Foglight[™]

Foglight[™] for Virtualization, Standard Edition 7.0 Installation and Configuration Guide



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Foglight for Virtualization, Standard Edition contains some third party components. For a complete list, see the License Credits section in the Foglight for Virtualization, Standard Edition User Guide.

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Introduction to this Guide

The *Installation and Configuration Guide* provides instructions for installing, configuring, and starting Foglight[™] for Virtualization, Standard Edition.

About Quest Software, Inc.

Established in 1987, Quest Software (Nasdaq: QSFT) provides simple and innovative IT management solutions that enable more than 100,000 global customers to save time and money across physical and virtual environments. Quest products solve complex IT challenges ranging from database management, data protection, identity and access management, monitoring, user workspace management to Windows management. For more information, visit *www.quest.com*.

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Contacting Quest Support

Quest Support is available to customers who have a trial version of a Quest product or who have purchased a Quest product and have a valid maintenance contract. Quest Support provides unlimited 24x7 access to our Support Portal at *http://quest.com/support*.

From our Support Portal, you can do the following:

· Retrieve thousands of solutions from our Knowledge Base

- Download the latest releases and service packs
- Create, update, and review Support cases

View the *Global Support Guide* for a detailed explanation of support programs, online services, contact information, policies, and procedures. The guide is available at: https://support.quest.com/Shared/Images/GlobalSupportGuide.pdf.

Installing Foglight for Virtualization, Standard Edition

This chapter instructions for installing and configuring the Foglight for Virtualization, Standard Edition.

Foglight for Virtualization, Standard Edition is delivered as a fully configured virtual machine, which can be installed on one of three platforms: VMware vSphere, Microsoft Hyper-V, or Red Hat Enterprise Virtualization platform. Before beginning installation, review the "System Requirements" on page 7 to ensure that your target system meets the requirements.

Refer to the appropriate section for installation instructions:

- "Installing as a VMware Virtual Machine" on page 10
- "Installing as a Microsoft Hyper-V Virtual Machine" on page 13
- "Installing as a Red Hat Enterprise Virtualization Machine" on page 15

System Requirements

The Foglight for Virtualization, Standard Edition installation guidelines vary depending on how many virtual machines (VMs) are being monitored. The following table outlines the system requirements for installing Foglight for Virtualization, Standard Edition.

Number of VMs	1 to 200	200 to 1000	1000 to 3000
Virtual Machine Number of CPUs Memory Allocation Memory Reservation Allocated Storage	4 8 GB 8 GB 64 GB	4 10 GB 10 GB 64 GB	4 12 GB -16 GB 12 GB -16 GB 64 GB
Database Selection Internal or External	Either	Either	Either

Number of VMs	1 to 200	200 to 1000	1000 to 3000
External Database Server Average CPU Use Network Storage	Less than 90% Optional	Less than 80% Optional	Less than 80% Not Recommended
VMware vCenter Average CPU Use 5 Minute Interval Statistics Level Minimum Privileges	Less than 90% 2 or 3 Read Only +Browse Datastore	Less than 80% 2 or 3 Read Only + Browse Datastore	Less than 80% 2 Read Only + Browse Datastore
vCenter Database Server Average CPU Use Network Storage	Less than 90% Optional	Less than 80% Optional	Less than 80% Not Recommended

Java Software Requirements:

• Java Version 1.6 or later

VMware Software Requirements:

- VMware Player 1.0.0 or later
- VMware Workstation 5 or later
- VMware ESX Server 3.x or later
- Virtual Center 5.0 or later, or VMware Server 1.03 or later

Hyper-V Software Requirements:

Systems Center Operations Manager 2007 R2 and Systems Center Virtual Machine Manager 2008 R2

Or

Systems Center Operations Manager 2012 and Systems Center Virtual Machine Manager 2012

Red Hat Software Requirements:

• Red Hat Enterprise Virtualization Manager 3.0 or later

Storage Resizing Requirements

The following table outlines the requirements necessary for Optimizer to successfully resize the storage on virtual machines.

Operating System	Version	File System Supported
MS Windows	Windows Vista	NTFS
	Windows Server 2008 "Longhorn" (32/64 bits)	NTFS
	Windows Server 2008 R2	NTFS
	Windows 7 (32/64 bits)	NTFS
	Windows 8	NTFS
	Windows Server 2012 (Std/DC)	NTFS
Linux	Red Hat Enterprise Linux 4.x	ext2 ext3
	Red Hat Enterprise Linux 5.x	ext2 ext3
	Red Hat Enterprise Linux 6.x	ext2 ext3 ext4
	SUSE Linux Enterprise Server 10.x	ext2 ext3
	SUSE Linux Enterprise Server 11.x	ext2 ext3
	openSUSE 10.2	ext2 ext3
	openSUSE 11.x	ext2 ext3 ext4

The following is a list of additional requirements necessary for Optimizer to successfully resize the storage on virtual machines:

- Common requirements:
 - vCenter 5.0 or later

- Target VM should be powered ON
- No snapshots
- VMware tools should be installed and running
- CD-ROM exists on VM
- GUID Partition Table (GPT) is not supported
- Routing is done between appliance and VM
- No multiple network cards on VM
- VMs with IDE disks are not supported
- VMs with iSCSI mapped volumes are not supported
- VMs with SCSI bus sharing are not supported
- MS Windows requirements:
 - File and Printer Sharing should be enabled
 - The Administrative Shares should be enabled
 - No dynamic disks
 - No partition as a Folder
 - TCP 445 port should be opened
- Linux requirements
 - Grub loader (grub 2 is not supported)
 - No disks in volume group (LVM)
 - SSH enabled

Installing as a VMware Virtual Machine

Installing the VMware virtual machine involves downloading the virtual appliance, and then deploying it to your VMware environment using the VMware Deploy OVF Template option.

Note This procedure contains instructions for deploying the virtual appliance using the Deploy OVF Template Wizard. For complete information about this wizard and other vSphere Client features, see your vSphere Client documentation.

To download and deploy the Foglight for Virtualization, Standard Edition virtual appliance:

1 Download the VMware version of Foglight for Virtualization, Standard Edition from the following location:

http://www.quest.com/foglight-for-virtualization-standard-edition/

- 2 Unzip the compressed (*.zip*) file to a Windows server or workstation. The zipped file contains the OVF file, three VMDK files, the Hyper-V Collector directory, a Read Me file, the end user license agreement, and the user documentation.
- **3** Open the VMware vSphere Client and click **File > Deploy OVF Template**.

) VI	WIRT-MGMT.	-	- vSphere Client
File	Edit View Inventory Adr	ninistra	ation Plug-ins Help
	New	•	entory D 🛐 Hosts and
	Deploy OVF Template		
	Export	•	
	Report	•	VMware
	Browse VA Marketplace		Getting Started Summ
	Print Maps		
	Exit		What is a Host?
_	🕀 🥑 Demo Applian	ces	A host is a compute

The Deploy OVF wizard appears.

- 4 Click **Browse** to navigate to the location of the extracted OVF file and select it. Click **Next**.
- 5 On the OVF Template Details page, verify the Product and Version number.

Click Next.

6 On the Name and Location page, type a name for the virtual machine, and select a destination folder.

Click Next.

- 7 On the Resource Pool page, select a location within the infrastructure hierarchy. Click Next.
- 8 On the Storage page, select the datastore that the VM will reside within.

Deploy OVF Template						-0>
Storage Where do you want to	store the virtual machine files	2				
Source OVF Template Details Name and Location	Select a destination stora VM Storage Profile:	age for the virtua	machine files:	2		
Resource Pool	Name	Drive Type	Capacity Provisione	d Free	Туре	Thin Pro
Storage	ISCSI VMware	Non-SSD	449.75 GB 550.55 GB	287.31 GB	VMFS5	Supporte
Disk Format Ready to Complete	ISCSI VMware	Non-SSD	449.75 GB 617.23 GB	376.39 GB	VMFS5	Supporte
Ready to complete	Local Storage	Non-SSD	144.00 GB 971.00 MB	143.05 GB	VMFS5	Supporte

Click Next.

9 On the Disk Format page, select the type of datastore provisioning.

Deploy OVF Template		_ 🗆 ×
Disk Format In which format do you	want to store the virtual disks?	
Source OVF Template Details	Datastore: ISCSI VMware 1	
Name and Location Resource Pool Storage	Available space (GB): 287.3	
Disk Format		
Ready to complete	C Thick Provision Lazy Zeroed	
	C Thick Provision Eager Zeroed	
	Thin Provision	

Click Next.

10 Review the deployment settings and click Finish.

Powering On and Initializing the Virtual Machine

After installing the OVF, you must power on, and initialize the virtual machine.

Open vCenter, select the Foglight for Virtualization, Standard Edition virtual machine you just installed, and click **Power on the virtual machine**.

Once the appliance is started, it initializes the operating system, and starts Foglight for Virtualization, Standard Edition. The DHCP server automatically obtains the IP address. By default, Pool.ntp.org is used as the Network Time Protocol (NTP) server. These options can be changed after Foglight for Virtualization, Standard Edition has started successfully.

Wait until the IP address of Foglight for Virtualization, Standard Edition appears in the vCenter Summary tab. After the IP address appears, it will take several more minutes to start the application server. Once that is completed, you can access Foglight for Virtualization, Standard Edition using the IP address and a standard Web browser.

If there is no DHCP server available, you must manually enter the IP address before proceeding with the configuration steps below. Open a console window and respond to the questions about the IP address and the network time server.

Setting a Static IP Address or Changing the Network Time Server

- 1 Open a VI Client console window and log in as root, with password for the password.
- 2 Change the directory to: /usr/local/vkernel/scripts.
- **3** Run the changelp.sh script. Follow the prompts to set the desired IP address and network time server.

Once that is completed, you can access Foglight for Virtualization, Standard Edition using the IP address and a standard Web browser.

Installing as a Microsoft Hyper-V Virtual Machine

Foglight for Virtualization, Standard Edition is delivered as a fully configured Hyper-V virtual machine that can be installed directly using the Microsoft Hyper-V Manager.

To download and install Foglight for Virtualization, Standard Edition:

1 Download the Microsoft Hyper-V version of Foglight for Virtualization, Standard Edition from the following location:

http://www.quest.com/foglight-for-virtualization-standard-edition/

- 2 Unzip the compressed file (*.zip*) to a Windows server or workstation. The zipped file contains the required VHD directories, the Hyper-V Collector directory, a Read Me file, the end user license agreement, and the user documentation.
- **3** Open the Microsoft Hyper-V Manager, right-click on the desired Hyper-V host and select **Import Virtual Machine**. Refer to the Microsoft documentation for more information on running the Hyper-V Manager.



The Import Virtual Machine dialog appears.

4 Select Copy the virtual machine (create a new unique ID).

Import Virtual Machine	2
Specify the location of the folder that contains the virtual machine files.	
Location:	Browse
Settings	
Import settings:	
C Move or restore the virtual machine (use the existing unique ID)	
Copy the virtual machine (create a new unique ID)	
Duplicate all files so the same virtual machine can be imported again	
The same virtual machine cannot be imported again if you do not copy the files have backed them up to another location first.	unless you
Import	Cancel

- 5 Click Browse to browse to and select the location of the extracted VHD directories.
- 6 In the Import Virtual Machine dialog box, click Import.

The virtual machine is imported and appears in the list of virtual machines for the host.

- 7 Right-click the Foglight for Virtualization, Standard Edition virtual machine and select **Settings**.
- 8 In the left pane, select the Network Adapter.
- 9 In the right pane, specify the appropriate network adapter configuration information.
- 10 Click OK.

Powering On and Initializing the Virtual Machine

Open the Hyper-V Manager, select the Foglight for Virtualization, Standard Edition virtual machine you just installed and click **Start**.

Once the appliance is started, it initializes the operating system and starts Foglight for Virtualization, Standard Edition. The IP address is obtained from the DHCP server automatically. By default, Pool.ntp.org is used as the Network Time Protocol (NTP) server. These options can be changed after Foglight for Virtualization, Standard Edition has started successfully.

Once the virtual machine is running, right-click on the Foglight for Virtualization, Standard Edition virtual machine and click **Connect**.

- 1 The console opens. Log in as root, with password for the password.
- 2 Run the ifconfig command.
- 3 Access Foglight for Virtualization, Standard Edition using the IP address (inet addr:) and a standard Web browser.

If there is no DHCP server available, you must manually enter the IP address before Foglight for Virtualization, Standard Edition will be usable. Respond to the questions about the IP address and the network time server.

Setting a Static IP Address or Changing the Network Time Server

- 1 Open the Hyper-V Manager and connect to the virtual machine.
- 2 Log in as root with password for the password.
- 3 Change the directory to: /usr/local/vkernel/scripts.
- 4 Run the changelp.sh script. Follow the prompts to set the desired IP address and network time server.

After you complete these steps, you can access Foglight for Virtualization, Standard Edition using the IP address and a standard Web browser.

Installing as a Red Hat Enterprise Virtualization Machine

Foglight for Virtualization, Standard Edition is delivered as a fully configured Red Hat Enterprise Virtualization (RHEV) machine. It is installed directly using the RHEVM.

To download and install Foglight for Virtualization, Standard Edition and the rhevm-imageuploader:

1 Download the Red Hat virtual machine for Foglight for Virtualization, Standard Edition from the following location:

http://www.quest.com/foglight-for-virtualization-standard-edition/

- 2 Save the Open Virtualization Format file (.ovf) to a Windows server or workstation.
- **3** Red Hat provides a utility named *rhevm-image-uploader* that allows you to upload and import the appliance into an RHEV system. You must first install the *rhevm-image-uploader*, which can be found on the Red Hat Network, at the following location:

http://rhn.redhat.com/errata/RHEA-2012-0118.html

- 4 Downloaded the *rhevm-image-uploader* and transfer it to the RHEVM server using a utility such as *WinSCP*.
 - a Connect to the RHEVM server with an account you have previously created.

WinSCP opens to your account's home directory.

b Drag and drop the *rhevm-image-uploader* into the user directory on the right.

renewnennageeuproatter unitry - RHEV - Winsch	hale.				
	Telp	- : G -			
🞯 Desktop 🔹 🔹 🗧 🗧		🗁 vkernel 🔹 😪	* · = · E 🖸 🖄	1 Ha	
:\Documents and Settings\kletourneau\Desktop\Red Hat\rh	evm-image-uploader utility	/heme/vkemel			
Name - Ext	Size Type	Name - Ext	Size	Changed	Rights
b	Parent directory	E		6/28/2011 10:1	rwxr-xr
rhevm-image-uploader-3.0.0-0.noarch.rpm	95,120 RPM File	wOP5_47_GA2_RHEV_120213_1213.ov	f 470,046,	2/14/2012 10:0	rw-rr-
		🖬 rhevm-image-uploader-3.0.0-0.noarch.i	rpm 95,120	2/10/2012 2:30	rw-rw-r
		a,bashrc	124	1/27/2011 8:41	rw-rr-
		bash_profile	176	1/27/2011 8:41	rw-rr-
		🖬 .bash_logoUt	18	1/27/2011 8:41	rw-rr-
		🖬 bash history	1,034	2/23/2012 8:45	rw

5 After the package has been copied to the RHEVM server, log onto the console as root, change to the user directory of the account you used in the previous step, and run the following command:

#yum locallinstall rhevm-image-uploader-3.0.0_0000-0.noarch.rpm

Substitute the current package number and version in place of 3.0.0_0000-0.

6 After the utility has been installed, edit the file /*etc/rhevm/imageuploader.conf* and set the correct values for user, passwd, and rhevm.

Using Red Hat Enterprise Virtualization Manager Reports

The Red Hat Enterprise Virtualization Manager Reports functionality depends on the presence of the history database, which is installed separately. Both the history database and the Red Hat Enterprise Virtualization Manager Reports are optional components. They are not installed by default when you install the Red Hat Enterprise Virtualization Manager.

Installing Required Packages

Use yum to initiate installation of the rhevm-reports-dwh package, or the rhevm-reports package if you also intend to install Red Hat Enterprise Virtualization Manager Reports. You must run this command as the root user on the system hosting the Red Hat Enterprise Virtualization Manager.

To install both the data warehouse package and the Red Hat Enterprise Virtualization Manager Reports package, run the following command:

yum install rhevm-reports

Confirming Package Installation

The required packages are downloaded. After all the packages have been downloaded they are listed for review. You are prompted to confirm that you want to continue with the installation. Confirm the operation. Yum installs the packages. Some further configuration is required before the reports functionality can be used.

Configuring History Database

You need to use the rhevm-dwh-setup command to configure the Extract, Transform, and Load (ETL) process, and the database scripts used to create and maintain a working history database.

You must run this command as the root user on the system hosting the Red Hat Enterprise Virtualization Manager.

rhevm-dwh-setup

For the history database installation to take effect it is necessary to restart the jbossas service. The rhevm-dwh-setup command prompts you to confirm whether to stop the JBoss service. Type **yes** and press **Enter**.

The jbossas service is stopped, and the rhevm_history database is created and configured. Finally, the jbossas service is restarted.

After this process is complete, the Red Hat Enterprise Virtualization Manager is configured to log information to the rhevm_history database for reporting purposes. The rhevm_history database is required by Foglight for Virtualization, Standard Edition for the collection of performance metrics.

Note The rhevm-etl service must be running for this collection to occur.

Selecting the RHEV Export Domain

The next step is to determine which export domain to use. The rhevm-image-uploader utility needs the name of an RHEV export domain to upload the appliance to. You can use the RHEVM admin interface to learn which export domains are currently available, or to configure a new one in case no export domain is available yet.



After the utility is installed and configured, and you have identified the export domain, importing the appliance is a three-step process.

To import the appliance:

1 Upload the appliance into the export domain with the rhevm-image-uploader utility. From the RHEVM, run the command:

#rhevm-image-uploader -e <export domain> --name <name> upload <filename.ovf>

where *<export domain>* is the name of the export domain, and *<name>* is the VM that you want to create from this appliance.

- 2 Create a VM from the appliance in the export domain.
 - a Open the RHEV admin interface and select the Storage tab.
 - **b** Locate and select the export domain from step 1, and click **Import**.
 - c Click **OK** on the confirmation dialog box. The import operation starts and runs in the background.
- **3** Attach the VM to the *rhevm* network. At minimum, the appliance needs access to the *rhevm* management network.

The rhevm-image-uploader utility does not create any network interfaces. Therefore, you must manually create a network interface and add it to the *rhevm* network.

a In the RHEV admin interface, click the Virtual Machines tab.

- **b** Locate and select the virtual machine created in step 2.
- c Click Network Interfaces, then click New.
- d Use the default values provided and click OK.

Powering On and Initializing the Virtual Machine

Right-click on the Virtual Machine and click Run.

Setting a Static IP Address or Changing the Network Time Server

- 1 Right-click on the VM and select **Console**.
- 2 Log in as root with password for the password.
- **3** Change the directory to: /usr/local/vkernel/scripts and run the *changeIp.sh* script. Follow the prompts to set the desired IP address and network time server.

Connecting to the RHEVM Postgres Database Remotely

Remote access to postgres SQL database needs to be configured.

To configure remote access from the console of the RHEVM server:

1 Allow remote host to connect:

#vim /var/lib/pgsql/data/pg_hba.conf

Add the remote host (or network) and set to trust level of access.

For example: hostallall192.168.16.0/24trust

2 Configure postgres to listen on all addresses:

#vim /var/lib/pgsql/data/postgres.conf

Edit the listen_address value, and remove the preceding #:

listen_address = '*'

3 Restart postgres.

```
#service postgresql restart
```

Configuring the Foglight for Virtualization, Standard Edition

To begin using Foglight for Virtualization, Standard Edition, open a standard Web browser (Mozilla Firefox or Microsoft Internet Explorer, with Adobe Flash 10 or later, are recommended) and type the IP address of the Foglight for Virtualization, Standard Edition virtual machine.

The page loads and request a username and password. The default username is foglight and the default password is foglight.

License Agreement

Read the license agreement and then click Accept Agreement to proceed.

Connection Management

The environment connection screen appears and the Add Connection dialog box opens. You must have at least one connection to complete the configuration.

VMware Connection

1 On the Add Connection dialog box, click the **vCenter** tab.

Add Connection			
vCenter System Center RHEV VMware v	Cloud		
Please specify the address and credentials for the vCenter you wish to manage.			
Credentials will be stored us	sing AES 256 bit encryption		
IP or FQDN			
User Name			
Password			
Install Foglight [™] for Virtual	ization vCenter Plug-in 🕡		
Enable Real-Time Alarms for Performance Analyzer (6 alarms will be added to vCenter)			
Note: Collection time depends on scale of Virtual Environment			
	Add Cancel		

2 Type the IP address or FQDN and the credentials for the system.

For vCenter, credentials should have Read-Only, Browse Datastore, and Datastore DeleteFile permissions for the entire environment. If you are using the automated feature for implementing recommendations, the appropriate permissions are required.

The credentials used for the vCenter where the Foglight for Virtualization, Standard Edition appliance is installed must also have Virtual Machine State permissions in order for the appliance to be updated automatically.

- **3** Foglight for Virtualization, Standard Edition can be accessed and used from within vCenter using a vKernel plug-in. Select the **Install Foglight for Virtualization vCenter Plug-in** check box if you want theFoglight for Virtualization, Standard Edition plug-in installed in vCenter.
 - **Note** If the virtual infrastructure client is open during this process, it must be closed and reopened in order for the plug-in to become visible.

- **4** The Foglight for Virtualization, Standard Edition Performance Analyzer uses vCenter alarms for real-time monitoring of the state of the virtual environment.
 - **Note** Six specific vKernel utilization alarms must be installed in vCenter in order to provide the real-time functionality. The vCenter credentials must have Alarm permissions in order to create the alarms. Leave the **Enable Real-Time Alarms for Performance Analyzer** box checked if you want to use the real-time analysis capability of Performance Analyzer. If you leave the box checked, the alarms are installed automatically.
- 5 After a connection is established, the overall configuration can be completed.
- 6 Click Finish Setup.

Microsoft System Center Connection

1 Select the System Center tab on the Add Connection dialog box.



2 To establish the Microsoft Hyper-V connection, the Foglight for Virtualization Hyper-V Collector must be installed, as described in "Installing and Configuring the Foglight for Virtualization Hyper-V Collector" on page 29.

After the Foglight for Virtualization Hyper-V Collector is installed and configured, it appears in the connection list and the overall configuration can be completed.

If you have additional conne	ctions, click on the Add bu	tton below.			
Type P or FQDN	User Name	Status	Added	Plugin	
6 9 192,168,16,52	klatimer	Connecting	05/14/2012	No	

3 Click Proceed.

The appliance collects all the required virtual environment information. Depending on the size of the virtual environment, this can take anywhere from fifteen minutes to several hours.

RHEV Connection

- 1 On the Add Connection dialog box, click the **RHEV** tab.
- 2 Configure the Red Hat connection with the IP address or FQDN of the RHEVM server. Provide the credentials for an account with SuperUser rights to the RHEVM application.

Add Connection					
vCenter System Center RHEV	VMware vCloud				
Please specify the address and credentials for the Red Hat Enterprise Virtualization Manager you wish to manage.					
Credentials will b	e stored using AES 256	bit encryption			
IP or FQDN					
User Name					
Password					
Note: Collection time depends on scale of Virtual Environment					
u		AddCancel			

3 Click Add.

VMware vCloud Connection

1 On the Add Connection dialog box, click the VMware vCloud tab.

Add Connection					
vCenter System Center RHEV	VMware vCloud				
Please specify the address and credentials for the VMware vCloud Director you wish to manage.					
Credentials will b	e stored using AES 256 bit encryption				
IP or FQDN					
User Name					
Password					
Note: Collection time depends on scale of Virtual Environment					
	Add (Cancel			

2 Type the IP address or FQDN and the credentials for the system.

For VMware vCloud, credentials should have Read-Only and Browse Datastore permissions for the entire environment. If you are using the automated feature for implementing recommendations, the appropriate permissions are required.

The credentials used for the VMware vCloud where the Foglight for Virtualization, Standard Edition appliance is installed must also have Virtual Machine State permissions in order for the appliance to be updated automatically.

3 Foglight for Virtualization, Standard Edition can be accessed and used from within VMware vCloud using a vKernel plug-in. Select the Install Foglight for Virtualization vCenter Plug-in check box if you want the vKernel plug-in installed in VMware vCloud.

Note If the virtual infrastructure client is open during this process, it must be closed and reopened in order for the vKernel plug-in to become visible.

- **4** The Foglight for Virtualization, Standard Edition Performance Analyzer uses vCloud alarms for real-time monitoring of the state of the virtual environment.
 - **Note** Six specific vKernel utilization alarms must be installed in vCloud in order to provide the real-time functionality. The vCenter credentials must have Alarm permissions in order to create the alarms. Leave the **Enable Real-Time Alarms for Performance Analyzer** box checked if you want to use the real-time analysis capability of Performance Analyzer. If you leave the box checked, the alarms are installed automatically.
- 5 After a connection is established, the overall configuration can be completed.
- 6 Click Finish Setup.

Initial Data Collection

After the appliance is configured, it collects all of the required virtual environment information. Click **OK** to continue.



After the databases have been initialized, you are prompted to login to Foglight for Virtualization, Standard Edition.

Logging in to Foglight for Virtualization, Standard Edition

This section describes how to log in to Foglight for Virtualization, Standard Edition.

To log in to Foglight for Virtualization, Standard Edition:

- 1 Open a standard Web browser (for example, Mozilla Firefox, Microsoft Internet Explorer, or Chrome with Adobe Flash 10 or later).
- **2** Navigate to the IP address of the Foglight for Virtualization, Standard Edition virtual machine.
- **3** Enter your username and password in the LOG IN page. The default username is foglight and the default password is foglight.



If the appliance has recently been configured, it may still be collecting the required virtual environment information. Depending on the size of the virtual environment, this can take anywhere from fifteen minutes to several hours.

Application is currently co	llecting initial data	
🚱 192.168.16.52 —	Collecting — 6 %]
We are currently collecting This may take anywhere fr	g initial data on your environment. om a few minutes to a few hours, de	pending on the size of your environment.

After the initial collection is complete, a Welcome dialog box appears.

4 Click OK.

The Get Started dashboard appears. This dashboard is the default view that you see when you log in to Foglight for Virtualization, Standard Edition. For more information on the Get Started dashboard and the other dashboards that are available, see the *Foglight for Virtualization, Standard Edition User Guide*.

Managing Licenses

When you click any top level tab other than Dashboard, the **Request a License** dialog box opens and prompts you to license the module you are trying to access.

Note A 30-day free trial of the complete Foglight for Virtualization, Standard Edition is available.

Select either Trial License or Purchased License and click Next.

For more information, see either Activating a Trial License or Activating a Purchased License.

Activating a Trial License

After the initial configuration, when you click any top level tab other than Dashboard, the Request a License dialog box opens and prompts you to license the module you are trying to access.

Note Internet access is required to complete this procedure.

To activate a trial license:

1 Click a top level tab other than Dashboard.

The Request a License dialog box opens.

2 Select Trial License and click Next.

The Request a Trial License dialog box opens.

First Name:	John
Last Name:	Doe
E-mail:	jdoe@comcast.net
Company Name:	John Doe Consulting
Work Phone:	123 456-7890
Country:	United States
State/Province:	Alabama

3 Type the required information, and click **Request the License**.

Your trial license is processed and installed immediately.

License Reques	t Result
The license	request has been processed successfully and the license has been installed.
Please go to	Settings > License and click License Assignment to allocate the license sockets.
Please con	tact <u>License@quest.com</u> if you have any questions.
	Finish

4 Click Finish to begin using Foglight for Virtualization, Standard Edition.

To allocate socket licenses, see "Allocating Socket Licenses" on page 27.

Activating a Purchased License

After the initial configuration, when you click any top level tab other than Dashboard, the Request a License dialog box opens and prompts you to license the module you are trying to access.

Note Internet access is required to complete this procedure.

To activate a purchased license:

1 Click a top level tab other than Dashboard.

The Request a License dialog box opens.

2 Select Purchased License and click Next.

The Customer ID dialog box opens.

Customer ID:	ner ID:		
Please contact License@quest.com if you have not received a Custo	contact License@quest.com if you have not received a Customer IE	Customer ID:	
			am if you have not reaching a Quatemar II

3 Type the customer ID in the box and click Next.

The License Socket Count dialog box opens.

4 Review the information provided. If necessary, adjust the value in the **Total Sockets Required for This Server** box.

For example, if you have purchased 300 sockets, but the server you are installing the license on only requires 150 sockets, type 150 in the box.

5 Click Request the License to submit the licensing request.

A message box opens while the request is processed, then the results of the license request are displayed.

6 Click Finish.

To allocate socket licenses, see "Allocating Socket Licenses" on page 27.

Activating a Purchased License after Installing a Trial License

Alternately, if you have been using a trial license and want to add a purchased license, you can do so from the **Settings > License** tab.

Note Internet access is required to complete this procedure.

To install a purchased license:

- 1 Click the Configure Gear icon 🙆 at the top-right corner of the browser interface to access the settings.
- 2 Click the License tab.
- 3 Click Change a License.

The Request a License dialog box opens.

Request a Licens	e
	Please select the type of license
	Trial License
	Purchased License
	Next Cancel

4 Follow step 2 through step 6 of the procedure "To activate a purchased license:" on page 26.

Allocating Socket Licenses

To allocate the license sockets:

- 1 Click the Configure Gear icon 🙆 at the top-right corner of the browser interface to access the settings.
- 2 Click the License tab.
- 3 Click License Assignment.

The Foglight for Virtualization License Assignment dialog box opens.

Unlicensed Host	s/Sockets	8 of 14 All 8 sock	hosts licer a et licens e	nsed es us	ed	
Unlicensed Host	s/Sockets	All 8 sock	et license	es us	ed	
Unlicensed Host Discussion 192.168.11 Discussion 192.168.11	s/Sockets					
 192.168.11 192.168.11 192.168.11 	1 246			Licen	sed Hosts/Sockets	
192.168.11	1.2.10	1	>>	ø	192.168.111.190	1
	1.92	1	THE Y	2	192.168.111.212	1
192.168.11	1.97	1		2	192.168.111.245	1
dit-sc.hype	r-v.net	1		2	192.168.111.91	1
hyperv-1.h	yper-v.net	1		æ	192.168.111.93	1
hyperv-2.h	yper-v.net	1		P	192.168.111.98	1
					rhevh1.aleatis.lan	1
					rhevh2.aleatis.lan	1

4 Select the host or socket from the Unlicensed Hosts/Sockets list on the left.

5 Click the right arrow to move them to the Licensed Hosts/Sockets list on the right.

6 When finished, click OK.

The License tab updates to display the licensed hosts and sockets.

		Request a License	Request a trial	or commercial license	
	Install a l	License received via E-mail	Install a license	e received via E-mail (no Internet connec	tion)
	De	activate all Licenses	Deactivate all c	ommercial licenses	
				All 8 socket licen	ses used
First Name Last Name	John Doe			8 of 14 host socke	ts licensed
E-mail	jdoe@comcast.net			192 168 111 190	1
Company Name	John Doe Consulting			192 168 111 212	1
Country	United States			102.100.111.212	1
State/Province	Alabama			192.100.111.245	1
Customer ID	jdoe			192.166.111.91	1
	Change Contact Info			192.168.111.93	1
	Change Contact Into			192.168.111.98	1
Туре	Evaluation			rhevh1.aleatis.lan	1
Status	License is OK			rhevh2.aleatis.lan	1
Expiration Date	Sun. Nov 10, 2013 UTC				
Maintenance Date	Not Specified				
Activation Key	DLCYB-LRNBE-P5JQE-CR0	QL6-RV98P			
Socket Limit	8 (8 assigned)				
	View License Agreement				
				License Assig	iment

Installing a License Received by E-mail

If you have requested and received a license by e-mail, you can install that license through the **Settings** > **License** tab.

To install an e-mailed license:

1 On the Settings > License tab, click Install License received via E-mail.

The Manual Activation dialog box opens.

tivate the appliance with a	new license enter a path to the
ation the you received by E-	-mail and press Activate button
u do not receive the license	file in the next 24 hours please
contact License	e@quest.com.
ise File:	Browse
Reset assigned h	ost list after activation

2 Click Browse to navigate to and select the license file you received by e-mail.

Note The text that indicates the number of host and socket licenses used updates automatically.

Optional — if you want to reset the list of assigned hosts when you import the license, select the **Reset assigned host list after activation** check box.

3 Click Activate.

Deactivating All Licenses

To deactivate all commercial licenses that have been installed on the Foglight for Virtualization, Standard Edition appliance, click **Deactivate all Licenses**. A message box opens, prompting you to confirm the action.

Installing and Configuring the Foglight for Virtualization Hyper-V Collector

To install the Foglight for Virtualization Hyper-V Collector:

- 1 Select the Microsoft Windows server where the Foglight for Virtualization Hyper-V Collector is to be installed.
- 2 Locate the *.msi* file from the Hyper-V Collector folder extracted from the Foglight for Virtualization, Standard Edition executable.

Note Different *.msi* files are available for SCOM 2007 and SCOM 2012.

- 3 Copy the *.msi* file to the selected server.
- 4 Double-click on the .msi file to install the Foglight for Virtualization Hyper-V Collector.
- **5** Follow the instructions provided in the setup wizard to install the Foglight for Virtualization Hyper-V Collector on the selected server.

To configure the Foglight for Virtualization Hyper-V Collector:

After installing the Foglight for Virtualization Hyper-V Collector, navigate to All Programs
 Foglight for Virtualization Hyper-V Collector and start the collector.

The Foglight for Virtualization Hyper-V Collector dialog box opens, with the Service tab selected.

📀 Foglight for ¥	irtualization Hype	er-¥ Collector(2012) - v7.0.3168		
Service Databa	ase Connections			
This tab shows :	status of Hyper-V colle	ector service that is installed on this m	achine.	
Service status:	Running		Start	Stop
Startup type:	Automatic	•		
Log On				
Note that a lo this option wit	ocal MS SQL server i h Windows Authentic	is needed and account should have ation	the proper rights fo	or it to use
Log on as:	Cocal System Ad	ccount		
	O This account:			
	Password:			
	Confirm Password:			
Apply				Close

The Service tab shows the status of the Foglight for Virtualization Resource Monitor and the credentials for the service.

2 Click the **Database** tab.

📀 Foglight for '	Virtualization Hyper-V Collector(2012) - v7.0.3168	
Service Datab	ase Connections	
SQL Server T	ype	
O MS SQL	Server	
PostgreS	QL	
O Oracle		
E PostareSQL S	erver Configuration	
1 OKGICOQE O		
Server:	192.168.114.159	
Database:	vkernel	
	on Settings	
Lasie		
Login.	posigies	
Password:	•••••	
Refresh	Test Apply	Close

The Database tab shows the Foglight for Virtualization, Standard Edition database connection information.

a In the **SQL Server Type** area, select the SQL Server type to be used by the Foglight for Virtualization, Standard Edition. The database can be an embedded PostgreSQL, an external Microsoft SQL, or an Oracle database.

b In the **Server Configuration** area, type the appropriate server information and credentials.

If you are using the Embedded PostgreSQL database, the Server address should be the address of the Foglight for Virtualization, Standard Edition virtual machine. For the embedded PostgreSQL database, the account and password are postgres and postgres.

- 3 Click Apply.
- 4 Click the **Connections** tab.

Seglight for Virtualization Hyper-V Collector(2012) - v7.0.3168	_ 🗆 🗙
Service Database Connections	
Address User Status	
192.168.111.178 opsmgrsdk.config UK	
	X
Specify new connection to Microsoft Uperations Manager 2012	
OpsManager Host Name or IP: 192.168.111.178	
User Name: opsmgrsdkconfig	
Password:	
User Domain: Hyper-V	
OK Cancel	
Refresh Add Edit Remove Check	Close

The Connections tab specifies the connection to the Systems Center Operations Manager (SCOM).

If the connection parameters were specified properly, a new connection appears on the connection list. The data collection starts immediately.

Note After adding a connection, the user is asked to confirm the installation of VKernel management packs on the SCOM.

- 5 Review the connection information and edit if necessary.
- 6 To check the connections defined in the list, click Check.

The Hyper-V Collector tries to open port 5724 (default interaction port for SCOM servers) for each connection in the list.

If the port cannot be opened for some connections, an error message appears, displaying all "bad" connections. Otherwise, the *Connections to SCOM servers are OK* message appears. Click **OK** to close the dialog box.

7 Click Close.

Note	In o serv	rder to successfully connect the Foglight for Virtualization Hyper-V Collector to the SCOM /er, you must create the following group/users as the first step of an SCOM installation:
	Ops	MgrAdmins: Global Group, containing the following users:
	•	<i>OpsMgrSDKConfig</i> : a domain user, must be a local administrator on the server with <i>OpsMgr</i> and member of the <i>OpsMgrAdmins</i> group.
	•	DWDataReader: a domain user.
	•	DWDataWriter: a domain user.
	•	<i>OpsMgrAction</i> : a domain user, a local administrator on the server with OpsMgr and member of the OpsMgrAdmins group.
	•	<i>VMMService</i> : a domain user, a local administrator on the server with the Virtual Machine Manager (VMM).

The user specified in the Connections tab should be a member of the OpsMgrAdmins group.

Upgrading the Foglight for Virtualization Hyper-V Collector

There are two ways in which you can upgrade a Foglight for Virtualization Hyper-V Collector. Choose the method that best suits your needs.

Important It is important to note that both methods involve re-installing the VKernel management packs. This is a key part of the procedure when upgrading the Foglight for Virtualization Hyper-V Collector.

- **Option 1** Remove the VKernel management packs, create a new connection, and then reload the packs. For further details, see "Option 1" on page 32.
- **Option 2** Import the management packs manually. For further details, see "Option 2" on page 33.

Option 1

1 Open the Systems Centre Operations Manager console and navigate to Administration > Management Packs.

There are three management packs that you will need to remove:

- VKernel Capacity Analyzer Pack
- VKernel Capacity Analyzer PRO Overrides Pack
- VKernel Capacity Analyzer PRO Pack
- 2 Highlight one of the three management packs and click Delete.

Management Packs (110)				 Tasks
Name	- Version	Sealed	Date Ir 🗠	8 0
📆 System Software Library	7.5.8501.0	Yes	9/30/2	and a
🗃 System Virtualization Library	7.0.8430.0	Yes	9/30/2	Actions
📷 UNIX/Linux Core Console Library	7.4.1231.0	Yes	9/30/2	Properties
📲 UNIX/Linux Core Library	7.4.1231.0	Yes	9/30/2	Export Management Pack.
👼 UNIX/Linux Log File Monitoring Library	7.4.1231.0	Yes	9/30/2	Delete
🍯 UNIX/Linux Process Monitoring Library	7.4.1231.0	Yes	9/30/2	Create Management Pack
🝯 UNIX/Linux Shell Command Library	7.4.1231.0	Yes	9/30/2	B Download Management Packs .
UNIX/Linux View Library	7.4.1231.0	Yes	9/30/2	Management Packs
👸 Virtual Machine Manager Library	3.1.3612.0	Yes	9/30/2	a second second
🚡 Virtual Machine Manager Overrides	3.1.3612.0		9/30/2	
ng Virtual Machine Manager PRO Library	3.1.3612.0	Yes	9/30/2	
😋 Virtual Machine Manager PRO V2 HyperV Host Performance	3.1.3612.0	Yes	9/30/2	
👼 Virtual Machine Manager PRO V2 Library	3.1.3612.0	Yes	9/30/2	
📷 VKernel Capacity Analyzer Pack	6.0.2274.1	Yes	11/30/	
VKernel Capacity Analyzer PRO Overrides Pack	6.0.2274.1		11/30/	
😼 VKemel Capacity Analyzer PRO Pack	6.0.2274.1	Yes	11/30/	
🧃 Web Application Availability Monitoring Library	7.0,8925.0	Yes	9/30/2	
📷 Web Application Availability Monitoring Solutions Library	7.0.8925.0	Yes	9/30/2	
👼 Web Application Availability Monitoring Solutions Library Resources (enu)	7.0.8925.0	Yes	9/30/2	
📲 Web Application Monitoring Library	7.0.8925.0	Yes	9/30/2	
🙀 Windows Client Network Discovery	7.0.8925.0	Yes	9/30/2	
🗃 Windows Client Operating Systems Library	6.0.6729.0	Yes	9/30/2	
🝯 Windows Cluster Library	7.0.8430.0	Yes	9/30/2	
📲 Windows Core Library	7.5.8501.0	Yes	9/30/2	
💐 Windows Server 2008 Internet Information Services 7	6.0.7600.0	Yes	9/30/2	
K (III)			>	

- 3 Click **Yes** to confirm the deletion.
- 4 Repeat step 2 and step 3 for the remaining two management packs.
- 5 Navigate to All Programs > Foglight for Virtualization Hyper-V Collector and start the collector.

The Foglight for Virtualization Hyper-V Collector dialog box opens, with the Service tab selected.

- 6 Click the **Connections** tab.
- 7 Click Add to establish a new connection to the Systems Center Operations Manager.You are prompted to install the three missing management packs.
- 8 Click Yes to confirm.

The management packs are imported to the Systems Center Operations Manager.

Option 2

- Open the Systems Centre Operations Manager console and navigate to Administration > Management Packs.
- 2 Under the Tasks pane on the right-hand side, click Import Management Packs.
- 3 From the Add drop-down list, select Add from disk.



Because you have chosen to import management packs from a disk and not from the catalog, you are prompted to search the catalog for any dependencies the management packs may have.

- 4 Click No to not search for dependencies.
- 5 Select the following three management packs and click **Open**:
 - VKernel Capacity Analyzer Pack
 - VKernel Capacity Analyzer PRO Overrides Pack
 - VKernel Capacity Analyzer PRO Pack

The three management packs are displayed in the Import list.

6 Click Install.

		-	+ Add + _	T Propert	ies 🗙 Remo	ove
Name		Version	Release Date	Status	EULA	
V VKemel Lapacity Ana	lyzer Pack	6.0.2274.1		-		
VKernel CapacityAnal	yzer.PHU	6.0.2274.1				
v Nemer Lapacity Ana	iyzet PHU U	0.0.2274.1				
atus details :						
atus details : 'his management pack is i	ready to import.					
tatus details . This management pack is i	ready to import.					
tatus details ; 'his management pack is i	ready to import.					
katus details hiis mənəgement pəck is ı	ready to import.					

System Center Integration

The Foglight for Virtualization Hyper-V Collector is required in order to propagate the Foglight for Virtualization, Standard Edition alarms into the Microsoft System Center Virtual Machine Manager. For more information, see "Installing as a Microsoft Hyper-V Virtual Machine" on page 13.

Next Steps

For information about how to get started with Foglight for Virtualization, Standard Edition, see the *Foglight for Virtualization, Standard Edition User Guide*.

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