

Foglight® 6.1.0
Upgrade Guide



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Legend

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

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

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

Foglight Upgrade Guide
Updated - April 2022
Foglight Version - 6.1.0

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Understand product versions

This guide provides instructions on how to upgrade to the latest version of the Foglight® Management Server and the Foglight Agent Manager. This guide also provides upgrade instructions for the cartridges and cartridge-related components that are included with Foglight 6.1.0. The latest version of the Foglight Management Server is 6.1.0.

This section provides information about important changes made in this release, product versions, and components compatibility:

- [Components compatibility](#)
- [Compatible cartridges list](#)

Components compatibility

The Foglight 6.1.0 code line includes a number of critical changes which require particular attention for customers upgrading from a 5.7.x version. Specifically, three primary functional capabilities (server side data handling, Federation, High Availability) that used legacy JBoss components in versions prior to 5.9.x have been re-written to improve Foglight Management Server security. This has the following specific impacts on customers upgrading from a 5.7.x version.

- Foglight introduced FIPS Compliance mode starting from 5.9.7. Once the FIPS Compliance mode is enabled or disabled during installation, you cannot change it without a complete re-installation of Foglight.
- Foglight Management Servers must be upgraded to version 5.7.5.8 before they can upgrade to the 6.1.0 code line. If the Foglight Management Server is below 5.7.5.8, the installer will fail and display the appropriate error message.
- All Quest or Quest partner delivered cartridges that have a dependency on the changed components in the data submission handler must be upgraded prior to upgrading to the 6.1.0 code line. A complete list of cartridges is provided in [Compatible cartridges list](#). If there are incompatible Quest or Quest partner delivered cartridges, the installer will fail and display the appropriate error message.
- Other custom cartridges MAY have a dependency on the server side data handling component that has changed. A [pre-upgrade analysis tool](#) has been developed to identify any custom cartridges that might need changed.
- Before upgrading to 6.1.0, Quest recommends you create a Management Server Support Bundle to facilitate future communications with support regarding upgrade failures.
- There are new configuration requirements for customer running High Availability (HA) or Federation. For more information, see [Upgrade the cartridges in a federated or High Availability \(HA\) environment](#), [Federation Field Guide](#), and [High Availability Field Guide](#).

Compatible cartridges list

When upgrading any of the following cartridges to version 6.1.0, you must first upgrade the Management Server to version 6.1.0, and then directly upgrade the cartridges.

- *Foglight for VMware*: must be upgraded to 6.1.0
- *Foglight for Azure SQL Database*: must be upgraded to 6.1.0

- *Foglight for DB2 LUW*: must be upgraded to 6.1.0
- *Foglight for SQL Server*: must be upgraded to 6.1.0
- *Foglight for SAP ASE*: must be upgraded to 6.1.0
- *Foglight for Oracle*: must be upgraded to 6.1.0
- *Foglight for Application Operations*: must be upgraded to 5.9.8.5 or higher
- *Foglight for Microsoft .NET*: must be upgraded to 5.9.12 or higher
- *Foglight for Java EE Technologies*: must be upgraded to 5.9.12 or higher
- *Foglight ActionPacks*: must be upgraded to 5.6.3.5 or higher
- *Foglight for Automation*: must be upgraded to 5.6.3.5 or higher
- *Foglight APM for End User Experience*: must be upgraded to 5.9.11.1 or higher
- *Foglight for Transaction Recorder and Player*: must be upgraded to 5.6.13 or higher
- *Cartridge Builder*: must be upgraded to 5.6.6 or higher
- *MySQLAgent*: must be upgraded to 5.7.5.90 or higher
- *PostgreSQLAgent*: must be upgraded to 5.7.5.90 or higher
- *MongoDBAgent*: must be upgraded to 5.7.5.140 or higher
- *CassandraAgent*: must be upgraded to 5.7.5.50 or higher
- *TIBCOAgent*: must be upgraded to 5.7.5.16 or higher

The following software has been updated for the Foglight 6.1.0 release:

- Foglight Agent Manager, version 6.1.0
- Foglight for Infrastructure, version 6.1.0
- Foglight for Active Directory, version 6.1.0
- Foglight for Azure SQL Database, version 6.1.0
- Foglight for DB2 LUW: version 6.1.0
- Foglight for SQL Server: version 6.1.0
- Foglight for SAP ASE: version 6.1.0
- Foglight for Oracle: version 6.1.0
- Foglight Capacity Director, version 6.1.0
- Foglight Change Analyzer, version 6.1.0
- Foglight for Citrix XenDesktop and XenApp, version 6.1.0
- Foglight for Container Management, version 6.1.0
- Foglight for Hyper-V, version 6.1.0
- Foglight for NetVault, version 6.1.0
- Foglight for Storage Management, version 6.1.0
- Foglight for VMware, version 6.1.0
- Foglight for VMware Horizon View, version 6.1.0
- Foglight Hybrid Cloud Manager, version 6.1.0
- Quest Protect Dashboard, version 6.1.0

For a complete list of fixes for any of these components, please 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.

For more details, see these topics:

- [Foglight cartridge upgrade issues](#)
- [Foglight appliance upgrade issues](#)

Foglight cartridge upgrade issues

i | **NOTE:** Any versions earlier than those listed in the [Components compatibility](#) list may not be compatible with Foglight 6.1.0. It is recommended that you only use the listed versions.

The following cartridges are not compatible with the Foglight 6.1.0 release:

- Cartridge for DB2 LUW, version 5.5.8.1
- Cartridge for Integration, version 5.5.8
- Cartridge for Java EE Technologies, version 5.8.x and earlier
- Cartridge for JMX, version 5.8.x and earlier
- Cartridge for WebService Integration, version 1.0.8
- Foglight APM for Real User Experience cartridge
- Foglight for Transaction Recorder and Player
- Foglight APM for End User Experience
- Foglight for Guest Process Investigation, version 5.6.7

i | **NOTE:** Foglight for Guest Process Investigation is no longer available with this Foglight release. A new multi-host process monitoring agent is provided as part of the Foglight for Infrastructure cartridge.

For any Foglight cartridge, follow the instructions in this guide to upgrade the cartridge to the latest version. If any additional information is required to upgrade a particular cartridge, the instructions in this guide will direct you to the release notes for that cartridge for the information.

Foglight appliance upgrade issues

The latest version of the Foglight Experience Monitor (FxM) appliance is 6.1.0.

The latest version of the Foglight Experience Viewer (FxV) appliances is 6.1.0.

Best practices

This section guides you through the best practices for upgrading Foglight.

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

A new version of Foglight delivers new features to the market and addresses software defects. Customers may choose to upgrade whenever a new version is released, but we neither require nor expect individual customers to take every new version. You should determine which, if any, components you will upgrade based on:

- The features and defect fixes for each component, listed in the release notes for the component;
- The upgrade difficulty notes for each component, provided below. The notes describe the amount of effort and the complexities, if any, that an upgrade of a given component entails.

To assist you in the upgrade decision making process, we provide the upgrade information in a number of ways.

First we describe how the components have changed for the release and the level of difficulty of upgrading each. Then we describe common use cases and explain the components that need to be upgraded in each scenario. Finally, we provide a table that outlines the compatibility of all updated components with older versions of the various components.

For more details, see these topics:

- [Foglight Management Server](#)
- [Foglight Agent Manager](#)
- [Application Monitoring cartridges](#)
- [Database cartridges](#)
- [End User Management cartridges](#)
- [Infrastructure Management cartridges](#)
- [Integration cartridges](#)
- [Virtualization cartridges](#)
- [Foglight Experience Monitor appliance](#)
- [Foglight Experience Viewer appliance](#)
- [Upgrade use cases](#)
- [Dependency and compatibility matrices](#)
- [Prepare for an upgrade](#)
- [Upgrade order](#)
- [Where to find upgrade information](#)
- [Update the Java Runtime Environment](#)

Foglight Management Server

A new release of Foglight typically delivers new features and defect fixes. For information about new features and defect fixes, see the *Foglight Release Notes*.

The upgrade to Foglight 6.1.0 should be straightforward.

Upgrade difficulty: Easy

Expected time: 15 minutes

A server upgrade updates the Management Server to version 6.1.0 and the embedded Agent Manager adapter to version 6.1.0. The act of upgrading the server does not require any client-side agent or Agent Manager upgrades.

Foglight Agent Manager

A new release of the Agent Manager typically delivers new features and defect fixes. For information about new features and defect fixes, see the *Foglight Agent Manager Release Notes*.

For more details, see these topics:

- [Embedded Agent Manager](#)
- [Agent Manager client installation cartridges](#)
- [Client-side Agent Managers](#)

Embedded Agent Manager

An upgrade to the Management Server version 6.1.0 automatically updates the Agent Manager adapter that is embedded in the Management Server to version 6.1.0. The embedded Agent Manager adapter is backward compatible with all previous versions of the Agent Manager client.

Agent Manager client installation cartridges

As of Foglight 6.1.0, the JREs for all Agent Manager-supported platforms are updated to a newer version of the Java® Runtime Environment (JRE). Therefore, if you are upgrading from a pre-5.6.2.6 version of the Agent Manager, you must download and install either one or more platform-specific Agent Manager client installation cartridges (*FglAM-`<platform>-<version>.car`*) or the large all-platform client installation cartridge (*FglAM-all-`<version>.car`*) before you can push an upgrade to a client. It is not possible to use the patch upgrade cartridge (*FglAM-patch-`<version>.car`*) for this, because it does not include the JREs.

Upgrade difficulty: Easy

Expected time: 1 minute for a cartridge (depending on the network speed)

Client-side Agent Managers

It is not necessary to update client-side Agent Managers unless there is a particular enhancement or defect that you want to address on the client side.

i | **NOTE:** Before you update individual clients, you must first install one or more of the necessary client installation cartridges. See [Agent Manager client installation cartridges](#).

Once you have the necessary client installation cartridges installed, updating individual clients is an easy process, but a large number of clients may make it time consuming. It is recommended that you leave your existing Agent

Manager clients in place unless you have a specific defect or enhancement that you need to address or you want to deploy an agent that requires the new version of the client.

Agent Manager upgrades from a 5.5.4.x legacy release require an intermediary upgrade to 5.6.7 prior to upgrading to 5.8.1 or later. To complete this intermediary upgrade, install one or more of the Agent Manager 5.6.7 platform-specific cartridges (as required), and upgrade the legacy hosts to this release before deploying the 6.1.0 Agent Manager cartridge or upgrading the Foglight Management Server to version 6.1.0 . After all of the legacy hosts are running version 5.6.7, and the Foglight Management Server is upgraded to version 6.1.0 , you can start upgrading your hosts to Agent Manager version 6.1.0 .

Upgrade difficulty: Easy

- NOTE:** There is one scenario in which this upgrade may not be considered easy. If the Agent Manager is running as a Windows® service, you have one or more active out-of-process agents, and you upgrade from any version earlier than 5.5.4.2 to version 5.5.4.2 or later, agent instances may disappear from the Agent Manager client. For information on how to remedy this situation, see [Agent Manager upgrade issues](#).

Expected time: 5 minutes per client

- NOTE:** A client-side upgrade to 5.7.0 or later from a version of the Agent Manager earlier than 5.6.2.6 takes five minutes per client because the JRE is being updated as well. Upgrades from 5.6.2.6 onward during which the JRE is not being updated take approximately 30 seconds (or up to about one minute on slower networks) per client.

It is often unnecessary to upgrade the agents. Only upgrade the agents if it is necessary. Also, if you require agent upgrades, but they are less important, schedule them for later.

Application Monitoring cartridges

The following Application Monitoring cartridges are currently available:

- [Application Performance Monitoring cartridges](#)
- [Application Management cartridges](#)

Application Performance Monitoring cartridges

The Application Performance Monitoring cartridges have not been updated for this release. Their versions remain as listed below:

- Foglight for Application Operations, version 5.9.8.5
- Foglight for Java EE Technologies, version 5.9.13
- Foglight for JMX, version 5.9.8
- Foglight for Microsoft .NET, version 5.9.13

Application Management cartridges

The Application Management cartridges have not been updated for this release. Their versions remain as listed below:

- Foglight for IBM WebSphere MQ Server, version 5.5.5.13

Database cartridges

The following Database cartridges are currently available:

- [Foglight for Azure SQL Database](#)
- [Foglight for DB2 LUW](#)
- [Foglight for Oracle](#)
- [Foglight for SQL Server](#)
- [Foglight for SAP ASE](#)

Foglight for Azure SQL Database

Foglight for Azure SQL Database has been updated to version 6.1.0. For a list of features and defect fixes, see the *Foglight for Azure SQL Database Release Notes*.

Upgrade difficulty: Easy

Expected time: 5-15 minutes (varies depending on the size of your environment)

Foglight for DB2 LUW

Foglight for DB2 LUW has been updated to version 6.1.0. For a list of features and defect fixes, see the *Foglight for DB2 LUW Release Notes*.

Upgrade difficulty: Easy

Expected time: 5-15 minutes (varies depending on the size of your environment)

Foglight for Oracle

Foglight for Oracle has been updated to version 6.1.0. For a list of features and defect fixes, see the *Foglight for Oracle Release Notes*.

Upgrade difficulty: Easy

Expected time: 5 - 15 minutes (varies depending on the size of your environment)

Foglight for SQL Server

Foglight for SQL Server has been updated to version 6.1.0. For a list of features and defect fixes, see the *Foglight for SQL Server Release Notes*.

Upgrade difficulty: Easy

Expected time: 5 - 15 minutes (varies depending on the size of your environment)

Foglight for SAP ASE

Foglight for SAP ASE has been updated to version v. For a list of features and defect fixes, see the *Foglight for SAP ASE Release Notes*.

Upgrade difficulty: Easy

Expected time: 5 - 15 minutes (varies depending on the size of your environment)

End User Management cartridges

The following End User Management cartridges are currently available:

- [End User cartridges](#)

End User cartridges

The EU-Core Cartridge and the other end-user cartridges have not been updated for this release. Their version numbers remain the same:

- EU-Core Cartridge, version 5.6.7
- Cartridge for FxM, version 5.6.5
- Cartridge for FxV, version 5.6.5

i | **NOTE:** The EU-Core Cartridge is required by all other end-user cartridges. You must upgrade the EU-Core Cartridge before upgrading any of the other end-user cartridges.

For a list of features and defect fixes for any new cartridge, see the release notes for that cartridge.

Upgrade difficulty: Medium

Expected time: Approximately 5 minutes per cartridge

Infrastructure Management cartridges

The following Infrastructure management cartridges have updated in this release:

- [Foglight for Infrastructure](#)
- [Foglight for Active Directory](#)
- [Foglight for Exchange](#)

The remaining Infrastructure Management cartridges have not been updated, and remain at the versions listed below:

- Foglight Web Monitor, version 5.9.7
- Foglight Net Monitor, version 5.9.8
- Foglight for PowerVM, version 5.9.8
- Foglight for SNMP, version 5.9.6

Foglight for Infrastructure

Foglight for Infrastructure has been updated to version 6.1.0. For a list of features and defect fixes, see *Foglight for Infrastructure Release Notes*.

Upgrade difficulty: Easy

Expected time: Approximately 5 minutes

Foglight for Active Directory

Foglight for Active Directory has been updated to version 6.1.0. For a list of features and defect fixes, see the *Foglight for Active Directory Release Notes*.

Upgrade difficulty: Medium

Expected time: Approximately 5 minutes

i | **IMPORTANT:** Foglight for Active Directory 5.8.3 may require more memory be allocated to the main Agent Manager instance than was previously needed. For details, see the *Foglight for Active Director Release Notes*.

Foglight for Exchange

Foglight for Exchange has been updated to version 6.1.0. For a list of features and defect fixes, see the *Foglight for Exchange Release Notes*.

Upgrade difficulty: Medium

Expected time: Approximately 5 minutes

i | **IMPORTANT:** Foglight for Exchange 5.8.3 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*.

Integration cartridges

The following Integration cartridges have not been updated for this release, and remain at the version listed below:

- Foglight for Integration, version 5.9.8
- Foglight for NMS Integration, version 5.6.4.6

Virtualization cartridges

The following virtualization cartridges are compatible with the Management Server 6.1.0:

- Foglight Capacity Director, version 6.1.0
- Foglight Cost Director, version 6.1.0
- Foglight Capacity Manager, version 6.1.0
- Foglight Change Analyzer, version 6.1.0
- Foglight for Hyper-V, version 6.1.0
- Foglight Resource Optimizer, version 6.1.0
- Foglight for Storage Management, version 6.1.0
- Foglight for VMware, version 6.1.0
- Foglight for VMware Horizon View, version 6.1.0
- Foglight for Citrix XenDesktop and XenApp, version 6.1.0
- Foglight Hybrid Cloud Manager for AWS, version 6.1.0
- Foglight Hybrid Cloud Manager for Azure, version 6.1.0
- Foglight Hybrid Cloud Manager for Google Cloud, version 6.1.0

- Foglight for Container Management, version 6.1.0
- Foglight for Cloud Migration, version 6.1.0
- Foglight for Netvault, version 6.1.0
- Foglight for vCloud Director, version 6.1.0
- Quest Protect, version 6.1.0
- Foglight for IBM Cloud Migration Assessment, version 6.1.0
- Upgrade difficulty: Easy

Expected time: Approximately 5 minutes per cartridge

Foglight Experience Monitor appliance

The latest version of the Foglight Experience Monitor appliance is 5.6.5. For a list of features and defect fixes, see the *Foglight Experience Monitor Release Notes*.

Upgrade difficulty: Easy

Expected time: 20 - 60 minutes (depending on whether or not any database tables are corrupt and need fixing — an automatic process that is run before and after the upgrade to ensure the database is fine)

Foglight Experience Viewer appliance

The latest version of the Foglight Experience Viewer appliance is 5.6.5. For a list of features and defect fixes, see the *Foglight Experience Viewer Release Notes*.

Upgrade difficulty: Easy

Expected time: 15 - 20 minutes (can vary considerably depending on your connection speed)

Upgrade use cases

The following are common upgrade use cases:

- [Scenario 1 — New release](#)
- [Scenario 2 — New Management Server features or defect fixes](#)
- [Scenario 3 — Agent Manager client-side feature dependency or defect fix](#)

Scenario 1 — New release

You notice that there is a new version of Foglight and are wondering if you should upgrade. If you do not have a specific reason to upgrade, we recommend you stay on the version you are running now.

Scenario 2 — New Management Server features or defect fixes

A new release of Foglight typically delivers new features and defect fixes. See the *Foglight Release Notes* for information about new features and defect fixes. We recommend the Management Server upgrade to customers who want one or more of the features or defect fixes in a new release.

Customers who want to take advantage of new features and defect fixes can do so with a simple upgrade to the Management Server. This upgrade is expected to take 15 minutes or less. An upgrade to the server does not introduce any incompatibilities with earlier versions of other Foglight core components; therefore, with the Management Server 6.1.0 upgrade, you should not have to upgrade any other components in your environment.

Scenario 3 — Agent Manager client-side feature dependency or defect fix

A new release of the Agent Manager typically delivers new features and defect fixes. For information about new features and defect fixes, see the *Foglight Agent Manager Release Notes*. Customers who want to take advantage of a new feature or defect fix may consider a move to the latest Agent Manager client.

The 6.0.0 Agent Manager Adapter is updated as part of the Management Server 6.1.0 upgrade, and the new adapter is backward compatible with all earlier versions of the Agent Manager.

Generally, there is no need to upgrade the client side of the Agent Manager. An Agent Manager client-side upgrade is required only in the following situations:

- You require one or more of the new 6.0.0 Agent Manager features or defect fixes in your environment. See the *Foglight Agent Manager Release Notes* for details.
- You are planning to install a cartridge that requires version 6.0.0 of the Agent Manager.

You do not need to upgrade all Agent Manager clients to the latest version. You only need to upgrade the ones that meet one or more of the conditions specified above.

Dependency and compatibility matrices

This section provides information on upgrade version compatibility.

The following table presents the upgrade matrix for the key components of Foglight 6.1.0.

Table 1. Upgrade matrix for key Foglight components

Item	Version Supported in Foglight 6.1.0	Version Recommended for New Management Server 6.1.0 Installations	Version Recommended for Management Server 6.1.0 Upgrades
Agent Manager client	5.6.2 and later	6.0.0	6.0.0
Foglight for Infrastructure	5.6.3 and later	6.0.0	6.0.0

The matrix below lists the new components and cartridges and their main features and indicates whether or not upgrade to a component for a particular feature requires the upgrade of one or more core components.

i | **NOTE:** The core components are the Management Server, client-side Agent Managers, and agents on the monitored host.

Table 2. Upgrade matrix for Foglight components and cartridges

Component	Feature	Requires Management Server Upgrade?^a	Requires Agent Manager Client-side Upgrade (on the Monitored Host)?	Requires Agent Deployment After Upgrade
Agent Manager 6.1.0	All features and fixes	No	No	No
Foglight for Active Directory 6.1.0	All features and fixes	No	No	No
Foglight Change Analyzer 6.1.0	Defect fixes	No	No	No
Foglight for Citrix XenDesktop and XenApp 6.1.0	Defect fixes	Yes	Yes	Yes
Foglight for DB2 LUW 6.1.0	All features and fixes	No	No	No
Foglight for Exchange 6.1.0	All features and fixes	No	No	No
Foglight for Hyper-V 6.1.0	All features and fixes	No	No	Yes
Foglight for Infrastructure 6.1.0	All features and fixes	Yes	No	No
Foglight for Oracle 6.1.0	All features and fixes	No	No	No
Foglight Resource Optimizer 6.1.0	All features and fixes	No	No	No
Foglight for SQL Server 6.1.0	All features and fixes	No	No	No
Foglight for Storage Management 6.1.0	All features and fixes	Yes	Yes	Yes
Foglight for SAP ASE 6.1.0	Defect fixes	No	No	No
Foglight for vCloud Director 6.1.0	Defect fixes	No	No	No
Foglight for VMware 6.1.0	Defect fixes	No	No	Yes
Foglight for VMware Horizon View 6.1.0	Defect fixes	Yes	Yes	Yes

a.If it is indicated that a Management Server upgrade is not required, please ensure that your current Management Server version is compatible. The matrix above only covers potential upgrades from the previous version of Foglight.

The matrix below outlines the compatibility of the latest cartridges and core components with earlier versions of the Management Server and with the current Management Server. This matrix will assist you in determining whether you need to upgrade your Management Server, if you are presently running an older version.

Table 3. Compatibility matrix of cartridges and core components

Management Server version per component	5.6.10	5.6.11/ 5.7.1	5.7.6	5.7.6.1	5.7.6.2	5.7.6.3	5.7.6.4	5.7.6.5/ 5.7.6.6/ 5.7.6.7	5.7.5.8	5.9.8
Agent Manager 6.1.0	N	N	N	N	N	N	N	Y	Y	Y
Foglight for Active Directory 6.1.0	N	N	Y	Y	Y	Y	Y	Y	Y	Y
Foglight for Application Operations 6.1.0	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Foglight Capacity Management 6.1.0	N	N	Y	Y	Y	Y	Y	Y	Y	Y
Foglight Change Analyzer 6.1.0	N	N	Y	Y	Y	Y	Y	Y	Y	Y
Foglight for Citrix XenDesktop and XenApp 6.1.0	N	N	Y	Y	Y	Y	Y	Y	Y	Y
Foglight for DB2 LUW 6.1.0	N	Y	Y	Y	Y	Y	Y	Y	Y	Y
Foglight for Exchange 6.1.0	N	N	Y	Y	Y	Y	Y	Y	Y	Y
Foglight for Hyper-V 6.1.0	N	N	Y	Y	Y	Y	Y	Y	Y	Y
Foglight for Infrastructure 6.1.0	N	N	N	N	N	N	N	Y	Y	Y
Foglight for Oracle 6.1.0	N	Y	Y	Y	Y	Y	Y	Y	Y	Y
Foglight Resource Optimizer 6.1.0	N	N	Y	Y	Y	Y	Y	Y	Y	Y
Foglight for SQL Server 6.1.0	N	Y	Y	Y	Y	Y	Y	Y	Y	Y
Foglight for Storage Management 6.1.0	N	N	N	Y	Y	Y	Y	Y	Y	Y
Foglight for SAP ASE 6.1.0	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Foglight for vCloud Director 6.1.0	N	N	Y	Y	Y	Y	Y	Y	Y	Y
Foglight for VMware 6.1.0	N	N	N	N	Y	Y	Y	Y	Y	Y
Foglight for VMware Horizon View 6.1.0	N	N	Y	Y	Y	Y	Y	Y	Y	Y

*Starting from ACE.2, Foglight for FTR is not supported.

Prepare for an upgrade

Preparing for a Foglight upgrade 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 “Managing Support Bundles” section in *Foglight Administration and Configuration Guide*.
- 2 If you are upgrading the Management Server, back up the file system in which Foglight is installed. For information on how to do this, see the “Backing up Foglight” section in the *Foglight Administration and Configuration Help*.
- 3 If you are upgrading the Management Server, back up your database. For information on how to do this, see the “Backing up Foglight” section in the *Foglight Administration and Configuration Help*.

Upgrade order

i | IMPORTANT: Consult the sections above to decide which components, if any, you will be upgrading.

Foglight components should be upgraded in the following order:

- 1 Some cartridges must be upgraded prior to upgrading the Management Server. For more information, see [Components compatibility](#) on page 7.
- 2 Management Server, if necessary
- 3 Cartridges, if necessary
- 4 Agent Manager, if necessary
- 5 New agents, if necessary

Step 2 may require some time, because agents may need time to reconnect.

In some cases, a successful step 2 may require one or more cartridge upgrades. Where special instructions are required, they are documented in this guide.

Only perform steps 4 and 5 after the system has stabilized.

Where to find upgrade information

For information on how to upgrade the Management Server, see [Upgrade the Foglight Management Server](#).

For information on how to upgrade the Agent Manager, see [Upgrade the Foglight Agent Manager](#).

For information on how to upgrade Foglight cartridges, see:

- [Upgrade the Application Monitoring cartridges](#)
- [Upgrade the Database cartridges](#)
- [Upgrade the End User Management cartridges](#)
- [Upgrading the Infrastructure Management cartridges](#)
- [Upgrade the Integration cartridges](#)
- [Upgrade the cartridges in a federated or High Availability \(HA\) environment](#)

Update the Java Runtime Environment

Both the Management Server and the Agent Manager require a Java® Runtime Environment. Quest Software Inc. tests and bundles each Foglight release with versions of the JRE that are compatible with the Management Server and the Agent Manager. Quest audits the security bulletins from Oracle® that are related to those versions of the JRE. If Quest determines that any of the bulletins are applicable to the Management Server or Agent Manager code, Quest releases a security update with the necessary fixes incorporated.

Quest recommends that you use the JRE versions bundled with the Foglight release, because Quest cannot guarantee that other versions of the JRE will perform correctly. However, Quest recognizes that you may have particularly stringent security requirements that require you to use a different version of the JRE.

If you must upgrade a version of the JRE, Quest will make the effort, in good faith, to support the upgrade, as long as it meets the following guidelines:

- The new JRE must be on the same major release branch, and the upgrade must update no more than the 4th set of digits in the version number (for example, 1.8.0.xx).
- You must use the following JRE upgrade process for the Agent Manager:
 - a Stop the Agent Manager.
 - b In the *jre* subdirectory of your Agent Manager installation directory, create a new directory named for the version number of the JRE to which you want to upgrade, with components separated by periods (for example, 1.8.0.25).
 - c Unpack the new JRE into that directory.
 - d Restart the Agent Manager, which will look for and use the newest JRE available to it.
- You must use the following JRE upgrade process for the Management Server.
 - a Stop the Management Server.
 - b Rename `<foglight_home>/jre` to `<foglight_home>/jre.bak`.
 - c Create a new `<foglight_home>/jre` directory.
 - d Unpack the new JRE into the new `<foglight_home>/jre` directory.
 - e Restart the Management Server.
- For problem replication:
 - a You must advise Quest technical support that you are on a non-standard JRE.
 - b Quest will first try to reproduce problems on our bundled version of the JRE.
 - c Quest will then try to reproduce problems on the version of the JRE to which you upgraded.
 - d If Quest cannot replicate the problem on either the bundled version or the specific version of the JRE to which you upgraded, you may be asked to return our bundled version of the JRE.

Upgrade the Foglight Management Server

This section provides information about the following topics:

- [Migrate to Windows SSO from VSJ SSO](#)
- [Upgrade the Management Server](#)
- [Oracle database users](#)
- [Database changes](#)

Migrate to Windows SSO from VSJ SSO

If you were using the VSJ SSO implementation in earlier versions of Foglight, you must migrate to the new Windows OS-based SSO.

To migrate to Windows OS-based SSO from VSJ SSO:

- 1 Make a backup of the `vsj.properties` file before you upgrade Foglight. You can find this file in the following location:

```
<foglight_home>/server/default/deploy-foglight/console.war/WEB-INF/vsj.properties
```
- 2 Upgrade Foglight to the latest version.
- 3 If there is no keytab file configured in the VSJ SSO, create the keytab file first using the `ktpass` command, as described in “Configure Active Directory to support Windows Single Sign-on” section in the Foglight online help.
- 4 Edit the `krb5-auth.config` file to set the properties described in the following table.

Table 4. VSJ properties and the corresponding `krb5-auth.config` properties

vsj.properties	krb5-auth.config
<code>idm.princ</code>	Principal
<code>idm.keytab</code>	Keytab
<code>idm.ad.qualifiedUserPrincipal</code>	QualifiedUserPrincipal

- 5 Edit the `krb5.config` file. Set the realm name to the `vsj.properties` `idm.realm` value.

Upgrade the Management Server

Follow the procedures in this section to upgrade an earlier version of the Management Server to version 6.1.0 .

- i** | **IMPORTANT:** To upgrade from a 5.5.x Management Server to 5.7.1 or later, you must first upgrade to 5.6.2 (or a more recent 5.6.x version), and then to 5.7.1 or later.
- IMPORTANT:** To upgrade from a 5.6.11 Management Server to 5.7.6.x, you must first upgrade to 5.7.1, and then to 5.7.6.x.
- IMPORTANT:** To upgrade from a 5.7.6.x Management Server to 5.9.x, you must first upgrade to 5.7.5.8, and then to 6.1.0 .

Ideally, you should create a backup just before performing an upgrade. For more information on creating a backup, see the *Foglight Administration and Configuration Help*. If you have encounter any problems during the upgrade process, contact Quest Support.

It is important that you see [Upgrade a Management Server in a federated environment](#) if you are upgrading the Management Server in a Federated environment.

It is important that you see [Upgrade the Management Server in a High Availability \(HA\) environment](#) if you are upgrading the Management Server in an HA environment.

It is important that you see [Upgrade the Management Server with an Oracle RAC database](#) if you are upgrading the Management Server installed with an Oracle RAC database.

To upgrade the Management Server:

- i** | **NOTE:** Only support the upgrade from the Management Server 5.7.5.8. Before upgrading the Management Server to 6.1.0 , make sure to upgrade your server to 5.7.5.8 first.
- NOTE:** If there are Foglight End User agents, deactivate them before you upgrade the Management Server. Once you have upgraded all that you plan to (for example, the Management Server, the Agent Manager, any cartridges, any agent packages, and the software on the agent hosts), you can then reactivate the End User agents.
- NOTE:** Management Server 5.9.8 or higher does not support the AIX Agent Manager clients whose version is lower than 5.9.8.
- To fix this issue, do either of the following:**
 - Upgrade these Agent Manager clients to 5.9.8 or higher before upgrading the Management Server.
 - Run AIX Agent Manager clients with command-line parameter `'-Dcom.ibm.jsse2.overrideDefaultTLS=true'`.

- 1 Stop the Management Server. The Management Server may take a few minutes to shut down. Verify that all Management Server processes have stopped before starting the installer.

To ensure that all processes have been stopped, perform one of the following checks:

- i** | **NOTE:** The default installation folder is included in the commands. If Foglight is installed in an alternate location at your site, please substitute the appropriate folder name for the default installation folder name.

UNIX@:

```
ps -ef | grep Foglight
```

- i** | **NOTE:** If Foglight is running as a daemon, this command displays that information instead of the path to the Management Server executable.

Windows@:

Use the Task Manager to verify that the `fms.exe` process has stopped.

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

2 If you have customized the Management Server configuration files (such as `<foglight_home>/config/server.config` or `<foglight_home>/config/log.config`, `<foglight_home>/config/jgroups-config.properties`, or `<foglight_home>/config/federation.config`), back up these files so that you can verify the correct ports are configured after the upgrade is completed. If you have never customized these files, proceed to the next step.

3 Ensure that the following cartridges are upgraded to the required version before upgrading the Management Server.

- *Foglight for VMware*: must be upgraded to version 5.7.3 or higher
- *Foglight for DB2 LUW*: must be upgraded to version 5.7.5.50 or higher
- *Foglight for SQL Server*: must be upgraded to version 5.7.5.50 or higher
- *Foglight for Oracle*: must be upgraded to version 5.7.5.50 or higher
- *Foglight for Sybase*: must be upgraded to version 5.7.5.50 or higher
- *Foglight for Application Operations*: must be upgraded to version 5.9.8.5 or higher
- *Foglight for Java EE Technologies*: must be upgraded to version 5.9.12 or higher
- *Foglight for Microsoft .NET*: must be upgraded to version 5.9.12 or higher
- *Foglight Transaction Manager*: must be upgraded to version 5.9.13 or higher
- *Foglight APM*: must be upgraded to version 5.9.11.1 or higher

4 **Optional:** The JRE on disk is replaced completely during a Management Server upgrade. Any existing certificates are retained in `$fmshome/state/backup/<previous-fms-version>/jre/lib/security/cacerts`.

Your custom settings are restored automatically after upgrade of the Management Server.

5 Upgrade the Management Server using the appropriate installer. The installer detects the earlier version of the Management Server. Ensure that your Management Server has been upgraded

i | NOTE: It is possible to upgrade a 32-bit installation to a 64-bit installation by simply using the 64-bit version of the installer, provided that the OS is 64-bit.

6 Follow the on-screen upgrade instructions. As mentioned previously, the installer detects the earlier version of the Management Server.

For step-by-step assistance, see 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.

i | IMPORTANT: The upgrade checks the permissions on the database's `dbms_job` package. If the check fails, run `GRANT EXECUTE ON dbms_job TO public` using the `sysdba` user 'sys' to resolve the issue and then continue with the upgrade.

Known Issue: If you are running an external database, the database upgrade portion of the Management Server upgrade may fail for one of the following reasons:

- The database connection parameters are incorrect.
- The database is not running.

The installer explains any problems encountered while upgrading an external database. This step can be canceled by clicking **Ignore** and continuing.

If, for any reason, the database upgrade cannot be successfully performed within the installer itself, you can perform the database upgrade afterwards by running the following command:

```
<foglight_home>\bin\foglight_db_upgrade.[bat|sh]
```


i | NOTE: The database upgrade must be performed before you start the Management Server.

- 7 Optional:** You can upgrade the currently installed cartridges (except for the cartridges listed in [Step 3](#)) in one easy step before starting the Management Server. To do this, place the new versions of the cartridges into the folder `<foglflight_home>/upgrade/cartridge`. The cartridges are then installed automatically when the Management Server starts up.

i | IMPORTANT: This method of upgrading cartridges is only available in Foglight 5.2.4 and later.

i | NOTE: This method of upgrading cartridges does not apply to Foglight for Oracle, Foglight for SQL Server, Cartridge for DB2, or Cartridge for Sybase.

The newly installed cartridges replace their respective older versions and previous versions are deleted, which means you cannot revert back to them.

- 8** If you backed up the configuration files mentioned in [Step 2](#), compare the customizations to determine if they are still necessary, especially for the following customization files. If required, reapply these files before starting the Management Server.

- `<foglflight_home>/config/server.config`
- `<foglflight_home>/config/jgroups-config.properties`
- `<foglflight_home>/config/federation.config`
- `<foglflight_home>/config/datasource/datasource-oracle.properties`

- 9** Start the new Management Server by typing the following command:

UNIX@:

```
./bin/fms --start
```

Windows@:

```
<foglflight_home>\bin\fms.exe
```

- 10** The ability to send all generated reports to declared email recipients is enabled by default. If you do not want reports to be sent out by default, manually disable the Email Reports Sample rule. For more information on rules, see “Using Foglight Rules to Report on Bottlenecks” in the *Foglight Administration and Configuration Guide*.

- 11** Log into Foglight through the browser interface by entering <http://<yourserver>:<port>> in your web browser, where `<port>` is the applicable port at your location (the default is 8080).

After you have logged into Foglight, the Management Server and the Agent Manager both attempt to reach a steady state. Be patient as it will take some time for this to complete. It may also take some time if you have a large topology.

i | IMPORTANT: If, after upgrading, you experience unusual or unexpected browser interface behavior (for example, unusual page layout), try logging out of Foglight, clearing the browser’s cache, restarting the browser, and then logging back into Foglight. In most cases, this will correct the problem. In rare cases, proxies and firewalls inappropriately cache JavaScript, and therefore you may need to clear their caches as well.

- 12** Look at the Agent Status page (*Dashboards > Administration > Agents > Agent Status*) to see the number of agents that are connected. Wait until this count reaches a steady state before proceeding. You may need to refresh the page to see the complete list.

Do not stop/start/activate/deactivate any of the agents manually from the Agent Status page while waiting for the count to reach a steady state. If you do, it will increase the time required for the agent connection state to stabilize and, consequently, increase your wait time.

The estimated time for this activity to complete is one hour, depending on the complexity (number of agents) in the environment.

If you encounter any problems while upgrading your Management Server, contact Quest Support for assistance.

For more information, see these topics:

- [Host services compatibility](#)
- [Start the embedded Agent Manager](#)
- [Upgrade a Management Server in a federated environment](#)
- [Upgrade the Management Server in a High Availability \(HA\) environment](#)
- [Upgrade the Management Server with an Oracle RAC database](#)

Host services compatibility

A new installation of, or upgrade to, version 6.1.0 of the Management Server does not automatically create HostServices for every discovered host. If you want that functionality, install and enable the Service Compatibility Cartridge (<foglight_home>/compat/cartridge/Core-HostServices-Compatibility-6_1_0car).

If you have already installed and enabled the Service Compatibility Cartridge through a previous upgrade to or after a fresh installation of version 5.5.2, 5.5.4, 5.5.5, or 5.5.8, then the cartridge continues to be active after an upgrade to version 6.1.0, and this manual step is not necessary.

Start the embedded Agent Manager

The Management Server version 6.1.0 includes an embedded Agent Manager version 6.1.0. After installing the new Management Server 6.1.0, the embedded Agent Manager starts up by default.

Upgrade a Management Server in a federated environment

The procedure for upgrading a Federation Master and Federated Child(ren) is the same as described in [Upgrade the Management Server](#). There are a few items in particular that should be noted when working in a Federated environment.

i | **NOTE:** Foglight for Automation is not supported when Foglight is configured to use the Federation Master or High Availability features. This limitation will be addressed in a future release. For more information, see the *Foglight Release Notes*.

Federation compatibility

A version 5.9.x Federation Master requires that all Federated Children be upgraded to version 5.9.x as well.

Upgrade sequence

To upgrade your Federation servers to 6.1.0, follow the appropriate procedure below.

! | **IMPORTANT:** You must upgrade your Federation Master before the Federated Children. Otherwise, the Federation Master may fail to start after an upgrade.

- i** | **NOTE:** Configuration of *SecurityToken* through the *federation.config* file (adopted in Foglight 5.7.5.8 and before) was removed in Foglight 5.9.x. Therefore, configuring an SSL for Federation is required when you upgrade the Federation environment to version 6.1.0, if your Federation environment configures *SecurityToken* before.

When upgrading the Management Server:

- 1 Shut down and upgrade the Federation Master.
- 2 Shut down and upgrade each Federated Child, one by one.
- 3 Restart the Federation Master.
- 4 (Optional) If you have enabled *SecurityToken* in the configuration file (*\$fmshome/config/federation.config*), you must configure an SSL for communication on Federation Master and Children. For more information, see the *Security settings* section in the *Foglight Federation Field Guide*.
- 5 Restart the each Federated Child, one by one.

Upgrade the Management Server in a High Availability (HA) environment

The procedure for upgrading the servers in an HA environment is the same as described in [Upgrade the Management Server](#). There are a few items in particular that should be noted when working in an HA environment. These are:

- 1 All HA members should be stopped before any of them is upgraded. Each HA member should then be upgraded individually and sequentially.
- 2 If you are going to upgrade the Management Server to 6.1.0 from version 5.7.5.8 and have enabled TCP in the configuration file (*\$fmshome/server/jboss/deploy/cluster-service.xml*), after the upgrade, the *\$fmshome/config/jgroups-config.xml* file will enable TCP and only merge the previous *initial_host* of *TCPPING*. If you change other TCP configurations before, manually merge your configuration. For more information about this configuration, refer to the *To tune the Management Server* procedure in the *Foglight High Availability Field Guide*.

- i** | **NOTE:** After the upgrade, the Management Server backs up the previous *\$fmshome/server/jboss/deploy/cluster-service.xml* file to *\$fmshome/state/backup/<fms_previous_version>/server/jboss/deploy/cluster-service.xml*.

- 3 All HA-related communications have been encrypted after upgrading your server to 6.1.0. For more information about the HA encryption, refer to the *Security considerations for HA configuration* section in the *Foglight High Availability Field Guide*.
- 4 Foglight for Automation is not supported when Foglight is configured to use the Federation Master or High Availability features. This limitation will be addressed in a future release. For more information, see the Foglight Release Notes.

- i** | **NOTE:** If you are upgrading cartridges in an HA environment, see [Upgrade cartridges in a High Availability environment](#).

Upgrade the Management Server with an Oracle RAC database

This section provides instructions for upgrading Oracle® RAC-based installations and any other environments where the Management Server *oracle-ds.xml* files were customized. The *oracle-ds.xml* file was replaced by the

datasource-oracle.properties file in the Management Server 5.9.x, so the Management Server merges the connection URL and connection properties during the upgrade.

If you encounter the warning message “A special configuration has been found in `<backup_oracle_datasource>`, please manually merge your configuration from this file to `<new_oracle_datasource>` and then click Next to continue with the upgrade.” during the upgrade, open the backup of `$fmshome/state/backup/<version>/server/jboss/conf/oracle-ds.xml` where lists the configured connection properties, and then add these connection properties manually to the `$fmshome/config/datasource/datasource-oracle.properties` file. For example, you see the following line in the `oracle-ds.xml` file, `<connection-property name="oracle.jdbc.implicitStatementCacheSize">${oracle.jdbc.implicitStatementCacheSize:50}</connection-property>`, open the `datasource-oracle.properties` file and add this line “`db.oracle.jdbc.implicitStatementCacheSize=50`”.

i | **NOTE:** Make sure to add the `db.` prefix before the original `connection-property` name, when you add the connection properties in the new `datasource-oracle.properties` file.

To upgrade the Management Server with an Oracle RAC database:

- 1 Shut down the Management Server.
- 2 Save the `oracle-ds.xml` and `server.config` files.
 - i** | **TIP:** The Management Server backs up the previous `oracle-ds.xml` and `server.config` files after the upgrade. You may find the backup files under `$fmshome/state/backup/<version>/server/jboss/conf/oracle-ds.xml` and `$fmshome/state/backup/<version>/config/server.config`.
- 3 Run the upgrade installer.
- 4 Check the Management Server logs for upgrade-related errors.
- 5 If successful, restart the Management Server with the usual options.

Oracle database users

A Management Server 6.1.0 using an Oracle® database makes use of stored procedures in the Oracle database. When upgrading from a version earlier than 5.6.2 to version 5.6.2 or later, the procedures are created during the upgrade process. To allow the upgrade process to create the stored procedures, a DBA user must first assign the `CREATE PROCEDURE` privilege to the database user used by Foglight.

To assign the `CREATE PROCEDURE` privilege to the database user:

- Execute the following command:

```
GRANT CREATE PROCEDURE TO <foglight>
```

where `<foglight>` is the name of the database user used by the Foglight application

If the upgrade process is run without assigning the `CREATE PROCEDURE` privilege to the Oracle database user, the database upgrade will fail with the following error:

The Oracle database user has not been assigned the `CREATE PROCEDURE` privilege.

Once the `CREATE PROCEDURE` privilege is assigned to the database user, the database upgrade process can be run manually by invoking the `foglight_db_upgrade` script.

Database changes

This section provides a list of the database changes from Foglight 5.6.2 through Foglight 6.1.0 .

For new Management Server 5.7.6 (and later) installations, the embedded MySQL® database was replaced with an embedded PostgreSQL® database. Upgrades to Foglight Management Servers 5.7.6 with an existing embedded MySQL database are not affected. The existing database is retained during the upgrade.

An upgrade from version 5.6.5 of the Management Server to version 5.6.7 changes the database in the following ways:

Database Object Affected	Change	Database
Sequence SEQ_O*	Altered cache size to 10000	Oracle®

An upgrade from version 5.6.4 of the Management Server to version 5.6.5 changes the database in the following ways:

Tables Affected	Change	Database
PcmEncodedData	Table added	All

An upgrade from version 5.6.2 of the Management Server to version 5.6.3 changes the database in the following ways:

Tables Affected	Change	Database
database_instance_id	Table added	All

Upgrade the Foglight Agent Manager

This section describes the procedure for upgrading the Foglight Agent Manager (FglAM). The latest version of the Agent Manager is 6.0.0.

Remote updates of the Agent Manager are deployed from the Management Server. Local access to Agent Manager clients is typically not required to perform an upgrade.

i | **IMPORTANT:** You cannot use the Agent Manager installer to upgrade. You must upgrade the Agent Manager through the Foglight Cartridge Inventory dashboard.

For more details, see these topics:

- [Upgrade the Agent Manager](#)
- [Upgrade concentrators](#)
- [Upgrade installations with multiple state instances](#)
- [Upgrade a 32-bit FglAM installation on a 64-bit operating system](#)
- [Agent Manager upgrade issues](#)

Upgrade the Agent Manager

i | **NOTE:** Agent Manager 6.0.0 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 the Agent Manager to 6.0.0.

To upgrade the Agent Manager to the latest version:

- 1 Navigate to **Dashboards > Administration > Cartridges > Cartridge Inventory**.
- 2 On the Installed Cartridges tab of the Cartridge Inventory dashboard, click **Install Cartridge**.
- 3 In the Install Cartridge dialog box, click **Browse** to locate the .car file you require to upgrade the Agent Manager.

i | **NOTE:** On all platforms, the Agent Manager 5.8.1 and later includes an updated version of the Java® Runtime Environment (JRE). Therefore, you cannot use the Agent Manager patch cartridge (FglAM-patch-<version>.car) to upgrade from a pre-5.8.1 version to 5.8.1 or later. For that upgrade, you must use either FglAM-all-<version>.car, or one or more of the platform-specific FglAM-<platform>-<version>.car files.

- 4 Ensure that the **Enable on Install** box is selected.

i | **IMPORTANT:** If the Enable on Install box is not selected, you must manually enable many different cartridges that are contained in the upgrade .car file you are deploying.

- 5 Click **Install Cartridge** to install the latest version of the Agent Manager upgrade .car file on the Management Server. Do not delete any of the old .car files.

A progress message appears and, after a few moments, the **Operation(s) Complete** message box appears, indicating success.

6 Click **OK** to close the message box.

7 On the navigation panel, click **Dashboards > Administration > Agents > Agent Managers**.

The Agent Managers dashboard lists connected Agent Managers.

8 Select one or more Agent Managers that you want to upgrade. If you are selecting more than one Agent Manager, they must have the same operating system name.

9 Click Upgrade.

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

10 From the Package list, select the version to which you want to upgrade, and then click Deploy.

It may take some time for the upgrade process to complete. The more Agent Managers you upgrade, the longer it takes. Once the upgrade is complete, the Agent Manager restarts.

After the “Agent deployment was successful.” message and a green checkmark appear in the **Deploying Agent Package** box (that is, after the Agent Managers have restarted), you must wait a few additional minutes for the version number of the affected Agent Manager to be updated.

11 On the Agent Managers page, click Refresh.

The version number for the Agent Manager you have modified is updated to the new number, for example 6.0.0.

Upgrade concentrators

When the Agent Manager is deployed using concentrators, all of the concentrators need to be upgraded before the downstream clients are upgraded. Otherwise, when a downstream client is restarted, it sends its upstream concentrator messages in an unknown format, making communication between the two impossible.

Consequently, the Upgrade button on the Agent Hosts dashboard is disabled for downstream clients until all of the upstream concentrators have been upgraded to the latest version.

See the *Foglight Agent Manager Installation Guide* for more information about running Agent Managers as concentrators.

Upgrade installations with multiple state instances

When upgrading an Agent Manager installation that has multiple state instances running, all the state instances must be upgraded simultaneously, otherwise the upgrade process fails with errors.

You must use one of the following upgrade options:

- Option 1: Select all hosts in the Agent Manager installation-set when initiating the upgrade.
- Option 2: If the hosts must be upgraded individually, deactivate all of the Foglight 4 based agents running on the Agent Manager hosts that have already been upgraded in the installation-set.

Once you finish upgrading the Agent Manager hosts, restart each of the agents that were deactivated.

i | **NOTE:** There is currently a know issue related to this type of installation. For details, see [FglAM vm.config file migration fails under multi-state installations](#).

Upgrade a 32-bit FglAM installation on a 64-bit operating system

This section provides instructions for upgrading an existing 32-bit FglAM installation on a 64-bit operating system.

i | **NOTE:** When existing installations of 32-bit FglAM instances on 64-bit operating systems are improperly updated to 64-bit installations, this causes the FglAM instances to fail when they are restarted. New 32-bit installations of FglAM 5.8.1 or later are not affected by this issue.

To upgrade an existing 32-bit FglAM installation on a 64-bit operating system:

- 1 Shut down the existing FglAM instance.
- 2 Install a “new” copy of FglAM, version 5.8.1 or later, on the same system.
- 3 Edit the “new” `{{state/default/config/fglam.config.xml}}` file, and replace the `{{<config:id> ... </config:id>}}` value with that obtained from the “existing” FglAM installation.
- 4 Edit the “new” `{{state/default/config/fglam.config.xml}}` file, and replace the `{{<config:host-display-name> ... </config:host-display-name>}}` value with that obtained from the “existing” FglAM installation.
- 5 Start the new FglAM installation and deploy to it all cartridges that we deployed to the old FglAM installation.

Agent Manager upgrade issues

Agent Manager upgrades for multiple state instances may fail in certain situations. A detailed description of this issue and a workaround is provided in [FglAM vm.config file migration fails under multi-state installations](#).

Agent Manager upgrades from a 5.5.4.x legacy release require an intermediary upgrade to 5.6.7 prior to upgrading to 5.8.5 or later. To complete this intermediary upgrade, install one or more of the Agent Manager 5.6.7 platform-specific cartridges (as required), and upgrade the legacy hosts to this release before deploying the 6.1.0 Agent Manager cartridge or upgrading the Foglight Management Server to version 6.1.0.

After all of the legacy hosts are running version 5.6.7, and the Foglight Management Server is upgraded to version 6.1.0 or later, you can start upgrading your hosts to version 6.1.0.

You may encounter issues in the following situation when upgrading the Agent Manager: [Upgrade from an Agent Manager version earlier than 5.5.4](#).

i | **NOTE:** If you have previously added certificates to the JRE manually, and are upgrading from a version earlier than 5.6.2.2, see [Certificate migration from version 5.6.2.1 or earlier](#).

FglAM `vm.config` file migration fails under multi-state installations

Description

When upgrading a multi-state Foglight Agent Managers that share “bin” directories, some of the agent managers become unresponsive as the states are running out of memory. “Out of memory” messages appear in the logs. In addition, error messages like the following appear in the agent manager log:

```
Foglight_Agent_Manager\state\default\config\client.config does not exist and will not be loaded.
```

```
Foglight_Agent_Manager\state\default\config\baseline.jvmargs.config does not exist and will not be loaded.
```


Workaround:

- 1 Locate the *client.config* and *baseline.jvmargs.config* files.

Two new files are deployed to the state config directory during a FglAM upgrade. Locate these files (*client.config* and *baseline.jvmargs.config*) within the FglAM state instance that was upgraded.

As these file instances may already contain transferred values from the legacy *vm.config*, you need to review each of the settings in both of these files in order to ensure that these configuration options apply to the FglAM state instance that they are being copied into.

- 2 Note that the *vm.config* settings were migrated.

The legacy *vm.config* file has been replaced with two new config files. The settings in this file have been split between the new *client.config* and the *baseline.jvmargs.config* files.

- 3 Migrate the *vmparameter.x* from *vm.config* to *baseline.jvmargs.config*.

Locate the *vm.config* file within the config state directory instance of FglAM. At the bottom of the file there is a section for defining *vmparameter.x = "";* values. Copy over the *vmparameter.x* settings from the legacy *vm.config* here into the *baseline.jvmargs.config* file.

- 4 Validate the settings in *client.config* with *vm.config* values.

Review all of the options declared in the *vm.config* with those of the *client.config* you have copied over. The *client.config* is a super-set of properties from the *vm.config* (with the exception that the *vmparameter* values are no longer defined here). So each property that exists in the *vm.config* should also exist in the *client.config*. Ensure that each of the common config values in the *client.config* file matches the values in the *vm.config*. If they are different, then update the *client.config* to match.

- 5 Migrate the *java.vm* config option.

If the *java.vm* config option was set in the *vm.config*, then update the *java.vm* option in the new *client.config*. When transferring this value over, ensure that the path value is quoted and backslashes escaped. For example:

Windows:

```
java.vm = "C:\\shared_java_vms\\1.5\\jre";
```

Unix:

```
java.vm = "/opt/shared_java_vms/1.5/jre";
```

- 6 Once migration is complete, and you have validated that all config settings are in their new locations, delete the *vm.config* file and restart the FglAM process.

Upgrade from an Agent Manager version earlier than 5.5.4

If you are upgrading from a version of the Agent Manager that is earlier than 5.5.4, the upgrade may freeze. This can happen if the Agent Manager is running certain older agents that have defects. To resolve this issue, shut down and restart the Agent Manager manually, and then proceed with the upgrade.

If one of these older agents with defects is running in the embedded Agent Manager, the Management Server may freeze during upgrade. Again, if this happens, shut down and restart the Agent Manager manually, and then proceed with the upgrade.

Certificate migration from version 5.6.2.1 or earlier

If you are upgrading from an earlier version than 5.6.2.2, certificates that you manually added to the JRE must be manually migrated to the Agent Manager certificate store after the upgrade. After you manually migrate the

certificates during the upgrade from a pre-5.6.2.2 version, no further manual intervention is required for subsequent upgrades.

To perform this one-time migration, you must use the Agent Manager command-line credential tools. With these tools, you can migrate certificates from the JRE certificate store to the Agent Manager's internal certificate store.

For more information, see the *Foglight Command-Line Reference Guide*.

Upgrade the Database cartridges

This section explains how to upgrade an earlier version of a database monitoring cartridge to the latest version. For details, refer to the following topics:

- [Upgrade Foglight for DB2 LUW](#)
- [Upgrade Foglight for Oracle](#)
- [Upgrade Foglight for SQL Server](#)
- [Upgrade Foglight for SAP ASE](#)
- [Upgrade Foglight for Azure SQL Database](#)

Upgrade Foglight for DB2 LUW

The latest version of Foglight for DB2 LUW is 6.1.0, which requires Management Server version 6.1.0 (or later) and Agent Manager version 6.1.0(or later).

i | **NOTE:** This cartridge does not have an upgrade path from the Cartridge for DB2 LUW version 5.5.8.1 or 5.5.8.2, which use different technology. Contact Quest Support for assistance migrating from the Cartridge for DB2 LUW to Foglight for DB2 LUW.

To upgrade Foglight for DB2 LUW to version 6.1.0:

- 1 Upgrade the Management Server to version 6.1.0 or later.
- 2 Install version 6.1.0 of the cartridge as you would install a new cartridge. Do not delete the older version of the .car file. Install version 6.1.0 over the older version.

i | **NOTE:** Using the integrated installer to upgrade to Foglight version 5.7.0 (or later) with the updated cartridge requires a Foglight Management Server restart.

For complete cartridge upgrade and installation instructions, see the *Foglight for DB2 LUW User and Reference Guide*.

i | **NOTE:** Foglight for DB2 LUW does not support the upgrade method of placing the new version in the folder `<foglight_home>/upgrade/cartridge/`.

The Foglight for Infrastructure agent is not created in the following scenarios:

- If the agent is configured to use an IP address instead of the host name.
- If the agent was not configured to monitor the operating system prior to the upgrade.
- If the agent's host is currently monitored by the legacy Cartridge for Operating Systems (prior to version 5.6.4).

Upgrade Foglight for Oracle

The latest version of Foglight for Oracle is 6.1.0. Direct upgrades to Foglight for Oracle 6.1.0 are supported from versions 5.7.5.x and later.

Foglight for Oracle 6.1.0 requires Management Server version 6.1.0 and Agent Manager version 6.1.0

The Foglight for Infrastructure agent is not created in the following scenarios:

- If the agent is configured to use an IP address instead of the host name.
- If the agent was not configured to monitor the operating system prior to the upgrade.
- If the agent's host is currently monitored by the legacy Cartridge for Operating Systems (prior to version 5.6.4).

To upgrade Foglight for Oracle to version 6.1.0:

- Use the installer file to upgrade both the Foglight Management Server and the Foglight for Oracle cartridge to version 6.1.0.

i | **NOTE:** Using the integrated installer to upgrade to Foglight version 5.7.0 or later with the updated cartridge requires a Foglight Management Server restart.

OR

- 1 Upgrade the Management Server to version 6.1.0.
- 2 Install version 6.1.0 of the cartridge as you would a new Foglight for Oracle cartridge. Do not delete the older version of the .car file. Install version 6.1.0 over the older version.

i | **NOTE:** It is recommended that you ensure the privilege levels of the users that are used to monitor the Oracle® instances after each upgrade. This can easily be done in the following location: **Global Administration > Connection Details screen > Validate connectivity**.

For cartridge installation instructions, see the *Foglight for Databases Deployment Guide*.

Once you have upgraded the cartridge, to deploy the agent package, navigate to the Global View dashboard and follow the upgrade wizard instructions. For a procedure describing how to deploy the agent package, see the *Foglight for Oracle User Guide*.

i | **NOTE:** Foglight for Oracle does not support the upgrade method of placing the new version in the folder `<foglight_home>/upgrade/cartridge/`.

i | **IMPORTANT:** If you are upgrading to the current version of Foglight for Oracle in a Federation architecture, the upgrade should be applied first to the Federated Children and then to the Federation Master. If the Federation Master is upgraded first, it will display incorrect information regarding the number of instances being monitored in the Status Summary section.

Upgrade Foglight for SQL Server

The latest version of Foglight for SQL Server is 6.1.0.

A direct upgrade to Foglight for SQL Server 6.1.0 is only available from version 5.7.5.x or later. Customers that are running earlier versions of the product must first upgrade to version 5.7.5.x and then upgrade to version 6.1.0.

i | **NOTE:** Foglight for Infrastructure agent will not be created in the following scenarios:

- If the agent is configured to use an IP address instead of the host name
- If the agent was not configured to monitor the operating system prior to the upgrade
- If the agent's host is currently monitored by the legacy Cartridge for Operating Systems (prior to version 5.6.4)

Foglight for SQL Server 6.1.0 requires Management Server version 6.1.0 and Agent Manager version 6.1.0.

To upgrade Foglight for SQL Server to version 6.1.0:

- Install version 6.1.0 of the cartridge as you would a new Foglight for SQL Server cartridge. Do not delete the older version of the .car file. Install version 6.1.0 over the older version.

For cartridge installation instructions, see the *Foglight for Databases Deployment Guide*.

Once you have upgraded the cartridge, to deploy the agent package, navigate to the Global View dashboard and follow the upgrade wizard instructions. For a procedure describing how to deploy the agent package, see the *Foglight for SQL Server User Guide*.

i | **NOTE:** Foglight for SQL Server does not support the upgrade method of placing the new version in the folder `<foglight_home>/upgrade/cartridge/`.

i | **IMPORTANT:** If you are upgrading to the current version of Foglight for SQL Server in a Federation architecture, the upgrade should be applied first to the Federated Children and then to the Federation Master. If the Federation Master is upgraded first, it will display incorrect information regarding the number of instances being monitored in the Status Summary section.

Upgrade Foglight for SAP ASE

The latest version of Foglight for SAP ASE (formerly Foglight for Sybase) is 6.1.0. However, due to architectural changes in Foglight for SAP ASE 5.9.7.20, legacy cartridge versions cannot be upgraded to version 5.9.7.20 or 6.1.0. You may install the new SAP ASE cartridge on the same FMS instance as the old cartridge. The new Sybase cartridge must use a different FglAM than the legacy cartridge. Both FglAMs may be installed on the same FMS.

i | **NOTE:** If you upgrade the Management Server to version 5.5.8 or later, you must upgrade the Cartridge for SAP ASE to version 5.5.5 or later.

To upgrade from version 5.5.5 or 5.5.8 to 5.7.5.50:

- 1 Deactivate the existing Sybase_MDA and Sybase_RS agent instances.
- 2 Install version 5.7.5.50 of the cartridge as you would install a new Foglight for SAP ASE. Do not delete the older version of the .car file. Install version 5.7.5.50 over the older version. For cartridge installation instructions, see “Installing Foglight cartridges” in the *Administration and Configuration Help*.
- 3 Deploy the agent package. For complete instructions, see “Installing Foglight cartridges” in the *Administration and Configuration Help*.
- 4 Activate the Sybase_MDA and Sybase_RS agent instances.

If the Management Server has a `questdb` database, the appropriate new stored procedures are installed automatically by the agents during the activation process.

i | **NOTE:** If the agent fails to collect data, check the agent log for information about the problem.

When upgrading from version 5.5.5 of the cartridge, the upgrade overrides the value of the **common Performance Poll Cycle (seconds)** property, and uses that value to set the collection rate for each table in the **PerfMon_Dflt** list. Versions of the cartridge prior to 5.5.8 included the common Sybase_MDA agent properties, **Performance Collection True/False** and **Performance Poll Cycle (seconds)**, used to control the collection of performance data. This version of the cartridge includes performance monitoring properties that enable or disable the collection of performance data and the length of the polling interval on a per-table basis. The secondary agent properties in the **PerfMon_Dflt** list now include two new columns, **Collect** and **Poll Cycle (sec)**, that control these values for each individual table.

i **NOTE:** The file `setup_mon_tables.sql` contains all of the required parameters with sample values. The last four parameters were added in version 5.5.8.

NOTE: There is a known defect: when deploying the agent package, a progress bar appears but never indicates completion. Typically the deployment has completed successfully. For a workaround procedure that verifies that the deployment has completed, see section “Upgrade” in the *Cartridge for Sybase 5.7.5.50 Release Notes*.

Upgrade Foglight for Azure SQL Database

The latest version of Foglight for Azure SQL Database is 6.0.0. Starting to work with a Foglight for Azure SQL Database cartridge requires upgrading to the current version of both the cartridge and the Foglight Agent Manager that runs the cartridge.

To upgrade the cartridge to the latest version:

- 1 Deactivate the previous Azure SQL agent.
- 2 Navigate to the **Cartridge Inventory** dashboard and install the cartridge file, `DB_Azure-6_0_0.car`.
- 3 Navigate to the **Agent Status** dashboard and deploy the Azure SQL agent package to the existing Foglight Agent Manager hosts.
- 4 Activate the Azure SQL agent.

For cartridge installation instructions, see the *Foglight for Databases Deployment Guide*.

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:

- [Upgrade Foglight for Active Directory](#)
- [Upgrade Foglight for Exchange](#)
- [Upgrade Foglight for Office 365](#)
- [Upgrade Foglight for Infrastructure](#)
- [Upgrade Foglight Change Analyzer](#)
- [Upgrade Foglight for Hyper-V](#)
- [Upgrade Foglight Resource Optimizer](#)
- [Upgrade Foglight for Storage Management cartridge](#)
- [Upgrade Foglight for VMware](#)
- [Upgrade Foglight for VMware Horizon View](#)
- [Upgrade Foglight for Citrix XenDesktop and XenApp](#)
- [Upgrade Foglight for Container Management](#)
- [Upgrade Foglight Hybrid Cloud Manager](#)
- [Upgrade Foglight Capacity Director](#)
- [Upgrade Foglight Cost Director](#)
- [Upgrade Foglight Cloud Migration](#)
- [Upgrade Quest Protect](#)
- [Upgrade Foglight for vCloud Director](#)
- [Upgrade Foglight for NetVault](#)

Upgrade Foglight for Active Directory

The latest version of Foglight for Active Directory is 6.1.0. You can upgrade to version 6.1.0 of Foglight for Active Directory from 5.7.2.2 or higher.

Foglight for Active Directory 6.1.0 requires Management Server version 6.1.0.

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 6.1.0 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 6.1.0 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 6.1.0, 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.

Upgrade Foglight for Exchange

The latest version of Foglight for Exchange is .6.1.0 You can upgrade to version 6.1.0 of Foglight for Exchange from version 5.7.2.2 and later.

Foglight for Exchange 6.1.0 requires Management Server version 6.1.0.

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 6.1.0 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*.

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 6.1.0 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 6.1.0, 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 Office 365

The latest version of Foglight for Office 365 is 6.1.0. You can upgrade to version 6.1.0 of Foglight for Office 365 from Foglight for Exchange 5.7.2.2 or Foglight for Office 365 5.7.2.3 and later.

- i** | **NOTE:** When upgrading a stand-alone Foglight for Office 365 from a version earlier than 6.1.0, the license must be updated. Contact your Quest Account Manager for your new license.

To upgrade the Foglight for Office 365 to the latest version:

Deactivate all of the Office 365 agents.

- 1 Install version 6.1.0 of Foglight for Office 365. For details, see Installation instructions.
- 2 Deploy the agent package to each Foglight Agent Manager that hosts an Office365 agent instance and wait for the version to update.

i | **NOTE:** This may take two to three refresh cycles.
- 3 From the navigation panel, navigate to **Dashboards > Office365 > Office365 Environment > Administration** tab. In the Agents view select the Office365 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.
- 4 Verify the agent properties and update the properties and collection intervals as required.
- 5 Activate the agents and start data collections.

Upgrade Foglight for Infrastructure

The latest version of Foglight for Infrastructure is 6.1.0.

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 6.1.0 requires Management Server version 6.1.0 and Foglight Agent Manager 6.1.0.

- 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 6.1.0:

- Install version 6.1.0 of the cartridge as you would a new Foglight for Infrastructure cartridge. Do not delete the older version of the car file. Install version 6.1.0 over the older version.

For cartridge installation instructions, see “Installing Foglight Evolve cartridges” in the *Foglight Evolve 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.

Upgrade Foglight Change Analyzer

The latest version of Foglight Change Analyzer is 6.1.0.

Foglight Change Analyzer 6.1.0 requires Management Server version 6.1.0 or Foglight Evolve 6.1.0.

To upgrade Foglight Change Analyzer to the latest version:

- 1 Download the following packages from Quest Support Portal:
 - Foglight for VMware version 6.1.0 (which includes the *vUsage-Feedback-6_1_0.car*, *DRP-6_1_0.car*, *Virtual-VMware-6_1_0.car*, and *Virtual-VMware-Admin-6_1_0.car* cartridge files)
 - Foglight Change Analyzer version 6.1.0 (which includes the *CommonAnalytics-6_1_0.car* and *ChangeAnalyzer-6_1_0.car* cartridge files)
 - Foglight Resource Optimizer Automation version 6.1.0 (which includes the *OptimizerAutomation-6_1_0.car* cartridge file)
 - Foglight Resource Optimizer version 6.1.0 (which includes the *Optimizer-6_1_0.car* and *VMware-Optimizer-6_1_0.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 *vUsage-Feedback-6_1_0.car*

b *DRP-6_1_0.car*

c *OptimizerAutomation-6_0_0.car*

d *CommonAnalytics-6_1_0.car*

e *Virtual-VMware-6_1_0.car*

i | **NOTE:** After installing the *Virtual-VMware-6_1_0.car* cartridge, existing vCenter agents (VC agents) must be updated using the **Update Agent** button in the VMware Environment > Administration tab.

f *Virtual-VMware-Admin-6_1_0.car*

g *VMware-Optimizer-6_1_0.car*

h *Optimizer-6_1_0.car*

i *ChangeAnalyzer-6_1_0.car*

Upgrade Foglight for Hyper-V

The latest version of Foglight for Hyper-V is 6.1.0.

Foglight for Hyper-V 6.1.0 requires Management Server version 6.1.0 or Foglight Evolve 6.1.0. 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 Evolve 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 *vUsage-Feedback-6_1_0.car*
 - b *DRP-6_1_0.car*
 - c *Virtual-HyperV-6_1_0.car*
 - Note:** The monitoring of Hyper-V and Scale-Out File Server (SOFS) is enabled by the *Virtual-HyperV-6_1_0.car* file.
 - d *Virtual-HyperV-Admin-6_1_0.car*
- 5 To enable System Center Virtual Machine Manager (SCVMM) monitoring, install the *SCVMM-6_1_0.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 Resource Optimizer

The latest version of Foglight Resource Optimizer is 6.1.0.

Foglight Resource Optimizer 6.1.0 requires Management Server version 6.1.0 or Foglight Evolve 6.1.0.

Foglight Resource Optimizer for VMware Environments also requires Foglight for VMware version 6.1.0.

Foglight Resource Optimizer for Hyper-V Environments also requires Foglight for Hyper-V version 6.1.0.

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-6_1_0.car* before upgrading *Optimizer-6.1.0.car*.
- Disable *VMware-Optimizer-6_1_0.car* before upgrading to *Optimizer-6_1_0.car* and *VMware-Optimizer-6_1_0.car*.

To upgrade Foglight Resource Optimizer for VMware Environments to version 6.1.0:

- 1 Download the following packages from Quest Support Portal:
 - Foglight for VMware version 6.1.0 (which includes the *vUsage-Feedback-6_1_0.car*, *DRP-6_1_0.car*, *Virtual-VMware-6_1_0.car*, and *Virtual-VMware-Admin-6_1_0.car* cartridge files)
 - Foglight Resource Optimizer version 6.1.0 (which includes the *CommonAnalytics-6_1_0.car*, *vUsage-Feedback-6_1_0.car*, *DRP-6_1_0.car*, *Optimizer-6_1_0.car*, and *VMware-Optimizer-6_1_0.car* cartridge files)
 - Foglight Resource Optimizer Automation version 6.1.0 (which includes the *OptimizerAutomation-6_1_0.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 *vUsage-Feedback-6_1_0.car*
- b *DRP-6_1_0.car*
- c *OptimizerAutomation-6_1_0.car*
- d *CommonAnalytics-6_1_0.car*
- e *Virtual-VMware-6_1_0.car*

i **NOTE:** After installing the *Virtual-VMware-6_1_0.car* cartridge, existing vCenter agents (VC agents) must be updated using the Update Agent button in the **VMware Environment > Administration** tab.

- f *Virtual-VMware-Admin-6_1_0.car*
- g *VMware-Optimizer-6_1_0.car*
- h *Optimizer-6_1_0.car*
- i *ChangeAnalyzer-6_1_0.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 6.1.0:

- 1 Download the following packages from Quest Support Portal:
 - Foglight for Hyper-V version 6.1.0 (which includes the *vUsage-Feedback-6_1_0.car*, *DRP-6_1_0.car*, *Virtual-HyperV-6_1_0.car*, and *Virtual-HyperV-Admin-6_1_0.car* cartridge files)
 - Foglight Resource Optimizer version 6.1.0 (which includes the *CommonAnalytics-6_1_0.car*, *vUsage-Feedback-6_1_0.car*, *DRP-6_1_0.car*, *Optimizer-6_1_0.car*, and *HyperV-Optimizer-6_1_0.car* cartridge files)
 - Foglight Resource Optimizer Automation version 6.1.0 (which includes the *OptimizerAutomation-6_1_0.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 *vUsage-Feedback-6_1_0.car*
- b *DRP-6_1_0.car*
- c *OptimizerAutomation-6_1_0.car*
- d *CommonAnalytics-6_1_0.car*
- e *Virtual-HyperV-6_1_0.car*

i | **NOTE:** After installing the *Virtual-HyperV-6_1_0.car* cartridge, existing HyperV agents must be updated using the **Update Agent** button in the **HyperV Environment > Administration** tab.

- f *Optimizer-6_1_0.car*
- g *Virtual-HyperV-Admin-6_1_0.car*
- h *HyperV-Optimizer-6_1_0.car*

Upgrade Foglight for Storage Management cartridge

The latest version of the Foglight for Storage Management cartridge is 6.1.0.

Foglight for Storage Management cartridge 6.1.0 requires Management Server version 6.1.0 or Foglight Evolve 6.1.0. Prior to upgrading the Storage Management cartridge, you must update Foglight for VMware to version 6.1.0. For more information, see the *Foglight for VMware Release Notes*.

To upgrade Foglight for Storage Management cartridge:

- 1 Upgrade Foglight to version 6.1.0 or Foglight Evolve to version 6.1.0.
- 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 6.1.0
 - Foglight Change Analyzer, version 6.1.0
 - Foglight for Hyper-V, version 6.1.0
 - Foglight for Infrastructure, version 6.1.0
 - Foglight Resource Optimizer, version 6.1.0

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 6.1.0
- 3 Install and enable the following cartridges:
 - *Storage-6_1_0.car*
 - *StorageAgentSDK-1_0_4.car*
 - *PythonAgentSDK-1_0_4.car*
 - *ManagedTopologyService-1_0_3.car*

- *SanHost-4_5_0.car* (included in *Storage-6_1_0.car*)
 - *SMISStorageAgent-6_1_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 Foglight for Storage Management User and Reference 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 for VMware

The latest version of Foglight for VMware is 6.1.0.

Foglight for VMware 6.1.0 requires Management Server version 6.1.0 or Foglight Evolve 6.1.0.

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 *vUsage-Feedback-6_1_0.car*
- b *DRP-6_1_0.car*
- c *OptimizerAutomation-6_1_0.car*
- d *CommonAnalytics-6_1_0.car*
- e *Virtual-VMware-6_1_0.car*
- f *Virtual-VMware-Admin-6_1_0.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 6.1.0.

Foglight for VMware Horizon View 6.1.0 requires Management Server version 6.1.0 or Foglight Evolve 6.1.0. It also requires Foglight for VMware 6.1.0 (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 *vUsage-Feedback-6_1_0.car*
- 2 *DRP-6_1_0.car*
- 3 *Virtual-VMware-6_1_0.car*
- 4 *Virtual-VMware-Admin-6_1_0.car*
- 5 *VMware-View-6_1_0.car*

For cartridge installation instructions, see "Installing Foglight Evolve cartridges" in the *Foglight Evolve 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 6.1.0.

Foglight for Citrix XenDesktop and XenApp 6.1.0 requires Management Server version 6.1.0 or Foglight Evolve 6.1.0.

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 6.1.0 (which includes the *vUsage-Feedback-6_1_0.car*, *DRP-6_1_0.car*, *Virtual-VMware-6_1_0.car*, and *Virtual-VMware-Admin-6_1_0.car* cartridge files)
 - Foglight for Citrix XenDesktop and XenApp version v (which includes the *XenDesktop-6_1_0.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 6.1.0 over the older version. The sequence of cartridge installation is important because of their dependencies:

- a *vUsage-Feedback-6_1_0.car*
- b *DRP-6_1_0.car*
- c *Virtual-VMware-6_1_0.car*

i | **NOTE:** After installing the *Virtual-VMware-6_1_0.car* cartridge, existing vCenter agents (VC agents) must be updated using the **Update Agent** button in the **VMware Environment > Administration** tab.

- d *Virtual-VMware-Admin-6_1_0.car*
- e *XenDesktop-6_1_0.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.

Upgrade Foglight for Container Management

The latest version of Foglight for Container Management is 6.1.0.

Foglight for Container Management 6.1.0 requires Management Server version 6.1.0 or Foglight Evolve 6.1.0.

i | **NOTE:**

- If you are using Foglight for Container Management on Foglight for Virtualization, Enterprise Edition with a version prior to 2.0.0, ensure to upgrade Foglight for Container Management to version 2.0.0 or later before upgrading.
- Container Cost dashboard is not supported on Foglight for Virtualization, Enterprise Edition.

To upgrade Foglight for Container Management to the latest version:

- 1 Download the following packages from Quest Support Portal:

Foglight for Container Management version 6.1.0, which includes the following cartridge files:

- a *vUsage-Feedback-6_1_0.car*
- b *DRP-6_1_0.car*
- c *OptimizerAutomation-6_1_0.car*
- d *CommonAnalytics-6_1_0.car*
- e *Optimizer-6_1_0.car*
- f *Container-Manager-6_1_0.car*

- 2 Deactivate all 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 6.1.0 over the older version. The sequence of cartridge installation is important because of their dependencies:


- a *vUsage-Feedback-6_1_0.car*
- b *DRP-6_1_0.car*
- c *OptimizerAutomation-6_1_0.car*
- d *CommonAnalytics-6_1_0.car*
- e *Optimizer-6_1_0.car*
- f *Container-Manager-6_1_0.car*

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

- 4 On the Container Environment dashboard, on the Administration tab, update all of the existing container agent instances.
- 5 Activate all container agent instances.

i | **NOTE:** Support for Heapster metrics collector will be removed in the future release, users are encouraged to use the Prometheus metrics collector. Refer to the steps below to migrate from Heapster metrics collector to Prometheus metrics collector.

To migrate from Heapster metrics collector to Prometheus metrics collector:

- 1 On the Foglight for Container Management **Administration** Dashboard, locate the agent you want to migrate.
- 2 Click the *Migrate*  icon to launch the Migrate wizard. There are two ways to migrate the Heapster metrics collector to Prometheus metrics collector.
 - If you already have Prometheus in your cluster, choose *Yes I have*. Enter the namespace and name for the Prometheus server service.
 - If you don't have Prometheus in your cluster yet, choose *No I haven't*. You can deploy a Prometheus server service to your cluster by using the template we provided.

For detailed information, refer to *Administration* section in *Foglight for Container Management User and Administration Guide*.

Upgrade Foglight Hybrid Cloud Manager

The latest version of Foglight Hybrid Cloud Manager is 6.1.0.

Foglight Hybrid Cloud Manager 6.1.0 requires Management Server version 6.1.0 or Foglight Evolve 6.1.0.

To upgrade Foglight Hybrid Cloud Manager to the latest version:

- 1 Download the following packages from Quest Support Portal:
Foglight Hybrid Cloud Manager version 6.1.0, which includes the following cartridge files:
 - a *vUsage-Feedback-6_1_0.car*
 - b *DRP-6_1_0.car*
 - c *OptimizerAutomation-6_1_0.car*

- d *CommonAnalytics-6_1_0.car*
 - e *Optimizer-6_1_0.car*
 - f *Cloud-Manager-6_1_0.car*
- 2 Deactivate all 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 6.1.0 over the older version. The sequence of cartridge installation is important because of their dependencies:
 - a *vUsage-Feedback-6_1_0.car*
 - b *DRP-6_1_0.car*
 - c *OptimizerAutomation-6_1_0.car*
 - d *CommonAnalytics-6_1_0.car*
 - e *Optimizer-6_1_0.car*
 - f *Cloud-Manager-6_1_0.car*

For cartridge installation instructions, see “Installing Foglight cartridges” in the *Foglight Administration and Configuration Help*.
 - 4 On the Cloud Manager dashboard, on the Administration tab, update all of the existing cloud manager agent instances.
 - 5 Activate all cloud manager agent instances.

Upgrade Foglight Capacity Director

The latest version of Foglight Capacity Director is 6.1.0.

Foglight Capacity Director 6.1.0 requires Management Server version v or Foglight Evolve v. It also requires Foglight for VMware version v (or later) and Foglight for Hyper-V version 6.1.0(or later).

To upgrade Foglight Capacity Director to the latest version:

- 1 Download the following packages from Quest Support Portal:
 - Foglight for VMware version 6.1.0 (which includes the *vUsage-Feedback-6_1_0.car*, *DRP-6_1_0.car*, *Virtual-VMware-6_1_0.car*, and *Virtual-VMware-Admin-6_1_0.car* cartridge files)
 - Foglight Change Analyzer version 6.1.0 (which includes the *CommonAnalytics-6_1_0.car* and *ChangeAnalyzer-6_1_0.car* cartridge files)
 - Foglight for Hyper-V version v (which includes the *vUsage-Feedback-6_1_0.car*, *DRP-6_1_0.car*, *Virtual-HyperV-Admin-6_1_0.car*, and *Virtual-HyperV-6_1_0.car* cartridge files)
 - Foglight for SCVMM 6.1.0(which includes the *SCVMM.car* cartridge file)
 - Foglight Resource Optimizer Automation version 6.1.0 (which includes the *OptimizerAutomation-6_1_0.car* cartridge file)
 - Foglight Capacity Director version 6.1.0 (which includes the *Capacity-Director-6_1_0.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 *vUsage-Feedback-6_1_0.car*
 - b *DRP-6_1_0.car*

c *Virtual-VMware-6_1_0.car*

i | **NOTE:** After installing the *Virtual-VMware-6_1_0.car* cartridge, existing vCenter agents (VC agents) must be updated using the Update Agent button in the VMware Environment > Administration tab.

d *Virtual-VMware-Admin-6_1_0.car*

e *Virtual-HyperV-6_1_0.car*

i | **NOTE:** After installing the *Virtual-Hyper-V-6_1_0.car* cartridge, existing Hyper-V agents must be updated using the Update Agent button in the Hyper-V Environment > Administration tab.

f (Optional) *SCVMM.car*

i | **NOTE:** After installing the *SCVMM.car* cartridge, existing SCVMM agents must be updated using the Update Agent button in the Hyper-V Environment > Administration tab.

g *OptimizerAutomation-6_1_0.car*

h *CommonAnalytics-6_1_0.car*

i *Capacity-Director-6_1_0.car*

Upgrade Foglight Cost Director

The latest version of Foglight Cost Director is 6.1.0.

Foglight Cost Director 6.1.0 requires Management Server version 6.1.0 or Foglight Evolve 6.1.0. It also requires Foglight for VMware Lite version 6.1.0 and Foglight for Hyper-V Lite version 6.1.0.

To upgrade Foglight Cost Director to the latest version:

- 1 Download the following packages from Quest Support Portal:
 - Foglight Cost Director version 6.1.0 (which includes the *OptimizerAutomation-6_1_0.car*, *Virtual-VMware-Lite-6_1_0.car*, *CommonAnalytics-6_1_0.car*, *Virtual-HyperV-Lite-6_1_0.car*, *Cost-Director-6_1_0.car*, and *Cost-Director-Lite-6_1_0* 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 *Virtual-VMware-Lite-6_1_0.car*

b *OptimizerAutomation-6_1_0.car*

c *CommonAnalytics-6_1_0.car*

d *Virtual-HyperV-Lite-6_1_0.car*

e *Cost-Director-6_1_0.car*

f *Cost-Director-Lite-6_1_0.car*

Upgrade Foglight Cloud Migration

The latest version of Foglight Cloud Migration is 6.1.0.

Foglight Cloud Migration 6.1.0 requires Management Server version 5.9.8 (or later), or Foglight Evolve 9.3 (or later). It also requires Foglight for VMware Lite version 6.1.0 and Foglight for Hyper-V Lite version 6.1.0.

To upgrade Foglight Cloud Migration to the latest version:

- 1 Download the following packages from Quest Support Portal:
 - *OptimizerAutomation-6_1_0car*
 - *Optimizer-6_1_0.car*
 - *CommonAnalytics-6_1_0.car*
 - *Virtual-VMware-Lite-6_1_0.car*
 - *Virtual-HyperV-Lite-6_1_0.car*
 - *Protect-6_1_0.car*
 - *Cloud-Migration-6_1_0.car*
- 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 *OptimizerAutomation-6_1_0.car*
 - b *Optimizer-6_1_0.car*
 - c *CommonAnalytics-6_1_0.car*
 - d *Virtual-VMware-Lite-6_1_0.car*
 - e *Virtual-HyperV-Lite-6_1_0.car*
 - f *Protect-6_1_0.car*
 - g *Cloud-Migration-6_1_0.car*

Upgrade Quest Protect

The latest version of Quest Protect is 6.1.0.

Quest Protect 6.1.0 requires Management Server version 6.1.0 or Foglight Evolve 6.1.0.

To upgrade Quest Protect to the latest version:

- 1 Download the following packages from Quest Support Portal:
 - *Quest Protect Dashboard version 6.1.0 (which includes the vUsage-Feedback-6_1_0.car, DRP-6_1_0.car, and Protect-6_1_0.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 *vUsage-Feedback-6_1_0.car*
 - b *DRP-6_1_0.car*
 - c *Protect-6_1_0.car*

Upgrade Foglight for vCloud Director

The latest version of Foglight for vCloud Director is 6.1.0.

Foglight for vCloud Director 6.1.0 requires Management Server version 6.1.0 or Foglight Evolve 6.1.0.

To upgrade Foglight for vCloud Director to the latest version:

- 1 Download the *vCloud-Director-6_1_0.car* package from Quest Support Portal.
- 2 Navigate to the Cartridge Inventory dashboard, and install the *vCloud-Director-6_1_0.car* file.
- 3 On the Agent Status dashboard, click Deploy Agent Package to deploy the VCloudDirectorAgent package to desired hosts.
- 4 On the vCloud Environment dashboard, on the Administration tab, create vCloud Director agent instances, and edit their properties, as required.
- 5 Activate the newly created vCloud Director agent instances, and start their data collection.

Upgrade Foglight for NetVault

The latest version of Foglight for NetVault is 6.1.0.

Foglight for NetVault 1.5.0 requires Management Server version .6.1.0 or Foglight Evolve 6.1.0.

To upgrade Foglight for NetVault to the latest version:

- 1 Download the following packages from Quest Support Portal:
 - *Foglight for NetVault version 6.1.0 (which includes the vUsage-Feedback-6_1_0.car, DRP-6_1_0.car, and NetVault-6_1_0.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 *vUsage-Feedback-6_1_0.car*
 - b *DRP-6_1_0.car*
 - c *NetVault-6_1_0.car*

Upgrade the Integration cartridges

Follow the procedure in this section to upgrade an earlier version of an integration cartridge to the latest version. For details, refer to the following topics:

- [Upgrade Foglight for Integration](#)
- [Upgrade Foglight for NMS Integration](#)

Upgrade Foglight for Integration

The latest version of Foglight for Integration is version 5.9.8.

Foglight for Integration 5.9.8 requires Management Server 5.7.5.8 or later.

To upgrade Foglight for Integration:

- Install version 5.9.8 of the cartridge as you would a new Foglight for Integration. Do not delete the older version of the .car file. Install version 5.9.6 over the older version.

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

Once you have upgraded the cartridge, deploy the agent package. For a procedure describing how to deploy an agent package using the browser interface, see [Appendix: Deploying an agent package using the browser interface](#).

Upgrade Foglight for NMS Integration

The latest version of Foglight for NMS Integration is version 5.6.4.6.

Foglight for NMS Integration requires Management Server 5.6.3 or later (Management Server version 5.6.4 or later is recommended).

To upgrade Foglight for NMS Integration:

- Install version 5.6.4.6 of the cartridge as you would a new Foglight for NMS Integration cartridge. Do not delete the older version of the .car file. Install version 5.6.4.6 over the older version.

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

Once you have upgraded the cartridge, deploy the agent package. For a procedure describing how to deploy an agent package using the browser interface, see [Appendix: Deploying an agent package using the browser interface](#).

Upgrade the cartridges in a federated or High Availability (HA) environment

This section provides procedures for:

- [Upgrade cartridges in a federated environment](#)
- [Upgrade cartridges in a High Availability environment](#)

Upgrade cartridges in a federated environment

Cartridge upgrades in a Federated environment need to be handled differently than typical cartridge upgrades. To maintain the Federated topology, you must disconnect/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 the Foglight for Infrastructure and Foglight for Oracle.
- Federated Child # 2 requires upgrades to the Foglight for Infrastructure and Foglight for SQL Server.

In this example, after upgrading the two Federated Children, you need to upgrade the 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.

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).
 - **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.

Upgrade cartridges in a High Availability environment

When upgrading cartridges in an HA environment, if both the primary and the secondary Management Servers are running, you only need to install each cartridge you want to upgrade on the primary Management Server. The cartridges are then copied over to the secondary Management Server automatically.

The management log reports on the copying of the cartridges.

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, 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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Technical support resources

Technical support is available to Dell customers with a valid maintenance contract and customers who have trial versions. You can access the Dell Support Portal at <https://support.quest.com>.

The Support Portal provides self-help tools you can use to solve problems quickly and independently, 24 hours a day, 365 days a year. The Support Portal enables you to:

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- View services to assist you with your product.