.

3 Click **OK** to install the extension.

License McAfee DLP

Provide the license to access the McAfee DLP consoles.

You must enter at least one license key — more if you have multiple McAfee DLP products. The licenses you enter determine which configuration options in McAfee ePO are available to you.

> You can enter a license for either McAfee DLP Endpoint or Device Control in the McAfee DLP Endpoint field. Replacing one type of license with another changes the configuration.

You can enter keys for these products:

- McAfee DLP Endpoint or Device Control
- McAfee DLP Classification Editor
- McAfee DLP Discover
- McAfee Legacy Network DLP (9.3.x)
- McAfee DLP Prevent (10.x or later)

  > This license also activates the McAfee DLP Prevent for Mobile Email software.

- McAfee DLP Monitor (11.x or later)

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. Install licenses and components in **DLP Settings** to customize the installation.

   The **DLP Settings** module has seven tabbed pages. Information on the **General** tab is required. You can use the defaults for the rest of the settings if you don't have special requirements.

   a. Select **Menu** | **Data Protection** | **DLP Settings**.

   b. For each license that you want to add: In the **License Keys** | **Key** field, enter the license, then click **Add**.

      Installing the license activates the related McAfee ePO components and McAfee ePO Policy Catalog policies.

   c. In the **Default Evidence Storage** field, enter the path.

      The evidence storage path must be a network path, that is \\[server]\[share]. This step is required to save the settings and activate the software.

      Installing the license activates the related McAfee ePO components and McAfee ePO Policy Catalog policies.

   d. Set the shared password.

   e. Set the backward compatibility.

      Choose from one of the four options ranging from **9.4.0.0** to **10.0.101.0 and later** compatibility. This setting limits the possibility of using new features.

      Two modes of compatibility are available: strict and non-strict. In strict mode, policies with backward compatibility errors cannot be applied. In non-strict mode, the policy owner, or a user with Administrator permissions, can choose to apply policies with backward compatibility errors.

      > Backward compatibility applies to McAfee DLP Endpoint and McAfee DLP Discover policies. It doesn't apply to McAfee DLP Prevent or McAfee DLP Monitor policies.
      >
      > For McAfee DLP Endpoint, if you are using multiple client versions, set the compatibility to match the oldest client version in use.

2. Click **Save**.

3. To back up the configuration, select the **Back Up & Restore** tab, then click **Backup to file**.

McAfee DLP modules appear in **Menu** | **Data Protection** according to the license.

Tasks

- *Set advanced configuration options* on page 46
  Changing settings on the Advanced tab is optional.
- *Set DLP Incident Manager, DLP Operations, and DLP Case Management settings* on page 47
  Set status and resolution settings, including custom settings, and email notifications.

See also

Client configuration on page 64
Configure server settings on page 67

Set advanced configuration options

Changing settings on the Advanced tab is optional.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. Set the Challenge-Response key length (8-character or 16-character keys).
2. Set System Tree permissions to filter information for incidents, events, queries, and dashboards.
3. Set the **Customized Event Timezone** to order events according to their local time zone.

   The setting is the offset from UTC time.
4. Set the **DLP Policy Manager** defaults for rule states and rule reactions.
5. Enable or disable REST API calls.
6. Communication information for the **Cloud Security Platform** is hard-coded in the current release. Do not change anything in this section.

Tasks

- *Set classification settings* on page 47
  Set classification settings if you are using McAfee DLP Discover, McAfee DLP Prevent, or McAfee DLP Monitor with the registered documents feature.

Set classification settings

Set classification settings if you are using McAfee DLP Discover, McAfee DLP Prevent, or McAfee DLP Monitor with the registered documents feature.

> **Before you begin**
> Install McAfee DLP Discover server software, including a server with the registration server (DLPServer) role.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. Go to **Menu** | **Data Protection** | **DLP Settings**, then select the **Classification** tab.
2. Enter the host name or IP Address of the McAfee DLP Discover registration server.

   The server port is pre-entered as 6379, and can't be changed.
3. (Optional) Set the maximum number of signatures to store in the master registration server.

   Signatures can have a large RAM impact. When calculating the maximum database size, use the approximation that 100 million signatures take about 5 GB of RAM. Every McAfee DLP Discover server using the registered documents feature has a secondary (slave) database that is a copy of the primary (master) Redis database, and synchronizes to it. You can specify in the Policy Catalog which McAfee DLP Discover servers use the registered documents feature.
4. Click **Save**.

Set DLP Incident Manager, DLP Operations, and DLP Case Management settings

Set status and resolution settings, including custom settings, and email notifications.

Incident Manager, Operations, and Case Management settings are on separate **DLP Settings** pages. All have the same options, but the default settings vary.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, go to **Menu** | **Data Protection** | **DLP Settings**, and select the page you want to edit.
2. (Optional) Change the **Automatic Email Notification** settings for emails and stakeholders.
3. (Incident Manager only) In the **Incident Management** section, click a radio button to show or hide the product vector in the **Incident List**.
4. (Optional) Click a status or resolution setting in the **Actions** column to change the action.

   The current setting is displayed in the **State** column: solid button = enabled; striped button = disabled. Clicking in the **Actions** column reverses the setting.
5. Click **Actions** to add a custom status or resolution.

   Custom settings have custom names and (optionally) a color code. If you disable a custom status or resolution, named incidents, operations, and cases remain, but you can't add new items. If you delete a custom status or resolution, named statuses revert to **Viewed** and named resolutions revert to **None**.
6. To save changes to email notification or incident management settings, click **Save**.

   Changes to the status and resolution settings are saved automatically.

Applying backward compatibility

Backward-compatible policies allow you to use the new extension format with older client versions, providing large enterprises with an orderly upgrade path.

Backward compatibility is supported for McAfee DLP 11.0 (that is, no backward compatibility), 10.0.101, 10.0.0, 9.4.200 or 9.4.0 policies. The options appear on the **DLP Settings** page (**Menu** | **Data Protection** | **DLP Settings**). The settings are for client compatibility only. If you are upgrading from McAfee DLP 9.4.0 and want to display older incidents and operational events, run the McAfee ePO server task **DLP events conversion 9.4 and above.**

> McAfee DLP 9.3.x policies must be upgraded to 9.3.600, then migrated to the 9.4 schema. For information on migrating policies, see Appendix A.

When working in a backward compatible mode, the McAfee DLP extension does not push policies to endpoints if they contain conditions that can cause the older client versions to misinterpret the policy. More than 90% of version 11.0 policies are either old features, or features that the 9.4 clients can ignore without causing a problem. Backward compatibility blocks the remaining <10% of policies from being applied. While this is useful in networks with older McAfee DLP Endpoint clients, it also means that some new features are not available to any endpoints, even those with the latest client version.

Compatibility mode	Unsupported items (items causing an error)
9.4.0	• A classification contains a Luhn10 Bin Number advanced pattern definition. • A classification contains a Croatian Personal Identification Number advanced pattern definition. • A policy uses the password validator to define the length and format of valid passwords. • An application file access protection rule uses the non-supported Google Chrome version option. • An email protection rule uses an email envelope definition of digitally signed, S-MIME encrypted, or PGP encrypted.
9.4.200	• A classification contains a Japanese My Number advanced pattern definition. • A classification contains an Australian Medicare advanced pattern definition.
10.0	• No reaction was selected. • A business justification was used with an unsupported action. • A McAfee DLP Discover rule contains a Box definition.

The table is cumulative, that is, for 9.4.0 compatibility an error is caused by any item in the table. For 9.4.200 compatibility, errors are caused by items in the last two rows. For 10.0 compatibility, only the last row is relevant.

Backward compatibility can be applied in two modes:

- Non-strict mode — Compatibility errors in the policy display a warning. An administrator with policy administration permissions can apply the policy.
- Strict mode — Policies with errors can't be applied to the McAfee ePO database.

When a policy with backward compatibility errors is applied to the database, the errors are displayed on the **DLP Policy** | **Policy Validation** page. The **Details** column on the page includes a description of what can happen if you apply the rule to endpoint clients that don't support the feature.

McAfee DLP Prevent can use policies with warnings created in non-strict mode. When backward compatibility is applied in strict mode, policies with errors can't be applied to the McAfee ePO database, and therefore aren't detected by McAfee DLP Prevent.

Example – Device descriptions

Device definitions in McAfee DLP version 9.4.200 and 10.0 can have an optional parameter named Device Description that was not available in earlier versions. Using a device description to define a device definition, and including that definition in a Device Control rule, creates a rule set that can't be enforced on 9.4.0 clients. If you accept the policy despite the warning, the error is displayed on the **Policy Validation** page. The Details field explains that the error "matches and performs reactions for devices you did not intend to match..." You can click Edit to repair the error.

Install the McAfee DLP Endpoint and Device Control client software

Use McAfee ePO to deploy the client software to endpoint computers.

Clean install of McAfee DLP Endpoint 10.0 client software does not require restarting the endpoint computer. If you are upgrading the client from an earlier version, however, you must restart the endpoint computer after installation.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Software** | **Master Repository**.
2. In the Master Repository, click **Check In Package**.
3. Select package type **Product or Update (.ZIP)**. Click **Browse**.
   - To install Microsoft Windows client, browse to ...\HDLP_Agent_[version number].zip.
   - To install Mac client, browse to ...\DlpAgentInstaller.zip.
4. Click **Next**.
5. Review the details on the **Check in Package** page, then click **Save**.

   The package is added to the **Master Repository**.

Install the McAfee DLP Discover server package

The server package is deployed to Discover servers and installs McAfee DLP Discover and necessary components such as .NET, postgreSQL, Redis, AD RMS client 2.1, and C++ redistributables.

McAfee DLP Discover server software can be installed as a Discover server or as a registration (registered documents database) server.

> The registration server role is set automatically when you install from McAfee ePO, as described here. When installing a registration server manually, use the command `DiscoverServerInstallx64.exe SERVER_ROLE=DLP`

Task

1. In McAfee ePO, select **Menu** | **Software** | **Master Repository**.
2. In the Master Repository, click **Check In Package**.
3. Select package type **Product or Update (.ZIP)**, then click **Browse**.
   - To install a discover server, browse to Discover_[version number].zip.
   - To install a Redis database server, browse to DLPServer_[version number].zip.
4. Click **Next**.
5. Review the details on the **Check in Package** page, then click **Save**.

   The package is added to the **Master Repository**.

Tasks

- *Install or upgrade the server package using McAfee ePO* on page 51
  We recommend using McAfee ePO to install the server package.
- *Install or upgrade the server package manually* on page 52
  If you are unable to install the server package through McAfee ePO due to issues such as network connectivity, you can manually install McAfee DLP Discover on the Discover server.
- *Verify the installation* on page 52
  Make sure McAfee DLP Discover is successfully installed and communicating with McAfee ePO.

Considerations for upgrading McAfee DLP Discover

The steps for upgrading McAfee DLP Discover are nearly identical to the steps for installing the extension and server package.

1. Upgrade the extension by installing over the existing version.
2. Upgrade the Discover server using one of these options.
   - Use McAfee ePO to deploy the server package.
   - Install the package manually on the server.
3. When upgrading from version 9.4.0, reapply policy due to policy configuration changes.
4. If you plan to use features new to verison 10.x, such as Box scans, you must select the appropriate compatibility option.

   In McAfee ePO, select **Menu** | **Data Protection** | **DLP Settings**, then for **Backwards Compatibility**, select **10.0.0.0 and later**.

> You must upgrade the extension in McAfee ePO before you upgrade the Discover server. McAfee DLP Discover supports using a later version extension to manage an earlier version server. You can't manage a later version server with an earlier version extension.

You do not need to relicense the software or re-enter the evidence server path. You might need to restart the Discover server if MSMQ is not enabled after the upgrade or if old data program folders or registry keys were not deleted.

If a restart is required, McAfee DLP Discover generates an operational event.

- If you installed the server package manually, the server prompts you to restart.
- If you used McAfee ePO, the prompt might be displayed depending on the McAfee Agent configuration settings.

> In some cases, MSMQ might not be enabled even after a restart and the Discover server sends an operational event. If this happens, you must manually enable MSMQ and start the Discover server service.

For information about the supported upgrade paths, see the *McAfee Data Loss Prevention Discover Release Notes*.

> Do not install the software over an existing installation of the same version.

Install or upgrade the server package using McAfee ePO

We recommend using McAfee ePO to install the server package.

The McAfee DLP Discover server package can be installed with one of two server roles: Discover server (for scanning) or DLP server (for registered document database distribution). The two server roles appear as separate entries in the **Master Repository**.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. Check in the server package.
   a. In McAfee ePO, select **Menu** | **Software** | **Master Repository**.
   b. Click **Check In Package**.
   c. Browse to the server package .zip file and click **Next**.
   d. Click **Save**.

2. Create a client task.
   a. Select **Menu** | **System Tree**.
   b. Select the Discover server and select **Actions** | **Agent** | **Modify Tasks on a Single System**.
   c. Select **Actions** | **New Client Task Assignment**.
3. Configure the task assignment.
   a. In the **Product** area, select **McAfee Agent**.
   b. In the **Task Type** area, select **Product Deployment**.
   c. In the **Task Name** area, click **Create New Task**.
4. Configure the task.
   a. In the **Target platforms** area, select **Windows**.
   b. From the **Product and components** menu, select **McAfee DLP Discover Server**.

      To install a Redis database server, select **McAfee DLP Server**.
   c. From the **Action** menu, select **Install**.
   d. Click **Save**.
5. Select the name of the new task, then click **Next**.
6. Configure when to run the task, then click **Next**.
7. Click **Save**.

Install or upgrade the server package manually

If you are unable to install the server package through McAfee ePO due to issues such as network connectivity, you can manually install McAfee DLP Discover on the Discover server.

Task

1. Download or transfer the DiscoverServerInstallx64.exe file to the Discover server.
2. Install the software
   - To install the software with a Discover server role, double-click the file and follow the on-screen instructions.
   - To install the software with a DLP server role, use the command `DiscoverServerInstallx64.exe SERVER_ROLE=DLP`.

Verify the installation

Make sure McAfee DLP Discover is successfully installed and communicating with McAfee ePO.

> In the event of an installation failure, McAfee DLP Discover generates an operational event. To view events, select **Menu** | **Data Protection** | **DLP Operations**.

Task

1. If MSMQ is not enabled after the installation or if old data program folders or registry keys were not deleted, restart the Discover server.

If you must restart the server, McAfee DLP Discover generates an operational event.

- If you installed the server package manually, the server prompts you to restart.
- If you used McAfee ePO, the prompt depends on the McAfee Agent configuration settings.

> ! Sometimes MSMQ is not enabled even after a restart and the Discover server sends an operational event. If this happens, you must manually enable MSMQ and start the Discover server service.

For information about enabling MSMQ, see KB87274.

2 In the server operating system, validate that these McAfee DLP Discover services and processes are running:

- **McAfee Discover Service**
- **McAfee Discover Server Postgres service**
- **redis-server.exe**

3 Wake up agents in McAfee ePO or collect and send properties from the Discover server.

- In McAfee ePO, select **Menu** | **System Tree**, select the server, and click **Wake Up Agents**.
- From the Discover server notification area, click the McAfee icon, select **McAfee Agent Status Monitor**, and click **Collect and Send Props**.

  The **Status** column displays **Enforcing Policies for DISCOVERxxxx**.

4 Make sure that the Discover server is detected.

a In McAfee ePO, select **Menu** | **Data Protection** | **DLP Discover**.

b Click the **Discover Servers** tab.

A list of detected servers appears.

> ℹ If the server is not listed, select **Actions** | **Detect Servers**. This task runs every 10 minutes by default.

5 Change the agent-server communication interval for McAfee Agent to ensure analytical data is up to date.

a Select **Menu** | **Policy** | **Policy Catalog**.

b From the **Product** drop-down list, select **McAfee Agent**.

c In the **Category** column, locate the default policy listed as **General** and open it.

d On the **General** tab, in the **Agent-to-server communication** area, change the interval to 5.

> ℹ To uninstall the Discover server, use **Control Panel** | **Programs and Features** on the Windows Server.

Install your McAfee DLP appliance

Install the appliance and register it with McAfee ePO.

You can enable your McAfee DLP appliance to perform cryptographic operations in a way that is compliant with FIPS 140-2. To do so, go to the **General** category in the **DLP Appliance Management** product in the **Policy Catalog**.

Tasks

- *Install the extensions* on page 54
  If you manually installed the McAfee DLP extension instead of using the Software Manager, you must also install the extensions necessary for McAfee DLP Prevent and McAfee DLP Monitor.
- *Configure network information* on page 54
  For McAfee DLP appliances, configure the DNS server and NTP server. For McAfee DLP Prevent, you must also configure a Smart Host.
- *Connect Capture port 1 to your network (McAfee DLP Monitor)* on page 55
  Integrate McAfee DLP Monitor into your network using, for example, a SPAN port or network tap.
- *Install the software on a virtual appliance* on page 55
  Use the OVA file for installing a McAfee DLP appliance on your virtual environment.
- *Install the software on a hardware appliance* on page 56
  Install McAfee DLP Prevent or McAfee DLP Monitor on a model 4400, 5500, or 6600 appliance.
- *Run the Setup Wizard and register with McAfee ePO* on page 58
  Use the Setup Wizard to configure network settings and register the appliance with McAfee ePO.

Install the extensions

If you manually installed the McAfee DLP extension instead of using the Software Manager, you must also install the extensions necessary for McAfee DLP Prevent and McAfee DLP Monitor.

Before you begin

- Download the extensions.
- Install the McAfee DLP extension.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Software** | **Extensions**, then click **Install Extension**.
2. Follow these steps for each of the extensions. Install the extensions in this order:
   - Common UI package
   - Appliance Management Extension
   - McAfee DLP Appliance Management

   a. Browse to the extension .zip file.

   b. Click **OK** twice.

Configure network information

For McAfee DLP appliances, configure the DNS server and NTP server. For McAfee DLP Prevent, you must also configure a Smart Host.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Policy** | **Policy Catalog**.
2. From the **Product** drop-down list, select **Common Appliance Management**.

3 Select the **My Default** policy.

4 Add the DNS server and the NTP server, then click **Save**.

5 From the **Product** drop-down list, select **DLP Appliance Management**.

6 Select the **My Default** policy for **McAfee DLP Prevent Email Settings**.

7 Enter the IP address of the Smart Host, then click **Save**.

Connect Capture port 1 to your network (McAfee DLP Monitor)

Integrate McAfee DLP Monitor into your network using, for example, a SPAN port or network tap.

Tasks

- *Configure a portgroup or virtual switch for promiscuous mode* on page 55
  On a McAfee DLP Monitor appliance, the capture port is set to *promiscuous mode*. You must enable promiscuous mode on a portgroup or virtual switch to allow the appliance to passively inspect copies of all network packets that pass through the network.

Configure a portgroup or virtual switch for promiscuous mode

On a McAfee DLP Monitor appliance, the capture port is set to *promiscuous mode*. You must enable promiscuous mode on a portgroup or virtual switch to allow the appliance to passively inspect copies of all network packets that pass through the network.

On physical appliance, the capture port can be connected to a SPAN port or a network tap.

On a virtual appliance, the capture port is connected to a standard virtual switch or a portgroup on a distributed switch with promiscuous mode enabled.

See https://kb.vmware.com/selfservice/microsites/search.do?language=en_US&cmd=displayKC&externalId=1004099 for more information.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1 Log on to the VMware ESXi or VMware ESX host, or on to vCenter Server using the vSphere Client.

2 Select the VMware ESXi or ESX host in the inventory list.

3 Click the **Configuration** tab.

4 In the **Hardware** section, click **Networking**.

5 Select the **Properties** of the virtual switch that you want to enable promiscuous mode on.

6 Select the virtual switch or portgroup you want to modify and click **Edit**.

7 Click the **Security** tab.

8 From the **Promiscuous Mode** menu, click **Accept**.

Install the software on a virtual appliance

Use the OVA file for installing a McAfee DLP appliance on your virtual environment.

Before you begin

❗ The processor in your VMware ESX server must support the SSE (Streaming SIMD Extensions) 4.2 instruction set.

Task

1. Start the VMware vSphere client and log on to the VMware vCenter Server.
2. Click **Actions** | **Deploy OVF Template**.

   The **Deploy OVF Template** dialog box appears.
3. Select **Local file** | **Browse** and open the OVA file you downloaded from the McAfee download site.
4. Follow the on-screen instructions, clicking **Next** to advance through the setup.
   - **a** Validate the package and select **Accept extra configuration options**.
   - **b** Enter a name for the appliance, then specify the datacenter and folder to deploy to.
   - **c** Select the cluster and an optional resource pool.
   - **d** Select the datastore for the appliance.

     > **Best practice:** Select the **Thick Provision Lazy Zeroed** option for the virtual disk format. Initial performance might be degraded with other options. The **Thick Eager** option can take some time to complete.

   - **e** Select the virtual networks. By default, these IP addresses are configured:
     - **LAN_1** — 10.1.1.108/24

       Use the LAN_1 network for McAfee DLP Prevent SMTP or ICAP traffic. You can also use it for management traffic.
     - **OOB** — 10.1.3.108/24

       (Optional) Use the Out-of-band (OOB) network for management traffic including McAfee ePO communication.

     > If your network uses DHCP, the first IP address that the DHCP server assigns to the appliance is used instead. You can manually configure the IP address with the Setup Wizard. The appliance does not support using a continuous DCHP configuration.

     The default gateway for the appliance uses the LAN1 network. Configure any routing required on the OOB interface using static routes.
   - **f** Review the summary.
5. Click **Finish**.

   Use the information in **Recent Tasks** to check if the virtual machine is created.
6. Navigate to the virtual machine and turn it on.

Install the software on a hardware appliance

Install McAfee DLP Prevent or McAfee DLP Monitor on a model 4400, 5500, or 6600 appliance.

Tasks

- *Connect your appliance* on page 57
  Prepare the appliance to install it in a non-cluster environment.
- *Install a new image on hardware appliances* on page 58
  Install McAfee DLP Prevent or McAfee DLP Monitor on the appliance.

Connect your appliance

Prepare the appliance to install it in a non-cluster environment.

By default, each appliance is configured with these IP addresses:

- **LAN_1** — 10.1.1.108/24

  Use the LAN_1 network for McAfee DLP Prevent SMTP or ICAP traffic. You can also use it for management traffic.

- **OOB** — 10.1.3.108/24

  (Optional) Use the Out-of-band (OOB) network for management traffic including McAfee ePO communication.

McAfee DLP Monitor Capture port 1 does not require an IP address. It must be connected to your network to acquire packets for analysis. Typically, it is connected to a SPAN port or network tap.

> If your network uses DHCP, the first IP address that the DHCP server assigns to the appliance is used instead. You can manually configure the IP address with the Setup Wizard. The appliance does not support using a continuous DCHP configuration.

The default gateway for the appliance uses the LAN1 network. Configure any routing required on the OOB interface using static routes.

The appliance also has a Remote Management Module (RMM), which provides *Lights Out Management* functionality, such as remote KVM access and access to the appliance BIOS.

For information about identifying the network ports for your appliance, see the *McAfee Data Loss Prevention Hardware Guide*.

Task

1. Connect a monitor, keyboard, and mouse to the appliance.
2. Connect the LAN1 interface of the appliance to your network.
3. (Optional) Connect the OOB interface to a different network.
4. (Optional) Connect the RMM interface to a management network.

   > **Best practice:** Use a closed or secure network for the RMM.

Serial console settings

You can use the serial console to install the McAfee DLP appliance software only.

You must use another method, such as the RMM, to configure network settings and register with McAfee ePO. You can enable the RMM through the serial console.

> Installation progress does not appear when using the serial console.

Table 3-1 Serial connection parameters

Port setting	Value
Baud rate	115200
Data bits	8
Stop bits	1
Parity	None
Flow control	None

See also

Configure the RMM on page 232

Install a new image on hardware appliances

Install McAfee DLP Prevent or McAfee DLP Monitor on the appliance.

You can perform the initial installation using these methods:

- USB drive

  > Use image writing software, such as Launchpad Image Writer, to write the image to the USB drive. For more information, see KB87321.

- USB CD drive
- (4400 appliances only) Integrated CD drive
- Virtual CD drive using the remote management module (RMM)

Task

1. Using the installation ISO file, create or set up the external imaging media.
2. Insert or connect the media to the appliance.
3. Turn on or restart the appliance.
4. Before the operating system starts, press **F6** for the boot menu and select the external media.

   > *R3c0n3x* is the BIOS password for 4400 appliances.

5. Follow the onscreen prompts.
6. Read the End User License Agreement, then press **Y** to accept it.
7. At the installation menu, press **A** for a full installation, then press **Y** to continue.

   When the installation sequence is complete, the appliance restarts.

> If the installation fails, call McAfee technical support. Do not perform the installation again.

Run the Setup Wizard and register with McAfee ePO

Use the Setup Wizard to configure network settings and register the appliance with McAfee ePO.

After the appliance installs and restarts, the Setup Wizard starts automatically.

If you installed the software using the serial console on a hardware appliance, use another method, such as the RMM, to complete the Setup Wizard.

Task

1. Choose the language for the Setup Wizard, then configure the basic network settings.

   The wizard contains information to help you configure the settings.

   a. On the **Welcome** page, select **Basic Network Setup** and click **Next**.

   b. Complete the options on the **Basic Settings** page, then click **Next**.

      > You must change the default password the first time that you run the Setup Wizard. The new password must have at least eight characters. The default password is *password*.

   c. Complete the options on the **Network Services** page, then click **Next**.

   d. Review the information on the **Summary** page and make any corrections.

   e. Click **Finish**.

      The initial network settings are applied. The first time you complete the Setup Wizard, or if you need to register with a new McAfee ePO, the wizard restarts after the network settings are applied.

2. Register with McAfee ePO.

   a. Select **ePO Registration** and click **Next**.

   b. Complete the options on the **ePO Registration** page using valid McAfee ePO user credentials.

      You can choose any McAfee ePO user to do the registration. McAfee ePO administrator privileges are not required. The user name and password are not stored on the appliance after the registration is complete.

   c. Click **Finish**.

3. Log on to McAfee ePO.

   The product appears in the **System Tree**. If needed, move the entry to the correct location in the hierarchy.

Install the McAfee DLP Prevent for Mobile Email server package

The McAfee DLP Prevent for Mobile Email server package can be deployed to servers manually or with McAfee ePO. The installation is identical to that of the McAfee DLP Discover server package.

> Do not install both server packages on the same server.

See also
Install or upgrade the server package using McAfee ePO on page 51
Install or upgrade the server package manually on page 52

Post-installation tasks

After installation, configure settings and policies for your products.

Tasks include:

- Create and configure evidence folders.
- Configure client or server settings.
- Create classifications, definitions, and rules.
- Assign the configurations and policies in the System Tree.
- (McAfee DLP Discover and McAfee DLP Endpoint) Create scans.
- (McAfee DLP Prevent) Integrate with an MTA server or web proxy.
- (McAfee DLP Monitor) Check the **DLP Incident Manager**.

See also

Documenting events with evidence on page 71
Classification definitions and criteria on page 243
Defining rules to protect sensitive content on page 138
Protecting files with discovery rules on page 161
Working with McAfee DLP policies on page 82
Configure client settings on page 66
Configure server settings on page 67
Configure policy for scans on page 176
Download product extensions and installation files on page 43

Configuration and use

Configure the software for optimized use in the enterprise environment based on management decisions of what content to protect, and how best to protect it.

4 Configuring system components

System components can be customized to best fit the needs of your enterprise. By configuring the agent and system options, you can optimize the system to safeguard sensitive enterprise information efficiently.

Contents

Configuring McAfee DLP in the Policy Catalog

McAfee DLP uses the Policy Catalog in McAfee ePO to store policies and client configurations.

McAfee DLP creates policies in the Policy Catalog. Policies are assigned to endpoints in the McAfee ePO **System Tree**.

- **DLP Policy** — Contains the **Active Rule Sets** assigned to the policy, scheduled **Endpoint Discovery** scans, **Settings** for application strategy, device class overrides, and privileged users, and **Policy Validation**.
- **Server Configuration** — Contains the McAfee DLP Discover, McAfee DLP Prevent, McAfee DLP Monitor, and McAfee DLP Prevent for Mobile Email configurations. Allows you to set the evidence copy service and logging options, Rights Management and SharePoint settings, and text extractor options.

  The server configuration displays only if a McAfee DLP Discover, McAfee DLP Prevent, or McAfee DLP Monitor license is registered.

  Best practice: Create separate server configurations for McAfee DLP Discover, McAfee DLP Prevent, McAfee DLP Monitor, and McAfee DLP Prevent for Mobile Email.

  McAfee DLP Prevent and McAfee DLP Monitor use only the **Evidence Copy Service** section of the server configuration. McAfee DLP Prevent for Mobile Email uses only **ActiveSync Proxy**. McAfee DLP Discover uses all of the sections except **ActiveSync Proxy**.
- **Client Configurations** — Separate configurations for Microsoft Windows and OS X computers contain the configuration settings for the McAfee DLP Endpoint clients. The settings determine how clients apply McAfee DLP policies on the endpoints.

  Client configurations display only if a McAfee DLP Endpoint license is registered.

The **DLP Policy** consists of **Active Rule Sets**, the **Endpoint Discovery** configuration, **Settings**, and Policy **Validation**.

The client configuration policies (Windows, OS X) contains settings that determine how the endpoints work with policies. They are where you enable the **Evidence Copy Service** for McAfee DLP Endpoint.

Use the server configuration policies for McAfee Data Loss Prevention Discover, McAfee DLP Monitor, and McAfee DLP Prevent. Configure settings such as the **Evidence Copy Service** and logging parameters.

Import or export the McAfee DLP Endpoint configuration

Endpoint policy configurations can be saved in HTML format for backup or to transfer policies to other McAfee ePO servers.

> Do not use this procedure to save DLP Policy configurations. While the **Export** option does save the file, **Import** fails to import it. To save DLP Policies, use the **Backup & Restore** page in **DLP Settings**.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Policy Catalog** | **Product** | **Data Loss Prevention**.
2. Do one of the following:
   - To export, click **Export**. In the **Export** window, right-click the file link and select **Save Link As** to save the policy as an XML file.

     > The **Export** button exports all policies. You can export an individual policy by selecting **Export** in the **Actions** column in the policy name row.

   - To import a saved policy, click **Import**. In the **Import Policies** window, browse to a saved policy, click **Open**, then **OK**.

     The import window opens, displaying the policies you are about to import and whether there is a naming conflict. You can deselect any conflicting policies and not import them. If you choose to import a policy with a name conflict, it overwrites the existing policy and assumes its assignments.

Client configuration

The McAfee DLP Endpoint client software for McAfee Agent resides on enterprise computers and executes the defined policy. The software also monitors user activities involving sensitive content. Client configuration is stored in the policy, which is deployed to managed computers.

> The Policy Catalog comes with McAfee default policies for Windows and OS X endpoint configurations and DLP policy. Click **Duplicate** (in the **Actions** column) to create an editable copy as a base for your policy.

The client configuration is stored in the policy, which is deployed to managed computers by McAfee ePO. If the configuration is updated, you must redeploy the policy.

Client Service WatchDog

> The Client Service WatchDog is not supported on McAfee DLP Endpoint for Mac.

To maintain normal operation of McAfee DLP Endpoint software even in the event of malicious interference, McAfee DLP Endpoint runs a protective service called the *Client Service WatchDog*. This service monitors the McAfee DLP Endpoint software, and restarts it if it stops running for any reason. The service is enabled by default. If you want to verify that it is running, look in the Microsoft Windows Task Manager processes for the service named fcagswd.exe.

Client configuration settings

Client configuration settings determine how the endpoint software operates. Most of the client configuration settings have reasonable defaults that can be used for initial setup and testing without alteration.

Best practice: To verify that the client configuration settings continue to meet your requirements, review them at regular intervals.

The following table lists some of the more important settings to verify.

Table 4-1 Endpoint configuration

Setting	Details	Description
Advanced Configuration	**Run DLP client in Safe Mode** Applies to Windows clients only	Disabled by default. When enabled, McAfee DLP Endpoint is fully functional when the computer is started in Safe Mode. A recovery mechanism exists in case the McAfee DLP Endpoint client causes a boot failure.
	Agent Bypass Applies to both Windows and Mac OS X clients	Stops the agent bypass when a new client configuration is loaded. Deselected by default
Content Tracking Applies to both Windows and Mac OS X clients	**Use the following fallback ANSI code page**	If no language is set, the fallback is the default language of the endpoint computer.
	Whitelisted Processes	Add processes and extensions to whitelist.
Corporate connectivity Applies to both Windows and Mac OS X clients	**Corporate Network Detection** **Corporate VPN Detection**	You can apply different prevent actions to endpoint computers in the corporate network or outside the network. For some rules, you can apply different prevent actions when connected by VPN. To use the VPN option, or to determine network connectivity by corporate server rather than by connection to McAfee ePO, set the server IP address in the relevant section.
Email Protection Applies to Windows clients only	**Email Caching**	Stores tag signatures from emails to disk to eliminate re-parsing emails.
	Email Handling API	Outgoing email is handled by either Outlook Object Model (OOM) or Messaging Application Programming Interface (MAPI). OOM is the default API, but some configurations require MAPI.
	Outlook 3rd party add-in integration	Titus Message Classification is supported.
	Email Timeout Strategy	Sets the maximum time to analyze an email and the action if the time is exceeded.
Evidence Copy Service Applies to both Windows and Mac OS X clients	**Evidence Storage** share UNC	Replace the example text with the evidence storage share.
	Client Settings	You can change the way hit highlighting is displayed by setting classification matches to all matches or abbreviated results.
Operational Mode and Modules Applies to both Windows and Mac OS X clients	**Operational Mode**	Set Device Control or full McAfee DLP Endpoint mode. Reset this parameter if you upgrade or downgrade licensing.
	Data Protection Modules	Activate required modules **Best practice:** To improve performance, deselect modules you are not using.

Table 4-1 Endpoint configuration *(continued)*

Setting	Details	Description
Web Protection Applies to Windows clients only	**Web protection evaluation**	Select inputs for web request evaluation when matching web protection rules. These settings allow blocking requests sent by AJAX to a different URL from the one displayed in the address bar. At least one option must be selected.
	Process HTTP GET requests	GET requests are disabled by default because they are resource-intensive. Use this option with caution.
	Supported Chrome versions	If you use Google Chrome, click **Browse** to add the current list of supported versions. The list is an XML file that you download from McAfee Support.
	Web Timeout strategy	Sets the web post analysis timeout, action to perform if timeout is exceeded, and optional user message.
	Whitelisted URLs	Lists URLs excluded from web protection rules.

Support for client configuration parameters

McAfee DLP Endpoint for Windows and McAfee DLP Endpoint for Mac are configured in separate client policies.

Table 4-2 Debugging and Logging page

Parameter	Operating system support
Administrative events reported by the clients	The filter settings that apply to both McAfee DLP Endpoint for Windows and McAfee DLP Endpoint for Mac are: • Client Enters Bypass Mode • Client Leaves Bypass Mode • Client Installed All other settings apply to McAfee DLP Endpoint for Windows only.
Logging	Supported on both McAfee DLP Endpoint for Windows and McAfee DLP Endpoint for Mac.

Table 4-3 User Interface Components page

Section	Parameter	Operating system support
Client User Interface	**Show DLP Console** (all options)	McAfee DLP Endpoint for Windows only
	Enable end-user notification popup	McAfee DLP Endpoint for Windows and McAfee DLP Endpoint for Mac
	Show request justification dialog	McAfee DLP Endpoint for Windows and McAfee DLP Endpoint for Mac
Challenge and Response	All options	McAfee DLP Endpoint for Windows and McAfee DLP Endpoint for Mac
Release code lockout policy	All options	McAfee DLP Endpoint for Windows and McAfee DLP Endpoint for Mac
Client Banner Image	All options	McAfee DLP Endpoint for Windows only

Configure client settings

Configure settings for McAfee DLP Endpoint.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Policy** | **Policy Catalog**.
2. From the **Product** drop-down list, select **Data Loss Prevention 10**.
3. (Optional) From the **Category** drop-down list, select **Windows Client Configuration** or **Mac OS X Client Configuration**.
4. Select a configuration to edit or click **Duplicate** for the **McAfee Default** configuration.
5. On the **Evidence Copy Service** page, enter the storage share and credentials.
6. Update the settings on the other pages as needed.
7. Click **Apply Policy**.

Configure server settings

Configure settings for McAfee DLP Discover, McAfee DLP Prevent, McAfee DLP Monitor, and McAfee DLP Prevent for Mobile Email.

Before you begin

For McAfee DLP Discover server settings:

- If you are using a Rights Management server, obtain the domain name, user name, and password.
- If you plan to run remediation scans on SharePoint servers, determine if the SharePoint servers in your enterprise use the recycle bin. Mismatching this setting can lead to errors or unexpected behavior during the remediation scan.

For McAfee DLP Prevent for Mobile Email server:

Configure the MobileIron Sentry server to forward all ActiveSync requests to McAfee DLP Prevent for Mobile Email as follows:

1. Open the MobileIron Admin Portal user interface.
2. In the top toolbar click **Settings**.
3. In the settings submenu, click **Sentry** to see the list of MobileIron Sentry servers.
4. Click **Edit** on the specific MobileIron Sentry server that forwards ActiveSync requests to McAfee DLP Prevent for Mobile Email.

   The **Edit Standalone Sentry** dialog opens.
5. In the **Edit Standalone Sentry** dialog, change the **ActiveSync Configuration** section and set the following values:
   - **Server Authentication**: Pass Through
   - **ActiveSync Server(s)**: [McAfee DLP Prevent for Mobile Email server IP address]
6. (Optional) To secure the communication between MobileIron Sentry server and the McAfee DLP Prevent for Mobile Email server, configure an SSL certificate in the IIS server that runs as part of the McAfee DLP Prevent for Mobile Email server.

> For information about configuring SSL certificates in IIS, see the Microsoft documentation.

- McAfee DLP Prevent for Mobile Email uses the **ActiveSync Proxy** settings only.
- McAfee DLP Prevent and McAfee DLP Monitor use the **Evidence Copy Service** settings only.
- McAfee DLP Discover can use all server setting options except **ActiveSync Proxy**, though some are optional.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Policy** | **Policy Catalog**.
2. From the **Product** drop-down list, select **Data Loss Prevention 10**.
3. (Optional) From the **Category** drop-down list, select **Server Configuration**.
4. Do one of the following.
   - Select a server configuration to edit.
   - Click **Duplicate** for the **McAfee Default** configuration.
5. (Optional, McAfee DLP Discover only) On the **Box** page, verify the options for trash and version history.
6. On the **Evidence Copy Service** page, enter the storage share and credentials.

   For McAfee DLP Prevent or McAfee DLP Monitor, specify a user name and a password. Do not select the local system account option.

   Best practice: Use the default values for **Server Settings**. McAfee DLP Prevent and McAfee DLP Monitor ignore the transmission bandwidth setting.

7. (Optional, McAfee DLP Discover only) On the **Logging** page, set the log output type and log level.

   Best practice: Use the default values.

8. (McAfee DLP Server for Mobile only) On the **ActiveSync Proxy** page, enter the ActiveSync server DNS name.
9. (Optional, McAfee DLP Discover only) On the **Registered Documents** page:
   - **a** Verify that the **Registered Documents Classification Engine** is enabled.

     The classification engine stores a copy of the registered documents database in RAM, allowing the server to use registered documents in classification and remediation scans. If you are not using registered documents, you can disable the classification engine.
   - **b** Set the **Copy content fingerprints** server.
   - To use registered documents on a single LAN, accept the default setting.
   - To use registered documents on multiple LANs, point McAfee DLP Discover server to the registration server on the same LAN.
10. (McAfee DLP Discover only) On the **Rights Management** page, set the RM service credentials.
11. (McAfee DLP Discover only) On the **SharePoint** page, select, or deselect, **Use Recycle bin when deleting a file**.

    If you enable this setting and the SharePoint server does not use the recycle bin, any **Move** actions taken on files fail and default to **Copy**. The default setting in SharePoint is to enable the recycle bin.

12 (Optional, McAfee DLP Discover only) On the **Text Extractor** page, configure the text extractor settings.

Best practice: Use the default values.

- **a** Set the ANSI fallback code page.

  The default uses the default language of the Discover server.

- **b** Set the input and output maximum file size, and the timeouts.

13 Click **Apply Policy**.

See also
Protecting files with rights management on page 69
Documenting events with evidence on page 71
Data protection rule actions on page 251

Protecting files with rights management

McAfee DLP Endpoint and McAfee DLP Discover can integrate with rights management (RM) servers to apply protections to files that match rule classifications.

With McAfee DLP Endpoint 10.x and 11.x, you must install Active Directory Rights Management Services Client 2.1 build 1.0.2004.0 on each endpoint using RM services. The **Apply RM** command does not work without this version of the RM client.

McAfee DLP Prevent and McAfee DLP Monitor can identify if an email or an attachment has RM protection applied to it. However, they do not support applying RM policies.

You can apply an RM policy reaction to these data protection and discovery rules:

- Cloud protection
- Endpoint file system
- Box protection
- File server (CIFS) protection
- SharePoint protection

RM policies cannot be used with Device Control rules.

McAfee DLP can recognize RM protected files by adding a file encryption property to either content classification or content fingerprinting criteria. These files can be included or excluded from the classification.

How McAfee DLP works with rights management

McAfee DLP follows a workflow to apply RM policies to files.

RM workflow

1. Create and apply a data protection or a discovery rule with a reaction to apply RM policy. The reaction requires an RM server and an RM policy entry.
2. When a file triggers the rule, McAfee DLP sends the file to the RM server.
3. The RM server applies protections based on the specified policy, such as encrypting the file, limiting the users allowed to access or decrypt the file, and limiting the conditions in which the file can be accessed.
4. The RM server sends the file back to the source with the applied protections.
5. If you've configured a classification for the file, McAfee DLP can monitor the file.

Limitations

McAfee DLP Endpoint software does not inspect RM protected files for content. When a classification is applied to a file that is RM protected, only content fingerprint criteria (location, application, or web application) are maintained. If a user modifies the file, all fingerprint signatures are lost when the file is saved.

Supported RM servers

McAfee DLP Endpoint supports Microsoft Windows Rights Management Services (Microsoft RMS) and Seclore FileSecure™ information rights management (IRM). McAfee DLP Discover supports Microsoft RMS.

Microsoft RMS

McAfee DLP supports Microsoft RMS on Windows Server 2003 and Active Directory RMS (AD-RMS) on Windows Servers 2008 and 2012. You can apply Windows Rights Management Services protection to the following applications.

Document type	Version
Microsoft Word	2010, 2013, and 2016
Microsoft Excel	
Microsoft PowerPoint	
SharePoint	2007
Exchange Server	

With Microsoft RMS, McAfee DLP can inspect the content of protected files if the current user has view permissions.

For more information on Microsoft RMS, go to http://technet.microsoft.com/en-us/library/cc772403.aspx.

Seclore IRM

McAfee DLP Endpoint supports Seclore FileSecure RM, which supports over 140 file formats including most commonly used document formats:

- Microsoft Office documents
- Open Office documents
- PDF
- Text and text-based formats, including CSV, XML, and HTML
- Image formats, including JPEG, BMP, GIF and so forth
- Engineering design formats, including DWG, DXF, and DWF

The McAfee DLP Endpoint client works with the FileSecure desktop client to provide online and offline integration.

For more information on Seclore IRM, go to http://seclore.com/seclorefilesecure_overview.html.

Define a Rights Management server

McAfee DLP Endpoint supports two Rights Management (RM) systems: Microsoft Windows Rights Management Services (RMS) and Seclore FileSecure™. To use these systems, configure the server providing the RM policies in McAfee ePO.

Before you begin

- Set up the RM servers and create users and policies. Obtain the URL and password for all servers — policy template, certification, and licensing. For Seclore, you need the *Hot Folder Cabinet ID* and *passphrase*, and information on advanced licenses, if any.
- Verify that you have permission to view, create, and edit Microsoft RMS and Seclore servers. In McAfee ePO, select **Menu** | **User Management** | **Permission Sets**, and verify that you belong to a group that has the required permissions in **Registered Servers**.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Registered Servers**.
2. Click **New Server**.

   The **Registered Servers** description page opens.
3. From the **Server type** drop-down list, select the type of server you want to configure: **Microsoft RMS Server** or **Seclore Server**.
4. Type a name for the server configuration, then click **Next**.
5. Enter the required details. When you have entered the required fields, click **Test Connectivity** to verify the data entered.
   - RMS settings also include a **DLP enforcement settings** section. The **Local path to RMS template** field is optional, but the URL fields for certification and licensing are required unless you choose the AD auto-service discovery option.
   - Seclore requires **HotFolder Cabinet** information, but additional license information is optional.
6. Click **Save** when you have completed the configuration.

Documenting events with evidence

Evidence is a copy of the data that caused a security event to be posted to the DLP Incident Manager.

Multiple evidence files are created for an event when possible. For example, if an Email Protection rule is triggered, the email, the body text, and the attachments are all saved as evidence files.

If a classification occurs in the email headers, no separate evidence is written because it can be found in the message itself. The matched text is included in the hit highlights for the body evidence.

Using evidence and evidence storage

Most rules allow the option of storing evidence. When this option is selected, an encrypted copy of the content that was blocked or monitored is stored in the predefined evidence folder.

McAfee DLP Endpoint stores evidence in a temporary location on the client between agent-server communication intervals. When McAfee Agent passes information to the server, the folder is purged and the evidence is stored in the server evidence folder. You can specify the maximum size and age of local evidence storage when the computer is offline.

Prerequisites for evidence storage

Enabling evidence storage is the default condition for McAfee DLP. If you do not want to save evidence, you can improve performance by disabling the evidence service. The following are either required or set as defaults when setting up the software:

- **Evidence storage folder** — Creating a network evidence storage folder and specifying the UNC path to the folder are requirements for applying a policy to McAfee ePO. Specify the path on the **DLP Settings** page. The default UNC path is copied to the **Evidence Copy Service** pages of the server configuration (McAfee DLP Discover, McAfee DLP Prevent, and McAfee DLP Monitor) and the client configurations (McAfee DLP Endpoint) in the **Policy Catalog**. You can edit the default to specify different evidence storage folders in the configurations.
- **Evidence copy service** — The evidence copy service for McAfee DLP Endpoint is enabled on the **Operational Mode and Modules** page of the client configuration policy. **Reporting Service**, under which is a subentry, must also be enabled for evidence collection. For McAfee DLP Discover, McAfee DLP Prevent, and McAfee DLP Monitor the service is activated in the server configuration policy.

See also
Configure client settings on page 66
Configure server settings on page 67

Evidence storage and memory

The number of evidence files stored per event has implications for storage volume, event parser performance, and the screen rendering (and thus user experience) of the **DLP Incident Manager** and **DLP Operations** pages. To handle different evidence requirements, McAfee DLP software does the following:

- The maximum number of evidence files to store per event is set on the **Evidence Copy Service** page.
- When many evidence files are linked to one event, only the first 100 file names are stored in the database and displayed in the **DLP Incident Manager** details page. The remaining evidence files (up to the set maximum) are stored in the evidence storage share, but are not associated with the event. Reports and queries that filter evidence based on file name have access only to these first 100 file names.
- The **DLP Incident Manager** field **Total Match Count** displays the total evidence count.
- If the evidence storage becomes critically full, McAfee DLP Prevent temporarily rejects the message with an SMTP error. An event is listed in the **Client Events** log, and an alert appears in the **Appliance Management** dashboard.

Hit highlighting

The hit highlighting option helps administrators identify exactly which sensitive content caused an event.

When selected, it stores an encrypted HTML evidence file with extracted text.

The evidence file is made up of *snippets*, where a snippet for content classifications or content fingerprints typically contains the sensitive text, with 100 characters preceding it and 100 characters after it (for context) organized by the content classification or content fingerprint that triggered the event, and including a count of the number of events per content classification or content fingerprint. If there are multiple hits within 100 characters of the previous hit, those hits are highlighted, and the highlighted text together with the next 100 characters are added to the snippet. If the hit is in the header or footer of a document, the snippet contains the highlighted text without the 100 character prefix or suffix.

Display options are set on the **Evidence Copy Service** page of the client or server configuration policy in the **Classification matches file** field:

- **Create abbreviated results** (default)
- **Create all matches**
- **Disabled** — Disables the hit highlighting feature

Abbreviated results can contain up to 20 snippets. An all matches hit highlight file can contain an unlimited number of snippets, but there is a limit on the number of hits per classification. For **Advanced Pattern** and **Keyword** classifications, the limit is 100 hits. For **Dictionary** classifications, the limit is 250 hits per dictionary entry. If there are multiple classifications in a hit highlight file, the classification names and the match counts are displayed at the beginning of the file, before the snippets.

Rules allowing evidence storage

These rules have the option of storing evidence.

Table 4-4 Evidence saved by rules

Rule	What is saved	Product
Application File Access Protection Rule	Copy of the file	McAfee DLP Endpoint
Clipboard Protection Rule	Copy of the clipboard	
Cloud Protection Rule	Copy of the file	
Email Protection Rule	Copy of the email	• McAfee DLP Endpoint • McAfee DLP Prevent • McAfee DLP Monitor
Mobile Protection Rule	Copy of the email	McAfee DLP Prevent for Mobile Email
Network Communication Protection Rule	Copy of the content	McAfee DLP Endpoint and McAfee DLP Monitor
Network Share Protection Rule	Copy of the file	McAfee DLP Endpoint
Printer Protection Rule	Copy of the file	
Removable Storage Protection Rule	Copy of the file	
Screen Capture Protection Rule	JPEG of the screen	
File System Discovery Rule	Copy of the file	
Email Storage Discovery Rule	Copy of the .msg file	
Web Protection Rule	Copy of the web post	• McAfee DLP Endpoint • McAfee DLP Prevent • McAfee DLP Monitor
Box Protection Rule	Copy of the file	McAfee DLP Discover
File Server (CIFS) Protection Rule	Copy of the file	
SharePoint Protection Rule	Copy of the file	
Database Protection Rule	Copy of the table	

Creating evidence folders

Evidence folders contain information used by all McAfee DLP software products for creating policies and for reporting. Depending on your McAfee DLP installation, certain folders and network shares must be created, and their properties and security settings must be configured appropriately.

Evidence folder paths are set in different locations in the various McAfee DLP products. When more than one McAfee DLP product is installed in McAfee ePO, the UNC paths for the evidence folders are synchronized. The folders do not need to be on the same computer as the McAfee DLP Database server, but it is usually convenient to put them there.

> The evidence storage path must be a network share, that is, it must include the server name.

- **Evidence folder** — Certain rules allow for storing evidence, so you must designate, in advance, a place to put it. If, for example, a file is blocked, a copy of the file is placed in the evidence folder.
- **Copy and move folders** — Used by McAfee DLP Discover to remediate files.

We suggest the following folder paths, folder names, and share names, but you can create others as appropriate for your environment.

- c:\dlp_resources\
- c:\dlp_resources\evidence
- c:\dlp_resources\copy
- c:\dlp_resources\move

See also

Configure evidence folder settings on page 74

Configure evidence folder settings

Evidence folders store evidence information when files match a rule.

Depending on your McAfee DLP installation, certain folders and network shares must be created, and their properties and security settings must be configured appropriately. The required Default Evidence Storage field in **DLP Settings** meets the basic requirement, but we recommend setting separate evidence shares for each McAfee DLP product. Setting evidence shares as described below overrides the default setting.

> You must configure write permission for the user account that writes to the evidence folder, such as the local system account on the server. In order to view evidence from McAfee ePO, you must allow read access for the local system account of the McAfee ePO server.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Policy** | **Policy Catalog**.
2. From the **Product** drop-down list, select **Data Loss Prevention 11**.
3. From the **Category** drop-down list, select one of these options based on the product to configure.
   - **Windows Client Configuration** — McAfee DLP Endpoint for Windows
   - **Mac OS X Client Configuration** — McAfee DLP Endpoint for Mac
   - **Server Configuration** — McAfee DLP Discover, McAfee DLP Prevent and McAfee DLP Monitor
4. Select a configuration to edit, or click **Duplicate** for the **McAfee Default** configuration.

5. On the **Evidence Copy Service** page:
   a. Select whether the service is enabled or disabled.

      The evidence copy service allows you to store evidence when rules are triggered. If disabled, evidence is not collected and only incidents are generated.

   b. If needed, enter the evidence storage share UNC. If you don't want to use the local system account, enter a user name a password to store evidence.

      For McAfee DLP Prevent and McAfee DLP Monitor, you must specify a user name and password.

      By default, the UNC is the one entered on the **DLP Settings** page when configuring the license. You can change the UNC for each working policy you create, or keep the default.

   c. (Optional) Reset the default **Maximum evidence file size** and **Maximum evidence transmission bandwidth** filters.

      McAfee DLP Prevent and McAfee DLP Monitor ignore the transmission bandwidth setting.

   d. Select whether storing the original file is enabled or disabled.

      Selecting **Disabled** overrides the **Store Original File** setting in individual rules.

   e. Set the classification match to abbreviated results or all matches. You can also disable matching with this control.

6. Click **Apply Policy**.

See also
Using evidence and evidence storage on page 71

Controlling assignments with users and permission sets

McAfee DLP uses McAfee ePO **Users** and **Permission Sets** to assign different parts of the McAfee DLP administration to different users or groups.

Best practice: Create specific McAfee DLP permission sets, users, and groups.

Create different roles by assigning different administrator and reviewer permissions for the different McAfee DLP modules in McAfee ePO.

System Tree filtering permissions support

McAfee DLP supports McAfee ePO **System Tree** filtering permissions in **DLP Incident Manager** and **DLP Operations**. When **System Tree** filtering is enabled, McAfee ePO operators can only see incidents from computers in their permitted part of the **System Tree**. Group Administrators do not have any permissions in the McAfee ePO **System Tree** by default. Regardless of permissions assigned in the **Data Loss Prevention** permission set, they cannot see any incidents in **DLP Incident Manager** or **DLP Operations**. **System Tree** filtering is disabled by default, but can be enabled in **DLP Settings**.

Best practice: For customers who have been using **Group Administrators** in **Data Loss Prevention** permission sets, give **Group Administrators**

- **View "System Tree" tab** permission (under **Systems**)
- **System Tree access** permissions at the appropriate level

Sensitive data redaction and the McAfee ePO permission sets

To meet the legal demand in some markets to protect confidential information in all circumstances, McAfee DLP software offers a data redaction feature. Fields in the **DLP Incident Manager** and **DLP Operations** consoles with confidential information can be redacted to prevent unauthorized viewing. Links to sensitive evidence are hidden. The feature is designed with a "double key" release. Thus, to use the feature, you must create *two permission sets*: one to view the incidents and events and another to view the redacted fields (supervisor permission). Both roles can be assigned to the same user.

REST API for importing definitions and applying policies

McAfee DLP uses REST (REpresentational State Transfer) architecture for certain functions to reduce bandwidth.

REST API calls can be used to create policies in certain circumstances, and to import some definitions. To use this feature, the McAfee DLP administrators must be valid McAfee ePO users with permissions that allow them to perform the actions invoked by the APIs.

You can create REST API calls in the programming language of your preference. See KB87855 for sample Java source code that demonstrates how to use the REST API.

Create end-user definitions

McAfee DLP accesses Active Directory (AD) or Lightweight Directory Access Protocol (LDAP) servers to create end-user definitions.

End-user groups are used for administrator assignments and permissions, and in protection and device rules. They can consist of users, user groups, or organizational units (OU), thus allowing the administrator to choose an appropriate model. Enterprises organized on an OU model can continue using that model, while others can use groups or individual users where required.

LDAP objects can be identified by name or security ID (SID). SIDs are more secure, and permissions can be maintained even if accounts are renamed. On the other hand, they are stored in hexadecimal, and have to be decoded to convert them to a readable format.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Data Protection** | **DLP Policy Manager**.
2. Click the **Definitions** tab.
3. Select **Source/Destination** | **End-User Group**, then **Actions** | **New**.
4. In the **New End-User Group** page, enter a unique name and optional description.
5. Select the method of identifying objects (SID or name).
6. Click one of the **Add** buttons (**Add Users**, **Add Groups**, **Add OU**).

   The selection window opens displaying the selected type of information.

   > The display might take a few seconds if the list is long. If no information appears, select **Container and children** from the **Preset** drop-down menu.

7. Select names and click **OK** to add them to the definition.

   Repeat the operation as required to add additional users, groups, or organizational users.

8. Click **Save**.

Assigning McAfee DLP permission sets

McAfee DLP permission sets assign permissions to view and save policies, and view redacted fields. They are also used to assign role-based access control (RBAC).

Installing the McAfee DLP server software adds the McAfee ePO permission set Data Loss Prevention. If a previous version of McAfee DLP is installed on the same McAfee ePO server, that permission set also appears.

The permission sets cover all sections of the management console. There are three levels of permissions:

- **Use** — The user can see only names of objects (definitions, classifications, and so forth), not details.

  For policies, the minimum permission is **no permission**.

- **View and use** — The user can view details of objects, but cannot change them.
- **Full permission** — The user can create and change objects.

You can set permissions for different sections of the management console, giving administrators and reviewers different permissions as required. The sections are grouped by logical hierarchy, for example, selecting **Classifications** automatically selects **Definitions** because configuring classification criteria requires using definitions.

The McAfee DLP Endpoint permission groups are:

Group I

- Policy Catalog
- DLP Policy Manager
- Classifications
- Definitions

Group II

- DLP Policy Manager
- Classifications
- Definitions

Group III

- Classifications
- Definitions

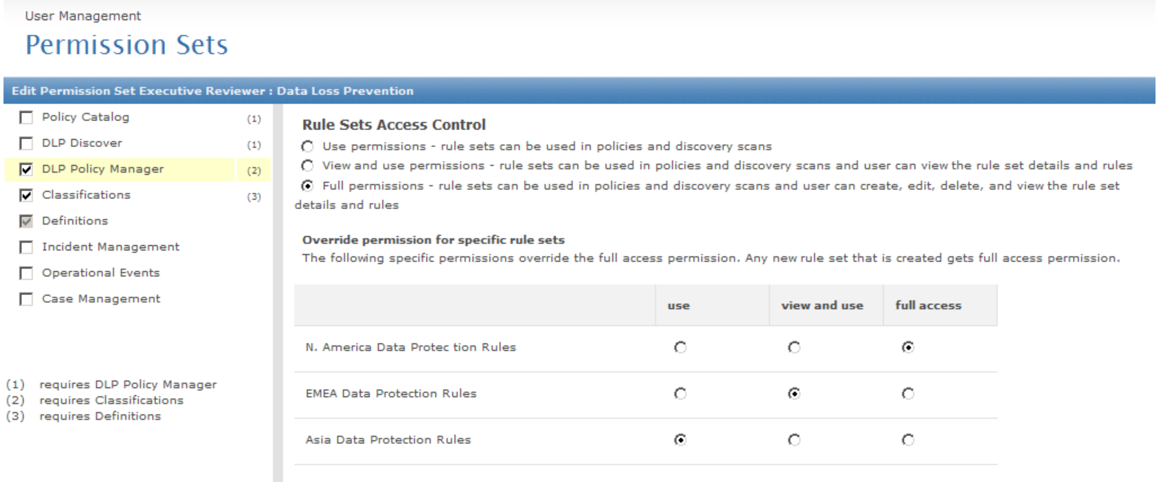
The McAfee DLP Discover permission group is:

- DLP Discover
- DLP Policy Manager
- Classifications
- Definitions

Incident Management, Operational Events, Case Management, and **DLP Settings** can be selected separately.

Permissions for Data Loss Prevention Actions have been moved to the Help Desk Actions permission set. These permissions allow administrators to generate client bypass and uninstall keys, release from quarantine keys, and master keys.

In addition to the default permission for the section, you can set an override for each object. The override can either increase or decrease the permission level. For example, in the DLP Policy Manager permissions, all rule sets existing when the permission set is created are listed. You can set a different override for each one. When new rule sets are created, they receive the default permission level.



User Management

Permission Sets

Edit Permission Set Executive Reviewer : Data Loss Prevention

☐ Policy Catalog (1)
☐ DLP Discover (1)
☑ DLP Policy Manager (2)
☑ Classifications (3)
☑ Definitions
☐ Incident Management
☐ Operational Events
☐ Case Management

(1) requires DLP Policy Manager
(2) requires Classifications
(3) requires Definitions

Rule Sets Access Control

○ Use permissions - rule sets can be used in policies and discovery scans
○ View and use permissions - rule sets can be used in policies and discovery scans and user can view the rule set details and rules
● Full permissions - rule sets can be used in policies and discovery scans and user can create, edit, delete, and view the rule set details and rules

Override permission for specific rule sets

The following specific permissions override the full access permission. Any new rule set that is created gets full access permission.

	use	view and use	full access
N. America Data Protec tion Rules	○	○	●
EMEA Data Protection Rules	○	●	○
Asia Data Protection Rules	●	○	○

Figure 4-1 McAfee DLP permission sets

Create a McAfee DLP permission set

Permission sets define different administrative and reviewer roles in McAfee DLP software.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **User Management** | **Permission Sets**.

2. Select a predefined permission set or click **New** to create a permission set.

   a. Type a name for the set and select users.

   b. Click **Save**.

3. Select a permission set, then click **Edit** in the **Data Loss Prevention** section.

   a. In the left pane, select a data protection module.

      Incident Management, **Operational Events**, and **Case Management** can be selected separately. Other options automatically create predefined groups.

   b. Edit the options and override permissions as needed.

      Policy Catalog has no options to edit. If you are assigning Policy Catalog to a permission set, you can edit the sub-modules in the Policy Catalog group.

   c. Click **Save**.

Tasks

- *Use case: DLP administrator permissions* on page 79
  You can separate administrator tasks as required — for example, to create a policy administrator with no event review responsibilities.
- *Use case: Limit DLP Incident Manager viewing with redaction permissions* on page 79
  To protect confidential information, and to meet legal demands in some markets, McAfee DLP Endpoint offers a data redaction feature.

Use case: DLP administrator permissions

You can separate administrator tasks as required — for example, to create a policy administrator with no event review responsibilities.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Permission Sets**.
2. Click **New** to create a permission set.
   a. Type a name for the set and select users.

      To edit a policy, the user must be the policy owner or a member of the global administrator permission set.

   b. Click **Save**.
3. In the **Data Loss Prevention** permissions set, select **Policy Catalog**.

   DLP Policy Manager, **Classifications**, and **Definitions** are selected automatically.

4. In each of the three submodules, verify that the user has full permissions and full access.

   Full permissions is the default setting.

The administrator can now create and change policies, rules, classifications, and definitions.

Use case: Limit DLP Incident Manager viewing with redaction permissions

To protect confidential information, and to meet legal demands in some markets, McAfee DLP Endpoint offers a data redaction feature.

When using data redaction, specific fields in the DLP Incident Manager and DLP Operations displays containing confidential information are encrypted to prevent unauthorized viewing, and links to evidence are hidden.

The fields **computer name** and **user name** are predefined as private.

This example shows how to set up the DLP Incident Manager permissions for a *redaction reviewer* — a single administrator who cannot view actual incidents, but can reveal encrypted fields when required for another reviewer viewing the incident.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **User Management** | **Permission Sets**
2. Create permission sets for regular reviewers and for the redaction reviewer.
   a. Click **New** (or **Actions** | **New**).
   b. Enter a name for the group such as `DLPE Incident Reviewer` or `Redaction Reviewer`.

      You can assign different types of incidents to different reviewer groups. You must create the groups in **Permission Sets** before you can assign incidents to them.

   c. Assign users to the group, either from available McAfee ePO users or by mapping Active Directory users or groups to the permission set. Click **Save**.

   The group appears in the left panel **Permission Sets** list.

3 Select a standard reviewer permission set, then click **Edit** in the **Data Loss Prevention** section.

a In the left pane, select **Incident Management**.

b In the **Incidents Reviewer** section, select **User can view incidents assigned to the following permission sets**, click the choose icon, and select the relevant permission set or sets.

c In the **Incidents Data Redaction** section, deselect the default **Supervisor permission**, and select the **Obfuscate sensitive incidents data** option.

Selecting this option activates the redaction feature. Leaving it deselected displays all data fields in clear text.

d In the **Incident Tasks** section, select or deselect tasks as required.

e Click **Save**.

4 Select the redaction reviewer permission set, then click **Edit** in the **Data Loss Prevention** section.

a In the left pane, select **Incident Management**.

b In the **Incidents Reviewer** section, select **User can view all incidents**.

> In this example, we assume a single redaction reviewer for all incidents. You can also assign different redaction reviewers for different sets of incidents.

c In the **Incidents Data Redaction** section, select both the **Supervisor permission** and the **Obfuscate sensitive incidents data** option.

d In the **Incident Tasks** section, deselect all tasks.

> Redaction reviewers do not normally have other reviewer tasks. This is optional according to your specific requirements.

e Click **Save**.

Control access to McAfee DLP appliance features

Use McAfee ePO **Permission Sets** to control what roles in your organization have access to McAfee DLP appliance and Appliance Management policies and settings.

Restrict users from viewing appliances in the System Tree

Use the **No permissions** option to restrict users from viewing appliances in the **System Tree** and viewing or editing the policies.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1 In McAfee ePO, select **Permission sets** from the **User Management** section of the menu.

2 Select the permission set whose roles you want to edit.

3 Locate the **DLP Appliance Management Policy** role, and click **Edit**.

4 Select **No permissions**, and click **Save**.

Allow users to edit the policy

Configure the role to allow users to view and change the policy and task settings.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Permission sets** from the **User Management** section of the menu.
2. Select the permission set whose roles you want to edit.
3. Locate the **DLP Appliance Management Policy** role, and click **Edit**.
4. Select **View and change policy and task settings**, and click **Save**.

Control access to Appliance Management features

For McAfee DLP appliances, you can apply two roles to the **Appliance Management** features.

- **Appliance Management Common Policy** — Controls who can view or change the **Common Appliance Management** policy in the **Policy Catalog**.
- **Appliance Management** — Controls who can view appliance management statistics and tasks, and who can create and run database tasks.

To find out more about permissions for the **Appliance Management** features, see topics in the *Appliance Management help extension*.

Allow users to view Appliance Management statistics

Allow users in a selected permission set to view system health and statistics in the **Appliance Management** dashboard.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, open the menu and select **Permission sets** from the **User Management** section.
2. Select the permission set for the roles you want to edit.
3. Select the **Appliance Management** role, and click **Edit**.
4. In **Appliance Health and Statistics**, select **View health and statistics**, and click **Save**.

Restrict users from viewing the Common Appliance Management settings

The **Common Appliance Management** policy settings enable users to set the appliance date and time, add DNS servers and static routes, allow remote logon using SSH, and add one or more remote logging servers.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, open the menu and select **Permission Sets**.
2. Select the permission set for the roles you want to edit.
3. Click **Edit** next to the **Appliance Management Common Policy**.
4. Select **No permissions**, and click **Save**.

Working with McAfee DLP policies

Define McAfee DLP settings in the **DLP Appliance Management**, **Data Loss Prevention**, and **Common Appliance Management** products in the **Policy Catalog**.

DLP Appliance Management

Use the **DLP Appliance Management** categories with McAfee DLP appliances. You can perform activities such as specifying a Smart Host or ICAP channels for McAfee DLP Prevent, or specifying McAfee DLP Monitor settings. You can also set up load balancing and timeout settings, and the LDAP servers that you want to get user information from.

Data Loss Prevention

Use the **Server Configuration** policy category to edit the **Evidence Copy Service** settings to work with McAfee DLP appliances.

The **Maximum evidence transmission bandwidth (KBps)** option does not apply to McAfee DLP appliances.

Common Appliance Management

Specify DNS settings, static route settings, and remote logging servers. You can also edit the appliance date and time and enable SNMP alerts and monitoring.

For more information about the **Common Appliance** policy settings, see the topics in the *Appliance Management help extension*.

Set up a cluster of McAfee DLP Prevent appliances

To load balance incoming traffic and ensure high availability, you can create clusters of appliances.

> **Before you begin**
>
> Configure two or more McAfee DLP Prevent appliances with LAN1 connected to the same network segment.

All the appliances in a cluster must be in the same subnet or network.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, open the **Policy Catalog**.
2. Select the **DLP Appliance Management** product, choose the **General** category, and open the policy that you want to edit.
3. In **Load Balancing**, select **Enable**.
4. In **Cluster ID**, use the arrows to select a number to identify the cluster.
5. In **Virtual IP**, enter a virtual IP address so that packets for the virtual IP address are sent to the cluster master.

   The appliances in the cluster use the netmask assigned to the physical IP address. The virtual IP address must be in the same subnet or network as the other McAfee DLP Prevent appliances, and cannot be the same IP address as any other appliance in the cluster.

McAfee ePO pushes the configuration to all the appliances in the cluster when you apply the changes. It takes about five minutes for the cluster to stabilize and identify the cluster master and cluster scanners. The appliance descriptions then change accordingly in **Appliance Management**.

Enable FIPS 140-2 mode

Configure the McAfee DLP appliance to perform cryptographic operations in a way that is compliant with FIPS 140-2.

Due to the nature of FIPS 140-2, enabling this feature will decrease your appliance's throughput. Please see KB89109 for further details.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, open the **Policy Catalog**.
2. Select the **DLP Appliance Management** product, choose the **General** category, and open the policy that you want to edit.
3. In **Security mode**, select **Enable FIPS 140-2** mode and click **Save**.

Set connection timeout settings

Change the number of seconds that McAfee DLP Prevent attempts to connect with an MTA.

By default, McAfee DLP Prevent attempts to connect for twenty seconds. If a connection cannot be made in that time, there is an issue with either the network or the MTA that should be investigated.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, open the **Policy Catalog**.
2. Select the **DLP Appliance Management** product, choose the **General** category, and open the policy that you want to edit.
3. In **Onward connection**, type the number of seconds that McAfee DLP Prevent can spend trying to connect to an MTA.
4. Click **Save**.

Specify the McAfee DLP server for registered documents

Specify a McAfee DLP Discover server in the Policy Catalog in order to use registered documents in McAfee DLP appliance policies.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, open the **Policy Catalog**.
2. Select the **DLP Appliance Management** product, choose the **General** category, and open the policy that you want to edit.
3. In **McAfee DLP Server for registered documents**, click the add button (**+**) to enter IP Addresses or host names of the McAfee DLP Discover servers with the registered documents databases you want to use.

   Registered documents database servers are McAfee DLP Discover servers with the McAfee DLP Server role. The server port is pre-defined as 6379.
4. (Optional) Select the **Use TLS** checkbox to specify a secure connection.
5. Click **Save**.

Customize the appliance console banner text

You can customize the text that appears at the top of the appliance console logon screen and when you connect using SSH.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, open the **Policy Catalog**.
2. Select the **DLP Appliance Management** product, choose the **General** category, and open the policy that you want to edit.
3. In **Custom Logon Banner**, select **Display a custom banner** and click **Save**.

   You must use plain text.

The next time you log on to the appliance console, or connect to it using SSH, your text will display after you provide your user credentials.

Disable access to management ports through the traffic interface

You can separate management traffic from client traffic to improve security.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, open the **Policy Catalog**.
2. Select the **DLP Appliance Management** product, choose the **General** category, and open the policy that you want to edit.
3. In **Out-of-band mangement**, select **Disable in-band access to management ports**.

   The listed ports will only be accessible through the management interface.
4. Add or remove management ports from the list as needed, and click **Save**.

Close the McAfee DLP Prevent appliance SMTP ports

To improve performance and security on an appliance dedicated to analyzing web traffic, close the SMTP ports.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, open the **Policy Catalog**.
2. Select the **DLP Appliance Management** product, select the **McAfee DLP Prevent Email Settings** category, and open the policy that you want to edit.
3. Deselect **Enable SMTP**.
4. Click **Update**.
5. Click **Save**.

Specify a maximum level of nesting of archived attachments

To protect the appliance from denial-of-service attacks, set the maximum level of nesting of archived attachments that it attempts to analyze before it times out.

> An example of a nested attachment is a .zip file in another .zip file.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, open the **Policy Catalog**.
2. Select the **DLP Appliance Management** product, choose the **General** category, and open the policy that you want to edit.
3. In **Maximum nesting depth**, set the maximum level of nested archive attachments.
4. Click **Save**.

Add additional MTAs that can deliver email

McAfee DLP Prevent delivers email messages using the configured Smart Host. You can add more MTAs that McAfee DLP Prevent can deliver email messages to in addition to the Smart Host.

> **Before you begin**
>
> Ensure that you have the IP addresses or host names of the Smart Hosts.

McAfee DLP Prevent can accept email messages from more than one MTA but forwards the inspected email messages to only one of the configured Smart Hosts.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, open the **Policy Catalog**.
2. Select the **DLP Appliance Management** product, choose the **McAfee DLP Prevent Email Settings** category, and open the policy that you want to edit.
3. Add the details of the MTAs that you want to use.
4. Click **Update**.
5. Click **Save**.

Deliver emails using a round-robin approach

Configure McAfee DLP Prevent to deliver to multiple email servers by distributing the email messages among them.

> **Before you begin**
>
> Ensure that you have the IP addresses or host names of the Smart Hosts.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, open the **Policy Catalog**.
2. Select the **DLP Appliance Management** product, choose the **McAfee DLP Prevent Email Settings** category, and open the policy that you want to edit.
3. Select the **Round-robin** checkbox and add the details of the MTAs that you want to use.
4. Click **Update**.
5. Click **Save**.

Limit connections to specified hosts or networks

By default McAfee DLP Prevent accepts messages from any host. Specify the hosts that can send messages to McAfee DLP Prevent so that only legitimate source MTAs can relay email though the appliance.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, open the **Policy Catalog**.
2. Select the **DLP Appliance Management** product, choose the **McAfee DLP Prevent Email Settings** category, and open the policy that you want to edit.
3. Select **Accept mail from these hosts only**.
4. Type the details of a host that the McAfee DLP Prevent appliance can receive messages from.

   Add the host information using its IP address and subnet, domain names, or wildcard domain name.
5. Click **Update** to add the details to the list of permitted hosts.

   You can create groups of relay hosts using subnets or wildcard domains. To add more than one subnet, you must create separate entries for each.

Enable TLS on incoming or outgoing messages

You can specify whether McAfee DLP Prevent uses TLS to protect ingoing and outgoing messages, or only uses TLS when it is available (known as **Opportunistic**). A minimum protocol version of TLS 1.1 is used.

McAfee DLP Prevent can perform cryptographic operations in a way that is compliant with FIPS 140-2. This means that incoming and outgoing TLS connections use high-strength cryptographic algorithms.

> Using FIPS 140-2 can impact performance when analyzing SMTP content.

The option to enable FIPS 140-2 is located in the **General** category of the **DLP Appliance Management** product in the **Policy Catalog**. Due to the nature of FIPS 140-2, enabling this feature decreases your appliance's throughput. See KB89109 for details.

TLS works by communicating a set of parameters — known as a handshake — at the start of a connection between participating servers. When these parameters are defined, communications between the servers become secure so that servers that did not participate in the handshake cannot decode them.

The handshake process

- The appliance requests a secure connection to the receiving email server and presents it with a list of cipher suites.
- The receiving server selects the strongest supported cipher from the list, and gives the details to the appliance.
- The servers use the Public Key Infrastructure (PKI) to establish authenticity by exchanging digital certificates.
- Using the server's public key, the appliance generates a random number as a session key and sends it to the receiving email server. The receiving server decrypts the key using the private key.
- Both the appliance and the receiving email server use the encrypted key to set up communications and complete the handshake process.

Once the handshake is complete, the secure connection is used to transfer the email messages. The connection remains secure until the connection is closed.

> If you select the **Always** option for outbound communications, but the Smart Host is not configured to use TLS, McAfee DLP Prevent sends a **550 x.x.x.x: Denied by policy. TLS conversation required** error.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, open the **Policy Catalog**.
2. Select the **DLP Appliance Management** product, choose the **McAfee DLP Prevent Email Settings** category, and open the policy that you want to edit.
3. In **Transport Layer Security**, select either **Always**, **Never**, or **Opportunistic** for inbound communications.

   Opportunistic is the default setting.
4. Select either **Always**, **Never**, or **Opportunistic** for outbound communications.

   Opportunistic is the default setting.
5. Click **Save**.

Configure McAfee DLP Prevent to scan encrypted web traffic only

To improve security, you can stop the McAfee DLP Prevent appliance from analyzing unencrypted web traffic.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, open the **Policy Catalog**.
2. Select the **DLP Appliance Management** product, select the **McAfee DLP Prevent Web Settings** category, and open the policy you want to edit.
3. Deselect **Unencrypted ICAP (port 1344)**.
4. Click **Save**.

Close the McAfee DLP Prevent appliance ICAP ports

To improve security and performance on a McAfee DLP Prevent appliance dedicated to analyzing email traffic, you can close the ICAP ports.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, open the **Policy Catalog**.
2. Select the **DLP Appliance Management** product, select the **McAfee DLP Prevent Web Settings** category, and open the policy that you want to edit.
3. Deselect both of the ICAP service options.
4. Click **Save**.

Enable a McAfee DLP Prevent appliance to process response requests

You can configure a McAfee DLP Prevent appliance to analyze requests made to your web servers from external users.

> A common McAfee DLP Prevent deployment is to have the McAfee DLP Prevent appliance inside your network and the web server outside your network. Enabling RESPMOD analysis can impact performance because it takes longer to get responses from the appliance, which causes a slower user experience.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, open the **Policy Catalog**.
2. Select the **DLP Appliance Management** product, select the **McAfee DLP Prevent Web Settings** category, and open the policy you want to edit.
3. Select **RESPMOD**.
4. Click **Save**.

Using external authentication servers

McAfee DLP appliances can work with registered LDAP servers and McAfee Logon Collector to retrieve user information and logon data. The data helps identify users responsible for data loss incidents using their name, group, department, city, or country.

McAfee DLP appliances can:

- Get information from Active Directory servers and OpenLDAP directory servers that are registered with McAfee ePO.
- Communicate with a registered LDAP server over SSL.
- Act on email and web protection rules which apply to specific users and groups.
- Act on network communication protection rules which apply to specific users and groups (McAfee DLP Monitor).
- Connect to **Global Catalog** ports instead of standard LDAP ports to retrieve user and group information when querying Active Directory.
- Include user information in incidents so that you can see all incidents generated by a user, regardless of the McAfee DLP product that detected them.

McAfee Logon Collector records Windows user logon events and communicates the information to McAfee DLP appliances. McAfee DLP appliances can map an IP address to a Windows user name if no other authentication information is available.

What happens if the LDAP server is unavailable?

McAfee DLP appliances cache LDAP information. The cache updates every 24 hours, so temporary unavailability of the LDAP server does not affect McAfee DLP appliances service availability. If the cache update fails, McAfee DLP appliances use the previous cache. If a previous cache is not available, it performs an LDAP lookup to get the information.

When McAfee DLP Prevent needs LDAP group information to evaluate rules for a request or message, and LDAP is not configured or the server is unavailable:

- For SMTP traffic — A temporary failure code (451) is returned so the message is queued on the sending server and retried.
- For ICAP traffic — An ICAP status 500 code is returned that indicates the server encountered an error and was unable to analyze the request. You can configure your web gateway to fail open or closed when it receives an error from the McAfee DLP Prevent server.

For McAfee DLP Monitor, if McAfee Logon Collector or the LDAP information is unavailable, rules which refer to user and group information cannot be matched and incidents are not created. Your traffic flow is unaffected.

OpenLDAP and Active Directory servers

- OpenLDAP and Active Directory produce different user schemas. Active Directory has a constrained set of parameters, but OpenLDAP is customizable.
- OpenLDAP and Active Directory servers identify users by using different means of identification. Active Directory uses *sAMAccountName*, and OpenLDAP uses *UID*. LDAP queries for sAMAccountName are handled by using the *UID* property on OpenLDAP systems.
- OpenLDAP and Active Directory servers also identify user classes by using different user attributes. Instead of the User object class, OpenLDAP uses *inetOrgPerson*, which does not support country or *memberOf* attributes.

Additional web protection authentication

When applying web protection rules, McAfee DLP Prevent can get *user* information from:

- X-Authenticated-User ICAP request header sent from the web gateway.
- McAfee Logon Collector

If a user name is supplied in the X-Authenticated-User ICAP header, it is used in preference to data from McAfee Logon Collector.

Best practice: Using the X-Authenticated-User header is the recommended authentication method because it indicates that the web gateway has positively authenticated the end user. To set it up, you must perform some additional configuration on the web gateway. For more information, see your web gateway product documentation.

If the X-Authenticated-User header is not available, you can configure McAfee Logon Collector to provide additional authentication. McAfee Logon Collector is another McAfee product that monitors Windows logon events and maps an IP address to a Security Identifier (SID). To use McAfee Logon Collector, you must have at least one LDAP server configured: The McAfee DLP appliance can query it to convert a SID to a user name.

When applying email or web protection rules, McAfee DLP Prevent evaluates *group* information from the *user* information. It ignores any X-Authenticated-Groups header value from the web gateway.

To select rules based on users and groups for McAfee DLP Monitor, you must configure McAfee Logon Collector.

To obtain user or group information, you must have at least one LDAP server configured. The McAfee DLP appliance queries LDAP servers to get required attributes. For example, for McAfee Logon Collector, the McAfee DLP appliance uses the LDAP server to convert the SID to a user DN.

Supported authentication schemes

The McAfee DLP Prevent appliance supports the WINNT, NTLM, and LDAP authentication schemes to process the X-Authenticated-User header from the web gateway.

The McAfee DLP Prevent appliance expects the format for the X-Authenticated-User header to be in one of these formats for Active Directory:

- NTLM — NTLM://<*NetBIOS_name/sAMAccountName*>
- WINNT — WINNT://<*NetBIOS_name/sAMAccountName*>

NTLM with OpenLDAP is not supported.

With LDAP, McAfee DLP Prevent expects the X-Authenticated-User header to be in the format LDAP://<*LDAP_servername/distinguished-name*> for Active Directory and OpenLDAP.

McAfee DLP Prevent uses the distinguishedName LDAP attribute to retrieve user details for web protection rules. Verify that your LDAP server exposes this attribute to ensure that the LDAP authentication scheme works correctly.

Use case

You want to configure a web protection rule that blocks uploads of PCI data for all users in a department apart from one.

1. Register an Active Directory server with McAfee ePO that contains the user account of the employee that you suspect.
2. Set up McAfee Logon Collector.
3. Create a web protection rule that looks for web requests from users in the group **GROUPNAME** matching a classification.
4. Create an exception for user **USERNAME**.
5. Set the reaction to **Block**.
6. Monitor the **DLP Incident Manager** for incidents sent by the user that contain the component name.

Retrieve information from registered LDAP servers

McAfee DLP appliances can get user and group information from LDAP servers that are registered with McAfee ePO. You need to select the registered LDAP servers that you want McAfee DLP appliances to get information from.

Before you begin

You have registered the LDAP servers with McAfee ePO.

For information about registering LDAP servers with McAfee ePO, see the *McAfee ePolicy Orchestrator Product Guide*.

User and groups details are used when evaluating the **Sender** information. The McAfee DLP appliance can:

- Connect to OpenLDAP and Active Directory servers.
- Communicate with a registered LDAP server over SSL.
- Connect to **Global Catalog** ports instead of standard LDAP ports to retrieve user and group information when querying Active Directory.

  If you configured Active Directory to use **Global Catalog** ports, make sure that at least one of these attributes are replicated to the **Global Catalog** server from the domains in the forest:

  - proxyAddresses
  - mail

  If a McAfee DLP appliance needs to use NTLM or WINNT authentication for analyzing web protection rules, these LDAP attributes must also be replicated:

  - configurationNamingContext
  - netbiosname
  - msDS-PrincipalName

> Messages are temporarily rejected with a 451 status code when both of these conditions are met:
>
> - McAfee DLP Prevent uses rules that specify the sender is a member of a particular LDAP user group.
> - McAfee DLP Prevent is not configured to receive information from the LDAP server that contains the specified user group.
>
> Events are sent to the **Client Events** log if synchronization with the LDAP server or an LDAP query fails.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, open the **Policy Catalog**.
2. Select the **DLP Appliance Management** product, choose the **Users and groups** category, and open the policy that you want to edit.
3. In **LDAP Servers**, select the LDAP servers that you want to use.
4. Click **Save**.

Add a Logon Collector server and certificate to a McAfee DLP appliance

Add a McAfee Logon Collector certificate to McAfee DLP Monitor or McAfee DLP Prevent. And add a McAfee DLP Prevent or McAfee DLP Monitor certificate to McAfee Logon Collector.

Before you begin

Have at least one McAfee Logon Collector server configured.

For more information, see the *McAfee Logon Collector Administration Guide*.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. To download the certificate from the McAfee DLP appliance, go to https://<*APPLIANCE*>:10443/certificates, then select **[Hostname.domain.crt]**
2. In McAfee Logon Collector, select **Menu** | **Trusted CAs** | **New Authority** | **Choose File**, select the certificate you downloaded, and click **Save**.
3. In McAfee ePO, open the **Policy Catalog**.
4. Select the **DLP Appliance Management** product, choose the **Users and groups** category, and open the policy that you want to edit.
5. Add the McAfee Logon Collector server details to McAfee DLP Prevent or McAfee DLP Monitor.
   a. In the **McAfee Logon Collector** section, select **Identify users making web requests.**
   b. Click **+** to open the **Add** dialog box.
   c. Type an IPv4 address or host name of a McAfee Logon Collector server you want to connect to.
   d. Edit the McAfee Logon Collector port if needed.
6. Get the certificate text from McAfee Logon Collector.
   a. In McAfee Logon Collector, select **Menu** | **Server Settings.**
   b. Click **Identity Replication Certificate.**
   c. Select the certificate text in the **Base 64** field and copy it to the clipboard or into a file.
7. Return to the **Add** dialog box and select either **Import from file** or **Paste from clipboard** to add the certificate text..
8. Click **OK** to complete the McAfee Logon Collector authentication.
   [Optional] Add more McAfee Logon Collector servers.

   The **McAfee Logon Collector** server is added to the list of servers.

Apply network communication protection rules to FTP, HTTP, or SMTP traffic

You can configure McAfee DLP Monitor to apply network communication protection rules to SMTP, HTTP, or FTP traffic. By default, email and web protection rules are applied.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, open the **Policy Catalog**.
2. Select the **DLP Appliance Management** product, select the **McAfee DLP Monitor Settings** category, and open the policy that you want to edit.
3. In **Protocol Rule Application**, deselect the appropriate options and click **Save**.

Create a traffic filtering rule

By default, McAfee DLP Monitor analyzes all protocol traffic. You can create additional rules that filter the protocol traffic in priority order to improve performance and stop incidents being created for protocols that are not relevant to your requirements.

McAfee DLP Monitor analyzes the traffic rules in a top-down priority order. The analysis stops when it finds a match, and takes the corresponding action.

If there is an HTTP conversation between a client 1.2.3.4 and a server 2.3.4.5, there are two transactions over the same TCP connection. Consequently, the traffic filtering rules are evaluated separately. For example:

- The HTTP request (source 1.2.3.4:9999, destination 2.3.4.5:80)
- The HTTP response (source 2.3.4.5:80, destination 1.2.3.4:9999)

Best practice: If your organization's network range is, for example, 192.168.0.0/16:

- Filter out protocols or hosts that you do not want to analyze.
- Analyze all traffic where the source address is in the range 192.168.0.0/16.
- Do not analyze the remaining traffic.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, open the **Policy Catalog**.
2. Select the **DLP Appliance Management** product, select the **McAfee DLP Monitor Settings** category, and open the policy that you want to edit.
3. In the **Traffic Rules** section, click + to open the **Define Rule** dialog box.
4. Type a name for the rule, then click + to specify the network attributes you want the rule to filter on.

   Each attribute can only be added once to a rule.

   - **Source IP Address** — Specify an IP address or an IP address and netmask.
   - **Destination IP Address** — Specify an IP address or an IP address and netmask.
   - **Source Port** — Specify a port in the range of 0-65535.
   - **Destination Port** — Specify a port in the range 0-65535.
   - **VLAN ID** — Specify the VLAN tag ID. Untagged traffic uses the default 4095 ID.
   - **Transport Protocol** — Choose from TCP or UDP.
   - **Application Protocol** — Select the protocol you want the rule to match on.
   - **SOCKS Encapsulation** — Select whether the traffic is encapsulated.
5. Select the match operator and select or type the value for the attribute you are adding, then click **Update**.
6. Add more criteria as necessary and click **OK** to return to **Monitor Settings**.

   The rule is added to the top of the list.
7. Use the arrows to position the new rule where you want it in the priority order and optionally select **Scan Traffic**.

The Common Appliance Management policy

The **Common Appliance Management** policy category is installed as part of the Appliance Management extension. It applies common settings to new or re-imaged appliances.

- Date and time, and time zone information
- Lists of DNS servers
- Static routing information
- Secure Shell (SSH) remote logon settings
- Remote logging settings
- SNMP alerts and monitoring

Information about these options is available in the *Appliance Management Help*.

Edit the Email Gateway policy to work with McAfee DLP Prevent

To redirect email from the Email Gateway appliance to McAfee DLP Prevent for analysis, and take action on potential data loss incidents, edit the Email Gateway configuration policy.

To configure McAfee DLP Prevent to send email messages back to the email gateway for processing, edit the **McAfee DLP Prevent Email Settings** policy.

Use case: Configure Email Gateway to process analysis results

Configure your email configuration policy to take action on potential data loss incidents.

> **Before you begin**
> Have an Email Gateway appliance managed by McAfee ePO set up and running.

Task

This example assumes that McAfee DLP Prevent detected a potential data loss incident sent in an email message from an Email Gateway appliance. You want to block the email from leaving your organization, and notify the sender of the action taken. For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, open the **Policy Catalog**.
2. Select **McAfee Email Gateway** from the **Products** list, and select your email configuration policy.
3. Select **Add Policy** and click **Add Rule**.
   a. In **Rule Type**, select **Email Header**.
   b. In **Header name**, select **X-RCIS-Action**.
   c. In the **Value** field, select **^BLOCK$**.
   d. Click **OK**, and **OK** again.
4. In **Policy Options**, select **Policy-based Action**.
5. Select **Accept and then drop the data**, then select **Send one or more notification emails**.
6. Click **Deliver a notification email to the sender** and click **OK**.
7. Save the policy.

Redirect email to McAfee DLP Prevent

Redirect email from Email Gateway to McAfee DLP Prevent for analysis.

> **Before you begin**
> Have an Email Gateway appliance or virtual appliance managed by McAfee ePO.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, open the **Policy Catalog**.
2. Select **McAfee Email Gateway** from the **Products** list, and select the email configuration category.
3. Click **Add Policy** and click **Add Rule**.
   a. In **Rule Type**, select **Email Header**.
   b. In **Header name**, select **X-MFE-Encrypt** and set the **Match** to "**is not present**".
   c. Click **OK**, and **OK** again
4. In **Policy Options**, select **Policy-based Action**.
5. Select **Route to an alternate relay**.
6. Select the relay for your McAfee DLP Prevent server, and click **OK**.
   Refer to the McAfee ePO online Help to get information about relays.
7. Save the policy.

Integrate McAfee DLP Prevent in your web environment

McAfee DLP Prevent works with your web proxy to protect web traffic.

McAfee DLP Prevent uses ICAP or ICAPS (ICAP over TLS) to process web traffic, which uses these ports:

- **ICAP** — 1344
- **ICAPS** — 11344

Use these high-level steps to configure your environment for web protection.

1. Configure endpoint clients to send web traffic to the web proxy.
2. Configure the web proxy to forward HTTP traffic to McAfee DLP Prevent via ICAP.
3. Configure policy on McAfee DLP Prevent to specify the action to take based on the content of the traffic.
   Example: Configure a rule to allow or block traffic from particular users that contains credit card numbers.

After McAfee DLP Prevent analyzes the traffic, it performs one of these actions:

- Allows the traffic and informs the web proxy.
- Denies the traffic and supplies a block page which is presented to the user.

See also

Protecting web traffic on page 22
Use case: Allow a specified user group to send credit information on page 156

Integrate with Web Gateway

Configure Web Gateway to forward ICAP traffic to McAfee DLP Prevent for analysis.

McAfee DLP Prevent returns a response to Web Gateway, allowing or denying the page.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In Web Gateway, select **Policy**, then click the **Settings** tab.
2. Follow these steps to create the ICAP REQMOD client.
   a. Right-click **ICAP Client** and click **Add**.
   b. Enter a name, such as `ICAP-REQMOD-Client`.
   c. In the **Settings for** pane, select **ICAP Client**.
   d. In the **ICAP Service** pane, click **Add**.
   e. Enter a name, then click **OK & Edit**.
   f. Click the green plus sign (**Add ICAP Server**), then enter the IP address and port of the McAfee DLP Prevent appliance.
   g. Click **OK** three times.
3. Add the rule set.
   a. Click the **Rule Sets** tab.
   b. Select **Add | Rule Set from Library**.
   c. Select the **ICAP Client** rule set, then click **OK**.
4. Edit the REQMOD settings.
   a. On the **Rule Sets** tab, expand the **ICAP Client** rule set and select **ReqMod**.
   b. Select **Call ReqMod Server**, then click **Edit**.
   c. Select the **Rule Criteria** step.
   d. Select **If the following criteria is matched**.
   e. Select the criteria entry and click **Edit**.
   f. From the **Settings** drop-down list, select the ICAP REQMOD client you created.
   g. Click **OK**, then click **Finish**.
5. Enable the rule.
   a. On the **Rule Sets** tab, select the **ICAP Client** rule.
   b. Select **Enable**.
6. Click **Save Changes**.

McAfee ePO features

McAfee DLP uses these McAfee ePO features.

> ! You must have appropriate permissions to access most features.

McAfee ePO feature	**Addition**
Actions	Actions that you can perform from the System Tree or use to customize automatic responses.
Client tasks	Client tasks that you can use to automate management and maintenance on client systems.
Dashboards	Dashboards and monitors that you can use to keep watch on your environment.
Events and responses	• Events for which you can configure automatic responses. • Event groups and event types that you can use to customize automatic responses.
Managed system properties	Properties that you can review in the System Tree or use to customize queries.
Permissions sets	• Permission sets. • Data Loss Prevention permission category, available in all existing permission sets.
Policies	DLP Policy, Windows Client Configuration, and Mac OS X Client Configuration for McAfee DLP Endpoint, and Server Configuration for McAfee DLP Discover and McAfee DLP appliance policy categories in the Data Loss Prevention 11 product group.
Queries and reports	• Default queries that you can use to run reports. • Custom property groups based on managed system properties that you can use to build your own queries and reports.
Server tasks	Server tasks for McAfee DLP Endpoint include **DLP Incident Manager** and **DLP Operations**. Use the **Roll UP Data** task to roll up McAfee DLP incidents, operational events, or endpoint discovery data from selected McAfee ePO servers to produce a single report. Use the **Detect Discovery Servers** task with McAfee DLP Discover, and the **LdapSync** task with McAfee DLP appliances.
Data Protection	Used to configure, manage, and monitor McAfee DLP.
Help Desk	Used to issue challenge-response keys for uninstalling protected applications, removing files from quarantine, and temporarily bypassing security policies when there is a legitimate business need.

For information about these features, see the McAfee ePO documentation.

5 Protecting removable media

McAfee® Device Control protects enterprises from the risk associated with unauthorized transfer of sensitive content whenever storage devices are used.

Device Control can monitor or block devices attached to enterprise-managed computers, allowing you to monitor and control their use in the distribution of sensitive information. Devices such as smartphones, removable storage devices, Bluetooth devices, MP3 players, or plug-and-play devices can all be controlled.

McAfee Device Control is a component of McAfee DLP Endpoint that is sold as a separate product. While the term Device Control is used throughout this section, all features and descriptions apply to McAfee DLP Endpoint as well. Implementation of Device Control rules on Microsoft Windows and on Mac computers is similar, but not identical. The table below identifies some of the differences.

Table 5-1 Device Control terminology

Term	Applies to operating systems:	Definition
Device class	Windows	A collection of devices that have similar characteristics and can be managed in a similar manner. Device classes have the status *Managed*, *Unmanaged*, or *Whitelisted*.
Device template	Windows, OS X and MacOS	A list of device properties used to identify or group devices.
Device group	Windows, OS X and MacOS	A list of device templates grouped into a single template. Used to simplify rules while maintaining granularity.
Device property	Windows, OS X and MacOS	A property such as bus type, vendor ID, or product ID that can be used to define a device.
Device rule	Windows, OS X and MacOS	Defines the action taken when a user attempts to use a device that has a matching device definition in the policy. The rule is applied to the hardware, either at the device driver level or the file system level. Device rules can be assigned to specific end-users.
Managed device	Windows	A device class status indicating that the devices in that class are managed by Device Control.
Removable storage device rule	Windows, OS X and MacOS	Used to block or monitor a device, or set it as read-only.
Removable storage protection rule	Windows, OS X and MacOS	Defines the action taken when a user attempts to copy content labeled as sensitive to a managed device.
Unmanaged device	Windows	A device class status indicating that the devices in that class are not managed by Device Control.
Whitelisted device	Windows	A device class status indicating that the devices in that class cannot be managed by Device Control because attempts to manage them can affect the managed computer, system health, or efficiency.

Contents

- *Managing devices with device classes*
- *Define a device class*
- *Organizing devices with device templates*
- *Device control rules*
- *Removable storage file access rules*

Protecting devices

USB drives, small external hard drives, smartphones, and other removable devices can be used to remove sensitive data from the enterprise.

USB drives are an easy, cheap, and almost-untraceable method of downloading large amounts of data. They are often considered the "weapon of choice" for unauthorized data transfer. Device Control software monitors and controls USB drives and other external devices, including smartphones, Bluetooth devices, plug-and-play devices, audio players, and non-system hard disks. Device Control runs on most Microsoft Windows and OS X operating systems, including servers. See the system requirements page in this guide for details.

McAfee Device Control protection is built in three layers:

- **Device classes** — Collections of devices that have similar characteristics and can be managed in a similar manner. Device classes apply only to plug-and-play device definitions and rules, and are not applicable to OS X operating systems.
- **Device definitions** — Identify and group devices according to their common properties.
- **Device rules** — Control the behavior of devices.

A device rule consists of a list of the device definitions included or excluded from the rule, and the actions taken when use of the device triggers the rule. In addition, it can specify end-users included or excluded from the rule. They can optionally include an application definition to filter the rule according to the source of the sensitive content.

Removable storage protection rules

In addition to device rules, Device Control includes one data protection rule type. Removable storage protection rules include one or more classifications to define the sensitive content that triggers the rule. They can optionally include an application definition or web browser URL, and can include or exclude end users.

Web browser URLs are not supported on McAfee DLP Endpoint for Mac.

Managing devices with device classes

A *device class* is a collection of devices that have similar characteristics and that can be managed in a similar manner.

Device classes name and identify the devices used by the system. Each device class definition includes a name and one or more globally unique identifiers (GUIDs). For example, the *Intel® PRO/1000 PL Network Connection* and *Dell wireless 1490 Dual Band WLAN Mini-Card* are two devices that belong to the *Network Adapter* device class.

Device classes are not applicable to OS X devices.

How device classes are organized

The DLP Policy Manager lists predefined (built-in) device classes on the Definitions tab under Device Control. Device classes are categorized by status:

- *Managed* devices are specific plug-and-play or removable storage devices that are managed by McAfee DLP Endpoint.
- *Unmanaged* devices are not managed by Device Control in the default configuration.
- *Whitelisted* devices are devices that Device Control does not try to control, such as battery devices or processors.

To avoid potential system or operating system malfunction, the device classes cannot be edited, but they can be duplicated and changed to add user-defined classes to the list.

Best practice: Do not add a device class to the list without first testing the consequences. In the Policy Catalog, use the DLP policy | Device Classes | Settings tab to create temporary device class overrides to device class status and filter type settings.

Overrides can be used for testing user-defined changes before creating a permanent class, as well as troubleshooting device control problems.

Device Control uses device definitions and plug-and-play device control rules to control the behavior of managed device classes and specific devices belonging to a managed device class. Removable storage device rules, on the other hand, do not require a managed device class. The reason is related to the different way the two types of device rules use device classes:

- Plug-and-play device rules are triggered when the hardware device is plugged into the computer. Since the reaction is to a device driver, the device class must be managed for the device to be recognized.
- Removable storage device rules are triggered when a new file system is mounted. When this occurs, the Device Control client associates the drive letter with the specific hardware device and checks the device properties. Since the reaction is to a file system operation (that is, when the file system is mounted) the device class does not need to be managed.

See also
Create a device class on page 102

Define a device class

If a suitable device class does not exist on the predefined list, or is not created automatically when new hardware is installed, you can create a new device class in the McAfee DLP Endpoint Policy Manager console.

Obtain a GUID

Device class definitions require a name and one or more globally unique identifiers (GUIDs).

Some hardware devices install their own new device class. To control the behavior of plug-and-play hardware devices that define their own device class, you must first add a new device class to the **Managed** status in the **Device Classes** list.

A device class is defined by two properties: a *name* and a *GUID*. The name of a new device is displayed in the device manager, but the GUID is displayed only in the Windows Registry and there is no easy way to obtain it. To ease the retrieval of new device names and GUIDs, the Device Control client reports a *New Device Class Found* event to the DLP Incident Manager when a hardware device that does not belong to a recognized device class is plugged into the host computer.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select (**Menu** | **Data Protection** | **DLP Incident Manager** | **Incident List**).
2. Click **Edit** next to the **Filter** drop-down list to edit the filter criteria.
3. In the **Available Properties** list (left pane), select **Incident Type**.
4. Verify that the **Comparison** drop-down list value is **Equals**.
5. From the **Values** drop-down list, select **Device New Class Found**.
6. Click **Update Filter**.

   The **Incident List** displays the new device classes found on all endpoint computers.
7. To view the name and GUID of a specific device, double-click the item to display the incident details.

Create a device class

Create a device class if a suitable device class does not exist on the predefined list or is not created automatically when new hardware is installed.

> **Before you begin**
>
> Obtain the device GUID before beginning this task.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Data Protection** | **DLP Policy Manager** | **Definitions**.
2. In the left pane, select **Device Control** | **Device Class**.
3. Do one of the following:
   - Select **Actions** | **New**.
   - Locate a similar device class on the built-in device class list, then click **Duplicate** in the **Actions** column. Click **Edit** for the duplicated device class.
4. Enter a unique **Name** and optional **Description**.
5. Verify the **Status** and **Filter Type** required.
6. Enter the GUID, then click **Add**.

   The GUID must be in the correct format. You are prompted if you enter it incorrectly.
7. Click **Save**.

See also

Managing devices with device classes on page 100
Organizing devices with device templates on page 103

Organizing devices with device templates

A device template is a list of device properties such as bus type, device class, vendor ID and product ID.

The role of device templates is to identify and group devices according to their common device properties. Some device properties can be applied to any device template, others are exclusive to a specific device type or types.

Available device template types are:

- *Fixed hard drive devices* attach to the computer and are not marked by the operating system as removable storage. Device Control can control fixed hard drives other than the boot drive.
- *Plug and play devices* are added to the managed computer without any configuration or manual installation of DLLs and drivers. Plug-and-play devices include most Microsoft Windows devices. OS X and MacOS devices are supported for USB only.
- *Removable storage devices* are external devices containing a file system that appear on the managed computer as drives. Removable storage device templates support either Microsoft Windows or OS X/MacOS operating systems.
- *Whitelisted plug and play devices* do not interact with device management properly and might cause the system to stop responding or cause other serious problems. Supported for Microsoft Windows devices only.

> Whitelisted plug-and-play device templates are added automatically to the *excluded* list in every plug-and-play device control rule. They are never managed, even if the parent device class is managed.

You can also create device group templates, which are collections of previously defined device templates. Device groups must specify only one operating system, either Microsoft Windows or OS X/MacOS.

Removable storage device templates are more flexible and include additional properties related to the removable storage devices.

> **Best practice:** Use the removable storage device templates and rules to control devices that can be classified as either, such as USB mass storage devices.

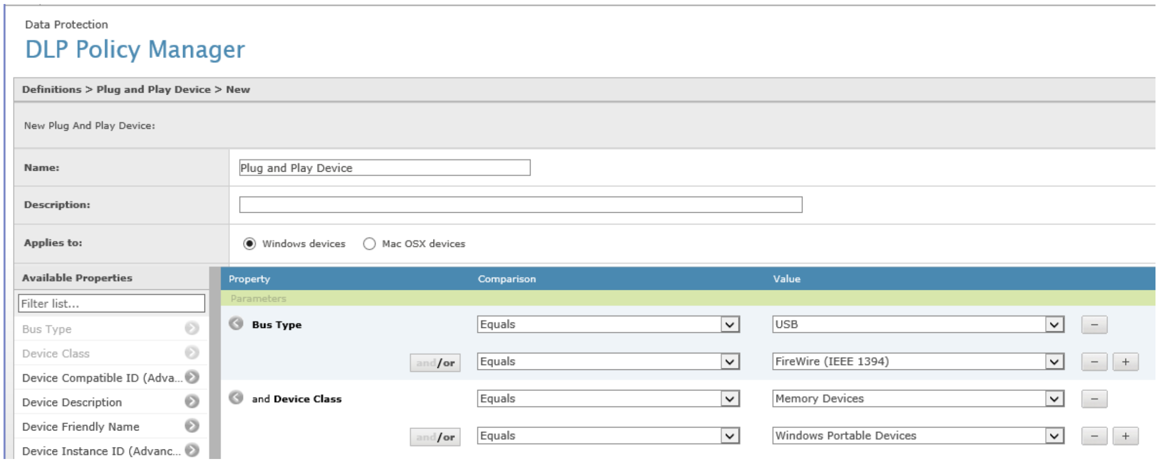
See also

Create a device class on page 102

Working with device templates

Multiple parameters are added to device templates as either logical OR (by default) or logical AND. Multiple parameter types are always added as logical AND.

For example, the following parameter selection:



Data Protection
DLP Policy Manager

Definitions > Plug and Play Device > New

New Plug And Play Device:

Name:	Plug and Play Device
Description:	
Applies to:	● Windows devices ○ Mac OSX devices

Property		Comparison	Value
Bus Type		Equals	USB
	and/or	Equals	FireWire (IEEE 1394)
and Device Class		Equals	Memory Devices
	and/or	Equals	Windows Portable Devices

Creates this template:

- Bus Type is one of: Firewire (IEEE 1394) *OR* USB
- *AND* Device Class is one of Memory Devices *OR* Windows Portable Devices

Create a device template

Device templates (definitions) specify the properties of a device to trigger the rule.

Device templates can be created as described below, by importing from a CSV file, from a device plug incident in the **DLP Incident Manager**, or with a script containing REST API calls. The administrator running the script must be a valid McAfee ePO user who has permissions in McAfee ePO **Permission Sets** to perform the actions that are invoked by the APIs.

Best practice: Create whitelisted plug-and-play definitions for devices that do not cleanly handle management, which could cause the system to stop responding or create other serious problems. No action will be taken on these devices even when a rule is triggered.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Data Protection** | **DLP Policy Manager** | **Definitions**.
2. In the left pane, select **Device Control** | **Device Templates**.
3. Select **Actions** | **New**, then select the type of definition.
4. Enter a unique **Name** and optional **Description**.
5. (Plug and Play and Removable Storage devices only) Select the **Applies to** option for Microsoft Windows or OS X devices.

   The **Available Properties** list changes to match properties for the operating system selected.
6. Select properties for the device.

   The available properties list varies depending on the type of device.

   - To add a property, click **>**.
   - To remove a property, click **<**.
   - To add additional values for the property, click **+**.

     Values are added as logical *OR* by default. Click the **and/or** button to change it to *AND*.
   - To remove properties, click **-**.
7. Click **Save**.

See also

Working with incidents on page 197
REST API for importing definitions and applying policies on page 76

Create a device group

Device groups simplify rules while maintaining granularity by combining several device templates into one group.

Device groups can be created as described below, or with a script containing REST API calls. The administrator running the script must be a valid McAfee ePO user who has permissions in McAfee ePO **Permission Sets** to perform the actions that are invoked by the APIs.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1 In McAfee ePO, select **Menu** | **Data Protection** | **DLP Policy Manager** | **Definitions**.

2 In the **Device Templates** pane, select **Actions** | **New Group**, then select the type of group.

   Three device group types are supported: **Fixed Hard Drive**, **Plug and Play Device**, or **Removable Storage Device**.

3 Enter a unique **Name** for the group and optional **Description**.

4 Select the **Applies to** option for Microsoft Windows or Mac OS X devices.

   This field is not available for fixed hard drive device groups.

5 Using the check boxes, select the items to add to the group.

   You can filter long device template lists by typing some text in the **Filter items** text box and clicking **Go**.

6 Click **Save**.

See also

REST API for importing definitions and applying policies on page 76

Create a whitelisted plug and play template

The purpose of whitelisted plug and play devices is to deal with those devices that do not handle device management well. If not whitelisted, they might cause the system to stop responding or cause other serious problems. Whitelisted plug and play templates are not supported on McAfee DLP Endpoint for Mac.

Whitelisted plug-and-play devices are added to plug-and-play device rules on the **Exceptions** tab. They are never managed, even if their parent device class is managed.

> **Best practice:** To avoid compatibility problems, add devices that do not handle device management well to the whitelisted device list.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1 In McAfee ePO, select **Menu** | **Data Protection** | **DLP Policy Manager** | **Definitions**.

2 In the left pane, select **Device Control** | **Device Templates**, then select **Actions** | **New** | **Whitelisted Plug and Play Device Template**.

3 Enter a unique **Name** and optional **Description**.

4 Select properties for the device.

   - To add a property, click **>**.
   - To remove a property, click **<**.
   - To add additional values for the property, click **+**.

     Values are added as logical *OR* by default. Click the **and/or** button to change it to *AND*.
   - To remove properties, click **-**.

5 Click **Save**.

Create a removable storage device template

A removable storage device is an external device containing a file system that appears on the managed computer as a drive. Removable storage device templates are more flexible than plug-and-play device templates, and include additional properties related to the devices.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Data Protection** | **DLP Policy Manager** | **Definitions**.
2. In the left pane, select **Device Control** | **Device Templates**, then select **Actions** | **New** | **Removable Storage Device Template**.
3. Enter a unique **Name** and optional **Description**.
4. Select the **Applies to** option for Microsoft Windows or OS X devices.

   The **Available Properties** list changes to match properties for the operating system selected.
5. Select properties for the device.
   - To add a property, click **>**.
   - To remove a property, click **<**.
   - To add additional values for the property, click **+**.

     Values are added as logical *OR* by default. Click the **and/or** button to change it to *AND*.
   - To remove properties, click **-**.
6. Click **Save**.

Create a serial number and user pair definition

You can create exceptions for Plug and Play and removable storage device rules based on paired device serial numbers and user identities. By linking the device to the logged on user, you create a higher level of security.

> **Before you begin**
>
> Obtain the device serial numbers for the devices you are adding to the definition.

You can create a serial number and user pair definition by importing the information in CSV format. You can also export existing definitions in CSV format.

Best practice: Serial number and user pair CSV files use multiple columns. Export a definition to understand how the columns are populated before creating a file for import.

Serial number and user pair definitions are not supported on McAfee DLP Endpoint for Mac.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Data Protection** | **DLP Policy Manager** | **Definitions**.
2. In the left pane, select **Device Control** | **Serial Number & End User Pair**.
3. Select **Actions** | **New**.
4. Enter a unique Name and optional Description.

5 Enter the required information in the text boxes at the bottom of the page, then click **Add**. Repeat as required to add additional serial number and end-user pairs.

For **User Type** | **Everyone**, leave the **End-User** field blank. If you are specifying a user, use the format `user@name.domain`.

6 Click **Save**.

See also

Device properties on page 246

Device control rules

Device control rules define the action taken when particular devices are used.

Device control rule	Description	Supported on
Removable Storage Device Rule	Used to block or monitor removable storage devices, or set as read-only. The user can be notified of the action taken.	McAfee DLP Endpoint for Windows, McAfee DLP Endpoint for Mac
Plug-and-play Device Rule	Used to block or monitor plug-and-play devices. The user can be notified of the action taken.	McAfee DLP Endpoint for Windows, McAfee DLP Endpoint for Mac (USB devices only)
Removable Storage File Access Rule	Used to block executables on plug-in devices from running.	McAfee DLP Endpoint for Windows
Fixed Hard Drive Rule	Used to block or monitor fixed hard drives, or set as read-only. The user can be notified of the action taken. Fixed hard drive device rules do not protect the boot or system partition.	McAfee DLP Endpoint for Windows
Citrix XenApp Device Rule	Used to block Citrix devices mapped to shared desktop sessions.	McAfee DLP Endpoint for Windows
TrueCrypt Device Rule	Used to protect TrueCrypt devices. Can be used to block, monitor, or set to read-only. The user can be notified of the action taken.	McAfee DLP Endpoint for Windows

Create a removable storage device rule

Removable storage devices appear on the managed computer as drives. Use removable storage device rules to block use of removable devices, or to set them to read-only. They are supported on both McAfee DLP Endpoint for Windows and McAfee DLP Endpoint for Mac.

Removable storage device rules do not require a managed device class due to the difference in how the two types of device rules use device classes:

- Plug-and-play device rules are triggered when the hardware device is plugged into the computer. Since the reaction is to a device driver, the device class must be managed for the device to be recognized.
- Removable storage device rules are triggered when a new file system is mounted. When file system mount occurs, the McAfee DLP Endpoint software associates the drive letter with the specific hardware device and checks the device properties. Since the reaction is to a file system operation, not a device driver, the device class does not need to be managed.

Device rules have an **Enforce on** parameter that applies the rule to either Windows or OS X or both. Device templates used in device rules have an **Applies to** parameter that specifies either **Windows devices** or **Mac OSX devices**. When selecting device templates, match the operating system in the template and the rule. The McAfee DLP Endpoint clients for both operating systems ignore properties that do not apply to that system. But you cannot save a rule that, for example, enforces on Windows only but contains Mac OS X device templates.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Data Protection** | **DLP Policy Manager** | **Rule Sets**.
2. Select **Actions** | **New Rule Set**, or edit an existing rule set.
3. Click the rule set name to open the rule set for editing. Click the **Device Control** tab.
4. Select **Actions** | **New Rule** | **Removable Storage Device Rule**.
5. Enter a unique **Rule Name**.
6. (Optional) Change the status and select a severity.
7. Deselect the **McAfee DLP Endpoint for Windows** or **McAfee DLP Endpoint for Mac OS X** checkbox if the rule applies to only one operating system.
8. On the **Condition** tab, select one or more removable storage items or groups. Optional: assign end-user groups and a **Process Name** to the rule.

   When saving the rule, the device template used to create the items or groups is validated against the operating systems selected in the **Enforce on** field. If they don't match, an error message displays. You must correct the error by deleting templates or changing the selected **Enforce on** operating system selected before you can save the rule.

9. (Optional) On the **Exceptions** tab, select a whitelisted device template and fill in the required fields.

   You can add multiple exceptions by adding more than one whitelisted device template.

   Excluded Processes and **Excluded Serial Number & User Pair** options are not supported on McAfee DLP Endpoint for Mac.

10. On the **Reaction** tab, select an **Action**. Optional: add a **User Notification**, and **Report Incident**.

    If you don't select **Report Incident** there is no record of the incident in the DLP Incident Manager.

11. (Optional) Select a different action when the end-user is working outside the corporate network.
12. Click **Save**.

See also

Use case: Removable storage file access device rule with a whitelisted process on page 152
Use case: Set a removable device as read-only on page 153

Create a plug-and-play device rule

Use plug and play device rules to block or monitor plug and play devices. They are supported on both McAfee DLP Endpoint for Windows and McAfee DLP Endpoint for Mac. On OS X computers, support is for USB devices only.

A plug and play device is a device that can be added to the managed computer without any configuration or manual installation of DLLs and drivers. For plug and play device rules to control Microsoft Windows hardware devices, the device classes specified in device templates used by the rule must be set to Managed status.

Device rules have an **Enforce on** parameter that applies the rule to either Windows or OS X or both. Device templates used in device rules have an **Applies to** parameter that specifies either **Windows devices** or **Mac OSX devices**. When selecting device templates, match the operating system in the template and the rule. The McAfee DLP Endpoint clients for both operating systems ignore properties that do not apply to that system. But you cannot save a rule that, for example, enforces on Windows only but contains Mac OS X device templates.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1 In McAfee ePO, select **Menu** | **Data Protection** | **DLP Policy Manager** | **Rule Sets**.

2 Select **Actions** | **New Rule Set**, or edit an existing rule set.

3 To open the rule set for editing, click the rule set name. Click the **Device Control** tab.

4 Select **Actions** | **New Rule** | **Plug and Play Device Rule**.

5 Enter a unique rule name.

6 (Optional) Change the status and select a severity.

7 Deselect the **McAfee DLP Endpoint for Windows** or **McAfee DLP Endpoint for Mac OS X** checkbox if the rule applies to only one operating system.

8 On the **Condition** tab, select one or more plug and play items or groups.

> When saving the rule, the template used to create the items or groups is validated against the operating systems selected in the **Enforce on** field. If they don't match, an error message displays. You must correct the error by deleting templates or changing the selected **Enforce on** operating system selected before you can save the rule.

9 (Optional) Assign end-user groups to the rule.

10 (Optional) On the **Exceptions** tab, select a whitelisted device template and fill in the required fields.

You can add multiple exceptions by adding more than one whitelisted item or a whitelisted plug and play group.

11 On the **Reaction** tab, select an **Action**. Optional: Add a **User Notification**, and **Report Incident**.

If you don't select **Report Incident**, there is no record of the incident in the **DLP Incident Manager**.

12 (Optional) Select a different action when the end user is working outside the corporate network, or is connected by VPN.

13 Click **Save**.

See also

Use case: Block and charge an iPhone with a plug-and-play device rule on page 153

Create a removable storage file access device rule

Use removable storage file access rules to block executables on plug-in devices from running.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1 In McAfee ePO, select **Menu** | **Data Protection** | **DLP Policy Manager** | **Rule Sets**.

2 Select **Actions** | **New Rule Set**, or edit an existing rule set.

3 Click the rule set name to open the rule set for editing. Click the **Device Control** tab.

4 Select **Actions** | **New Rule** | **Removable Storage File Access Rule**.

5 Enter a unique **Rule Name**.

6 (Optional) Change the status and select a severity.

7 On the **Condition** tab, select one or more removable storage device items or groups. (Optional) assign end-user groups to the rule.

8 (Optional) Change the default **True File Type** or **File Extension** definitions according to your requirements.

9 (Optional) On the **Exceptions** tab, select **Whitelisted File Names**, and fill in the required fields.

The **File Name** exception is for applications that must be allowed to run. An example is encryption applications on encrypted drives.

10 On the **Reaction** tab, select an **Action**. (Optional) add a **User Notification**, and **Report Incident**.

If you don't select **Report Incident** there is no record of the incident in the **DLP Incident Manager**.

11 (Optional) Select a different action when the end-user is working outside the corporate network.

12 Click **Save**.

See also

Removable storage file access rules on page 112

Create a fixed hard drive device rule

Use fixed hard drive device rules to control hard drives attached to the computer and not marked by the operating system as removable storage. They are supported on McAfee DLP Endpoint for Windows only.

Fixed hard drive rules include a drive definition with an action to block or make read-only, an end-user definition, and optional user notification. They do not protect the boot or system partition.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1 In McAfee ePO, select **Menu** | **Data Protection** | **DLP Policy Manager** | **Rule Sets**.

2 Select **Actions** | **New Rule Set**, or edit an existing rule set.

3 Click the rule set name to open the rule set for editing. Click the **Device Control** tab.

4 Select **Actions** | **New Rule** | **Fixed Hard Drive Rule**.

5 Enter a unique **Rule Name**.

6 (Optional) change the status and select a severity.

7 On the **Condition** tab, select one or more fixed hard drive items or groups. (Optional) assign end-user groups to the rule.

8 (Optional) On the **Exceptions** tab, select a whitelisted definition and fill in the required fields.

You an add multiple exceptions by adding more than one whitelisted definition.

9 On the **Reaction** tab, select an **Action**. Optional: add a **User Notification**, and **Report Incident**.

If you don't select **Report Incident** there is no record of the incident in the **DLP Incident Manager**.

10 (Optional) Select a different action when the end-user is working outside the corporate network.

11 Click **Save**.

Create a Citrix device rule

Use Citrix device rules to block Citrix devices mapped to shared desktop sessions.

Citrix XenApp device rules are supported on Windows-based computers only. McAfee DLP Endpoint software can block Citrix devices mapped to shared desktop sessions. Floppy disk, fixed, CD, removable, and network drives can all be blocked, as well as printers and clipboard redirection. You can assign the rule to specific end users.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Data Protection** | **DLP Policy Manager** | **Rule Sets**.
2. Select **Actions** | **New Rule Set**, or edit an existing rule set.
3. Click the rule set name to open the rule set for editing. Click the **Device Control** tab.
4. Select **Actions** | **New Rule** | **Citrix XenApp Device Rule**.
5. Enter a unique **Rule Name**.
6. (Optional) Change the status and select a severity.
7. On the **Condition** tab, select one or more resources.
8. (Optional) Assign end-user groups to the rule.
9. (Optional) On the **Exceptions** tab, fill in the required fields for whitelisted users.
10. Click **Save**.

The selected resources are blocked.

> The only **Action** for Citrix rules is **Block**. You do not need to set the action on the **Reaction** pane.

Create a TrueCrypt device rule

Use TrueCrypt device rules to block or monitor TrueCrypt virtual encryption devices, or set them to read-only. They are supported on McAfee DLP Endpoint for Windows only.

TrueCrypt device rules are a subset of removable storage device rules. TrueCrypt encrypted virtual devices can be protected with TrueCrypt device rules or with removable storage protection rules.

- Use a device rule if you want to block or monitor a TrueCrypt volume, or make it read-only.
- Use a protection rule if you want content-aware protection of TrueCrypt volumes.

> McAfee DLP Endpoint client software treats all TrueCrypt mounts as removable storage, even when the TrueCrypt application is writing to the local disk.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Data Protection** | **DLP Policy Manager** | **Rule Sets**.
2. Select **Actions** | **New Rule Set**, or edit an existing rule set.
3. Click the rule set name to open the rule set for editing. Click the **Device Control** tab.
4. Select **Actions** | **New Rule** | **TrueCrypt Device Rule**.

5 Enter a unique **Rule Name**.

6 (Optional) Change the status and select a severity.

7 (Optional) On the **Condition** tab, assign end-user groups to the rule.

8 (Optional) On the **Exceptions** tab, fill in the required fields for whitelisted users.

9 On the **Reaction** tab, select an **Action**. (Optional) add a **User Notification**, and **Report Incident**.

If you don't select **Report Incident** there is no record of the incident in the DLP Incident Manager.

10 (Optional) Select a different action when the end-user is working outside the corporate network.

11 Click **Save**.

Removable storage file access rules

Removable storage file access rules are used to block executables on plug-in devices from running. They are supported on Microsoft Windows computers only.

Removable storage file access rules block removable storage devices from running applications. You can specify included and excluded devices in the rule. Because some executables, such as encryption applications on encrypted devices, must be allowed to run, the rule includes a **File Name | is none of** parameter to exempt named files from the blocking rule.

File access rules use true file type and extension to determine which files to block. True file type identifies the file by its internally registered data type, providing accurate identification even if the extension was changed. By default, the rule blocks compressed files (.zip, .gz, .jar, .rar, and .cab) and executables (.bat, .bin, .cgi, .com, .cmd, .dll, .exe, .class, .sys, and .msi). You can customize the file extension definitions to add any file type required.

File access rules also block executable files from being copied to removable storage devices because the file filter driver cannot differentiate between opening and creating an executable.

6 Classifying sensitive content

Classifications identify and track sensitive content and files.

On installation, McAfee DLP displays many predefined classifications. You can use these classifications as is in protection rules, but if you want to customize a classification you must duplicate it first. The classifications in the current release have been improved to reduce false positives.

Contents

Components of the Classification module

McAfee DLP uses two mechanisms to classify sensitive content: content classifications and content fingerprinting, and two modes: automatic and manual classification.

Automatic classifications are defined in McAfee DLP and distributed by McAfee ePO in the policies deployed to endpoints. They are then applied to content according to the criteria that define them. Manual classifications are applied by authorized users to files and emails on their computers. The manual classification dialog is supported on McAfee DLP Endpoint for Windows and McAfee DLP Endpoint for Mac. All other McAfee DLP products can enforce data protection rules based on manual classifications, but cannot set or view them

The **Classification** module in McAfee DLP stores content classification and fingerprinting criteria, and the definitions used to configure them. It is also the place for setting up registered documents repositories, user authorization for manual classification, and whitelisted text.

The module provides these features:

- **Manual Classification** — Configures the end-user groups allowed to manually classify or fingerprint content
- **Definitions** — Defines the content, properties, and location of files for classification
- **Classification** — Creates classifications and defines content classification and fingerprinting criteria

- **Register Documents** — Uploads files containing known sensitive content
- **Whitelisted Text** — Uploads files containing text for whitelisting

Using classifications

Classifications identify and track sensitive content by applying content fingerprints or content classifications to files and content.

McAfee DLP identifies and tracks sensitive content with user-defined *classifications*. All McAfee DLP products support content classifications, that is, can apply them by assigning them to data protection, device control, or discovery rules. All McAfee DLP products can enforce content fingerprints, but only McAfee DLP Endpoint for Windows can apply them. Content fingerprints label the sensitive information, and the label stays with the content even if it is copied into another document or saved to a different format.

Content classification

Content classifications include data and file conditions that define sensitive content. For automatic classification, the classification criteria are compared to the content each time a data protection, endpoint discovery, or McAfee DLP Discover rule is triggered. For manual classification, the classification is embedded as a physical tag inside the file or email. Manual content classifications are persistent, and remain in the file when copied to storage, attached to an email, or uploaded to a website such as SharePoint.

Automatic content classifications are supported on all McAfee DLP products. Data protection rules based on manual classifications are enforced on all McAfee DLP products, but only McAfee DLP Endpoint for Windows has the manual classification dialog that allows users to classify files.

Content classification criteria identify sensitive text patterns, dictionaries, and keywords, alone or in combinations. Combinations can be simply multiple named properties, or properties with a defined relationship known as *proximity*. They can also specify file conditions such as the file type, document properties, file encryption, or location in the file (header/body/footer).

Content fingerprints

Content fingerprint criteria are applied to files or content based one of these options:

- **Application-based** — The application that created or changed the file.
- **Location-based** — The network share or the removable storage definition of where the file is stored.
- **Web-based** — The web addresses that opened or downloaded the files.

All data and file conditions available to classification criteria are also available to content fingerprint criteria, allowing fingerprints to combine the functionality of both criteria types.

Content fingerprint signatures are stored in a file's extended file attributes (EA), alternate data stream (ADS), or in a hidden folder (ODB$). You can select the preferred technology on the Windows client configuration **Content Tracking** page. They are applied to a file when the file is saved. The mechanism is the same for automatic and manual content fingerprints. If a user copies or moves fingerprinted content to another file, the fingerprint criteria are applied to that file. If the fingerprinted content is removed from the file, the content fingerprint signatures are also removed. If the file is copied to a system that doesn't support EA or ADS (such as SharePoint), the fingerprint criteria are lost.

> McAfee DLP Endpoint applies content fingerprint criteria to files after a policy is applied regardless of whether the classification is used in a protection rule or not.

Applying classification criteria

McAfee DLP applies criteria to a file, email, or web request in one of the following ways:

- McAfee DLP Prevent applies criteria when an email or web request matches a configured classification.
- McAfee DLP Monitor applies criteria when network traffic matches a configured classification.
- McAfee DLP Endpoint applies criteria when:
  - The file matches a configured classification.
  - The file or sensitive content is moved or copied to a new location.
  - A file is matched during a discovery scan.
  - An email or a web request matches a configured classification.
- A user with permission manually applies criteria to a file.

See also
Create classification criteria on page 125
Create content fingerprinting criteria on page 127
Assign manual classification permissions on page 129

Classifying by file destination

In addition to classifying content by its originating location, you can classify and control where content is being sent. In data loss prevention parlance, this is known as *data-in-motion*.

File protection rules controlling destinations include:

- Cloud Protection rules
- Email Protection rules
- **Mobile Protection** rules
- Network Communication Protection rules (outgoing)

> Data Network Communication Protection rules can be incoming or outgoing or both. For classifying by destination only outgoing rules are relevant.

- Printer Protection rules
- Removable Storage Protection rules
- Web Protection rules

Working with email

McAfee DLP Endpoint protects sensitive data in email headers, body, or attachments when emails are sent. Email storage discovery detects emails with sensitive data in OST or PST files and either tags or quarantines them.

McAfee DLP Endpoint protects sensitive content in email by adding content classifications to content and blocking emails with sensitive content from being sent. The email protection policy can specify different rules for different users and email destinations, or for emails protected with encryption or Rights Management. Rules can be enabled for McAfee DLP Endpoint for Windows, McAfee DLP Prevent, or both. Manual classifications added by McAfee DLP Endpoint for Windows users are supported by McAfee DLP appliances.

McAfee DLP Prevent for Mobile Email applies classifications to analyze emails sent to mobile devices. Rules can save evidence and create incidents that can be assigned to cases.

See also
Protecting email content and attachments on page 140

Define network parameters

Network definitions serve as filter criteria in network protection rules.

- **Network Addresses** monitor network connections between an external source and a managed computer. The definition can be a single address, a range, or a subnet. You can include and exclude defined network addresses in network communication protection rules.
- **Network Port** definitions in network communication protection rules allow you to exclude specific services as defined by their network ports. A list of common services and their ports is built in. You can edit the items on the list, or create your own definitions.
- **Network Share** definitions specify shared network folders in network share protection rules. You can include or exclude defined shares.

Working with printers

Printer protection rules manage both local and network printers, and either block or monitor the printing of confidential material.

Printer protection rules in McAfee DLP Endpoint support advanced mode and V4 printers. Defined printers and end-users can be included or excluded from a rule. Image printers and PDF printers can be included in the rule.

Printer protection rules can include application definitions. You can define whitelisted processes that are exempted from printer protection rules on the **Printing Protection** page in the **Windows Client Configuration**.

Controlling information uploaded to websites

Web addresses are used in web protection rules and web application control rules.

You can use web address definitions (URL) to block tagged data from being posted to defined web destinations (websites or specific pages in a website), or use them to prevent tagged data from being posted to websites that are not defined. Typically, the web address definitions define any internal websites as well as external websites where posting tagged data is allowed.

Classifying by file location

Sensitive content can be can be defined by where it is located (stored) or by where it is used (file extension or application).

McAfee DLP Endpoint uses several methods to locate and classify sensitive content. *Data-at-rest* is the term used to describe file locations. It classifies content by asking questions like "where is it in the network?" or "which folder is it in?" *Data-in-use* is the term used to define content by how or where it is used. It classifies content by asking questions like "which application called it?" or "what is the file extension?"

McAfee DLP Endpoint Discovery rules find your data-at-rest. They can search for content in endpoint computer files or email storage (PST, mapped PST, and OST) files. Depending on the properties, applications, or locations in the rule classification, the rule can search specified storage locations and apply encryption, quarantine, or RM policies. Alternately, the files can be tagged or classified to control how they are used.

Text extraction

The text extractor parses the file content when files are opened or copied and compares it to text patterns and dictionary definitions in the classification rules. When a match occurs, the criteria are applied to the content.

McAfee DLP supports accented characters. When an ASCII text file contains a mix of accented characters, such as French and Spanish, as well as some regular Latin characters, the text extractor might not correctly identify the character set. This issue occurs in all text extraction programs. There is no known method or technique to identify the ANSI code page in this case. When the text extractor cannot identify the code page, text patterns and content fingerprint signatures are not recognized. The document cannot be properly classified, and the correct blocking or monitoring action cannot be taken. To work around this issue, McAfee DLP uses a fallback code page. The fallback is either the default language of the computer or a different language set by the administrator.

Text extraction with McAfee DLP Endpoint

Text extraction is supported on Microsoft Windows and Apple OS X computers.

The text extractor can run multiple processes depending on the number of cores in the processor.

- A single core processor runs only one process.
- Dual-core processors run up to two processes.
- Multi-core processors run up to three simultaneous processes.

If multiple users are logged on, each user has their own set of processes. Thus, the number of text extractors depends on the number of cores and the number of user sessions. The multiple processes can be viewed in the Windows Task Manager. Maximum memory usage for the text extractor is configurable. The default is 75 MB.

How McAfee DLP Endpoint categorizes applications

Before you create classifications or rule sets using applications, you should understand how McAfee DLP Endpoint categorizes them, and the effect this has on system performance.

> This categorization is not supported on McAfee DLP Endpoint for Mac.

McAfee DLP Endpoint software divides applications into four categories called *strategies*. These affect how the software works with different applications. You can change the strategy to achieve a balance between security and the computer's operating efficiency.

The strategies, in order of decreasing security, are:

- **Editor** — Any application that can modify file content. This includes "classic" editors like Microsoft Word and Microsoft Excel, as well as browsers, graphics software, accounting software, and so forth. Most applications are editors.
- **Explorer** — An application that copies or moves files without changing them, such as Microsoft Windows Explorer or certain shell applications.
- **Trusted** — An application that needs unrestricted access to files for scanning purposes. Examples are McAfee® VirusScan® Enterprise, backup software, and desktop search software such as Google Desktop.
- **Archiver** — An application that can reprocess files. Examples are compression software such as WinZip, and encryption applications such as McAfee Endpoint Encryption software or PGP.

How to work with DLP strategies

Change the strategy as necessary to optimize performance. For example, the high level of observation that an editor application receives is not consistent with the constant indexing of a desktop search application. The performance penalty is high, and the risk of a data leak from such an application is low. Therefore, you should use the trusted strategy with these applications.

You can override the default strategy on the DLP Policy | Settings | Application Strategy page. Create and remove overrides as necessary to experiment with fine-tuning the policy.

You can also create more than one template for an application and assign it more than one strategy. Use the different templates in different classifications and rules to achieve different results in different contexts. You must be careful, however, in assigning such templates within rule sets to avoid conflicts. McAfee DLP Endpoint resolves potential conflicts according to the following hierarchy: archiver > trusted > explorer > editor. That is, editor has the lowest ranking. If an application is an editor in one template and anything else in another template in the same rule set, McAfee DLP Endpoint does not treat the application as an editor.

Dictionary definitions

A *dictionary* is a collection of keywords or key phrases where each entry is assigned a score.

Content classification and content fingerprinting criteria use specified dictionaries to classify a document if a defined threshold (total score) is exceeded — that is, if enough words from the dictionary appear in the document. The assigned scores can be negative or positive, allowing you to look for words or phrases in the presence of other words or phrases.

The difference between a dictionary and a string in a keyword definition is the assigned score.

- A keyword classification always tags the document if the phrase is present.
- A dictionary classification gives you more flexibility because you can set a threshold when you apply the definition, making the classification relative. The threshold can be up to 1000. You can also choose how matches are counted: **Count multiple occurrences** increases the count with each match, **Count each match string only one time** counts how many dictionary entries match the document.

McAfee DLP software includes several built-in dictionaries with terms commonly used in health, banking, finance, and other industries. You can also create your own dictionaries. Dictionaries can be created and edited manually or by copying and pasting from other documents.

Limitations

There are some limitations to using dictionaries. Dictionaries are saved in Unicode (UTF-8) and can be written in any language. The following descriptions apply to dictionaries written in English. The descriptions generally apply to other languages, but there might be unforeseen problems in certain languages.

Dictionary matching has these characteristics:

- It is only case sensitive when you create case-sensitive dictionary entries. Built-in dictionaries, created before this feature was available, are not case-sensitive.
- It can optionally match substrings or whole phrases.
- It matches phrases including spaces.

If substring matching is specified, use caution when entering short words because of the potential for false positives. For example, a dictionary entry of "cat" would flag "**cat**aracts" and "dupli**cat**e." To prevent these false positives, use the whole phrase matching option, or use *statistically improbable phrases* (SIPs) to give the best results. Similar entries are another source of false positives. For example, in some HIPAA disease lists, both "celiac" and "celiac disease" appear as separate entries. If the second term appears in a document and substring matching is specified, it produces two hits (one for each entry) and skews the total score.

See also

Create or import a dictionary definition on page 131

Advanced pattern definitions

Advanced patterns use regular expressions (regex) that allow complex pattern matching, such as in social security numbers or credit card numbers. Definitions use the Google RE2 regular expression syntax.

Advanced pattern definitions include a score (required), as with dictionary definitions. They can also include an optional validator — an algorithm used to test regular expressions. Use of the proper validator can significantly reduce false positives. The definition can include an optional Ignored Expressions section to further reduce false positives. The ignored expressions can be regex expressions or keywords. You can import multiple keywords to speed up creating the expressions.

When defining an advanced pattern, you can choose how matches are counted: **Count multiple occurrences** increases the count with each match, **Count each match string only one time** counts how many defined patterns give an exact match in the document.

Advanced patterns indicate sensitive text. Sensitive text patterns are redacted in hit highlighted evidence.

> If both an matched pattern and an ignored pattern are specified, *the ignored pattern has priority*. This allows you to specify a general rule and add exceptions to it without rewriting the general rule.

See also

Create an advanced pattern on page 132

Classifying content with document properties or file information

Document property definitions classify content by predefined metadata values. File information definitions classify content by file metadata.

Document properties

Document properties can be retrieved from any Microsoft Office document or PDF, and can be used in classification definitions. Partial matching is supported using the **Contains** comparison.

There are three types of document properties:

- **Predefined properties** — Standard properties such as *author* and *title*.
- **Custom properties** — Custom properties added to the document metadata are allowed by some applications such as Microsoft Word. A custom property can also reference a standard document property that is not on the predefined properties list, but cannot duplicate a property that is on the list.
- **Any property** — Allows defining a property by value alone. This feature is useful in cases where the keyword has been entered in the wrong property parameter or when the property name is unknown. For example, adding the value *Secret* to the **Any property** parameter classifies all documents that have the word *Secret* in at least one property.

File information

File information definitions are used in data protection and discovery rules, and in classifications, to increase granularity. File information includes date created, date modified, file owner, and file size. The date properties have both exact (before, after, between) and relative (in last X days, weeks, years) date options. **File Type (extensions only)** is a predefined, extensible list of file extensions.

> McAfee DLP Prevent and McAfee DLP Monitor cannot detect the **Date Accessed**, **Date Created**, **Date Modified**, and **File Owner** file conditions because they are not embedded in the file. The conditions are lost when the file is in-motion or uploaded to the cloud or a website.

Application templates

An application template controls specific applications using properties such as product or vendor name, executable file name, or window title.

An application template can be defined for a single application, or a group of similar applications. There are built-in (predefined) templates for a number of common applications such as Windows Explorer, web browsers, encryption applications, and email clients.

The application template definition includes a field with a checkbox for operating system. Analyzing memory mapped files is a Windows-only feature, and is disabled automatically when you select OS X applications.

Application templates for Microsoft Windows can use any of the following parameters:

- **Command line** — Allows command line arguments, for example: `java-jar`, that can control previously uncontrollable applications.
- **Executable directory** — The directory where the executable is located. One use of this parameter is to control U3 applications.
- **Executable file hash** — The application display name, with an identifying SHA2 hash.
- **Executable file name** — Normally the same as the display name (minus the SHA2 hash), but could be different if the file is renamed.
- **Original executable file name** — Identical to the executable file name, unless the file has been renamed.
- **Product name** — The generic name of the product, for example, Microsoft Office 2012, if listed in the executable file's properties.
- **Vendor name** — The company name, if listed in the executable file's properties.
- **Window title** — A dynamic value that changes at runtime to include the active file name.

All parameters except the SHA2 application name and the executable directory accept substring matches.

Application templates for OS X can use any of the following parameters:

- **Command line**
- **Executable directory**
- **Executable file hash**
- **Executable file name**

Manual classification

End users can manually apply or remove classifications or content fingerprinting to files.

The manual classification feature applies file classification. That is, the classifications applied do not need to be related to content. For example, a user can place a PCI classification on any file. The file does not have to contain credit card numbers. Manual classification is embedded in the file. In Microsoft Office files, the classification is stored as a document property. In other supported files, it is stored as an XMP property. For email, it is added as markup text.

When setting up manual classification, you can also allow a user to manually apply content fingerprints.

Support for manual classification is as follows:

- McAfee DLP Endpoint users (on both Windows and Mac endpoints) can manually classify files.
- McAfee DLP Endpoint clients (on both Windows and Mac endpoints), McAfee DLP Prevent, and McAfee DLP Monitor can detect manually classified files (in email attachments, for example) and take appropriate action based on the classification.
- McAfee DLP Discover can detect manual classifications in classification and remediation scans, and can take appropriate action in remediation scans.

By default, end users do not have permission to view, add, or remove classifications, but you can assign specific classifications to specific user groups, or to **Everyone**. The assigned users can then apply the classification to files as they work. Manual classification can also allow you to maintain your organization's classification policy even in special cases of sensitive or unique information that the system does not process automatically.

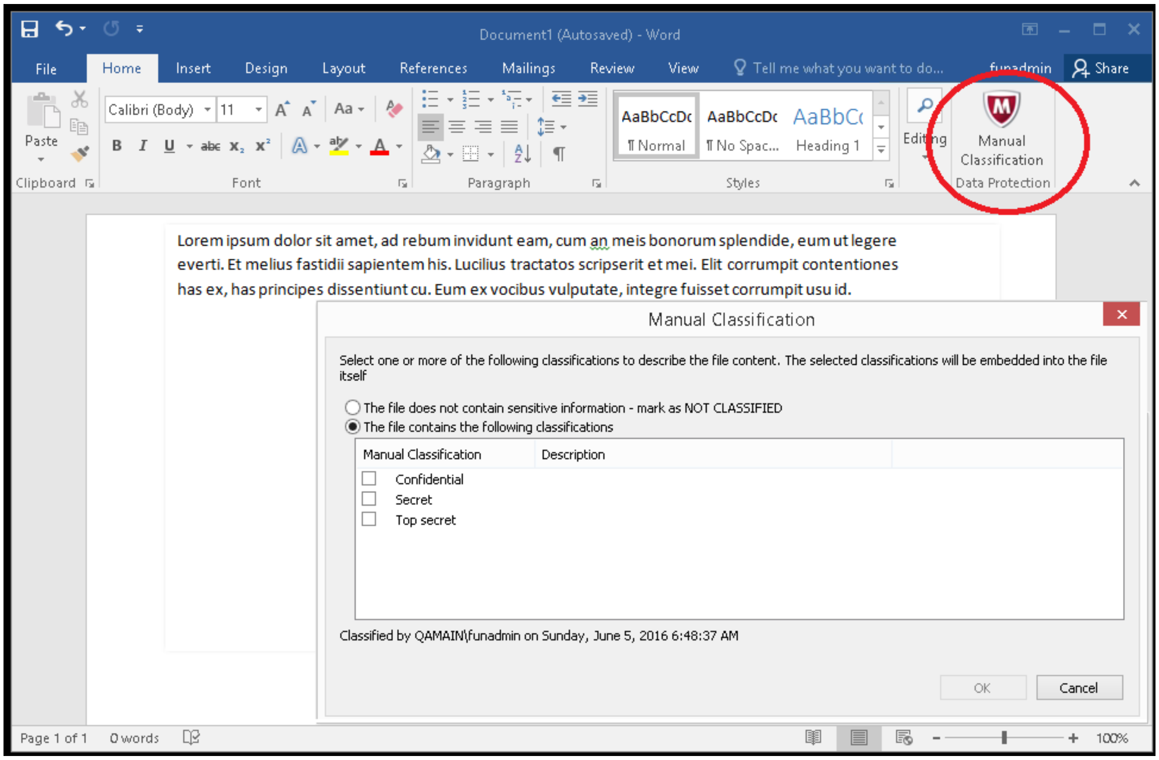
When setting up permission for manual classification, you have the option of allowing content classifications, content fingerprints, or both to be applied manually.

Support for manual classification

McAfee DLP offers two types of support for manual classifications: one for Microsoft Office files, and one for all supported file types.

Microsoft Office applications (Word, Excel, and PowerPoint) and Microsoft Outlook are supported at the file creation level. End users can choose to classify files by clicking the manual classification icon. You can also set options to force users to classify files by activating the manual classification pop-up when files are saved, or Outlook emails sent.

Manual classification of an email is relevant for a specific thread only. If you send the same email twice in different threads, you have to classify it twice. For emails, information added to the header or footer (set on the manual classification **General Settings** page) is added as clear text.



Lorem ipsum dolor sit amet, ad rebum invidunt eam, cum an meis bonorum splendide, eum ut legere everti. Et melius fastidii sapientem his. Lucilius tractatos scripserit et mei. Elit corrumpit contentiones has ex, has principes dissentiunt cu. Eum ex vocibus vulputate, integre fuisset corrumpit usu id.

Manual Classification

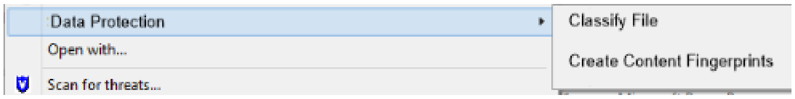
Select one or more of the following classifications to describe the file content. The selected classifications will be embedded into the file itself

○ The file does not contain sensitive information - mark as NOT CLASSIFIED
● The file contains the following classifications

Manual Classification	Description
□ Confidential	
□ Secret	
□ Top secret	

Classified by QAMAIN\funadmin on Sunday, June 5, 2016 6:48:37 AM

All supported file types can be classified from Windows Explorer or Mac Finder using the right-click (Mac Ctrl-click) menu.



See also

Assign manual classification permissions on page 129

Embedded properties

Properties embedded when using manual classification allow 3rd-party applications to integrate with McAfee DLP classified documents.

The following table lists the supported file types and the technology applied.

Document type	True file type	Method
Microsoft Word	DOC, DOCX, DOCM, DOT, DOTX, DOTM	document property
Microsoft PowerPoint	PPT, PPTX, PPS, PPSX, PPSM, PPTM, POT, POTM, POTX	
Microsoft Excel	XLS, XLSX, XLSM, XLSB, XLT, XLTX, XLTM	
XPS document	XPS	
Portable Document Format	PDF	XMP property
Audio and video formats	AIF, AIFF, AVI, MOV, MP2, MP3, MP4, MPA, MPG, MPEG, SWF, WAV, WMA, WMV	
Graphic and image formats	PNG, JPG, JPEG, TIF, TIFF, DNG, WMF, PSD	

The following table lists the internal properties.

Classification	Property name
Manual file classification	DLPManualFileClassification
File classification last modified by	DLPManualFileClassificationLastModifiedBy
File classification last modification date	DLPManualFileClassificationLastModificationDate
File classification version	DLPManualFileClassificationVersion
Endpoint discovery automatic classification	DLPAutomaticFileClassification
Endpoint discovery automatic classification version	DLPAutomaticFileClassificationVersion

Configure manual classification

Manual classification has several options that specify how the feature works, and what messages are displayed.

Manual classification allows McAfee DLP Endpoint for Windows end-users to add classifications to files from the Windows Explorer right-click menu. For Microsoft Office applications and Outlook, manual classifications can be applied when saving files or sending emails. All McAfee DLP products can apply rules based on manual classifications.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO select **Menu** | **Data Protection** | **Classification**.
2. Click **Manual Classification**.
3. From the **View** drop-down list, select **General Settings**.
4. Select or deselect options to optimize to your enterprise requirements.
5. (Optional) Select additional information to add to the email by clicking ... and selecting a notification definition or creating one.

   The notifications support the **Locales** feature for all supported languages. Language support also applies to added email comments.

See also

Customizing end-user messages on page 145

Registered documents

The registered documents feature is an extension of location-based content fingerprinting. It gives administrators another way to define sensitive information, to protect it from being distributed in unauthorized ways.

To create registered documents, McAfee DLP categorizes and fingerprints the contents of files predefined as sensitive, for example sales estimate spreadsheets for the upcoming quarter. It uses the fingerprints to create signatures that are stored as registered documents. The signatures created are language-agnostic, that is, the process works for all languages.

McAfee DLP supports two types of registered documents, manual and automatic.

Create manually registered documents by uploading files in the **Classification** module on the **Register Documents** page. Then create packages from the uploaded files to distribute to the McAfee DLP Endpoint for Windows clients and use in rules enforced on the endpoints. McAfee DLP Prevent and McAfee DLP Monitor can access the McAfee ePO database to use registered documents in policies. McAfee DLP Endpoint for Mac does not support registered documents.

Create automatically registered documents by running McAfee DLP Discover document registration scans. The registered documents are stored on McAfee DLP Discover servers. They are used to define classification and remediation scans, and protection rules for McAfee DLP Prevent and McAfee DLP Monitor.

Viewing registered documents data

The default Statistics view displays totals for number of files, file size, number of signatures, and so forth, in the left pane, and statistics per file in the right pane. Use this data to remove less important packages if the signature limit is approached.

The Group by view for manual registration allows grouping by classification or type/extension. It displays uploaded files per classification or type. You can filter the data by classification or with a custom filter. Information about last package creation and changes to the file list are displayed in the upper right.

For automatic registration, Group by allows grouping by classification, repository server, scan, or True File type. You can filter the data by scan, classification, or with a custom filter.

See also

Upload registered documents on page 126
Using classifications on page 114
How registration scans work on page 170

Manual registration

Manually registered documents are supported on McAfee DLP Endpoint for Windows clients, McAfee DLP Prevent, and McAfee DLP Monitor.

To use manually registered documents, upload files on the **Classification** | **Register Documents** page, assigning them to a classification as you upload them. Then, select uploaded files to create a package.

The **File Upload** and **Create Package** options are available only when a McAfee DLP Endpoint, McAfee DLP Prevent, or McAfee DLP Monitor license is registered on the **DLP Settings** page.

When you create a package, McAfee DLP processes all files on the list, and loads the fingerprints to the McAfee ePO database. When you add or delete documents, you must create a new package. The software makes no attempt to calculate whether some of the files have already been fingerprinted. It always processes the entire list.

The McAfee ePO database distributes the packages to the endpoints. The McAfee DLP Endpoint for Windows client on the managed computers applies the protection rules that can contain registered content fragments in the classification definitions. McAfee DLP Prevent and McAfee DLP Monitor can access the McAfee ePO database to use registered documents in the same manner.

> The Create Package command works on the registered documents list and the whitelisted documents list simultaneously to create a single package. The maximum number of signatures per package is 1 million each for registered documents and whitelisted documents.

Automatic registration

Automatically registered documents are supported on McAfee DLP Discover, McAfee DLP Prevent, and McAfee DLP Monitor.

McAfee DLP Discover registration scans create signature files that are stored on the McAfee DLP Discover servers. You can run registered document scans on CIFS, SharePoint, or Box repositories. Assign a classification to the registered documents on the **Scan Details** page when setting up the scan. You can view the scans on the **Register Documents** page when you select **Type: Automatic Registration**.

When multiple McAfee DLP Discover servers are distributed in a network, one server is selected to contain the master signature database. All signatures are sent to the master database, and a copy of the master database is distributed to slave databases on the other McAfee DLP Discover servers. A distributed system can be set up to share the signature databases across LANs or LAN/WAN networks.

Whitelisted text

McAfee DLP ignores whitelisted text when processing file content.

> McAfee DLP Discover and McAfee DLP Endpoint for Mac do not support whitelisted text.

You can upload files containing text to McAfee ePO for whitelisting. Whitelisted text will not cause content to be classified, even if parts of it match content classification or content fingerprinting criteria. Use whitelisting for text that commonly appears in files, such as boilerplates, legal disclaimers, and copyright information.

- Files for whitelisting must contain at least 400 characters.
- If a file contains both classified and whitelisted data, it is not ignored by the system. All relevant content classification and content fingerprinting criteria associated with the content remain in effect.

See also

Upload files to whitelist text on page 126

Create and configure classifications

Create classifications and criteria for use in rules or scans.

Tasks

- *Create a classification* on page 125
  Data protection and discovery rules require classification definitions in their configuration.
- *Create classification criteria* on page 125
  Apply classification criteria to files based on file content and properties.
- *Upload registered documents* on page 126
  Select and classify documents to distribute to the endpoint computers.
- *Upload files to whitelist text* on page 126
  Upload files containing commonly used text for whitelisting.
- *Export a classification* on page 127
  Create a classification file.

Create a classification

Data protection and discovery rules require classification definitions in their configuration.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Data Protection** | **Classification**.
2. Click **New Classification**.
3. Enter a name and optional description.
4. Click **OK**.
5. Add end user groups to manual classification, or registered documents to the classification, by clicking **Edit** for the respective component.
6. Add content classification criteria or content fingerprinting criteria with the **Actions** control.

Create classification criteria

Apply classification criteria to files based on file content and properties.

You build content classification criteria from data and file definitions. If a required definition does not exist, you can create it as you define the criteria.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Data Protection** | **Classification**.
2. Select the classification to add the criteria to, then select **Actions** | **New Content Classification Criteria**.
3. Enter the name.
4. Select properties and configure the comparison and value entries.
   - To remove a property, click **<**.
   - For some properties, click **...** to select an existing property or to create one.

- To add additional values to a property, click **+**.
- To remove values, click **–**.

5. Click **Save**.

See also

Using classifications on page 114

Upload registered documents

Select and classify documents to distribute to the endpoint computers.

> **Before you begin**
>
> Uploading registered documents requires a license for McAfee DLP Endpoint, McAfee DLP Prevent, or McAfee DLP Monitor.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Data Protection** | **Classification.**
2. Click the **Register Documents** tab.
3. Click **File Upload.**
4. Browse to the file, select whether to overwrite a file if the file name exists, and select a classification.

   File Upload processes a single file. To upload multiple documents, create a .zip file.
5. Click **OK**.

   The file is uploaded and processed, and statistics are displayed on the page.
6. Click **Create Package** when the file list is complete.

   When files are deleted, remove them from the list and create a new package to apply the changes.
7. You can create a package of only registered or whitelisted documents by leaving one list blank.

A signature package of all registered documents and all whitelisted documents is loaded to the McAfee ePO database for distribution to the endpoint computers. McAfee DLP Prevent and McAfee DLP Monitor can access the McAfee ePO database to use registered documents in rule definitions.

See also

Registered documents on page 123

Upload files to whitelist text

Upload files containing commonly used text for whitelisting.

> McAfee DLP Discover does not support whitelisted text.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Data Protection** | **Classification.**
2. Click the **Whitelisted Text** tab.

3 Click **File Upload**.

4 Browse to the file and select wether or not to overwrite a file if the file name exists.

5 Click **OK**.

See also
Whitelisted text on page 124

Export a classification

Create a classification file.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1 In the Classification module, select a classification to export.

Each classification you export creates a separate file.

2 Select **Group Actions** | **Export**.

If you are using Internet Explorer or Mozilla Firefox, a dialog box opens. You can open or save the file. With Internet Explorer, you can also choose where to save the file. If you are using Google Chrome, the file is saved directly to the **Downloads** folder without opening a dialog box. The file is named dlpClassification_{date}.backup, where the date format is yyyymmdd.

Configure classification components for McAfee DLP Endpoint

McAfee DLP Endpoint supports manual classification and applying content fingerprinting criteria.

Tasks

- *Create content fingerprinting criteria* on page 127
  Apply fingerprinting criteria to files based on the application or file location.
- *Use case: Application-based fingerprinting* on page 128
  You can classify content as sensitive according to the application that produced it.
- *Assign manual classification permissions* on page 129
  Configure users allowed to manually classify files.
- *Use case: Manual classification* on page 129
  Workers whose jobs require routine creation of files that contain sensitive data can be assigned manual classification permission. They can classify the files as they create them as part of their normal workflow.

Create content fingerprinting criteria

Apply fingerprinting criteria to files based on the application or file location.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1 In McAfee ePO, select **Menu** | **Data Protection** | **Classification**.

2 Select the classification to add the criteria to.

3 Select **Actions** | **New Content Fingerprinting Criteria**, then select the type of fingerprinting criteria.

4 Enter the name and specify additional information based on the type of fingerprinting criteria.

- **Application** — Click ... to select one or more applications.
- **Location** — Click ... to select one or more network shares. If needed, specify the type of removable media.
- **Web application** — Click ... to select one or more URL lists.

5 (Optional) Select one or more properties and configure the comparison and value entries.

- To remove a property, click **<**.
- For some properties, click ... to select an existing property or to create a new one.
- To add additional values to a property, click **+**.
- To remove values, click **–**.

6 Click **Save**.

See also

Using classifications on page 114

Use case: Application-based fingerprinting

You can classify content as sensitive according to the application that produced it.

In some cases, content can be classified as sensitive by the application that produces it. An example is top-secret military maps. These are JPEG files, typically produced by a specific US Air Force GIS application. By selecting this application in the fingerprinting criteria definition, all JPEG files produced by the application are tagged as sensitive. JPEG files produced by other applications are not tagged.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1 In McAfee ePO, select **Menu** | **Data Protection** | **Classification**.

2 On the **Definitions** tab, select **Application Template**, then select **Actions** | **New**.

3 Enter a name, for example `GIS Application`, and optional description.

4 Using one or more properties from the **Available Properties** list, define the GIS application, then click **Save**.

5 On the **Classification** tab, click **New Classification**, and enter a name, for example, `GIS application`, and optional definition. Click **OK**.

6 Select **Actions** | **New Content Fingerprinting Criteria** | **Application** to open the applications fingerprinting criteria page.

7 In the **Name** field, enter a name for the tag, for example `GIS tag`.

8 In the **Applications** field, select the GIS application created in step 1.

9 From the **Available Properties** | **File Conditions** list, select **True File Type**, then in the **Value** field, select **Graphic files [built-in]**.

The built-in definition includes JPEG, as well as other graphic file types. By selecting an application as well as a file type, only JPEG files produced by the application are included in the classification.

10 Click **Save**, then select **Actions** | **Save Classification**.

The classification is ready to be used in protection rules.

Assign manual classification permissions

Configure users allowed to manually classify files.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Data Protection** | **Classification.**
2. Click the **Manual Classification** tab.
3. From the **View** drop-down list, select either **Group by classifications** or **Group by end-user groups**.

   You can assign classifications to end-user groups or end-user groups to classifications, which ever is more convenient. The **View** list controls the display.
4. If you are grouping by classifications:
   - a Select a classification from the displayed list.
   - b In the **Classifications** section, select the classification type.

     Reduce the list by typing a string in the **Filter list** text box if the list is very long.
   - c Select **Actions** | **Select End-User Groups**.
   - d In the **Choose from existing values** window, select user groups or click **New Item** to create a new group. Click **OK.**
5. If you are grouping by end-user groups:
   - a Select a user group from the displayed list.
   - b Select **Actions** | **Select Classifications**.
   - c In the **Choose from existing values** window, select classifications. Click **OK**.

Use case: Manual classification

Workers whose jobs require routine creation of files that contain sensitive data can be assigned manual classification permission. They can classify the files as they create them as part of their normal workflow.

Users working on Windows or Mac computers with McAfee DLP Endpoint can classify files manually. Files classified manually are supported by McAfee DLP Discover, McAfee DLP Prevent, and McAfee DLP Monitor rules.

In this example, a health-care provider knows that all patient records must be considered confidential under HIPAA rules. Workers creating or editing patient records are given manual classification permissions.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. Create a user group or groups for workers who create or edit patient records.
   - a In McAfee ePO, open the Classification module (**Menu** | **Data Protection** | **Classification**).
   - b On the **Definitions** tab, select **Source/Destination** | **End User Group**.
   - c Select **Actions** | **New**, replace the default name with a meaningful name such as `PHI User Group`, and add users or groups to the definition.
   - d Click **Save**.

2. Create a PHI (Protected Health Information) classification.

   a. In the **Classification** module, on the **Classification** tab, select **[Sample] PHI [built-in]** in the left pane, then select **Actions** | **Duplicate Classification**.

      An editable copy of the sample classification appears.

   b. Edit the **Name**, **Description**, and **Classification Criteria** fields as required.

   c. In the **Manual Classification** field, click **Edit**.

   d. In the **Additional Actions** section, select the classification type.

      By default, **Manual classification** only is selected.

   e. Select **Actions** | **Select End-User Groups**.

   f. In the **Choose from existing values** window, select the group or groups you created previously, then click **OK**.

   g. Go back to the **Classification** tab and select **Actions** | **Save Classification**.

Workers who are members of the assigned groups can now classify the patient records as they are created. To do so, right-click on the file, select **Data Protection**, and select the appropriate option.

ℹ Only selected options (step 2.d) appear in the menu.

Create classification definitions

You can use predefined classification definitions or create new definitions. Predefined definitions cannot be modified or deleted.

Tasks

- *Create a general classification definition* on page 130
  Create and configure definitions for use in classifications and rules.
- *Create or import a dictionary definition* on page 131
  A dictionary is a collection of keywords or key phrases where each entry is assigned a score. Scores allow for more granular rule definitions.
- *Create an advanced pattern* on page 132
  Advanced patterns are used to define classifications. An advanced pattern definition can consist of a single expression or a combination of expressions and false positive definitions.
- *Create a URL list definition* on page 133
  URL list definitions are used to define web protection rules. They are added to rules as **Web address (URL)** conditions.

See also

Classification definitions and criteria on page 243

Create a general classification definition

Create and configure definitions for use in classifications and rules.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Data Protection** | **Classification**.
2. Select the type of definition to configure, then select **Actions** | **New**.
3. Enter a name and configure the options and properties for the definition.

   The available options and properties depend on the type of definition.
4. Click **Save**.

Create or import a dictionary definition

A dictionary is a collection of keywords or key phrases where each entry is assigned a score. Scores allow for more granular rule definitions.

You can create a dictionary definition by importing a dictionary file in CSV format. You can also import items with a script containing REST API calls. The administrator running the script must be a valid McAfee ePO user who has permissions in McAfee ePO **Permission Sets** to perform the actions that are invoked by the APIs.

> **Best practice:** Dictionary CSV files can use multiple columns. Export a dictionary to understand how the columns are populated before creating a file for import.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Data Protection** | **Classification**.
2. Click the **Definitions** tab.
3. In the left pane, select **Dictionary**.
4. Select **Actions** | **New**.
5. Enter a name and optional description.
6. Add entries to the dictionary.

   To import entries:

   a. Click **Import Entries**.

   b. Enter words or phrases, or cut and paste from another document.

      The text window is limited to 20,000 lines of 50 characters per line.

   c. Click **OK**.

      All entries are assigned a default score of 1.

   d. If needed, updated the default score of 1 by clicking **Edit** for the entry.

   e. Select the **Start With**, **End With**, and **Case Sensitive** columns as needed.

      Start With and **End With** provide substring matching.

To manually create entries:

a. Enter the phrase and score.

b. Select the **Start With**, **End With**, and **Case Sensitive** columns as needed.

c. Click **Add**.

7. Click **Save**.

See also
REST API for importing definitions and applying policies on page 76

Create an advanced pattern

Advanced patterns are used to define classifications. An advanced pattern definition can consist of a single expression or a combination of expressions and false positive definitions.

> Advanced patterns are defined using regular expressions (regex). A discussion of regex is beyond the scope of this document. There are a number of regex tutorials on the Internet where you can learn more about this subject.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Data Protection** | **Classification.**
2. Select the **Definitions** tab, then select **Advanced pattern** in the left pane.

   The available patterns appear in the right pane.

   > To view only the user-defined advanced patterns, deselect the **Include Built-in items** checkbox. User-defined patterns are the only patterns that can be edited.

3. Select **Actions** | **New**.

   The New Advanced pattern definition page appears.

4. Enter a name and optional description.
5. Under **Matched Expressions**, do the following:

   a. Enter an expression in the text box. Add an optional description.

   b. Select a validator from the drop-down list.

   McAfee recommends using a validator when possible to minimize false positives, but it is not required. If you don't want to specify a validator, or if validation is not appropriate for the expression, select **No Validation.**

   c. Enter a number in the **Score** field.

   This number indicates the weight of the expression in threshold matching. This field is required.

   d. Click **Add**.

6. Under **Ignored Expressions**, do the following:

   a. Enter an expression in the text box.

   > If you have text patterns stored in an external document, you can copy-paste them into the definition with **Import Entries**.

   b In the **Type** field, select **RegEx** from the drop-down list if the string is a regular expression, or **Keyword** if it is text.

   c Click **Add**.

7 Click **Save**

Create a URL list definition

URL list definitions are used to define web protection rules. They are added to rules as **Web address (URL)** conditions.

You can create a URL list definition by importing the list in CSV format. You can also import items with a script containing REST API calls. The administrator running the script must be a valid McAfee ePO user who has permissions in McAfee ePO **Permission Sets** to perform the actions that are invoked by the APIs.

Best practice: URL list CSV files can use multiple columns. Export a URL list to understand how the columns are populated before creating a file for import.

Task

For each URL required, perform steps 1–4. For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Data Protection** | **DLP Policy Manager** | **Definitions**.
2. In the left pane, select URL List, then select **Actions** | **New**.
3. Enter a unique **Name** and optional **Definition**.
4. Do one of the following:
   - Enter the **Protocol**, **Host**, **Port**, and **Path** information in the text boxes, then click **Add**.
   - Paste a URL in the **Paste URL** text box, then click **Parse**, then click **Add**.

   The URL fields are filled in by the software.
5. When all required URLs are added to the definition, click **Save**.

See also
REST API for importing definitions and applying policies on page 76

Use case: Integrate Titus client with third-party tags

Content classification or content fingerprinting criteria can include multiple tag name/tag value pairs.

Before you begin

1. In the **Policy Catalog**, open the current Windows Client Configuration. Select **Settings** | **Operational Modes and Modules**. Verify that **Outlook Add-ins** | **Activate 3rd Party Add-in Integration** is selected.
2. In **Settings** | **Email Protection**, in the **Outlook 3rd Party Add-in Integration** section, select **Titus** from the **Vendor Name** drop-down list.

   These settings affect the use of third-party tags with email only. You can use third-party tags with files without changing client configuration settings.

McAfee DLP calls the third-party API to identify tagged files and determine the tags. Classifications created with third-party tags can be applied to all protection and discovery rules that inspect files.

> To implement this feature, the third-party SDK must be installed on the endpoints.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Data Protection** | **Classification.**
2. Click **New Classification.**
3. Type a unique name and an optional description.
4. Click **Actions**, then select either **New Content Classification Criteria** or **New Content Fingerprinting Criteria**
5. Select the **Third Party tags** property.
6. Enter the Titus tag name and a value. Select the value definition from the drop-down list.

   The value string entered can be defined as:

   - **equals one of**
   - **equals all of**
   - **contains one of**
   - **contains all of**
7. (Optional) Click **+** and add another name / value pair.
8. Click **Save.**

7 Protecting sensitive content

McAfee DLP protects sensitive content with a combination of McAfee DLP Endpoint, McAfee DLP Discover, McAfee DLP Monitor, and McAfee DLP Prevent policies.

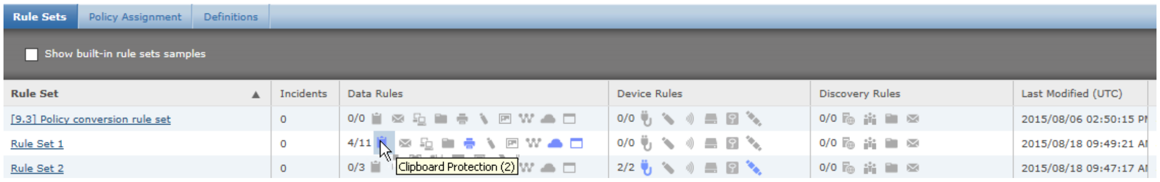
McAfee ePO deploys McAfee DLP policies to endpoints, McAfee DLP Discover servers, and McAfee DLP appliances which protect the sensitive content.

Contents

Creating policies with rule sets

Rule sets define McAfee DLP policies. A rule set can contain a combination of data protection, device control, discovery rules, and application control rules. Rule definitions apply to all rule sets.

The **Rule Sets** page displays a list of defined rule sets and the status of each. The display includes the number of incidents logged for each rule set, how many rules have been defined, and how many enabled. Colored icons indicate the types of rules enabled. The ToolTip displayed when mousing over icons shows the type of rule and number of enabled rules.



Rule Set ▲	Incidents	Data Rules	Device Rules	Discovery Rules	Last Modified (UTC)
[9.3] Policy conversion rule set	0	0/0	0/0	0/0	2015/08/06 02:50:15 P
Rule Set 1	0	4/11	0/0	0/0	2015/08/18 09:49:21 A
Rule Set 2	0	0/3	2/2	0/0	2015/08/18 09:47:17 A

Figure 7-1 Rule Sets page showing ToolTip information

In *Rule set 1*, eleven data protection rules are defined, but only three of the rules are enabled. The blue icon shows which types of rules are defined. The ToolTip shows two of these are clipboard rules. To view which rules are defined but disabled, open the rule for editing.

See also

Protecting files with discovery rules on page 161
Create a rule on page 147

Create rule definitions

Definitions are used in the creation of data protection, device control, and discovery rules.

The **DLP Policy Manager** contains a large number of built-in (predefined) definitions. They can be used as is, or duplicated and customized as required.

Tasks

- *Create a network port range* on page 136
  Network port ranges serve as filter criteria in network communication protection rules.
- *Create a network address range* on page 136
  Network address ranges serve as filter criteria in network communication protection rules.
- *Create an email address list definition* on page 137
  Email address list definitions are predefined email domains or specific email addresses that can be referenced in email protection rules.
- *Create a network printer definition* on page 137
  Use network printer definitions to create granular printer protection rules. Defined printers can be included or excluded from rules.

Create a network port range

Network port ranges serve as filter criteria in network communication protection rules.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Data Protection** | **DLP Policy Manager** | **Definitions**.
2. In the left pane, select **Network Port**, then click **Actions** | **New**.

   You can also edit the built-in definitions.
3. Enter a unique name and optional description.
4. Enter the port numbers, separated by commas, and optional description, then click **Add**.
5. When you have added all required ports, click **Save**.

Create a network address range

Network address ranges serve as filter criteria in network communication protection rules.

Task

For each required definition, perform steps 1–4: For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Data Protection** | **DLP Policy Manager** | **Definitions**.
2. In the left pane, select **Network Address (IP address)**, then click **Actions** | **New**.
3. Enter a unique name for the definition and an optional description.

4 Enter an address, a range, or a subnet in the text box. Click **Add**.

Correctly formatted examples are displayed on the page.

> Only IPv4 addresses are supported. If you enter an IPv6 address, the message says `IP address is invalid` rather than saying that it isn't supported.

5 When you have entered all required definitions, click **Save**.

Create an email address list definition

Email address list definitions are predefined email domains or specific email addresses that can be referenced in email protection rules.

To get granularity in email protection rules, you include some email addresses, and exclude others. Make sure to create both types of definitions.

> **Best practice:** For combinations of operators that you use frequently, add multiple entries to one email address list definition.

You can import email address lists in CSV format. You can also import items with a script containing REST API calls. The administrator running the script must be a valid McAfee ePO user who has permissions in McAfee ePO **Permission Sets** to perform the actions that are invoked by the APIs.

> **Best practice:** Email address list CSV files use multiple columns. Export an address list to understand how the columns are populated before creating a file for import.

Email value definitions support wildcards, and can define conditions. An example of a condition defined with a wildcard is *@intel.com. Combining an address list condition with a user group in a rule increases granularity.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1 In McAfee ePO, select **Menu** | **Data Protection** | **DLP Policy Manager** | **Definitions**.

2 In the left pane, select **Email Address List**, then **Actions** | **New**.

3 Enter a **Name** and optional **Description**.

4 Select an **Operator** from the drop-down list.

Operators defined using the **Email Addresses** option support wildcards in the **Value** field.

> Email protection rules that are enforced on McAfee DLP Prevent or McAfee DLP Monitor do not match on the **Display name** operators.

5 Enter a value, then click **Add**.

6 Click **Save** when you have finished adding email addresses.

See also

REST API for importing definitions and applying policies on page 76

Create a network printer definition

Use network printer definitions to create granular printer protection rules. Defined printers can be included or excluded from rules.

> **Before you begin**
>
> Obtain the UNC path of the printer in the network.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Data Protection** | **DLP Policy Manager** | **Definitions**.
2. In the left panel, select **Network Printer**, then select **Actions** | **New**.
3. Enter a unique **Name** and optional **Description**.
4. Enter the **UNC** path.

   All other fields are optional.
5. Click **Save**.

Defining rules to protect sensitive content

Rules define the action taken when an attempt is made to transfer or transmit sensitive data.

Rule sets can contain three types of rules: data protection, device control, and discovery. A rule has three parts, Condition, Exceptions, and Reaction. Each part is defined on a separate tab in the rule definition. Rules can be enabled or disabled, and are assigned a Severity, selected from a drop-down list.

Condition

The condition defines what triggers the rule. For data protection and discovery rules, the condition always includes a classification, and can include other conditions. For example, a cloud protection rule contains fields to define the user, cloud service, and the classification. For device control rules, the condition always specifies the user, and can include other conditions such as the device template. Device control rules do not include classifications.

Exceptions

Exceptions define parameters excluded from the rule. For example, a cloud protection rule can allow specified users and classifications to upload data to the specified cloud services, while blocking users and classifications defined in the condition section of the rule. Exceptions have a separate setting to enable or disable them, allowing you to turn the exception on or off when you test rules. Creating an exception definition is optional.

Exception definitions for data protection and discovery rules are similar to condition definitions. The available parameters for exclusion are a subset of the parameters for defining the condition.

For device control rules, the exception is defined by selecting whitelisted device templates from a list. The available whitelisted templates depend on the type of device rule.

Reaction

The reaction defines what happens when the rule is triggered. The available actions depend on the type of rule, but the default for all rules is No Action. When selected with the Report Incident option, you can monitor the frequency of rule violations. This procedure is useful for tuning the rule to the correct level to catch data leaks without creating false positives.

The reaction also defines whether the rule is applied outside the enterprise and, for some rules, when connected to the enterprise by VPN.

Defining rules by reputation

Use a Threat Intelligence Exchange file and certificate security reputations to define rules.

You can define certain rules using reputations from Threat Intelligence Exchange.

McAfee® Threat Intelligence Exchange (TIE) software determines and distributes file and certificate security reputations. McAfee DLP communicates with the McAfee® Data Exchange Layer (DXL) in TIE to share information about file and certificate threat levels. You can define the **Applications** field in application file access protection rules according to TIE reputation.

To use TIE reputation in rules, DXL client must be installed on the endpoint computer.

TIE reputation is supported on McAfee DLP for Windows, McAfee DLP Prevent, and McAfee DLP Monitor.

Protecting data-in-use

Data protection rules monitor and control user content and activity.

Data protection rules should specify at least one classification. The classification identifies the content as sensitive or not, and determines accordingly what can be done with the content. Other definitions in the rule act as filters to determine which files are monitored.

Data protection rules are supported differently by the different McAfee DLP applications.

- McAfee DLP Endpoint for Windows supports all data protection rules.
- McAfee DLP Endpoint for Mac supports application file access, network share, and removable storage protection rules.
- McAfee DLP Prevent supports email and web protection rules.
- McAfee DLP Monitor supports email, web, and network communication protection rules.

McAfee DLP Monitor is a passive device that reports on detected incidents but does not block or modify the data.

Protecting content by application

Application file access protection rules monitor files based on the application or applications that created them. They are supported on Microsoft Windows and OS X computers. On McAfee DLP Endpoint for Mac, only OS X-supported applications and browsers are supported.

To limit the rule to specific applications, select an application or URL definition. You can also specify a TIE reputation.

URL definitions are not supported on McAfee DLP Endpoint for Mac.

You can also block non-supported Chrome versions. When you select the non-supported Chrome versions option, you are prompted to specify a URL. Only the specified URLs can be blocked when non-supported Chrome versions are used.

When using application file access protection rules to block uploading files, Chrome can't detect the active tab. Rather, the list of URLs on all opened tabs is identified. If both allowed and blocked tabs are open, uploading sensitive content to the allowed URLs is also blocked. We recommend creating a User Notification message to alert the user that one or more tabs are open to websites that are blocked.

Use classification definitions to limit the rule to specific content fingerprinting or content classification criteria. You can also limit the rule to local users or to specified user groups.

See also

Defining rules by reputation on page 138
Use case: Prevent burning sensitive information to disk on page 154
Client configuration support for data protection rules on page 248
Data protection rule actions on page 251

Controlling copy-paste

Clipboard protection rules manage content copied with the Windows clipboard. They are supported on McAfee DLP Endpoint for Windows only.

Clipboard protection rules are used to block copying of sensitive content from one application to another. The rule can define both the application copied from and the application copied to, or you can write a general rule specifying any application for either source or destination. Supported browsers can be specified as applications. The rule can be filtered with an end-user definition to limit it to specific users. As with other data protection rules, exceptions to the rule are defined on the **Exceptions** tab.

By default, copying sensitive content from one Microsoft Office application to another is allowed. If you want to block copying within Microsoft Office, disable the Microsoft Office clipboard in the Windows client configuration.

See also

Client configuration support for data protection rules on page 248
Data protection rule actions on page 251

Protecting cloud uploads

Cloud protection rules manage files uploaded to cloud applications. They are supported on McAfee DLP Endpoint for Windows and McAfee DLP Endpoint for Mac.

Cloud applications are increasingly used to back up and share files. Most cloud applications create a special folder on the drive that synchronizes with the cloud server. McAfee DLP Endpoint intercepts file creation in the cloud application folder, scans the files, and applies the relevant policies. If the policy allows synchronizing the file to the cloud application folder, and the file is later changed, it is rescanned and the policy reapplied. If the changed file violates a policy, it cannot be synchronized to the cloud.

The McAfee DLP Endpoint **Cloud Protection Rule** supports:

- Box
- Dropbox
- GoogleDrive
- iCloud
- OneDrive (personal)
- OneDrive for business (groove.exe)
- Syncplicity

iCloud and Syncplicity are not supported on McAfee DLP Endpoint for Mac.

To improve scanning speed, you can specify the top-level subfolders included or excluded in the rule.

See also

Client configuration support for data protection rules on page 248
Data protection rule actions on page 251

Protecting email content and attachments

Email protection rules monitor or block email sent to specific destinations or users. They are supported on McAfee DLP Endpoint for Windows, McAfee DLP Monitor, and McAfee DLP Prevent.

McAfee DLP Prevent email protection rules can block emails according to the following parameters:

- **Classification** definitions limit the rule to specific content fingerprinting or content classification criteria. You can apply classifications to to the whole email, or just the subject, body, email headers, or attachments.
- **Sender** definitions limit the rule to specific user groups or email address lists. User group information can be obtained from registered LDAP servers. You can also limit the rule to local or non-LDAP users.

- The **Email Envelope** field can specify that the email is protected by RMS permissions, PGP encryption, digital signature, or S/MIME encryption. This option is typically used to define exceptions.
- The **Recipient** list includes email address list definitions. The definitions can use wildcards in the operator field.

Messages that cannot be analyzed

If McAfee DLP Prevent is unable to extract text from a message to analyze it because, for example, the message is corrupt, it takes the following action:

- Rejects the email and returns it to the MTA.
- The MTA keeps trying to deliver the message to McAfee DLP Prevent.
- When McAfee DLP Prevent identifies that it cannot analyze the message, it adds the X-RCIS-Action header with the SCANFAIL value to the message.
- McAfee DLP Prevent sends the message with the modified X-RCIS-Action header to one of the configured smart hosts.

McAfee DLP Prevent makes no other modification to the message.

If the message contains an encrypted, corrupt, or password-protected attachment, the message is analyzed for data loss triggers, but the attachment is not analyzed. The SCANFAIL value is not added because the message contents were partially analyzed.

See also
Client configuration support for data protection rules on page 248
Data protection rule actions on page 251

McAfee DLP Prevent X-RCIS-Action header behavior

For McAfee DLP Prevent, the only available reaction is to add an **Add header X-RCIS-Action** with one of the following values to a message.

Table 7-1 X-RCIS-Action header values

Priority	Value	Indicates
1	SCANFAIL	Messages that cannot be analyzed. The SCANFAIL header value is generated automatically by the appliance, and cannot be configured as an action within a rule.
2	BLOCK	The message should be blocked.
3	QUART	The message should be quarantined.
4	ENCRYPT	The message should be encrypted.
5	BOUNCE	A Non-Delivery Receipt (NDR) message should be issued to the sender.
6	REDIR	The message should be redirected.
7	NOTIFY	Supervisory staff should be notified.
8	ALLOW	The message should be allowed through. The Allow value is added automatically to all messages that do not contain any matched contents.

When not monitoring, McAfee DLP Prevent always delivers an email to a configured Smart Host. The Smart Host implements the action that is indicated in the X-RCIS-Action header.

If the message triggers multiple rules, the highest priority value is inserted into the X-RCIS-Action header (where 1 is the highest priority). If no rules are triggered, the ALLOW value is inserted.

If a message was previously analyzed by another appliance that added an X-RCIS-Action header, McAfee DLP Prevent replaces the existing header with its own header.

Protecting email on mobile devices

Mobile email protection rules enforce McAfee DLP policies on emails sent to mobile devices.

Rules are defined with a classification (required), user, and mobile device definitions. The rule is limited to **any user**. You can optionally select **any Mobile Device**, or add a mobile device definition.

Mobile email protection rules are enforced on McAfee DLP Server for Mobile, which must be configured in the **Policy Catalog** as the ActiveSync proxy.

See also

Data protection rule actions on page 251
Configure server settings on page 67

Controlling network traffic

Network communication protection rules monitor or block incoming or outgoing data on your network. They are supported on McAfee DLP Endpoint for Windows and McAfee DLP Monitor. McAfee DLP Monitor only supports monitoring files and saving evidence. It can't block data.

Network communication protection rules control network traffic based on specified network addresses (required) and ports (optional). You can also specify incoming or outgoing connections, or both. You can add one network address definition and one port definition, but definitions can contain multiple addresses or ports.

Use classification definitions to limit the rule to specific content fingerprinting criteria. You can also limit the rule to local users or to specified user groups, and by specifying the application creating the connection.

> Network communication protection rules on McAfee DLP Endpoint for Windows do not check content classification criteria. Use content fingerprinting criteria when defining classifications used with network communication protection rules.

See also

Client configuration support for data protection rules on page 248
Data protection rule actions on page 251

Protecting network shares

Network share protection rules control sensitive content stored on network shares. They are supported on Microsoft Windows and OS X computers.

Network share protection rules can apply to all network shares or to specified shares. One share definition can be included in the rule, and the definition can contain multiple shares. An included classification (required) defines what sensitive content is protected.

Use classification definitions to limit the rule to specific content fingerprinting or content classification criteria. You can also limit the rule to local users or to specified user groups, by specific network shares, or by the application copying the file.

Protecting sensitive content sent to printers

Printer protection rules monitor or block files from being printed. They are supported on McAfee DLP Endpoint for Windows only.

Use classifications to limit the rule. You can also limit the rule by specifying users, printers, or applications printing the file. The printer definition can specify local printers, network printers, named network printers, or image printers.

> Image printers, which had a separate rule in earlier versions, are now included in the general printer rule.

See also

Client configuration support for data protection rules on page 248
Data protection rule actions on page 251

Protecting content written to removable devices

Removable storage protection rules monitor or block data from being written to or from removable storage devices. They are supported on McAfee DLP Endpoint for Windows and McAfee DLP Endpoint for Mac. On McAfee DLP Endpoint for Mac, CD and DVD devices are not supported.

Removable storage protection rules can control CD and DVD devices, removable storage devices, or both. They can block copying to or from the device, or both. Limit the rule with content fingerprinting or content classification criteria in classifications (required). You can also define the rule with specified users, applications, or web URLs.

Removable storage protection rules for McAfee DLP Endpoint for Mac only support control of removable storage devices. They do not support CD/DVD devices.

Use classifications to limit the rule. You can also limit the rule by specifying users, or the applications copying the file.

See also

Client configuration support for data protection rules on page 248
Data protection rule actions on page 251

Controlling screen captures

Screen capture protection rules control data copied and pasted from a screen. They are supported on McAfee DLP Endpoint for Windows only.

Use classification definitions to limit the rule to specific content fingerprinting criteria. You can also limit the rule to local users or to specified user groups, or by applications visible on the screen.

Screen capture protection rules do not check content classification criteria. Use content fingerprinting criteria when defining classifications used with screen capture rules.

See also

Client configuration support for data protection rules on page 248
Data protection rule actions on page 251

Controlling content posted to websites

Web protection rules monitor or block data from being posted to websites, including web-based email sites. They are supported on McAfee DLP Endpoint for Windows and McAfee DLP Prevent. McAfee DLP Monitor also supports web protection rules, but cannot block data.

Web protection rules are defined by four conditions:

- Classification
- End User
- Web address (URL)
- Upload type

Define the rule by adding **URL List** definitions to the web address condition. You can use built-in **URL List** definitions as is or with your own modifications.

Use the upload type **is file upload** to limit the rule to files only. This option allows other data types, such as webmail or web forms, to be uploaded without inspection.

See also

Defining rules by reputation on page 138
Client configuration support for data protection rules on page 248
Data protection rule actions on page 251

Device control rules

Device control rules define the action taken when particular devices are used.

Device control rules can monitor or block devices attached to enterprise-managed computers. McAfee DLP Endpoint for Windows supports the following types of rules:

- **Citrix XenApp Device Rule**
- **Fixed Hard Drive Rule**
- **Plug And Play Device Rule**
- **Removable Storage Device Rule**
- **Removable Storage File Access Device Rule**
- **TrueCrypt Device Rule**

McAfee DLP Endpoint for Mac supports the following types of rules:

- **Plug And Play Device Rule** (USB devices only)
- **Removable Storage File Access Device Rule**

Device control rules are described in detail in the *Protecting removable media* section.

See also
Protecting devices on page 100

Discovery rules in McAfee DLP Endpoint and in McAfee DLP Discover

McAfee DLP Endpoint and McAfee DLP Discover use discovery rules to scan files and repositories.

Table 7-2 Data vector descriptions

Product	Discovery rule
McAfee DLP Endpoint	Local Email (OST, PST)
	Local File System
McAfee DLP Discover	Box Protection
	Database Protection
	File Server (CIFS) Protection
	SharePoint Protection

Application control rules

Application control rules monitor or block user access to websites. They are enforced on McAfee DLP Endpoint for Windows.

Web application control rules are similar to web protection rules, but do not analyze data, and do not include a classification. Rather than blocking content uploaded to specified websites, they block all GET requests to the specified web applications. The rule checks the browser address bar, post-URL, and the HTTP referer header. If any of them matches the URL definition specified in the rule condition, the rule is triggered.

See also
Defining rules by reputation on page 138

Whitelists

Whitelists are collections of items that you want the system to ignore.

You can whitelist content, devices, processes, and user groups.

Whitelists in data protection rules

You can specify whitelisted processes for clipboard and printer protection rules in the **Policy Catalog** Windows client configuration on their respective pages. You can specify whitelisted URLs on the **Web Protection** page. Because these whitelists are applied at the client, they work with all clipboard, printer, and web protection rules. Clipboard and printer protection rules ignore content produced by whitelisted processes. Web protection rules are not enforced on whitelisted URLs.

You can specify whitelisted processes for text extraction on the **Content Tracking** page. Depending on the definition, the text extractor does not analyze files or content fingerprinting opened by the specified application, or does not create dynamic fingerprints for web upload. The definition can specify specific folders and extensions, allowing granular control what is whitelisted. If no folder is named, the process is not monitored by application file access rules.

Whitelists in device rules

You can create whitelisted plug and play items in the **Definitions** | **Device Control** | **Device Templates** page in the **DLP Policy Manager**.

Some plug and play devices do not handle device management well. Attempting to manage them might cause the system to stop responding or cause other serious problems. Whitelisted plug and play devices are automatically excluded when a policy is applied.

Whitelisted plug and play definitions are not applicable on OS X operating systems.

The **Exceptions** tab in device control rules is defined by whitelists that are specific to the rule that contains them. The whitelists exclude the specified definitions from the rule.

- **Excluded Users** — Used in all device rules
- **Excluded Device Definitions** — Used in all device rules except Citrix and TrueCrypt
- **Excluded Processes** — Used in plug and play and removable storage rules
- **Excluded Serial Number & User Pairs** — Used in plug and play and removable storage rules
- **Excluded File names** — Used in removable storage file access rules to exempt files such as anti-virus applications

Customizing end-user messages

McAfee DLP Endpoint sends two types of messages to communicate with end users: notifications and user justification messages. McAfee DLP Prevent sends a user notification to notify a user that it blocked a web request.

Notifications support Rich Text (HTML) messages. Notification and justification definitions can specify **Locales** (languages), and add placeholders that are replaced by their real values. When locales are defined, the messages and option buttons (for business justifications) appear in the default language of the endpoint computer. The following locales are supported:

- English (US)
- English (UK)
- French
- German
- Spanish
- Japanese
- Korean
- Russian
- Chinese (simplified)
- Chinese (traditional)

English (US) is the standard default locale, but any supported locale can be set as the default in the definition. The default locale is used when other defined locales are not available as the endpoint computer default language. McAfee DLP Prevent attempts to detect the user's preferred language from request headers.

> McAfee DLP Prevent does not fully support Korean, Russian, or Chinese (Simplified) locales.

User notification

McAfee DLP Endpoint user notifications are pop-up messages that notify the user of a policy violation.

> When a rule triggers multiple events, the pop-up message states: *There are new DLP events in your DLP console*, rather than displaying multiple messages.

You can include Rich Text in the pop-up by including HTML tags embedded in a <DIV>.

When McAfee DLP Prevent blocks a web request, it sends the user notification as an HTML document that appears in the user's browser. The notification text that you configure can contain embedded HTML tags, such as <p>, <ul>, or <li>. The alert that the user sees also shows **Access Denied**.

Business justification

Business justification is a form of policy bypass. When **Request Justification** is specified as the action in a rule, the user can enter the justification to continue without being blocked.

> Business justification messages are not available for McAfee DLP Prevent.

Placeholders

Placeholders are a way of entering variable text in messages, based on what triggered the end-user message. The available placeholders are:

- `%c` for classifications
- `%r` for rule-set name
- `%v` for vector (for example, **Email Protection**, **Web Protection**, **DLP Prevent**)
- `%a` for action (for example, **Block**)
- `%s` for context value (for example, file name, device name, email subject, URI)

See also

Create a justification definition on page 150
Create a notification definition on page 151

Create and configure rules and rule sets

Create and configure rules for your McAfee DLP Endpoint, Device Control, McAfee DLP Discover, McAfee DLP Prevent, and McAfee DLP Prevent for Mobile Email policies.

Tasks

- *Create a rule set* on page 147
  Rule sets combine multiple device protection, data protection, and discovery scan rules.
- *Create a rule* on page 147
  The process for creating a rule is similar for all rule types.
- *Assign rule sets to policies* on page 148
  Before being assigned to endpoint computers, rule sets are assigned to policies and the policies are applied to the McAfee ePO database.
- *Enable, disable, or delete rules* on page 149
  You can delete or change the state of multiple rules at once.
- *Back up and restore policy* on page 149
  You can back up policy, including rules and classifications, from a McAfee ePO server and restore them onto another McAfee ePO server.
- *Configure rule or rule set columns* on page 149
  Move, add, or remove columns displayed for rules or rule sets.
- *Create a justification definition* on page 150
  For McAfee DLP Endpoint, business justification definitions define parameters for the justification prevent action in rules.
- *Create a notification definition* on page 151
  With McAfee DLP Endpoint, user notifications appear in pop-ups or the end-user console when user actions violate policies.

Create a rule set

Rule sets combine multiple device protection, data protection, and discovery scan rules.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Data Protection** | **DLP Policy Manager**.
2. Click the **Rule Sets** tab.
3. Select **Actions** | **New Rule Set**.
4. Enter the name and optional note, then click **OK**.

Create a rule

The process for creating a rule is similar for all rule types.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Data Protection** | **DLP Policy Manager**.
2. Click the **Rule Sets** tab.
3. Click the name of a rule set and if needed, select the appropriate tab for the **Data Protection**, **Device Control**, or **Discovery** rule.

4. Select **Actions** | **New Rule**, then select the type of rule.

5. On the **Condition** tab, enter the information.

   - For some conditions, such as classifications or device template items, click **...** to select an existing item or create an item.
   - To add additional criteria, click **+**.
   - To remove criteria, click **–**.

6. (Optional) To add exceptions to the rule, click the **Exceptions** tab.

   a. Select **Actions** | **Add Rule Exception**.

      Device rules do not display an **Actions** button. To add exceptions to device rules, select an entry from the displayed list.

   b. Fill in the fields as needed.

7. On the **Reaction** tab, configure the **Action**, **User Notification**, and **Report Incident** options.

   Rules can have different actions, depending on whether the endpoint computer is in the corporate network. Some rules can also have a different action when connected to the corporate network by VPN.

8. Click **Save**.

See also

Creating policies with rule sets on page 135

Assign rule sets to policies

Before being assigned to endpoint computers, rule sets are assigned to policies and the policies are applied to the McAfee ePO database.

> **Before you begin**
>
> On the **DLP Policy Manager** | **Rule Sets** page, create one or more rules sets and add the required rules to them.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. On the **DLP Policy Manager** | **Policy Assignment** page, do one of the following:

   - Select **Actions** | **Assign a Rule Set to policies**. In the assignment window, select a rule set from the drop-down list and select the policies to assign it to. Click **OK**.
   - Select **Actions** | **Assign Rule Sets to a policy**. In the assignment window, select a policy from the drop-down list and select the rule sets to assign it to. Click **OK**.

   If you deselect a rule set or policy previously selected, the rule set is deleted from the policy.

2. Select **Actions** | **Apply selected policies**. In the assignment window, select the policies to apply to the McAfee ePO database. Click **OK**.

   Only policies not yet applied to the database appear in the selection window. If you change a rule set assignment, or a rule in an assigned rule set, the policy appears and the revised policy is applied in place of the previous policy.

Enable, disable, or delete rules

You can delete or change the state of multiple rules at once.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Data Protection** | **DLP Policy Manager**.
2. Click the **Rule Sets** tab.
3. Click the name of a rule set and if needed, click the appropriate tab for the **Data Protection**, **Device Control**, or **Discovery** rule.
4. Select one or more rules.
5. Update or delete the selected rules.
   - To enable the rules, select **Actions** | **Change State** | **Enable**.
   - To disable the rules, select **Actions** | **Change State** | **Disable**.
   - To delete the rules, select **Actions** | **Delete Protection Rule**.

Back up and restore policy

You can back up policy, including rules and classifications, from a McAfee ePO server and restore them onto another McAfee ePO server.

Consider these points when restoring from a file:

- Make sure there is a license key added before restoring the file. If you restore the file without a license, all rules become disabled, and you must enable rules before applying policy.
- For McAfee DLP Discover, you must reassign Discover servers to scans before applying policy.

Task

1. In McAfee ePO, select **Data Protection** | **DLP Settings** | **Back Up & Restore**.
2. Click **Backup to file** and save the file in a place such as a USB drive or a shared folder.
3. On another McAfee ePO server, select **Data Protection** | **DLP Settings** | **Back Up & Restore**.
4. Click **Restore from file** and select the file you saved earlier.

Configure rule or rule set columns

Move, add, or remove columns displayed for rules or rule sets.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Data Protection** | **DLP Policy Manager**.
2. Click the **Rule Sets** tab.
3. Access the **Select the Columns to Display** page.
   - **Rule sets** — Select **Actions** | **Choose Columns**.
   - **Rules** — Select a rule set, then select **Actions** | **Choose Columns**.

4 Modify the columns.

- In the **Available Columns** pane, click items to add columns.
- In the **Selected Columns** pane, click the arrows or **x** to move or delete columns.
- Click **Use Defaults** to restore the columns to the default configuration.

5 Click **Save**.

Create a justification definition

For McAfee DLP Endpoint, business justification definitions define parameters for the justification prevent action in rules.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1 In McAfee ePO, select **Menu** | **Data Protection** | **DLP Policy Manager**.

2 Click the **Definitions** tab, then select **Notification** | **Justification**.

3 Select **Actions** | **New**.

4 Enter a unique name and optional description.

5 To create justification definitions in more than one language, select **Locale Actions** | **New Locale**. For each required locale, select a locale from the drop-down list.

The selected locales are added to the list.

6 For each locale, do the following:

a In the left pane, select the locale to edit. Enter text in the text boxes and select checkboxes as required.

Show Match Strings provides a link on the popup to display the hit-highlighted content. **More Info** provides a link to a document or intranet page for information.

> When entering a locale definition, checkboxes and actions are not available. You can only enter button labels, overview, and title. In the **Justification Options** section, you can replace the default definitions with the locale version by using the **Edit** feature in the **Actions** column.

b Enter a **Justification Overview** and optional **Dialog Title**.

The overview is a general instruction for the user, for example: *This action requires a business justification.* Maximum entry is 500 characters.

c Enter text for button labels and select button actions. Select the **Hide button** checkbox to create a two-button definition.

Button actions must match the prevent actions available for the type of rule that uses the definition. For example, network share protection rules can have only **No Action**, **Encrypt**, or **Request Justification** for prevent actions. If you select **Block** for one of the button actions, and attempt to use the definition in a network share protection rule definition, an error message appears.

d Enter text in the text box and click **Add** to add to the list of **Justification Options**. Select the **Show justifications options** checkbox if you want the end user to view the list.

You can use placeholders to customize the text, indicating what caused the popup to trigger.

7 When all locales are complete, click **Save**.

See also

Customizing end-user messages on page 145

Create a notification definition

With McAfee DLP Endpoint, user notifications appear in pop-ups or the end-user console when user actions violate policies.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Data Protection** | **DLP Policy Manager**.
2. Click the **Definitions** tab, then select **Notification** | **User Notification**.
3. Select **Actions** | **New**.
4. Enter a unique name and optional description. Select the dialog size and position.
5. To create user notification definitions in more than one language, select **Locale Actions** | **New Locale**. For each required locale, select a locale from the drop-down list.

   The selected locales are added to the list.
6. For each locale, do the following:
   a. In the left pane, select the locale to edit.

      > You can set any locale to be the default by selecting the **Default locale** checkbox.

   b. Enter text in the text box.

      You can use placeholders to customize the text, indicating what caused the pop-up to trigger. The available placeholders are listed to the right of the text box.

      To use Rich Text, place the text inside an HTML <DIV> element. Add HTML element tags as required.

      The text input `<div><b>Sensitive content was found in file %s</b></div>` produces the output **Sensitive content was found in file %s**, where %s is the short display name.

   c. (Optional) Select the **Show link to more information** checkbox and enter a URL to provide more detailed information.

      > The information is available only in the default locale.
7. When all locales are complete, click **Save**.

See also

Customizing end-user messages on page 145

Rule use cases

The following use cases provide examples of using device and data protection rules.

Tasks

- *Use case: Removable storage file access device rule with a whitelisted process* on page 152
  You can whitelist file names as an exception to a removable storage blocking rule.
- *Use case: Set a removable device as read-only* on page 153
  Removable storage device protection rules, unlike plug-and-play device rules, have a read-only option.
- *Use case: Block and charge an iPhone with a plug-and-play device rule* on page 153
  Apple iPhones can be blocked from use as storage devices while being charged from the computer.
- *Use case: Prevent burning sensitive information to disk* on page 154
  Application file access protection rules can be used to block the use of CD and DVD burners for copying classified information.
- *Use case: Block outbound messages with confidential content unless they are sent to a specified domain* on page 155
  Outbound messages are blocked if they contain the word *Confidential*, unless the recipient is exempt from the rule.
- *Use case: Allow a specified user group to send credit information* on page 156
  Allow people in the human resources user group to send messages that contain personal credit information by obtaining information from your Active Directory.
- *Use case: Classify attachments as NEED-TO-SHARE based on their destination* on page 158
  Create classifications that allow NEED-TO-SHARE attachments to be sent to employees in the United States, Germany, and Israel.

Use case: Removable storage file access device rule with a whitelisted process

You can whitelist file names as an exception to a removable storage blocking rule.

Removable storage file access device rules are used to block applications from acting on the removable device. Whitelisted file names are defined as processes that are not blocked. In this example, we block Sandisk removable storage devices, but allow anti-virus software to scan the device to remove infected files.

> This feature is supported only for Windows-based computers.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Data Protection** | **DLP Policy Manager**.
2. On the **Definitions** tab, locate the built-in device template **All Sandisk removable storage devices (Windows)**, and click **Duplicate**.

   The template uses the Sandisk vendor ID `0781`.

   > **Best practice:** Duplicate the built-in templates to customize a template. For example, you can add other vendor IDs to the duplicated Sandisk template to add other brands of removable devices.

3. On the **Rule Sets** tab, select or create a rule set.
4. On the rule set **Device Control** tab, select **Actions** | **New Rule** | **Removable Storage File Access Device Rule**.
5. Enter a name for the rule and select **State** | **Enabled**.
6. On the **Conditions** tab, select an **End-User** or leave the default (**is any user**). In the **Removable Storage** field, select the device template item you created in step 2. Leave the default settings for **True File Type** and **File Extension**.

7 On the **Exceptions** tab, select **Excluded File Names**.

8 In the **File Name** field, add the built-in **McAfee AV** definition.

As with the removable storage device template item, you can duplicate this template and customize it.

9 On the **Reaction** tab, select **Action** | **Block**. You can optionally add a user notification, select the **Report Incident** option, or select a different action when disconnected from the corporate network.

10 Click **Save**, then click **Close**.

Use case: Set a removable device as read-only

Removable storage device protection rules, unlike plug-and-play device rules, have a read-only option.

By setting removable devices to read-only, you can allow users to use their personal devices as MP3 players while preventing their use as storage devices.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1 In McAfee ePO, select **Menu** | **Data Protection** | **DLP Policy Manager**.

2 On the **Definitions** tab, on **Device Templates** page, create a removable storage device template item.

> Removable storage device templates must be categorized as Windows or Mac templates. Start by duplicating one of the built-in templates for Windows or Mac and customize it. The **Bus Type** can include USB, Bluetooth, and any other bus type you expect to be used. Identify devices with vendor IDs or device names.

3 On the **Rule Sets** tab, select or create a rule set.

4 On the **Device Control** tab, select **Actions** | **New Rule** | **Removable Storage Device Rule**.

5 Enter a name for the rule and select **State** | **Enabled**. In the **Conditions** section, in the **Removable Storage** field, select the device template item you created in step 2.

6 On the **Reaction** tab, select **Action** | **Read-only**. You can optionally add a user notification, select the **Report Incident** option, or select a different action when the user is disconnected from the corporate network.

7 Click **Save**, then click **Close**.

Use case: Block and charge an iPhone with a plug-and-play device rule

Apple iPhones can be blocked from use as storage devices while being charged from the computer.

This use case creates a rule that blocks a user from using the iPhone as a mass storage device. A plug-and-play device protection rule is used because it allows iPhones to charge no matter how the rule is specified. This feature is not supported for other smartphones, or other Apple mobile devices. It does not prevent an iPhone from charging from the computer.

To define a plug-and-play device rule for specific devices, you create a device definition with the vendor and product ID codes (VID/PID). You can find this information from the Windows **Device Manager** when the device is plugged in. Because this example only requires a VID, you can use the built-in device definition **All Apple devices** rather than looking up the information.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1 In McAfee ePO, select **Menu** | **Data Protection** | **DLP Policy Manager**.

2 On the **Rule Sets** tab, select a rule set (or create one). Click the **Device Control** tab, and create a plug-and-play device rule. Use the built-in device definition **All Apple devices** as the included (**is one of (OR)**) definition.

3 On the **Reaction** tab, set the **Action** to **Block**.

4 Click **Save**, then click **Close**.

Use case: Prevent burning sensitive information to disk

Application file access protection rules can be used to block the use of CD and DVD burners for copying classified information.

> **Before you begin**
>
> Create a classification to identify the classified content. Use parameters that are relevant to your environment — keyword, text pattern, file information, and so forth.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1 In McAfee ePO, select **Menu** | **Data Protection** | **DLP Policy Manager**.

2 On the **Rule Sets** tab, select a current rule set or select **Actions** | **New Rule Set** and define a rule set.

3 On the **Data Protection** tab, select **Actions** | **New Rule** | **Application File Access Protection**.

4 (Optional) Enter a name in the **Rule Name** field (required). Select options for the **State** and **Severity** fields.

5 On the **Condition** tab, in the **Classification** field, select the classification you created for your sensitive content.

6 In the **End-User** field, select user groups (optional).

Adding users or groups to the rule limits the rule to specific users.

7 In the **Applications** field, select **Media Burner Application [built-in]** from the available application definitions list.

You can create your own media burner definition by editing the built in definition. Editing a built in definition automatically creates a copy of the original definition.

8 (Optional) On the **Exceptions** tab, create exceptions to the rule.

Exception definitions can include any field that is in a condition definition. You can define multiple exceptions to use in different situations. One example is to define "privileged users" who are exempt from the rule.

9 On the **Reaction** tab, set the **Action** to **Block**. Select a **User Notification** (optional). Click **Save**, then **Close**.

Other options are to change the default incident reporting and prevent action when the computer is disconnected from the network.

10 On the **Policy Assignment** tab, assign the rule set to a policy or policies:

a Select **Actions** | **Assign a Rule Set to policies**.

b Select the appropriate rule set from the drop-down list.

c Select the policy or policies to assign it to.

11 Select **Actions** | **Apply Selected Policies**. Select policies to apply to the McAfee ePO database, and click **OK**.

Use case: Block outbound messages with confidential content unless they are sent to a specified domain

Outbound messages are blocked if they contain the word *Confidential*, unless the recipient is exempt from the rule.

Table 7-3 Expected behavior

Email contents	Recipient	Expected result
Body: Confidential	external_user@external.com	The message is blocked because it contains the word Confidential.
Body: Confidential	internal_user@example.com	The message is not blocked because the exception settings mean that confidential material can be sent to people at example.com
Body: Attachment: Confidential	external_user@external.com internal_user@example.com	The message is blocked because one of the recipients is not allowed to receive it.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. Create an email address list definition for a domain that is exempt from the rule.
   a. In the **Data Protection** section in McAfee ePO, select **DLP Policy Manager** and click **Definitions**.
   b. Select the **Email Address List** definition and create a duplicate copy of the built-in **My organization email domain**.
   c. Select the email address list definition you created, and click **Edit**.
   d. In **Operator**, select **Domain name is** and set the value to `example.com`.
   e. Click **Save**.
2. Create a rule set with an **Email Protection** rule.
   a. Click **Rule Sets**, then select **Actions** | **New Rule Set**.
   b. Name the rule set `Block Confidential in email`.
   c. Create a duplicate copy of the in-built **Confidential** classification.

      An editable copy of the classification appears.
   d. Click **Actions** | **New Rule** | **Email Protection Rule**.
   e. Name the new rule **Block Confidential** and enable it.
   f. Enforce the rule on **DLP Endpoint for Windows** and **DLP Prevent**.
   g. Select the classification you created and add it to the rule.
   h. Set the **Recipient** to **any recipient (ALL)**.

      Leave the other settings on the **Condition** tab with the default settings.
3. Add exceptions to the rule.
   a. Click **Exceptions**, then select **Actions** | **Add Rule Exception**.
   b. Type a name for the exception and enable it.

   c. Set the classification to *Confidential*.

   d. Set **Recipient** to **at least one recipient belongs to all groups (AND)**, then select the email address list definition you created.

4. Configure the reaction to messages that contain the word *Confidential*.

   a. Click **Reaction**.

   b. In **DLP Endpoint**, set the **Action** to **Block** for computers connected to and disconnected from the corporate network.

   c. In **DLP Prevent**, select the **Add header X-RCIS-Action** option and click the **Block** value.

5. Save and apply the policy.

Use case: Allow a specified user group to send credit information

Allow people in the human resources user group to send messages that contain personal credit information by obtaining information from your Active Directory.

Before you begin

Register an Active Directory server with McAfee ePO. Use the **Registered Servers** features in McAfee ePO to add details of the server. For more information about registering servers, see the *McAfee ePolicy Orchestrator Product Guide* for information.

Follow these high-level steps to:

1. (Optional for McAfee DLP Prevent only) Select an LDAP server to get the user group from.

2. Create a personal credit information classification.

3. Create a rule set and a rule that acts on the new classification.

4. Make the human resources user group exempt from the rule.

5. Block messages that contain personal credit information.

6. Apply the policy.

> **Best practice**: To ensure that your rules identify potential data loss incidents with minimal false positive results, create your rules using the **No action** setting. Monitor the **DLP Incident Manager** until you are satisfied that the rule identifies incidents correctly, then change the **Action** to **Block**.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. Select the LDAP server that you want to get the user group from.

   a. In McAfee ePO, open the **Policy Catalog**.

   b. Select the **McAfee DLP Prevent Server** policy.

   c. Open the **Users and Groups** category and open the policy that you want to edit.

   d. Select the Active Directory servers that you want to use.

   e. Click **Save**.

2. From the McAfee ePO menu, select **Classification**, and create a duplicate **PCI** classification.

3. Create the rule set and exceptions to it.
   - a. Open the **DLP Policy Manager**.
   - b. In **Rule Sets**, create a rule set called `Block PCI for DLP Prevent and Endpoint`.
   - c. Open the rule set you created, select **Action** | **New Rule** | **Email Protection**, and type a name for the rule.
   - d. In **Enforce On** select **DLP Endpoint for Windows** and **DLP Prevent**.
   - e. In **Classification of**, select the classification you created.
   - f. Leave **Sender**, **Email Envelope**, and **Recipient** with the default settings.
4. Specify the user group that you want to exclude from the rule.
   - a. Select **Exceptions**, click **Actions** | **Add Rule Exception**, and name it `Human resource group exception`.
   - b. Set the **State** to **Enabled**.
   - c. In **Classification of**, select **contains any data (ALL)**.
   - d. In **Sender** select **Belongs to one of end-user groups (OR)**.
   - e. Select **New Item**, and create an end-user group called `HR`.
   - f. Click **Add Groups**, select the group, and click **OK**.
5. Set the action you want to take if the rule triggers.
   - a. Select the group you created and click **OK**.
   - b. Select the **Reaction** tab.
   - c. In the **DLP Endpoint** section, set the **Action** to **Block**.

     If **DLP Endpoint** is selected, you must set a reaction.
   - d. In the **DLP Prevent** section, set the X-RCIS-Action header value to **Block**.

     > If you want to test the rule, you can keep the **Action** as **No Action** until you are satisfied that it triggers as expected.
   - e. Select **Report Incident**.
   - f. Save the rule and click **Close**.
6. Apply the rule.
   - a. In the **DLP Policy Manager**, select **Policy Assignment**.

     > **Pending Changes**, shows **Yes**.
   - b. Select **Actions** | **Assign Rule Sets to a policy**.
   - c. Select the rule set you created.
   - d. Select **Actions** | **Apply Selected Policies**.
   - e. Click **Apply policy**.

     Pending Changes shows **No**.

Use case: Classify attachments as NEED-TO-SHARE based on their destination

Create classifications that allow NEED-TO-SHARE attachments to be sent to employees in the United States, Germany, and Israel.

Before you begin

1. Use the **Registered Servers** features in McAfee ePO to add details of the LDAP servers. For more information about registering servers, see the *McAfee ePolicy Orchestrator Product Guide*.
2. Use the **LDAP Settings** feature in the **Users and Groups** policy category to push group information to the McAfee DLP Prevent appliance.

Follow these high-level steps:

- Create a NEED-TO-SHARE classification.
- Create a United States classification.
- Create an Israel classification.
- Create email address list definitions.
- Create a rule set and a rule that classifies attachments as NEED-TO-SHARE.
- Specify exceptions to the rule.

The example classifications in the table show how the classifications behave with different classification triggers and recipients.

Table 7-4 Expected behavior

Classification	Recipient	Expected result
Attachment1 — NEED-TO-SHARE, Israel (.il) and United States (.us) **Attachment2** — NEED-TO-SHARE, Israel (.il) and Germany (.de)	exampleuser1@example1.com	Allow — example1.com is allowed to receive all NEED-TO-SHARE attachments
Attachment1 — NEED-TO-SHARE, Israel (.il) and United States (.us) **Attachment2** — NEED-TO-SHARE, Israel (.il) and Germany (.de)	exampleuser2@example2.com	Allow — example2.com is allowed to receive all NEED-TO-SHARE attachments
Attachment1 — NEED-TO-SHARE, Israel (.il) and United States (.us) **Attachment2** — NEED-TO-SHARE, Israel (.il) and Germany (.de)	exampleuser2@example2.com exampleuser1@example1.com	Allow — example1.com and example2.com are allowed to receive both attachments
Attachment1 — NEED-TO-SHARE, Israel (.il) and United States (.us) **Attachment2** — NEED-TO-SHARE, Israel (.il) and Germany (.de)	exampleuser3@gov.il	Allow — gov.il is allowed for both attachments
Attachment1 — NEED-TO-SHARE, Israel (.il) and United States (.us) **Attachment2** — NEED-TO-SHARE, Israel (.il) and Germany (.de)	exampleuser4@gov.us	Block — exampleuser4 is not allowed to receive Attachment2

Table 7-4 Expected behavior *(continued)*

Classification	Recipient	Expected result
Attachment1 — NEED-TO-SHARE, Israel (.il) and United States (.us) **Attachment2** — NEED-TO-SHARE, Israel (.il) and Germany (.de)	exampleuser3@gov.il exampleuser4@gov.us	Block — exampleuser4 is not allowed to receive Attachment2
Attachment1 — NEED-TO-SHARE, Israel (.il) and United States (.us) **Attachment2** — NEED-TO-SHARE, Israel (.il) and Germany (.de)	exampleuser1@example1.com exampleuser4@gov.us	Block — exampleuser4 is not allowed to receive Attachment2
Attachment1 — NEED-TO-SHARE, Israel (.il) and United States (.us) **Attachment2** — NEED-TO-SHARE, Israel (.il) and Germany (.de)	exampleuser3@gov.il exampleuser1@example1.com	Allow — exampleuser1 and exampleuser3 are allowed to receive both attachments
Attachment1 — NEED-TO-SHARE, Israel (.il) and United States (.us) **Attachment2** — NEED-TO-SHARE, Israel (.il) and Germany (.de)	exampleuser2@example2.com exampleuser1@example1.com exampleuser4@gov.us	Block — exampleuser4 cannot receive Attachment2

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1 Create an email address list definition for the domains that are exempt from the rule.

   a In the **Data Protection** section in McAfee ePO, select **DLP Policy Manager** and click **Definitions**.

   b Select the **Email Address List** definition and create a duplicate copy of the built-in **My organization email domain**.

   c Select the email address list definition you created, and click **Edit**.

   d In **Operator**, select **Domain name is** and set the value to example1.com.

   e Create an entry for `example2.com`.

   f Click **Save**.

   g Repeat these steps to create a definition for gov.il.

   h Repeat the steps again to create a definition for gov.us.

2 Create a rule set that includes an **Email Protection** rule.

   a Click **Rule Sets**, then select **Actions** | **New Rule Set**.

   b Name the rule set `Allow NEED-TO-SHARE email to Israel and United States`.

3 Create a rule and add the NEED-TO-SHARE classification criteria.

   a Click **Actions** | **New Rule** | **Email Protection Rule**.

   b Name the rule `NEED-TO-SHARE`, enable it, and enforce it on **DLP Endpoint for Windows** and **DLP Prevent**.

   c Set **Classification of** to **one of the attachments (*)**.

   d Select **contains one of (OR)**, and select the **NEED-TO-SHARE** classification criteria.

   e Set the **Recipient** to **any recipient (ALL)**.

   f Leave the other settings on the **Condition** tab with the default settings.

4 Add exceptions to the rule, and enable each exception.

- Exception 1

  1 Set **Classification of** to **matched attachment**.

  2 Select **contains one of (OR)**, and select the **NEED-TO-SHARE** classification criteria.

  3 Set the **Recipient** to **matched recipient belongs to one of groups (OR)**, and select the email address definition that includes example.com and example2.com that you created.

- Exception 2

  1 Set **Classification of** to **matched attachment**.

  2 Select **contains all of (AND)**, and select the **NEED-TO-SHARE** and **.il (Israel)** classification criteria.

  3 Set the **Recipient** to **matched recipient belongs to one of groups (OR)**, and select **gov.il**.

- Exception 3

  1 Set **Classification of** to **matched attachment**.

  2 Select **contains all of (AND)**, and select the **NEED-TO-SHARE** and **.us (United States)** classification criteria.

  3 Set the **Recipient** to **matched recipient belongs to one of groups (OR)**, and select **gov.us**.

5 Set the reaction you want to take if the rule triggers.

a In **DLP Endpoint**, set the **Action** to **Block**.

b In **DLP Prevent**, set the **Action** to **Add header X-RCIS-Action**, and select the **BLOCK** value.

6 Click **Save**.

7 Apply the policy.

8 Scanning data with McAfee DLP Endpoint discovery

Discovery is a crawler that runs on endpoint computers. It searches local file system and email storage files, and applies rules to protect sensitive content.

Contents

Protecting files with discovery rules

Discovery rules define the content that McAfee DLP searches for when scanning repositories and determine the action taken when matching content is found. Discovery rules can be defined for McAfee DLP Discover or for McAfee DLP Endpoint discovery.

Depending on the type of rule, files matching a scan can be copied, moved, classified, encrypted, quarantined, content fingerprinted, or have a rights management policy applied. All discovery rule conditions include a classification.

> When using email storage discovery rules with the Quarantine prevent action, verify that the Outlook Add-in is enabled (Policy Catalog | Data Loss Prevention 10 | Client Configuration | Operational Modes and Modules). You cannot release emails from quarantine when the Outlook Add-in is disabled.

Table 8-1 Available discovery rules

Rule type	Product	Controls files discovered from...
Local File System	McAfee DLP Endpoint	Local file system scans.
Local Email (OST, PST)	McAfee DLP Endpoint	Email storage system scans.
File Server (CIFS) Protection	McAfee DLP Discover	File server scans.
SharePoint Protection	McAfee DLP Discover	SharePoint server scans.

> McAfee DLP Discover rules also require a repository. See the chapter *Scanning data with McAfee DLP Discover* for information on configuring rules and scans.

End-user initiated scans

When activated in the DLP Policy local file system scan configuration, end-users can run enabled scans and can view self-remediation actions. Every scan must have an assigned schedule, and the scan runs according to the schedule whether or not the user chooses to run a scan, but when the user interaction option is enabled, the end-users can also run scans at their convenience. If the self-remediation option is also selected, end-users and also perform remediation actions.

Local file system automatic classification

When the **Classify File** action is chosen for local file system discovery rules, the rule applies automatic classification, and embeds the classification Tag ID into the file format. The ID is added to all Microsoft Office and PDF files, and to audio, video, and image file formats. The classification ID can be detected by all McAfee DLP products and 3rd-party products.

Limitation:

In McAfee DLP version 10.0.100, only McAfee DLP Discover and McAfee DLP Endpoint for Windows can detect the embedded classification automatically.

See also

Components of the Classification module on page 113

How discovery scanning works

Use endpoint discovery scans to locate local file system or email storage files with sensitive content and tag or quarantine them.

McAfee DLP Endpoint discovery is a crawler that runs on client computers. When it finds predefined content, it can monitor, quarantine, tag, encrypt, or apply an RM policy to the files containing that content. Endpoint discovery can scan computer files or email storage (PST, mapped PST, and OST) files. Email storage files are cached on a per-user basis.

> To use endpoint discovery, you must activate the Discovery modules on the Policy Catalog | Client configuration | Operational Mode and Modules page.

At the end of each discovery scan, the McAfee DLP Endpoint client sends a discovery summary event to the DLP Incident Manager console in McAfee ePO to log the details of the scan. The event includes an evidence file that lists the files that could not be scanned and the reason for not scanning each of these files. There is also an evidence file with files matching the classification and the action taken.

> In McAfee DLP Endpoint 9.4.0, the summary event was an operational event. To update old summary events to the DLP Incident Manager, use the McAfee ePO server task DLP Incident Event Migration from 9.4 to 9.4.1.

When can you search?

Schedule discovery scans on the Policy Catalog | DLP Policy | Endpoint Discovery page. You can run a scan at a specific time daily, or on specified days of the week or month. You can specify start and stop dates, or run a scan when the McAfee DLP Endpoint configuration is enforced. You can suspend a scan when the computer's CPU or RAM exceed a specified limit.

If you change the discovery policy while an endpoint scan is running, rules and schedule parameters will change immediately. Changes to which parameters are enabled or disabled will take effect with the next scan. If the computer is restarted while a scan is running, the scan continues where it left off.

What content can be discovered?

You define discovery rules with a classification. Any file property or data condition that can be added to classification criteria can be used to discover content.

What happens to discovered files with sensitive content?

You can quarantine or tag email files. You can encrypt, quarantine, tag, or apply an RM policy to local file system files. You can store evidence for both file types.

Find content with the Endpoint Discovery crawler

There are four steps to running the discovery crawler.

1. Create and define classifications to identify the sensitive content.
2. Create and define a discovery rule. The discovery rule includes the classification as part of the definition.
3. Create a schedule definition.
4. Set up the scan parameters. The scan definition includes the schedule as one of the parameters.

Tasks

- *Create and define a discovery rule* on page 163
  Discovery rules define the content the crawler searches for, and what to do when this content is found.
- *Create a scheduler definition* on page 164
  The scheduler determines when and how frequently a discovery scan is run.
- *Set up a scan* on page 164
  Discovery scans crawl the local file system or mailboxes for sensitive content.
- *Use case: Restore quarantined files or email items* on page 165
  When McAfee DLP Endpoint discovery finds sensitive content, it moves the affected files or email items into a quarantine folder, replacing them with placeholders that notify users that their files or emails have been quarantined. The quarantined files and email items are also encrypted to prevent unauthorized use.

Create and define a discovery rule

Discovery rules define the content the crawler searches for, and what to do when this content is found.

Discovery rules can define endpoint (local email, local file system) or network (Box, CIFS, SharePoint) discovery rules.

Changes to a discovery rule take effect when the policy is deployed. Even if a scan is in progress, a new rule takes effect immediately.

For email storage (PST, mapped PST, and OST) scans, the crawler scans email items (body and attachments), calendar items, and tasks. It does not scan public folders or sticky notes.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Data Protection** | **DLP Policy Manager**.
2. On the **Rule Sets** page, select **Actions** | **New Rule Set**. Enter a name and click **OK**.

   You can also add discovery rules to an existing rule set.
3. On the **Discovery** tab, select **Actions** | **New Endpoint Discovery Rule**, then select either **Local Email** or **Local File System**.

   The appropriate page appears.
4. Enter a rule name and select a classification.
5. Click **Reaction**. Select an **Action** from the drop-down list.

6 (Optional) Select **Report Incident** options, set the **State** to **Enabled**, and select a **Severity** designation from the drop-down list.

7 Click **Save**.

Create a scheduler definition

The scheduler determines when and how frequently a discovery scan is run.

Five schedule types are provided:

- Run immediately
- Once
- Daily
- Weekly
- Monthly

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1 In McAfee ePO, select **Menu** | **Data Protection** | **DLP Policy Manager**.

2 Click the **Definitions** tab.

3 In the left pane, click **Scheduler**

If both McAfee DLP Discover and McAfee DLP Endpoint are installed, the list of existing schedules displayed includes schedules for both.

4 Select **Actions** | **New**.

The **New Scheduler** page appears.

5 Enter a unique **Name**, and select the **Schedule type** from the drop-down list.

The display changes when you select the schedule type to provide the necessary fields for that type.

6 Fill in the required options and click **Save**.

Set up a scan

Discovery scans crawl the local file system or mailboxes for sensitive content.

Before you begin

Verify that the rule sets you want to apply to the scans have been applied to the DLP Policy. This information is displayed on the **DLP Policy** | **Rule Sets** tab.

Changes in discovery setting parameters take effect on the next scan. They are not applied to scans already in progress.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1 In McAfee ePO, select **Menu** | **Policy** | **Policy Catalog**.

2 Select **Product** | **Data Loss Prevention 10**, then select the active DLP Policy.

3 On the **Endpoint Discovery** tab, select **Actions** | **New Endpoint Scan**, then select either **Local Email** or **Local File System**.

4 Enter a name for the scan, then select a schedule from the drop-down list.

5 Optional: Change the **Incident Handling** and **Error Handling** defaults. Set the **State** to **Enabled**.

Error handling refers to when text cannot be extracted.

6 (Optional) For local file system scans, select the checkbox in the **User Interaction** field to allow the user to run enabled scans before they are scheduled. You can also enable the user to perform remediation actions from the McAfee DLP Endpoint client console.

7 On the Folders tab, do one of the following:

- For file system scans, select **Actions** | **Select Folders**. Select a defined folder definition or click **New Item** to create one. Define the folder as **Include** or **Exclude**.
- For email scans, select the file types (OST, PST) and the mailboxes to be scanned.

8 (Optional) On the **Filters** tab (file system scans only) select **Actions** | **Select Filters**. Select a file information definition or click **New Item** to create one. Define the filter as **Include** or **Exclude**. Click **OK**.

The default is **All Files**. Defining a filter makes the scan more efficient.

9 On the **Rules** tab, verify the rules that apply.

All discovery rules from rule sets applied to the policy are run.

Use case: Restore quarantined files or email items

When McAfee DLP Endpoint discovery finds sensitive content, it moves the affected files or email items into a quarantine folder, replacing them with placeholders that notify users that their files or emails have been quarantined. The quarantined files and email items are also encrypted to prevent unauthorized use.

Before you begin

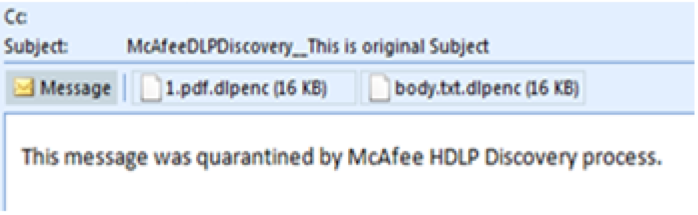
To display the McAfee DLP icon in Microsoft Outlook, the **Show Release from Quarantine Controls in Outlook** option must be enabled in **Policy Catalog** | **Client Policy** | **Operational Mode and Modules**. When disabled, both the icon and the right-click option for viewing quarantined emails are blocked, and you cannot release emails from quarantine.

When you set a file system discovery rule to **Quarantine** and the crawler finds sensitive content, it moves the affected files into a quarantine folder, replacing them with placeholders that notify users that their files have been quarantined. The quarantined files are encrypted to prevent unauthorized use.

For quarantined email items, McAfee DLP Endpoint discovery attaches a prefix to the Outlook **Subject** to indicate to users that their emails have been quarantined. Both the email body and any attachments are quarantined.

The mechanism has been changed from previous McAfee DLP Endpoint versions, which could encrypt either the body or attachments, to prevent signature corruption when working with the email signing system.

Microsoft Outlook calendar items and tasks can also be quarantined.


Cc:
Subject: McAfeeDLPDiscovery__This is original Subject

This message was quarantined by McAfee HDLP Discovery process.

Figure 8-1 Quarantined email example

Task

1. To restore quarantined files:
   - a. In the system tray of the managed computer, click the **McAfee Agent** icon, and select **Manage Features** | **DLP Endpoint Console**.

     The DLP Endpoint Console opens.

   - b. On the **Tasks** tab, select **Open Quarantine Folder**.

     The quarantine folder opens.

   - c. Select the files to be restored. Right-click and select **Release from Quarantine**.

     > The Release from Quarantine context-sensitive menu item only appears when selecting files of type *.dlpenc (DLP encrypted).

     The **Release Code** pop-up window appears.

2. To restore quarantined email items: Click the **McAfee DLP** icon, or right-click and select **Release from Quarantine**.
   - a. In Microsoft Outlook, select the emails (or other items) to be restored.
   - b. Click the **McAfee DLP** icon.

   The **Release Code** pop-up window appears.

3. Copy the challenge ID code from the pop-up window and send it to the DLP administrator.

4. The administrator generates a response code and sends it to the user. (This also creates an operational event recording all the details.)

5. The user enters the release code in the **Release Code** pop-up window and clicks **OK**.

   The decrypted files are restored to their original location. If the release code lockout policy has been activated (in the **Agent Configuration** | **Notification Service** tab) and you enter the code incorrectly three times, the pop-up window times out for 30 minutes (default setting).

   > For files, if the path has been changed or deleted, the original path is restored. If a file with the same name exists in the location, the file is restored as xxx-copy.abc

9 Scanning data with McAfee DLP Discover

Configure McAfee DLP Discover scans and policy to detect and protect your files.

Contents

Choosing the scan type

The type of scan you configure determines the amount of information retrieved in a scan, the actions taken during the scan, and the configuration required for the scan.

- Inventory scans retrieve metadata only, providing a base for configuring classification and remediation scans.
- Classification scans retrieve metadata, analyze files, and match policy classifications that you define.
- Remediation scans include classification scan analysis and can enforce rules on files.

  For database scans, remediation scans can only report an incident and store evidence.

- Registration scans fingerprint the content in sensitive files and store the fingerprints as registered documents on the master Redis server.

The policy components you must configure depend on the scan type.

Table 9-1 Required policy components

Scan type	Definitions	Classifications	Rules	Fingerprint criteria
Inventory	X			
Classification	X	X		
Remediation	X	X	X	
Registration	X			X

Scan results are displayed on the **Data Analytics** tab. The **Data Inventory** tab displays the inventory of files from scans that have the **File List** option enabled.

How inventory scans work

Inventory scans are the fastest scans, retrieving only metadata. Because of this, an inventory scan is a good place to begin planning a data loss prevention strategy.

An inventory scan performs the following:

Action	When scanning a file repository	When scanning a database
Collects metadata but does not download any files/tables	x	x
Returns Online Analytical Processing (OLAP) counters and data inventory (list of files/tables scanned)	x	x
Restores the last access time of files scanned	x	

Inventory scans on file repositories collect metadata such as the file type, size, date created, and date modified. The type of available metadata depends on the repository type. For example, Box scans retrieve sharing, collaboration, and account name metadata. Inventory scans on databases collect metadata such as the schema name, table name, number of records, size, and owner.

The results of inventory scans are displayed on the **Data Inventory** and **Data Analytics** tabs.

You can also use inventory scans to help automate IT tasks such as

- finding empty files
- finding files that have not been modified for a long time
- extracting database table formatting

How classification scans work

Use the results of inventory scans to build classification scans.

A classification scan performs the following:

Action	When scanning a file repository	When scanning a database
Collects the same metadata as an inventory scan	x	x
Analyzes the true file type based on the content of the file rather than the extension	x	
Collects data on files/tables that match the configured classification	x	x
Restores the last access time of files scanned	x	

Classification scans are slower than inventory scans because the text extractor accesses, parses, and analyzes the files to match definitions in the classification specifications. Classifications consist of definitions that can include keywords, dictionaries, text patterns, and document properties. These definitions help identify sensitive content that might require additional protection. By using the OLAP tools to view multidimensional patterns of these parameters, you can create optimized remediation scans.

The results of classification scans are displayed on the **Data Inventory** and **Data Analytics** tabs.

Detecting encrypted files

File repository classification scans detect data with these encryption types:

- Microsoft Rights Management encryption
- Seclore Rights Management encryption
- Unsupported encryption types or password protection
- Not encrypted

Consider these points when scanning encrypted files:

- McAfee DLP Discover can extract and scan files encrypted with Microsoft RMS provided that McAfee DLP Discover has the credentials configured. Other encrypted files cannot be extracted, scanned, or matched to classifications.
- Files encrypted with Adobe Primetime digital rights management (DRM) and McAfee® File and Removable Media Protection (FRP) are detected as **Not Encrypted**.
- McAfee DLP Discover supports classification criteria options for **Microsoft Rights Management Encryption** and **Not Encrypted**.

How remediation scans work

Use the results of inventory and classification scans to build remediation scans.

Remediation scans apply rules to protect sensitive content in the scanned repository. When data matches the classification in a remediation scan, McAfee DLP Discover can perform the following:

Action	When scanning a file repository	When scanning a database
Generate an incident.	x	x
Store the original file/table in the evidence share.	x	x
Copy the file.	x	
Move the file.	x Box and SharePoint scans support moving files only to CIFS shares.	
Apply RM policy to the file.	x	
Modify anonymous share to login required.	Box scans only McAfee DLP Discover cannot prevent Box users from reenabling external sharing on their files.	
Take no action.	x	x

Moving files or applying RM policy to files is NOT supported for SharePoint lists. These actions are supported for files attached to SharePoint lists or stored in document libraries. Some file types used for building SharePoint pages, such as .aspx or .js cannot be moved or deleted.

A remediation scan also performs the same tasks as inventory and classification scans. Remediation scans require classifications and rules to determine the action to take on matched files.

The results of remediation scans are displayed on the **Data Inventory** and **Data Analytics** tabs. Remediation scans can also generate incidents displayed in the Incident Manager.

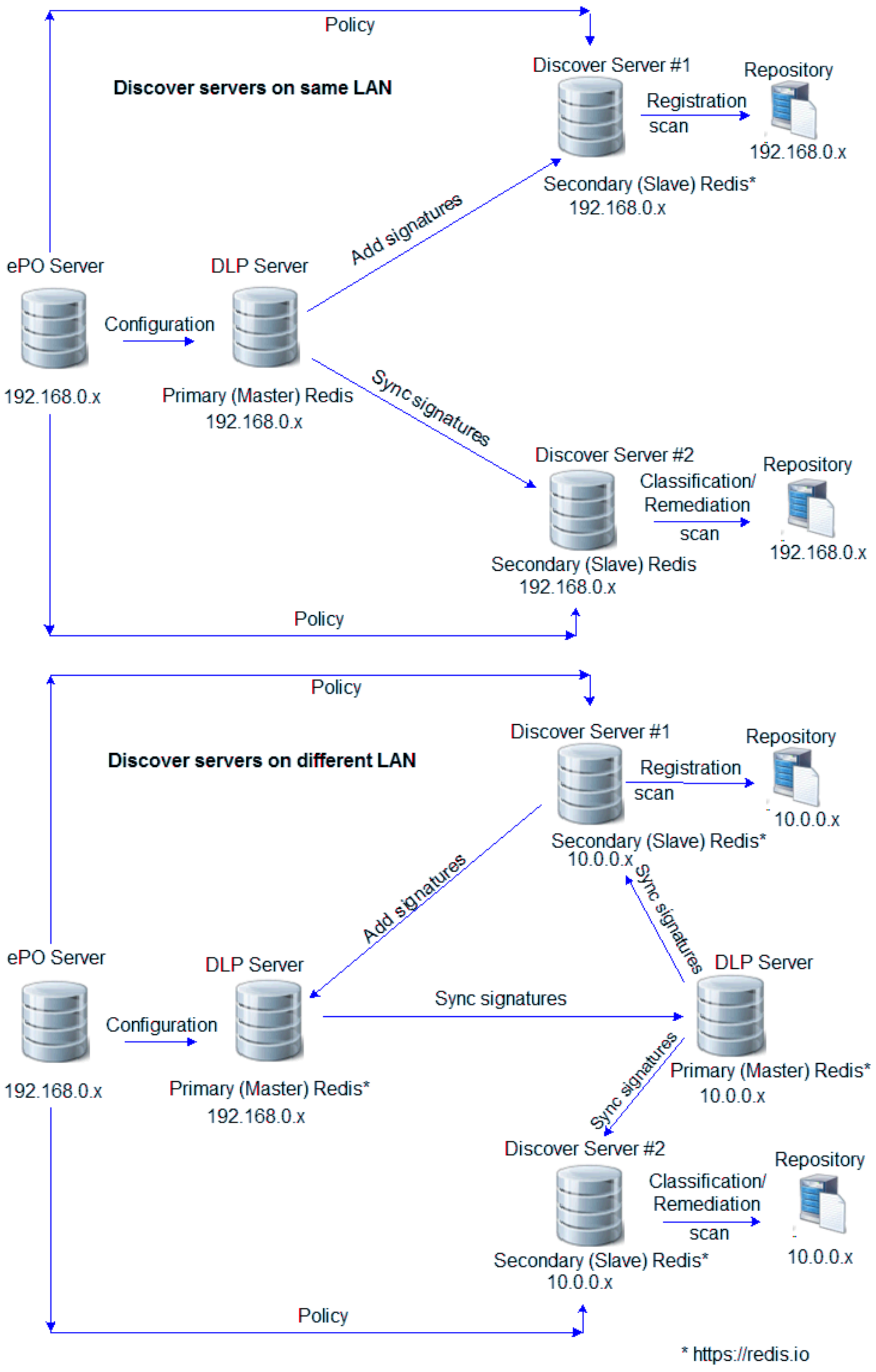
How registration scans work

Document registration scans extract signatures from files for use in defining classification criteria.

Registered documents are an extension of location-based content fingerprinting. The registration scan creates signatures based on defined fingerprint criteria and stores them in a Redis primary (master) database. The primary database is distributed and synchronized with signature (secondary) databases on all McAfee DLP Discover servers in the network. The signature database on the McAfee DLP Discover server is held in RAM, and is read only. The signatures can be used to define classification and remediation scans.

The registered documents created by a registration scan are referred to as *automatic registration*. They can be viewed on the **Classification** | **Register Documents** page by selecting **Type: Automatic Registration**. They can be used to define McAfee DLP Prevent and McAfee DLP Monitor policies, and for defining McAfee DLP Discover scans. They can't be used in McAfee DLP Endpoint policies.

The Primary (Master) Registration Server, a DLP server, is specified in **DLP Settings** on the **Classification** page, where you enter the host name or IP address of the server. This server distributes the signature database to McAfee DLP Discover servers in the network. If distribution is required across more than one LAN, a second DLP server is used to synchronize the database between LANs.



Redistribution follows these rules:

- All signatures are added ONLY to the primary registration server.
- Signatures are deleted when the scan that recorded them is deleted.
- Signatures are overwritten when the scan that recorded them runs again.

Limitations

Signatures can have a large RAM impact. 100 million signatures, the maximum per run, takes about 5 GB of RAM.

- The maximum size of the database is set on the **Classification** page in **DLP Settings**, and can range from 10 million to 500 million signatures.
- The maximum number of registration scans, enabled and disabled, that can be listed in **Scan Operations** is 100.
- The master registration server host listed in **DLP Settings** must be in the same LAN as the McAfee ePO server. McAfee DLP Discover servers and secondary database servers can be in another LAN or over WAN.
- User credentials provided for registration scans must have, as a minimum, READ permissions and WRITE attributes, and access to the scanned folders.

See also

Registered documents on page 123
Automatic registration on page 124

Scan considerations and limitations

When planning and configuring your scans, consider these items.

Directory exclusion

To avoid negative performance impacts, exclude McAfee DLP Discover directories and processes from these applications:

- Anti-virus software, including McAfee® VirusScan® Enterprise
- McAfee® Host Intrusion Prevention and other McAfee software
- Firewalls
- Access protection software
- On-access scanning

Table 9-2 McAfee DLP Discover items to exclude

Type	Exclude
Processes	• dscrawler.exe • dseng.exe • dsmbroker.exe • dsreact.exe • dsreport.exe • dsrms.exe • dssvc.exe • dstex.exe • redis-server.exe
Directories	• c:\programdata\mcafee\discoverserver • c:\program files\mcafee\discoverserver
Registry keys	• HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\McAfee\DiscoverServer • HKEY_LOCAL_MACHINE\SOFTWARE\McAfee\DiscoverServer • HKEY_LOCAL_MACHINE\SOFTWARE\ODBC.INI\McAfeeDSPostgres

Repository definitions

Configuring repository locations in McAfee ePO has these limitations.

- IP address ranges are supported for Class C addresses only.
- IP address ranges cannot include addresses ending in 0 or 255.

  You can define a single IP address ending in 0 or 255.

- IPv6 is not supported.

SharePoint scans

SharePoint scans do not crawl system catalogs, hidden lists, or lists flagged as **NoCrawl**. Because SharePoint lists are highly customizable, there might be other lists that are not scanned.

Most lists available out-of-the-box with SharePoint 2010 or 2013 can be crawled, such as:

- Announcements
- Contacts
- Discussion boards
- Events
- Generic list
- Issue trackers
- Links
- Meetings
- Tasks

Individual items in a list are combined and grouped in an XML structure and are scanned as a single XML file. Files attached to list items are scanned as is.

Box scans

Configuring the same Box repository on multiple Discover servers is not supported.

Scan ability varies depending on the account used. To scan other accounts, contact Box support to enable the as-user functionality.

- The administrator account can scan all accounts.
- A co-administrator account can scan its own account and user accounts.
- A user account can scan only its own account.

Database scans

The following database column types are ignored during all McAfee DLP Discover scans. Text is not extracted, and classifications are not matched.

- All binary types (blob, clob, image, and so forth)
- TimeStamp

> In Microsoft SQL, TimeStamp is a row version counter, not a field with a time.

Setting bandwidth for a scan

Large scans might take up noticeable bandwidth, especially on networks with low transmission capacities. By default, McAfee DLP Discover does not throttle bandwidth while scanning.

When bandwidth throttling is enabled, McAfee DLP Discover applies it to individual files being fetched rather than as an average across the entire scan. A scan might burst above or below the configured throttle limit. The average throughput measured across the entire scan, however, remains very close to the configured limit. When enabled, the default throttling value is 2000 Kbps.

Repositories and credentials for scans

McAfee DLP Discover supports Box, CIFS, and SharePoint repositories.

CIFS and SharePoint repositories

When defining a CIFS repository, the UNC path can be the fully qualified domain name (FQDN) (\
\myserver1.mydomain.com) or the local computer name (\\myserver1). You can add both conventions to a single definition.

When defining a SharePoint repository, the host name is the server URL unless Alternate Access Mapping (AAM) is configured on the server. For information about AAM, see the SharePoint documentation from Microsoft.

A credential definition is specific to a CIFS or SharePoint repository definition. In the credentials definition, if the user is a domain user, use the FQDN for the **Domain name** field. If the user is a workgroup user, use the local computer name. If the repository definition contains only one UNC version, for example FQDN, you must use that version in the credential definition.

For AD domain repositories, use the **Test Credential** option to verify the user name and password. Using incorrect credentials creates an event indicating the reason for the scan failure. View the event in the **Operational Event List** page for details.

Box repositories

When defining a Box repository, obtain the client ID and client secret from the Box website. Use the Box website to configure the McAfee DLP Discover application, the manage enterprise and as-user functionality. If you are not using an administrator account, contact Box support for more information about configuring this functionality.

Databases

When defining a database, the database server can be identified by host name or IP address. You also specify the port and database name. You can specify a particular SSL certificate, any SSL certificate, or no certificate. SSL certificates specified in database definitions are defined in **DLP Policy Manager** | **Definitions**.

Using definitions and classifications with scans

Use definitions and classifications to configure rules, classification criteria, and scans. All scan types require definitions.

There are two types of definitions used for McAfee DLP Discover.

- Definitions used in scans specify schedules, repositories, and credentials for repositories.
- Definitions used in classifications specify what to match when crawling files, such as the file properties or the data in a file.

Table 9-3 Definitions available by feature

Definition	Used for
Advanced Pattern*	Classifications
Dictionary*	
Document Properties	
True File Type*	
File Extension*	Classifications and scans
File Information	
Credentials	Scans
Scheduler	
SSL Certificate	
Box	
File Server (CIFS)	
Database	
SharePoint	

* Indicates that predefined (built-in) definitions are available

Classification and remediation scans use classifications to identify sensitive files and data.

Classifications use one or more definitions to match file properties and content in a file. You can use classification scans to analyze data patterns in files. Use the results of the classification scans to fine-tune your classifications, which can then be used in remediation scans.

Classification and remediation scans can detect manually classified files, but McAfee DLP Discover cannot apply manual classifications to files.

McAfee DLP Discover can detect and identify manual or automatic classifications on files set by McAfee DLP Endpoint. You can view automatic classifications in the incident details or the **Data Inventory** tab.

McAfee DLP Discover does not use manually registered documents. It uses registered documents created by McAfee DLP Discover registration scans (automatic registered documents) stored on McAfee DLP Discover Redis database servers.

See also

Using classifications on page 114
Classification definitions and criteria on page 243

Using rules with scans

Remediation scans use rules to detect and take action on sensitive files.

Files crawled by a remediation scan are compared against active discovery rules. If the file matches the repository and classifications defined in a rule, McAfee DLP Discover can take action on the file. These options are available:

- Take no action
- Create an incident
- Store the original file as evidence
- Copy the file
- Move the file
- Apply an RM policy to the file
- (Box scans only) Remove anonymous sharing for the file

Moving files or applying RM policy to files is not supported for SharePoint lists. These actions are supported for files attached to SharePoint lists or stored in document libraries. Some file types used for building SharePoint pages, such as .aspx or .js, cannot be moved or deleted.

Box scans support moving files only to CIFS shares. Database scans support only creating an incident and storing the original data as evidence.

See also

Creating policies with rule sets on page 135
Defining rules to protect sensitive content on page 138

Configure policy for scans

Before you set up a scan, create definitions, classifications, and rules for your McAfee DLP Discover policy.

Tasks

- *Create definitions for scans* on page 177
  Configure the credentials, repositories, and schedulers used for scans.
- *Create rules for remediation scans* on page 181
  Use rules to define the action to take when a remediation scan detects files that match classifications.

See also

Create and configure classifications on page 125
Create classification definitions on page 130

Create definitions for scans

Configure the credentials, repositories, and schedulers used for scans.

Tasks

- *Create scan definitions* on page 177
All scans require a definition to specify the repository, credentials, and schedule.
- *Create a credentials definition* on page 178
Credentials are required to read and change files in most repositories. If your repositories have the same credentials, you can use a single credentials definition for those repositories.
- *Create a CIFS or SharePoint repository definition* on page 178
Configure a CIFS or SharePoint repository for scanning.
- *Create a Box repository definition* on page 179
Configure a Box repository for scanning.
- *Export or import repository definitions* on page 180
If you have a large number of repositories, it might be easier to manage them as an XML file rather than adding and editing them one by one in McAfee ePO.
- *Create a scheduler definition* on page 181
The scan scheduler determines when and how frequently a scan is run.

Create scan definitions

All scans require a definition to specify the repository, credentials, and schedule.

> **Before you begin**
>
> You must have the user name, password, and path for the repository.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1 In McAfee ePO, select **Menu** | **Data Protection** | **DLP Discover**.

2 Click the **Definitions** tab.

3 Create a credentials definition.

> For remediation scans, the credentials must have read and write permissions. For remediation scans that apply RM policy or move files, full control permissions are required.

a In the left pane, select **Others** | **Credentials**.

b Select **Actions** | **New** and replace the default name with a unique name for the definition.

c Fill in the credentials parameters. Click **Save**.

4 Create a repository definition.

a In the left pane, under **Repositories**, select the type of new repository you want to create.

b Select **Actions** | **New**, type a unique repository name in the **Name** field, and fill in the rest of the **Type** and **Definitions** information.

> **Exclude** parameters are optional. At least one **Include** definition is required.

5 Create a scheduler definition.

   a In the left pane, select **Others** | **DLP Scheduler**.

   b Select **Actions** | **New** and fill in the scheduler parameters. Click **Save**.

   > Parameter options depend on which **Schedule type** you select.

6 Create a file information definition.

   > File information definitions are used to define scan filters. Filters allow you to scan repositories in a more granular manner by defining which files are included and which are excluded. File information definitions are optional, but recommended.

   a In the left pane, select **Data** | **File Information**.

   b Select **Actions** | **New** and replace the default name with a unique name for the definition.

   c Select properties to use as filters and fill in the **Comparison** and **Value** details. Click **Save**.

Create a credentials definition

Credentials are required to read and change files in most repositories. If your repositories have the same credentials, you can use a single credentials definition for those repositories.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1 In McAfee ePO, select **Menu** | **Data Protection** | **DLP Discover**.

2 Click the **Definitions** tab.

3 In the left pane, select **Credentials**.

4 Select **Actions** | **New**.

5 Enter a unique name for the definition. The **Description** and **Domain name** are optional fields. All other fields are required.

   If the user is a domain user, use the domain suffix for the **Domain name** field. If the user is a workgroup user, use the local computer name.

   > To crawl all site collections in a SharePoint web application, use a credential which has *Full read* permission on the entire web application.

6 For Windows domain repositories, click **Test Credential** to verify the user name and password from McAfee ePO.

   This does not test the credentials from the Discover server.

   > There is no verification for credentials that are not part of a Windows domain. If a scan fails due to incorrect credentials, an event is created on the **Operational Event List** page.

Create a CIFS or SharePoint repository definition

Configure a CIFS or SharePoint repository for scanning.

You can use regex in Perl syntax when specifying include or exclude parameters for folders, rather than using a specific full path.

- For include entries, specify the path prefix, such as \\server or \\server\share\folder. The regular expression must be an exact match of the path suffix.
- For exclude entries, folders that match the path will be skipped entirely from the scan.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Data Protection** | **DLP Discover**.
2. Click the **Definitions** tab.
3. In the left pane, under **Repositories**, select the type of repository.
4. Select **Actions** | **New**.
5. Enter a name, select the credentials to use, and configure at least one **Include** definition.
6. (CIFS repositories) Configure at least one **Include** entry.
   a. Select the **Prefix Type**.
   b. In the **Prefix** field, enter the UNC path, single IP address, or IP address range.

      > The UNC path can be the fully qualified domain name (FQDN) (\\myserver1.mydomain.com) or the local computer name (\\myserver1). You can add both versions to a single definition. Multiple entries are parsed as logical OR.

   c. (Optional) Enter a regular expression for matching folders to scan.
   d. Click **Add**.
7. (SharePoint repositories) Configure at least one **Include** entry.
   a. Select the **Include** type.
   b. Configure one or more URLs.

      > The **SharePoint Server** option uses only one URL. The host name is the NetBIOS name of the server unless Alternate Access Mapping (AAM) is configured on the server. For information about AAM, see the SharePoint documentation from Microsoft.

      - **To specify a site** — End the URL with a slash (http://SPServer/sites/DLP/).
      - **To specify a subsite** — Use the subsite ending with a slash (http://SPserver/sites/DLP/Discover/).
      - **To specify a web application** — Use only the web application name and port in the URL (http://SPServer:port).
      - **To specify a list or document library** — Use the complete URL up to the default view of the list (http://SPServer/sites/DLP/Share%20Documents/Default.aspx).

        > You can look up the default view URL in the list or library settings page. If you do not have privileges to view this, contact your SharePoint administrator.

   c. If you configured a **Sites list** URL, click **Add**.
8. (Optional) Configure **Exclude** parameters to exclude folders from being scanned.
9. Click **Save**.

Create a Box repository definition

Configure a Box repository for scanning.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Data Protection** | **DLP Discover**.
2. Click the **Definitions** tab.
3. In the left pane, under **Repositories**, select **Box**.
4. Select **Actions** | **New**.
5. Enter the name and optional description.
6. Click the link to the Box website. Follow the instructions on the website to define the Box application and to obtain the client ID and client secret.
   - When defining the application, select the manage enterprise option.
   - For the redirect URI, enter the exact address of the McAfee ePO server.

     > In other words, if you access McAfee ePO using the host name, you must use the host name for the redirect URI; you can't use an IP address. Any mismatch in addresses leads to a Box redirect URI error.

   - To scan other accounts, contact Box support to enable the as-user functionality.
7. Enter the client ID and client secret, then click **Get Token**.
8. When prompted on the Box website, grant access for the Discover server.
9. Specify whether to scan all user accounts or specific user accounts.
10. Click **Save**.

Export or import repository definitions

If you have a large number of repositories, it might be easier to manage them as an XML file rather than adding and editing them one by one in McAfee ePO.

Use the export feature to save existing repository definitions and associated credentials to an XML file. Use this file as a baseline for adding and configuring your repositories in XML format.

When importing an XML file, the repository definitions and credentials are validated and added to the list of entries. If a repository definition exists in McAfee ePO and the XML file, the definition is overwritten with the information in the XML file. The definitions are uniquely identified by the **id** value in the XML file.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Data Protection** | **DLP Discover**.
2. Click the **Definitions** tab.
3. Select **File Server (CIFS)** or **SharePoint**.
4. Perform one of these tasks.
   - To export repositories:
     1. Select **Actions** | **Export**.
     2. Select whether to open or save the file and click **OK**.

- To import repositories:
  1. Select **Actions** | **Import**.
  2. Browse to the file and click **OK**.

Create a scheduler definition

The scan scheduler determines when and how frequently a scan is run.

These schedule types are provided:

- Run immediately
- Once
- Daily
- Weekly
- Monthly

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Data Protection** | **DLP Discover**.
2. Click the **Definitions** tab.
3. In the left pane, click **Scheduler**.
4. Select **Actions** | **New**.
5. Enter a unique name and select the schedule type.

   > The display changes when you select the schedule type to provide the necessary fields for that type.

6. Fill in the required options and click **Save**.

Create rules for remediation scans

Use rules to define the action to take when a remediation scan detects files that match classifications.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Data Protection** | **DLP Policy Manager**.
2. Click the **Rule Sets** tab.
3. If there are no rule sets configured, create a rule set.
   - a. Select **Actions** | **New Rule Set**.
   - b. Enter the name and optional note, then click **OK**.
4. Click the name of a rule set, then if needed, click the **Discover** tab.
5. Select **Actions** | **New Network Discovery Rule**, then select the type of rule.
6. On the **Condition** tab, configure one or more classifications and repositories.
   - **Create an item** — Click **...**
   - **Add additional criteria** — Click **+**.
   - **Remove criteria** — Click **-**.

7 (Optional) On the **Exceptions** tab, specify any exclusions from triggering the rule.

8 On the **Reaction** tab, configure the reaction.

The available reactions depend on the repository type.

9 Click **Save**.

Configure a scan

The amount and type of data that McAfee DLP Discover collects depends on the type of scan configured.

Tasks

- *Configure an inventory scan* on page 182
  Inventory scans collect metadata only. They are the fastest scans, and thus the usual starting point in determining what scans are needed.
- *Configure a classification scan* on page 183
  Classification scans collect file data based on defined classifications. They are used to analyze file systems for sensitive data to be protected with a remediation scan.
- *Configure a remediation scan* on page 184
  Remediation scans apply rules to protect sensitive content in the scanned repository.

Configure an inventory scan

Inventory scans collect metadata only. They are the fastest scans, and thus the usual starting point in determining what scans are needed.

Use inventory scans to plan your data protection strategy. You can create scans or edit and reuse existing ones as required.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1 In McAfee ePO, select **Menu** | **Data Protection** | **DLP Discover**.

2 On the **Discover Servers** tab, select **Actions** | **Detect Servers** to refresh the list.

> If the list is long, you can define a filter to display a shorter list.

3 On the **Scan Operations** tab, select **Actions** | **New Scan** and select the repository type.

4 Type a unique name and select **Scan Type: Inventory**. Select a server platform and a schedule.

> Discover servers must be predefined. You can select a defined schedule or create one.

5 (Optional) Set values for **Files List** or **Error Handling** in place of the default values.

6 Select the repositories to scan.

a On the **Repositories** tab, click **Actions** | **Select Repositories**.

b If needed, specify the credentials for each repository from the drop-down list.

The credentials default to what is configured for that repository.

> You can create repository and credentials definitions if necessary from the selection window.

7 (Optional) On the **Filters** tab, select **Actions** | **Select Filters** to specify files to include or exclude.

By default, all files are scanned.

8 Click **Save**.

9 Click **Apply policy**.

Configure a classification scan

Classification scans collect file data based on defined classifications. They are used to analyze file systems for sensitive data to be protected with a remediation scan.

Before you begin

- Run an inventory scan. Use the inventory data to define classifications.
- Create the required classification definitions before setting up a classification scan. There is no option to create a classification within the configuration setup.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1 In McAfee ePO, select **Menu** | **Data Protection** | **DLP Discover**.

2 On the **Discover Servers** tab, select **Actions** | **Detect Servers** to refresh the list.

If the list is long, you can define a filter to display a shorter list.

3 On the **Scan Operations** tab, select **Actions** | **New Scan** and select the repository type.

4 Type a unique name and select **Scan Type: Classification**. Select a server platform and a schedule.

Discover servers must be predefined. You can select a defined schedule or create one.

5 (Optional) Set values for **Throttling**, **Files List**, or **Error Handling** in place of the default values.

6 Select the repositories to scan.

a On the **Repositories** tab, click **Actions** | **Select Repositories**.

b If needed, specify the credentials for each repository from the drop-down list.

The credentials default to what is configured for that repository.

You can create repository and credentials definitions if necessary from the selection window.

7 (Optional) On the **Filters** tab, select **Actions** | **Select Filters** to specify files to include or exclude.

By default, all files are scanned.

8 Select the classifications for the scan.

a On the **Classifications** tab, click **Actions** | **Select Classifications**.

b Select one or more classifications from the list.

9 Click **Save**.

10 Click **Apply policy**.

Configure a remediation scan

Remediation scans apply rules to protect sensitive content in the scanned repository.

Before you begin

- If the scan is configured to apply RM policy or move files, make sure the credentials for the repository have full control permissions.
- Create the classifications and rules for the scan.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Data Protection** | **DLP Discover**.
2. On the **Discover Servers** tab, select **Actions** | **Detect Servers** to refresh the list.
3. On the **Scan Operations** tab, select **Actions** | **New Scan** and select the repository type.
4. Type a unique name and select **Scan Type: Remediation**. Select a server platform and a schedule.

   Discover servers must be predefined. You can select a defined schedule or create one.

5. (Optional) Set values for **Throttling**, **Files List**, **Incident Handling**, or **Error Handling** in place of the default values.
6. Select the repositories to scan.
   a. On the **Repositories** tab, click **Actions** | **Select Repositories**.
   b. If needed, specify the credentials for each repository from the drop-down list.

      The credentials default to what is configured for that repository.

      You can create repository and credentials definitions if necessary from the selection window.

7. (Optional) On the **Filters** tab, select **Actions** | **Select Filters** to specify files to include or exclude.

   By default, all files are scanned.

8. Select the rules for the scan.
   a. On the **Rules** tab, click **Actions** | **Select Rule Sets**.
   b. Select one or more rule sets from the list.
9. Click **Save**.
10. Click **Apply policy**.

Configure a registration scan

Registration scans extract signatures from files.

Before you begin

- Discover servers must be predefined. Deploy the McAfee DLP Discover software to network servers, and verify the installation.
- Create one or more classifications with fingerprint criteria based on the repository to be scanned.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Data Protection** | **DLP Discover**.
2. On the **Discover Servers** tab, select **Actions** | **Detect Servers** to refresh the list.

   If the list is long, define a filter to display a shorter list.
3. On the **Scan Operations** tab, select **Actions** | **New Scan** and select the repository type.

   You can run registration scans on Box, CIFS, or SharePoint repositories only.
4. Type a unique name and select **Scan Type: Document Registration**. Select a server platform and a schedule.

   ℹ You can select a defined schedule or create one.
5. (Optional) Set values for **Throttling**, **Files List**, **Signatures**, or **Error Handling** in place of the default values.
6. Select the repositories to scan.
   a. On the **Repositories** tab, click **Actions** | **Select Repositories**.
   b. If needed, specify the credentials for each repository from the drop-down list.

      The credentials default to what is configured for that repository.

      ℹ You can create repository and credentials definitions if needed from the selection window.
7. (Optional) On the **Filters** tab, select **Actions** | **Select Filters** to specify files to include or exclude.

   By default, all files are scanned.
8. Select criteria for the scan.
   a. On the **Fingerprint Criteria** tab, click **Actions** | **Select Classifications**.
   b. Select classifications from the list, then click **OK**.
9. Click **Save**.
10. Click **Apply policy**.

See also

Install or upgrade the server package using McAfee ePO on page 51
Verify the installation on page 52

Perform scan operations

Manage and view information about configured scans.

ℹ Applying policy starts any scans that are scheduled to run immediately. Scans that are currently running are not affected.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Data Protection** | **DLP Discover**.
2. Click the **Scan Operations** tab.

   The tab displays information about configured scans, such as the name, type, state, and overview of the results.
3. To update the configuration for all scans, click **Apply policy**.
4. To apply a filter to the scan list, select a filter from the **Filter** drop-down list.
5. To enable or disable a scan:
   - a. Select the checkbox for the scans you want to enable or disable.

     The icon in the **State** column shows if the scan is enabled or disabled.
     - **Solid blue icon** — Enabled
     - **Blue and white icon** — Disabled
   - b. Select **Actions** | **Change State**, then select **Enabled** or **Disabled**.
   - c. Click **Apply policy**.
6. To change the running state of the scan, click the start, pause, or stop buttons in the **Commands** column.

   > The availability of these options depends on the scan state and if the scan is running or inactive.
7. To clone, delete, or edit a scan:
   - a. Select the checkbox for the scan.
   - b. Select **Actions**, then select **Clone Scan**, **Delete Scan**, or **Edit Scan**.

     > To modify the Discover server assigned to the scan, you must disable the scan. You cannot modify the scan type assigned to a scan. To change the type, clone the scan.
8. To refresh the tab, select **Actions** | **Synchronize Data**.

Analyzing scanned data

You can analyze information collected from scanned data in several ways.

The basic inventory scan (collection of metadata) is part of all scan types. Classification scans also analyze data based on defined classifications. The text extractor parses file content, adding additional information to the stored metadata.

How McAfee DLP Discover uses OLAP

McAfee DLP Discover uses *Online Analytical Processing* (OLAP), a data model that enables quick processing of metadata from different viewpoints.

Use the McAfee DLP Discover OLAP tools to view multidimensional relationships between data collected from scans. These relationships are known as *hypercubes* or *OLAP cubes*.

You can sort and organize scan results based on conditions such as classification, file type, repository, and more. Using the data patterns to estimate potential violations, you can optimize classification and remediation scans to identify and protect data quickly and more effectively.

Viewing scan results

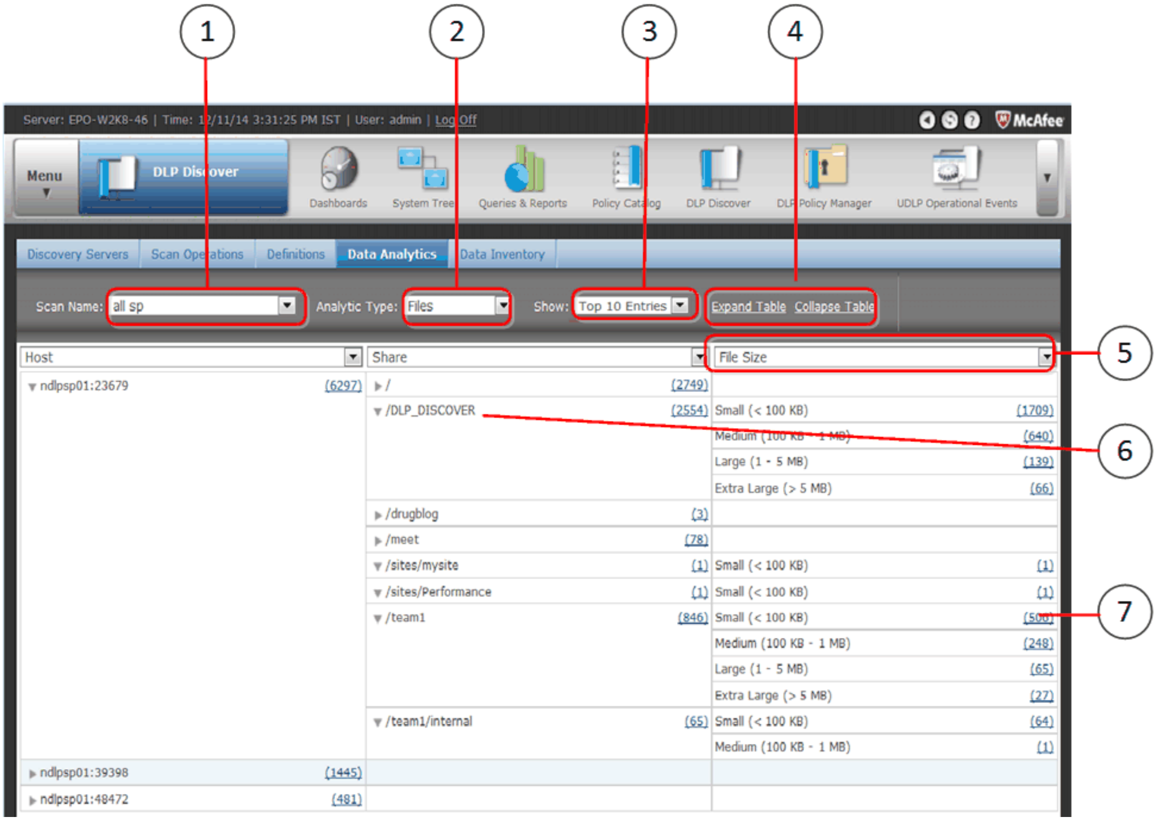
The **Data Inventory** and **Data Analytics** tabs in the **DLP Discover** module display scan results from inventory, classification, and remediation scans.

These tabs display the results collected from the last time the scan was run.

Results from registration scans can be viewed in the **Classification** module on the **Register Documents** tab when you select **Type: Automatic Registration**.

Data Analytics tab

The **Data Analytics** tab allows you to analyze files from scans. The tab uses an OLAP data model to display up to three categories to expose multidimensional data patterns. Use these patterns to optimize your classification and remediation scans.



Scan Name: all sp
Analytic Type: Files
Show: Top 10 Entries

Host		Share		File Size	
ndlpsp01:23679	(6297)	/	(2749)		
		/DLP_DISCOVER	(2554)	Small (< 100 KB)	(1709)
				Medium (100 KB - 1 MB)	(640)
				Large (1 - 5 MB)	(139)
				Extra Large (> 5 MB)	(66)
		/drugblog	(3)		
		/meet	(78)		
		/sites/mysite	(1)	Small (< 100 KB)	(1)
		/sites/Performance	(1)	Small (< 100 KB)	(1)
		/team1	(846)	Small (< 100 KB)	(506)
				Medium (100 KB - 1 MB)	(248)
				Large (1 - 5 MB)	(65)
				Extra Large (> 5 MB)	(27)
		/team1/internal	(65)	Small (< 100 KB)	(64)
				Medium (100 KB - 1 MB)	(1)
ndlpsp01:39398	(1445)				
ndlpsp01:48472	(481)				

Figure 9-1 Configuring data analytics

1 **Scan Name** — The drop-down list displays available scans for all types. Analysis can only be performed on a single scan.

2 **Analytic Type** — Select from **Files** or **Classifications**. For inventory scans, only **Files** is available. The analytic type determines the available categories.

3 **Show** — Controls how many entries are displayed.

4 **Expand Table/Collapse Table** — Expands the entire page. You can also expand or collapse individual groups.

5 **Category selector** — Drop-down list displays all available categories. You can select from the remaining categories in the second and third selectors to create a three-dimensional analysis of data patterns.

6 **Item expansion** — The arrow icon controls expansion/collapse of individual groups to clean up the display.

7 **Count** — Number of files (or classifications) in each group. Click the number to go to the **Data Inventory** tab and display details for that group.

> If the **Analytic Type** is set to **Classifications** and any files have more than one associated classification, this number might be larger than the total number of files.

Data Inventory tab

The **Data Inventory** tab displays the inventory of files from scans that have the **File List** option enabled. You can define and use filters to adjust the information displayed, which might reveal patterns or potential policy violations.

> **Classification**, **File type**, and **Encryption type** are not available for inventory scans.

See also

How inventory scans work on page 168

Analyze scan results

Use the OLAP data model to organize and view relationships between files from scans.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Data Protection** | **DLP Discover**.
2. Click the **Data Analytics** tab.
3. From the **Scan Name** drop-down list, select the scan to analyze.
4. From the **Analytic Type** drop-down list, select **File** or **Classification**.
5. From the **Show** drop-down list, select the number of top entries to display.
6. Use the category drop-down lists to display files from up to three categories.
7. Use the **Expand Table** and **Collapse Table** options to expand or collapse the amount of information displayed.
8. To view the inventory results of files belonging to a category, click the link that shows the number of files in parentheses.

   > The link is available only if you selected the **Files List** option in the scan configuration. The link displays the **Data Inventory** page.

View inventory results

View the inventory of files from all scan types.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Data Protection** | **DLP Discover**.
2. Click the **Data Inventory** tab.
3. Perform any of these tasks.
   - To view the results of a particular scan, select the scan from the **Scan** drop-down list.
   - To filter the files displayed, select a filter from the **Filter** drop-down list.

     > Click **Edit** to modify and create filters.

   - To group files based on a certain property:
     1. From the **Group By** drop-down list, select a category.

        The available properties appear in the left pane.
     2. Select the property to group files.
   - To configure the displayed columns:
     1. Select **Actions** | **Choose Columns**.
     2. From the **Available Columns** list, click an option to move it to the **Selected Columns** area.
     3. In the **Selected Columns** area, arrange and delete columns as needed.
        - To remove a column, click **x**.
        - To move a column, click the arrow buttons, or drag and drop the column.
     4. Click **Update View**.

Monitoring and reporting

You can use McAfee DLP extension components to track and review policy violations (DLP Incident Manager), and to track administrative events (DLP Operations).

10 Incidents and operational events

McAfee DLP offers different tools for viewing incidents and operational events.

- **Incidents** — The **DLP Incident Manager** page displays incidents generated from rules.
- **Operational events** — The **DLP Operations** page displays errors and administrative information.
- **Cases** — The **DLP Case Management** page contains cases that have been created to group and manage related incidents.

When multiple McAfee DLP products are installed, the consoles display incidents and events from all products.

The display for both **DLP Incident Manager** and **DLP Operations** can include information about the computer and logged-on user generating the incident/event, client version, operating system, and other information.

You can define custom status and resolution definitions. The definition consists of a custom name and color code, and can have the status of enabled or disabled. Custom definitions must be added and enabled in **DLP Settings** on the **Incident Manager**, **Operations Center**, or **Case Management** page before they can be used.

Stakeholders

A stakeholder is anyone with an interest in a particular incident, event, or case. Typical stakeholders are DLP administrators, case reviewers, managers, or users with incidents. McAfee DLP sends automatic emails to stakeholders when an incident, event, or case is created or changed. It can also automatically add stakeholders to the list, for example, when a reviewer is assigned to a case. The administrator also can manually add stakeholders to specific incidents, events, or cases.

Automatic email details are set in **DLP Settings**. Options on the **Incident Manager**, **Operations Center**, and **Case Management** pages determine whether automatic emails are sent, and who is automatically added to the stakeholders list. The administrator can add stakeholders manually from the **DLP Incident Manager**, **DLP Operations**, or **DLP Case Management** modules.

Contents

Monitoring and reporting events

McAfee DLP divides events into two classes: incidents (that is, policy violations) and administrative events. These events are viewed in the two consoles, **DLP Incident Manager** and **DLP Operations**.

When McAfee DLP determines a policy violation has occurred, it generates an event and sends it to the McAfee ePO Event Parser. These events are viewed, filtered, and sorted in the **DLP Incident Manager** console, allowing security officers or administrators to view events and respond quickly. If applicable, suspicious content is attached as evidence to the event.

As McAfee DLP takes a major role in an enterprise's effort to comply with all regulation and privacy laws, the **DLP Incident Manager** presents information about the transmission of sensitive data in an accurate and flexible way. Auditors, signing officers, privacy officials and other key workers can use the **DLP Incident Manager** to observe suspicious or unauthorized activities and act in accordance with enterprise privacy policy, relevant regulations or other laws.

The system administrator or the security officer can follow administrative events regarding agents and policy distribution status.

Based on which McAfee DLP products you use, the **DLP Operations** console can display errors, policy changes, agent overrides, and other administrative events.

You can configure an email notification to be sent to specified addresses whenever updates are made to incidents, cases, and operational events.

DLP Incident Manager/DLP Operations

Use the DLP Incident Manager module in McAfee ePO to view the security events from policy violations. Use DLP Operations to view administrative information, such as information about client deployment.

DLP Incident Manager has four tabbed pages. On each page the **Present** drop-down list determines the data set displayed: Data-in-use/motion, Data-at-rest (Endpoint), or Data-at-rest (Network).

- **Analytics** — A display of six charts that summarize the incident list. Each chart has a filter to adjust the display. The charts display:
  - **Top 10 RuleSets**
  - **Incidents per Type**
  - **Top 10 Users with Violations**
  - **Number of Incidents Per Day**
  - **Top 10 Destinations**
  - **Top 10 Classifications**
- **Incident List** — The current list of policy violation events.
- **Incident Tasks** — A list of actions you can take on the list or selected parts of it. They include assigning reviewers to incidents, setting automatic email notifications, and purging all or part of the list.
- **Incident History** — A list with all historic incidents. Purging the incident list does not affect the history.

DLP Operations has four tabbed pages:

- Operational Event List — The current list of administrative events.
- Operational Event Tasks — A list of actions you can take on the list or selected parts of it, similar to the incident tasks.
- Operational Event History — A list with all historic events.
- **User Information** — Displays data from the user information table.

Detailed information can be viewed by drilling down (selecting) a specific incident or event.

User Information

The **User Information** page displays data from the user information table. The table is populated automatically from user information in incidents and operational events. You can add more detailed information by importing from a CSV file.

Information displayed typically includes user principal name (username@xyz), user log on name, user operational unit, first name, last name, user primary email, user manager, department, and business unit. The complete list of available fields can be viewed from the **Edit** command for the **View** option.

How the Incident Manager works

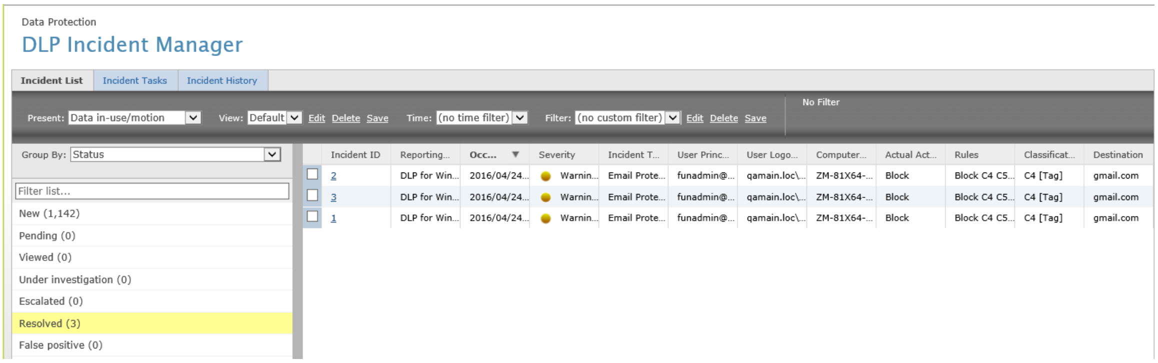
The **Incident List** tab of the **DLP Incident Manager** has all the functionality required for reviewing policy violation incidents. Event details are viewed by clicking a specific event. You can create and save filters to change the view or use the predefined filters in the left pane. You can also change the view by selecting and ordering columns. Color-coded icons and numeric ratings for severity facilitate quick visual scanning of events.

> To display the **User Principal Name** and **User Logon Name** in McAfee DLP appliance incidents, add an LDAP server to the **DLP Appliance Management** policy (**Users and Groups** category). You must do this even if your email protection rules do not use LDAP.

The **Incident List** tab works with McAfee ePO **Queries & Reports** to create McAfee DLP Endpoint and McAfee DLP appliance reports, and display data on McAfee ePO dashboards.

Operations you can perform on events include:

- **Case management** — Create cases and add selected incidents to a case
- **Comments** — Add comments to selected incidents
- **Email events** — Send selected events
- **Export device parameters** — Export device parameters to a CSV file (Data in-use/motion list only)
- **Labels** — Set a label for filtering by label
- **Release redaction** — Remove redaction to view protected fields (requires correct permission)
- **Set properties** — Edit the severity, status, or resolution; assign a user or group for incident review



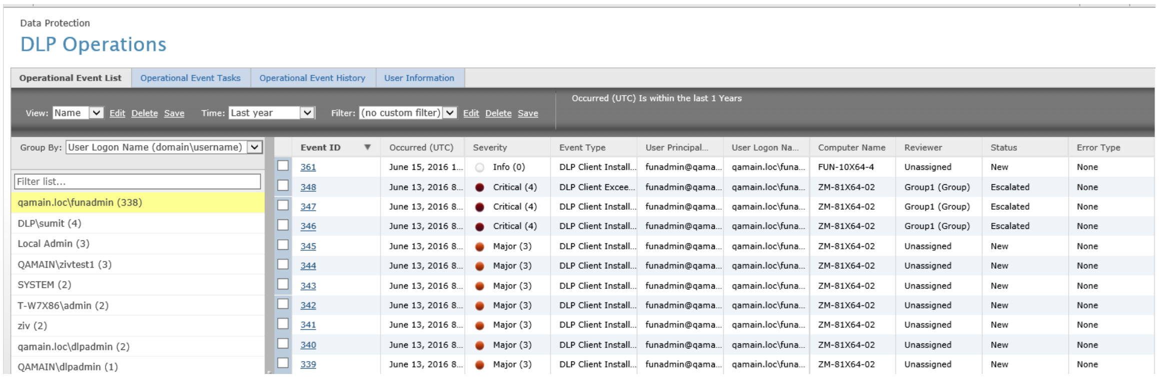
Present: Data in-use/motion
View: Default
Time: (no time filter)
Filter: (no custom filter)
Group By: Status

New (1,142)
Pending (0)
Viewed (0)
Under investigation (0)
Escalated (0)
Resolved (3)
False positive (0)

	Incident ID	Reporting...	Occ... ▼	Severity	Incident T...	User Princ...	User Logo...	Computer...	Actual Act...	Rules	Classificat...	Destination
□	2	DLP for Win...	2016/04/24...	● Warnin...	Email Prote...	funadmin@...	qamain.loc\...	ZM-81X64-...	Block	Block C4 C5...	C4 [Tag]	gmail.com
□	3	DLP for Win...	2016/04/24...	● Warnin...	Email Prote...	funadmin@...	qamain.loc\...	ZM-81X64-...	Block	Block C4 C5...	C4 [Tag]	gmail.com
□	1	DLP for Win...	2016/04/24...	● Warnin...	Email Prote...	funadmin@...	qamain.loc\...	ZM-81X64-...	Block	Block C4 C5...	C4 [Tag]	gmail.com

Figure 10-1 DLP Incident Manager

The **DLP Operations** page works in an identical manner with administrative events. The events contain information such as why the event was generated and which McAfee DLP product reported the event. It can also include user information connected with the event, such as user logon name, user principal name (username@xyz), or user manager, department, or business unit. Operational events can be filtered by any of these, or by other parameters such as severity, status, client version, policy name, and more.



Data Protection

DLP Operations

View: Name   Time: Last year   Filter: (no custom filter)

Occurred (UTC) Is within the last 1 Years

Group By: User Logon Name (domain\username)

Filter list...

qamain.loc\funadmin (338)
DLP\sumit (4)
Local Admin (3)
QAMAIN\zivtest1 (3)
SYSTEM (2)
T-W7X86\admin (2)
ziv (2)
qamain.loc\dlpadmin (2)
QAMAIN\dlpadmin (1)

	Event ID	Occurred (UTC)	Severity	Event Type	User Principal...	User Logon Na...	Computer Name	Reviewer	Status	Error Type
□	361	June 15, 2016 1...	○ Info (0)	DLP Client Install...	funadmin@qama...	qamain.loc\funa...	FUN-10X64-4	Unassigned	New	None
□	348	June 13, 2016 8...	● Critical (4)	DLP Client Excee...	funadmin@qama...	qamain.loc\funa...	ZM-81X64-02	Group1 (Group)	Escalated	None
□	347	June 13, 2016 8...	● Critical (4)	DLP Client Install...	funadmin@qama...	qamain.loc\funa...	ZM-81X64-02	Group1 (Group)	Escalated	None
□	346	June 13, 2016 8...	● Critical (4)	DLP Client Install...	funadmin@qama...	qamain.loc\funa...	ZM-81X64-02	Group1 (Group)	Escalated	None
□	345	June 13, 2016 8...	● Major (3)	DLP Client Install...	funadmin@qama...	qamain.loc\funa...	ZM-81X64-02	Unassigned	New	None
□	344	June 13, 2016 8...	● Major (3)	DLP Client Install...	funadmin@qama...	qamain.loc\funa...	ZM-81X64-02	Unassigned	New	None
□	343	June 13, 2016 8...	● Major (3)	DLP Client Install...	funadmin@qama...	qamain.loc\funa...	ZM-81X64-02	Unassigned	New	None
□	342	June 13, 2016 8...	● Major (3)	DLP Client Install...	funadmin@qama...	qamain.loc\funa...	ZM-81X64-02	Unassigned	New	None
□	341	June 13, 2016 8...	● Major (3)	DLP Client Install...	funadmin@qama...	qamain.loc\funa...	ZM-81X64-02	Unassigned	New	None
□	340	June 13, 2016 8...	● Major (3)	DLP Client Install...	funadmin@qama...	qamain.loc\funa...	ZM-81X64-02	Unassigned	New	None
□	339	June 13, 2016 8...	● Major (3)	DLP Client Install...	funadmin@qama...	qamain.loc\funa...	ZM-81X64-02	Unassigned	New	None

Figure 10-2 DLP Operations

Incident tasks/Operational Event tasks

Use the **Incident Tasks** or **Operational Event Tasks** tab to set criteria for scheduled tasks. Tasks set up on the pages work with the McAfee ePO Server Tasks feature to schedule tasks.

Both tasks tabs are organized by the task type (left pane). The **Incident Tasks** tab is also organized by incident type, so that it is actually a 4 x 3 matrix, the information displayed depending on which two parameters you select.

	Data in-use/ motion	Data at-rest (Endpoint)	Data at-rest (Network)	Data in-use/ motion (History)
Set Reviewer	X	X	X	
Automatic mail notification	X	X	X	
Purge events	X	X	X	X

Use case: Setting properties

Properties are data added to an incident that requires follow-up. You can add the properties from the details pane of the incident or by selecting **Actions** | **Set Properties**. The properties are:

- Severity
- Status
- Resolution
- Reviewing Group
- Reviewing User

The reviewer can be any McAfee ePO user. The reason severity can be changed is that if the administrator determines that the status is false positive, then the original severity is no longer meaningful.

Use case: Changing the view

In addition to using filters to change the view, you can also customize the fields and the order of display. Customized views can be saved and reused.

Creating a filter involves the following tasks:

1. To open the view edit window, click **Actions** | **View** | **Choose Columns**.
2. To move columns to the left or right, use the **x** icon to delete columns, and the arrow icons.
3. To apply the customized view, click **Update View**.
4. To save for future use, click **Actions** | **View** | **Save View**.

> When you save the view, you can also save the time and custom filters. Saved views can be chosen from the drop-down list at the top of the page.

Working with incidents

When McAfee DLP receives data that matches parameters defined in a rule, a violation is triggered and McAfee DLP generates an incident.

Using the **DLP Incident Manager** in McAfee ePO, you can view, sort, group, and filter incidents to find important violations. You can view details of incidents or delete incidents that are not useful.

Device plug incidents

Two options on the Incident List **Actions** menu allow you to work with device plug incidents. **Create Device Template** creates a device definition from a device plug incident. The option is available only when a single device plug incident is selected. If you select more than one incident, or a non-device plug incident, a popup informs you of your error. **Export Device Information to CSV** saves information from one or more device plug incidents. You can import saved device information from the **DLP Policy Manager** | **Definitions** | **Device Templates** page.

View incidents

DLP Incident Manager displays all incidents reported by McAfee DLP applications. You can alter the way incidents appear to help you locate important violations more efficiently.

The **Present** field in the DLP Incident Manager displays incidents according to the application that produced them:

- **Data in-use/motion**
  - McAfee DLP Endpoint
  - Device Control
  - McAfee DLP Prevent
  - McAfee DLP Monitor
  - McAfee DLP Prevent for Mobile Email
- **Data at rest (Endpoint)** — McAfee DLP Endpoint discovery
- **Data at rest (Network)** — McAfee DLP Discover

When McAfee DLP processes an object — such as an email message — that triggers multiple rules, DLP Incident Manager collates and displays the violations as one incident, rather than separate incidents.

Tasks

- *Sort and filter incidents* on page 198
  Arrange the way incidents appear based on attributes such as time, location, user, or severity.
- *Configure column views* on page 198
  Use views to arrange the type and order of columns displayed in the incident manager.
- *Configure incident filters* on page 199
  Use filters to display incidents that match specified criteria.
- *View incident details* on page 200
  View the information related to an incident.

Sort and filter incidents

Arrange the way incidents appear based on attributes such as time, location, user, or severity.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **DLP Incident Manager**.
2. From the **Present** drop-down list, select the option for your product.
3. Perform any of these tasks.
   - To sort by column, click a column header.
   - To change columns to a custom view, from the **View** drop-down list, select a custom view.
   - To filter by time, from the **Time** drop-down list, select a time frame.
   - To apply a custom filter, from the **Filter** drop-down list, select a custom filter.
   - To group by attribute:
     1. From the **Group By** drop-down list, select an attribute.

        A list of available options appears. The list contains up to 250 of the most frequently occurring options.
     2. Select an option from the list. Incidents that match the selection are displayed.

   #### Example

   When working with McAfee DLP Endpoint incidents, select **User ID** to display the names of users that have triggered violations. Select a user name to display all incidents for that user.

Configure column views

Use views to arrange the type and order of columns displayed in the incident manager.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **DLP Incident Manager**.
2. From the **Present** drop-down list, select the option for your product.
3. From the **View** drop-down list, select **Default** and click **Edit**.

4 Configure the columns.

   a From the **Available Columns** list, click an option to move it to the **Selected Columns** area.

   b In the **Selected Columns** area, arrange and delete columns as needed.

   - To remove a column, click **x**.
   - To move a column, click the arrow buttons, or drag and drop the column.

   c Click **Update View**.

5 Configure the view settings.

   a Next to the **View** drop-down list, click **Save**.

   b Select one of these options.

   - **Save as new view** — Specify a name for the view.
   - **Override existing view** — Select the view to save.

   c Select who can use the view.

   - **Public** — Any user can use the view.
   - **Private** — Only the user that created the view can use the view.

   d Specify if you want the current filters or groupings applied to the view.

   e Click **OK**.

> You can also manage views in the Incident Manager by selecting **Actions** | **View**.

Configure incident filters

Use filters to display incidents that match specified criteria.

McAfee DLP Endpoint Example: You suspect a particular user has been sending connections containing sensitive data to a range of IP addresses outside the company. You can create a filter to display incidents that match the user name and the range of IP addresses.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1 In McAfee ePO, select **DLP Incident Manager**.

2 From the **Present** drop-down list, select the option for your product.

3 From the **Filter** drop-down list, select **(no custom filter)** and click **Edit**.

4 Configure the filter parameters.

   a From the **Available Properties** list, select a property.

   b Enter the value for the property.

   > To add additional values for the same property, click **+**.

   c Select additional properties as needed.

   > To remove a property entry, click **<**.

   d Click **Update Filter**.

5 Configure the filter settings.

  a Next to the **Filter** drop-down list, click **Save**.

  b Select one of these options.

  - **Save as new filter** — Specify a name for the filter.
  - **Override existing filter** — Select the filter to save.

  c Select who can use the filter.

  - **Public** — Any user can use the filter.
  - **Private** — Only the user that created the filter can use the filter.

  d Click **OK**.

> You can also manage filters in the incident manager by selecting **Actions** | **Filter**.

View incident details

View the information related to an incident.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1 In McAfee ePO, select **DLP Incident Manager**.

2 From the **Present** drop-down list, select the option for your product.

3 Click an **Incident ID**.

For McAfee DLP Endpoint, McAfee DLP Monitor, and McAfee DLP Prevent incidents, the page displays general details and source information. Depending on the incident type, destination or device details appear. For McAfee DLP Discover incidents, the page displays general details about the incident.

4 To view additional information, perform any of these tasks.

- To view user information for McAfee DLP Endpoint incidents, click the user name in the **Source** area.
- To view evidence files:

  1 Click the **Evidence** tab.

  2 Click a file name to open the file with an appropriate program.

  The **Evidence** tab also displays the **Short Match String**, which contains up to three hit highlights as a single string.
- To view rules that triggered the incident, click the **Rules** tab.
- To view classifications, click the **Classifications** tab.

  > For McAfee DLP Endpoint incidents, the Classifications tab does not appear for some incident types.
- To view incident history, click the **Audit Logs** tab.
- To view comments added to the incident, click the **Comments** tab.
- To email the incident details, including decrypted evidence and hit highlight files, select **Actions** | **Email Selected Events**.
- To return to the incident manager, click **OK**.

Manage incidents

Use the **DLP Incident Manager** to update and manage incidents.

If you have email notifications configured, an email is sent whenever an incident is updated.

To delete incidents, configure a task to purge events.

Tasks

- *Update a single incident* on page 201
  Update incident information such as the severity, status, and reviewer.
- *Update multiple incidents* on page 201
  Update multiple incidents with the same information simultaneously.
- *Email selected events* on page 202
  The following tables give some details concerning the email and export selected events options.
- *Manage labels* on page 203
  A label is a custom attribute used to identify incidents that share similar traits.

Update a single incident

Update incident information such as the severity, status, and reviewer.

> The **Audit Logs** tab reports all updates and modifications performed on an incident.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **DLP Incident Manager**.
2. From the **Present** drop-down list, select the option for your product.
3. Click an incident.

   The incident details window opens.
4. In the **General Details** pane, perform any of these tasks.
   - To update the severity, status, or resolution:
     1. From the **Severity**, **Status**, or **Resolution** drop-down lists, select an option.
     2. Click **Save**.
   - To update the reviewer:
     1. Next to the **Reviewer** field, click **...**
     2. Select the group or user and click **OK**.
     3. Click **Save**.
   - To add a comment:
     1. Select **Actions** | **Add Comment**.
     2. Enter a comment, then click **OK**.

Update multiple incidents

Update multiple incidents with the same information simultaneously.

Example: You have applied a filter to display all incidents from a particular user or scan, and you want to change the severity of these incidents to Major.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1 In McAfee ePO, select **DLP Incident Manager**.

2 From the **Present** drop-down list, select the option for your product.

3 Select the checkboxes of the incidents to update.

> ℹ To update all incidents displayed by the current filter, click **Select all in this page**.

4 Perform any of these tasks.

- To add a comment, select **Actions** | **Add Comment**, enter a comment, then click **OK**.
- To send the incidents in an email, select **Actions** | **Email Selected Events**, enter the information, then click **OK**.

  > ℹ You can select a template, or create a template by entering the information and clicking **Save**.

- To export the incidents, select **Actions** | **Export Selected Events**, enter the information, then click **OK**.
- To release redaction on the incidents, select **Actions** | **Release Redaction**, enter a user name and password, then click **OK**.

  > ℹ You must have data redaction permission to remove redaction.

- To change the properties, select **Actions** | **Set Properties**, change the options, then click **OK**.

See also

Email selected events on page 202

Email selected events

The following tables give some details concerning the email and export selected events options.

Table 10-1 Email selected events

Parameter	Value
Maximum number of events to mail	100
Maximum size of each event	unlimited
Maximum size of the compressed (ZIP) file	20MB
From	limited to 100 characters
To, CC	limited to 500 characters
Subject	limited to 150 characters
Body	limited to 1000 characters

Table 10-2 Export selected events

Parameter	Value
Maximum number of events to export	1000
Maximum size of each event	unlimited
Maximum size of the export compressed (ZIP) file	unlimited

Manage labels

A label is a custom attribute used to identify incidents that share similar traits.

You can assign multiple labels to an incident and you can reuse a label on multiple incidents.

Example: You have incidents that relate to several projects your company is developing. You can create labels with the name of each project and assign the labels to the respective incidents.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **DLP Incident Manager**.
2. From the **Present** drop-down list, select the option for your product.
3. Select the checkboxes of one or more incidents.

   To update all incidents displayed by the current filter, click **Select all in this page**.

4. Perform any of these tasks.
   - To add labels:
     1. Select **Actions** | **Labels** | **Attach**.
     2. To add a new label, enter a name and click **Add**.
     3. Select one or more labels.
     4. Click **OK**.
   - To remove labels from an incident:
     1. Select **Actions** | **Labels** | **Detach**.
     2. Select the labels to remove from the incident.
     3. Click **OK**.
   - To delete labels:
     1. Select **Actions** | **Labels** | **Delete Labels**.
     2. Select the labels to delete.
     3. Click **OK**.

Working with cases

Cases allow administrators to collaborate on the resolution of related incidents.

In many situations, a single incident is not an isolated event. You might see multiple incidents in the DLP Incident Manager that share common properties or are related to each other. You can assign these related incidents to a case. Multiple administrators can monitor and manage a case depending on their roles in the organization.

McAfee DLP Endpoint Scenario: You notice that a particular user often generates several incidents after business hours. This could indicate that the user is engaging in suspicious activity or that the user's system has been compromised. Assign these incidents to a case to keep track of when and how many of these violations occur.

McAfee DLP Discover Scenario: Incidents generated from a remediation scan show that many sensitive files were recently added to a publicly accessible repository. Another remediation scan shows that these files have also been added to a different public repository.

Depending on the nature of the violations, you might need to alert the HR or legal teams about these incidents. You can allow members of these teams to work on the case, such as adding comments, changing the priority, or notifying key stakeholders.

Manage cases

Create and maintain cases for incident resolution.

Tasks

- *Create cases* on page 204
  Create a case to group and review related incidents.
- *View case information* on page 204
  View audit logs, user comments, and incidents assigned to a case.
- *Assign incidents to a case* on page 205
  Add related incidents to a new or existing case.
- *Move or remove incidents from a case* on page 205
  If an incident is no longer relevant to a case, you can remove it from the case or move it to another case.
- *Update cases* on page 206
  Update case information such as changing the owner, sending notifications, or adding comments.
- *Add or remove labels to a case* on page 207
  Use labels to distinguish cases by a custom attribute.
- *Delete cases* on page 207
  Delete cases that are no longer needed.

Create cases

Create a case to group and review related incidents.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Data Protection** | **DLP Case Management**.
2. Select **Actions** | **New**.
3. Enter a title name and configure the options.
4. Click **OK**.

View case information

View audit logs, user comments, and incidents assigned to a case.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Data Protection** | **DLP Case Management**.
2. Click on a case ID.

3 Perform any of these tasks.

- To view incidents assigned to the case, click the **Incidents** tab.
- To view user comments, click the **Comments** tab.
- To view the audit logs, click the **Audit Log** tab.

4 Click **OK**.

Assign incidents to a case

Add related incidents to a new or existing case.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1 In McAfee ePO, select **Menu** | **Data Protection** | **DLP Incident Manager**.

2 From the **Present** drop-down list, select an incident type. For **Data at rest (Network)** click the **Scan** link to set the scan if needed.

3 Select the checkboxes of one or more incidents.

> Use options such as **Filter** or **Group By** to show related incidents. To update all incidents displayed by the current filter, click **Select all in this page**.

4 Assign the incidents to a case.

- To add to a new case, select **Actions** | **Case Management** | **Add to new case**, enter a title name, and configure the options.
- To add to an existing case, select **Actions** | **Case Management** | **Add to existing case**, filter by the case ID or title, and select the case.

5 Click **OK**.

Move or remove incidents from a case

If an incident is no longer relevant to a case, you can remove it from the case or move it to another case.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1 In McAfee ePO, select **Menu** | **Data Protection** | **DLP Case Management**.

2 Click a case ID.

3 Perform any of these tasks.

- To move incidents from one case to another:

  1 Click the **Incidents** tab and select the incidents.

  2 Select **Actions** | **Move**, then select whether to move to an existing or new case.

  3 Select the existing case or configure options for a new case, then click **OK**.

- To remove incidents from the case:
  1. Click the **Incidents** tab and select the incidents.
  2. Select **Actions** | **Remove**, then click **Yes**.

4. Click **OK**.

> You can also move or remove one incident from the **Incidents** tab by clicking **Move** or **Remove** in the **Actions** column.

Update cases

Update case information such as changing the owner, sending notifications, or adding comments.

Notifications are sent to the case creator, case owner, and selected users when:

- An email is added or changed.
- Incidents are added to or deleted from the case.
- The case title is changed.
- The owner details are changed.
- The priority is changed.
- The resolution is changed.
- Comments are added.
- An attachment is added.

> You can disable automatic email notifications to the case creator and owner from **Menu** | **Configuration** | **Server Settings** | **Data Loss Prevention**.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Data Protection** | **DLP Case Management**.
2. Click a case ID.
3. Perform any of these tasks.
   - To update the case name, in the **Title** field, enter a new name, then click **Save**.
   - To update the owner:
     1. Next to the **Owner** field, click **...**
     2. Select the group or user.
     3. Click **OK**.
     4. Click **Save**.
   - To update the **Priority**, **Status**, or **Resolution** options, use the drop-down lists to select the items, then click **Save**.

- To send email notifications:
  1. Next to the **Send notifications to** field, click **...**
  2. Select the users to send notifications to.

     > If no contacts are listed, specify an email server for McAfee ePO and add email addresses for users. Configure the email server from **Menu** | **Configuration** | **Server Settings** | **Email Server**. Configure users from **Menu** | **User Management** | **Users**.

  3. Click **Save**.
- To add a comment to the case:
  1. Click the **Comments** tab.
  2. Enter the comment in the text field.
  3. Click **Add Comment**.

4. Click **OK**.

Add or remove labels to a case

Use labels to distinguish cases by a custom attribute.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Data Protection** | **DLP Case Management**.
2. Select the checkboxes of one or more cases.

   > To update all incidents displayed by the current filter, click **Select all in this page**.

3. Perform any of these tasks.
   - To add labels to the selected cases:
     1. Select **Actions** | **Manage Labels** | **Attach**.
     2. To add a new label, enter a name and click **Add**.
     3. Select one or more labels.
     4. Click **OK**.
   - To remove labels from the selected cases:
     1. Select **Actions** | **Manage Labels** | **Detach**.
     2. Select the labels to remove.
     3. Click **OK**.

Delete cases

Delete cases that are no longer needed.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Data Protection** | **DLP Case Management**.
2. Select the checkboxes of one or more cases.

   > To delete all cases displayed by the current filter, click **Select all in this page**.

3. Select **Actions** | **Delete**, then click **Yes**.

11 Collecting and managing data

Monitoring the system consists of gathering and reviewing evidence and events, and producing reports. Incident and event data from the DLP tables in the McAfee ePO database is viewed in the DLP Incident Manager and DLP Operations pages or is collated into reports and dashboards. User information is collated on the **User Information** tab of the **DLP Operations** module, and can be exported to a CSV file.

By reviewing recorded events and evidence, administrators determine when rules are too restrictive, causing unnecessary work delays, and when they are too lax, allowing data leaks.

Contents

Edit server tasks

McAfee DLP uses the McAfee ePO Server Tasks to run tasks for McAfee DLP Discover and McAfee DLP appliances, DLP Incident Manager, DLP Operations, and **DLP Case Management**.

Each incident and operational events task is predefined in the server tasks list. The only options available are to enable or disable them or to change the scheduling. The available McAfee DLP server tasks for incidents and events are:

- **DLP events conversion 9.4 and above**
- **DLP incident migration from 9.3.x to 9.4.1 and above**
- **DLP operational events migration from 9.3.x to 9.4.1 and above**
- **DLP Policy Conversion**
- **DLP Purge History of Operational Events and Incidents**
- **DLP Purge Operational Events and Incidents**
- **DLP Send Email for Operational Events and Incidents**
- **DLP Set Reviewer for Operational Events and Incidents**

McAfee DLP server tasks for McAfee DLP Discover and McAfee DLP appliances are:

- **Detect Discovery Servers**
- **LDAPSync: Sync across users from LDAP**

In addition, the **Roll Up Data (Local ePO Server)** task can be used to roll up McAfee DLP incidents, operational events, or endpoint discovery data from selected McAfee ePO servers to produce a single report.

If you are upgrading and have McAfee DLP Endpoint installed in McAfee ePO, you also see the following tasks:

- **DLP incident tasks runner**
- **DLP MA Properties Reporting Task**
- **DLP Policy Push task**

Consult the *McAfee Data Loss Prevention Endpoint Product Guide 9.3* for information about these tasks.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Automation** | **Server Tasks.**
2. Select the task to edit.

   Best practice: Enter DLP in the **Quick find** field to filter the list.

3. Select **Actions** | **Edit**, then click **Schedule.**
4. Edit the schedule as required, then click **Save**.

Tasks

- *Create a Purge events task* on page 210
  You create incident and event purge tasks to clear the database of data that is no longer needed.
- *Create an Automatic mail Notification task* on page 211
  You can set automatic email notifications of incidents and operational events to administrators, managers, or users.
- *Create a Set Reviewer task* on page 211
  You can assign reviewers for different incidents and operational events to divide the workload in large organizations.

See also

Create a data rollup server task on page 213

Create a Purge events task

You create incident and event purge tasks to clear the database of data that is no longer needed.

Purge tasks can be created for the Incident List, data in-use incidents on the History list, or the Operational Event List.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Data Protection** | **DLP Incident Manager** or **Menu** | **Data Protection** | **DLP Operations**.
2. Click the **Incident Tasks** or **Operational Event Tasks** tab.
3. Select an incident type from the drop-down list (Incident Tasks only), select **Purge events** in the **Task Type** pane, then click **Actions** | **New Rule.**

   Data in-use/motion (Archive) purges events from the History.

4. Enter a name and optional description, then click **Next.**

   Rules are enabled by default. You can change this setting to delay running the rule.

5. Click **>** to add criteria, **<** to remove them. Set the **Comparison** and **Value** parameters. When you have finished defining criteria, click **Save**.

The task runs daily for live data and every Friday at 10:00 PM for historical data.

Create an Automatic mail Notification task

You can set automatic email notifications of incidents and operational events to administrators, managers, or users.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Data Protection** | **DLP Incident Manager** or **Menu** | **Data Protection** | **DLP Operations**.
2. Click the **Incident Tasks** or **Operational Events Tasks** tab.
3. Select an incident type from the drop-down list (Incident Tasks only), select **Automatic mail Notification** in the **Task Type** pane, then click **Actions** | **New Rule**.
4. Enter a name and optional description.

   Rules are enabled by default. You can change this setting to delay running the rule.
5. Select the events to process.
   - Process all incidents/events (of the selected incident type).
   - Process incidents/events since the last mail notification run.
6. Select **Recipients**.

   > This field is required. At least one recipient must be selected.
7. Enter a subject for the email.

   > This field is required.

   You can insert variables from the drop-down list as required.
8. Enter the body text of the email.

   You can insert variables from the drop-down list as required.
9. (Optional) Select the checkbox to attach evidence information to the email. Click **Next**.
10. Click **>** to add criteria, **<** to remove them. Set the **Comparison** and **Value** parameters. When you have finished defining criteria, click **Save**.

The task runs hourly.

Create a Set Reviewer task

You can assign reviewers for different incidents and operational events to divide the workload in large organizations.

> **Before you begin**
>
> In McAfee ePO **User Management** | **Permission Sets**, create a reviewer, or designate a group reviewer, with Set Reviewer permissions for DLP Incident Manager and DLP Operations.

The Set Reviewer task assigns a reviewer to incidents/events according to the rule criteria. The task only runs on incidents where a reviewer has not been assigned. You cannot use it to reassign incidents to a different reviewer.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Data Protection** | **DLP Incident Manager** or **Menu** | **Data Protection** | **DLP Operations**.
2. Click the **Incident Tasks** or **Operational Event Tasks** tab.
3. Select an incident type from the drop-down list (Incident Tasks only), select **Set Reviewer** in the **Task Type** pane, then click **Actions** | **New Rule**.
4. Enter a name and optional description. Select a reviewer or group, then click **Next**.

   Rules are enabled by default. You can change this setting to delay running the rule.
5. Click **>** to add criteria, **<** to remove them. Set the **Comparison** and **Value** parameters. When you have finished defining criteria, click **Save**.

   Best practice: If there are multiple Set Reviewer rules, reorder the rules in the list.

The task runs hourly.

After a reviewer is set, it is not possible to override the reviewer through the Set Reviewer task.

Monitor task results

Monitor the results of incident and operational event tasks.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Automation** | **Server Task Log**.
2. Locate the completed McAfee DLP tasks.

   Best practice: Enter `DLP` in the **Quick find** field or set a custom filter.
3. Click the name of the task.

   The details of the task appear, including any errors if the task failed.

Creating reports

McAfee DLP uses McAfee ePO reporting features. Several pre-programmed reports are available, as well as the option of designing custom reports.

See the *Querying the Database* topic in the *McAfee ePolicy Orchestrator Product Guide* for details.

Report types

Use the McAfee ePO reporting features to monitor McAfee DLP Endpoint performance.

Four types of reports are supported in McAfee ePO dashboards:

- DLP Incident summary
- DLP Endpoint discovery summary

- DLP Policy summary
- DLP Operations summary

The dashboards provide a total of 22 reports, based on the 28 queries found in the McAfee ePO console under Menu | Reporting | Queries & Reports | McAfee Groups | **Data Loss Prevention**.

Report options

McAfee DLP software uses McAfee ePO Reports to review events. In addition, you can view information on product properties on the McAfee ePO Dashboard.

McAfee ePO Reports

McAfee DLP Endpoint software integrates reporting with the McAfee ePO reporting service. For information on using the McAfee ePO reporting service, see the *McAfee ePolicy Orchestrator Product Guide*.

McAfee ePO rollup queries and rolled up reports, which summarize data from multiple McAfee ePO databases, are supported.

McAfee ePO Notifications are supported. See the *Sending Notifications* topic in the *McAfee ePolicy Orchestrator Product Guide* for details.

ePO Dashboards

You can view information on McAfee DLP product properties in the McAfee ePO **Menu** | **Dashboards** page. There are four predefined dashboards:

- DLP Incident summary
- DLP Endpoint discovery summary
- DLP Policy summary
- DLP Operations summary

Dashboards can be edited and customized, and new monitors can be created. See the McAfee ePO documentation for instructions.

The predefined queries summarized in the Dashboards are available by selecting **Menu** | **Queries & Reports**. They are listed under **McAfee Groups**.

Create a data rollup server task

McAfee ePO rollup tasks draw data from multiple servers to produce a single report. You can create rollup reports for McAfee DLP operational events and incidents.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Automation** | **Server Tasks**.
2. Click **New Task**.
3. In the **Server Task Builder**, enter a name and optional note, then click **Next**.
4. From the **Actions** drop-down list, select **Roll Up Data**.

   The rollup data form appears.
5. (Optional) Select servers in the **Roll up data from** field.

6 From the **Data Type** drop-down list, select **DLP Incidents**, **DLP Operational Event**, or **McAfee DLP Endpoint Discovery**, as required.

7 (Optional) Configure the **Purge**, **Filter**, or **Rollup method** options. Click **Next**.

8 Enter the schedule type, start date, end date, and schedule time. Click **Next**.

9 Review the **Summary** information, then click **Save**.

See also

Edit server tasks on page 209

12 McAfee DLP appliances logging and monitoring

McAfee DLP appliances include logging and monitoring options that provide information about system health, statistics, and can help you troubleshoot problems.

Contents

Event reporting

A number of McAfee DLP Prevent events are available from the **Client Events** log and the **DLP Operations** log in McAfee ePO. Additional information can be obtained from the on-box syslog and a remote logging server if you have one enabled.

The **Client Events** log also displays Appliance Management events. For information about those events, see the *Appliance Management online Help*.

McAfee DLP appliance events

McAfee DLP appliances send events to the **Client Events** log or the **DLP Operations** log.

Client Events log events

Some events include reason codes that you can use to search log files.

Best practice: Regularly purge the **Client Events** log to stop it becoming full.

Event ID	UI event text	Description
15001	**LDAP query failure**	The query failed. Reasons are provided in the event descriptions.
15007	**LDAP directory synchronization**	Directory synchronization status.
210003	**Resource usage reached critical level**	McAfee DLP Prevent cannot analyze a message because the directory is critically full.

Event ID	UI event text	Description
210900	**Appliance ISO upgrade success** **Appliance ISO upgrade failed** **Appliance downgrading to lower version** **Internal install image updated successfully** **Failed to update internal install image**	Appliance upgrade events: • 983 —Appliance ISO upgrade failed. Detailed logs can be found under / rescue/logs/. • 984 — Appliance ISO upgrade success. The appliance was successfully upgraded to a higher version. • 985 — Appliance downgrading to lower version. This event is sent when the downgrade attempt is initiated. Upgrade success or failure events are sent after the upgrade is complete. If a clean upgrade or downgrade is requested, the success or failure event is sent after the McAfee ePO connection is established. Internal installation image updates using SCP events: • 986 — Internal installation image was updated successfully. • 987 — Failed to update the internal installation image.
220000	**User logon**	A user logged on to the appliance: • 354 — GUI logon successful. • 355 — GUI logon failed. • 424 — SSH logon successful • 425 — SSH logon failed. • 426 — Appliance console logon successful. • 427 — Appliance console logon failed. • 430 — User switch successful. • 431 — User switch failed.
220001	**User logoff**	A user logged off the appliance: • 356 — GUI user logged off. • 357 — The session has expired. • 428 — The SSH user logged off. • 429 — The appliance console user logged off. • 432 — The user logged off.
220900	**Certificate Install**	• Certificate installation success • Certificate installation failed: <*reason*> A certificate might not install due to one of the following reasons: • Bad passphrase • No private key • Chain error • Bad certificate • Expired certificate • Not yet valid • Bad signature • Bad CA certificate • Chain too long • Wrong purpose • Revoked • Bad or missing CRL The reason is also reported in the syslog. If the reason does not match any of the available reasons, it gives the default Certificate installation failed event.

DLP Operations log events

Event ID	UI event text	Description
19100	**Policy Change**	Appliance Management successfully pushed a policy to the appliance.
19500	**Policy Push Failed**	Appliance Management failed to push a policy to the appliance.
19105	**Evidence Replication Failed**	• An evidence file could not be encrypted. • An evidence file could not be copied to the evidence server.
19501	**Analysis Failed**	• Possible denial-of-service attack. • The content could not be decomposed for analysis.
19402	**DLP Prevent Registered**	The appliance successfully registered with McAfee ePO.
19403	**DLP Monitor Registered**	The appliance successfully registered with McAfee ePO.

Using syslog with McAfee DLP appliances

McAfee DLP appliances send protocol and hardware logging information to the local syslog, and one or more remote logging servers if you have them enabled. Examples of information sent to the syslog are certificate installation status and ICAP events.

Use settings in the **General** category of the **Common Appliance** policy to set up remote logging servers.

McAfee DLP appliances send information to the syslog in the Common Event Format (CEF) . CEF is an open log management standard that improves the interoperability of security-related information from different security and network devices and applications. To simplify integration, syslog is used as a transport mechanism. This applies a common prefix to each message that contains the date and host name.

For more information about CEF and McAfee DLP appliances event data fields, see the *McAfee DLP Common Event Format Guide* that is available from the McAfee knowledgebase.

Best practice: Select the TCP protocol to send McAfee DLP appliances events data to a remote logging server. UDP has a limit of 1024 bytes per packet so events that exceed that amount are truncated.

Syslog entries contain information about the device itself (the vendor, product name, and version), the severity of the event, and the date the event occurred. The table provides information about some of the most common McAfee DLP appliances fields that appear in syslog entries.

SMTP message events can include the sender and recipient, the subject, the source and destination IP addresses. Every attempt to send a message results in at least one entry in the log. If the message contains content that violates a data loss prevention policy, another entry is added to the log. Where two log entries are added to the log, both entries contain the corresponding McAfeeDLPOriginalMessageID number.

Table 12-1 Syslog log entry definitions

Field	Definition
act	The McAfee DLP action that was taken because of the event
app	The name of the process that raised the event
msg	A descriptive message about the event, for example, the *The RAID disk is being rebuilt*
dvc	The host on which the event occurred
dst	The destination IP address if the connection is available
dhost	The destination host name if the connection is available
src	The originating IP address of the host making the connection

Table 12-1 Syslog log entry definitions *(continued)*

Field	Definition
shost	The originating host name of the host making the connection
suser	The email sender
duser	A list of recipient email addresses
sourceServiceName	The name of the active policy
filePath	The name of the file in which the detection occurred
field	A unique ID assigned to each email message
rt	The time that the event occurred in milliseconds since epoch
flexNumber1	An ID assigned to the reason for the event
McAfeeDLPOriginalSubject	The original subject line in the message
McAfeeDLPOriginalMessageId	The original ID number assigned to the message
McAfeeDLPProduct	The name of the McAfee DLP product that detected the event
McAfeeDLPHardwareComponent	The name of the McAfee DLP hardware appliance that detected the event
McAfeeEvidenceCopyError	There was a problem copying the evidence
McAfeeDLPClassificationText	Information about the McAfee DLP classifications

cs fields

The cs entries in syslog behave according to the value of the cs5 field:

Value	Definition
cs1	If cs5 is 'DP' or 'DPA': The file that triggered the DLP rule If cs5 is 'AR': Anti Relay rule that triggered the event
cs2	If cs5 is 'DP' or 'DPA': The DLP categories that triggered
cs3	If cs5 is 'DP': The DLP classifications that triggered
cs4	Email attachments (if available)
cs5	For a detection event, the scanner which triggered the event: 'DL' - Data Loss Prevention
cs6	The subject of the email
cs1Label	If cs5 is 'DP' or 'DPA': 'dlpfile' If cs5 is 'AR': 'antirelay-rule'
cs2Label	If cs5 is 'DP' or 'DPA': 'dlp-rules'
cs3Label	If cs5 is 'DP': dlpclassification'
cs4Label	email-attachments
cs5Label	master-scan-type
cs6Label	email-subject

Monitoring system health and status

Use the **Appliance Management** dashboard in McAfee ePO to manage your appliances, view system health status, and get detailed information about alerts.

Appliance Management dashboard

The **Appliance Management** dashboard combines the **Appliances** tree view, **System Health** cards, **Alerts** and **Details** panes.

The dashboard shows the following information for all of your managed appliances.

- A selection of information about each McAfee DLP appliance.

  In a McAfee DLP Prevent cluster environment, the system health cards shows the tree view display of the cluster master and a number of cluster scanners.
- Indicators to show whether an appliance needs attention.
- Detailed information about any detected issues.

The information bar includes the appliance name, the number of currently reported alerts, and other information specific to the reported appliance.

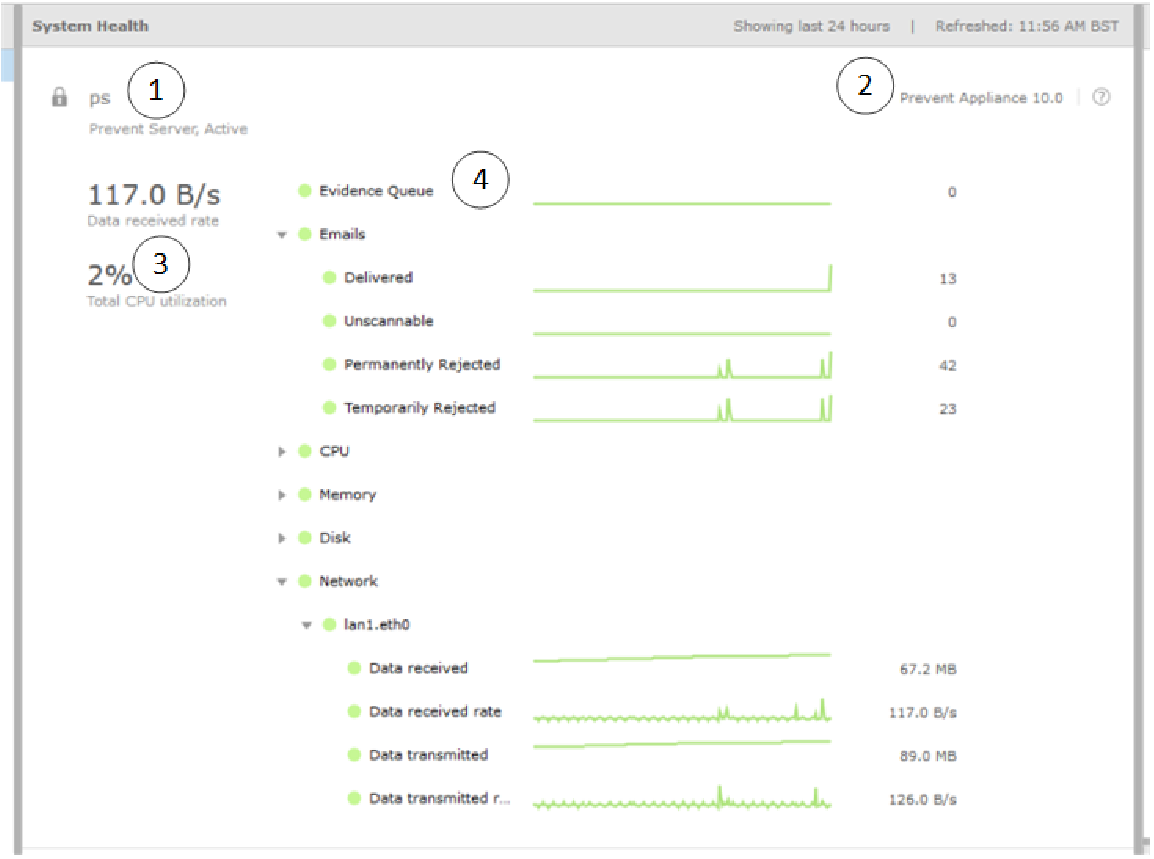
The system health cards

System health cards display status, alerts, and notifications that help you manage all virtual and physical McAfee appliances that you have on your network. Apart from the **Evidence Queue** counter, the counters are not cumulative.

McAfee DLP Prevent health cards

The system health cards show the following information for each McAfee DLP Prevent appliance and cluster of appliances.

In a cluster environment, the tree view displays a cluster master and a number of cluster scanners.



System Health — Showing last 24 hours | Refreshed: 11:56 AM BST

ps
Prevent Server, Active

Prevent Appliance 10.0

117.0 B/s
Data received rate

2%
Total CPU utilization

Evidence Queue	0
Emails	
Delivered	13
Unscannable	0
Permanently Rejected	42
Temporarily Rejected	23
CPU	
Memory	
Disk	
Network	
lan1.eth0	
Data received	67.2 MB
Data received rate	117.0 B/s
Data transmitted	89.0 MB
Data transmitted r...	126.0 B/s

Pane	Information
System Health	• **Evidence Queue** — the number of files waiting to be copied to evidence storage. The queue size is real-time. • **Emails** — the number of messages that were delivered, were permanently or temporarily rejected, or could not be analyzed. The counters show data from the previous 60 seconds. • **Web Requests** — the number of received web requests, and the number of web requests that could not be analyzed. The counters show data from the previous 60 seconds. • **CPU usage** — the total CPU usage. • **Memory** — the memory swap rate. • **Disk** — the percentage of disk usage. • **Network** — the network interfaces on the appliance, showing information about received and transmitted data. The counters show data from the previous 60 seconds.
Alerts	Displays errors or warnings that relate to: • System health statuses • Evidence queue size • Policy enforcement • Communication between McAfee ePO and the appliance More information about an alert is available on the **Details** pane.

McAfee DLP Monitor health cards

The system health cards show the following information for each appliance.

Pane	Information
System Health	• **Evidence Queue** — the number of evidence files waiting to be copied to evidence storage. The queue size is real-time. • **Packets per second** — The number of packets processed by McAfee DLP Monitor every second. • **Packet drops** — The number of packets dropped at the network interface. Details about dropped packets can be obtained from your virtual application. See the maintenance and troubleshooting chapter. • **Active flows** — The current number of conversations on your network tracked by the McAfee DLP Monitor appliance. • **Flows filtered** — The current number of conversations that are not scanned according to filter rules. • **Payloads scanned** — Displays the number of payloads analyzed by McAfee DLP Monitor for each protocol. A payload is a single transaction on the network, such as a download from a website that has been analyzed by McAfee DLP Monitor, had classifications applied, and matched against the appropriate rules to generate incidents. • **Payload scan failure** — Displays the number of payloads that can't be analyzed if, for example, an email message is corrupt or the time to analyze the payload exceeds the connection timeout settings configured in **Policy Catalog** | **DLP Appliance Management** | **General** | **Connection settings**. • **Payloads oversize** — Displays the number of payloads that exceed the limit configured in **Policy Catalog** | **DLP Appliance Management** | **General** | **Analysis settings**. McAfee DLP Monitor analyzes data up to the configured limit, even if the data is incomplete or has been truncated. McAfee DLP Monitor cannot analyze partially extracted zip files. • **CPU usage** — the total CPU usage. • **Memory** — the memory swap rate, and memory usage and swap usage details. • **Disk** — the percentage of disk usage. • **Network** — the network interfaces on the appliance, showing information about received and transmitted data.
Alerts	Displays errors or warnings that relate to: • System health statuses • Evidence queue size • Payload scan failures • Policy enforcement • Communication between McAfee ePO and the appliance More information about an alert is available on the **Details** pane.

View the status of an appliance

You can find out whether an appliance is operating correctly or needs attention by viewing information in **Appliance Management**.

Task

1. Log on to McAfee ePO.
2. From the menu, select **Appliance Management** from the **Systems** section.
3. From the **Appliances** tree view, expand the list of appliances until you locate the appliance that you want to view.

   Information about states and alerts is available in the *Appliance Management online Help*.

Download MIBs and SMI files

Download MIB and SMI files to view the SNMP traps and counters that are available on the appliance.

For more information about how the appliance works with SNMP, see the *McAfee Appliance Management Extension online help*.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. Go to `https://<APPLIANCE>:10443/mibs`.
2. Download the MCAFEE-SMI.txt, MCAFEE-DLP-PREVENT-MIB.txt, and MCAFEE-DLP-MONITOR-MIB.txt files in the language you want to view the information in.
3. Import the MIB and SMI files into your network monitoring software.

Maintenance and troubleshooting

Use the McAfee DLP Diagnostic Tool Utility for troubleshooting McAfee DLP Endpoint for Windows clients. Use the McAfee DLP Prevent and McAfee DLP appliance console for maintenance and troubleshooting options.

13 McAfee DLP Endpoint Diagnostics

Use the McAfee DLP Endpoint Diagnostic Tool utility for troubleshooting and monitoring system health.

Diagnostic Tool

The Diagnostic Tool is designed to aid troubleshooting McAfee DLP Endpoint problems on Microsoft Windows endpoint computers. It is not supported on OS X computers.

The Diagnostic Tool gathers information on the performance of client software. The IT team uses this information to troubleshoot problems and tune policies. When severe problems exist, it can be used to collect data for analysis by the McAfee DLP development team.

The tool is distributed as a utility to install on problem computers. It consists of seven tabbed pages, each devoted to a different aspect of McAfee DLP Endpoint software operation.

On all pages displaying information in tables (all pages except General information and Tools), you can sort the tables on any column by clicking the column header.

General information	Collects data such as whether the agent processes and drivers are running and general policy, agent, and logging information. Where an error is detected, information about the error is presented.
DLPE Modules	Displays the agent configuration (as shown in the McAfee DLP Endpoint policy console as the Agent Configuration | Miscellaneous page). It shows the configuration setting and status of each module, add-in, and handler. Selecting a module displays details that can help you determine problems.
Data Flow	Displays the number of events and the memory used by the McAfee DLP Endpoint client, and displays event details when a specific event is selected.
Tools	Allows you to perform several tests and displays the results. When necessary, a data dump is performed for further analysis.
Process list	Displays all processes currently running on the computer. Selecting a process displays details and related window titles and application definitions.
Devices	Displays all Plug and Play and removable devices currently connected to the computer. Selecting a device displays details of the device and related device definitions. Displays all active device control rules and relevant definitions from the device definitions.
Active policy	Displays all rules contained in the active policy, and the relevant policy definitions. Selecting a rule or definition displays the details.

Checking the agent status

Use the General information tab to get an overview of the agent status.

The information on the General information tab is designed to confirm expectations and answer basic questions. Are the agent processes and drivers running? What product versions are installed? What is the current operation mode and policy?

Agent processes and drivers

One of the most important questions in troubleshooting is, "Is everything running as expected?" The Agent processes and Drivers sections show this at a glance. The checkboxes show if the process is enabled; the colored dot shows if it is running. If the process or driver is down, the text box gives information on what is wrong.

The default maximum memory is 150 MB. A high value for this parameter can indicate problems.

Table 13-1 Agent processes

Term	Process	Expected status
Fcag	McAfee DLP Endpoint agent (client)	enabled; running
Fcags	McAfee DLP Endpoint agent service	enabled; running
Fcagte	McAfee DLP Endpoint text extractor	enabled; running
Fcagwd	McAfee DLP Endpoint watch dog	enabled; running
Fcagd	McAfee DLP Endpoint agent with automatic dump	enabled only for troubleshooting.

Table 13-2 Drivers

Term	Process	Expected status
Hdlpflt	McAfee DLP Endpoint minifilter driver (enforces removable storage device rules)	enabled; running
Hdlpevnt	McAfee DLP Endpoint event	enabled; running
Hdlpdbk	McAfee DLP Endpoint device filter driver (enforces device Plug and Play rules)	can be disabled in configuration
Hdlpctrl	McAfee DLP Endpoint control	enabled; running
Hdlhook	McAfee DLP Endpoint Hook driver	enabled; running

Agent info section

Operation mode and Agent status are expected to match. The Agent Connectivity indication, together with EPO address, can be useful in troubleshooting.

Agent Connectivity has three options: online, offline, or connected by VPN.

Run the Diagnostic Tool

The Diagnostic Tool utility provides IT teams with detailed information on the agent status.

Before you begin

Diagnostic Tool requires authentication with McAfee® Help Desk.

Task

1 Double-click the hdlpDiag.exe file.

An authentication window opens.

2 Copy the Identification Code to the Help Desk **Identification Code** text box on the **Generate DLP Client Bypass Key** page. Fill in the rest of the information and generate a Release Code.

3 Copy the Release Code to the authentication window **Validation Code** text box and click **OK**.

The diagnostic tool utility opens.

> The General Information, DLPE Modules, and Process List tabs have a Refresh button in the lower right corner. Changes that occur when a tab is open do not update information automatically on these tabs. Click the Refresh button frequently to verify that you are viewing current data.

Tuning policies

The Diagnostic Tool can be used to troubleshoot or tune policies.

Use case: High CPU usage

Users are sometimes plagued by slow performance when a new policy is enforced. One cause might be high CPU usage. To determine this, go to the Process List tab. If you see an unusually large number of events for a process, this could be the problem. For example, a recent check found that *taskmgr.exe* was classified as an Editor, and had the second highest number of total events. It is quite unlikely that this application is leaking data, and the McAfee DLP Endpoint client does not need to monitor it that closely.

To test the theory, create an application template. In the Policy Catalog, go to DLP Policy | Settings and set an override to Trusted. Apply the policy, and test to see if performance has improved.

Use case: Creating effective content classification and content fingerprinting criteria

Tagging sensitive data lies at the heart of a data protection policy. Diagnostic Tool displays information that helps you design effective content classification and content fingerprinting criteria. Tags can be too tight, missing data that should be tagged, or too loose, creating false positives.

The Active Policy page lists classifications and their content classification and content fingerprinting criteria. The Data Flow page lists all tags applied by the policy, and the count for each. When counts are higher than expected, false positives are suspected. In one case, an extremely high count led to the discovery that the classification was triggered by Disclaimer text. Adding the Disclaimer to the whitelist removed the false positives. By the same token, lower than expected counts suggest a classification that is too strict.

If a new file is tagged while the Diagnostic Tool is running, the file path is displayed. in the details pane. Use this information to locate files for testing.

14 McAfee DLP appliance maintenance and troubleshooting

Use the appliance console for general maintenance tasks such as changing network settings and performing software updates.

Troubleshooting options, sanity checks, and error messages are available to help you identify and resolve problems with a McAfee DLP appliance.

Contents

Monitoring dropped packets on a virtual appliance

Dropped packets are not reported in McAfee DLP Monitor System Health cards in the **Appliance Management** dashboard. You can get information about them from the virtual application instead.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. Log on to the VMware ESXi or VMware ESX host, or the vCenter Server using the vSphere Client.
2. Select the VMware ESXi or ESX host in the inventory list.
3. Select the virtual appliance and click the **Perfomance** tab.
4. Click **Advanced** | **Chart Options**.
5. Select **Network** | **Real-time**.
6. Enable the **Transmit packets dropped** and **Receive packets dropped** counters and click **Apply**.

Managing with the McAfee DLP appliance console

Use administrator credentials to open the appliance console to edit network settings you entered in the Setup Wizard and perform other maintenance and troubleshooting tasks.

You can add your own text to appear on the top of the appliance console or SSH logon screen using the **Custom Logon Banner** option in McAfee ePO (**Menu** | **Policy Catalog** | **DLP Appliance Management** | **General**.

Table 14-1 Appliance console menu options

Option	Definition
Graphical configuration wizard	Open the graphical configuration wizard. If you log on using SSH, the graphical configuration wizard option is not available.
Shell	Open the appliance Shell.
Enable/Disable SSH	Enable or disable SSH as a method of connecting to the appliance.
Generate MER	Create a Minimum Escalation Report (MER) to send to McAfee Support to diagnose problems with the appliance.
Power down	Shut down the appliance.
Reboot	Restart the appliance.
Rescue Image	Create a rescue image for the appliance to boot from.
Reset to factory defaults	Reset the appliance to its factory default settings.
Change password	Change the administrator account password.
Logout	Log off the master appliance.

Accessing the appliance console

The appliance console allows you to perform various maintenance tasks. There are different ways to access the console depending on the type of appliance you have.

Table 14-2 Methods for accessing the console

Method	Virtual appliance	Hardware appliance
SSH	X	X
vSphere Client	X	
Local KVM (keyboard, monitor, mouse)		X
RMM		X
Serial port		X

Change original network settings

You can use the graphical configuration wizard to change network settings that you entered during the installation process.

Task

1 Log on to the appliance with administrator credentials.

> If you log on using SSH, the graphical configuration wizard option is not available.

2 Open the graphical configuration wizard.

3 Edit the **Basic Network Setup** settings that you want to change.

4 Click **Finish**.

Modify speed and duplex settings for hardware appliances

By default, the network interfaces are configured for auto-negotiation. Use the command line to change the speed and duplex settings.

Task

1 Using a command line session, log on to the appliance.

2 From the options menu, select the **Shell** option.

3 View the help on forming the command.

```
$ /opt/NETAwss/mgmt/nic_options -?
```

- Use `lan1` for the client interface and `mgmt` for the management interface.
- `--(no)autoneg` turns auto-negotiation on or off. The default is on.
- `--duplex` specifies the duplex — half or full. The default is full.
- `--speed` specifies the network speed in Mb/s — 0, 100, or 1000. The default is 1000.
- `--mtu` specifies the Maximum Transmission Unit (MTU) size in bytes — a value between 576–1500. The default is 1500.

4 Enter the command to change the setting. *Examples:*

- To disable auto-negotiation and set a network speed of 100 Mb/s on the client interface:

```
$ sudo /opt/NETAwss/mgmt/nic_options --noautoneg --speed 100 lan1
```

- To restore the default behavior to the management port:

```
$ sudo /opt/NETAwss/mgmt/nic_options mgmt
```

Managing hardware appliances with the RMM

Use the RMM — also called the Baseboard Management Controller (BMC) — to manage a hardware appliance remotely. The RMM is not available on virtual appliances.

Use the appliance console to enable and configure basic settings for the RMM. After configuring the RMM network settings, you can also access the appliance console using the integrated web server. From the web interface, you can check the hardware status, perform additional configuration, and remotely manage the appliance. Go to:

https://<RMM IP address>

Use the appliance admin credentials to access the user interface. You can configure the RMM to use LDAP for authentication instead of the admin account.

By default, all protocols used to access the RMM are enabled:

- HTTP/HTTPS
- SSH

- IPMI over LAN
- Remote KVM

Configure the RMM

Configure network settings and protocols used by the RMM.

Task

1. Using the console, log on to the appliance.
2. From the console menu, select **Configure the BMC**.
3. Perform any of these tasks.
   - To configure network information:
     1. Select **Configure the address**.
     2. Type the IP address, the network mask, and the optional gateway. Use the up and down arrows to navigate between options.
     3. Press **Enter** or select **OK** to save the changes.
   - To configure the allowed protocols:
     1. Select **Configure remote protocols**.
     2. Press the space bar enable or disable an option. Use the up and down arrows to navigate between options.
     3. Press **Enter** or select **OK** to save the changes.

Use the administrator account and password to log on to the appliance using the RMM.

Run the Setup Wizard using the remote KVM service

If you do not have local access to the keyboard, monitor, and mouse to run the Setup Wizard, you can do so using the RMM web interface.

Task

1. Using a web browser, log on to https://<RMM IP address>.
2. Click the **Remote Control** tab.
3. Click **Launch Console**.
4. For some browsers, you might need to download the remote console application. In this case, download and open the jviewer.jnlp file.
5. From admin shell, select **Graphical configuration wizard**.

Best practice: Securing the RMM

Secure your RMM environment to prevent unauthorized users from accessing the appliance.

- Make sure the RMM firmware is up-to-date.
- Connect the RMM port to a secure, dedicated physical network or VLAN.
- Disable unused protocols. Only HTTP/HTTPS and the remote KVM service are required to remotely configure the appliance.

- If your appliances uses RMM4, make sure the appliance is configured to force the use of HTTPS.

  The appliance console and the web-based interface display which RMM type the appliance uses — RMM3 or RMM4.

  From the web-based interface, click the **Configuration tab**, select **Security Settings**, then select the **Force HTTPS** option.

- Periodically change the administrator password.

Upgrading an appliance

McAfee DLP appliances contain a partition with an internal installation image which you can use to upgrade or reinstall the appliance.

Patches, hotfixes, and new versions of the software are distributed as .iso files. To apply a patch, hotfix, or new version, you must boot from the .iso file. You can write this to a CD or USB and boot from it, or copy the image over the appliance's internal installation image and boot from that. If you are installing a version earlier than what is currently installed, a warning is displayed that you can only perform a reinstallation. Downgrading to an earlier version does not retain any configuration or McAfee ePO registration.

Best practice: Copy the .iso file to the appliance, then boot from the internal installation image. This option is available from the appliance console when you log on as admin from the console menu or SSH. You can also update the appliance installation image from a CD, USB (Exfat filesystem is not supported), or virtual CD (RMM or VMware).

Installation options

- **Full** — Retains all configuration, including evidence files and hit highlighting waiting to be copied to the evidence storage share
- **Config** — Retains all configuration but does not retain evidence files or hit highlighting waiting to be copied
- **Basic** — Retains only network configuration and McAfee ePO registration
- **Reinstall** — Reinstalls without retaining any configuration; you must use the Setup Wizard to register with McAfee ePO

Best practice: Perform a full installation.

Apply a patch, hotfix, or new version using the internal installation image

Task

1. Update the installation image using a utility such as WinSCP or a command line session to copy the .iso file to /home/admin/upload/iso/.
2. Using a command line session, log on to the appliance as admin.
3. From the appliance console menu, select **Upgrade**.
4. Select **Show the internal install image details** to confirm the version.

   The current installation image version should be the one you copied earlier.
5. Select **Boot from the internal install image**.

6 Select the **Full** option, then select **Yes**.

The appliance restarts and installs, preserving all data.

7 Return to the menu, and click **Show internal rescue image details** to confirm the new version has been installed.

Upgrade the appliance using a CD

Task

1 Insert the CD into the appliance.

2 Select **Update the internal install image from an external device**.

3 Verify that the external device is correctly identified in the list.

If multiple .iso files are detected, all files are listed.

4 Select the .iso image and device, then select **Yes**.

5 Reboot the appliance from the CD.

Upgrade the appliance using a USB drive

Task

1 Create a USB drive containing the installation image.

a Insert the USB drive into the appliance.

b Select **Copy the internal install image to a USB flash device**.

c Select **Yes**.

2 Reboot the appliance from the USB.

Restart the appliance

Shut down and restart McAfee DLP Prevent.

Task

1 Log on to the appliance with administrator credentials.

2 From the general console menu, select **Reboot**.

Reset the appliance to its factory defaults

Return the appliance to its original settings.
You will have to reconfigure network configuration settings.

Task

1 Log on to the appliance with administrator credentials.

The general console menu opens.

2. From the general console menu, press the **Reset to factory defaults** option.

Log off the appliance

Close the logon session and return to a logon prompt.

Task

1. Log on to the appliance with administrator credentials.

   The general console menu opens.

2. From the general console menu, press the **Logout** option.

   Either the SSH session closes, or the console returns to the logon prompt.

McAfee DLP Prevent does not accept email

If a Smart Host is not configured, McAfee DLP Prevent cannot accept email messages because it has nowhere to send them to.

McAfee DLP Prevent issues a *451 System problem: retry later. (No SmartHost has been configured)* error, and closes the connection.

> You can check whether McAfee DLP Prevent can accept email using telnet. If the appliance is correctly configured, you get a 220 welcome message:
>
> *220 host.domain.example PVA/SMTP Ready*

Task

For details about product features, usage, and best practices, click **?** or **Help**.

- To resolve a connection issue, you must:
  - a Install the required extensions in McAfee ePO.
  - b Register the appliance with a McAfee ePO server.

    Follow the steps in the *McAfee DLP Prevent Setup Wizard help*.
  - c Configure at least one DNS server in the **Common Appliance Management** policy.

    See the configuring general settings section in the *Appliance Management Extension online help*.
  - d Configure a Smart Host in the **McAfee DLP Prevent Email Settings** policy category.
  - e Apply a McAfee Data Loss Prevention policy.

    See the policy assignment section in the *McAfee ePolicy Orchestrator online help*.

See also

Working with McAfee DLP policies on page 82

Replace the default certificate

You can replace the self-signed certificate with one issued by a certificate authority (CA) so that other hosts on the network can validate the appliance's SSL certificate.

> **Before you begin**
>
> SSH must be enabled.

To replace the certificate, you can either:

- Upload a new certificate and private key.
- Download a certificate signing request (CSR) from the appliance, have it signed by a CA, and upload the certificate that the CA gives you.

Best practice: Downloading a CSR from the appliance ensures that the appliance's private key cannot be inadvertently exposed.

Only ECDSA and RSA certificates and keys are allowed in the uploaded file. The certificate must be suitable for use as both a TLS server and a TLS client and the upload must include the whole certificate chain. Uploads can be in the following formats:

- PEM (Base64) — Certificate chain and private key or certificate chain only
- PKCS#12 — Certificate chain and private key
- PKCS#7 — Certificate chain only

If the upload format is PKCS#12 or PKCS#7, the correct file endings must be used:

- PKCS#12 must have the file ending .p12 or .pfx.
- PKCS#7 must have the file ending .p7b.

The certificate might fail to install if:

- The certificate is not usable for its intended role.
- The certificate has expired.
- The uploaded file does not contain the CA certificates that it needs to verify it.
- The certificate uses an unsupported public key algorithm, such as DSA.

If installation fails, detailed information is available in the appliance syslog. To view it, log on to the appliance console, select the **Shell** option, and type `$ grep import_ssl_cert /var/log/messages`.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In a browser, go to https://APPLIANCE:10443/certificates/ and select one of the CSR links for download.

   Two files are available: one contains an RSA public key (the file ending in .rsa.csr) and the other contains an ECDSA public key (the file ending in .ec.csr).

2. Follow your CA's instructions to get the request signed.

3. Use an SFTP client, such as winscp, to copy the file to the /home/admin/upload/cert directory on the appliance.

   The **Client Events** log reports whether the installation succeeded or failed.

   The file installs automatically.

Tasks

- *Regenerate the appliance's private key* on page 237
  You can regenerate the private key if it was compromised, or if you need to renew a certificate that was signed externally.

See also

McAfee DLP appliance events on page 215
Using syslog with McAfee DLP appliances on page 217

Regenerate the appliance's private key

You can regenerate the private key if it was compromised, or if you need to renew a certificate that was signed externally.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. Log on to the appliance console.
2. Select the **Shell** option.
3. Type `sudo /opt/NETAwss/mgmt/make_ssl_cert`.

   The appliance's private key, self-signed certificate, and certificate signing requests are renewed.

If the appliance was using a certificate that was signed externally, you must upload a signed certificate again.

Error messages

If the appliance is not configured correctly, it tries to identify the problem and sends a temporary or permanent failure message.

The text in parentheses in the error message provides additional information about the problem. Some error messages relay the response from the Smart Host so the McAfee DLP Prevent response contains the IP address, which is indicated by x.x.x.x.

For example, *442 192.168.0.1 : Connection refused* indicates that the Smart Host with the address 192.168.0.1 did not accept the SMTP connection.

Table 14-3 Temporary failure messages

Text	Cause	Recommended action
451 (The system has not been registered with an ePO server)	The initial setup was not completed.	Register the appliance with a McAfee ePO server using the **Graphical Configuration Wizard** option in the appliance console.
451 (No DNS servers have been configured)	The configuration applied from McAfee ePO did not specify any DNS servers.	Configure at least one DNS server in the **General** category of the **Common Appliance** policy.
451 (No Smart Host has been configured)	The configuration applied from McAfee ePO did not specify a Smart Host.	Configure a Smart Host in the **McAfee DLP Prevent Email Settings** policy category.

Table 14-3 Temporary failure messages *(continued)*

Text	Cause	Recommended action
451 (Policy OPG file not found in configured location)	The configuration applied from McAfee ePO was incomplete.	• Ensure that the **Data Loss Prevention** extension is installed. • Configure a **Data Loss Prevention** policy. • Contact your technical support representative. The configuration OPG file must be applied with the policy OPG file.
451 (Configuration OPG file not found in configured location)	The configuration applied from McAfee ePO was incomplete.	• Ensure that the **Data Loss Prevention** extension is installed. • Configure a **Data Loss Prevention** policy. • Contact your technical support representative. The configuration OPG file must be applied with the policy OPG file.
451 (LDAP server configuration missing)	This error occurs when both these conditions are met: • McAfee DLP Prevent contains a rule that specifies a sender as a member of an LDAP user group. • McAfee DLP Prevent is not configured to receive group information from the LDAP server that contains that user group.	Check that the LDAP server is selected in the **Users and Groups** policy category.
451 (Error resolving sender based policy)	A policy contains LDAP sender conditions, but cannot get the information from the LDAP server because: • McAfee DLP Prevent and the LDAP server have not synchronized. • The LDAP server is not responding.	Check that the LDAP server is available.
451 (FIPS test failed)	The cryptographic self-tests required for FIPS compliance failed	Contact your technical support representative.
451 (Unable to verify data against the registered document server)	The registered documents server is unavailable.	Check your configuration to confirm that the server is available, and the details you entered are correct.
442 x.x.x.x: Connection refused	McAfee DLP Prevent could not connect to the Smart Host to send the message, or the connection to Smart Host was dropped during a conversation.	Check that the Smart Host can receive email.

Table 14-4 Permanent failure messages

Error	Cause	Action
550 Host / domain is not permitted	McAfee DLP Prevent refused the connection from the source MTA.	Check that the MTA is in the list of permitted hosts in the **McAfee DLP Prevent Email Settings** policy category.
550 x.x.x.x: Denied by policy. TLS conversation required	The Smart Host did not accept a STARTTLS command but McAfee DLP Prevent is configured to always send email over a TLS connection.	Check the TLS configuration on the host.

Table 14-5 ICAP error messages

Error	Cause	Action
500 (Unable to verify data against the registered document server)	The registered documents server is unavailable.	Check your configuration to confirm that the server is available, and the details you entered are correct.
500 (LDAP server configuration missing)	This error occurs when both these conditions are met: • McAfee DLP Prevent contains a rule that specifies an end-user as a member of an LDAP user group. • McAfee DLP Prevent is not configured to receive group information from the LDAP server that contains that user group.	Check that the LDAP server is selected in the **Users and Groups** policy category.
500 (Error resolving end-user based policy)	A policy contains LDAP sender conditions, but cannot get the information from the LDAP server because: • McAfee DLP Prevent and the LDAP server have not synchronized. • The LDAP server is not responding.	Check that the LDAP server is available.

Create a Minimum Escalation Report (MER)

Create a Minimum Escalation Report to provide McAfee support the information they need to diagnose a problem with a McAfee DLP appliance.
You can download the Minimum Escalation Report. Up to five reports can be available at any one time, and each is deleted after 24 hours. If another report is generated, the oldest report is deleted. It can take several minutes to generate a Minimum Escalation Report, and the file is several megabytes in size.

The report contains information such as hardware logs, software versions, disk and memory usage, network and system information, open files, active processes, IPC, binaries, reporting, rescue images, and system tests.

The report does not contain details of evidence or hit highlight information.

Best practice: When you create a Minimum Escalation Report, specify a password to secure the report. Remember to include the password when you send the report to McAfee support.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1 Log on to the appliance with administrator credentials.

The general console menu opens.

2 Use the down arrow key to select **Generate MER**.

3 Type a password that McAfee Support can use to open the MER, and use the arrow key to move to the password confirmation field.

4 Press **ENTER** to start generating the report.

When the report is ready, you receive notification of the URL (https://<*APPLIANCE*>:10443/mer) that you can download the report from.

5 Browse to the URL, and select the Minimum Escalation Report that you want to download.

6 Follow instructions from McAfee support to send the report.

> ❗ Remember to include the password if you set one.

A Appendix

The following tables provide detailed reference information on McAfee DLP features.

Contents

Convert policies and migrate data

Upgrading to McAfee DLP 10.0 or later from versions earlier than 9.4.100 requires migrating or converting incidents, operational events, or policies. McAfee ePO server tasks are used for the conversion/migration.

This task describes upgrading from McAfee DLP Endpoint 9.3.x.

Upgrade the McAfee DLP Endpoint extension to version 9.3.600 (9.3 Patch 6) or later, then install the McAfee DLP 9.4.100 or later extension in McAfee ePO.

The policy conversion task only converts rules that are enabled and applied to the database. To verify the status of rules you want to convert, review your McAfee DLP Endpoint 9.3 policy before conversion.

Task

For details about product features, usage, and best practices, click **?** or **Help**.

1. In McAfee ePO, select **Menu** | **Automation** | **Server Tasks**.

2. Select **DLP Policy Conversion**, then click **Actions** | **Run**.

   The Server Task Log page opens, where you verify that the task is running. The converted policy is compatible with version 9.4.100 and later policies.

   > The task fails if it has run previously. If you make changes to the McAfee DLP 9.3 policy and want to rerun the conversion, edit the server task by deselecting the option **Do not run policy conversion if rule set '[9.3] Policy Conversion Rule Set' exists** on the **Actions** page. The previous rule set is deleted and replaced.

3. Return to the **Server Tasks** page, select **DLP incident migration from 9.3.x to 9.4.1 and above**, then click **Actions** | **Edit**.

   DLP operational events Migration from 9.3.x to 9.4.1 and above is performed in the same way.

4 Select **Schedule status** | **Enabled**, then click **Next** twice.

The migration is pre-programmed, so you can skip the **Actions** page.

5 Select a schedule type and occurrence.

Best practice: Schedule the migration tasks for weekends or other non-work hours due to the load they place on the processor.

a Set the start date and end date to define a time period, and schedule the task for every hour.

b Schedule repeating the task according to the size of incident database you are migrating.

Incidents are migrated in chunks of 200,000.

6 Click **Next** to review the settings, then click **Save**.

Default ports used by McAfee DLP

McAfee DLP uses several ports for network communication. Configure any intermediary firewalls or policy-enforcing devices to allow these ports where needed.

All listed protocols use TCP only, unless noted otherwise.

For information about ports that communicate with McAfee ePO, see KB66797.

Table A-1 McAfee DLP Discover default ports

Port, protocol	Use
• 137, 138, 139 — NetBIOS • 445 — SMB	CIFS scans
• 80 — HTTP • 443 — SSL	Box and SharePoint scans SharePoint servers might be configured to use non-standard HTTP or SSL ports. If needed, configure firewalls to allow the non-standard ports.
53 — DNS (UDP)	DNS queries
• 1801 — TCP • 135, 2101*, 2103*, 2105 — RPC • 1801, 3527 — UDP * Indicates that the port numbers might be incremented by 11 depending on the available ports at initialization. For more information, see Microsoft KB article https://support.microsoft.com/en-us/kb/178517#/en-us/kb/178517.	Microsoft Message Queuing (MSMQ)
1433	Microsoft SQL
1521	Oracle
3306	MySQL

Table A-1 McAfee DLP Discover default ports *(continued)*

Port, protocol	Use
50000	DB2
6379	This port must be open/allowed on the McAfee DLP Discover servers and the DLP server (Redis database server). The signature database uses this port to add registered documents.

Table A-2 McAfee DLP Prevent and McAfee DLP Monitor default ports

Port	Use	Direction from the appliance
22 — SSH	SSH (when enabled)	Inbound
161 (UDP)	SNMP (when enabled)	Inbound
162 (UDP)	SNMP traps (when enabled)	Outbound
445 — SMB, 137, 138, 139 — NetBIOS	Evidence copy	Outbound
8081 — McAfee ePO	McAfee ePO agent service	Inbound
10443 — HTTPS	HTTPS traffic to download, for example, the Minimum Escalation Report (MER) and MIB files	Inbound
53 — DNS (UDP)	DNS queries	Outbound
123 — NTP (UDP)	NTP requests	Inbound and outbound
389, 636 — LDAP and Secure LDAP	Obtaining groups for rule evaluation	Outbound
80,443 — HTTP and HTTPS	McAfee ePO server communication, and queries to URL reputation and registered documents services	Outbound
61613	McAfee Logon Collector	Outbound

Table A-3 McAfee DLP Prevent default ports

Port	Use	Direction
25 — SMTP	SMTP traffic with the MTA	Inbound and outbound
1344, 11344 — ICAP and ICAP over SSL	ICAP traffic with the web proxy	Inbound

For information about ports used by McAfee ePO, see https://kc.mcafee.com/corporate/index?page=content&id=kb66797

Classification definitions and criteria

Classification definitions and criteria contain one or more conditions describing the content or file properties.

Table A-4 Available conditions

Property	Applies to:	Definition	Products
Advanced Pattern	Definitions, criteria	Regular expressions or phrases used to match data such as dates or credit card numbers.	All products
Dictionary	Definitions, criteria	Collections of related keywords and phrases such as profanity or medical terminology.	

Table A-4 Available conditions *(continued)*

Property	Applies to:	Definition	Products
Keyword	Criteria	A string value. You can add multiple keywords to content classification or content fingerprinting criteria. The default Boolean for multiple keywords is OR, but can be changed to AND.	
Proximity	Criteria	Defines a conjunction between two properties based on their location to each other. Advanced patterns, dictionaries, or keywords can be used for either property. The Closeness parameter is defined as "less than x characters," where the default is 1. You can also specify a Match count parameter to determine the minimum number of matches to trigger a hit.	
Document Properties	Definitions, criteria	Contains these options: • Any Property • Author • Category • Comments • Company • Keywords • Last saved by • Manager Name • Security • Subject • Template • Title Any Property is a user-defined property.	
File Encryption	Criteria	Contains these options: • Not encrypted* • McAfee Encrypted Self-Extractor • McAfee Endpoint Encryption • Microsoft Rights Management encryption* • Seclore Rights Management encryption • Unsupported encryption types or password protected file*	• McAfee DLP Endpoint for Windows (All options) • McAfee DLP Discover, McAfee DLP Prevent, McAfee DLP Monitor (Options marked with *)
File Extension	Definitions, criteria	Groups of supported file types such as MP3 and PDF.	All products
File Information	Definitions, criteria	Contains these options: • Date Accessed • Date Created • Date Modified • File Extension* • File Name* • File Owner • File Size*	• All products • McAfee DLP Prevent and McAfee DLP Monitor (Options marked with *)

Table A-4 Available conditions *(continued)*

Property	Applies to:	Definition	Products
Location in file	Criteria	The section of the file the data is located in. • Microsoft Word documents — the classification engine can identify Header, Body, and Footer. • PowerPoint documents — WordArt is considered Header; everything else is identified as Body. • Other documents — Header and Footer are not applicable. The classification criteria does not match the document if they are selected.	
Third Party tags	Criteria	Used to specify Titus field names and values.	• McAfee DLP Endpoint for Windows • McAfee DLP Prevent • McAfee DLP Monitor
True File Type	Definitions, criteria	Groups of file types. For example, the built-in Microsoft Excel group includes Excel XLS, XLSX, and XML files, as well as Lotus WK1 and FM3 files, CSV and DIF files, Apple iWork files, and more.	All products
Application Template	Definitions	The application or executable accessing the file.	• McAfee DLP Endpoint for Windows • McAfee DLP Endpoint for Mac
End-User Group	Definitions	Used to define manual classification permissions.	
Network Share	Definitions	The network share the file is stored in.	McAfee DLP Endpoint for Windows
URL List	Definitions	The URL the file is accessed from.	

See also

Create classification definitions on page 130

Regular expressions for advanced patterns

McAfee DLP advanced patterns use regular expressions (regex) to allow complex pattern matching.

Advanced pattern definitions use the Google RE2 regex syntax. By default they are case sensitive. While a full description of RE2 syntax is beyond the scope of this document, some of the more commonly used terms are listed in the table.

[abc]	Matches a single character a, b, or c
[^abc]	Matches a single character not a, b, or c
[0-9]	Matches a single character in the range 0-9
[^0-9]	Matches a single character not in the range 0-9
(ab|cd)	Matches ab or cd
\d	Matches any ASCII digit
\D	Matches any non-digit character
\s	Matches any whitespace character

\S	Matches any non-whitespace character
\w	Matches any alphanumeric character
\W	Matches any non-alphanumeric character
\b	ASCII word boundary
\ (when used with punctuation, for example \]	Matches] (Escapes the next character, that is, removes its special meaning.)
.	Any single character
*	Modifies the previous token to match 0 or more times
+	Modifies the previous token to match 1 or more times
{3,4}	Modifies the previous token to match 3 or 4 times
?	Modifies the previous token to match 0 or 1 times (makes it optional)
(?i)	Sets matching to be case insensitive up to next closing) (Accounts for nested () for example ((?i)insensitive)sensitive
(?-i)	Sets matching to be case sensitive up to next closing)

Device properties

Device properties specify device characteristics such as the device name, bus type, or file system type.

The table provides device property definitions, which definition types use the property, and which operating system they apply to.

Table A-5 Types of device properties

Property name	Device definition	Applies to operating systems	Description
Bus Type	All	• Windows — Bluetooth, Firewire (IEEE1394), IDE/SATA, PCI, PCMIA, SCSI, USB • Mac OS X — Firewire (IEEE1394), IDE/SATA, SD, Thunderbolt, USB	Selects the device BUS type from the available list. ℹ For plug-and-play device rules, McAfee DLP Endpoint for Mac only supports USB bus type.
CD/DVD Drives	Removable storage	• Windows • Mac OS X	Select to indicate any CD or DVD drive.
Content encrypted by Endpoint Encryption	Removable storage	Windows	Devices protected with Endpoint Encryption.
Device Class	Plug and Play	Windows	Selects the device class from the available managed list.

Table A-5 Types of device properties *(continued)*

Property name	Device definition	Applies to operating systems	Description
Device Compatible IDs	All	Windows	A list of physical device descriptions. Effective especially with device types other than USB and PCI, which are more easily identified using PCI VendorID/DeviceID or USB PID/VID.
Device Instance ID (Microsoft Windows XP) Device Instance Path (Windows Vista and later Microsoft Windows operating systems, including servers)	All	Windows	A Windows-generated string that uniquely identifies the device in the system. *Example:* `USB\VID_0930&PID_6533\5&26450FC&0&6.`
Device Friendly Name	All	• Windows • Mac OS X	The name attached to a hardware device, representing its physical address.
File System Type	• Fixed hard disk • Removable storage	• Windows — CDFS, exFAT, FAT16, FAT32, NTFS, UDFS • Mac OS X — CDFS, exFAT, FAT16, FAT32, HFS/HFS+, NTFS, UDFS Mac OS X supports FAT only on disks other than the boot disk. Mac OS X supports NTFS as read-only.	The type of file system. • For hard disks, select one of exFAT, FAT16, FAT32, or NTFS. • For removable storage devices, any of the above plus CDFS or UDFS.
File System Access	Removable storage	• Windows • Mac OS X	The access to the file system: read only or read-write.
File System Volume Label	• Fixed hard disk • Removable storage	• Windows • Mac OS X	The user-defined volume label, viewable in Windows Explorer. Partial matching is allowed.
File System Volume Serial Number	• Fixed hard disk • Removable storage	Windows	A 32-bit number generated automatically when a file system is created on the device. It can be viewed by running the command-line command `dir x:`, where x: is the drive letter.

Table A-5 Types of device properties *(continued)*

Property name	Device definition	Applies to operating systems	Description
PCI VendorID / DeviceID	All	Windows	The PCI VendorID and DeviceID are embedded in the PCI device. These parameters can be obtained from the Hardware ID string of physical devices. *Example:* `PCI\VEN_8086&DEV_2580&SUBSYS_00000000 &REV_04`
TrueCrypt devices	Removable storage	Windows	Select to specify a TrueCrypt device.
USB Class Code	Plug and Play	Windows	Identifies a physical USB device by its general function. Select the class code from the available list.
USB Device Serial Number	• Plug and Play • Removable storage	• Windows • Mac OS X	A unique alphanumeric string assigned by the USB device manufacturer, typically for removable storage devices. The serial number is the last part of the instance ID. *Example:* `USB\VID_3538&PID_0042\00000000002CD8` A valid serial number must have a minimum of 5 alphanumeric characters and must not contain ampersands (&). If the last part of the instance ID does not follow these requirements, it is not a serial number. You can enter a partial serial number by using the comparison **Contains** rather than **Equals**.
USB Vendor ID / Product ID	• Plug and Play • Removable storage	• Windows • Mac OS X	The USB VendorID and ProductID are embedded in the USB device. These parameters can be obtained from the Hardware ID string of physical devices. *Example:* `USB\Vid_3538&Pid_0042`

Client configuration support for data protection rules

Data protection rules work with settings in the client configuration.

Best practice: To optimize data protection rules, create client configurations to match the requirements of different rule sets.

The following table lists data protection rules, and the specific settings in the client configuration that affect them. In most cases, you can accept the default setting

Table A-6 Data protection rules and client configuration settings

Data protection rule	Client configuration page and settings
Application File Access Protection	**Content Tracking** — Add or edit whitelisted processes
Clipboard Protection	• **Operational Mode and Modules** — Activate the clipboard service. • **Clipboard Protection** — Add or edit whitelisted processes. Enable or disable the Microsoft Office Clipboard. ℹ Microsoft Office Clipboard is enabled by default. When enabled, you can't prevent copying from one Office application to another.
Cloud Protection	**Operational Mode and Modules**: Select cloud protection handlers.
Email Protection	• **Operational Mode and Modules** — Activate available email software (Lotus Notes, Microsoft Outlook). For Microsoft Outlook, select the required add-ins. ℹ In systems where both Microsoft Exchange and Lotus Notes are available, email rules do not work if the outgoing mail server (SMTP) name is not configured for both. • **Email Protection** — Select Microsoft Outlook third-party add-in (Titus). Set the timeout strategy, caching, API, and user notification ℹ When the third-party add-in is installed and active, the McAfee DLP Endpoint Outlook add-in sets itself to bypass mode.
Network Communication Protection	• **Corporate connectivity** — Add or edit corporate VPN servers • **Operational Mode and Modules** — Activate or deactivate the network communication driver (activated by default).
Network Share Protection	No settings
Printer Protection	• **Corporate connectivity** — Add or edit corporate VPN servers • **Operational Mode and Modules** — Select printer application add-ins • **Printing Protection** — Add or edit whitelisted processes. ℹ Printer application add-ins can improve printer performance when using certain common applications. The add-ins are only installed when a printer protection rule is enabled on the managed computer.
Removable Storage Protection	• **Operational Mode and Modules** — Activate advanced options. • **Removable Storage Protection** — Set the deletion mode. Normal mode deletes the file; aggressive mode makes the deleted file unrecoverable.

Table A-6 Data protection rules and client configuration settings *(continued)*

Data protection rule	Client configuration page and settings
Screen Capture Protection	• **Operational Mode and Modules** — Activate the screen capture service. The service consist of the application handler and the Print Screen key handler, which can be activated separately. • **Screen Capture Protection** — Add, edit, or delete screen capture applications protected by screen capture protection rules. Disabling the application handler, or the screen capture service, disables all the applications listed on the Screen Capture Protection page.
Web Protection	• **Operational Mode and Modules** — Enable supported browsers for web protection. • **Web Protection** — Add or edit whitelisted URLs, enable HTTP GET request processing (disabled by default because they are resource-intensive), and set the web timeout strategy. The page also contains a list of supported Google Chrome versions. The list is required due to the frequency of Chrome updates. The list is populated by downloading a current list from McAfee support and using **Browse** to install the XML file.

Removable storage protection advanced options details

The following sections describe the **Windows Client Configuration** | **Operational Mode and Modules** | **Removable Storage Protection Advanced Options**.

Protect TrueCrypt Local Disks Mounts

TrueCrypt encrypted virtual devices can be protected with TrueCrypt device rules, or with removable storage protection rules. TrueCrypt protection is not supported on McAfee DLP Endpoint for Mac.

- Use a device rule if you want to block or monitor a TrueCrypt volume, or make it read-only.
- Use a protection rule if you want content-aware protection of TrueCrypt volumes.

Signatures are lost when content fingerprinted content is copied to TrueCrypt volumes because TrueCrypt volumes do not support extended file attributes. Use document properties, file encryption, or file type groups definitions in the classification definition to identify the content.

Portable Devices Handler (MTP)

Media Transfer Protocol (MTP) is used for transferring files and associated metadata from computers to mobile devices such as smartphones. MTP devices are not traditional removable devices because the device implements the file system, not the computer it is connected to. When the client is configured for MTP devices, the removable storage protection rule allows it to intercept MTP transfers and apply security policies. Only USB connections are currently supported.

The handler works with all data transfers made by Windows Explorer. It does not work with iOS devices, which use iTunes to manage the data transfers. One alternative strategy with iOS devices is to use a removable storage device rule to set the devices to read-only.

Advanced file copy protection

Advanced file copy protection intercepts Windows Explorer copy operations and allows the McAfee DLP Endpoint client to inspect the file at source before copying it to the removable device. It is enabled by default, and should only be disabled for troubleshooting.

> There are use cases where advanced copy protection does not apply. For example, a file opened by an application and saved to a removable device with **Save As** reverts to normal copy protection. The file is copied to the device, then inspected. If sensitive content is found, the file is immediately deleted.

Data protection rule actions

The action performed by a data protection rules is entered on the **Reaction** tab.

By default, the action for all data protection rules is **No Action**. When combined with the **Report Incident** option, this creates a monitoring action that can be used to fine-tune rules before applying them as blocking rules. Along with reporting, most rules allow you to store the original file that triggered the rule as evidence. Storing evidence is optional when reporting an incident.

> **Best practice:** Set the default for all rules to report incidents in **DLP Settings**. This prevents accidental errors by failing to enter any reaction. You can change the default setting when required.

The user notification option activates the user notification pop-up on the endpoint. Select a user notification definition to activate the option.

Different actions can be applied when the computer is disconnected from the corporate network. Some rules also allow different actions when connected to the network by VPN.

The table lists the available actions other than **No Action**, **Report Incident**, **User Notification**, and **Store original file as evidence**.

Table A-7 Available actions for data protection rules

Data protection rule	Reactions	Additional information
Application File Access Protection	Block	When the classification field is set to **is any data (ALL)**, the block action is not allowed. Attempting to save the rule with these conditions generates an error.
Clipboard Protection	Block	
Cloud Protection	• Block • Request Justification • Apply RM Policy • Encrypt	Encryption is supported on Box, Dropbox, GoogleDrive, iCloud, OneDrive personal, OneDrive for Business, and Syncplicity. Attempting to upload encrypted files to other cloud applications fails to save the file.
Email Protection	McAfee DLP Endpoint actions: • Block • Request Justification For McAfee DLP Prevent, the only reaction is Add header X-RCIS-Action. For McAfee DLP Monitor, the only reaction is No Action.	Supports different actions for McAfee DLP Endpoint when the computer is disconnected from the corporate network.
Mobile Device Protection	No Action	Currently supported only for monitoring (**Report Incident** and **Store original file as evidence**).

Table A-7 Available actions for data protection rules *(continued)*

Data protection rule	Reactions	Additional information
Network Communication Protection	Block For McAfee DLP Monitor, the only reaction is No Action.	Storing evidence is not available as an option for McAfee DLP Endpoint. McAfee DLP Endpoint supports different actions when the computer is connected to the corporate network using VPN.
Network Share Protection	• Request Justification • Encrypt	Encryption options are McAfee® File and Removable Media Protection (FRP) and StormShield Data Security encryption software. Encrypt action is not supported onMcAfee DLP Endpoint for Mac.
Printer Protection	• Block • Request Justification	Supports different actions when the computer is connected to the corporate network using VPN.
Removable Storage Protection	• Block • Request Justification • Encrypt	Encrypt action is not supported on McAfee DLP Endpoint for Mac.
Screen Capture Protection	Block	
Web Protection	McAfee DLP Endpoint reactions: • Block • Request Justification McAfee DLP Prevent reactions • No Action • Block For McAfee DLP Monitor, the only reaction is No Action	Request Justification action is not available on McAfee DLP Prevent.

Reactions available for rule types

The available reactions for a rule vary depending on the rule type.

- All data protection rules are available for McAfee DLP Endpoint. Some data protection rules are available for McAfee DLP Prevent and McAfee DLP Monitor.
- Device control rules are available for McAfee DLP Endpoint and Device Control.
- Some discovery rules are available for McAfee DLP Endpoint, some are available for McAfee DLP Discover.

Table A-8 Rule reactions

Reaction	Applies to rules:	Result
No Action	All	Allows the action.
Add header X-RCIS-Action	**Email Protection** (McAfee DLP Prevent only)	Adds an action value to the X-RCIS-Action header

Table A-8 Rule reactions *(continued)*

Reaction	Applies to rules:	Result
Apply RM Policy	• **Data Protection** • **Network Discovery** Not supported on McAfee DLP Endpoint for Mac.	Applies a rights management (RM) policy to the file.
Block	• **Data Protection** • **Device Control**	Blocks the action.
Classify file	**Endpoint Discovery**	Applies automatic classifications and embeds the classification Tag ID into the file format.
Copy	**Network Discovery**	Copies the file to the specified UNC location.
Create Content Fingerprint	**Endpoint Discovery**	Applies content fingerprinting to the file.
Encrypt	• **Data Protection** • **Endpoint Discovery** Not supported on McAfee DLP Endpoint for Mac.	Encrypts the file. Encryption options are FRP or StormShield Data Security encryption software.
Modify anonymous share to login required	**Network Discovery Box Protection**	Removes anonymous sharing for the file.
Move	**Network Discovery**	Moves the file to the specified UNC location. Allows creation of a placeholder file (optional) to notify the user that the file has been moved. The placeholder file is specified by selecting a user notification definition.
Quarantine	**Endpoint Discovery**	Quarantines the file.
Read-only	**Device Control**	Forces read-only access.
Report Incident	All	Generates an incident entry of the violation in DLP Incident Manager.
Request justification	**Data Protection**	Produces a pop-up on the end user computer. The user selects a justification (with optional user input) or selects an optional action.
Show file in DLP Endpoint console	**Endpoint Discovery**	Displays **Filename** and **Path** in the endpoint console. **Filename** is a link to open the file, except when the file is quarantined. **Path** opens the folder where the file is located.
Store original email as evidence	• **Data Protection** Not supported on McAfee DLP Endpoint for Mac.	Stores the original message on the evidence share. Applies to McAfee DLP Endpoint and McAfee DLP Prevent email protection rules only.
Store original file as evidence	• **Data Protection** • **Endpoint Discovery** • **Network Discovery**	Saves the file for viewing through the incident manager. ℹ Requires a specified evidence folder and activation of the evidence copy service.
User notification	• **Data Protection** • **Device Control** • **Endpoint Discovery**	Sends a message to the endpoint to notify the user of the policy violation. ℹ When **User Notification** is selected, and multiple events are triggered, the pop-up message states: *There are new DLP events in your DLP console*, rather than displaying multiple messages.

Reconfigure action rules for web content

You must reconfigure McAfee DLP Prevent action rules for use on proxy servers.

Proxy servers can only ALLOW or BLOCK web content.

Table A-9 McAfee DLP Endpoint data protection rule reactions

Rules	Reactions							
	No action	Apply RM Policy	Block	Encrypt	Report Incident	Request justification	Store original file (email) as evidence	User notification
Application File Access Protection	X		X		X		X	X
Clipboard protection	X		X		X		X	X
Cloud protection	X	X	X	X	X	X	X	X
Email protection (McAfee DLP Endpoint for Windows only)	X				X	X	X	X
Mobile protection	X				X		X	
Network communication protection	X				X		X	X
Network share protection	X				X		X	X
Printer protection	X		X		X	X	X	X
Removable storage protection	X		X	X	X	X	X	X
Screen capture protection	X		X		X		X	X
Web protection	X		X		X	X	X	X

Table A-10 Device control rule reactions

Rules	Reactions		
	No action	Block	Read-only
Citrix XenApp device		X	
Fixed hard drive	X	X	X
Plug-and-play device	X	X	
Removable storage device	X	X	X
Removable storage file access	X	X	
TrueCrypt device	X	X	X

Table A-11 McAfee DLP Endpoint discovery rule reactions

Rules	Reactions					
	No action	Encrypt	Apply RM policy	Quarantine	Create content fingerprint	Classify file
Endpoint file system	X	X	X	X	X	X
Endpoint mail storage protection	X			X	X	

Table A-12 McAfee DLP Discover discovery rule reactions

Rules	Reactions				
	No action	Copy	Move	Apply RM policy	Modify anonymous share to login required
Box protection	X	X	X	X	X
File server (CIFS) protection	X	X	X	X	
SharePoint protection	X	X	X	X	

Scan behavior

Changing properties of a scan that is in progress can affect the behavior of the scan.

Table A-13 Effect of changing properties during a scan

Change	Effect
Disable scan	Scan stops
Delete scan	Scan stops and is deleted
Change scan name	Affects only logs on the next scan run
Change schedule	Affects only the next scan run
Change throttling	Affects only the next scan run*
Change file list	Affects only the next scan run*
Change repository	Affects only the next scan run
Change filters	Affects only the next scan run
Change rules	Affects only the next scan run*
Change classification	Affects only the next scan run*
Change evidence share	Affects the current scan*
Change evidence user credentials	Affects the current scan*
Change remediation user credentials	Affects only the next scan run*
Upgrade or uninstall the Discover server	Scan stops

* The effect takes place after an agent server communication interval (ASCI) occurs.

Predefined dashboards

The following table describes the predefined McAfee DLP dashboards.

Table A-14 Predefined DLP dashboards

Category	Option	Description
DLP: Incident Summary	Number of Incidents per day	These charts show total incidents, and give different breakdowns to help analyze specific problems.
	Number of Incidents per severity	
	Number of Incidents per type	
	Number of Incidents per rule set	
DLP: Operations Summary	Number of Operational events per day	Displays all administrative events.
	Agent Version	Displays the distribution of endpoints in the enterprise. Used to monitor agent deployment progress.
	Distribution of DLP products on endpoint computers	Displays a pie chart showing the number of Windows and Mac endpoints, as well as the number of endpoints where no client is installed.
	DLP Discovery (Endpoint): Local File System Scan Status	Displays a pie chart showing the number of local file system discovery scan properties and their states (completed, running, undefined).
	Agent Status	Displays all agents and their status.
	Agent Operation Mode	Displays a pie chart of agents by DLP operation modes. Operation modes are: • Device control only mode • Device control and full content protection mode • Device control and content aware removable storage protection mode • Unknown
	DLP Discovery (Endpoint): Local Email Storage Scan Status	Displays a pie chart showing the number of local email storage scan discovery properties and their states (completed, running, undefined).
DLP: Policy Summary	Policy distribution	Displays the DLP policy distribution by version throughout the enterprise. Used to monitor progress when deploying a new policy.
	Enforced Rule Sets per endpoint computers	Displays a bar chart showing the rule set name and the number of policies enforced.
	Bypassed Users	Displays the system name/user name and the number of user session properties.
	Undefined Device Classes (for Windows devices)	Displays the undefined device classes for Windows devices.
	Privileged Users	Displays the system name/user name and the number of user session properties.
	Policy revision distribution	Similar to Policy distribution, but displays revisions – that is, updates to an existing version.
DLP: Endpoint Discovery Summary	DLP Discovery (Endpoint): Local File System Scan Latest Status	Displays a pie chart showing the run status of all local file system scans.
	DLP Discovery (Endpoint): Local File System Scan Latest Sensitive Files	Displays a bar chart showing the range of sensitive files found on systems files.
	DLP Discovery (Endpoint): Local File System Scan Latest Errors	Displays a bar chart showing the range of errors found in systems files.

Table A-14 Predefined DLP dashboards *(continued)*

Category	Option	Description
	DLP Discovery (Endpoint): Local File System Scan Latest Classifications	Displays a bar chart showing the classifications applied to systems files.
	DLP Discovery (Endpoint): Local Email Scan Latest Status	Displays a pie chart showing the run status of all local email folders.
	DLP Discovery (Endpoint): Local Email Scan Latest Sensitive Emails	Displays a bar chart showing the range of sensitive emails found in local email folders.
	DLP Discovery (Endpoint): Local Email Scan Latest Errors	Displays a bar chart showing the range of errors found in local email folders.
	DLP Discovery (Endpoint): Local Email Scan Latest Classifications	Displays a bar chart showing the classifications applied to local emails.

Glossary

Table A-15 McAfee DLP terminology

Term	Definition	Products
Action	What a rule does when content matches the definition in the rule. Common examples of actions are block, encrypt, or quarantine.	All
Crawling	Retrieving files and information from repositories, file systems, and email.	• McAfee DLP Endpoint (Discovery) • McAfee DLP Discover
Classification	Used to identify and track sensitive content and files. Can include content classifications, content fingerprints, registered documents, and whitelisted text.	All
Content classification	A mechanism for identifying sensitive content using data conditions such as text patterns and dictionaries, and file conditions such as document properties or file extensions.	All
Content fingerprinting	A mechanism for classifying and tracking sensitive content. Content fingerprinting criteria specify applications or locations, and can include data and file conditions. The fingerprint signatures remain with sensitive content when it is copied or moved.	McAfee DLP Endpoint for Windows
Data vector	A definition of content status or usage. McAfee DLP protects sensitive data when it is stored (data at rest), as it is used (data in use), and when it is transferred (data in motion).	All
Definition	A configuration component that makes up a classification or McAfee DLP Discover scan policy.	All
Device class	A collection of devices that have similar characteristics and can be managed in a similar manner. Device classes apply to Windows OS computers only, and can have the status *Managed*, *Unmanaged*, or *Whitelisted*.	• Device Control • McAfee DLP Endpoint for Windows
Discover server	The Windows Server where the McAfee DLP Discover software is installed. You can install multiple Discover servers in your network.	McAfee DLP Discover

Table A-15 McAfee DLP terminology *(continued)*

Term	Definition	Products
DLP server	A McAfee DLP Discover server that has the server role set to DLP. DLP servers are used as Master Redis servers to store and synchronize the registered document database.	McAfee DLP Discover
File information	A definition that can include the file name, owner, size, extension, and date created, changed, or accessed. Use file information definitions in filters to include or exclude files to scan.	All products
Fingerprinting	A text extraction procedure that uses an algorithm to map a document to *signatures*. Used to create *registered documents* and for content fingerprinting.	• McAfee DLP Endpoint for Windows • McAfee DLP Prevent • McAfee DLP Monitor
FIPS compliancy	Cryptographic software is configured and used in a way that is compliant with Federal Information Processing Standard 140-2	• McAfee DLP Endpoint • McAfee DLP Discover • McAfee DLP Prevent • McAfee DLP Monitor
Managed devices	A device class status indicating that the devices in that class are managed by Device Control.	• Device Control • McAfee DLP Endpoint
Match string	The found content that matches a rule.	All products
MTA	Message Transfer Agent	McAfee DLP Prevent
Path	A UNC name, IP address, or web address.	• McAfee DLP Endpoint (Discovery) • McAfee DLP Discover • McAfee DLP Prevent • McAfee DLP Monitor
Policy	A set of definitions, classifications, and rules that define how the McAfee DLP software protects data.	All products
Redaction reviewer	Allows confidential information in the **DLP Incident Manager** and **DLP Operations** consoles to be redacted to prevent unauthorized viewing.	All products
Registered documents	Pre-scanned files from specified repositories. See *Fingerprinting*. **Manual registration** — Signatures of the files are uploaded to theMcAfee ePO database, distributed to all managed endpoints, and used to track and classify content copied from these files. Supported on McAfee DLP Endpoint for Windows (only). **Automatic registration** — Produced by McAfee DLP Discover registration scans and stored in fingerprint databases on McAfee DLP Discover servers. Supported on network McAfee DLP products.	• McAfee DLP Endpoint for Windows • McAfee DLP Discover • McAfee DLP Prevent • McAfee DLP Monitor
Repository	A folder, server, or account containing shared files. The repository definition includes the paths and credentials for scanning the data.	• McAfee DLP Endpoint (Discovery) • McAfee DLP Discover

Table A-15 McAfee DLP terminology *(continued)*

Term	Definition	Products
Rule	Defines the action taken when an attempt is made to transfer or transmit sensitive data.	All products
Rule set	A combination of rules.	All products
Scheduler	A definition that specifies scan details and the schedule type, such as daily, weekly, monthly, once, or immediately.	• McAfee DLP Endpoint (Discovery) • McAfee DLP Discover
Strategy	McAfee DLP Endpoint divides applications into four categories called strategies that affect how the software works with different applications. In order of decreasing security, the strategies are *Editor*, *Explorer*, *Trusted*, and *Archiver*.	McAfee DLP Endpoint
Unmanaged devices	A device class status indicating that the devices in that class are not managed by Device Control. Some endpoint computers use devices that have compatibility issues with the McAfee DLP Endpoint device drivers. To prevent operational problems, these devices are set to Unmanaged.	• Device Control • McAfee DLP Endpoint for Windows
Whitelisted devices	A device class status indicating that Device Control does not try to control the devices in that class. Examples are battery devices and processors.	Device Control McAfee DLP Endpoint for Windows

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Together is power.