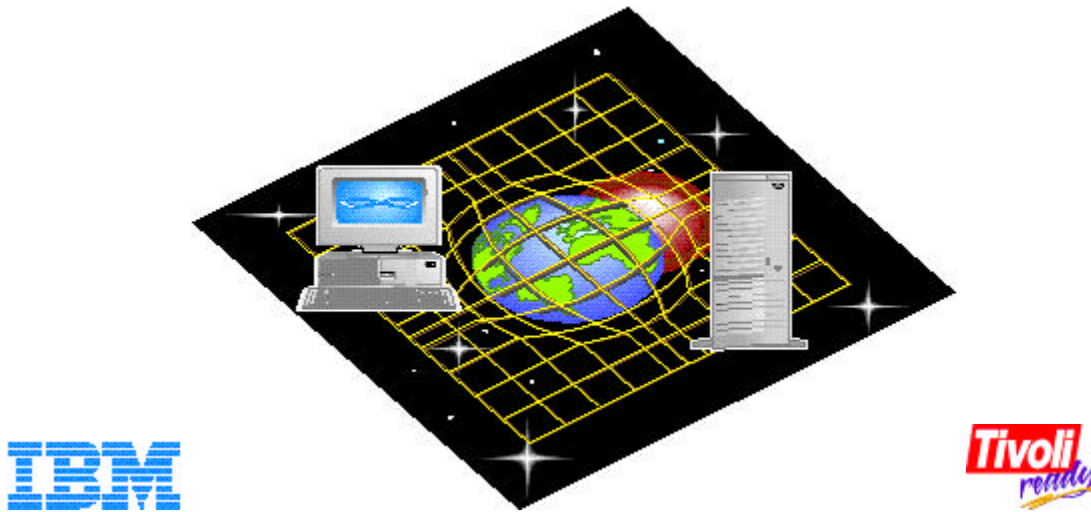


Helping you simplify PC systems management

NetFinity 5.0 Reviewer's Guide



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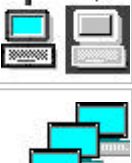
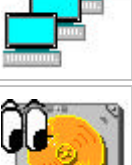


The NetFinity Graphical User Interface

NetFinity ensures efficiency and simplifies operation with an innovative graphical user interface (GUI). Icons for each NetFinity function, plus online help facilities, make the system uniquely easy to learn and use. To activate a function, just click on the icon.

A quick scan of each of the NetFinity icons and the functions they represent will show you the scope and flexibility of the system.

NetFinity at a glance

	<p>Remote system manager</p> <p>Enables you to access and control all NetFinity services installed on remote systems within your network. Systems are organized into logical system groups for simplified management. This icon is also used to represent NetFinity Service Manager.</p>
	<p>File transfer</p> <p>Enables you to easily send, receive, or delete files and directories, locally and remotely.</p>

	<p>Power-on error detect</p> <p>Immediately warns you when a remote system has start-up problems, letting you minimize down time.</p>
	<p>Event schedule</p> <p>Lets you start and stop key NetFinity services automatically on your system or on remote systems.</p>
	<p>Process manager</p> <p>Enables you to view detailed information about all processes that are active on a system; you can start or stop a process and generate alerts if a process is started, stops, or fails.</p>
	<p>Desktop Management Interface (DMI) browser</p> <p>Enables you to examine information about the DMI-compliant hardware and software products installed on the system or attached to it.</p>
	<p>Software inventory</p> <p>Allows you to create and manage software dictionaries, which can be used to inventory application programs.</p>
	<p>System information</p> <p>Detects and reports detailed information on a wide variety of systems.</p>
	<p>Web manager</p> <p>Enables the NetFinity Web management feature and provides access security.</p>
	<p>Remote Workstation Control</p> <p>Enables you to monitor or control the screen display of a remote NetFinity system.</p>
	<p>Service Configuration Manager</p> <p>Enables you to save the configuration file from a selected system and use the Event Scheduler to propagate that configuration to other NetFinity systems - simplifying setup.</p>
	<p>Predictive failure analysis</p> <p>Alerts you if one of your PFA-enabled drives is predicted to fail, letting you identify and replace that drive before it becomes a problem.</p>
	<p>System profile</p> <p>Allows you to customize user and system information into an easy-to-use notebook format.</p>

	<p>System monitor</p> <p>Displays line graphs and real-time monitors for a variety of system resources. Alerts the user or network manager when user-defined thresholds are exceeded.</p>
	<p>Security manager</p> <p>Prevents unauthorized access to your NetFinity services.</p>
	<p>Alert manager</p> <p>Receives and processes application-generated alerts. You can examine, edit, and print reports from the alert log, and customize actions in response to received alerts.</p>
	<p>Error correcting code (ECC) memory setup</p> <p>Enables you to control ECC memory features on many IBM personal computers.</p>
	<p>System partition access</p> <p>Allows you to update, back up, and delete your system partition—all without using your reference diskette (available for IBM systems with built-in system partition).</p>
	<p>Critical file monitor</p> <p>Warns you whenever critical system files are altered or deleted.</p>
	<p>Serial control</p> <p>Enables remote managers to access your system through your modem.</p>
	<p>Redundant array of independent disks (RAID) manager</p> <p>Lets you view and configure a variety of RAID disk subsystems.</p>
	<p>Remote session</p> <p>Provides access to a remote system's command prompt.</p>
	<p>Screen view</p> <p>Takes a snapshot of any remote system's status; screens can be saved as bitmaps and loaded for viewing later.</p>

Overview

Welcome to the NetFinity Reviewer's Guide. We'd like to thank you for taking the time to review our product. After you've had the opportunity to evaluate the power, efficiency, ease of use, and cost reduction benefits it can bring, we're confident that you will share our enthusiasm for NetFinity.

This Reviewer's Guide is presented in two sections. Section One provides an overview of the features of NetFinity, along with a discussion of product architecture. Section Two provides a roadmap you can use

to exercise NetFinity in your environment, as well as scenarios that provide realistic examples of ways NetFinity can benefit you.

Section One: The challenge of managing distributed systems

It's becoming true for more and more companies today: your business is dependent on your network. Companies are using networks of distributed server and client systems to support many mission-critical applications. And, when a business is reliant upon its client/server network, it's important to ensure that every system and every server keeps operating at peak performance.

The challenge is that, without effective systems management, the risks and hidden costs of network computing will increase.

The Gartner Group, a leading technical consulting company, has conducted extensive studies to quantify the total costs of owning and managing multivendor personal computers in networked environments. Their findings show that the total five-year cost of ownership of a networked PC is often as much as six times the purchase price. Further, the cost each year typically meets or exceeds the initial hardware investment. Systems management tasks-system installation and administration, technical support, asset auditing, and configuration management-account for a significant portion of these after-purchase expenses.

NetFinity: the multivendor systems management solution

NetFinity can help you manage your distributed desktop and server PCs with ease and efficiency. And, most importantly, it can help you control many of the hidden costs of operating network PCs. For example, instead of physically traveling to each LAN-connected system to perform asset management, noting serial numbers and configuration information, the NetFinity auto-discovery feature lets you collect this data remotely, right from your NetFinity Manager system.

You can also access remotely, taking over control of NetFinity-enabled systems to identify and resolve problems. You can perform capacity planning proactively, knowing in advance which systems will require additional resources, such as more memory, larger disk capacity, or faster processors. Maintenance scheduling for NetFinity-enabled systems can be automated as well.

NetFinity is a powerful suite of tools and utilities designed to enable the management of networked client and server PCs in the environments you have-including OS/2, Windows 3.1, Windows 95, Windows NT and Novell NetWare. NetFinity can operate with both IBM and non-IBM computers. And, because it supports industry standards, such as the Desktop Management Interface (DMI) and Simple Network Management Protocol (SNMP), it can integrate with other robust network management systems, for example, Tivoli offerings.

The NetFinity Web capability now lets you manage your networked PCs from virtually any system that can run a Web browser. This lets you take advantage of existing network infrastructures and allows you to manage from the platform of your choice. You don't even need NetFinity code running on your Web management console!

NetFinity provides comprehensive systems management capabilities that are superior to others in the

market today. NetFinity provides both local and remote capabilities for:

- Capacity management
- Help desk utilities
- Problem detection and notification
- Routine maintenance

With all its functionality, NetFinity is a uniquely cost-effective systems management solution. NetFinity costs about \$799 (U.S. dollars) for a managing station (NetFinity Manager) and about \$49 (U.S. dollars) for a client station (NetFinity Services). And, because NetFinity does not require expensive management server hardware, it can help you minimize the total cost of managing your networked PCs.

NetFinity, the most efficient system available

- Helps lower the overall cost of ownership of a client/server environment
- Minimizes the need for travel to remote sites
- Reduces down time
- Improves overall control, through accurate monitoring and fault prevention
- Requires minimal systems management skills
- Displays common, easy-to-use graphical interfaces across different operating systems
- Offers peer-to-peer architecture that doesn't require a server to run your management console
- Affords a design that is easily extendible
- Manages a wide variety of Intel systems, including IBM and non-IBM servers, desktop PCs and mobile PCs
- Supports multiple communication protocols for greater flexibility
- Allows users to manage their own workstations with the systems management package
- Provides integration with other enterprise management solutions.

NetFinity Services and NetFinity Manager-the perfect combination for total systems management

NetFinity software consists of two components: NetFinity Services and NetFinity Manager. NetFinity Services is the base code, or agent code, that runs on your client/server and mobile systems; it enables these systems to participate in NetFinity configurations. NetFinity Manager is the remote management code that runs on your system administrators' PCs. It enables them to remotely access and manage LAN-attached systems enabled with NetFinity Services.

NetFinity Services

NetFinity Services provides the base function required for a stand-alone or LAN-connected PC to participate in NetFinity systems management. NetFinity Services software can be configured in any of

three different modes of operation: stand-alone, passive client, or active client.

- Stand-alone operation is for use on an individual system that has no network connectivity. It allows you to manage your own PC and supports IBM OS/2, Microsoft Windows 3.1x, Windows 95, Windows for Workgroups, and Windows NT environments.
- Passive client operation for LAN-attached systems allows NetFinity Manager to remotely access and manage servers and workstations but does not enable local systems management tasks on the managed PC. Passive operation is available for IBM OS/2, Microsoft Windows 3.1x, Windows 95, Windows NT, Windows for Workgroups, and Novell NetWare environments.
- Active client operation for LAN-attached systems enables the server or workstation system to perform some systems management tasks locally, and it also enables the client system to be accessed and managed by NetFinity manager software. Active client operation is available in systems running IBM OS/2, Microsoft Windows 3.1x, Windows 95, Windows for Workgroups, and Windows NT.

NetFinity Manager

NetFinity Manager is installed on a system that will be used as a management console. This system may be attached through a LAN, serial connection (dial up) or over the Internet. NetFinity Manager works with NetFinity Services, enhancing the local systems management capabilities to enable you to remotely access other LAN-attached systems with NetFinity Services installed.

NetFinity Manager can be installed with an optional Web manager that allows the systems to be accessed from a Web browser.

NetFinity Manager supports some of the industry's most popular LAN communication protocols, including SNA LU6.2, NetBIOS, IPX, and TCP/IP. NetFinity Manager is available in OS/2, Microsoft Windows 95, and Windows NT versions.

Multiprotocol management

The NetFinity Manager can manage multiple network segments running on different protocols by having multiple protocol stacks installed in the Manager PC or by using the NetFinity pass-through management capability.

Pass-through management is the ability of a managing system to access the functions of another managing system on a different LAN segment, even if they are different protocols. The central network manager can access remotely-located network managers and perform all of the required functions through the remote managers. The workload can now be split between multiple managing systems and LAN administrators, and provides excellent scalability.

NetFinity internals

NetFinity operates in a peer-to-peer mode that minimizes the need for expensive systems management hardware. This means you can install NetFinity Manager code on any supported PC, even a mobile PC system. What's more, NetFinity does not require a database or network operating system server to be installed on the network. All that is required is the presence of a physical network and the network protocol of your choice.

NetFinity has its own interprocess communication (IPC) system that is used for communication between

NetFinity modules and services, locally and when operating remotely over a network. Each NetFinity service has two parts: an executable for the graphical user interface (GUI) and an executable for the base function. Communication between the GUI and base executables is handled by the NetFinity IPC. This makes it simple to run a base function either remotely or locally, using the same graphical interface on the managing system.

NetFinity Web management

The NetFinity Web Manager, which can be installed as an option on any NetFinity managing system, acts as a mini-Web server. The use of HyperText Markup Language (HTML), Version 2, scripts provides a way for Web browsers to access the NetFinity information and commands on the remote NetFinity Manager. All that is needed is a TCP/IP-based Internet or intranet link between the Web browser and the NetFinity Manager with the Web manager installed. Access to all other managed systems is gained in a similar way to the pass-through management described above-through the NetFinity managing system.

System requirements

Before you install NetFinity on systems in your network for evaluation, take note of the following system requirements:

- Processor
 - 486, or higher, microprocessor
- Disk
 - 9 to 12MB of available disk space for Services
 - 18 to 20MB of available disk space for Manager
- Communication hardware
 - A network adapter to support IPX, SNA, NetBIOS, or TCP/IP protocols; a 9600 baud, or higher, modem, for serial support
- Operating system
 - NetFinity Manager: IBM OS/2 3.0 or later, Windows 95, or Windows NT 3.51 or 4.0.
 - NetFinity Services: IBM OS/2, Version 3.0, or later; or Windows, Version 3.1 Enhanced Mode, Windows 95, Windows NT, Version 3.51 or 4.0; Windows for Workgroups, or NetWare, Version 3.12, 4.1, or 4.11.
- Web support
 - A Web browser supporting Java. NetScape Navigator, Version 2.02 (16 bit), V3.0 and V3.0.1 (with Java support), and Microsoft Internet Explorer 3.0 and 3.0.1 have been tested.
- Network protocols
 - IBM TCP/IP or NetBIOS or Novell IPX or SNA LU6.2

NetFinity systems management functions

NetFinity installation

NetFinity is easily installed, with just one configuration screen to be completed at the end of installation.

Capacity management

Capacity management is the effective utilization of the resources available to you. This involves the implementation of a range of disciplines, including asset management, system resource monitoring and performance tuning. NetFinity can assist in all of these areas. The following NetFinity functions help you more effectively manage network capacity:

- System information, for detailed system hard-ware and system software information
- Software inventory, for software packages installed
- System monitors, for CPU, disk space and usage, LAN adapter input/output, memory usage, process and thread usage, swap file size, TCP/IP statistics, and more.
- Database export of asset and historical monitor data to ASCII, IBM DB2 database, Lotus Notes, or open database connectivity (ODBC) or Win 32 database files.

Proactive Problem detection and reporting

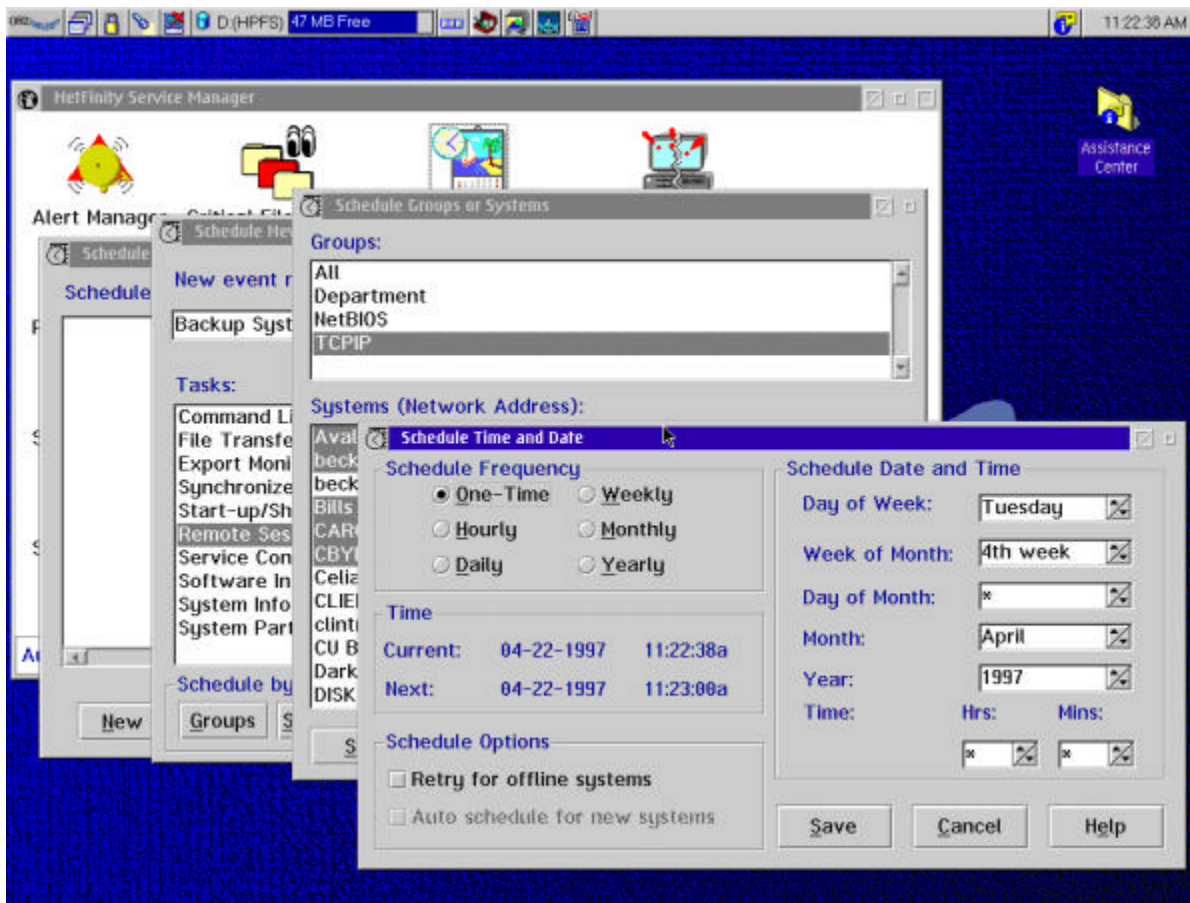
Problem detection can range from a warning that disk space is about to run out, to a warning regarding the impending failure of a critical component. NetFinity has a range of functions that provide prewarning of critical failures and an extensive range of alert actions to notify the administrator of the fault or perform automated recovery or damage limitation actions. These functions include:

- Redundant array of inexpensive disks (RAID) monitoring and management
- Alert manager, which detects alerts caused by faults or preset thresholds, and takes actions, ranging from forwarding an alert to another system (including SNMP Managers), invoking a pager, playing an audible warning, or invoking a routine or executable file
- Error correcting code (ECC) memory monitoring
- Power-on-error detect function to detect power-on self-test (POST) errors on IBM Micro Channel systems with a system partition and notify the administrator of problems

Help desk support

Being able to assist users with usability problems or system errors remotely can save a huge amount of time and effort in travel. There are many features that NetFinity offers that make life at a help desk much easier:

- Remote Workstation Control allows a NetFinity system to be monitored or controlled from a NetFinity Manager. In control mode, all mouse clicks and keyboard input entered from the Manager system are sent to the remote system.
- Process manager provides a method for starting, stopping, and monitoring the activity of system processes remotely.
- Critical file monitor eliminates potential problems by notifying the administrator if a monitored configuration file has been changed or deleted.



Automating maintenance

Routine maintenance can be a time-consuming chore. NetFinity allows network administrators to perform many routine tasks remotely, with all the required information on hand. These functions include:

- Event scheduler, which provides a means of scheduling tasks, such as system backups, file updates, system restart, shutdown and Wake on LAN, out of normal working hours, as a one-time or regular event
- System partition access allows administrators to update system diagnostic and reference files resident on the normally inaccessible system partition of IBM Micro Channel PCs
- File transfer, which provides an easy-to-use graphical interface that allows files and directories to be copied between systems, and synchronize directories between local and remote systems without the need for a network operating system

All of these tasks can be performed remotely over a network connection or even over a serial dial-in connection. Multiple segment LANs, running the same or different protocols, are also accommodated with the unique NetFinity pass-through management capability. This allows one manager to take over the functions of a second manager to perform management tasks.

Advanced Systems Management Adapter

The optional Advanced Systems Management Adapter extends NetFinity's remote management capabilities, adding two-way remote access that enables administrators to perform a variety of diagnostic

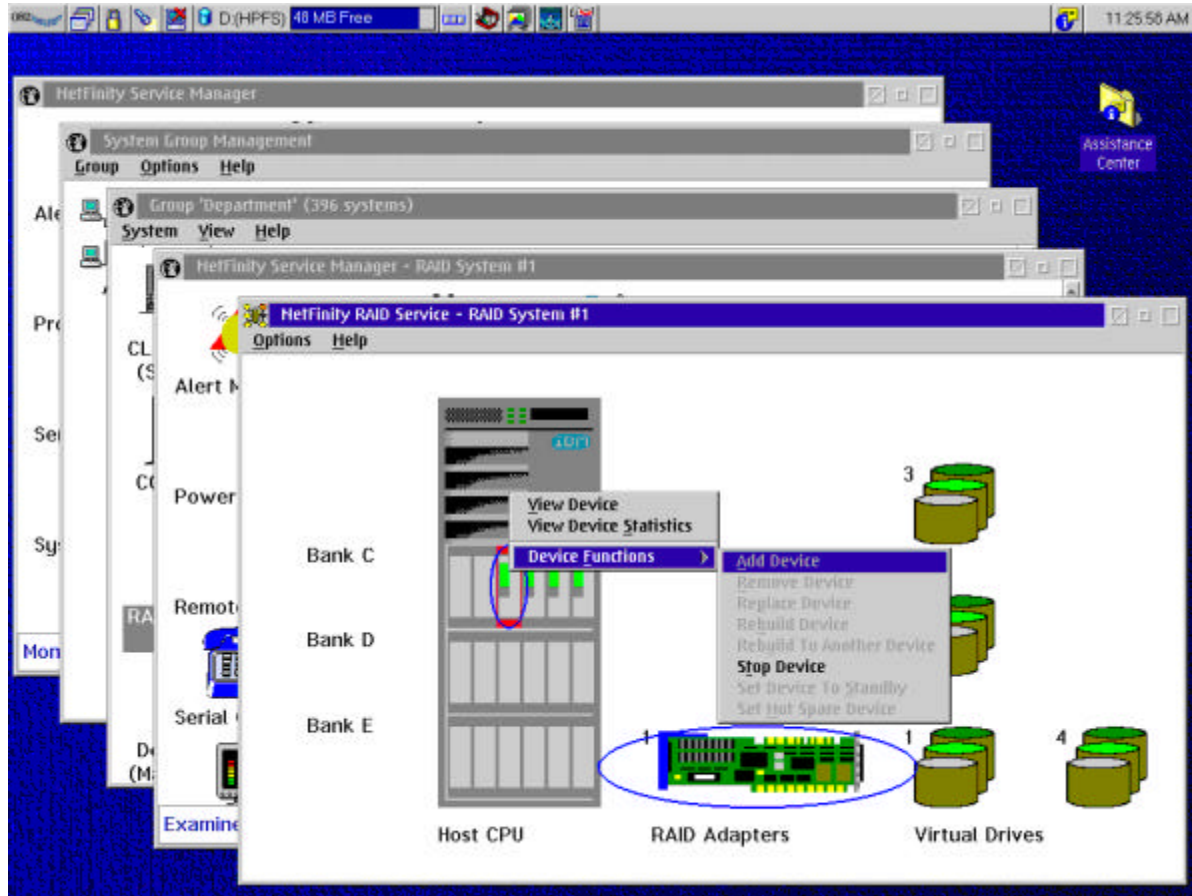
and server management activities from across town or half-way around the world.

Integration with other Management solutions

Most networks today are heterogeneous in nature, not only are there multiple systems and protocols, many customers implement more than one management solution. NetFinity 5.0 provides enhanced integration with workgroup and enterprise managers so that NetFinity may be incorporated into overall management strategies including Tivoli TME-10, Microsoft's SMS, and HP OpenView. Enhancements to SNMP and command line interface allow an SNMP manager to gather data, receive alerts and easily identify and correct problems from NetFinity systems. NetFinity will also support the Multi-Platform Manager (MPM) API which establishes unparalleled level of integration and interoperability between enterprise and workgroup management products. Also new integration with Microsoft's System Management Server (SMS) allows NetFinity's inventory capability to be integrated into the SMS database.

Because a high percentage of IBM hardware is being utilized in Novell NetWare Networks, NetFinity has been integrated with Novell's ManageWise. NetFinity can be launched on a remote system from within the ManageWise Internet map.

NetFinity can also export the hardware information it collects with the system information tool and some of the system profile information to the ManageWise internal database. This allows ManageWise and NetFinity users to seamlessly switch between the two applications for higher productivity and usability. NetFinity helps you make your network more efficient and your PCs better managed. Best of all, it makes the endless administrative tasks of systems management easier than ever before.



Section Two: NetFinity at work

To learn why the NetFinity features benefit you, follow the brief example and you'll be pleasantly surprised to see how fast and easy it is to use the NetFinity functions. To get the full benefit from this product review, you should use NetFinity in a networked environment. So, install NetFinity on a few systems on your network, ensuring that at least one system is a NetFinity Manager. Use your NetFinity Manager system to familiarize yourself with the NetFinity



Service manager running locally. This provides you with management capabilities on your local PC.

Pay particular attention to the details available to you under



System information, which detects and reports detailed information, and



System profile, which allows you to customize user and system information.

Have a look at the



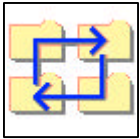
System monitor and set some system thresholds for your local workstation. To view the different monitors, select the System Monitor Service window and select Windows from the pull-down menu. You can set a threshold for a monitored component by double-clicking on the monitor icon and bringing up the threshold notebook.

Now, you are ready to look at some remote systems through the



Remote system manager. Create a group and discover a system. You can now choose to manage any system that has been discovered on your network by double-clicking on the required system. This takes you to the Service Manager window for that remote system. It's just like the window you looked at earlier on your local system.

You can now access some remote functions that are not available when managing a system locally, such as:



File transfer, which enables you to easily send, receive or delete files.



Process manager, which enables you to view detailed process information.



Remote Workstation Control, which allows you to take over a remote system.



Event scheduler, to schedule the gathering of system inventory data.

Before you move on to explore some of the advanced capabilities of NetFinity, take a look at the



Security manager, which controls access to any NetFinity-enabled system. It's a true peer-to-peer security service. Security must be set up for each system. Once user IDs and passwords are defined, use the right mouse button to click on a remote system to be accessed and select Login System to access the permitted services.

Now, try the same functions through a Web browser connection. Install and enable the NetFinity Web Manager function and, then, use any supported Web browser to access the NetFinity functions over a TCP/IP link (intranet connection). The interface will look and feel a little different from the native NetFinity interface, but the icons and functions provide the same intuitive ease of use.

A day (and night) in the life of a NetFinity administrator

Mary, a system administrator, is at home on a Friday evening. It's late. She is awakened by the sound of her pager. She wonders who could be calling at this time of night?

The pager shows that the main server back in the office placed the call. It issued an alert because a disk drive on the server failed.

The bad news is that the office is at least a 90-minute drive from Mary's home. The good news is that Mary installed a RAID controller in the main server weeks ago. This means the data on the failed disk can be automatically recovered and written to a spare disk and the night shift can continue working.

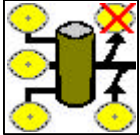
Mary starts up her PC at home and, with NetFinity



Serial control dial-in support, she dials her NetFinity Manager workstation back in the office. Using NetFinity pass-through management capability she accesses the

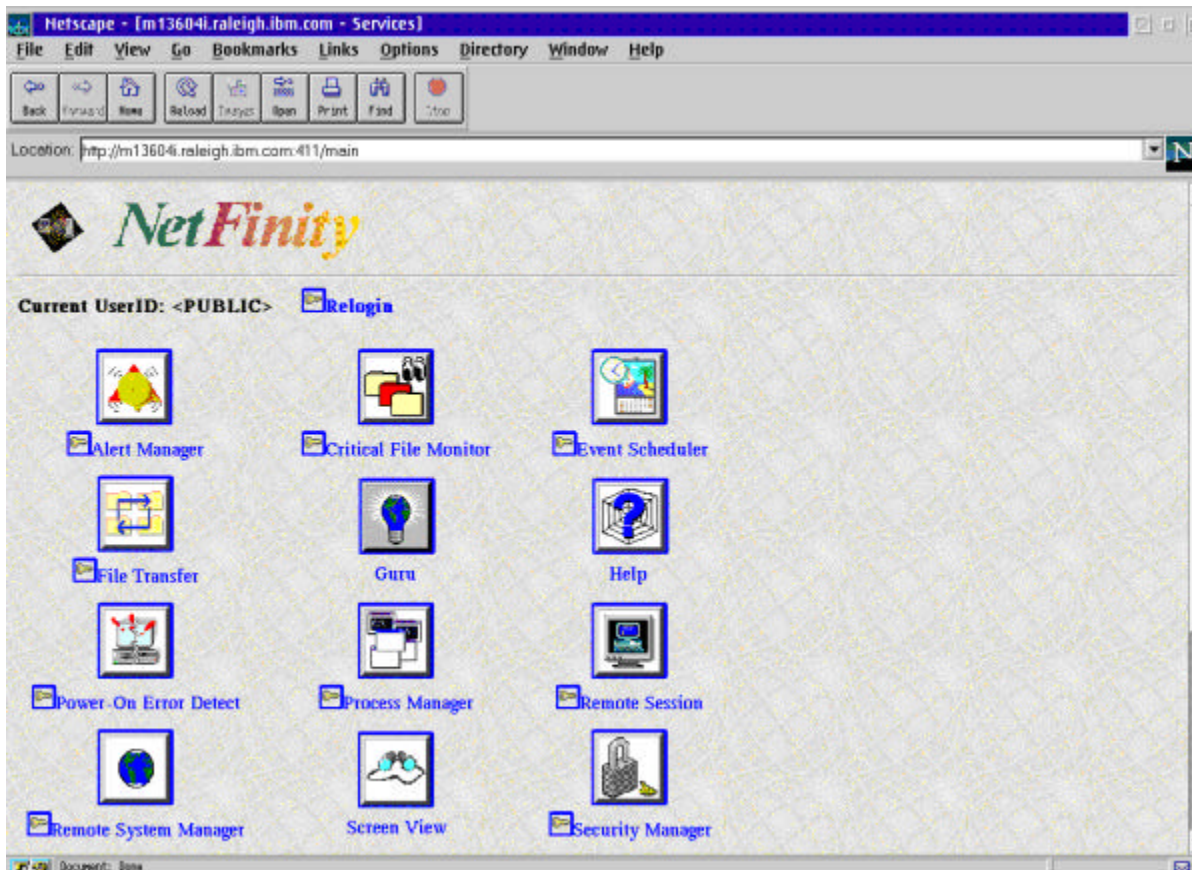


Remote system manager on her desktop workstation. From here, she connects to the failing server and accesses the NetFinity



RAID manager to take the failing drive off-line and automatically rebuild the data onto a standby disk already in the server.

In a matter of minutes, Mary brings the server back online. She knows the failed drive won't need to be replaced until Monday morning, because the data is recovered and the network load will be light over the weekend. Best of all, thanks to NetFinity and her RAID-enabled server, she avoids a three-hour round trip.



NetFinity and the Help Desk

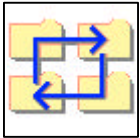
Jim, a productivity tool expert at the Help Desk, gets a call from Mary, a new member of the graphics department. Mary is frantic because her department installed a new printer last night and she can't get it to print. She needs a copy of a financial presentation completed for the company vice president in twenty minutes.

Jim tells her "Don't worry, we've installed NetFinity on your workstation. I will check into the problem. Just hang on the line. I'll take over control of your workstation and see if I can determine why you can't print."

Jim uses the NetFinity



Remote Workstation Control to take over Mary's workstation. Of course, for security, Mary must first grant Jim permission to remotely control her workstation. Jim learns that Mary has not installed the correct device driver for the new printer.



File Transfer, Jim copies and installs the correct device driver from his workstation to Mary's system.



Remote Workstation Control to add the printer correctly to Mary's workstation. Since he has asked Mary to stay on the line he explains to her the steps he is taking so that the next time they add a new printer, she will be able to configure it herself. Jim then sends a sample print job to the new printer to make sure everything is operating properly.

Mary can now finish her job and be confident that she will have it printed within her deadline. And Jim feels good knowing that he has a happy customer. Mission accomplished.



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