

Foglight® for Virtualization, Enterprise Edition
8.8.5

Upgrade Guide



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Legend

 **CAUTION:** A CAUTION icon indicates potential damage to hardware or loss of data if instructions are not followed.

 **WARNING:** A WARNING icon indicates a potential for property damage, personal injury, or death.

 **IMPORTANT NOTE, NOTE, TIP, MOBILE, or VIDEO:** An information icon indicates supporting information.

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Understanding product versions

This guide provides instructions on how to upgrade to the latest version of the Management Server and Agent Manager for use with Foglight® for Virtualization, Enterprise Edition.

This guide also provides upgrade instructions for the cartridges and cartridge-related components that are included with Foglight for Virtualization, Enterprise Edition 8.8.5. The Management Server and the Agent Manager have been updated to version 5.9.4 for this release.

This section provides information on product version numbers as well as components and cartridge compatibility:

- [Important changes in Foglight for Virtualization, Enterprise Edition 8.8.5](#)
- [Supported upgrade path](#)
- [Foglight for Virtualization, Enterprise Edition versions](#)

Important changes in Foglight for Virtualization, Enterprise Edition 8.8.5

This section provides information about changes made in this release and pre-announcements of changes planned for future releases:

- Most components delivered with this Foglight for Virtualization, Enterprise Edition release have been updated. For details, see [Component versions](#).

Supported upgrade path

Foglight for Virtualization, Enterprise Edition supports upgrading from Foglight for Virtualization, Enterprise Edition and Foglight for Storage Management.

Foglight for Virtualization, Enterprise Edition 8.8.5 may be directly upgraded from version 8.8. To upgrade from version 8.7.5, 8.7, 8.6, you must first upgrade the virtual appliance to version 8.8, then to version 8.8.5. To upgrade from version 8.5.5, 8.5, 8.4, 8.3, or 8.2, you must first upgrade the virtual appliance to version 8.6, then to version 8.8, then to version 8.8.5. For more information, see [Upgrading Foglight for Virtualization, Enterprise Edition from a previous version](#).

To upgrade from previous Foglight for Storage Management versions (4.4, 4.3.5, 4.3, or 4.2), you must first upgrade Foglight for Storage Management to version 4.4.5, then to 4.6.5. To upgrade from previous Foglight for Storage Management versions (4.1, 4.0, 3.2, 3.1.x or 3.0.x), you must first upgrade Foglight for Storage Management to version 4.2, then to version 4.4.5, and then to 4.6.5. At that point, it is possible to upgrade using the new combined Foglight for Virtualization, Enterprise Edition and Foglight for Storage Management installer. For more information, see [Upgrading Foglight for Virtualization, Enterprise Edition from Foglight for Storage Management](#).

i | **NOTE:** As of the Foglight for Virtualization, Enterprise Edition 8.5 release, both Foglight for Storage Management and Foglight for Virtualization, Enterprise Edition will be installed and upgraded using a single installer.

Foglight for Virtualization, Enterprise Edition versions

Foglight for Virtualization, Enterprise Edition consists of these key software components:

- Management Server
- Agent Manager
- Cartridges

Each of these components are versioned independently. For details, see [Component versions](#).

The version number of the Foglight for Virtualization, Enterprise Edition release does not correspond to the version number of the Management Server. To view the version of your Management Server, click **About** in the lower right corner of the browser interface.

Component versions

The upgrade process automatically updates your product components to the following version numbers:

- Management Server, version 5.9.4

i | **NOTE:** Foglight for Infrastructure 5.9.4 is embedded with the Management Server.

- Agent Manager, version 5.9.4
- Foglight for Action Packs, version 5.6.3.8
- Foglight Automation, version 5.6.3.8
- Foglight Capacity Director, version 5.7.7
- Foglight Capacity Management, version 5.7.7
- Foglight Capacity Manager, version 5.7.7
- Foglight Change Analyzer, version 5.7.7
- Foglight Chargeback, version 5.7.7
- Foglight for Hyper-V, version 5.7.7
- Foglight Integration for OpenManage Essentials, version 5.7.0
- Foglight for Perspectives, version 5.7.7
- Foglight Resource Optimizer, version 5.7.7

i | **NOTE:** Foglight Resource Optimizer provides recommendations for changes in the VMware® or Hyper-V® environments, to make more efficient the use of resources. This requires that the VMware or Hyper-V agent is configured with a user that has elevated privileges, beyond the read-only privileges required for monitoring. For a list of privileges required for the VMware or Hyper-V agent, refer to section “Configuring Monitoring Agents for Data Collection” in the *Foglight for VMware User and Reference Guide* and *Foglight for Hyper-V User and Reference Guide*, respectively.

- Foglight for Storage Management cartridge, version 4.6.5
- Foglight for OpenStack, version 5.7.4
- Foglight for VMware, version 5.7.7

i | **NOTE:** Java 7 or later requires that the vCenter Certificate's public key length must be 1024-bits or higher and should not use MD5. If you try to add a vCenter for monitoring, and these requirements are not met, the server generates a Certificate error and cannot add the vCenter. The vCenter server Certificate should be updated to 1024-bits or higher and no MD5, to be able to add it for monitoring. For more information, see the *Foglight for VMware 5.7.5 Release Notes*.

- Foglight for VMware Horizon View, version 5.7.7
- Foglight for Citrix XenDesktop and XenApp, version 5.7.7
- Foglight Hybrid Cloud Manager, version 1.4
- Quest Protect Dashboard, version 1.5
- Foglight Cost Director, version 5.7.7
- Foglight for NetVault, version 1.1
- Foglight for Container Management, version 1.0

The following independent cartridges are also supported and licensed for use with Foglight for Virtualization EE:

- Foglight for Apache, version 5.8.0.3
- Foglight Net Monitor, version 5.9.4
- Foglight Web Monitor, version 5.9.3

The following independent cartridges are supported for use with Foglight for Virtualization EE, but are licensed separately:

- Foglight for Active Directory, version 5.7.2.2
- Foglight for Exchange, version 5.7.2.2

For a complete list of fixes for any of these components, refer to the release notes that accompany them. If you decide to maintain the version you have of any of the updated components, as opposed to upgrading, you will not acquire the new fixes for that component.

Upgrading to Foglight for Virtualization, Enterprise Edition

Depending on the products you already have installed, the upgrade path to Foglight for Virtualization, Enterprise Edition may differ. Refer to the applicable set of instructions for your existing product:

- [Upgrading Foglight for Virtualization, Enterprise Edition from a previous version](#)
- [Upgrading cartridges in a Federated Server environment](#)
- [Upgrading Foglight for Virtualization, Enterprise Edition from Foglight for Storage Management](#)

Upgrading Foglight for Virtualization, Enterprise Edition from a previous version

This section guides you through the process of upgrading Foglight for Virtualization, Enterprise Edition to the latest version, from a previous version.

A typical Foglight for Virtualization, Enterprise Edition installation includes a Management Server, at least one Foglight database, a number of cartridges installed on the server, and usually just one installation of the Agent Manager. There may also be customizations to the server in the form of custom cartridges.

The upgrade process updates each of these components to the latest version of Foglight for Virtualization, Enterprise Edition, automatically:

- [Preparing to upgrade Foglight for Virtualization, Enterprise Edition](#)
- [Upgrading Foglight for Virtualization, Enterprise Edition](#)

Some deployed agents may need to be manually updated - for more information see:

- [Upgrading the Agent Manager](#)
- [Upgrading Foglight for Virtualization, Enterprise Edition agents](#)

Preparing to upgrade Foglight for Virtualization, Enterprise Edition

Preparing for a Foglight for Virtualization, Enterprise Edition upgrade from a previous version is straightforward, but may be time-consuming. Before upgrading you should:

- 1 Create a support bundle from your Management Server. For information on how to do this, see the topic "Managing Support Bundles" in the *Administration and Configuration Guide*.
- 2 Back up the file system in which Foglight for Virtualization, Enterprise Edition is installed. For information on how to do this, see the topic "Backing up Foglight" in the *Administration and Configuration Help*.

- 3 Back up your database. For information on how to do this, see the topic “Backing up Foglight” in the *Administration and Configuration Help*.

i | **IMPORTANT:** If you are using Oracle® RAC, back up the oracle-ds.xml file (or any other database connection files) before performing the upgrade.

- 4 Deactivate all agents through the Agent Status dashboard (**Dashboards > Administration > Agents > Agent Status**).
- 5 If you are upgrading to the Agent Manager-based VMware Performance Agent, identify the machine that will run the agent.

Recommended operating systems:

- 64-bit Windows® Server 2012 R2, with 4 GB or more RAM
- 64-bit Linux®, with 4 GB or more RAM

If you are currently running the VMware Performance Agent on a 64-bit Management Server, you can use the embedded Agent Manager for the VMware Agent to monitor up to 500 total VMs.

Note for installations monitoring large VMware environments

Some installations monitoring large VMware® environments have customized the VMware agent memory settings. These settings must be reapplied because the upgrade procedure overwrites them with the default settings.

For each Agent Host with existing VMware Performance agents:

- 1 On the agent machine, open the *baseline.jvmargs.config* file for editing. The file is located in the `<Agent_Manager_home>/state/default/config` directory.
- 2 Make note of the `vmparameter.x` values.
If the values on your agent are different, they must be reapplied after the upgrade.
- 3 After upgrading and reapplying the values in the *baseline.jvmargs.config* file, remove the deployed negotiation configuration settings directory (`<Agent_Manager_home>/state/default/config/deployments`), and restart the Agent Manager.

The new settings take effect after the Agent Manager is restarted.

Upgrading Foglight for Virtualization, Enterprise Edition

The Foglight for Virtualization, Enterprise Edition components (Management Server, Embedded Agent Manager, Cartridges) are all upgraded automatically by the Foglight for Virtualization, Enterprise Edition installer.

To upgrade Foglight for Virtualization, Enterprise Edition from a previous version:

- 1 Download the Foglight for Virtualization, Enterprise Edition installation package for your platform from the Support Portal.
- 2 Manually shut down your Foglight Management Server. Do not depend on the installer to shut down your running Management Server and/or embedded database, due to the timing problem. Ensure that the Management Server has stopped running before launching the Foglight for Virtualization, Enterprise Edition installer. To verify that all Management Server processes have stopped, type the following command:

Windows®:

```
tasklist /v | find "fms"
```

Linux®:

```
ps -C fms
```

i | **IMPORTANT:** If your Management Server uses an external database, do not stop the database. It is important that it continue to run during the upgrade.

- 3 For extra reliability, you must back up the Foglight database, as recommended in the *Administration and Configuration Help*.
- 4 Upgrade the existing Foglight for Virtualization, Enterprise Edition installation using the appropriate installer. Follow the on-screen instructions in the installation wizard.

i | **IMPORTANT:** If you have previously installed Foglight for Virtualization, Enterprise Edition in a custom location, select the Custom Install option. You must specify the same installation directory as used for the existing installation.

- 5 The installer detects the earlier version of Foglight for Virtualization, Enterprise Edition.
- 6 Follow the on-screen upgrade instructions.
Select **Upgrade** and click **Next**.
- 7 The upgrade process continues in a similar fashion to the installation. For step-by-step assistance, refer to the appropriate *Foglight Installation and Setup Guide* for the database and platform you are running.

i | **NOTE:** The database upgrade may be time consuming if you have a large topology.

- 8 After the Foglight for Virtualization, Enterprise Edition application is upgraded, the licensed cartridges are upgraded automatically.

i | **NOTE:** At this point you should install the Foglight for Virtualization, Enterprise Edition license that is provided to the existing users.

Upgrading the Agent Manager

The embedded Agent Manager is updated as part of the upgrade process. Any additional, external Agent Managers may need to be updated.

- 1 On the navigation panel, under **Dashboards**, click **Administration > Agents > Agent Managers**.

The Agent Managers dashboard lists all agent hosts currently connected to the Foglight for Virtualization, Enterprise Edition server. If an agent host is not connected, start the Agent Manager process on that host.

- 2 If the **Version** of any agent host listed is not 5.9.4, continue following this procedure to upgrade the Agent Manager.

Otherwise, see the [Appendix: Deploying an agent package using the browser interface](#).

- 3 To upgrade, select the agent host from the list and click **Upgrade**. The process may take a few minutes and the agent host may disappear from the list temporarily while it is restarting.

i | **NOTE:** Repeat the upgrade process for every agent host that is not at version 5.9.3 or prior.

- 4 In some cases the upgraded Agent Manager may fail to restart after upgrading, and report as failed. If this happens, manually start the Agent Manager on the remote host.

i | **NOTE:** If you are upgrading from Management Server version 5.2.4, an Agent Manager and Guest Process agent do not yet exist. For information on how to install and configure the Agent Manager, see the *Agent Manager Guide*.

Upgrading Foglight for Virtualization, Enterprise Edition agents

After upgrading Foglight for Virtualization, Enterprise Edition, the database, and cartridges, the agents used by some of the cartridges must be updated to ensure proper data collection. Specifically, this section describes the procedures for upgrading monitoring agents.

Upgrading the VMware Performance agent

i **IMPORTANT:** To take advantage of all of the features in the updated VMware Performance agent, the user must be configured with sufficient privileges. On the Virtual Center server, verify that the user has the following privileges:

- Datastore > Browse datastore
- Datastore > Remove file
- Sessions > View and stop sessions
- Virtual machine > Configuration > Change CPU count
- Virtual machine > Configuration > Change resource
- Virtual machine > Configuration > Memory
- Virtual machine > Interaction > Power Off
- Virtual machine > Interaction > Power On
- Virtual machine > State > Remove Snapshot

To upgrade an Agent Manager-based VMware Performance agent:

- 1 Log in to Foglight for Virtualization, Enterprise Edition using an account with administration-level permissions.
- 2 Deactivate all VMware Performance agents.
 - a On the navigation panel, under **Dashboards**, click **Administration > Agents > Agent Status**.
 - b On the Agent Status dashboard, select the existing VMware Performance agents and click **Deactivate**.

i | **TIP:** Use Shift+Click or Ctrl+Click to select multiple items.

- 3 Upgrade the agent package. On the VMware Environment dashboard > Administration tab, select all agent instances from the Agents table, and click **Update Agent** on the menu bar.

i **NOTE:** Alternatively, you can deploy the updated agent package (*VMware-Performance-64bit-<version>.gar*) using the browser interface; for details, see [Appendix: Deploying an agent package using the browser interface](#).

NOTE: If the VMware agent was modified to use custom memory settings as described in the [Note for installations monitoring large VMware environments](#) section, reapply those settings by editing the *baseline.jvmargs.config* file before activating the upgraded agent.

- 4 Activate all VMware Performance agents. On the VMware Environment dashboard > Administration tab, select the deactivated VMware Performance agents, and click **Activate** on the menu bar.

Upgrading the VMware Horizon View agent

Foglight for VMware Horizon View uses VMware Horizon View Agent instances to collect information from monitored hosts.

To upgrade a VMware Horizon View agent:

- 1 Install the latest version of Foglight for VMware Horizon View over the older version. Do not delete the older version of the .car file. For cartridge installation instructions, see “Installing Foglight cartridges” in the *Foglight Administration and Configuration Help*.

- 2 On the navigation panel, under **Dashboards**, click **VMware Horizon View** to open VMware View Environment dashboard.

- 3 Click the **Administration** tab.

The Agent Version column in the Agents table shows the agents that are out of date.

- 4 Click **Update Agent** once for each Foglight Agent Manager instance on which outdated VMware Horizon View agents are running.

The selected agents are updating. When the operation completes, the Agent Version column is updated to read **Version Up To Date**.

- 5 Click the **Details** tab, then the **Desktops** tile.

- 6 In the Quick View, identify whether there are any Unmanaged or Terminal Server Hosts instances.

i | **NOTE:** The Summary view for any Unmanaged or Terminal Server Hosts instances would displays no data. This is due to the default properties used by the View Discovery Wizard to create Infrastructure agents, for any Unmanaged or Terminal Server Hosts.

- 7 If any Unmanaged or Terminal Server Hosts instances exist on the list, update the properties for their corresponding Infrastructure agents.

i | **NOTE:** If some instances on the list do not have a corresponding Infrastructure agent, you must first create an Infrastructure agent manually, define appropriate agent properties, and create the correct credentials for them. Alternatively, you can add these instances to an existing credential’s resource mapping.

- a On the navigation panel, click **Administration > Agents > Agent Status**, to open the Agent Status dashboard.
- b Select the Infrastructure agent that needs edits, and click **Edit Properties**.
- c Click **Modify the private properties for this agent**.
- d In the Properties area, set to *True* the following options: **Collect CPU metrics**, **Collect disk metrics**, **Collect memory metrics**, and **Collect network metrics**.
- e Click **Save**.
- f Repeat steps b to e for all other Infrastructure agents used for monitoring Unmanaged or Terminal Server Hosts.

The Infrastructure agents now start to collect CPU, disk, memory, and network metrics from the monitored hosts and the VMware View Environment dashboard will display this information correctly.

Upgrading the Hyper-V agent

Foglight for Hyper-V uses Hyper-V Agent instances to collect information from monitored hosts. Upgrading Foglight for Hyper-V on the Management Server makes an upgraded Hyper-V Agent package available for deployment.

i | **NOTE:** Hyper-V agents are not created automatically in Foglight for Virtualization, Enterprise Edition. If you have not previously created Hyper-V agents, there will not be any agents to upgrade.

- i | IMPORTANT:** When upgrading from Foglight for Virtualization, Enterprise Edition 6.8, Hyper-V agents are automatically transitioned to use credential management. This transition requires that all agents be upgraded through the **Hyper-V Environment > Administration** tab. Using other methods to upgrade Hyper-V agents will result in agents that will not have configured credentials and will require additional configuration before collections can resume.

To upgrade the Hyper-V agents:

- 1 Log in to Foglight for Virtualization, Enterprise Edition using an account with administration-level permissions.
- 2 Deactivate all Hyper-V agents.
 - a On the navigation panel, under **Dashboards**, click **Administration > Agents > Agent Status**.
 - b On the Agent Status dashboard, select the existing Hyper-V Agent instances and click **Deactivate**.

i | TIP: Use Shift+Click or Ctrl+Click to select multiple items.

- 3 Install the latest version of Foglight for Hyper-V over the older version. Do not delete the older version of the .car file. For cartridge installation instructions, see “Installing Foglight cartridges” in the *Foglight Administration and Configuration Help*.
- 4 Upgrade the agent package. On the Hyper-V Environment dashboard > Administration tab, select all agent instances from the Agents table, and click **Update Agent** on the menu bar.

i | TIP: In this way, the credentials for the existing Hyper-V agents are created automatically.

i | NOTE: Alternatively, you can deploy the updated agent package (*HypervAgent.gar*) using the browser interface; for details, see [Appendix: Deploying an agent package using the browser interface](#). In this case, you need to create the corresponding credentials any existing Hyper-V agents manually, after deploying the agent package.

- 5 Activate all Hyper-V agents. On the Hyper-V Environment dashboard > Administration tab, select the deactivated Hyper-V agents, and click **Activate** on the menu bar.

Upgrading cartridges in a Federated Server environment

Cartridge upgrades in a Federated Management Server environment need to be handled differently than typical cartridge upgrades. To maintain the Federated topology, you must disconnect and reconnect the queries as part of the upgrade procedure.

You must also ensure that the required cartridges are being upgraded in a Federated environment. For example, you may determine the following:

- Federated Child # 1 requires upgrades to Foglight for Infrastructure and Foglight for Oracle.
- Federated Child # 2 requires upgrades to Foglight for Infrastructure and Foglight for SQL Server.

In this example, after upgrading the two Federated Children, you need to upgrade Foglight for Infrastructure, Foglight for Oracle, and Foglight for SQL Server on the Federation Master.

The procedure outlined below describes the required sequence of steps. For more information about the cartridge upgrade in the Federation environment, refer to the *Upgrade the cartridges in a federated or High Availability (HA) environment* section in the *Foglight Upgrade Guide*.

To upgrade cartridges in a Federated environment:

- 1 Disable the topology synchronization in the Federation Master by commenting out all child server URLs (the `FederationURLs` in the `federation.config` file).
- 2 Upgrade one or more cartridges on the stand-alone Management Servers (Federated Children).
 - i** | **NOTE:** All Federated Children that need to be upgraded must be upgraded before uncommenting the URLs in the `federation.config` file.
- 3 Upgrade same cartridges on the single, central Management Server (Federation Master).
- 4 Uncomment the child server URLs in the `federation.config` file.

Upgrading Foglight for Virtualization, Enterprise Edition from Foglight for Storage Management

Existing Foglight for Storage Management customers can upgrade to Foglight for Virtualization, Enterprise Edition by performing the following upgrade steps.

This section guides you through the process of upgrading Foglight for Storage Management to the corresponding version of Foglight for Virtualization, Enterprise Edition:

- [Preparing to upgrade Foglight for Storage Management to Foglight for Virtualization, Enterprise Edition](#)
- [Upgrading Foglight for Storage Management to Foglight for Virtualization, Enterprise Edition](#)

Unlike the typical process for upgrading from vFoglight that requires upgrading the monitoring agents to ensure proper data collection, this step is not required when upgrading from Foglight for Storage Management. This is because any agent processes that existed in Foglight for Storage Management are not affected by the upgrade to Foglight for Virtualization, Enterprise Edition. With the exception of Foglight for VMware in Foglight for Storage Management, other cartridges and their components remain unaffected by the upgrade. The upgrade process disables Foglight for VMware in Foglight for Storage Management, and installs Foglight for VMware (full version). The installed cartridge continues to use the same monitoring agent, VMware Performance, deployed and configured in Foglight for Storage Management.

Preparing to upgrade Foglight for Storage Management to Foglight for Virtualization, Enterprise Edition

Preparing for a Foglight for Virtualization, Enterprise Edition upgrade from Foglight for Storage Management is straight forward. Before upgrading you should:

- 1 Create a support bundle from your Management Server. For information on how to do this, see the topic “Managing Support Bundles” in the *Administration and Configuration Guide*.
- 2 Back up the file system in which Foglight for Storage Management is installed. For information on how to do this, see the topic “Backing up Foglight” in the *Administration and Configuration Help*.
- 3 Back up your database. For information on how to do this, see the topic “Backing up Foglight” in the *Administration and Configuration Help*.

- i** | **IMPORTANT:** If you are using Oracle® RAC, back up the `oracle-ds.xml` file (or any other database connection files) before performing the upgrade.

Upgrading Foglight for Storage Management to Foglight for Virtualization, Enterprise Edition

To upgrade from Foglight for Storage Management 4.1 (or later) to Foglight for Storage Management 4.5.5:

- 1 Use the new combined Foglight for Virtualization, Enterprise Edition and Foglight for Storage Management installer to upgrade Foglight for Storage Management to version 4.5.5.
- 2 Log into Foglight for Storage Management 4.5.5.
- 3 On the Environment Overview dashboard (**Homes > Environment Overview**), click the **Administer** tab.
- 4 Click **Activate Foglight for Virtualization trial license** and wait for the activation process to complete.

Your upgrade to Foglight for Virtualization, Enterprise Edition 8.8.5 is complete. From this point on, the Foglight browser interface becomes the main entry point for monitoring your environment. For more information, see the *Foglight User Guide* and the *Administration and Configuration Guide*.

i | **NOTE:** If you do not install a full license before the trial expires, the Foglight for Virtualization, Enterprise Edition functionality is disabled after 30 days. To find out how many days are left for your license, review the information displayed below the time range in the display area.

Upgrading the Infrastructure Management cartridges

This section explains how to upgrade an earlier version of an Infrastructure Management cartridge to the most current version. For details, refer to the following topics:

- [Upgrading Foglight for Active Directory](#)
- [Upgrading Foglight for Exchange](#)
- [Upgrade Foglight for Infrastructure](#)
- [Upgrade Foglight for Apache](#)
- [Upgrade Foglight Automation](#)
- [Upgrade Foglight Capacity Management](#)
- [Upgrade Foglight Change Analyzer](#)
- [Upgrade Foglight Chargeback](#)
- [Upgrade Foglight for Hyper-V](#)
- [Upgrade Foglight Net Monitor](#)
- [Upgrade Foglight Integration for OpenManage Essentials](#)
- [Upgrade Foglight for OpenStack](#)
- [Upgrade Foglight for PowerVM](#)
- [Upgrade Foglight Resource Optimizer](#)
- [Upgrade Foglight for SNMP](#)
- [Upgrading Foglight for Storage Management cartridge](#)
- [Upgrade Foglight Web Monitor](#)
- [Upgrade Foglight for VMware](#)
- [Upgrade Foglight for VMware Horizon View](#)
- [Upgrade Foglight for Citrix XenDesktop and XenApp](#)

Upgrading Foglight for Active Directory

The latest version of Foglight for Active Directory is 5.7.2.2. You can upgrade to version 5.7.2.2 of Foglight for Active Directory from any previous version.

Foglight for Active Directory 5.7.2.2 requires Management Server version 5.9.2 or later, or Foglight for Virtualization, Enterprise Edition 8.7 or later.

i | **NOTE:** All original rules in each cartridge are reset when the cartridge is upgraded; therefore if you applied custom conditions to any original rules these modifications will be lost. It is recommended that when modifying rules you make a copy of the original, disable the original and enable the copy with the new condition. Use the **Rules** dashboard (**Dashboards > Administration > Rules & Notifications > Rules**) to copy a rule.

i | **IMPORTANT:** Foglight for Active Directory 5.7.2.2 may require more memory be allocated to the main Agent Manager instance than was previously needed. For details, see the *Foglight for Active Directory Release Notes*.

To upgrade Foglight for Active Directory to the latest version:

1 Create and release the lockbox.

i | **NOTE:** You can skip this step if upgrading Foglight for Active Directory from version 5.6.6 or later.

- a From the navigation panel, navigate to the **Credentials > Manage Lockboxes** dashboard.
- b Create a custom lockbox for the Active Directory® credential. In the **New Lockbox** dialog box, type *ActiveDirectory* as the lockbox name, and secure the lockbox by typing a password (optionally). If you choose to use the default lockbox (**System**), you can ignore this step.
- c In the Manage Lockboxes dashboard, release the lockbox for the newly create *ActiveDirectory* lockbox, by clicking the icon on its **Release to Credentials Clients** column. Enter the password for authorizing the operation, select the clients from the list, and click **Release**.

2 Deactivate all of the Active Directory agents.

3 Install version 5.7.2.2 of the cartridge as you would install a new Foglight for Active Directory. Do not delete the older version of the .car file. For cartridge installation instructions, refer to “Installing Foglight cartridges” in the *Foglight Administration and Configuration Help*.

4 Deploy the agent package to each Foglight Agent Manager that hosts an Active Directory agent instance and wait for the version to update.

i | **NOTE:** This may take two to three refresh cycles.

5 From the navigation panel, navigate to **Dashboards > Active Directory Environment > Administration** tab. In the **Agent Management** view select the Active Directory agents that you want to upgrade, and click **Upgrade Agent**.

i | **NOTE:** You can specify the lockbox when upgrading the agents. The credentials for the existing agents are updated automatically.

NOTE: You can skip this step if upgrading Foglight for Active Directory from version 5.6.6 or later.

6 Verify the agent properties and update the properties and collection intervals as required.

7 Activate the agents and start data collections.

i | **NOTE:** For a list of issues that you may encounter after upgrading the Foglight for Active Directory to version 5.7.2.2, and ways to troubleshoot these issues, see the *Foglight for Active Directory Release Notes*.

i | **NOTE:** If you are also running Foglight for Exchange, you must upgrade the Exchange agents as well. It is strongly recommended that you run the same version and patch level of both cartridges.

Upgrading Foglight for Exchange

The latest version of Foglight for Exchange is 5.7.2.2. You can upgrade to version 5.7.2.2 of Foglight for Exchange from version 5.6.2 and later.

Foglight for Exchange 5.7.2.2 requires Management Server version 5.9.2 or later, or Foglight for Virtualization, Enterprise Edition 8.7 or later.

i | **NOTE:** All original rules in each cartridge are reset when the cartridge is upgraded; therefore if you applied custom conditions to any original rules these modifications will be lost. It is recommended that when modifying rules you make a copy of the original, disable the original and enable the copy with the new condition. Use the **Rules** dashboard (**Dashboards > Administration > Rules & Notifications > Rules**) to copy a rule.

i | **IMPORTANT:** Foglight for Exchange 5.7.2 may require more memory be allocated to the main Agent Manager instance than was previously needed. For details, see the *Foglight for Exchange Release Notes*.

i | **IMPORTANT:** When data collection starts up, the Exchange agent installs a “Quest Remote Command Service” service in monitored server, to execute a PowerShell script. This service is uninstalled automatically when data collection stops.

To upgrade Foglight for Exchange to the latest version:

- 1 Create and release the lockbox.

i | **NOTE:** You can skip this step if upgrading Foglight for Exchange from version 5.6.6 or later.

- a From the navigation panel, navigate to the **Credentials > Manage Lockboxes** dashboard.
- b Create a custom lockbox for the Exchange credential. In the **New Lockbox** dialog box, type *ExchangeLockbox* as the lockbox name, and secure the lockbox by typing a password (optionally). If you choose to use the default lockbox (**System**), you can ignore this step.
- c In the Manage Lockboxes dashboard, release the lockbox for the newly create *ExchangeLockbox* lockbox, by clicking the icon on its **Release to Credentials Clients** column. Enter the password for authorizing the operation, select the clients from the list, and click **Release**.

- 2 Deactivate all of the Exchange agents.

- 3 Install version 5.7.2.2 of the cartridge as you would install a new Foglight for Exchange.

For detailed cartridge installation instructions, see the “Installation instructions” section in the *Foglight for Exchange Release Notes*.

- 4 Deploy the agent package to each Foglight Agent Manager that hosts an Exchange agent instance and wait for the version to update.

i | **NOTE:** This may take two to three refresh cycles.

- 5 From the navigation panel, navigate to **Dashboards > Exchange Environment > Administration** tab. In the **Agent Management** view select the Exchange agents that you want to upgrade, and click **Upgrade Agent**.

i | **NOTE:** You can specify the lockbox when upgrading the agents. The credentials for the existing agents are updated automatically.

NOTE: You can skip this step if upgrading Foglight for Exchange from version 5.6.6 or later.

- 6 Verify the agent properties and update the properties and collection intervals as required.

- 7 Activate the agents and start data collections.

i | **NOTE:** For a list of issues that you may encounter after upgrading the Foglight for Exchange to version 5.7.2.2, and ways to troubleshoot these issues, see the *Foglight for Exchange Release Notes*.

i | **NOTE:** If you are also running Foglight for Active Directory, you must upgrade the Active Directory agents as well. It is strongly recommended that you run the same version and patch level of both cartridges.

Upgrade Foglight for Infrastructure

The latest version of Foglight for Infrastructure is 5.9.4.

As part of the transition to Quest Software, Foglight for Infrastructure 5.8.5.8 and higher deprecate the following agent types:

- *DellUnixAgent*: Replaced with the new *UnixAgentPlus* agent type.
- *DellFileLogMonitorAgent*: Replaced with the new *FileLogMonitorAgent* agent type.
- *DellWindowsEventLogMonitorAgent*: Replaced with the new *WindowsEventLogMonitorAgent* agent type.

The specific agent types listed above are being deprecated in order to comply with rebranding requirements. The deprecated agent types and their replacements are identical, with the exception of the agent type name. Previously created instances of deprecated agent types will continue to run, however, you will only be able to deploy new instances of the replacement agent type.

As of 5.8.5.8, migrating deprecated agent types to the new agent types is not required. An option to migrate deprecated agent instances to the new agent types is available, but hidden. Contact Quest Support for instructions on how to migrate your agents.

Foglight for Infrastructure version 5.9.4 requires Management Server version 5.9.4. Foglight Agent Manager 5.8.0 (or later) must be installed on all the hosts that you want to use for local or remote monitoring.

i | **NOTE:** Some content in Foglight for Infrastructure supersedes that of the legacy Cartridge for Operating Systems. However, no upgrade path is provided for replacing an existing legacy Cartridge for Operating System with Foglight for Infrastructure.

i | **NOTE:** Foglight for Infrastructure 5.8.1 (and later) requires the latest OS Patch level for AIX®. In order to support the AIX platform, the latest OS Service Packs must be applied prior to installing or upgrading Foglight for Infrastructure to 5.8.5.4 (or later).

To upgrade Foglight for Infrastructure to version 5.9.4:

- Install version 5.9.4 of the cartridge as you would a new Foglight for Infrastructure cartridge. Do not delete the older version of the .car file. Install version 5.9.4 over the older version.

For cartridge installation instructions, see “Installing Foglight for Virtualization, Enterprise Edition cartridges” in the *Foglight for Virtualization, Enterprise Edition Administration and Configuration Help*.

After the cartridge is installed, you must deploy the new *HostAgents.gar* agent package to each of your Agent Managers to update the agents. Do not deactivate the agents before deploying; they are updated automatically.

For information about upgrading Foglight for PowerVM, see [Upgrade Foglight for PowerVM](#).

Upgrade Foglight for Apache

The latest version of Foglight for Apache is 5.8.0.2.

Foglight for Apache 5.8.0.2 requires Management Server version 5.6.3 or later, and Foglight Agent Manager version 5.7.0 or later.

Customers who need to upgrade Foglight for Apache from version 5.6.5 to 5.8.0.x, and require their data from the 5.6.5 version be compatible with the 5.8.0.x version, should contact Quest Support for help. Quest Support can reference APPB-340 for different solutions on how to perform a data migration with 5.6.5 data in different scenarios.

Upgrade Foglight Automation

The latest version of Foglight Automation is 5.6.3.8.

Foglight Automation 5.6.3.8 requires Management Server version 5.9.4.

To upgrade Foglight Automation:

- Disable the previous 5.6.3.4 before upgrading this cartridge, upgrade the Management Server to version 5.9.4, and then install version 5.6.3.8 of the cartridge as you would install a new Foglight Automation.

For cartridge installation instructions, see “Installing Foglight for Virtualization, Enterprise Edition Cartridges” in the *Foglight for Virtualization, Enterprise Edition Administration and Configuration Help*.

For more details, see [Upgrading Foglight ActionPacks](#).

Upgrading Foglight ActionPacks

The latest version of Foglight ActionPacks is 5.6.3.8:

- BMC Remedy
- Hyper-V
- Linux Provisioning
- Scripting
- System Preparation
- VMware vCenter

Foglight ActionPacks 5.6.3.8 requires Management Server version 5.9.4.

To upgrade Foglight ActionPacks:

- Disable the previous 5.6.3.6 before upgrading this cartridge, upgrade the Management Server to version 5.9.4, and then install version 5.6.3.8 of the cartridge as you would install a new Foglight ActionPacks.

The ActionPacks require the *ActionPack-Runtime.car* file, which is included in the *Foglight Automation.car* file. All cartridges must have the same version.

Upgrade Foglight Capacity Management

The latest version of Foglight Capacity Management is 5.7.7.

i | **NOTE:** The name of this cartridge has changed. In previous versions, this cartridge was called the Cartridge for Capacity Planning.

Foglight Capacity Management 5.7.7 requires Management Server version 5.9.4, or Foglight for Virtualization, Enterprise Edition 8.8.5.

To upgrade Foglight Capacity Management:

- Install version 5.7.7 of the cartridge as you would install a new Foglight Capacity Management cartridge. Do not delete the older version of the .car file. Install version 5.7.7 over the older version.

For cartridge installation instructions, see “Installing Foglight for Virtualization, Enterprise Edition Cartridges” in the *Foglight for Virtualization, Enterprise Edition Administration and Configuration Help*.

Upgrade Foglight Change Analyzer

The latest version of Foglight Change Analyzer is 5.7.7.

Foglight Change Analyzer 5.7.7 requires Management Server version 5.9.4, or Foglight for Virtualization, Enterprise Edition 8.8.5. It also requires Foglight for VMware version 5.7.7 (or later).

To upgrade Foglight Change Analyzer to the latest version:

- 1 Download the following packages from Quest Support Portal:
 - Foglight for VMware version 5.7.7 (which includes the *DRP-5_7_7.car*, *Virtual-VMware-5_7_7.car* and *Virtual-VMware-Admin-5_7_7.car* cartridge files)
 - Foglight Change Analyzer version 5.7.7 (which includes the *CommonAnalytics-5_7_7.car* and *ChangeAnalyzer-5_7_7.car* cartridge files)
 - Foglight Resource Optimizer Automation version 5.7.7 (which includes the *OptimizerAutomation-5_7_7.car* cartridge file)
 - Foglight Resource Optimizer version 5.7.7 (which includes the *Optimizer-5_7_7.car* and *VMware-Optimizer-5_7_7.car* cartridge files)
- 2 On the Cartridge Inventory dashboard, install the following cartridge files. Do not remove the older version of these cartridges. Install the new versions over the older versions. The sequence of cartridge installation is important because of their dependencies. For cartridge installation instructions, see “Installing Foglight cartridges” in the *Foglight Administration and Configuration Help*.
 - a *DRP-5_7_7.car*
 - b *OptimizerAutomation-5_7_7.car*
 - c *CommonAnalytics-5_7_7.car*
 - d *Virtual-VMware-5_7_7.car*
 - i** | **NOTE:** After installing the *Virtual-VMware-5_7_7.car* cartridge, existing vCenter agents (VC agents) must be updated using the **Update Agent** button in the VMware Environment > Administration tab.
 - e *Virtual-VMware-Admin-5_7_7.car*
 - f *VMware-Optimizer-5_7_7.car*
 - g *Optimizer-5_7_7.car*
 - h *ChangeAnalyzer-5_7_7.car*

Upgrade Foglight Chargeback

The latest version of Foglight Chargeback is 5.7.7.

Foglight Chargeback 5.7.7 requires Management Server version 5.9.4, or Foglight for Virtualization, Enterprise Edition 8.8.5.

Foglight Chargeback utilizes data collected by Foglight for VMware or Foglight for Hyper-V. Therefore, to upgrade Foglight Chargeback 5.7.7 on a Foglight Management Server, you must first install Foglight for VMware 5.7.7 (or later), or Foglight for Hyper-V 5.7.7 (or later).

To upgrade Foglight Chargeback to the latest version:

- Install version 5.7.7 of the cartridge (*Chargeback-5_7_7.car*) as you would install a new Foglight Chargeback cartridge. Do not delete the older version of the .car file. Install version 5.7.7 over the older version.

For cartridge installation instructions, see “Installing Foglight for Virtualization, Enterprise Edition Cartridges” in the *Foglight for Virtualization, Enterprise Edition Administration and Configuration Help*.

Upgrade Foglight for Hyper-V

The latest version of Foglight for Hyper-V is 5.7.7.

Foglight for Hyper-V 5.7.7 requires Management Server version 5.9.4, or Foglight for Virtualization, Enterprise Edition 8.8.5. Upgrading Foglight for Hyper-V on the Management Server makes an upgraded Hyper-V Agent package available for deployment.

i | **IMPORTANT:** When upgrading from version 5.6.7 or earlier (included with Foglight for Virtualization 6.8 or earlier, or Foglight 5.6.7 or earlier), Hyper-V agents are automatically transitioned to use credential management. This transition requires that all agents be upgraded through the Hyper-V Environment > **Administration** tab. Using other methods to upgrade Hyper-V agents results in agents without configured credentials and requires additional configuration before collections can resume.

To upgrade the agents:

- 1 Log in to Foglight for Virtualization, Enterprise Edition using an account with administration-level permissions.
- 2 Deactivate all agent instances.
 - a On the navigation panel, under **Dashboards**, click **Administration > Agents > Agent Status**.
 - b On the Agent Status dashboard, select the existing Agent instances and click **Deactivate**.

i | **TIP:** Use Shift+Click or Ctrl+Click to select multiple items.

- 3 If upgrading from version 5.6.15, 5.6.15.1, or 5.6.15.2, uninstall or disable the previous versions of the Foglight for Hyper-V cartridges.
- 4 On the **Cartridge Inventory** dashboard, install the following cartridge files. Do not remove the older version of these cartridges. Install the new versions over the older versions. The sequence of cartridge installation is important because of their dependencies.
 - a *DRP-5_7_7.car*
 - b *Virtual-HyperV-5_7_7.car*

Note: The monitoring of Hyper-V and Scale-Out File Server (SOFS) is enabled by the *Virtual-HyperV-5_7_7.car* file.
 - c *Virtual-HyperV-Admin-5_7_7.car*
- 5 To enable System Center Virtual Machine Manager (SCVMM) monitoring, install the *SCVMM-5_7_7.car* file.
- 6 Update all of the existing Hyper-V agent instances. On the **Hyper-V Environment** dashboard > **Administration** tab, select all agent instances from the Agents table, and click **Update Agent** on the menu bar.

i | **TIP:** In this way, the credentials for the existing agents are created automatically.

i | **NOTE:** Alternatively, you can deploy the updated agent package (*HypervAgent.gar*) using the browser interface; for details, see [Appendix: Deploying an agent package using the browser interface](#). In this case, you need to create the corresponding credentials any existing Hyper-V agents manually, after deploying the agent package.

- 7 Activate all Hyper-V agent instances. On the Hyper-V Environment dashboard > Administration tab, select the deactivated agents, and click **Activate** on the menu bar.

Upgrade Foglight Net Monitor

The latest version of Foglight Net Monitor is 5.9.4.

Foglight Net Monitor 5.9.4 requires Management Server version 5.6.5 or later. Foglight Agent Manager 5.7.0 or later must be installed on all the hosts that you want to use for local or remote monitoring.

To upgrade Foglight Net Monitor to the latest version:

- 1 Deactivate all of the Net Monitor Agent instances.
- 2 Install the *NetMonitor-5_9_1.car* file on the Management Server as you would install a new Foglight Net Monitor. **Do not uninstall or delete** the previous version of this file. For complete instructions, see “Installing Foglight cartridges” in the *Administration and Configuration Help*.
- 3 Deploy the Net Monitor Agent package to each Agent Manager that hosts one or more Net Monitor Agent instances. For complete instructions, see “Deploying agent packages to monitored hosts” in the *Administration and Configuration Help*.
- 4 Activate the Net Monitor Agent instances.

Upgrade Foglight Integration for OpenManage Essentials

The latest version of Foglight Integration for OpenManage Essentials is 5.7.0.

Developed for Foglight Management Server 5.7.5.4 or later, Foglight Integration for OpenManage Essentials is compatible for use with Foglight for Virtualization Enterprise Edition 8.4 or later and requires Foglight for VMware 5.7.0 or later.

To upgrade from version 5.6.16 of Foglight Integration for OpenManage Essentials:

- On the Cartridge Inventory dashboard, install the .car file. Do not remove the older version of this cartridge. Install version 5.7.0 over the older version.

For cartridge installation instructions, see “Installing Foglight cartridges” in the *Foglight Administration and Configuration Help*.

Upgrade Foglight for OpenStack

The latest version of Foglight for OpenStack is 5.7.4.

Foglight for OpenStack 5.7.4 requires Management Server version 5.7.5.8 or later, or Foglight for Virtualization, Enterprise Edition 8.7 or later.

To upgrade Foglight for OpenStack to the latest version:

- Install Foglight for OpenStack version 5.7.4 (*OpenStack-5_7_4.car*) as you would install a new cartridge. Do not delete the older version of the .car file. Install version 5.7.4 over the older version.

For cartridge installation instructions, see “Installing Foglight cartridges” in the *Foglight Administration and Configuration Help*.

Upgrade Foglight for PowerVM

The latest version of Foglight for PowerVM is 5.9.4.

Foglight for PowerVM 5.9.4 requires Management Server version 5.9.4. Foglight Agent Manager 5.9.4 must be installed on all the hosts that you want to use for local or remote monitoring.

To upgrade Foglight for PowerVM to the latest version:

- 1 Deactivate all of the PowerVM Agent instances.
- 2 Run the following script:

```
def topSrv = server.TopologyService;
def type = topSrv.getType("PowerVMVirtualManager");
def stringType = type.getProperty("longName").getValueType();

if(type.findProperty("host")){
    def shell = topSrv.beginUpdate(type);
    shell.addProperty("hmcName", null, stringType, false, false, false,
        "default", null);
    topSrv.endUpdate(shell);

    def objects = #!PowerVMVirtualManager#.topologyObjects;

    if(objects){
        def shells = []
        objects.each{object ->
            def objShell = topSrv.getObjectShell(object);
            objShell.set("hmcName", object.host.name);

            topSrv.mergeData(objShell);
        }
    }

    def tmp = topSrv.beginUpdate(type);
    tmp.removeProperty("hmcName");
```

```

topSrv.endUpdate(tmp);

topSrv.addProperty(type, "hmcName", null, "String", false, false, true,
null);

tmp = topSrv.beginUpdate(type);
tmp.removeProperty("host");
tmp.removeProperty("virtualManagerHostName");
topSrv.endUpdate(tmp);

}

```

- 3 Install Foglight for Infrastructure version 5.9.4 (*Infrastructure-5_9_1.car*) on the Management Server as you would install a new cartridge. **Do not uninstall or delete** the previous version of this file. For complete instructions, see “Installing Foglight cartridges” in the *Foglight Administration and Configuration Help*.

i **NOTE:** Foglight for Infrastructure is order-dependent. Therefore, the Agent Manager must be updated on the Management Server before you install Foglight for Infrastructure.

NOTE: If Foglight for Infrastructure is already installed on the Management Server, there is no need to re-install it. Check Cartridge Inventory to see if this file is already installed. For complete information about Foglight for Infrastructure, see *Foglight for Infrastructure User and Reference Guide*.

When installing the *Infrastructure-5_9_1.car* file, the following cartridges are added to the Cartridge Inventory:

- HostAgents 5.9.4
- Infrastructure 5.9.4
- Infrastructure-IntelliProfile 5.9.4
- Infrastructure-PowerVMAddons 5.9.4

- 4 Run the following script:

```

def topSrv = server.TopologyService;
def type = topSrv.getType("PowerVMVirtualManager");

if(type.findProperty("host")){
    tmp = topSrv.beginUpdate(type);
    tmp.removeProperty("host");
    tmp.removeProperty("virtualManagerHostName");
    topSrv.endUpdate(tmp);
}

```

- 5 Activate the PowerVM Agent instances and start data collection.

Upgrade Foglight Resource Optimizer

The latest version of Foglight Resource Optimizer is 5.7.7.

Foglight Resource Optimizer 5.7.7 Management Server version 5.9.4, or Foglight for Virtualization, Enterprise Edition 8.8.5.

Foglight Resource Optimizer for VMware Environments also requires Foglight for VMware version 5.7.7.

Foglight Resource Optimizer for Hyper-V Environments also requires Foglight for Hyper-V version 5.7.7.

i | **NOTE:** When upgrading *VMware-Optimizer-5_6_16_1.car* to version 5.7.0 (or later), follow one of these processes:

- Upgrade the *VMware-Optimizer-5_7_7.car* before upgrading *Optimizer-5.7.7 car*.
- Disable *VMware-Optimizer-5_6_16_1.car* before upgrading to *Optimizer-5_7_7.car* and *VMware-Optimizer-5_7_7.car*.

To upgrade Foglight Resource Optimizer for VMware Environments to version 5.7.7:

- 1 Download the following packages from Quest Support Portal:
 - Foglight for VMware version 5.7.7 (which includes the *DRP-5_7_7.car*, *Virtual-VMware-5_7_7.car* and *Virtual-VMware-Admin-5_7_7.car* cartridge files)
 - Foglight Resource Optimizer version 5.7.7 (which includes the *CommonAnalytics-5_7_7.car*, *DRP-5_7_7.car*, *Optimizer-5_7_7.car*, and *VMware-Optimizer-5_7_7.car* cartridge files)
 - Foglight Resource Optimizer Automation version 5.7.7 (which includes the *OptimizerAutomation-5_7_7.car* cartridge file)
- 2 On the Cartridge Inventory dashboard, install the following cartridge files. Do not remove the older version of these cartridges. Install the new versions over the older versions. The sequence of cartridge installation is important because of their dependencies. For cartridge installation instructions, see “Installing Foglight cartridges” in the *Foglight Administration and Configuration Help*.
 - a *DRP-5_7_7.car*
 - b *OptimizerAutomation-5_7_7.car*
 - c *CommonAnalytics-5_7_7.car*
 - d *Virtual-VMware-5_7_7.car*

i | **NOTE:** After installing the *Virtual-VMware-5_7_7.car* cartridge, existing vCenter agents (VC agents) must be updated using the Update Agent button in the **VMware Environment > Administration** tab.

 - e *Virtual-VMware-Admin-5_7_7.car*
 - f *VMware-Optimizer-5_7_7.car*
 - g *Optimizer-5_7_7.car*
 - h *ChangeAnalyzer-5_7_7.car* (recommended)
- 3 If configuration has been previously edited to support larger environments, refer to *Foglight for VMware Release Notes* to restore the configuration.

To upgrade Foglight Resource Optimizer for Hyper-V Environments to version 5.7.7:

- 1 Download the following packages from Quest Support Portal:
 - Foglight for Hyper-V version 5.7.7 (which includes the *DRP-5_7_7.car*, *Virtual-HyperV-5_7_7.car*, and *Virtual-HyperV-Admin-5_7_7.car* cartridge files)
 - Foglight Resource Optimizer version 5.7.7 (which includes the *CommonAnalytics-5_7_7.car*, *DRP-5_7_7.car*, *Optimizer-5_7_7.car*, and *HyperV-Optimizer-5_7_7.car* cartridge files)
 - Foglight Resource Optimizer Automation version 5.7.7 (which includes the *OptimizerAutomation-5_7_7.car* cartridge file)
- 2 On the Cartridge Inventory dashboard, install the following cartridge files. Do not remove the older version of these cartridges. Install the new versions over the older versions. The sequence of cartridge installation

is important because of their dependencies. For cartridge installation instructions, see “Installing Foglight cartridges” in the *Foglight Administration and Configuration Help*.

- a *DRP-5_7_7.car*
- b *OptimizerAutomation-5_7_7.car*
- c *CommonAnalytics-5_7_7.car*
- d *Virtual-HyperV-5_7_7.car*

i | **NOTE:** After installing the *Virtual-HyperV-5_7_7.car* cartridge, existing HyperV agents must be updated using the **Update Agent** button in the **HyperV Environment > Administration** tab.

- e *Optimizer-5_7_7.car*
- f *Virtual-HyperV-Admin-5_7_7.car*
- g *HyperV-Optimizer-5_7_7.car*

Upgrade Foglight for SNMP

The latest version of Foglight for SNMP is 5.9.2.

Foglight for SNMP 5.9.2 requires Management Server version 5.9.2 or later. It also requires Foglight for Infrastructure 5.9.2 or later.

Upgrades are supported from Foglight for SNMP 5.8.5 and later. Upgrades from previous SNMP-related Foglight solutions are not supported.

Prerequisite: Foglight for Infrastructure 5.9.2 or later must be installed before upgrading to Foglight for SNMP 5.9.2.

i | **NOTE:** Foglight for Infrastructure is order-dependent. Therefore, the Agent Manager must be updated on the Management Server prior to installing Foglight for Infrastructure.

i | **IMPORTANT:** The *BindUpTimeToHostBootTime* rule was updated for this release. Before upgrading Foglight for SNMP to version 5.9.4, ensure that the *BindUpTimeToHostBootTime* rule was not modified on your environment. After upgrading to version 5.9.4, you must disable the *GenericSNMPService* cartridge and then re-enable it (or restart the Management Server), so that the rule change takes effect.

To upgrade Foglight for SNMP to the latest version:

- 1 Use the **Administration > Cartridges > Cartridge Inventory** dashboard to install the *SNMPCartridge-5_9_1.car* cartridge and all the sub-cartridges within it. Do not delete the older version of the .car file. Install version 5.9.4 over the older version.

For cartridge installation instructions, see “Installing Foglight cartridges” in the *Foglight Administration and Configuration Help*.

- 2 Manually upgrade the agents.
 - a Navigate to the **Administration > Agents > Agent Status** dashboard.
 - b Do one of the following:
 - Select any *GenericSNMPAgent* type agent and any *GenericSNMPTrapAgent* type agent and click **Upgrade**.
 - Click **Deploy Agent Package** and deploy both *GenericSNMPAgent* and *GenericSNMPTrapAgent* packages to the targeted Foglight Agent Manager host.
- 3 Disable the *GenericSNMPService* cartridge and then re-enable it (or restart the Management Server), so that the rule changes takes effect.

Upgrading Foglight for Storage Management cartridge

The latest version of the Foglight for Storage Management cartridge is 4.6.5.

Foglight for Storage Management cartridge 4.6.5 requires Management Server version 5.9.4, or Foglight for Virtualization, Enterprise Edition 8.8.5. Prior to upgrading the Storage Management cartridge, you must update Foglight for VMware to version 5.7.7. For more information, see the *Foglight for VMware Release Notes*.

To upgrade Foglight for Storage Management cartridge:

- 1 Upgrade Foglight to version 5.9.4 or Foglight for Virtualization, Enterprise Edition to version 8.8.5.
- 2 Install and enable the following cartridges, to activate their functionality. For instructions, see “Installing Foglight Cartridges” in the Foglight online help.
 - Foglight Automation, version 5.6.3.8
 - Foglight Capacity Director, version 5.7.7 [new component in FVE 8.5 and later]
 - Foglight Capacity Management, version 5.7.7
 - Foglight Capacity Manager, version 5.7.7 [new component in FVE 8.5 and later], replacing the Foglight Capacity Management for Hyper-V and VMware® environments]
 - Foglight Change Analyzer, version 5.7.7
 - Foglight Chargeback, version 5.7.7
 - Foglight for Hyper-V, version 5.7.7
 - Foglight for Infrastructure, version 5.9.4
 - Foglight Resource Optimizer, version 5.7.7

i | **NOTE:** Foglight Resource Optimizer provides recommendations for changes in the VMware® or Hyper-V® environments, to make more efficient the use of resources. This requires that the VMware or Hyper-V agent is configured with a user that has elevated privileges, beyond the read-only privileges required for monitoring. For a list of privileges required for the VMware or Hyper-V agent, refer to section “Configuring Monitoring Agents for Data Collection” in the *Foglight for VMware User and Reference Guide* and *Foglight for Hyper-V User and Reference Guide*, respectively.

- Foglight for VMware, version 5.7.7
- 3 Install and enable the following cartridges:
 - a *Storage-4_6_5.car*
 - a *StorageAgentSDK-1_0_3.car*
 - a *PythonAgentSDK-1_0_3.car*
 - a *ManagedTopologyService-1_0_3.car*
 - a *SanHost-4_6_5.car* (included in *Storage-4_6_5.car*)
 - a *SMISStorageAgent-1_3_0.car*
 - 4 Upgrade the Storage Management Agents from the **Storage & San > Storage Environment > Administration** dashboard, for each Agent Manager Hosts shown in the StorageAgentMaster Monitor Agents view.

i | **NOTE:** This upgrade process has changed since the previous release.

For instructions, see “Deploying Storage Agents after an Upgrade” in the *Managing Storage in Virtual Environments Installation and Configuration Guide*. The upgrade dialog will:

- a Upgrade *StorageAgentMasterMonitor.gar*.
 - b Deactivate *StorageAgentMaster.gar* and remove the Windows service running on the Agent Host named *FoglightStorageManagerCollector* or *HDCCService*.
 - c Deploy *StorageAgentMasterDB.gar* and create an agent.
 - d Upgrade *StorageCollector.gar*.
- 5 If you have version 2.x.x Storage Collector agents that monitor Dell Compellent arrays, follow these instructions to upgrade to version 3.x.x:
- a From the Storage UI, delete the Compellent agents that were created before 3.0.0.
 - b Restart the HDCCS service (Foglight Storage Collector service).
 - c Re-create the Compellent agent with a slightly different name than it used to have.

Upgrade Foglight Web Monitor

The latest version of Foglight Web Monitor is 5.9.4.

Foglight Web Monitor 5.9.4 requires Management Server version 5.6.5 or later.

Foglight Web Monitor 5.9.4 can co-exist with legacy Cartridge for Operating System 5.5.4. If you have the Cartridge for Operating System 5.5.4 installed:

- You can install Foglight Web Monitor 5.9.4 as you would install a new cartridge. For complete instructions, see “Installing Foglight cartridges” in the *Administration and Configuration Help*.
- If you accidentally install Foglight Web Monitor 5.6.10, both the Cartridge for Operating System 5.5.4 and Foglight Web Monitor 5.6.10 will be broken. This issue is fixed in the Foglight Web Monitor 5.6.11 and later versions of this product (for details, see *Foglight Infrastructure Utilities Release Notes*).

To upgrade Foglight Web Monitor to the latest version:

- 1 Deactivate all of the *WebMonitorAgent* instances.
- 2 Install the *WebMonitor-5_9_1.car* file on the Management Server as you would install a new Foglight Web Monitor. **Do not uninstall or delete** the previous version of this file. For complete instructions, see “Installing Foglight cartridges” in the *Administration and Configuration Help*.
- 3 Deploy the Web Monitor Agent package to each Agent Manager that hosts one or more Web Monitor Agent instances. For complete instructions, see “Deploying agent packages to monitored hosts” in the *Administration and Configuration Help*.
- 4 Activate the *WebMonitorAgent* instances.

Upgrade Foglight for VMware

The latest version of Foglight for VMware is 5.7.7.

Foglight for VMware 5.7.7 requires Management Server version 5.9.4, or Foglight for Virtualization, Enterprise Edition 8.8.5.

Upgrades are supported from Foglight for VMware 5.6.15.x and later. Upgrades from the versions earlier than 5.6.15.x are not supported.

Important: The VMware Performance Agent uses a Virtual Center account to log in to the monitored Virtual Center. The administrative role associated with that account must be granted the **Performance > Modify intervals** privilege. When collecting traffic-type network metrics from the monitored ESX hosts, this privilege

enables the VMware Performance Agent to change the performance metric counter levels in order to collect this data. On the Virtual Center server, verify that the user has the following privileges:

- Datastore > Browse datastore
- Datastore > Remove file
- Performance > Modify intervals
- Sessions > View and stop sessions
- Virtual machine > Configuration > Change CPU count
- Virtual machine > Configuration > Change resource
- Virtual machine > Configuration > Memory
- Virtual machine > Interaction > Power Off
- Virtual machine > Interaction > Power On
- Virtual machine > State > Remove Snapshot

i **NOTE:** Java 7 or later requires that the vCenter Certificate's public key length must be 1024-bits or higher and should not use MD5.
If you try to add a vCenter for monitoring, and these requirements are not met, the server generates a Certificate error and cannot add the vCenter. The vCenter server Certificate should be updated to 1024-bits or higher and no MD5, to be able to add it for monitoring. For more information, see the *Foglight for VMware Release Notes*.

To upgrade Foglight for VMware to the latest version:

- 1 Deactivate all VMware Performance agent instances.
- 2 On the Cartridge Inventory dashboard, install the following cartridge files. Do not remove the older version of these cartridges. Install the new versions over the older versions. The sequence of cartridge installation is important because of their dependencies. For cartridge installation instructions, see "Installing Foglight cartridges" in the *Foglight Administration and Configuration Help*.
 - a *DRP-5_7_7.car*
 - b *OptimizerAutomation-5_7_7.car*
 - c *CommonAnalytics-5_7_7.car*
 - d *Virtual-VMware-5_7_7.car*
 - e *Virtual-VMware-Admin-5_7_7.car*
- 3 On the VMware Environment dashboard, on the Administration tab, update all of the existing VMware Performance agent instances.
- 4 **Important.** If you increased the JVM memory allocation in a previous cartridge installation (as described in the "System Requirements" section of the *Foglight for VMware Release Notes*), you need to repeat this process after deploying the new agent package and before activating the agents.
- 5 Activate all VMware Performance agent instances.

Upgrade Foglight for VMware Horizon View

The latest version of Foglight for VMware Horizon View is 5.7.7.

Foglight for VMware Horizon View 5.7.7 requires Management Server version 5.9.4, or Foglight for Virtualization, Enterprise Edition 8.8.5. It also requires Foglight for VMware 5.7.7 (or later) to be installed and enabled on the same Foglight Management Server.

To upgrade a VMware Horizon View agent:

- 1 On the **Cartridge Inventory** dashboard, install the following cartridge files. Do not remove the older version of these cartridges. Install the new versions over the older versions. The sequence of cartridge installation is important because of their dependencies.

- 1 *DRP-5_7_7.car*
- 2 *Virtual-VMware-5_7_7.car*
- 3 *Virtual-VMware-Admin-5_7_7.car*
- 4 *VMware-View-5_7_7.car*

For cartridge installation instructions, see “Installing Foglight for Virtualization, Enterprise Edition cartridges” in the *Foglight for Virtualization, Enterprise Edition Administration and Configuration Help*.

- 2 On the navigation panel, under **Dashboards**, click **VMware View** to open the VMware View Environment dashboard.
- 3 Click the **Administration** tab.
The Agent Version column in the Agents table shows the agents that are out of date.
- 4 Click **Update Agent** once for each Foglight Agent Manager instance on which outdated VMware Horizon View agents are running.
The selected agents are updating. When the operation completes, the Agent Version column is updated to read **Version Up To Date**.
- 5 Click the **Details** tab, then the **Desktops** tile.
- 6 In the Quick View, identify whether there are any Unmanaged or Terminal Server Hosts instances.

i **NOTE:** The Summary view for any Unmanaged or Terminal Server Hosts instances would displays no data. This is due to the default properties used by the View Discovery Wizard to create Infrastructure agents, for any Unmanaged or Terminal Server Hosts.

- 7 If any Unmanaged or Terminal Server Hosts instances exist on the list, update the properties for their corresponding Infrastructure agents.

i **NOTE:** If some instances on the list do not have a corresponding Infrastructure agent, you must first create an Infrastructure agent manually, define appropriate agent properties, and create the correct credentials for them. Alternatively, you can add these instances to an existing credential’s resource mapping.

- a On the navigation panel, click **Administration > Agents > Agent Status**, to open the Agent Status dashboard.
- b Select the Infrastructure agent that needs edits, and click **Edit > Edit Properties**.
- c Click **Modify the private properties for this agent**.
- d In the Properties area, set to *True* the following options: **Collect CPU metrics, Collect disk metrics, Collect memory metrics, and Collect network metrics**.
- e Click **Save**.
- f Repeat steps b to e for all other Infrastructure agents used for monitoring Unmanaged or Terminal Server Hosts.

The Infrastructure agents now start to collect CPU, disk, memory, and network metrics from the monitored hosts and the VMware View Environment dashboard will display this information correctly.

Upgrade Foglight for Citrix XenDesktop and XenApp

The latest version of Foglight for Citrix XenDesktop and XenApp is 5.7.7.

Foglight for Citrix XenDesktop and XenApp 5.7.7 requires Management Server version 5.9.4, or Foglight for Virtualization, Enterprise Edition 8.8.5.

To upgrade Foglight for Citrix XenDesktop and XenApp to the latest version:

- 1 Download the following packages from Quest Support Portal:
 - Foglight for VMware version 5.7.7 (which includes the *DRP-5_7_7.car*, *Virtual-VMware-5_7_7.car* and *Virtual-VMware-Admin-5_7_7.car* cartridge files)
 - Foglight for Citrix XenDesktop and XenApp version 5.7.7 (which includes the *XenDesktop-5_7_7.car* cartridge file)
- 2 Deactivate all XenDesktop and NetScaler agent instances.
- 3 On the Cartridge Inventory dashboard, install and enable the following cartridge files. Do not remove the older version of these cartridges. Install version 5.7.7 over the older version. The sequence of cartridge installation is important because of their dependencies:
 - a *DRP-5_7_7.car*
 - b *Virtual-VMware-5_7_7.car*

i **NOTE:** After installing the *Virtual-VMware-5_7_7.car* cartridge, existing vCenter agents (VC agents) must be updated using the **Update Agent** button in the **VMware Environment > Administration** tab.

 - c *Virtual-VMware-Admin-5_7_7.car*
 - d *XenDesktop-5_7_7.car*

For cartridge installation instructions, see “Installing Foglight cartridges” in the *Foglight Administration and Configuration Help*.

- 4 On the XenDesktop Environment dashboard, on the Administration tab, update all of the existing XenDesktop and NetScaler agent instances.
- 5 Activate all XenDesktop and NetScaler agent instances.

Appendix: Deploying an agent package using the browser interface

This section explains how to deploy an agent package using the browser interface. This method is an alternative to using the command-line interface.

In Foglight for Virtualization, Enterprise Edition, you can use the command-line interface to deploy an agent package for an upgraded cartridge, or you can use the browser interface.

Before you can deploy an agent package on a machine, you must first install the Agent Manager and the relevant agent package on that machine.

Use the Agent Managers dashboard to deploy one agent package at a time, or to deploy the agent package to multiple hosts. You can also deploy agent packages to a single host from the Agent Status page.

i | **NOTE:** On the Agent Managers dashboard, you can deploy an agent package to multiple hosts, as long as the hosts you select are running the same operating system.

Deploying an agent package through the Agent Managers dashboard

To deploy an agent package to one or more monitored hosts:

- 1 On the navigation panel, under **Dashboards**, select **Administration > Agents > Agent Managers**.
- 2 On the Agent Managers dashboard, select one or more hosts from the list.
- 3 Click **Deploy Agent Package** in the toolbar.

i | **NOTE:** In order to select the host, the Foglight Agent Manager must be up and running on the monitored host.

The **Deploy Agent Package** dialog wizard opens.

- 4 Select the agent packages that you want to deploy to the hosts you selected.

The entries that appear in the **Agent Packages** list include only those agent packages whose platform is compatible with the platform of the hosts you selected in [Step 2](#). For example, if the host runs a particular Windows OS, the list contains only the agent packages that include the agent processes that can run on that Windows OS.

i | **NOTE:** You can only deploy those agent packages whose cartridges have already been installed on the Foglight Management Server.

Optional — To see all packages that are available for deployment, including those are not compatible with the selected hosts, select **Show Packages for All Platforms**.

i | **IMPORTANT:** Do not deploy any agent packages that are not compatible with the host's platform. Deploying incompatible agent packages on top of existing compatible agent packages deletes the existing agents which can cause unpredictable results.

Click **Next**.

- 5 On the **Summary** page, review the choices you have made. Click **Finish**.

The task appears in the **Tasks** list. Use the Tasks list to follow the progress and determine the status of the task.

Deploying an agent package through the Agent Status dashboard

To deploy an agent package to a monitored host using the Agent Status dashboard:

- 1 On the navigation panel, under **Dashboards**, select **Administration > Agents > Agent Status**.
- 2 On the Agent Status dashboard, click **Deploy Agent Package** in the toolbar.
The **Deploy Agent Package** dialog wizard opens.
- 3 In the Deploy Agent Package dialog box, on the **Host Selector** page, select the monitored host to which you want to deploy the agent package.

i | **NOTE:** In order to select the host, the Foglight Agent Manager must be up and running on the monitored host.

Click **Next**.

- 4 Ensure that the agent package the you want to deploy appears on the **Agent Packages** page.

The entries that appear in the list include only those agent packages whose platform is compatible with the platform of the host you selected in [Step 3](#). For example, if the host runs a particular Windows OS, the list contains only the agent packages that include the agent processes that can run on that Windows OS.

i | **NOTE:** You can only deploy those agent packages whose cartridges have already been installed on the Foglight Management Server.

Optional — To see all packages that are available for deployment, including those are not compatible with the selected hosts, select **Show Packages for All Platforms**.

i | **IMPORTANT:** Do not deploy any agent packages that are not compatible with the host's platform. Deploying incompatible agent packages on top of existing compatible agent packages deletes the existing agents which can cause unpredictable results.

Click **Next**.

- 5 On the **Summary** page, review the choices you have made. Click **Finish**.

The task appears in the **Tasks** list. Use the Tasks list to follow the progress and determine the status of the task.

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