

Foglight[™] for VMware 7.3.0 **Installation 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.
- i IMPORTANT NOTE, NOTE, TIP, MOBILE, or VIDEO: An information icon indicates supporting information.

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We are more than just a name
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Installing and configuring Foglight for VMware

Foglight[™] for VMware monitors the health of your virtual system by tracking resource consumption such as CPU, network, and memory consumption for individual ESX[®] hosts, virtual machines, and other components in your integrated environment. This chapter contains information about system requirements and takes you through the installation procedure, step by step.

- **IMPORTANT:** See the Foglight for VMware Release Notes for important additional information about this product version.
 - Requirements and compatibility
 - Installation and setup
 - Upgrading Foglight for VMware

Requirements and compatibility

This section describes the components that are required to successfully integrate Foglight[™] for VMware into Foglight.

Foglight for VMware for Virtualization, Enterprise Edition

Foglight for VMware is installed with Foglight for VMware for Virtualization, Enterprise Edition. For information about installing Foglight for VMware for Virtualization, Enterprise Edition, see the Foglight for VMware *Installation and Setup Guide* for your target environment. This version of Foglight for VMware is included and supported with version 8.4.0 of Foglight for VMware for Virtualization, Enterprise Edition.

Foglight for VMware Management Server

Foglight for VMware can be used on a Foglight platform to gain in-depth insight into the health of the virtual machine, the server, and the virtual environment as a whole.

Before installing Foglight for VMware, ensure that your Management Server is properly installed and configured. For information on how to install and configure the Management Server, see the *Installation and Setup Guide* and the *Administration and Configuration Guide*. The minimum supported version of the Management Server is 5.7.5.

Foglight for VMware Agent Manager

The Agent Manager component collects data from monitored hosts and sends it to the Management Server. Foglight[™] for VMware can monitor host machines remotely. For that reason, the Agent Manager does not need to be installed on each individual host that you want to monitor. The Management Server includes an embedded Agent Manager instance that starts and stops with the server.

One Agent Manager installation per Management Server is often enough, unless additional installations are needed to balance the collection load onto other machines. The minimum supported version of the Agent Manager is 5.8.5.

VMware Performance Agent and Agent Manager configuration

On 64-bit hosts meeting the minimum system requirements, the embedded Agent Manager can be used to run VMware Performance Agents to monitor up to 500 virtual machines. If the total number of virtual machines to be monitored from a single agent host is greater than 500, an Agent Manager should be installed on a separate host.

i IMPORTANT: Foglight for Virtualization, Enterprise Edition Virtual Appliance comes pre-configured to support up to 4,000 virtual machines. If you are using this product, there is no need to follow the configuration procedure described in this section.

If additional cartridges and agents are added to the environment, product performance should be monitored and agents moved off of the embedded Agent Manager to reduce the load.

	Minimum CPU	Minimum Memory	Total Monitored VMs
Windows 64-bit	2 ¹	4 GB	2000
Linux 64-bit	2 ¹	4 GB	2000

Table 1. Foglight VMware Performance Agent host system requirements

¹ Additional CPUs may be required for larger environments.

Monitoring more than 4000 virtual machines from a single agent host

The Agent Manager JVM usually requires additional memory to monitor more than 4000 virtual machines. The total number of virtual machines is the total from all vCenters that will be monitored from all VMware Performance agents running on the Agent Manager.

The following calculations are guidelines, not hard and fast rules. Memory requirements can vary greatly from installation to installation with similar VM counts. If insufficient memory is configured, the failure mode is easily recognizable: all agents on the Agent Manager host will go into a broken state after the agent(s) were activated for a short period of time, usually within 24 hours. In addition, the Agent Manager log will contain a line similar to the following:

Caused by: java.lang.OutOfMemoryError: Java heap space

If this is the case, add memory greater than what is shown in the calculations below, in increments of 512 MB until the agents stabilize.

JVM memory requirements for VMware Performance agents are calculated using the following formula:

512 MB + 0.5 MB/VM

According to the above formula, monitoring 4000 virtual machines requires 2560 MB of memory:

512 MB + 2048 MB = 2560 MB

This is the default setting for agents deployed on 64-bit systems.

Similarly, monitoring 8000 virtual machines requires 4608 MB of memory:

512 MB + 4096 MB = 4608 MB

This requires a change in the default Agent Manager settings.

To change the JVM memory settings:

- 1 Determine the amount of *additional* memory required. This will be the total from the last step above minus the default value of 2560 MB. In the example above, this is 4608 MB 2560 MB = 2048 MB.
- 2 On the agent machine, open the *baseline.jvmargs.config* file for editing. The file is located in the <*Agent_Manager_home>/state/default/config* directory.
- 3 Add the following lines to the memory settings section:

```
vmparameter.0 = "-Xms2048m";
vmparameter.1 = "-Xmx2048m";
```

i NOTE: If this file has been previously edited, increment the numeric parameters accordingly.

4 Delete the existing deployed negotiation configuration settings directory:

<Agent_Manager_home>/state/default/config/deployments

5 Restart the Agent Manager for these settings to take effect.

Host system recommendations

Dedication

When monitoring larger vCenters, the Agent Manager machine hosting the VMware Performance agents should be dedicated to this task. No other Foglight agent types should run on the host and the host should not run any other applications.

Memory

Regardless of the values set for JVM memory above, Agent Manager never allocates more than 80% of system memory. So the machine hosting the Agent Manager and VMware Performance Agents must have sufficient memory. Beyond the memory requirements of the Agent Manager, a minimum of 2 GB should be free for the operating system. In the example above for 8000 VMs and an Agent Manager memory requirement of 4608 MB, the host should have a minimum of 6656 MB - the greater of:

1.25 x 4608 MB = 5760 MB

Or:

2048 + 4608 MB = 6656 MB

If the Agent Manager is configured on a virtual machine, it is recommended that the VM use a memory reservation to ensure maximum performance.

CPU

CPU usage on the Agent Manager host is relatively low most of the time. However, usage peaks dramatically during the performance metric collection. This is normal and expected. CPU utilization consistently over 50% is an indication that additional processing power is required. As with memory, usage can vary between different installations with similar numbers of virtual machines. The following guidelines should be followed.

Table 2. CPU usage guidelines

Up to 1000 VMs	2 CPUs
1000 – 4000 VMs	4 CPUs
4000+ VMs	add 1 CPU per 1000 VMs – round up when necessary

When the Agent Manager and VMware Performance agents are running on a virtual machine, the VM should be configured with CPU reservation whenever possible to ensure best performance. Lack of processing power on the

Agent Manager manifests in missed collections and gaps in the data usually noticeable in various graphs throughout the Foglight for VMware dashboards.

Monitored hosts

Foglight[™] for VMware supports VMware[®] vSphere[®] and VMware vCenter[®] Server versions 5.0 and later. Foglight for VMware also provides basic monitoring support for vCenter 6.0, but some advanced vCenter 6.0 features such as long distance vMotion[®] (Cross vCenter vMotion) will not be fully supported until a future release of Foglight for VMware.

i IMPORTANT: To successfully monitor a vCenter, you must open the port 443 on the vCenter system to allow HTTPS (port 443) traffic from the Agent Manager host to the monitored vCenter.

Installation and setup

Installing Foglight[™] for VMware involves several tasks.

First, install Foglight for VMware, and the Agent Manager (if multiple instances are required) and configure the remote host to allow the collection of data. Next, install Foglight for VMware on the Management Server and deploy the agent package. As the final step, you create agent instances, configure their properties, activate them, and start their data collection. For details, see the following sections:

- Installing the Foglight for VMware Management Server on page 8
- Installing the Foglight for VMware Agent Manager on page 8
- Installing and enabling Foglight for VMware on page 9
- Deploying VMware Performance Agent packages to monitored hosts on page 10
- Enabling VMware Performance Agents to collect data from a Virtual Center on page 12
- Configuring VMware Performance Agents for data collection on page 16
- Using an alternative method to create and configure VMware Performance Agents on page 20
- Setting the VMware Performance Agent properties on page 23

Installing the Foglight for VMware Management Server

Install the Foglight Management Server using the installer for your platform. For complete information, see the Foglight for VMware *Installation and Setup Guide* set.

Installing the Foglight for VMware Agent Manager

The Management Server includes an Agent Manager which can be used to remotely monitor hosts. To balance the collection load, you can choose to install the Agent Manager on additional hosts. For complete information, see the *Agent Manager Guide*.

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Installing and enabling Foglight for VMware

i NOTE: Foglight[™] for Virtualization, Enterprise Edition comes with Foglight for VMware pre-installed. The information provided in this section is only applicable to Foglight Management Server installations.

Foglight for VMware is distributed in the following CAR files:

- DRP-5_7_0.car
- Virtual-VMware-5_7_0.car
- VMware-Admin-5_7_0.car
 - **i** NOTE: VMware-Admin-5_7_0.car file provides access to VMware administrative actions through the VMware Explorer's Administration tab. For more information about the VMware Explorer, see the Foglight for VMware User and Reference Guide.

Installing and enabling these cartridges on the Management Server add the VMware[®] capabilities to your Foglight environment and makes their components available for use. When a cartridge is installed and enabled, all of its components become part of the Management Server.

The following procedure describes the process of installing and enabling the available cartridges using the browser interface. Another way to install and enable Foglight cartridges is through the fglcmd command-line interface. For more information about the available fglcmd commands, see the *Command-Line Reference Guide*.

To install and enable the available cartridges:

- 1 On the navigation panel, under **Dashboards**, choose **Administration > Cartridges > Cartridge Inventory**.
- 2 Install the Foglight for VMware CAR files, in this order:
 - DRP-5_7_0.car
 - Virtual-VMware-5_7_0.car
 - VMware-Admin-5_7_0.car
 - a To install a CAR file, on the Cartridge Inventory dashboard, click Install Cartridge.

The Install Cartridge dialog box appears.

Figure 1. Install Cartridge dialog box

Install Cartridge	×
File on Local Computer	Browse
Enable on install	
	It may take some time to upload your cartridge after you click "Install Cartridge" button.
	Install Cartridge Cancel

- b In the Install Cartridge dialog box, click Browse, and navigate to the CAR file.
- c Ensure that the Enable on install check box is selected.
- d Click Install Cartridge.

The Processing message box appears.

Figure 2. Processing message box

Processin	g
	💭 Please wait while installing

After a few moments, the Operation(s) Complete message box appears, indicating a success.

Figure 3. Operation(s) Complete message box



- e Click OK to close the Operation(s) Complete message box.
- 3 Observe the list of installed cartridges.

Figure 4. Installed cartridges

Ins	stalled Cart Install Car	tridges Core Cartridges	Disable
	Status	Cartridge Name 🔺	Version
		DRP	5.7.0
		Virtual-VMware	5.7.0
		Virtual-VMware-Admin	5.7.0
		Virtual-VMware-Base	5.7.0
		Virtual-VMware-Dependencies	5.7.0
		Virtual-VMware-Intelliprofile	5.7.0

From here, you can proceed to deploying the VMware Performance Agent package. For more information, see Deploying VMware Performance Agent packages to monitored hosts.

Deploying VMware Performance Agent packages to monitored hosts

Foglight[™] for VMware uses VMware Performance Agent instances to collect information from a vCenter[®]. Installing and enabling Foglight for VMware on the Management Server makes its VMware Performance Agent package available for deployment.

VMware Performance Agent uses the Agent Manager for communication with the Management Server. Foglight for VMware can monitor Virtual Center machines remotely. For that reason, the Agent Manager does not need to be installed on each individual host that you want to monitor. It is typically installed on one machine; some scenarios may require multiple Agent Manager installations to balance the collection load.

Deploy the VMware Performance Agent package to the applicable Agent Manager instances. In some installations, the Management Server already has the VMware Performance Agent deployed to its embedded Agent Manager instance. Deploying the package is only required if you plan to use additional Agent Manager instances.

The following procedure describes the deployment process using the Agent Status dashboard. This administrative dashboard is useful for deploying the agent package one host at a time. Alternatively, for deploying the VMware Performance Agent package to multiple hosts, you can use the Agent Hosts dashboard. For more information, see the *Administration and Configuration Guide*.

Another way to deploy agent packages is through the fglcmd command-line interface. For more information about the available fglcmd commands, see the *Command-Line Reference Guide*.

To deploy the VMware Performance Agent package:

- 1 Log in to the Foglight browser interface.
- 2 On the navigation panel, under **Dashboards**, click **Administration > Agents > Agent Status**.

The Agent Status dashboard appears in the display area.

Figure 5. Agent Status dashboard

igenic or	atus									25 Sep 20	14 11:31:14 AM	🛐 Reports
<u>e</u> ,	Age	nt S	tatus									
L t	Jse the A hem.	igent Sta	itus dashboa	ard to manage	agents. Start by deploy	ying agent packages to	Agent Managers. After d	deployment, ·	you can creal	te agents, edit	their properties .	and activate
\gent	ts											
🕵 De	ploy Age	nt Packa	ge 💕 Crea	ite Agent 🧕	Edit Properties By Tag	🛛 Activate 🛛 Dea	ctivate 🕞 Start Data Ci	ollection 🕕	Stop Data C	ollection 🚯 Ec	lit 🐻 Delete 🛽	Upgrade
	State	Status	Collecting Data	Private Property	Host Name	Agent Name	Namespace	Туре	Tags	Version	Upgradable	Log File
						There Is No Data	To Display					
acke.												-
Fasks		Clean (Completed Ta	asks						Search		<i>></i> -
Fasks ∕∕⊉Re	fresh 🍯	Clean										
「∂SKS ∕⊘Re Status	fresh 🔌 Action	Cicair			Details		Host Name		Status Mess	age	Dur	ation Time

3 On the Agent Status dashboard, click the **Deploy Agent Package** button in the lower-left corner. The **Deploy Agent Package** wizard appears.

Figure 6. Deploy Agent Package wizard

Deploy Agent Package	>
Host Selector	Host Selector
 Agent Packages 	Select the hosts to which you want to deploy agent packages.
• Summary	Search P - Host Name A Host 1
	Previous Next Finish Cancel

4 Specify the monitored host to which you want to deploy the VMware Performance Agent package.

In the **Deploy Agent Package** wizard, on the **Host Selector** page, select the system on which the Agent Manager is running, and click **Next**.

If the system name does not appear in the list, check that its Agent Manager is active and connected to the Management Server.

The Deploy Agent Package wizard refreshes, showing the Agent Packages page.

Figure 7. Agent Packages page

Deploy Agent Package	Х
✓ Host Selector	Agent Packages
Agent Packages	Select the agent packages to deploy to the selected hosts.
• Summary	Search P • Package A Package A VMware-Performance-32bit-Agent-Installer Show Packages for All Platforms
	Previous Next Finish Cancel

5 In the Deploy Agent Package wizard, on the Agent Packages page, select VMware-Performance-64bit-Agent-Installer, and click Next.

The Deploy Agent Package wizard refreshes, showing the Summary page.

Figure 8. Summary page

Deploy Agent Package			X
✓ Host Selector	Summary		
 Agent Packages 		Search	<i>p</i> -
▶ Summary	Host 🔺	Package	
	Host1	VMware-Performance-64bit-Agent-Ins	staller
		Previous Next Fin	ish Cancel

6 In the **Deploy Agent Package** wizard, on the **Summary** page, verify that the host name and package are correct, and click **Finish**.

The **Deploy Agent Package** wizard closes, and the Agent Status dashboard refreshes, showing in the **Tasks** area that the **Deploy Agent Package** task is in progress. After a few moments, a green icon appears in the **Status** column, indicating a successful deployment.

Figure 9. Deployment task successful

Tasks					
- 😂 Refr	resh 者 Clean Completed	Tasks		Search	<mark>,</mark>
Status	Action	Details	Host Name	Status Message	Duration Time
۲	Deploy Agent Package	Deploy Agent Package(s) VMware-Performance-A	Host1	Task was successful.	92.7 s

If agent deployment is not successful, there are several things you can do to troubleshoot the deployment failure. For more information, see the online help for the Agent Status dashboard.

From here, you can proceed to grant privileges to the VMware Performance Agent for collecting data from the monitored host. For more information, see Enabling VMware Performance Agents to collect data from a Virtual Center on page 12.

Enabling VMware Performance Agents to collect data from a Virtual Center

Foglight[™] for VMware uses the VMware Performance Agent to collect information from monitored environments. Each VMware Performance Agent can monitor an entire Virtual Center. To enable the agent to monitor your virtual environment, you must grant the agent privileges for accessing the Virtual Center and collecting data from it.

i IMPORTANT: Follow this procedure only if your environment does not include Foglight for Resource Optimization.

Configure these privileges on the Virtual Center using the VMware[®] Virtual Infrastructure Client.

First, you create a role and assign it privileges for browsing datastores, viewing and terminating sessions, and modifying performance intervals. Next, you assign that role to a user account that you want the VMware Performance Agent to use for accessing the Virtual Center. You will associate the selected user account with the VMware Performance Agent instance in a later step, when you configure the VMware Performance Agent properties (see Setting the Configuration properties on page 25).

Figure 10. VMware Virtual Infrastructure Client

ntory Scheduled Tasks Eve	nts Administration Maps I	Consolidation		1
🕸 🗊 🛃 🤮	A REDGIOS			
 Development Lab Wrtual VMWare W Backup ESX 45.114 	Summary Vitual Machines Ho General	sta 🔪 DRS Recommendation	Resource Adocation Performance Tasks & Events Alarmi Permission Maps VMware HA	
Cracle Database Performance Sebel BMF 10.4.45.101 STL DEV	YMware DRS: YMware HA: YMware EVC mode: Total CPU Resources: Total Memory:	Enabled Enabled Disabled 85 GHz 192 GB	Admission Control: Allow constraint violations Current Falove Capacity: Dihosts Configured Falove Capacity: Z hosts	
Dig PE Rollos 10.4.45.110 10.4.45.112 10.4.45.114 10.4.45.116 Did VMs Did VMs StLBuild M2Repo	Number of Hosts: Total Processors: Number of Virtual Machines: Total Migrations:	4 32 106 459	Vieware Loss Fully Automated Power Management Off Adomation Levelin Off Maginary Comparison Apply recommendations with three or more stars.	
STLBuildNaster	Commands		VMware DR5 Resource Distribution	
STLEUMWindows STLDEVFTR StUDEVFTR StUDEVFOREX_demo stdevfogesx_demo stdevfogesx_demo	11 New Virbal Machine 말 Add Hoot @ New Resource Pool 옷을 Edit Settings		90 90 90 90 90 90 90 90 90 90 90 90 90 9	
vControl_Dummy1 vControl_Dummy2 vControl_Dummy2 vControl_Dummy2 orokoper VMs the vhogesxad stklevfogesxas stklevfogesxcs stklevfogesxcs stklevfogesxcs the vhogesxcb			Utilization Percent	
nt Tasks	2 1			
	Target	Status	Initiated by 🤝 🗂	ime Start Time

To grant a VMware Performance Agent privileges for collecting data from a Virtual Center:

1 In the VMware Virtual Infrastructure Client, on the tool bar, click **Administration**. The Administration screen appears.



Figure 11. Administration screen

2 Right-click a role and choose **Add** from the shortcut menu that appears.

The Add Role dialog box appears.

Figure 12. Add Role dialog box

Name	
Enter Name:	
Privileges	
Use the checkboxes below to enable or disable per	missions available to this
role, select a unique name for the role and click OK	
All Privileges	~
😟 🗖 Global	
🕀 🗖 Folder	
🕕 🗖 Datacenter	
Datastore	
🕀 🔲 Network	
🗉 🛄 Host	
Virtual Machine	
	-
	~
	<u></u>
Description: Select a privilege to view its descr	iption

- 3 In the Add Role dialog box, in the Enter Name box, type the name of the role you want to add.
- 4 Select the following privileges:
 - Datastore > Browse Datastores
 - Sessions > View and Terminate Sessions
 - Performance > Modify interval
- 5 **Important**. If you are using Foglight for Resource Optimization, you must include additional privileges to this role. For more information, see the Foglight for Resource Optimization *User Guide*.
- 6 Click OK.

The Add Role dialog box closes.

7 In the VMware Virtual Infrastructure Client, on the toolbar, click Inventory.

The Inventory screen appears.

Figure 13. Inventory screen

ventory Scheduled Tasks Events	Administration Maps Consolidation		06
Image: Section of the sectio	PC BOLDS Summary Window Markens Hotol Of S Recomme Where rol 5: Enabled Where rol 5: Enabled Where rol 5: Descent Taid Where rol 5: Descent Taid Processors: 3: Descent Taid Where rol 5: Descent Taid W	Operation Table Elsevent Question Previousnek Massion Planer MA Massion Control Massion Control	
🚯 stidevfoges:/m 🐞 stidevfoges:/h 🚽		2 0-10 10-20 20-30 30-40 40-50 50-60 60-70 70-80 80-50 50-100+	
ne	Target Status	Initiated by	Time Start Time

8 In the left pane, right-click **Hosts & Clusters**, and choose **Assign Permissions** from the shortcut menu that appears.

The Assign Permissions dialog box appears.

Figure 14. Assign Permissions dialog box

one or more of t	nission to an individi the names and assig	ual or group of users, ac gn a role.	ld their names to the Users and Groups list below	v. Then select
Users and Group These users and object according	os I groups can interac I to the selected rol	it with the current e.	Assigned Role Selected users and groups can interact wi object according to the chosen role and p	th the current rivileges.
Name	Role	Propagate	Read-Only	
		Damain		its description

- 9 In the Assign Permissions dialog box, in the Assigned Role area, select the role you just created.
- 10 In the Users and Groups area, click Add.

The Select Users dialog box appears.

Figure 15. Select Users dialog box

Show Users First		Search
Name	Description	~
Administrator	VMware_Converter	
ASPNET Guest	ASP.NET Machine Account	
LUSR_STLVC00	Internet Guest Account Launch IIS Process Account	~
Add		
Jsers:		

- 11 Assign the selected role to a user account that you want the VMware Performance Agent to use for accessing the Virtual Center, and click **Add**.
- 12 Click OK.

The Select Users dialog box closes.

Configuring VMware Performance Agents for data collection

Foglight[™] for VMware uses the VMware Performance Agent to collect information from monitored environments. Creating a VMware Performance Agent instance creates the agent process on the Agent Manager host. Activating the VMware Performance Agent starts that agent process, while starting an agent instance's data collection enables the agent to start collecting data from the monitored Virtual Center and to send it to Foglight for VMware.

When the VMware Performance Agent package is successfully deployed, create one or more agent instances, activate them, and start their data collection. To perform these steps in a single operation for one or more monitored hosts, use the **Administration** tab of the VMware Environment dashboard.

Each VMware Performance Agent monitors a single Virtual Center. When you create a VMware Performance Agent instance and the Agent Setup wizard determines that the Virtual Center was not previously monitored by this Foglight instance, it starts importing historical data into Foglight. This data is not immediately available as it takes some time to collect it. This process can import data collected over 30 days or less, depending on the amount of data available in the Virtual Center. This allows you to explore VMware metrics as soon as the data is imported, instead for waiting for the agent to collect some data from the Virtual Center. The **Metric History** column in the **Agents** table indicates the progress of the historical data import. Historical data is intended for charting, trending, and general presentation purposes. It does not cause any alarms to fire.

To import Virtual Center historical data, the minimum recommended Virtual Center Statistics Levels must be at least 2 in the samples that are collected for one month for the agent to populate 30 days of historic collections. The following table lists the minimum Statistics Levels for all collection frequencies. For more information about Virtual Center Statistics levels, see your VMware[®] documentation.

Collection Interval	Collection Frequency	Statistics Level
1 Day	5 Minutes	1
1 Week	30 Minutes	1
1 Month	2 Hours	2
1 Year	1 Day	1

Table 3. Collection Intervals

i IMPORTANT: Before creating your first VMware Performance agent, you must configure a Virtual Center user with sufficient privileges. For more information, see Enabling VMware Performance Agents to collect data from a Virtual Center on page 12.

To create, activate VMware Performance Agent instances, and start their data collection:

- 1 Log in to the Foglight browser interface.
- 2 On the navigation panel, under **Dashboards**, choose **VMware > VMware Environment**.
- 3 On the VMware Environment dashboard that appears in the display area, open the Administration tab.

Figure 16. Administration tab

VMware Environment								
test2	•							
Monitoring Alarms	Capacity Management Charg	jeback Optimizer	Change Analyzer F	AQts Reports	Administration	1		
Administration This Administration das	aboard allows you to deploy rem	note agents, configure	rules and set advance	d platform options.				
	,,.,.,	, , , , , , , , , , , , , , , , , , ,		, ,				
Agents	Rule Configuratio	n Advanc	ed Options	User Level Acces	s			
🙆 Add 🤹 Refresh 🛛	🖖 Activate 🕕 Deactivate 🐌 S	itart Data Collection 🥚	Stop Data Collection	😑 Remove 🏠 U	Ipdate Agent		Search	<i>p</i> •
📄 Agent Name 🔺	Foglight Agent Manager Ho	st Active	Data Collection	Metric History	Alarms	Edit Properties	Download Log	Agent Version
10.30.180.7	zhuvm-fog-tpl	ø	ø	n/a	1	Z		📀 Version Up To Date

4 Launch the Agent Setup wizard. In the Agents area, click Add.

The Agent Setup Wizard appears with the Select an Agent Host page open.

Figure 17. Agent Setup Wizard

Age	ent Setup Wizard						×	
►	Select an Agent Host	Select an A	gent Host				i	
0	Select Virtual Center	Select ar	Select an Agent Host for the new VMware Agent.					
0	Credential Verification	Ho	st Name	FgIAM Version	VM Count	Architecture		
	Summany	Hos	st1.example.com	5.8.5.4	10	x86_64		
		When monitoring larger vCenters, it may be necessary to increase the memory alloca to Agent Manager. For more sizing information and instructions on how to customize Agent Manager, open the help topic by clicking on the $\frac{2}{3}$ in the top right corner.					cat re	
				Previous	Next	Finish Can	cel	

5 Select the host machine running the Agent Manager that you want to manage the VMware Performance Agent you are about to create, and click **Next**.

The Agent Setup Wizard refer shes, showing the Select Virtual Center page.

Figure 18. Select Virtual Center page

Agent Setup Wizard		×
✓ Select an Agent Host	Select Virtual Center	
Select Virtual Center	Virtual Contary	Heat name or TD address
 Credential Verification 	Port:	443
 Summary 	Enable Storage Collection:	
	Enable Historical Metric Data:	•
		Previous Next Finish Cancel

- 6 Specify the Virtual Center that you want to monitor.
 - a In the **Virtual Center** box, type the fully qualified name of the host on which the Virtual Center is running.
 - b In the **Port** box, type the port number of the host running the Virtual Center that will be used by the VMware Performance Agent to connect to the Virtual Center.
 - If you want to enable the VMware Performance Agent to collect the Foglight for Storage
 Management data, select the Enable Storage Collection check box. Foglight for Storage
 Management can help you optimize the VMware environment by monitoring virtual storage and its

underlying physical storage components. For more information about this product, see the Foglight for Storage Management documentation.

- d If you want to import historical data, select the **Enable Historical Metric Data** check box. This data is not immediately available as it takes some time to collect it. This process can import data collected over 30 days or less, depending on the amount of data available in the Virtual Center. Selecting this option allows you to explore VMware metrics as soon as the data is imported, instead for waiting for the agent to collect some data from the Virtual Center.
- e Click Next.

The Agent Setup Wizard refreshes, showing the Credential Verification page.

Figure 19. Credential Verification

Agent Setup Wizard		×
✓ Select an Agent Host	Credential Verification	
✓ Select Virtual Center	Virtual Center	Matching Credentials
Credential Verification	Host2.example.com	n/a
 Summary 	Add vCenter(s) to Add vCenter(s) to Add vCenter(s) to Add vCenter(s) to Note: Creating agents without the proper cr Credential Alarms.	a new credential. an existing credential. redentials will result in the occurrence of
		Previous Next Finish Cancel

- 7 Specify user credentials the VMware Performance Agent needs to log into the Virtual Center host. Select one of the following options:
 - **IMPORTANT:** The Virtual Center user account must have sufficient privileges. For more information, see Enabling VMware Performance Agents to collect data from a Virtual Center on page 12.
 - Add vCenter(s) to a new credential: Select this option if you want to create a new credential for the selected vCenter. Click Next and continue to Step 8.
 - Add vCenter(s) to an existing credential: Select this option if you want to use an existing credential for the selected vCenter. This option is suitable if an existing credential has the information needed to access the vCenter. Click Next and continue to Step 9.

For complete information about Foglight credentials, see the Administration and Configuration Help.

8 Creating a new credential only.

Figure 20. Create New Credential

Agent Setup Wizard						×
✓ Select an Agent Host	Create	e New Creden	itial			
✓ Select Virtual Center	Hos	t name or IP:	Host2.example.c	om		
Credential Verification	Crea	dential Name:				
Create New Credential	Use	r:				
 Summary 	Pase	sword:				
	Con	firm Password	:			
	A lockbox contains a collection of encrypted credentials and the keys used for their encryption and decryption.					
		Name 🔺	Password Required	Release Status	Click To Release Lockbox To Client	
	۲	System	No	Released	1	
	0	XenDesktop	No	Released	5	
	Note	e: A password n release to th	will be required fo e provided Agent	r password see Manager.	ured Lockboxes that have not y	• et
				Pre	vious Next Finish Car	ncel

- a Specify the following information:
 - Credential Name: Type a name that uniquely identifies the credential.
 - **User**: Type the vCenter user name.
 - **Password**: Type the vCenter password.
 - Confirm Password: Type the vCenter password.
- b Select a lockbox in which you want to keep the credential. A lockbox can be used to group credentials for access and/or security. In smaller Foglight installations, you can use the default System lockbox.
- c Click Next.

The Summary page appears.

Figure 21. Summary

Agent Setup Wizard		×
✓ Select an Agent Host	Summary	
✓ Select Virtual Center	Hosts	Host2.example.com
 Credential Verification 	Agent Manager Enable Storage Collection	Host1.example.com Disabled
▶ Summary	Enable Historical Metric Data	Enabled
	Credential	
	Credential	test
	Lockbox	System
	New or Existing Credential	New
		Previous Next Finish Cancel

d Click Finish.

The **Agent Setup Wizard** closes, and the **Agents** area refreshes, showing a newly created VMware Performance agent instance.

9 Using an existing credential only.

Figure 22. Select Existing Credential

Agent Setup Wizard					×
✓ Select an Agent Host	Selected Existing Credential				
✓ Select Virtual Center	Select the Credential that will contain this reso	ource.			
Credential Verification					
 Selected Existing Credential 	Credential	Password Required	Release Status	Click To Release Lockbox To Client	
 Summary 	System	No	Released	5	-
	⊙ test				
	XenDesktop	No	Released	5	-
	administrator@vsphere.local@VMware				-
	Note: a password will be required for password been released to the provided Agent Manager.	d secured L	ockboxes t	hat have not y	• yet
		Previous	Next	Finish	ancel

- a Select an existing credential that you want to use to access the vCenter.
- b Click Next.

The Summary page appears.

Figure 23. Summary

 Select an Agent Host 	Summary	
Select Virtual Center	Hosts	Host2.example.com
(Oradaptial Varification	Agent Manager	Host1.example.com
credential vehication	Enable Storage Collection	Disabled
Summary	Enable Historical Metric Data	Enabled
	Credential	
	Credential	test
	Lockbox	System
	New or Existing Credential	New

c Click Finish.

The **Agent Setup Wizard** closes, and the Agents area refreshes, showing a newly created VMware Performance agent instance.

Using an alternative method to create and configure VMware Performance Agents

The following procedure describes the process of creating and activating VMware Performance Agent instances and starting their data collection using the Agent Status dashboard. This dashboard is useful for creating agent instances one Agent Manager at a time.

Another way to create agent instances is using the fglcmd command-line interface. For more information about the available fglcmd commands, see the *Command-Line Reference Guide*.

To create, activate VMware Performance Agent instances and start their data collection using the Agent Status dashboard:

- 1 Log in to the Foglight for VMware[™] browser interface.
- 2 On the navigation panel, under **Dashboards**, choose **Administration > Agents > Agent Status**.

The Agent Status dashboard appears in the display area.

Figure 24. Agent Status dashboard

Agent S	tatus									25 Sep 20	14 11:31:14 AM	🖪 Report
	Age	nt S	tatus									
_	Use the / them.	Agent Sta	atus dashbo	ard to manag	e agents. Start by deploy	ring agent packages to A	gent Managers. After d	leployment, y	/ou can crea	te agents, edit	their properties a	and activat
Agen	nts		. FÖ –									*
E De	eploy Age	ent Packa	ge 🔟 Crea	ate Agent 🧕	Edit Properties By Tag	Activate 🔛 Deac	ivate – 🕑 Start Data Co	ollection	Stop Data C	ollection 💮 Ec	lit 💽 Delete 📗	Upgrade
Γ	State	Status	Collecting Data	Private Property	Host Name	Agent Name	Namespace	Туре	Tags	Version	Upgradable	Log File
						There Is No Data	To Display					
Tasks	6											
~ ⊋Re	efresh 🤞	🖞 Clean (Completed T	asks						Search		> •
Status	Action				Details		Host Name		Status Mes	sage	Dur	ation Time
						There Is No Task	In Display					

3 On the Agent Status dashboard, click Create Agent.

The Create Agent wizard appears with the Host Selector page open.

Create Agent	X
Host Selector	Host Selector
 Agent Type and Instance Name 	Select the Agent Managers where you want to create agents.
∘ Summary	Search 🔎 🗸
	Host Name 🔺
	Previous Next Finish Cancel

4 Specify the monitored host that you want to use to monitor with the VMware Performance Agent.

In the **Create Agent** wizard, on the **Host Selector** page, select the system on which the Agent Manager is running, and click **Next**.

If the system name does not appear in the list, check that its Agent Manager is active and connected to the Management Server.

The Create Agent wizard refreshes, showing the Agent Type and Instance Name page.

Figure 25. Agent Type and Instance Name page

Create Agent	х
✓ Host Selector	Agent Type and Instance Name
 Agent Type and Instance Name 	Select the types of agents to create on the selected hosts.
• Summary	Search P -
	VMwarePerformance Generic Name Specify Name The name will be generated using format: <agent type="">@<host name=""></host></agent>
	Previous Next Finish Cancel

- **i IMPORTANT:** If the VMwarePerformance agent type is not listed, you likely need to deploy the VMware Performance Agent package to that host. For more information, see Deploying VMware Performance Agent packages to monitored hosts on page 10.
- 5 On the Agent Type and Instance Name page, select VMwarePerformance.
- 6 Specify the name of the VMware Performance Agent instance that you are about to create.
 - To have Foglight for VMware assign a generic name, ensure that Generic Name is selected.
 - To use a specific agent name, select Specify Name, and in the Name box that appears, type the agent name.
- 7 Click Next.

The Create Agent wizard refreshes, showing the Summary page.

Figure 26. Summary page

Create Agent			×
✓ Host Selector	Summary		
✓ Agent Type and Instance Name			
Summary		Search	<u>></u>
	Host	Agent Name	
	Host1	VMwarePerformance@Host1	
		Previous Next	Finish Cancel

8 In the **Create Agent** wizard, on the **Summary** page, verify that the host name and agent name are correct, and click **Finish**.

The **Create Agent** wizard closes, and the Agent Status dashboard refreshes, showing in the **Tasks** area that the **Deploy Agent Package** task is in progress. After a few moments, a green icon appears in the **Status** column, indicating a successful deployment.

Figure 27. Create Agent task successful

Tasks					
- 🗇 Ref	resh 🤞 Clean Co	mpleted Tasks		Search	,
Status	Action	Details	Host Name	Status Message	Duration Time
۲	Create Agent	Create Agent VMwarePerformance on Host	Host1	Task was successful.	3.7 s

If agent creation is not successful, there are several things you can do to troubleshoot the deployment failure. For more information, see the online help for the Agent Status dashboard.

9 Configure the properties of the newly created agent instance.

When a VMware Performance Agent connects to the Management Server, it is provided with sets of properties that the agent uses to configure its correct running state. Foglight stores agent properties on the Management Server.

- a Select the agent instance and click Edit.
- b From the menu that appears, choose Edit Properties.

The Agent Status dashboard refreshes, showing the VMware Performance Agent properties in the display area.

Figure 28. VMware Performance Agent Properties

Agent Status				Sep 13, 2011 11:51:3	4 AM CDT 🛛 🔝 Reports 🔻
Name			Host	Туре	Tags
VMwarePerformanceAgent			Host1.example.com	VMwarePerformance	
This agent is currently using prope	erties for VMwarePerform	ance agents.			
Modify properties for this agent	t only.				
Modify properties for all VMwar	rePerformance agents.				
Configuration					
Network Connection TimeOut	10000				
Host Name					
Host Port	443				
Host User Name					
Host Password					
Storage Collection Enabled	C Truo C Fal	69			
-	01100				
Blacklist					
DIACKLISC					
User BlackListed MORs		Dolata			
USERBIACKLISTLIST	Cone	Delete			
Agent BlackListed MORs					
blackListList	Edit Clone	Delete			
Data Collection Scheduler					
Collector Config					
defaultSchedule	Edit Clone	Delete			
•		m			
				Back To Agent Status	rel Save
				Call	

NOTE: When multiple agents are selected, you can only edit the properties that are common to all selected agents.

- c Click Modify properties for this agent only.
- d Edit the agent's properties, as required.

For more information, see Setting the VMware Performance Agent properties on page 23.

- When finished, click Save, then click the Back To Agent Status button. е
- 10 Activate the newly created VMware Performance Agent instance.

On the Agent Status dashboard, select the row containing the agent instance that you want to activate, and click Activate.

The Activate Agent(s) message box appears, showing the status of the activation process.

Activate Agent(s)
Activating Selected Agent(s)

The Create Agent wizard closes, and the Agent Status dashboard refreshes, showing in the Tasks area that the Deploy Agent Package task is in progress.

After a few moments, the Activate Agent(s) message box closes, and the Agents area on the Agent Status dashboard refreshes, showing a green icon in the Status column, indicating a successful activation.

Figure 29. Agent successfully activated

P	ge	nts									
	I∯	Deploy Age	ent Package 🧯	🗊 Create Agent 🛛 🚱 Ed	it Properties By Tag 🛛 🖾 Activate	🔀 Deactivate 🕞 Start I	Data Collection 🕕 Stop Dat	ta Collection	😔 Edit 🐻 Dele	te 📑 Upgrade	i marine a
		Status 🔺	Collecting Data	Agent Name	Agent Manager	Namespace	Туре	Tags	Version	Upgradable	Log File
				Host2	Host1.example.com	VMwarePerformance	VMwarePerformance		5.7.0	No	

If agent creation is not successful, there are several things you can do to troubleshoot the deployment failure. For more information, see the online help for the Agent Status dashboard.

Setting the VMware Performance Agent properties

The VMware Performance Agent collects data from the virtual infrastructure and sends it to the Management Server. The agent keeps track of resource utilization metrics and alerts you when certain pre-defined thresholds are reached.

When an agent connects to Foglight Management ServerTM, it is provided with sets of properties that it uses to configure its correct running state. Each agent is provided with a combination of two types of properties: agent properties and shareable properties.

Default versions of these properties are installed with Foglight for VMware. However, you can edit the default shareable and agent properties, configure agent properties that apply only to a specific agent instance, and create edited clones of shareable properties that are used by a subset of agents of a certain type.

There are two ways to access the VMware Performance Agent properties:

- On the VMware Environment dashboard, on the **Administration** tab, select an agent instance and click Edit Properties (see Configuring VMware Performance Agents for data collection on page 16). This method only provides access to the Configuration properties, but not the Black List and Data Collection Scheduler properties.
- On the Agent Status dashboard, select an agent instance and click Edit Properties. This method provides access to the full set of VMware Performance Agent properties, and is described in this section

For more information about working with agent properties, see the Administration and Configuration Guide.

To modify agent properties:

1 Log in to the Foglight browser interface.

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2 Ensure that the navigation panel is open.

To open the navigation panel, click the right-facing arrow I on the left.

- 3 Navigate to the VMware Performance Agent properties. An agent instance can have a combination of global and private properties. Global properties apply to all instances of the agent type, while private properties apply only to specific agent instances.
 - f On the navigation panel, under **Dashboards**, choose **Administration > Agents > Agent Status**.
 - i IMPORTANT: Another way of editing the VMware Performance Agent properties is through the Agent Properties dashboard. The properties you specify on this dashboard apply to all instances of the VMware Performance Agent type. To be certain that you are editing properties for a particular agent instance, without overwriting any properties of other VMware Performance instances, use the Agent Status dashboard instead of the Agent Properties dashboard.
 - g On the Agent Status dashboard, select the instance of the VMware Performance Agent whose properties you want to modify and click **Edit Properties**.
 - h Click **Modify the private properties for this agent** to indicate that you want to edit the properties of the selected VMware Performance Agent instance.

A list of agent properties appears in the display area.

Figure 30. Agent Properties

Configuration			
Host Name			
Host Port	443		
Performance request threads	8		
Cisco switch collection threads	40		
Storage Collection Enabled	True	Image: Palse False Fa	e
VMWare Request Timeout (sec)	45		
Default performance request	120		
timeout (sec). Increased as needed			
Property request timeout (sec)	120		
Update request timeout (sec)	80		
Login/open/close timeout (sec)	45		
Cisco switch connection timeout (sec)	10		
Cisco switch timeout (sec) for	10		
Request Timeout for HA	720		
operation (sec)	720		
Request Timeout for move vm operation (min)	120		
Alarms Collection Enabled	🔘 True	Image: Tells	e
Performance request batch size (10-50)	40		
Performance submission batch size	50		
BlackList			
User BlackListed MORs			
userBlackListList 🗸	Edit	Clone	Delete
Agent BlackListed MORs			
blackListList 🗸	Edit	Clone	Delete
4			

The configuration of agent properties described in this section include:

- Setting the VMware Performance Agent properties on page 23
- Setting the Configuration properties on page 25
- Setting the FileCollector properties on page 26
- Setting the vSwitchCollector properties on page 26
- Setting the Duplicate VM List properties on page 27

- Setting the Black List properties on page 27
- Setting the Data Collection Scheduler properties on page 30

Setting the Configuration properties

The **Configuration** properties point the VMware Performance Agent to the machine on which the Virtual Center is running, and provide some additional configuration settings.

To set the configuration properties:

- 1 Locate the VMware Performance Agent's Configuration properties.
- 2 Set the Configuration properties as follows:
 - Host Name: The fully qualified host name of the machine on which the Virtual Center is running.
 - Host Port: The port number of the machine on which the Virtual Center is running that will be used by the VMware Performance Agent to connect to that machine in order to collect data from the monitored Virtual Center.
 - · Performance request threads: The number of threads in a performance request.
 - Cisco switch collection threads: The number of threads in a Cisco switch collection.
 - Storage Collection Enabled: If you are running <Product Name>™ for Storage Management and want to enable the VMware Performance Agent to collect the Foglight Storage data, select True, otherwise, set this property to False. Foglight for Storage Management can help you optimize the VMware environment virtual storage and its underlying physical storage components. For more information about this product, see your Foglight for Storage Management documentation.
 - VMWare Request Timeout (sec): The amount of time in seconds after which a VMware request times out.
 - Default performance request timeout (sec). Increased as needed: The amount of time in seconds after which a default performance request times out.
 - Property request timeout (sec): The amount of time in seconds after which a property request times out.
 - Update request timeout (sec): The amount of time in seconds after which an update request times out.
 - Login/open/close timeout (sec): The amount of time in seconds after which login, open, or close requests times out.
 - **Cisco switch connection timeout (sec)**: The amount of time in seconds after which a Cisco switch connection times out.
 - Cisco switch timeout (sec) for performing a single SSH command: The amount of time in seconds after which an attempt to perform a single SSH command on a Cisco switch times out.
 - Request Timeout for HA operation (sec): The amount of time in seconds after which an HA operation request times out.
 - **Request Timeout for move vm operation (min)**: The amount of time in minutes after which a request for an operation to move a virtual machine times out.
 - Alarms Collection Enabled: If you want to collect VMware alarms from the monitored system, set this to True. Otherwise, select False.
 - Performance request batch size (10-50): The size of a performance request batch.
 - Performance submission batch size: The size of a performance submission batch.
- 3 Click Save.

Setting the FileCollector properties

A file collector is a component that captures metrics from specific files on the monitoring system. The **FileCollector** properties instruct the VMware Performance Agent which datastores, file directories, and files to exclude from monitoring.

To set the FileCollector properties:

- 1 Locate the VMware Performance Agent's FileCollector properties.
- 2 Set the FileCollector properties as follows:
 - Excluded Datastores: Select a list in which you want to specify the datastores that you want to exclude from monitoring. You can select or clone an existing list, and edit it, as required. The default list is excludedDatastoresList. Lists can be shared between multiple agent instances. For more information about list properties, see the *Administration and Configuration Help*.

For each datastore entry in the list, set its properties as follows:

- Datastore Name: The name of one or more datastores that you want to exclude from monitoring. To specify multiple datastores, you must use regular expressions.
- Regex Flag: Indicates if the Datastore Name contains a regular expressions.
- Excluded Folders: Select a list in which you want to specify the file directories that you want to exclude from monitoring. You can select or clone an existing list, and edit it, as required. The default list is hiddenFolders. Lists can be shared between multiple agent instances. For more information about list properties, see the Administration and Configuration Help.

For each directory entry in the list, set its properties as follows:

- Folder Name: The path to one or more directories that you want to exclude from monitoring. To specify multiple directories, you must use regular expressions.
- Regex Flag: Indicates if the Folder Name contains a regular expressions.
- Excluded Files: Select a list in which you want to specify the files that you want to exclude from monitoring. You can select or clone an existing list, and edit it, as required. The default list is vmwareSrmFiles. Lists can be shared between multiple agent instances. For more information about list properties, see the Administration and Configuration Help.

For each directory entry in the list, set its **File Name Regex** property to a regular expression that points to one or more files that you want to exclude from monitoring.

3 Click Save.

Setting the vSwitchCollector properties

A vSwitch collector is a component that captures metrics from virtual switches on the monitoring system. The **vSwitchCollector** properties instruct the VMware Performance Agent which virtual switches to monitor.

To set the vSwitchCollector properties:

- 1 Locate the VMware Performance Agent's vSwitchCollector properties.
- 2 Set the vSwitchCollector properties as follows:
 - Monitoring Switches: Select a list in which you want to specify the VMware virtual switches that you want to monitor. You can select or clone an existing list, and edit it, as required. The default list is monitoredSwitchList. Lists can be shared between multiple agent instances. For more information about list properties, see the Administration and Configuration Help.

For each switch entry in the list, set its properties as follows:

- DVS Managed Object Reference: The managed object reference of the distributed virtual switch.
- Switch IP: The IP address of the virtual switch.

- Fglam IP: The IP address of the Agent Manager associated with this VMware Performance Agent instance.
- Listening Port: The port number the virtual switch uses.
- End Date: The date after which the virtual switch will no longer be in use.
- Enable Data Collect: An indicator of whether this VMware Performance Agent instance collects the data about this virtual switch.
- Other Switches (Non-VMware): Select a list in which you want to specify the non-VMware virtual switches that you want to monitor. You can select or clone an existing list, and edit it, as required. The default list is monitoredSwitchList. Lists can be shared between multiple agent instances. For more information about list properties, see the Administration and Configuration Help.

For each switch entry in the list, set its properties as follows:

- DVS Managed Object Reference: The managed object reference of the distributed virtual switch.
- Switch IP: The IP address of the virtual switch.
- 3 Click Save.

Setting the Duplicate VM List properties

A duplicated virtual machine is a copy or clone of an existing VM in your environment. The **Duplicate VM List** properties indicate to the VMware Performance Agent which virtual machines are duplicates or clones of the existing VMs.

To set the Duplicate VM List properties:

- 1 Locate the VMware Performance Agent's Duplicate VM List properties.
- 2 Set the Duplicate VM List properties as follows:
 - **Duplicate VM List MOR**: Select a list in which you want to specify the duplicated virtual machines. You can select or clone an existing list, and edit it, as required. The default list is duplicateVMListList. Lists can be shared between multiple agent instances. For more information about list properties, see the *Administration and Configuration Help*.

For each directory entry in the list, set its Duplicate VM Item property to contain the managed

3 Click Save.

Setting the Black List properties

In some rare cases, the VMware Performance Agent can encounter ESX hosts and virtual machines for which it cannot collect data. To prevent these problems, the VMware Performance Agent detects these entities, excludes them from data collection, and adds them to the agent black list.

Any metrics associated with these objects are not included in roll up performance metrics. When an entity is added to the agent black list, an agent message and alarm are generated makes you aware of the problem so that you can investigate it further in the monitored VMware environment. When the issue with the entity is resolved, it can be removed from the agent black list. The next available performance collection includes this entity in the data collection request.

In addition to the list that is populated by the agent, there is a user-populated black list. You populate this list by adding ESX hosts and virtual machines that you want to exclude from data collection. This feature enables Foglight administrators to disable data collection for certain ESX hosts and virtual machines, which also prevents their performance metrics from being submitted to Foglight.

CAUTION: Black listing an ESX host disables data collection for that ESX host, including the collection of virtual machine, storage, and network metrics for that host.

Any metrics associated with black listed objects are submitted as part of roll up metrics. For example, if a virtual machine that appears on the user-populated black list is part of a resource pool, the virtual machine performance metrics are included with the performance metrics of other virtual machines from the same resource pool. This resource pool performance data is collected and submitted to Foglight. At the same time, the black-listed virtual machine object will not appear to have any performance metrics stored for this object. ESX hosts are handled the same way in terms of rolling up performance data for clusters, datacenters, or the Virtual Center.

Each ESX host or virtual machine entry in the user black list should include the Managed Object Reference (MOR) value. The MOR value is assigned to monitored objects in the monitored VMware environment and is collected by Foglight for VMware. This value is stored in the Managed Object Reference property of ESX host and virtual machine objects. You can use the Data Browser to find out the MOR values for those ESX hosts or virtual machines that you want to exclude from data collection.

The agent checks both lists during data collection. You can remove entities from either list, as required. For example, if you resolve an issue with a virtual machine that causes data collection problems, you can remove the virtual machine from the black list.

For any ESX hosts or virtual machines that you want to exclude from data collection an entry should exist in the agent or user black lists. While you can add entries to the user lists, agent black lists should only be populated by the VMware Performance Agent. Any ESX hosts or virtual machines for which you want to enable data collection must have their entries removed from either black lists.

Every VMware Performance Agent instance is associated with an agent and a user black list. Each agent instance should maintain a unique pair of these lists. Because list properties in Foglight (also known as secondary properties) are shareable properties, meaning that they are accessible to all agent instances of the type in which they are defined, you should clone an agent and a user black list for each agent instance and give them unique names.

Entities included in these lists are not included in the collection of performance metrics. Other collections are not affected by their contents.

To set the black list properties:

- 1 Locate the VMware Performance Agent's **BlackList** properties.
- 2 Associate this agent instance with a user black list.
 - a Choose the user black list that you want to use for this agent instance. Click the User BlackListed MORs list, and select the black list. The default list is userBlackList.
 - b Clone the selected list to create a unique user black list for this agent instance. Click **Clone** on the right.

The Clone userBlackList dialog box appears.

Clone userBlackListList	×
Please enter name for clone of property userBlackListList:	
OK Cancel	

- c In the Clone userBlackList dialog box, type the name of the user black list. It is recommended to use a syntax that makes the list name unique and easily associated with this agent instance. For example: list_name>_<agent_name>
- d Click OK to close the Clone userBlackList dialog box.

The newly cloned user black list is now associated with this agent instance.

- 3 Edit the user black list to disable or enable data collection for particular ESX hosts or virtual machines.
 - **i IMPORTANT:** For any ESX hosts or virtual machines that you want to exclude from data collection, an entry should exist in the agent or user black lists. While you can add entries to the user lists, agent black lists should only be populated by the VMware Performance Agent. Any ESX hosts or virtual machines for which you want to enable data collection must have their entries removed from either black lists.

a Click Edit on the right of the User BlackListed MORs list.

The VMwarePerformance - userBlackList dialog box appears.

1	VMwarePerforma	nce - userBlackListList 🛛 🕅
	BlackList Item	
	×	Edit Clone Save Changes Revert Changes Add Row Delete Selected Row(s)

- b To disable data collection for an ESX host or virtual machine, add it to the list.
 - **IMPORTANT:** Black listing an ESX host disables data collection for that ESX host, including the collection of virtual machine, storage, and network metrics for that host.

To black list an ESX host or virtual machine, click **Add Row**, and in the new row that appears, in the **BlackList Item** column, specify the ESX host or virtual machine using the following syntax:

<host|vm>-<MOR>

Where:

- host: Indicates that the black list item is an ESX host.
- vm: Indicates that the black list item is a virtual machine.
- MOR: The value of the Managed Object Reference property of the ESX host or virtual machine that you want to exclude from data collection.

For example: vm-20123

- **TIP:** You can use the Data Browser to find out the MOR values for those ESX hosts or virtual machines that you want to exclude from data collection.
- c To enable data collection for an ESX host or virtual machine, remove it from the list. Select the ESX host or virtual machine entry in the list, and click **Delete Selected Row(s)**.

The list refreshes, no longer showing the deleted entry.

- 4 Associate this agent instance with an agent black list.
 - a Choose the agent black list that you want to use for this agent instance. Click the Agent BlackListed MORs list, and select the black list. The default list is blackList.
 - b Clone the selected list to create a unique agent black list for this agent instance. Click **Clone** on the right.

The Clone blackList dialog box appears.

Clone blackListList	1
Please enter name for clone of property blackListList:	
OK Cancel	

- c In the **Clone blackList** dialog box, type the name of the agent black list. It is recommended to use a syntax that makes the list name unique and easily associated with this agent instance. For example: <*list_name>_<agent_name>*
- d Click **OK** to close the **Clone blackList** dialog box.

The newly cloned agent black list is now associated with this agent instance. The agent populates this list by adding ESX host or virtual machine entries that cause problems in data collection.

5 Edit the agent black list to enable data collection for particular ESX hosts or virtual machines.

- **i IMPORTANT:** For any ESX hosts or virtual machines that you want to exclude from data collection, an entry should exist in the agent or user black lists. While you can add entries to the user lists, agent black lists should only be populated by the VMware Performance Agent. Any ESX hosts or virtual machines for which you want to enable data collection must have their entries removed from either black lists.
 - a Click Edit on the right of the Agent BlackListed MORs list.

The VMwarePerformance - blackList dialog box appears.

VMwarePerformance - blackLi	stList			3
BlackList Item				
HostSystem:host-2045 VirtualMachine:vm-2078				
	Save Changes R	evert Changes	Add Row	Delete Selected Row(s)

b To enable data collection for an ESX host or virtual machine, remove it from the list. For example, if an issue with a virtual machine is resolved, you can remove its entry from the agent black list. Select the ESX host or virtual machine entry in the list, and click **Delete Selected Row(s)**.

The list refreshes, no longer showing the deleted entry.

6 Click Save.

Setting the Data Collection Scheduler properties

Use the Data Collection Scheduler properties to adjust how frequently the VMware Performance Agent collects data from the monitored server.

To set the data collection properties:

- 1 Locate the VMware Performance Agent's Data Collection Scheduler properties.
- 2 Set the Data Collection Scheduler properties as follows:
 - a Select a collection configuration list. You can select or clone an existing collection configuration list, and edit it, as required.
 - b Add, remove, or edit collectors in the list.
 - c For each collector, set its properties as follows:
 - Collector Name: The name of the collector. A collector is a component that captures specific type of metrics. Existing collectors are: Relationship And Hierarchy Data, Inventory Entity Properties, Performance Metrics, and Events Collection.
 - **Default Collection Interval**: Contains the length of the default collection interval. The default collection intervals for the existing collectors are:

Relationship and Hierarchy: 2 minutes

Inventory Entity Properties: 5 minutes

Performance Metrics: 5 minutes

Events Collection: 3 minutes

- **Time Unit**: Contains the time unit for measuring the default collection interval: milliseconds, seconds, minutes, hours, or days.
- Fast-Mode Collection Interval: Contains the length of the collection interval when the agent is running in fast mode.
- Fast-Mode Time Unit: Contains the length of the collection interval when the agent is running in fast mode.

• **Fast-Mode Max Count**: Contains the maximum count of entries when the agent is running in fast mode.

Upgrading Foglight for VMware

The latest version of Foglight for VMware is 7.1.0. For complete information about the upgrade procedure, refer to the *Foglight Upgrade Guide*.

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