



Cost Effective Network Management for Small and Mid-sized Organizations

Abstract:

Regardless of whether or not you are a Fortune 1000 organization, with the financial wherewithal to afford the most elaborate network management solution on the market, or small business with less elasticity in your wallet, your network availability demands are quite similar. The reality of modern business makes optimal network performance 24/7 a necessity. In essence, this requires real-time visibility into the corporate infrastructure to monitor critical components and manage overall network availability. This paper addresses what most would identify as the fundamentals, which must be present in all effective network management solutions. Namely, we will focus on how WhatsUp Gold provides essential functionality at a price point that makes sense.

Introduction

The demands of modern e-business make 24/7 availability a necessity. Employees expect business applications to be at their fingertips whether they are at the office or on the road. Customers and partners demand instant, around-the-clock access to your site to obtain product information, track inventory levels, or make purchases. Everything, therefore, must be kept running at optimum performance.

Maintaining the network at such a high level, however, is a difficult task due to the complexity of corporate systems today. Consider this familiar scenario within your organization: Early on a Monday morning, you receive several irate phone calls: email is inaccessible; the database is performing running slow; or the ecommerce system was down for several hours on Sunday evening. Where do you start? Without much visibility into the network, isolating the root cause of the network issue becomes an arduous task.

But what if you could visualize your entire network in real-time and rapidly isolate cause of downtime or performance degradation? Instead of moving from server to server to run diagnostics, what if you could monitor from a central console? What if you could proactively solve issues before the user community became aware of them and without the need for manually intensive labor?

"IT managers suspect that downtime costs a ton of money...However, most organizations don't know where to start, or exactly how to go about fixing problems when they find them. Tracking downtime is the first step, and that is something that networking products, management vendors and service providers can make easier." "Time Is Money." VARBusiness. July 21, 2003

The key to achieving this ideal state lies in the fact that you can only manage what you can monitor, and you can only monitor what you can see. This means:

- Visualizing your infrastructure
- Providing 24/7 network surveillance to measure performance and isolate problems
- Managing the network effectively in order to eliminate downtime and quickly resolve latency situations.

In this paper, we outline a cost effective and easy-to-implement network management system known as WhatsUp Gold that enables you to gain control of your network. Specifically designed to meet the needs of the small and mid-sized business, WhatsUp Gold fulfills the three fundamentals, outlined above, to offer IT managers visibility, measurability, and manageability. This robust tool offers unmatched price performance and strips away the complexity normally associated with management tools.

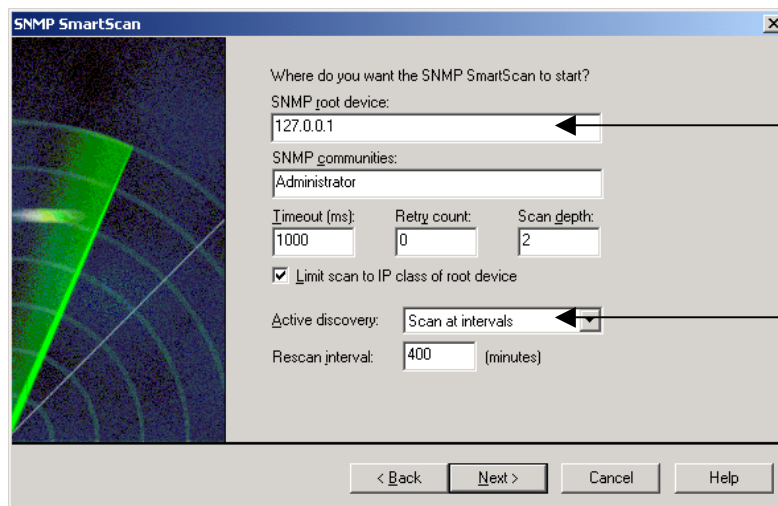
Visualizing your Infrastructure

Management of any network is impossible without first gaining a firm understanding of infrastructure. While it is feasible to create and maintain manual list of all devices and their various components, this is a labor-intensive process. Further, the compiled list, if accurate, is often obsolete within a matter of days due to changes and updates.

Network discovery allows IT to automate the identification of the entire network architecture of the business. It adds the capability of locating all the various devices and portraying them in a wide range of viewable and manageable formats. Devices can be sorted, for instance, within a particular IP range and represented graphically as a means of attaining a realistic view of the layout. The key word here is 'automation'.

"I started using WhatsUp Gold at Motorola back in 1995 for mapping our internal networks, and using those diagrams to propose changes to our configurations. Today, I continue to use WhatsUp Gold in my work with all clients. I can rapidly discover and map out various details of their architecture and server locations," says Eric Osterholm, IT Consultant, Collective Technologies.

WhatsUp Gold offers a streamlined approach to network discovery and topology mapping. By leveraging WhatsUp Gold's SmartScan, you can discover and map physical topology in a few easy steps.



*IP address of
router from
which to scan for
network devices*

*Active discovery
option*

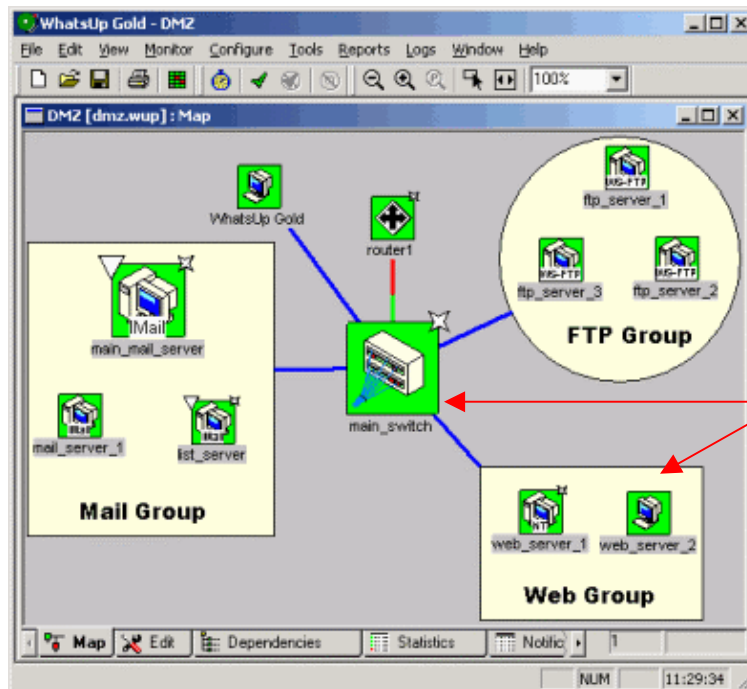
The SmartScan wizard enables you to select the root IP address from which to identify all IP addresses within the same network class. Furthermore, these discovery selections make it possible to create the topology that is most relevant to your own needs:

- a) Select the services you would like to scan to identify which exist on found devices: such as HTTP, POP3, SMTP, etc.
- b) Select the specific types of devices that discovery should be limited to in order to streamline the discovery process. For instance, you may only

wish to view the topology of your Cisco routers and switches on a particular map.

- c) Set time intervals to direct WhatsUp Gold to re-scan the subnets to identify any new devices that may have been added since the previous discovery. Considering the dynamic nature of modern infrastructures, these rediscovery intervals are crucial. Few environments remain static.

In a few minutes, WhatsUp Gold generates a comprehensive device list which gives you the opportunity to delete any which are considered irrelevant and creates a graphical representation of your topology.



The SmartScan will identify devices by an appropriate device type icon

WhatsUp Gold provides a fully customizable map to aid in organization and understanding. With an up-to-date view, you can shift focus to identify which components require constant monitoring to ensure availability.

Providing 24/7 network surveillance

To harness the knowledge of your infrastructure and ensure critical system availability, proactive network monitoring becomes essential. Though many devices and software applications are accompanied by proprietary software tools to keep track of the health of individual components, such tools supply a limited ability to assess failures via event correlation or fault isolation tactics. With real-time monitoring and notification of network bottlenecks or device failures from a central console running WhatsUp Gold, you can isolate problem areas to quickly resolve issues before employees begin to complain.

Proactive device polling via one central solution aids in rapidly identifying any failure. To be effective, polling must be automated, systematic and must function according to dependencies. This supports the ability to identify how one failure impacts other network components and reduces the amount of surplus data produced. For example, if the router is down at a remote office, none of the servers behind the router wall will be accessible. Appropriate dependencies will suppress unnecessary monitoring of devices behind the router and avoid redundant notifications.

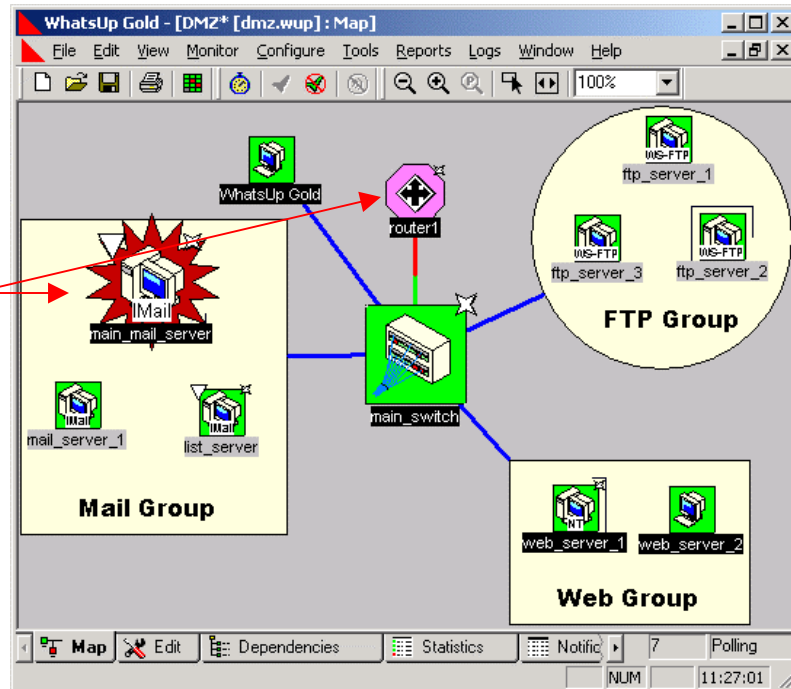
WhatsUp Gold opens the door to automated monitoring at the device level. Customizable user settings such as frequency and poll timeout, enables you to determine how often the network is polled and which devices require dedicated attention. WhatsUp Gold also takes you well beyond surface level availability to monitor specific device components to isolate the cause of system downtime or latency. Some examples of these capabilities include, monitoring system event logs to learn of specific, alarming events such as fraudulent access attempts on a network device. Or, the ability to monitor Windows services identifies if particular applications have crashed.

“Before WhatsUp Gold, we always responded to problems after they occurred,” Rick Kiser, Island Hospital said. “This put a lot of pressure on us because once a situation occurs on a hospital network, it’s already a matter of urgency. The medical personnel involved and their patients need the problem resolved right away. No one wants to be held up when they need medical care.” Kiser thus set out to find a solution that would proactively identify problems before they occurred.

Also, a connection to active TCP ports to engage in a connection dialog, retrieves specific information on various port related activity. For example, customers rely on availability of the vendor’s website to obtain pertinent information. If the web server is down and the site is unavailable, even just for a few minutes, this naturally leads to lost revenue. But what if you could monitor each specific http page to ensure content and availability?

WhatsUp Gold can monitor a web server’s availability by connecting to the port that the http service runs on to ensure the service is running. Furthermore, to check to see if a particular web page is accessible and is listing the appropriate content, WhatsUp Gold can be configured to request a particular answer from the http service. The user would configure the TCP scripting options to call a web page and ask for the existence of specific content on the page. This is just one of many examples that demonstrate how WhatsUp Gold can drill down to a low level of detail to isolate areas of unavailability and rapidly assist in resolving network issues.

When a device is unavailable it changes status color from green to red. If a service is down, the device state changes to pink



Alongside the significance of device and service availability is network performance. IT managers strive to avoid latency which leads to loss in business productivity. As this can be a direct cause of a system crash or downtime, preventative actions to identify network strain are essential. For instance, high bandwidth utilization can quickly translate into performance degradation. Users soon notice the slowdown in internet connectivity and incoming emails become sporadic. To preclude latency setbacks, the first step is to identify that bottlenecks exist.

WhatsUp Gold's SNMP threshold monitor enables you to set desired thresholds of acceptable levels for capacity planning. If the traffic flowing in or out of a router exceeds acceptable utilization ranges for a specified duration, this may indicate the presence of bottlenecks. WhatsUp Gold sends immediate notification.

Performance degradation is also true for system resources nearing capacity such as disk space. The SNMP threshold monitor sends an alert that the server's hard disk drive has only 10% free space available. As a result, IT can take various actions, before a hard drive crash, to improve free space availability such as running a de-fragmentation process, compressing files or archiving older files.

Overall, WhatsUp Gold offers detailed network monitoring functionality to isolate events that occur within the infrastructure which may alter stability and affect overall business performance. Real-time, proactive monitoring of system resources provides insight

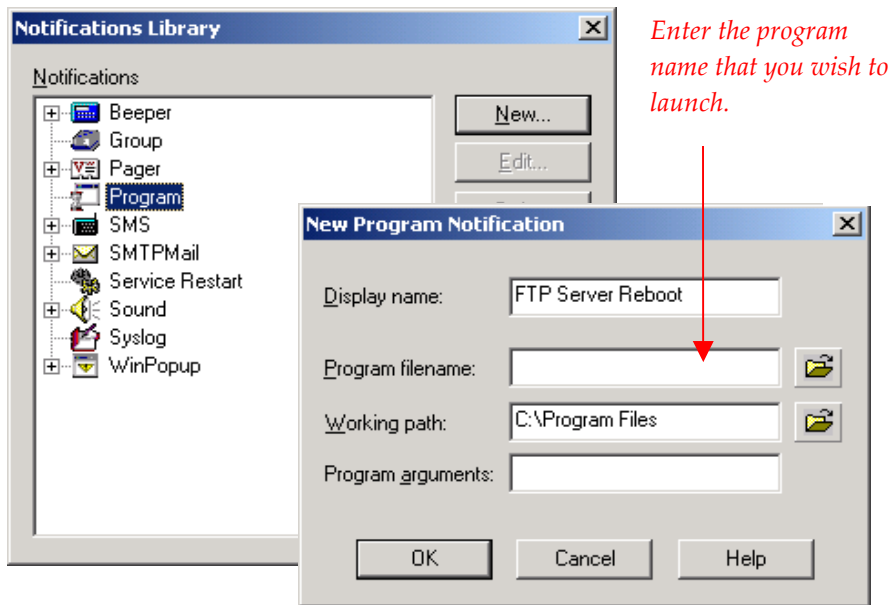
Manage the Network

Once a failure has been identified, the next step is resolving the issue. To minimize the amount of system downtime, automated policies can be set to begin corrective action for

specific failures. If the web server goes down in the middle of the night, for example, it's more than likely that you do not have immediate access to the server to restart affected services or troubleshoot further. Your options are few: Drive back to the office or allow the issue to reside until business hours resume and risk loss of business transaction. Unless, of course, you can set automated procedures to manage network devices automatically.

WhatsUp Gold identifies when a failure occurs, and sends immediate notification with all relevant details. Users can configure separate notifications for each device or a group of devices as appropriate. Alert escalation is also an option to raise awareness to other staff members if the problem persists much beyond initial notification.

In addition to email and other alert mechanisms, WhatsUp Gold can also launch a program to address a failure. Therefore, when the situation is isolated, a particular application or script can be executed, perhaps to restart a service or reboot a machine. This process is automated, so that once you receive notification of device failure, the corrective action has already begun. Instead of rushing to the office, you can acknowledge the notification with confidence that the problem is already been addressed.



Each of these options arms you with the right tools and leverage to begin remotely managing the network upon detection of a failure. These features minimize the timeframe required to resolve problems, and a guarantee you the peace of mind to either return to important daily tasks or resume to a peaceful night's sleep.

Conclusion

To manage your network, you must comprehensively monitor your entire infrastructure. This can only occur once you have strong visibility into the existing network. Lack of visibility can mean days filled with a steady parade of firefights and long nights walking from or device-to-device attempting to troubleshoot slowdowns and crashes.

"Over the entire seven years we have used WhatsUp Gold, I have not come across any other product that provides the status of network devices so quickly with graphics so easy to interpret," said Rick Kiser, assistant director of IS for Island Hospital. "Add in the fact that the price is far below comparable software and Ipswitch has come up with a superb product."

For more information on WhatsUp Gold or to download a 30 day evaluation, please visit: <http://visit.ipswitch.com/wu-paper1>

About Ipswitch:

Founded in 1991, Ipswitch, Inc. develops easy-to-use, affordable, software products that extend mission-critical IT resources for businesses and improve efficiency for consumers.

Its product family includes WS_FTP Pro, the world's most popular FTP client; WS_FTP Server with 128-bit SSL encryption, the first industrial-strength, full-featured FTP server for Windows NT/2000/XP; WhatsUp Gold, a leading network mapping, monitoring, notification and reporting tool; IMail Server, a leading Internet messaging server with 53 million users; IMail Anti-Virus, an add-on product powered by Symantec's CarrierScan™ and fully integrated with IMail Server; and Ipswitch Instant Messaging, a secure Instant Messaging solution specifically designed for businesses.