IPSWITCH
WhatsUp Gold
v14.3

Getting Started with WhatsVirtual

IPSWITCH

CHAPTER 1 Welcome

CHAPTER 2 Using WhatsVirtual

Welcome

In This Chapter

Welcome to Ipswitch WhatsVirtual

As an integrated plug-in for WhatsUp Gold, Ipswitch WhatsVirtual provides the capability to discover, map, monitor, alert and report on both small virtual environments, hosted by a single VMware host, or entire data centers, managed by one or more VMware vCenter servers.

When you use a vCenter server to manage your virtual environment, it becomes the point of communication between WhatsVirtual and the virtual machines within that environment. WhatsVirtual communicates with the vCenter server to discover the virtual environment, poll the virtual machines, collect events associated with actions taken on virtual machines, and issue actions to individual virtual machines.

Using WhatsVirtual

In This Chapter

STEP 1: Purchase and enable the WhatsVirtual license

The files for WhatsVirtual plug-in are installed automatically with Ipswitch WhatsUp Gold. Your license file determines whether or not you can access the WhatsVirtual plug-in.

To update your license with a purchased WhatsVirtual plug-in, visit the *MyIpswitch portal* (http://www.myipswitch.com).

STEP 2: Create Credentials and Perform Discovery

Perform these tasks to configure WhatsUp Gold and WhatsVirtual to discover your virtual environment:

- Edit the Device Role settings as necessary to meet your operational requirements.

- Set the scan type to **VMware Scan**, and enter the vCenter server or VMware hosts you want to discover.

> **Note**: Ensure that VMware Tools are installed on each virtual machine you want to discover. If VMware tools are not installed on a virtual machine, the device will not be discovered during the VMware Scan.

- Create VMware credentials for each vCenter server or VMware host you want to discover.

> **Note**: If you are managing your virtual environment using a vCenter server and want to collect detailed hardware information about the VMware hosts within that environment, you must add and select the credentials for those VMware hosts as well as for the vCenter server.

- Configure the Discovery Console to use the VMware credentials.

- Set the Scan Advanced Settings so that WhatsUp Gold automatically scans the virtual machines associated with each discovered host.

- Run the VMware discovery scan and view your output.

Editing Device Role settings

The Device Role Settings dialog can be found in the console version of the Discovery Console in the Advanced menu. (**Tools > Discover Devices > Advanced > Device Role Settings**) This dialog is used to specify the default configuration behavior of WhatsUp Gold discovery. Use this dialog to manage vCenter Server and VMware Host device roles.
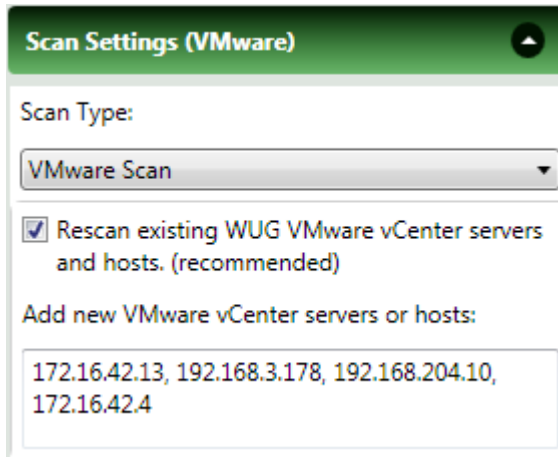

The Device Role Settings menu determines which monitors, context menu items, and custom web links are assigned to the device, as well as defining which device attributes are collected during polling. For more information, see Configuring device role settings.

Setting the scan type

The scan type determines which tools WhatsUp Gold uses to scan and discover devices. The VMware scan type enables the discovery of vCenter servers, hosts and virtual machines.

Use the Scan Settings on the Discovery Console, to set the scan type, add VMware vCenter servers or VMware hosts as targets for the VMware scan, and select the option to rescan vCenter servers that have already been added to WhatsUp Gold using WhatsVirtual.

Scan Settings (VMware)

Scan Type:

VMware Scan

☑ Rescan existing WUG VMware vCenter servers and hosts. (recommended)

Add new VMware vCenter servers or hosts:

172.16.42.13, 192.168.3.178, 192.168.204.10, 172.16.42.4

Note: If you are managing your virtual environment using a vCenter server and want to collect detailed hardware information about the VMware hosts within that environment, you must add and select the credentials for those VMware hosts as well as for the vCenter server.

While you can add as many targets to the VMware scan as is needed, you can also discover your virtual environment by selecting the vCenter server that is managing your environment as the target of the scan. This will result in the discovery of all of the virtual machines and hosts managed by the vCenter server. For more information, see Scan settings in the Discovery Settings help.

Creating credentials

The credentials in the Credentials Library allow WhatsUp Gold to connect to the vCenter server or VMware host using the VMware vSphere Web Services API. WhatsUp Gold uses this connection to establish the device's role as either a VMware vCenter Server, or VMware host. VMware credentials are also used to connect to the managing server during polling, and while performing actions on the virtual machines. To access the credentials library, click **Credentials Library** in the Credentials section of the Discovery Settings dialog.
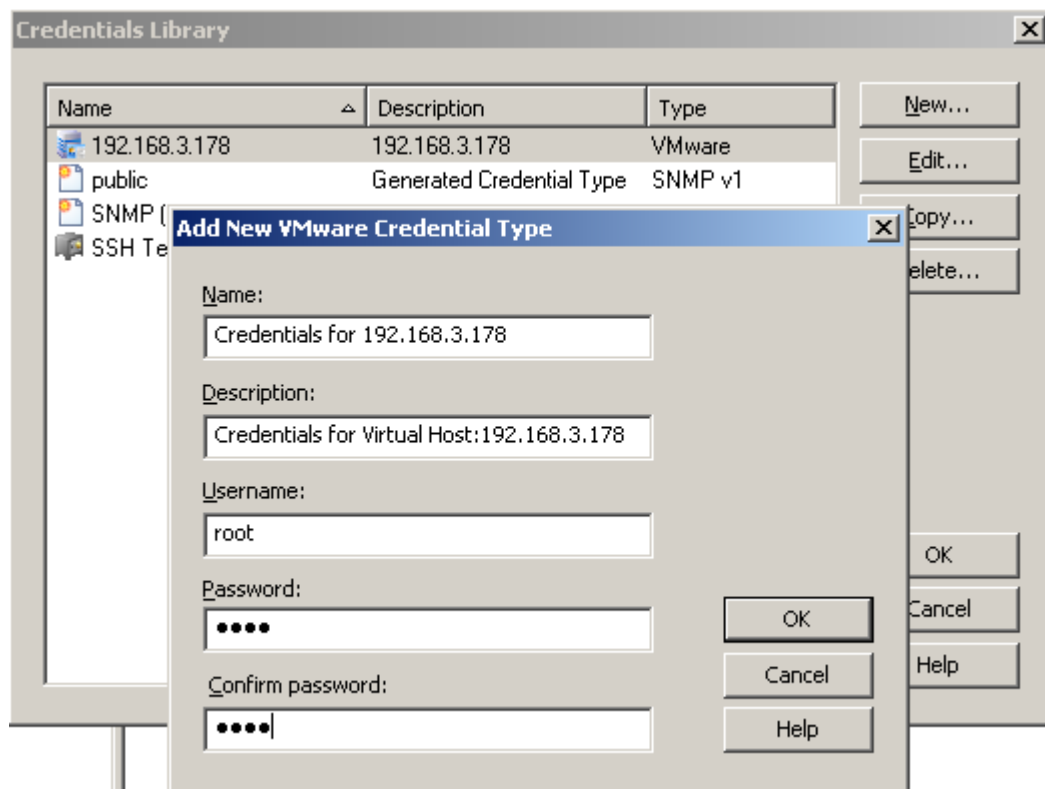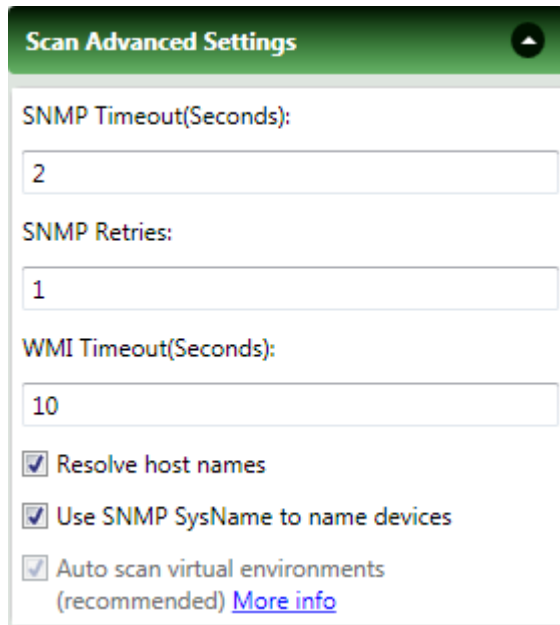

Enabling credentials

After you have created the VMware credentials in the Credentials Library, configure the Discovery Console Settings - Credentials section to use the VMware credentials.
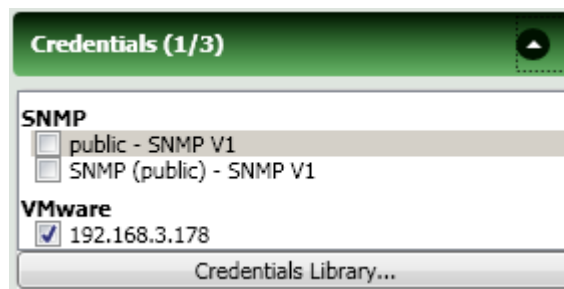
Setting the Scan Advanced Settings

In the Discovery Console Settings - Scan Advanced Settings section, configure the scan to automatically scan the virtual machines associated with each host as it is discovered.

> 📝 **Note**: If you do not select the **Auto scan virtual environments** option, virtual machines associated with the host that are outside of the scan range are not discovered, and virtual machines discovered because they are included in the scan range are not automatically associated with the virtual host.

Running the discovery scan

Virtual device discovery occurs during a discovery scan along with the discovery of physical devices. As each device is discovered, WhatsUp Gold attempts to connect using the VMware vSphere API.

If a connection is made using the VMware Credentials through the VMware vSphere API, the device is assigned to either the VMware vCenter server, or VMware Host role, and a query is made through the API to determine which virtual machines are associated with the managing server.

When the virtual machines are identified, WhatsVirtual scans the device and associates it with the vCenter server or VMware host that is managing the device.

Viewing discovery output

The Device View provides a hierarchical scheme for display and monitoring of the virtual environment. The following logical groupings are automatically created based on information gathered during a VMware scan:

- **VmwareScan**. A logical container that contains all of the Datacenters, virtual hosts, and virtual machines discovered during a VMware scan.

- **Datacenter**. A logical container that contains all of the virtual machines managed by a vCenter server, the virtual hosts providing managed resources, and the managing vCenter server as reported to WhatsVirtual during a VMware scan.

> **Note**: While a vCenter server may manage one or more datacenters, virtual machines cannot be moved using VMotion to a host outside of the datacenter of its original host.

- **Cluster**. A logical container that contains a group of hosts that share resources and enable the VMware Distributed Resource Scheduler (DRS) and VMware High Availability (HA) solutions. A cluster lists the VMware hosts, virtual machines, and the managing vCenter server as reported to WhatsVirtual during a VMware scan.
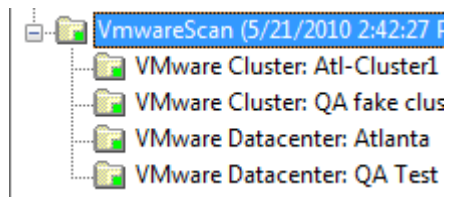
A VMware Servers dynamic group identifies all VMware servers discovered during the discovery scan.
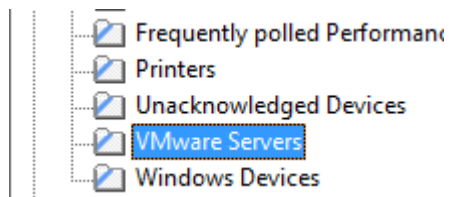
Discovered vCenter servers, virtual hosts and virtual machines can be viewed on the Map View. Select the Cluster or Datacenter you want to view from the **Device Groups** pane, then select the **Map View**. The selected vCenter, virtual hosts and all of the managed virtual machines appear on the Map View.
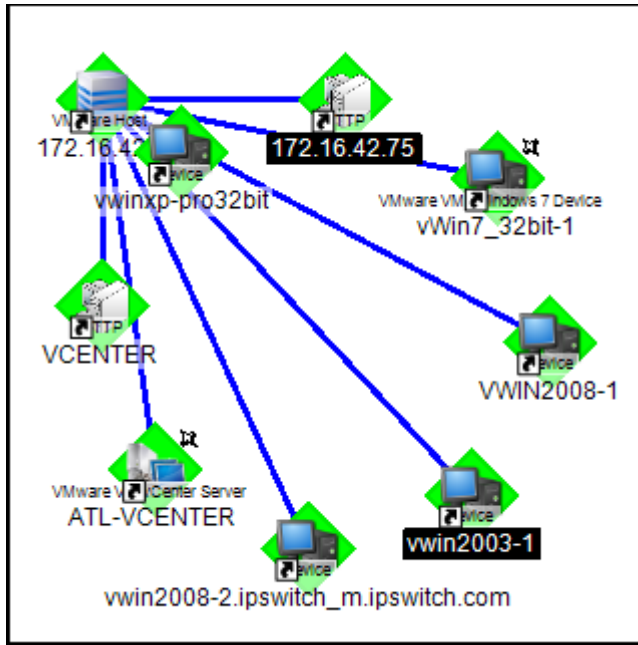
# STEP 3: Managing and monitoring virtual devices

Using WhatsVirtual, WhatsUp Gold manages virtual devices similarly to physical devices; you can add performance monitors, active monitors, and passive monitors; set thresholds in the Alert Center and create alerts associated with these thresholds; create customized actions and create action policies that invoke these actions; and collect and view events created by the vCenter server in response to actions taken in support of vMotion, High Availability (HA) and virtual machine security.

While much of the management and monitoring of virtual devices is the same as physical devices, areas where there are differences include:

- Performance monitor data gathering methods for virtual hosts

- Extended right-click menu options for virtual machines

- vCenter server event collection in support of vMotion, High Availability (HA) and virtual machine security.

- Manual addition and classification of virtual hosts and virtual machines

Performance monitors

You can assign performance monitors to a virtual device using a device role, or manually from the Performance Monitors tab of the Device Properties menu.
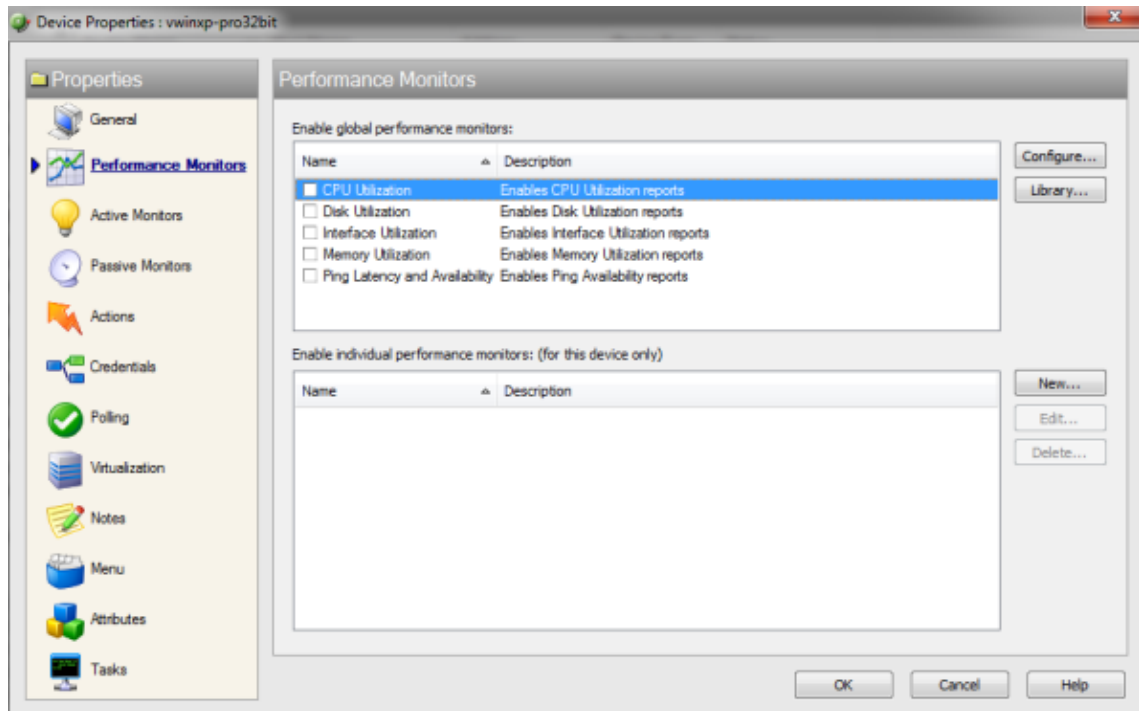
vCenter servers and their managed virtual machines may use the VMware vSphere API to gather statistics for the CPU Utilization and Memory Utilization performance monitors. However, if the device supports SNMP and the credentials are available in WhatsUp Gold, these monitors can be configured to collect these statistics using SNMP.

> **Note**: If the VMware vSphere API is used to collect performance data, the real time and split second graphs, for reports generated by the CPU and Memory Utilization performance monitors, will not contain any data.

The Disk Utilization and Interface Utilization Performance Monitors for virtual machines use SNMP to gather data for using these monitors; therefore you must enable SNMP on these devices and add the SNMP credentials to WhatsUp Gold prior to enabling these performance monitors. You can add the SNMP credentials from the Credentials tab of the Device Properties dialog. For more information, see Enabling SNMP on Windows devices in the help.

Actions on virtual machines

You can create actions to be applied to virtual machines from the New VMware Action dialog (**Configure > Action Library > New > VMware**). You can power on, power off, suspend, reset, shutdown a guest, restart a guest, or take a snapshot of the virtual machine.
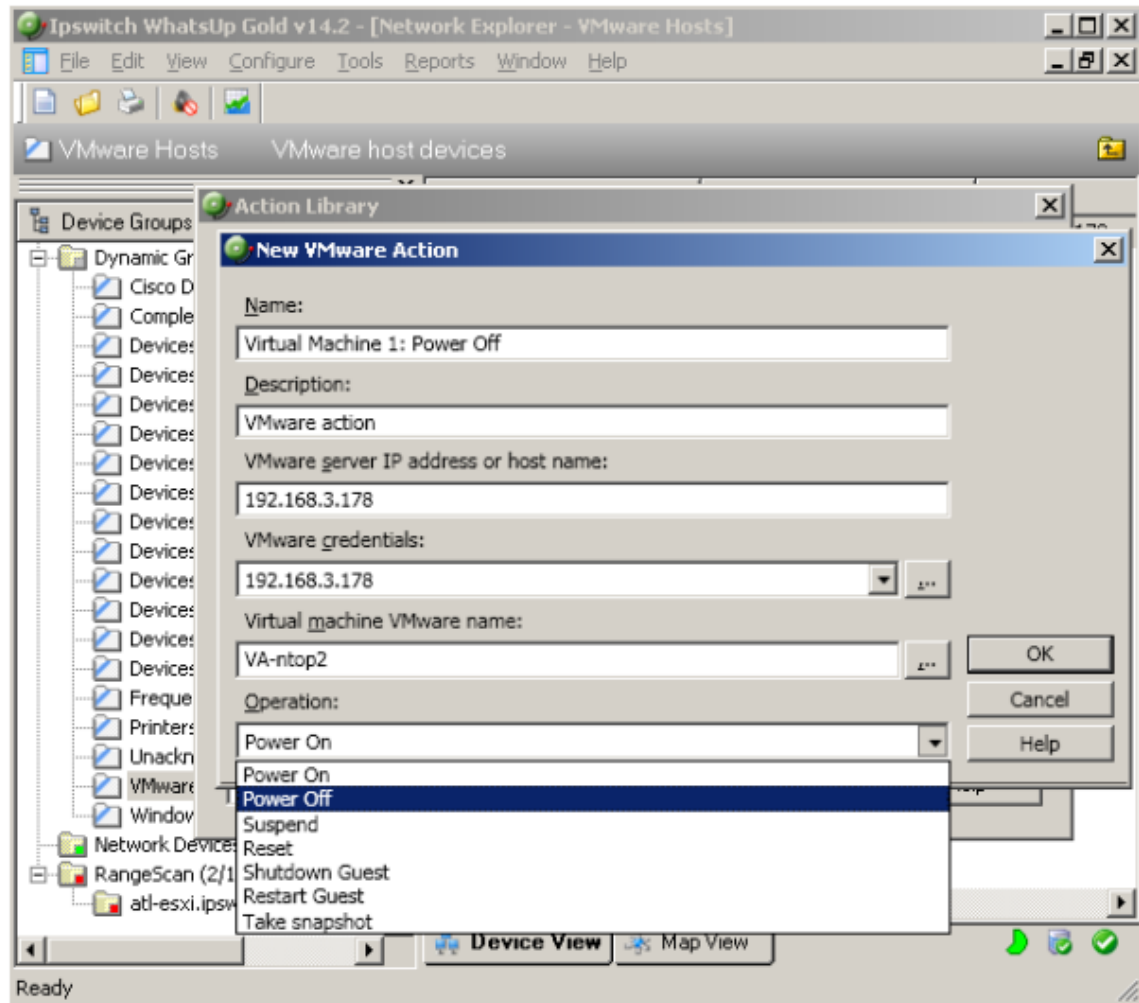
You can immediately run an action on a virtual machine from the Device or Map View by right-clicking on the virtual machine, then selecting the action you want to perform from the **Virtualization Actions** menu item.
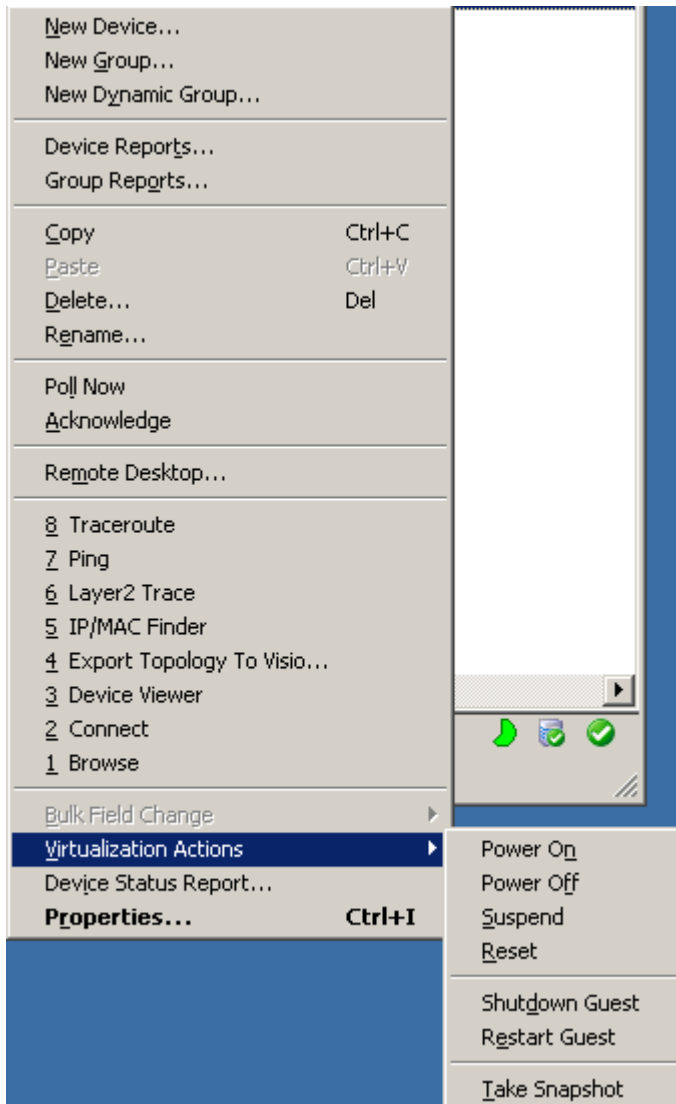
vCenter server event collection

WhatsVirtual uses the VMware vSphere API to collect events from the vCenter server about your virtual environment. These events are generated by the vCenter server in support of VMware technologies such as VMotion, Distributed Resource Scheduler (DRS), High Availability (HA) and Fault Tolerance.

You can configure WhatsVirtual and WhatsUp Gold to collect events of interest from the vCenter. There are several groups of events that can be selected. By using thresholds in the Alert Center or actions defined in the Action Library, these event groups can then be used to trigger actions and alerts, as well as provide information to reports about your virtual environment.

The process for configuring WhatsUp Gold to collect, alert, and perform actions on events includes the following tasks:

- Enable event collection (Global setting to enable event collection)

- Configure event groups and start event collection for individual vCenters.

You enable the collection of events from the WhatsUp Gold console (**Configure > Program Options > General**). The **Enable WhatsVirtual event collection** option is selected by default. This is a global option that allows the collection of events from all of the vCenter servers WhatsUp Gold discovers.

After WhatsUp Gold has been enabled to collect events, each vCenter server must be configured to collect the events you wish to collect. The event collection configuration of a vCenter server is accomplished from the Configure VMware event listener dialog. To reach the Configure VMware event listener dialog, click **Configure event collection** on the Device Properties - Virtualization dialog.
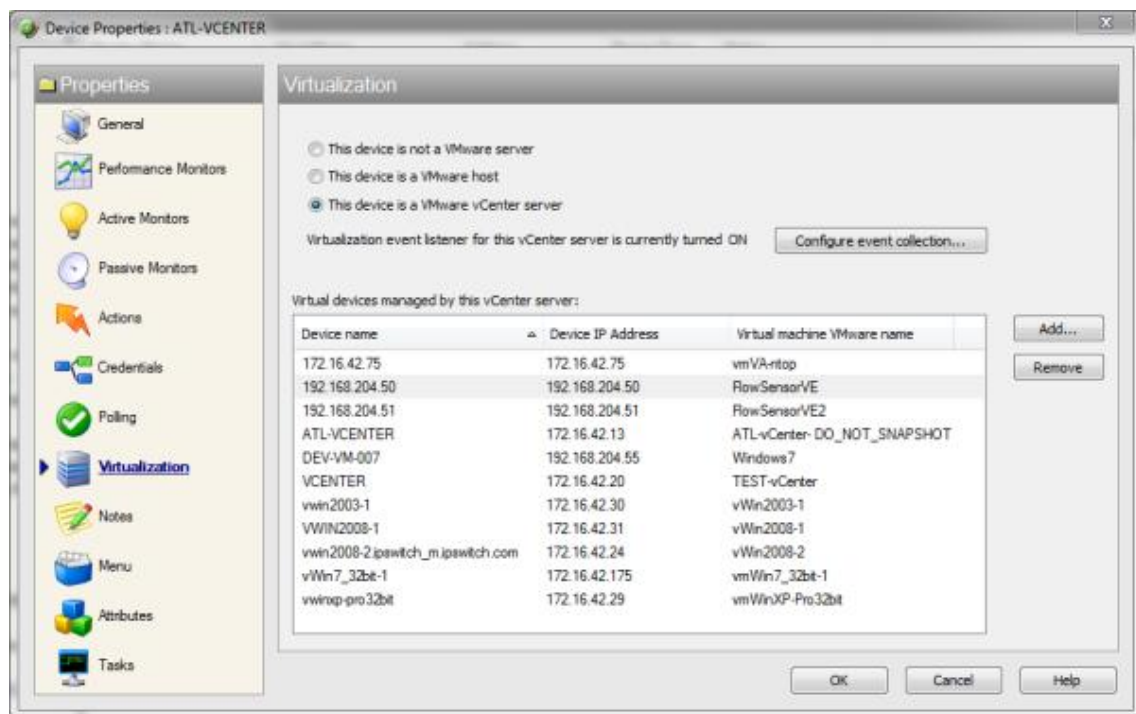
Use the Configure VMware event listener dialog to:

- Control the collection of events from the vCenter server.
- Select the predefined event groups that contain the events you want to collect.
- Select a custom list of events from the Other events dialog.
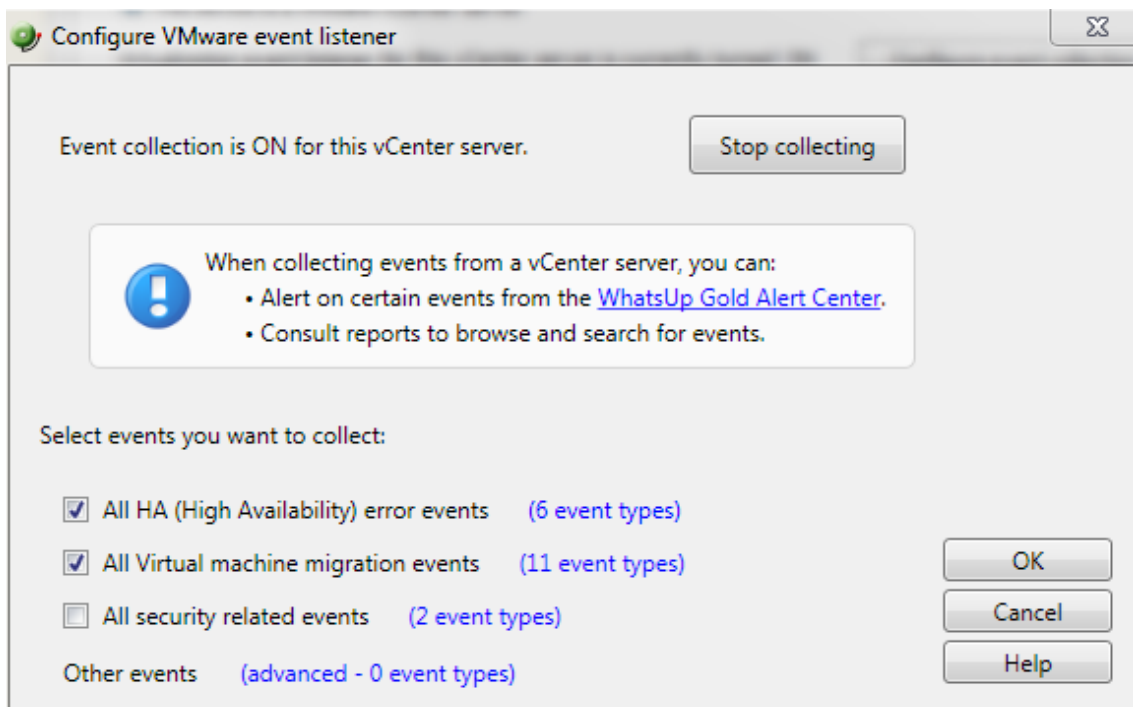
Select the predefined groups of events you want to collect. To see the events included in each group, click the **<#> event types** link beside the group. For more information about the event types, see Configure VMware event listener in the dialog help.
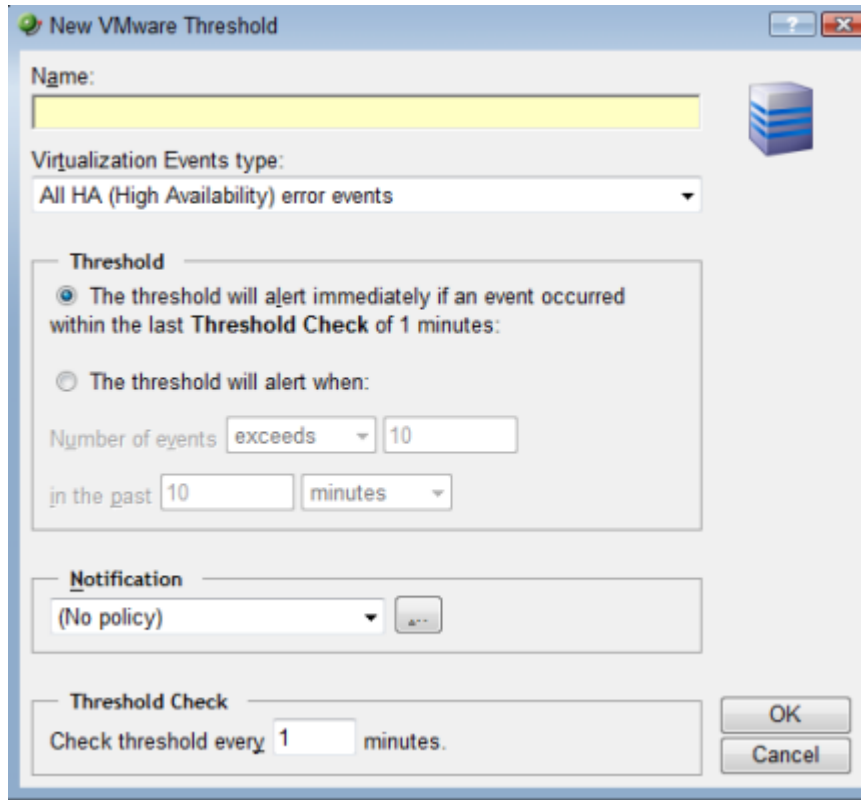
To select from the other events list, click on the **advanced - <#> event types** link. The Other events dialog will open. This window is a hierarchical tree of the available events. Selecting the root of any tree, selects all of the events associated with that event group. To open an event group, click the ▷ icon.
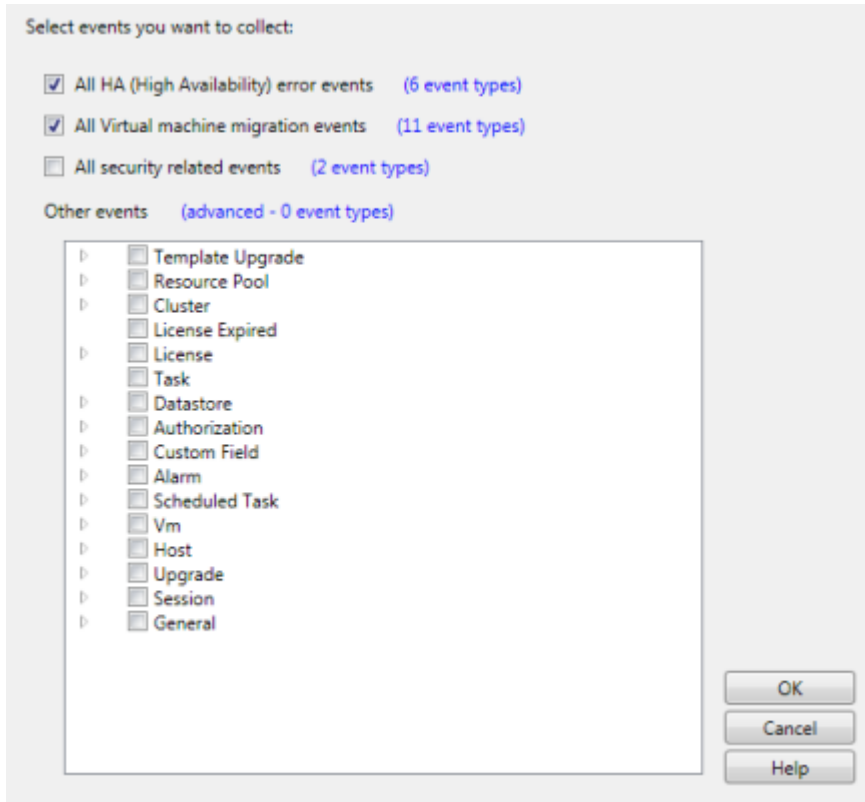
You can select any of the event types from the Virtualization Events type box. The threshold will alert when any event within that event type occurs during the threshold period.

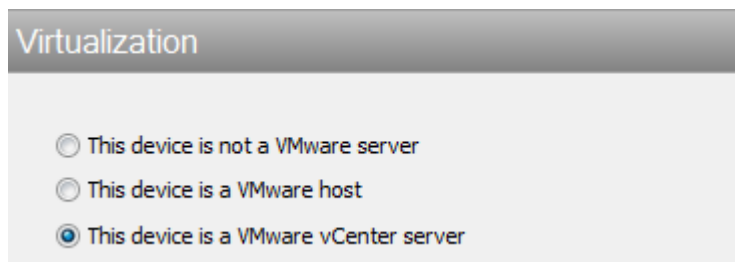# Configuring a VMware threshold from the Alert Center

You can create a VMware event threshold in the WhatsUp Gold Alert Center on any event group WhatsVirtual is configured to collect from the managing vCenter server. Use the New VMware Threshold dialog to configure the alert threshold. (**Alert Center Tab > Manage Thresholds > New > VMware Threshold**)

Manually assigning a VMware server role to a device

You can manually designate discovered devices as vCenter servers or virtual hosts on the Device Properties - Virtualization dialog.
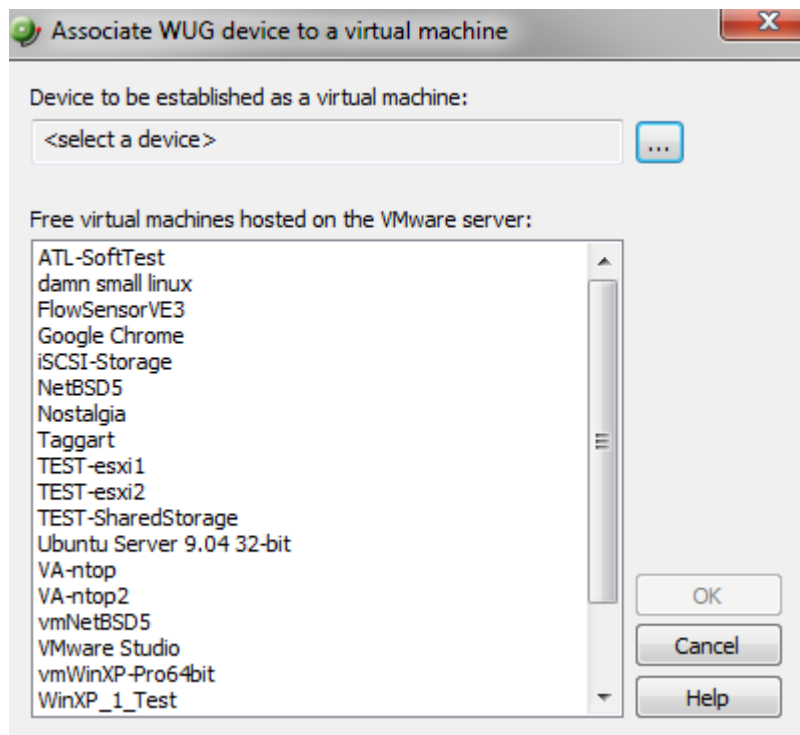
To manually designate a device as a vCenter server or virtual host, you must select or create VMware credentials for the device, and then select the VMware server role you want to assign to the device.

- Select **This device is a VMware host**, if you want to designate the device as a VMware host.

- Select **This device is a VMware vCenter server**, if you want to designate the device as a vCenter server.

After a device is designated as a vCenter server or VMware host, you can manually associate virtual machines by clicking the **Add** button on the **Virtualization** tab of the Device Properties dialog. WhatsUp Gold polls the vCenter server or VMware host to discover all of the virtual machines it is managing, and displays a list of these machines on the Associate WUG device to a virtual machine dialog.

You can also use the Browse (...) button to locate the device you want to add as a virtual machine.

Note: Devices that are manually designated as a vCenter server, VMware host, or virtual device respond to actions created for virtual environments, and appear as virtual devices in workspace reports, however they do not appear on the **Map View** as virtual devices until they are discovered using a VMware scan.

STEP 4: View WhatsVirtual reports

Workspace reports

The following reports have been added to WhatsUp Gold to provide information about your virtual environment.

- **Virtual Server**. This home and device level workspace report provides a list of all the virtual machines managed by a virtual server. The virtual server may be a vCenter server or VMware host.

- **Virtual Server List**. This device level workspace report provides system attributes for the virtual server, hardware information for VMware hosts, and a list of the virtual devices managed by the virtual server. The virtual server may be a vCenter server or a VMware host.

> **Note**: Hardware information will be displayed only if the selected device is a VMware host for which credentials were supplied and selected during a VMware scan.

- **WhatsVirtual Events**. This home level workspace report displays events that WhatsVirtual is configured to collect from the vCenter server. The events appear in reverse chronological order, so that the last event received appears at the top of the list.

- **Virtual Machine Instant CPU Utilization**. This home and device level workspace report provides the current CPU utilization for the selected virtual machine.

- **Virtual Machine Instant Disk Utilization**. This home and device level workspace report provides the current Disk utilization for the selected virtual machine.

- **Virtual Machine Instant Memory Utilization**. This home and device level workspace report provides the current Memory utilization for the selected virtual machine.

- **Virtual Machine Instant Interface Utilization**. This home and device level workspace report provides the current Interface utilization for the selected virtual machine.

Configuring VMware workspace reports

Before you can configure a workspace report, it must be added to your workspace view. For information on adding workspace reports to a workspace view, see Adding workspace reports to a workspace view in the dialog help.

Configure VMware workspace reports on the Configure Report dialog (**Menu > Configure Report**).

Click the Browse **(...)** button to select the device you want to use as a data source for the report.

Full reports

WhatsVirtual Events. This report displays events that WhatsVirtual is configured to collect from the vCenter server. The events appear in reverse chronological order, so that the last event received appears at the top of the list.

You can access the WhatsVirtual Events report from the WhatsUp Gold web interface from the Reports Tab. (**System > WhatsVirtual Events**)