



Getting the Best from 3Com[®] Network Supervisor

Software Version 3.0 for Windows[®]

<http://www.3com.com/tns>

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ABOUT THIS GUIDE

How to Use This Guide

This guide is designed to be read before you start to use 3Com® Network Supervisor. It should enable you to gain an overview of the application and how you can benefit from it.

This guide outlines:

- The main concepts and benefits of network management and how you can benefit from it.
- An overview of Network Supervisor and how it can help you.



This is not a procedural guide to using Network Supervisor. For detailed information on how to use and configure Network Supervisor, use one of the Wizards provided with the application or consult the online help.

Who Is This Guide For?

This guide is designed for users who are PC-literate, with some experience of networking hardware, particularly managed products.

However, you are not expected to have any experience of network management.

Conventions

This section shows an example of the information note icon that is used throughout this guide to indicate important features or instructions.



This is a sample information note icon.

Related Documentation

The following document provides useful background information on networks and networking.

The 3Com Introduction to Networking (supplied with Network Supervisor).

This document can be accessed from the Windows Start menu, then by following this path: *Programs>3Com Network Supervisor>Network Supervisor Guide*.

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For information on Year 2000 compliance and 3Com products, visit the 3Com Year 2000 Web page:

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- Getting the Best from 3Com Network Supervisor
- Part Number DUA1510-0AAA04-PDF
- Page 20

1

OVERVIEW OF NETWORK MANAGEMENT

This chapter gives you an overview of the basic concepts of network management. It outlines:

- [Why Use Network Management?](#)
- [The Benefits of Network Management](#)
- [Key Network Management Functions](#)

Why Use Network Management?

Many businesses today run their computers on a computer network. Using a network management solution allows you to track the performance of your network and quickly identify problems before they affect your users. This in turn helps you to run your business more efficiently.

The Benefits of Network Management

Network management provides the following benefits:

- [Full Network View from a Single PC](#)
- [Reducing Downtime](#)
- [Improving Performance](#)
- [Freeing Up Personnel](#)
- [Reducing Equipment Costs](#)

Full Network View from a Single PC

Some network management software (including 3Com® Network Supervisor) allows you to view and display all devices, links and activity on your network from the convenience of a single, centrally-situated PC. For example, you can easily locate and monitor the health of a specific PC or other type of device without leaving your desk.

Reducing Downtime Network downtime can affect your business and its productivity. When this happens, it is important that you restore connections as quickly as possible.

Reactive network management does reduce downtime by responding to device and link failures. However, a network management solution provides you with a proactive management capability. This reduces the number and severity of failures and can help avoid downtime altogether.

Improving Performance Network topology and monitoring information give you an accurate view of your network's structure and traffic rates. Using this information you can make changes to the structure of your network to improve its performance.

Freeing Up Personnel Using a network management solution which gives a full view of your network and actively warns you of problems, reduces the day-to-day demands on personnel to find and fix problems. This automation allows people to focus on key management activities.

Reducing Equipment Costs Network management enables you to make better use of current equipment, delaying expensive and disruptive upgrades until they are necessary. Understanding your network also enables you to choose upgrades that give the best return for any investment.

Key Network Management Functions The key network management functions described here are useful tools which help to deliver the benefits of network management described in [“The Benefits of Network Management”](#).

- [Monitoring Network Capacity](#)
- [Predicting Problem Links and Devices](#)

Monitoring Network Capacity This lets you track recurring bottlenecks and plan for a regulated expansion of the capacity (bandwidth) available to your users.

Predicting Problem Links and Devices

This lets you provide preventative solutions using less staff-hours and reduces the amount of time that your network is either inefficient or unavailable.

For example, network management software can show:

- History of problem areas.
- Devices on your network suffering from stress.



Stress is the performance measure of a network object (a device or link) against pre-defined thresholds.

2

USING NETWORK SUPERVISOR TO MANAGE YOUR NETWORK

3Com® Network Supervisor is a powerful and easy-to-use network management tool in the 3Com® network management range.

This chapter contains an overview of how you and your network can benefit from Network Supervisor. This applies whether your network has been carefully structured from the beginning or has evolved in a less planned way.

Network Supervisor operates on Ethernet networks with up to 1500 devices (or 3000 devices if you have IP phones on your network). It works best on networks which are based on 3Com devices, (although other vendors' devices are supported).

This chapter contains the following sections:

- [Overview of Network Supervisor Wizards](#)
- [Major Benefits of Network Management with Network Supervisor](#)
- [Setting up Network Supervisor for the First Time](#)
- [Viewing the Stress on your Network](#)
- [Managing and Manipulating Events](#)
- [Instant Notification of Significant Activity Using Alerts](#)
- [Viewing Network Trends and Patterns](#)



A comprehensive glossary of terms is available on the Help system.

Overview of Network Supervisor Wizards

Wizards are provided to guide you through the setup and configuration of Network Supervisor parameters.

The Wizards often suggest useful default settings which can help you start monitoring your network even when you are not sure which values to set.

Major Benefits of Network Management with Network Supervisor

Network Supervisor brings you the following major benefits to help you manage your network. These are:

- [Color-Coded View of Your Network Connectivity](#)
- [Real-Time Detailed Stress Monitoring](#)
- [Total Visibility of Network Activity](#)
- [Immediate Notification of Problems](#)

Color-Coded View of Your Network Connectivity

Using Network Supervisor's graphical map and intelligent monitoring you can quickly identify problem areas and overloaded links on your network.

The map shows the devices and connections on your network, including the links attaching the hubs, switches and routers to PCs. This provides an instant, color-coded view of the state of your network.

Network Supervisor's map also provides *physical* connectivity information for your network.

Real-Time Detailed Stress Monitoring

Good monitoring involves examining a combination of available bandwidth, generated errors, service availability and service response times.

Using Network Supervisor's monitoring and alerts system, you are free to run your business, while Network Supervisor watches the important parts of your network and informs you if anything goes wrong.

Stress monitoring provides you with a performance measures of a network object (a device or link) against pre-defined thresholds.

Network devices such as switches are monitored for their own internal performance and for their external communication performance with other devices. End stations are monitored for response time and service availability.

Network Supervisor color-codes objects to indicate stress levels, providing an accurate and easy-to-read indication of current levels of stress on any monitored objects. A warning zone helps you predict when a device or link may be about to become a problem.

Total Visibility of Network Activity

You cannot always be scanning the Network Supervisor map for potential problems. You need another way of achieving total visibility of your network.

Network Supervisor provides this with an Event List which logs all issues as they occur.

Network Supervisor's Event List also lets you annotate events, adding additional information or comments on how the problem was solved. This allows you to build a knowledgebase of your network, making recurring problems easier to identify and resolve.

Immediate Notification of Problems

You also need to be confident that you will know of network problems before or at the same time as your users.

Network Supervisor provides an alert system which ensures that you are notified of problems immediately. You can choose various visual and audible methods to notify you of significant network activity, for example, an e-mail, sound or popup dialog box.

Setting up Network Supervisor for the First Time

These are the initial steps which provide the context for your network management:

- [Discovering and Mapping Your Network](#)
- [Monitoring Core Devices and Links](#)
- [Reacting to Network Events](#)

Discovering and Mapping Your Network

Network Supervisor incorporates an easy-to-use Network Discovery Wizard that guides you through the process of discovering the devices on your network and determining the links between them.



You can choose to discover and map the local subnet, the whole network or specify a group of subnets (including ranges of devices within a subnet).

There are two steps which are used to construct a map of your network. Network Supervisor:

- 1 Finds the devices connected to your network (and builds a model of each one)

A ping message is sent by Network Supervisor to each IP address in the range you choose to specify. Each device that responds is then contacted individually and Network Supervisor constructs a model of that device from the information it provides.

- 2 Figures out how each device is connected to the rest of your network

Network Supervisor works out the connections by talking to the switches, routers and hubs on your network.

Monitoring Core Devices and Links

Network Supervisor attempts to identify the core devices and links and monitor them for you. It judges which devices and links are most important to keep your network's central services operating; that is, the backbone devices of your network. This is your core network.

For your initial settings, it is probably best to monitor only these devices which are critical to your network's operation and performance levels.

Network Supervisor also shows the state of each core link. For example, it shows whether each core link is up or down. Network Supervisor uses color-coding to enable easy recognition of the stress level on each device and link.



If there is not enough information for Network Supervisor to discover what connections are present on a part of the network, it displays a cloud where it knows that devices are connected but cannot say how. Unsupported SNMP devices (for example, some non-3Com devices) are shown in this way.

Monitoring Additional Devices and Links

You can also manually start monitoring any other devices or links which are particularly important to your network.

For example, you may have a switch which connects a server farm. As this switch and its links are important to many users, you may want to turn on monitoring to it and other links like it.



A server farm is a collection of servers (for example, file servers and printers) which are available to groups of users on a network.

Reacting to Network Events

When you start monitoring for the first time, you may start to see many events in the Event List.

If the number of events in the list appears to be excessive, this may indicate that the activity thresholds set are too low for your network. If this is the case, Network Supervisor lets you tune the thresholds to a more appropriate level.

You should decide which of these events are important and tell Network Supervisor how to handle these when they occur again.

For example, you may choose to configure an alert for a particular event: this means that every time the same problem occurs again, you will immediately be informed of it. This is a reactive step which you will only need to do once.



Alerts are a notification mechanism. They can be an e-mail, sound, popup message or can launch an application. They are attached to an item on your network map and are triggered when an event occurs.

Once you have configured your first set of alerts, you can then use the following steps to quickly locate and identify any problems on your network:

- 1 React to an alert.
- 2 Look in the Event List.
- 3 Follow the link from the Event List to the problem area on the map.
- 4 Perform diagnosis.

Viewing the Stress on your Network

When you launch a Network Stress window (shown in [Figure 1](#)), Network Supervisor shows the *magnitude* of stress for a particular device. This provides you with more useful information than merely being told the device has a high or low level of stress.



Stress is the performance measure of a network object (a device or link) against pre-defined thresholds.

The stress bars represent the stress of the devices and links on your network by low (green), warning (yellow) and high (red) zones.

The significant advantage of having a yellow (warning) zone is that it gives you a clear indication that a monitor is approaching a serious condition. This may allow you to predict some network problems before they become critical.

For example, a half-lit green bar indicates that you should have considerable scope before that device requires attention, while a fully-lit red bar shows that something is seriously wrong with the performance of that device and that it probably needs urgent attention.

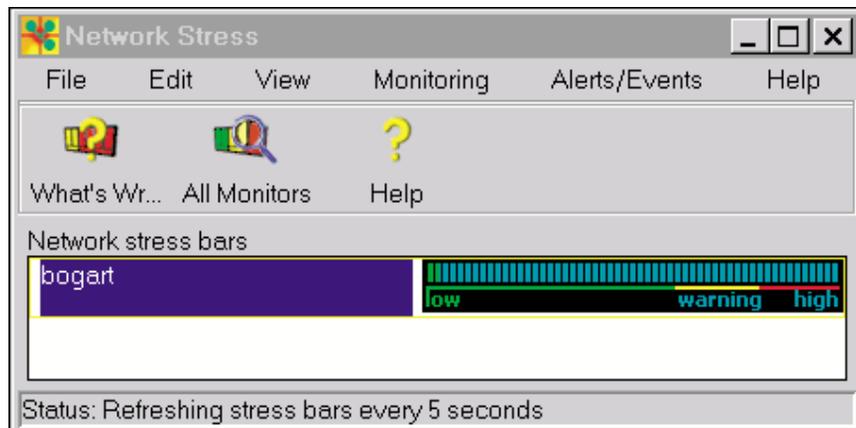


A monitor is a measure of the stress being experienced by a network device or link.

Viewing Detailed Stress Indicators

Once Network Supervisor has identified which device or link is causing a problem, you may want more detailed information on the individual measures which are causing raised levels of stress.

Figure 1 Network Stress Window



Network Supervisor lets you do this by giving you access to:

- [Plain Text Interpretation of a Network Problem](#)
- [Detailed Monitoring Information](#)

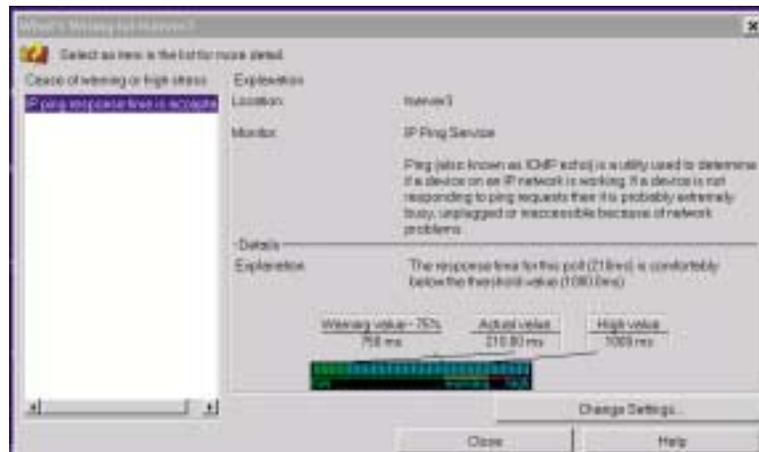
Plain Text Interpretation of a Network Problem

A textual interpretation of a network problem is a useful starting point or may provide enough information for you to identify and solve a problem.

Network Supervisor provides this information with its What's Wrong Dialog Box, shown in [Figure 2](#).

The language used in the What's Wrong Dialog Box is non-technical, making the definitions easy to understand.

Figure 2 What's Wrong Dialog Box



Detailed Monitoring Information

As an alternative, a more detailed view of how a network device or link is being monitored is available.

Network Supervisor gives you this type of information by letting you see the embedded devices, ports and monitors on each device. It does this through an easy-to-use Windows Explorer-style interface.

The All Monitors Dialog Box (shown in [Figure 3](#)), lets you:

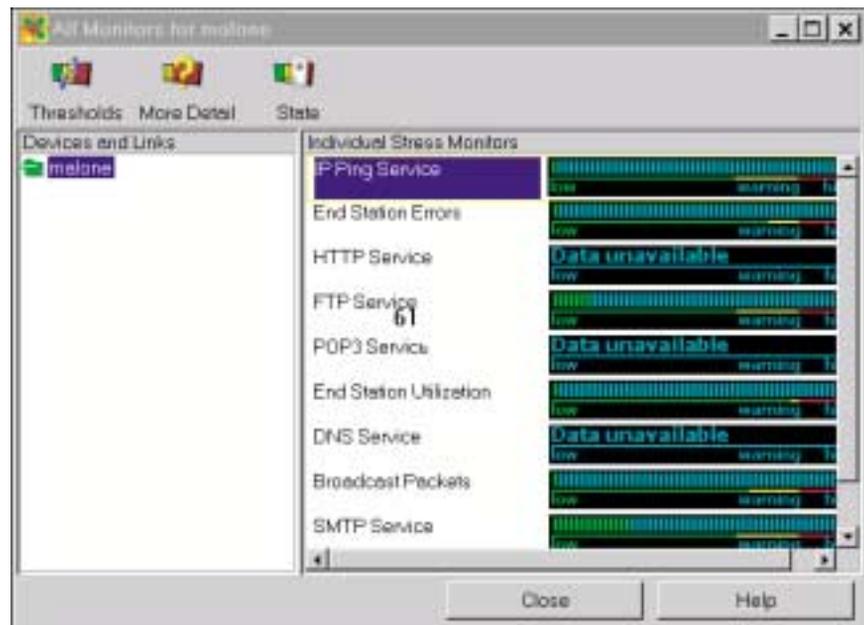
- View which monitors are being used.
- Change the thresholds on each monitor.
- Switch monitors on or off.



A monitor is a specific stress measure for a network device or link. Information on each monitor is gathered by an individual monitor.

Information from the individual monitors for each device is combined to form one overall monitor. This composite monitor gives a profile of the network device which Network Supervisor uses to calculate the stress for that device or link.

Figure 3 All Monitors Dialog Box



Managing and Manipulating Events

The Network Supervisor Event List greatly improves your ability to prioritize and react to problems on your network.

Intelligent Event Generation

Network Supervisor generates events intelligently. For example, to prevent utilization 'spikes' causing unnecessary events, the threshold set must be exceeded for a reasonable period of time (determined by Network Supervisor) before an event is generated.

This means that Network Supervisor will produce a more accurate representation of what is effectively one incident, than if it generated an event every time the threshold was passed.



The events in the Event List are generated internally by Network Supervisor, they are not SNMP traps generated by network devices.

Network Supervisor provides the following to help you manage generated events:

- [Filtering](#)
- [Commenting](#)
- [Sorting](#)
- [Acknowledging](#)
- [Ageing](#)

Filtering

Filtering temporarily removes entries from the Event List to provide a clear view of a selected type of event. You can filter on various criteria including event severity, time and description.

Commenting

The Comment facility lets you write and attach notes about events relating to specific devices or links. You may want to include information about why an event occurred previously and a suggested solution.

You can then filter events based on the content of a comment, searching for information to help solve a newly discovered problem.

In the longer term, the Comment facility lets you build a problem solving database for your network which can help you to solve common problems quickly.

Sorting

Sorting lets you order events by the column headings of the Event List. For example, you can sort by event severity, time or importance.

Acknowledging

This lets you mark as acknowledged, events or groups of events which you have seen.

Ageing

This lets you control how many events are retained in the Event List. You can set a maximum number of events to be kept or specify that events of a certain age (number of days) are deleted.

Instant Notification of Significant Activity Using Alerts

Although the Event List gives you a comprehensive view of network activity, it is also useful to find out *instantly* if there is any significant activity on your network.

Network Supervisor provides alerts for this purpose. They instantly notify you of significant network activity without requiring that you continuously have Network Supervisor as the active application on your PC.

If you want to be notified of an event as soon as it happens, configure an alert to be activated when that event has been generated.

Network Supervisor provides five types of alerts to suit different working environments. An alert can be defined as a popup dialog box, e-mail message, audio alert, pager message or it can launch a specified application.

Viewing Network Trends and Patterns

Sometimes it is helpful to have an overview or statistical summary of certain aspects of your network.

This type of information is useful for outlining patterns and trends in the use of your network which may not be easily visible in other views. It is especially useful for strategy and planning purposes, such as the future expansion of your network when your business, volume of network traffic and number of users expand.



Reports can be generated for all devices on your network map or on selected devices only.

Tracking the Devices on Your Network

You can use the Network Inventory Report (shown in [Figure 4](#)) to help track the number of PCs and other devices currently on your network.

This is particularly useful for asset management. For example, at the end of a financial month or year, this type of information can help you calculate and budget for the following year's requirements.

Figure 4 Sample Network Inventory Report



Planning Your Network Capacity

You can use the Network Capacity Report to calculate the number of ports available on your network and identify which devices they belong to.

This provides a powerful planning tool which allows you to quickly view the devices which are close to using the maximum number of available ports. Using this information, you can then plan the number of ports that your network needs for the future.

For example, you can calculate the maximum number of ports that each device on your network can support. As your business grows, use a Network Capacity Report to display when this threshold is close to being reached.

You can then plan when you should start to invest in new devices, before the capacity is reached and the state of your network becomes critical.

Listing All the Devices Attached to Each Port

The Network Topology Report lets you list and identify what devices and types of device are attached to each port. It gives you a *printable* list of devices and their connectivity status. This makes it especially useful if you have to go into a wiring closet to modify a device or if you do not have a portable PC.



The list of devices includes a textual description of each attached device.

Network Discovery Report

The Network Discovery Report outlines which of the discovered supported devices have unsupported agents installed.

It also provides details of which version of agent software is installed on a device and which version of agent software is the earliest supported by Network Supervisor for that type of device.

3

LIVE UPDATE

This chapter describes the features and benefits of using 3Com® Network Supervisor Live Update. It outlines:

- [About Live Update](#)
- [Using Live Update](#)

About Live Update

3Com Network Supervisor Live Update provides a method for actively delivering current hardware and software information for 3Com products. This proactive transaction requires that the user has version 3.0 of 3Com Network Supervisor installed.

Live Update

Live Update “pulls” information, at the users’ request, from a 3Com database via the World Wide Web and provides support for newly installed devices, software upgrades, service packs and feature enhancements. This delivery mechanism provides a secure method for downloading information in a manner that is cost-effective, convenient, and above all, current. This method of delivery provides “day-one” management for all newly developed devices.

Using Live Update

Live Update connects to a 3Com server using the same method as your default Internet browser. This configuration is established the first time you run Live Update. When you launch Live Update the application performs a comparison of the configuration and agent files on your network with the files located on the 3Com server. It then displays a list of the newer files on the server and asks if you want to download them. You can choose to select any or all of the files from the list.

Live Update Setup

The first time you run Live Update, the Live Update Setup Wizard runs, allowing you to specify how to make the connection to the Internet.

To ensure security, some networks use a proxy server as an intermediary between the workstation and the server. If your default browser is using specific proxy settings, Live Update will automatically use them to connect to the Internet. Otherwise, you will need to specify custom proxy settings before Live Update can connect to the 3Com server.

Select File Groups

Select File Groups allows you to choose the files you wish to download. Depending on the files available on the 3Com server, you can choose from the following:

- Network Supervisor updates (service packs)
- Device Agents
- Configuration Templates

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