

WhatsUp Gold v11 Features Overview

This guide provides an overview of the core functionality of WhatsUp Gold v11, and introduces interesting features and processes that help users maximize productivity and minimize network problems.

Table of Contents

Comprehensive Network Monitoring	3
Resource Management and Visualization	4
Notification of Network Events	5
Data Gathering and Reporting	6
Database Driven	7
Performance Monitoring with WMI	8
Remote Configuration and Management	9
Scripted Monitors and Actions	10
Advanced Reporting Capabilities	11
Feature Comparison	12

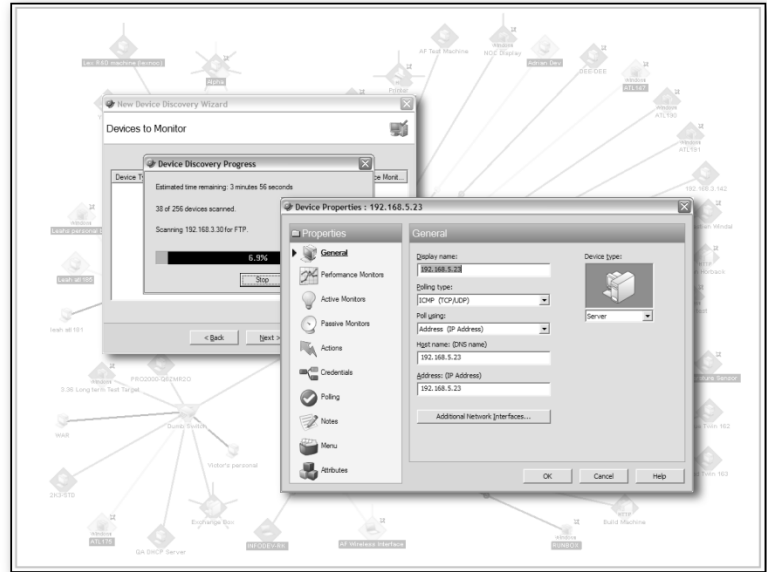
Comprehensive Network Monitoring

WhatsUp Gold v11 is a powerful network monitoring solution designed to help you protect your business. WhatsUp Gold uses a relational database to store information about the devices on your network that are being monitored. That information allows the application to effectively watch over your network by actively polling devices and services, or by listening for messages sent across your network. Depending on the response from this polling, WhatsUp Gold then fires Actions based on the device state change that is invoked by the response or message.

Along the way, WhatsUp Gold keeps track of what it finds and provides a series of reports that lets you view real-time and historical data based on the devices and monitors configured in your database.

How it works

After installation and configuration, WhatsUp Gold monitors each of the devices in the device list, using the monitors you add to those devices. There are three types of monitors that you can assign to a device: Passive Monitors, Active Monitors, and Performance Monitors. The differences between these monitors come in the way they gather and report data.



- **Active.** Active Monitors query network services installed on a device then wait on the response. These monitors tell you if your devices, and the services on those devices, are up and responding.
- **Passive.** These monitors 'listen' for specific types of information on a device (SNMP traps, Windows Events, etc.) When something is heard by WhatsUp Gold, it fires off an alert.
- **Performance.** These monitors gather data about specific properties on a device (CPU, memory, disk space, interface utilization, etc.) This data is then presented in WhatsUp Gold Performance Reports.

Device State

Key to WhatsUp Gold are the device icons and colors associated with these icons. The shape and color of the icons represent the current status of each device. When that status changes as a result of one of the polling attempts, the color and shape change depending on how long the device has been in that state, and what else is happening on the device.



A device that is up and responsive to all polling attempts.



A device with at least one down monitor and one up monitor.



A down device. All monitors are unresponsive.



A device in maintenance mode.

Resource Management and Visualization

With WhatsUp Gold's ability to monitor hundreds of networked devices, you need to keep all of those different resources organized. WhatsUp Gold provides views and tools that help you track down exactly where a problem device is located.

Device and Map Views

WhatsUp Gold provides two views through which you can watch your network devices. Each view can be customized to suit your specific needs.

Map View

The Map View allows you to create graphical representations of your network. On a map, each device's icon provides important information about its type and status. Map View can also show the status of your network's interfaces and provide visual indications of polling dependencies.

If you have a large set of devices, or want to represent a topology specific to your network, you can use graphics, annotations, grouping and arrange options, and attached lines to create custom map views.

Device List

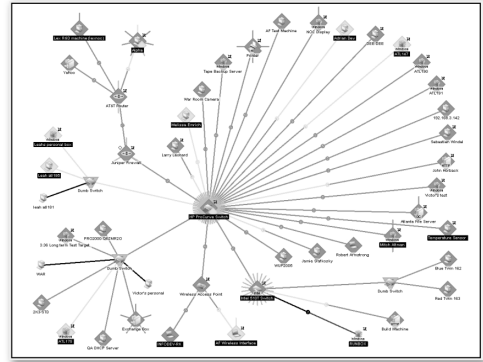
The Device List gives you an in-depth look at the current status of your devices; showing the current state of the device and the monitors associated with it. The list is click-sortable, and is very useful when troubleshooting multiple devices.

Grouping

Regardless of the mode you use to monitor your network, you can organize the devices using Device Groups. These containers can be created to group devices by type, by location, or by the person responsible for the devices. Dynamic Groups let you create groups based on any device attribute in the database. These groups are populated by an SQL query, which runs whenever the group is accessed. In Device Groups, see the pre-configured Dynamic Group Examples that can be used as is, or with your modifications.

MAC Address Tool

If a device is SNMP enabled, and you provide the correct read community string, you can get physical connectivity information for the devices on your network. Therefore, if you encounter an IP conflict, you can see which computer is connected to the port that the tool shows is using that IP address. If you have mapped out your interfaces to the offices they are connected to, you can find out exactly where the conflict is.



Map View

Device Name	Host Name	Address
107 0 101	107 0 101	102.168.11.22
107 0 102	107 0 102	102.168.11.22
107 0 103	107 0 103	102.168.11.22
107 0 104	107 0 104	102.168.11.22
107 0 102	107 0 102	107 0 142
107 0 2	107 0 2	107 0 2
107 100 20 2	107 100 20 2	107 100 20 2
107 100 20 3	107 100 20 3	107 100 20 3
107 100 20 5	107 100 20 5	107 100 20 5
DELL - 65	107 100 20 6	107 100 20 6
DELL - 66	107 100 20 6	107 100 20 6
107 10 11 11	107 10 11 11	107 10 11 11
www.galaxy.jp	107 110 71 30	107 110 71 30
Mitsuba 6	107 130 203 66	107 130 203 66
107 100 20 1	107 100 20 1	107 100 20 1
107 100 20 100	107 100 20 100	107 100 20 100
107 100 20 101	107 100 20 101	107 100 20 101
107 100 20 105	107 100 20 105	107 100 20 105
107 100 20 106	107 100 20 106	107 100 20 106
107 100 20 111	107 100 20 111	107 100 20 111
APCAL	107 100 203 14	107 100 203 14
107 100 203 14	107 100 203 14	107 100 203 14
107 100 203 14	107 100 203 14	107 100 203 14

Device List

Dynamic Group Properties

Group Name: All completely down devices

Description: Devices with all their monitors down

Filter:
`SELECT DISTINCT Device.nDeviceID FROM Device JOIN MonitorState ON Device.nDeviceID = MonitorState.nMonitorStateID WHERE Device.nRemoved = 0 AND MonitorState.nInternalMonitorState = 1`

OK Cancel

Dynamic Group Dialog

Network Tool: MAC Address

Local address: 102.168.11.224

SNMP credential: Read community (public)

Get connectivity information using SNMP:

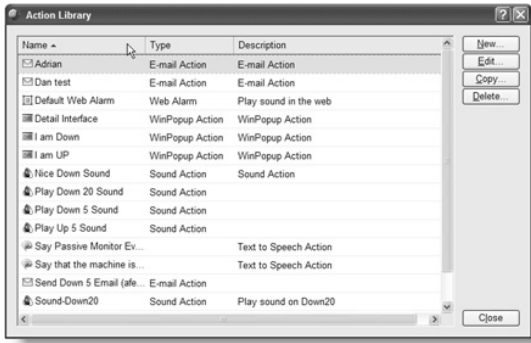
Switch IP address:

Discover Close

MAC Address Network Tool

Notification of Network Events

The Monitors and the Actions systems work together to keep you apprised of what is happening in your network. It is a cooperative relationship that can be configured to go well beyond the default settings included with the installation of the product. With some helpful examples, and a touch of creativity, you can tailor the Monitors and Actions systems to watch your important devices, and to troubleshoot problems that may arise.



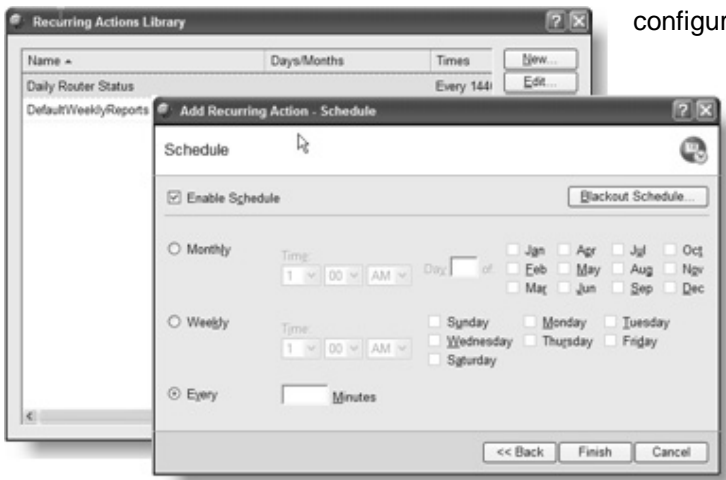
Action Library

WhatsUp Gold offers a flexible action capability that can send alerts when the state of a device or monitor changes. Using the Action Library, you can configure actions that email specific employees, or send SMS or pager messages to groups of people.

Recurring Actions

With Recurring Actions, WhatsUp Gold can fire actions based on a regular schedule, independent of the status of devices. Among other things, this can be used to send regular 'heartbeat' messages to a pager or cellular phone, letting you know the system is up and running.

After an action has been configured through the Action Library, use the Recurring Action dialog to configure the schedule for the action.



Recurring Actions

Blackouts

You may decide that you don't need to be notified about certain devices, or that you don't want to receive Recurring Actions while you are on vacation.

When this is the case, set up a blackout schedule for your Actions, Action Policies and Recurring Actions. During the blackout, no actions are fired, but are still logged for future reference.

Action Policies

You can use Action Policies to stack multiple Actions together in a single policy. You can then assign that Action Policy to any device or monitor in your device list. Once assigned, you can edit the policies in the Action Policies dialog without having to make changes to all of the devices that use that particular Action.

With the Implicit Action policy, WhatsUp Gold can automatically assign actions to all devices in your database. There is no way to opt out of the Implicit Action policy, so any action in that policy will be used by all devices. The Implicit Action policy is configured and can be edited through the Action Policies dialog.

Data Gathering and Reporting

During the network monitoring process, a large amount of information is stored in the WhatsUp Gold database. This information represents the results from Active Monitor polling, Passive Monitor traps, and Performance Monitor gathering and can be viewed through the WhatsUp Gold Reporting feature. This feature gives you the ability to view historical trends, or to watch the data as it is gathered in real time.

These graphical reports are viewed through the Reports Tab on the WhatsUp Gold web interface. All of the reports in WhatsUp Gold can be printed or saved as html files, and many can be exported as a text or Microsoft® Excel® file.

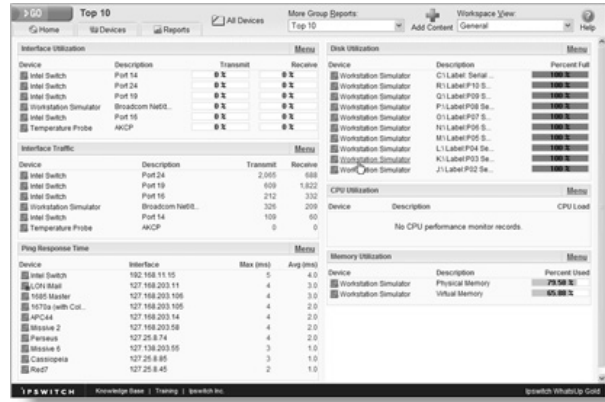
Report Types

Reports are divided into three classes.

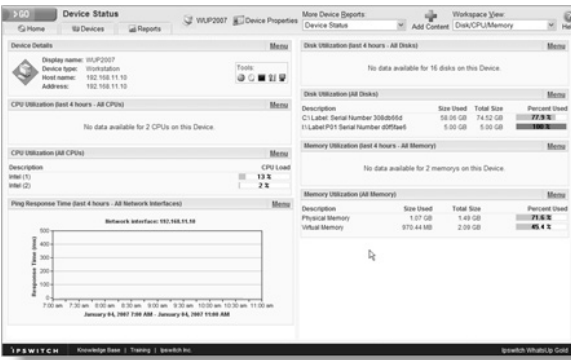
- **Device** - Reports that show data for a single device in context.
- **Group** - Reports that show data for all devices in a device group or dynamic group.
- **System** - Reports that show data about all Devices in the WhatsUp database.

These three classes are further broken down to make it easy to find the report you need. These types are based on the data shown.

The report types are: Performance Monitors, Active Monitors, Passive Monitors, Logs, Discovery, Current State, Configuration, and Action.



Top 10 Report



Device Status Report

Recurring Reports

With the Recurring Report feature, you can have WhatsUp Gold send an email containing a specific report attached, or as part of the body of the email itself, on a recurring schedule. This is useful when you need to keep someone informed of the status of a device or a group of devices without giving them access to the WhatsUp Gold application. You can choose to send the email weekly, monthly, daily, or every few hours.

Customized Reports

Since every network is different, customized reports may be necessary to address specific needs. With WhatsUp Gold, you have the ability to create customized reports to display informational and historical data about your network and the devices you are monitoring through the application. To create these reports, you should be experienced with ASP, JScript, and SQL and have the means to identify the database entries you want to write into the parameters of the report.

Workspaces

WhatsUp Gold v11 provides a significant new capability, via Workspaces, for viewing current status and historical trends provided by report data. Workspaces are views, available in the web interface, that contain summaries or specified elements of the report data.

Workspaces are designed to be user-specific, and are configurable to include workspace reports specific to users' needs. Workspaces contain multiple views that let you organize workspace reports by the type of information they display.

Changes that you make to a workspace view only affect your user account. If you decide to completely change all of the workspace views under your account, your user account will be the only account affected by these changes.

Pre-configured Workspaces

WhatsUp Gold comes to you with 3 pre-configured workspaces:

- Home workspace
- Device Status workspace
- Top 10 workspace

The Home workspace

The Home workspace is the first screen that you see after you log in to the web interface. Referred to as "Home," this universal workspace is designed to house the network information that you need most visible.



Home contains three pre-configured "views" that you can customize to your own specifications:

- General
- Problem Areas 1
- Problem Areas 2

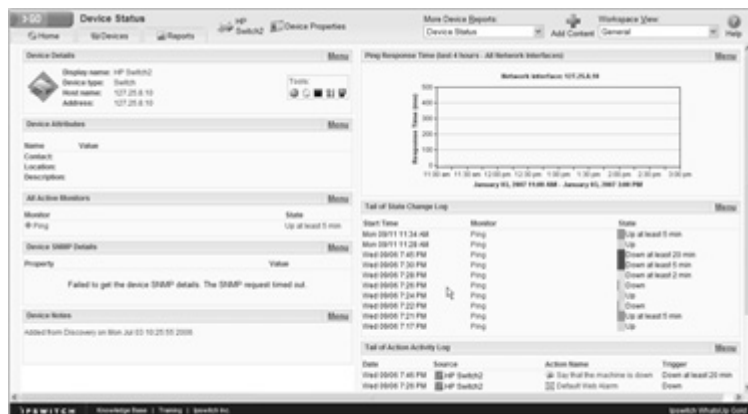
Each workspace view includes several default workspace reports that you can decide to keep, alter, expand, or remove.

The Device Status workspace

The Device Status workspace displays the Device Status full report for a network device. You can change the device-in-context, but the workspace reports in each workspace view remain the same.

The Device Status workspace also has several pre-configured workspace views:

- General
- Disk/CPU/Memory



- Problem Areas
- Router/Switch/Interface

The Top 10 workspace

The Top 10 workspace displays the Top 10 full report for your network devices. The Top 10 full report is a collection of workspace reports that focus on the current health of your network devices. It is pre-configured to include workspace reports that display data on the top network devices by:

- Interface utilization
- Interface traffic
- Ping response time
- Disk utilization
- CPU utilization
- Memory utilization



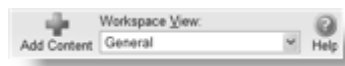
Unlike the Home and Device Status

workspaces, the Top 10 workspace is designed with only the General workspace view. You can customize the general view in the same way you can other workspace views by removing the default workspace reports and/or adding other Top 10 and Threshold workspace reports.

Customizing a Workspace

WhatsUp Gold gives you the ability to create more of your own workspace “views” to use along with the pre-configured views. You can create as many as you feel necessary to organize your system for efficient reporting. You can also edit these views as needed.

From the **Workspace View** drop-down menu, select **Manage Workspace Views**.



In the Manage Workspace Views dialog, you can create new workspace views, and edit, copy, or delete an existing workspace view.

Database Driven

WhatsUp Gold uses a relational database, Microsoft SQL Server, to store information in tables. This allows for access to the data from any number of standard programs. The customer can easily write their own reports and examine their data in the tables. The use of a standard database technology makes enhancements and maintenance much easier as well.

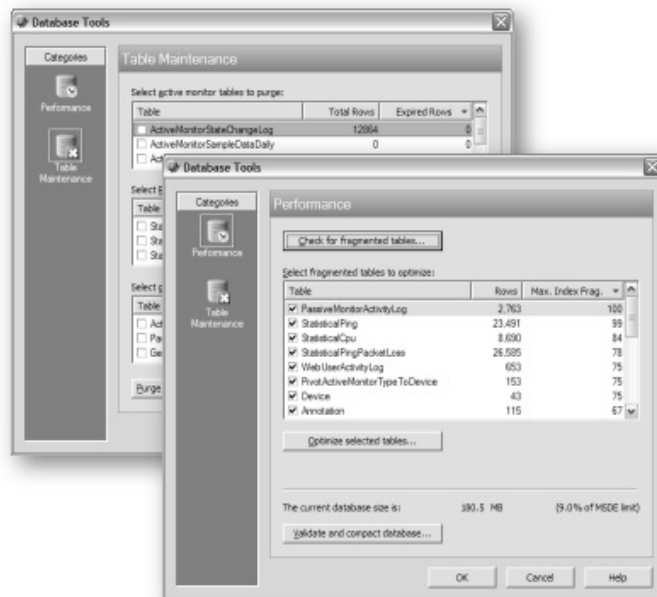
SQL Server and MSDE

WhatsUp Gold can be used with either Microsoft SQL Server, or with the free MSDE version of SQL Server. MSDE is limited to 2 GB of database size, and can address a maximum of only 2 GB of physical memory (RAM). Also, Microsoft inserts “sleeps,” or a “governor,” in MSDE to slow down processing when more than five user connections (and three system connections) are being used at the same time. These restrictions do not seriously limit the performance of WhatsUp Gold databases under MSDE for most small- and medium-size networks.

WhatsUp Gold Database Tools

As with any database, Microsoft SQL Server or MSDE require regular routine maintenance to spot problems and ensure maximum performance. These tasks can be executed manually from the WhatsUp Gold Database Tools dialog. The Performance page can locate and rebuild the indexes that are the most fragmented, validate and shrink the database, and update statistics and usage information.

The Maintenance page allows you to manually purge database records that have been scheduled for deletion, but which have not yet been deleted, which can reduce the size of the database.



Database Tools

Database Backups

It is a good idea to back up your WhatsUp Gold database on a regular basis. This can be done manually through the Tools menu on the WhatsUp Console, or you can schedule a task that executes a .bat file to run osql commands to back up the database.

WhatsUp Gold uses SQL Server’s “Simple Recovery Model,” because Simple Recovery requires the least administration. In the Simple Recovery Model, data is recoverable only to the most recent full database or differential backup. Transaction log backups are not used, and minimal transaction log space is used: after the log space is no longer needed for recovery from a potential server failure, it is reused.

When using Simple Recovery, the backup interval should be long enough to prevent the loss of significant amounts of data.

Performance Monitoring with WMI

WhatsUp Gold Performance Monitors use WMI (Microsoft's Windows Management Instrumentation) to gather statistics on a network's devices to create real-time reports that trend the utilization and availability of device resources. WMI provides a standardized means for managing various-sized computer networks.

In the case of network monitoring, management is defined as the collection of data about the state of managed objects. A managed object can be a hardware entity (i.e. a memory array, a port, or a disk drive) or a software entity (i.e. a service, a user account, or a page file.) Network administrators can use WMI to query and set information on desktop systems, applications, and other enterprise components. WhatsUp Gold uses WMI to gather important network information in its performance monitor feature.

WhatsUp Gold Performance Monitors

Performance monitors in WhatsUp Gold gather important information about the devices running on your network, then use that data to create reports trending the utilization and availability of different aspects of those devices.

Performance monitors are configured in the Performance Monitor Library, and added to individual devices. You can create global WMI and SNMP monitors in the library, or create device-specific monitors in Device Properties.

WhatsUp Gold is installed with five performance monitors that monitor specific types of data on your network devices:

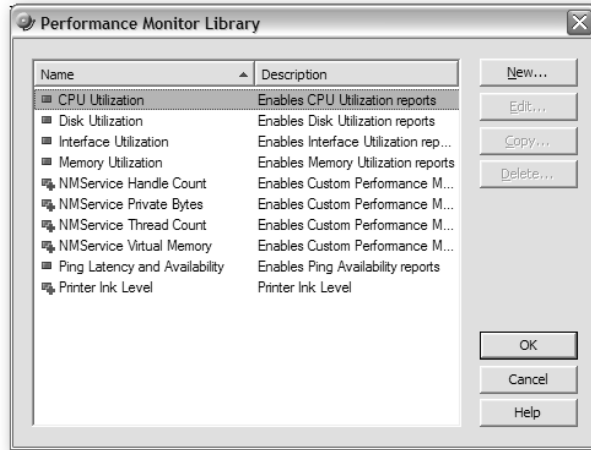
- CPU Utilization
- Disk Utilization
- Interface/Bandwidth Utilization
- Memory Utilization
- Ping Latency and Availability

You can also create custom monitors for any WMI or SNMP performance counter.

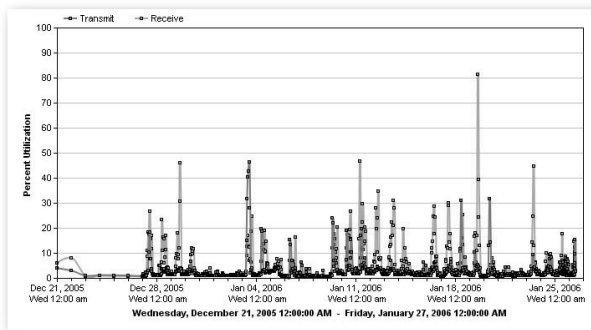
Performance Reporting

After you have configured a performance monitor, you can generate a performance report to see the results of the performance polling attempts. These reports can be used to troubleshoot your network problems.

Two reports important to performance monitoring are the Top 10 Report and the Device Status Report. The Top 10 report is a collection of reports that displays the top 10 devices in your network based on the criteria of each report section. You can configure how you want the report to look including the order of the reports, the number of items in each report, and which column the report appears in. The Device Status Report shows Performance Monitor information for specific devices.



Performance Monitor Library

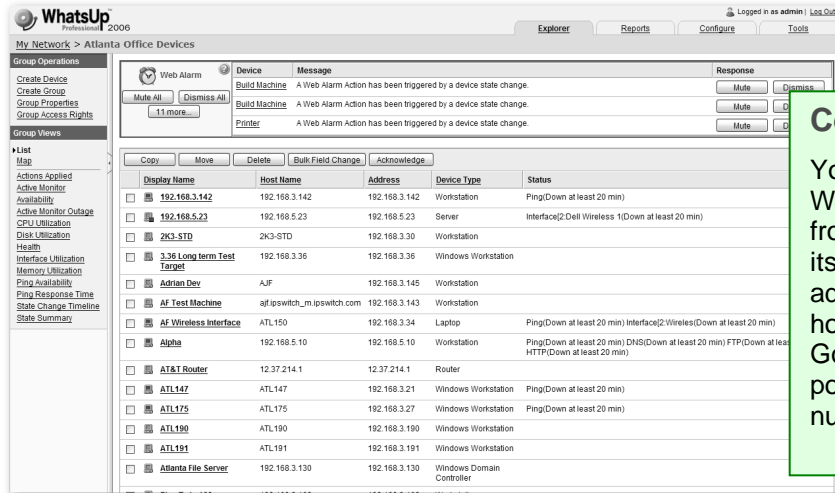


Router Bandwidth Report

Remote Configuration and Management

Through the Web Interface, you can remotely configure your network, just as if you were sitting at the WhatsUp Gold computer and using the console. Although some of the navigation methods are different, the general functions and configuration procedures are identical.

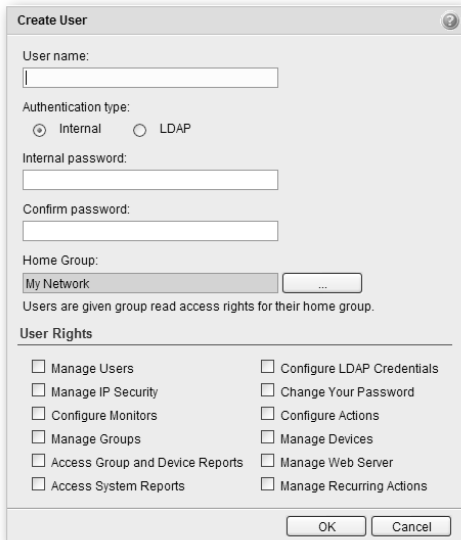
The Web Interface is run on the WhatsUp Web server, and can be turned off or on in the WhatsUp Console Program Options by selecting or clearing the checkbox next to **Enable web server on port 80**. In this dialog, you can also enable the SSL web server, or change the default port the server is run on.



Connecting

You can connect to the WhatsUp Gold web interface from any browser by entering its web address. This web address consists of the hostname of the WhatsUp Gold host and the web server port number. The default port number is 80.

WhatsUp Web Interface



Create Users Dialog

Web Users

If you have several people who need to use or view the web interface, but you don't want them to be able to change anything that other users are monitoring, you can create accounts for each user and assign those users specific rights through Web User Management.

The Web User Management system allows you to restrict access to your WhatsUp Gold Web interface to only those people who have an account set up. User permissions are configured for those users, limiting what operations they can perform through the Web interface.

Web Security

The WhatsUp Gold Web Interface is a direct look into your WhatsUp database. Therefore, it is important that you make sure whoever is logging in sees what they need to see and not things they do not. Creating Web Users is one way to solve this problem, but you may not want non-users to even get that far in the connection process. Through the web interface, you can use the IP Security dialog and only allow specific IP addresses to access your web interface, or you can block specific IP addresses.

Scripted Monitors and Actions

In the WhatsUp Gold Active Scripting features, users are given the ability to create custom scripts that can be executed as an Active Monitor or as an Action. These scripts are written in either JScript or VBScript, and entered into the Active Monitor or Action during creation either through the corresponding library, or from a specific device.

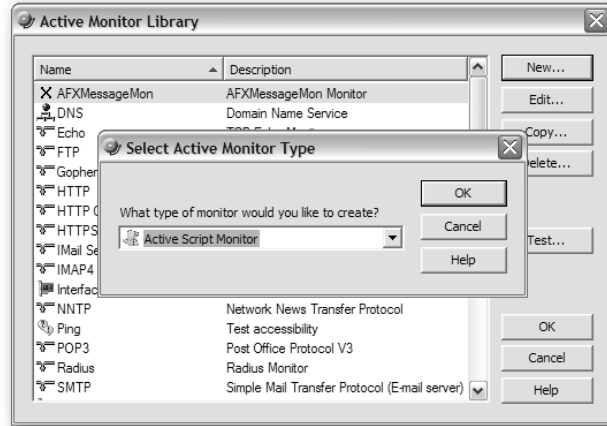
Script Examples

The WhatsUp Gold Online Help system has several Active Script code examples that you can cut and paste to create new Monitors and Actions. If you know how to use Jscript and VBScript, you can further manipulate those code samples to customize them to suit your needs.

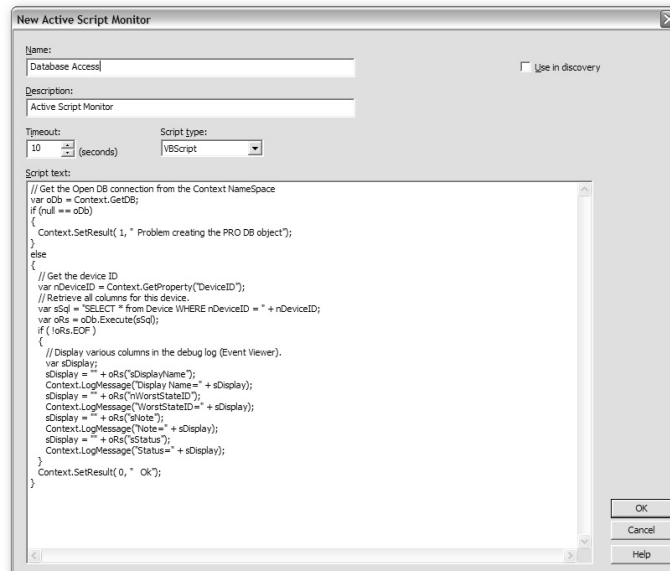
Ipswitch Technical Support cannot support your Active Scripts, or any changes to the scripts provided in the documentation. Our Technical Support will handle any questions or problems regarding using Active Scripting or the Active Script dialogs, but are not able to help create or troubleshoot your scripts.

There are also user-submitted Active Scripts available on the WhatsUp Gold Product page at:

http://www.ipswitch.com/support/whatsup_Gold/scripts/index.asp



Active Monitor Library



New Active Script Monitor Dialog

Advanced Monitoring Capabilities

The WhatsUp Gold Premium Edition provides all of the network monitoring capabilities of WhatsUp Gold and extends the product to allow additional monitoring of applications and servers, including:

- Microsoft® Exchange™ and Microsoft® SQL Server: lets you manage the availability of key application services, rather than just the network visibility of the host server.
- General application monitoring using Microsoft's WMI lets you monitor any performance counter value and trigger an alarm if the value changes, goes out of range, or undergoes an unexpected rate of change.

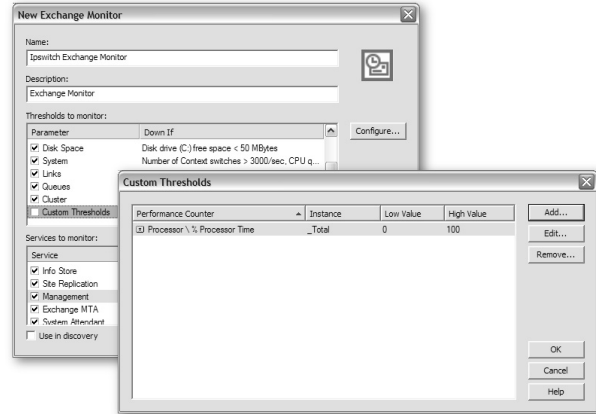
These Monitors extend monitoring to parameters reported by Microsoft SQL Server (and Microsoft MSDE) and Microsoft Exchange, allowing you to get an early warning of degradation in performance. For example, you can monitor system parameters on your SQL Server database to see if performance is within an expected range, and if not, you can intervene before the SQL Server fails. In other words, you can detect a looming problem before it causes an application or service failure.

Compatibility

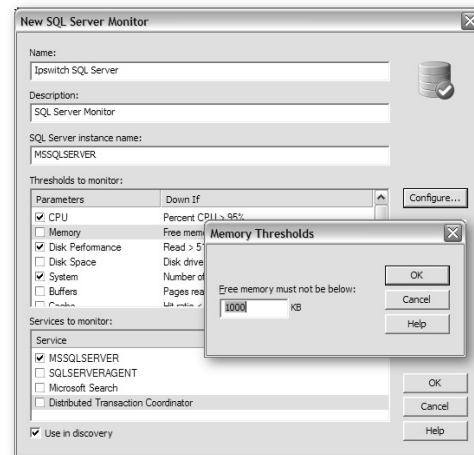
The SQL Server Monitor supports monitoring of Microsoft SQL Server 2000 or later versions, and MSDE 2000 or later versions, which can be on any machine in your network. The Exchange Monitor supports monitoring of Microsoft Exchange Server 2000 or later versions.

WMI Monitoring

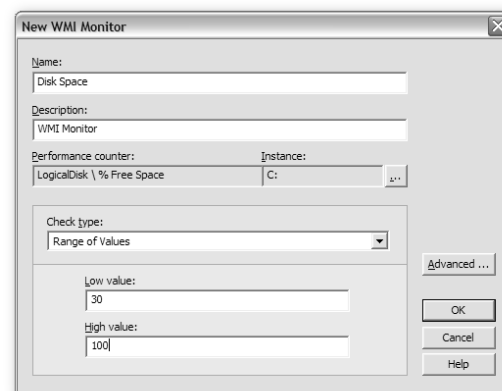
With the WMI Active Monitor, you can create performance related thresholds on your devices, and have the application fire actions when one of those thresholds is crossed. For example, if you have a critical device that needs to keep a certain amount of free space on its hard drive, you can create a WMI monitor to poll that performance counter. When the drive space reaches a critical level, WhatsUp can notify you so you can do something about it quickly.



Exchange Monitor and Custom Thresholds



SQL Server Monitor



WMI Active Monitor

Feature Comparison

	Premium	Standard
Application Management		
Manage Microsoft Exchange	✓	
Manage SQL Server	✓	
Manage any WMI-compliant application	✓	
Enhanced Monitoring		
Custom monitors & actions	✓	✓
Monitor web content through HTTP & HTTPS	✓	✓
Router bandwidth monitoring & trend analysis	✓	✓
Expanded Reporting		
Extensive library of predefined reports	✓	✓
Improvements to recurring reports	✓	✓
Standards Compliance		
Support for SNMP v1, v2 & v3	✓	✓
Flexible Notifications		
Recurring actions to pagers	✓	✓
Web alarms	✓	✓
Better Control		
Credentials Library	✓	✓
Create virtual groups of devices dynamically	✓	✓
Asset Management		
MAC Address finder	✓	✓

