

# **ROADMAP** to IBM Netfinity Support

SECOND EDITION, JULY 1998

*A guide to navigating your customer through the landscape of:*

- \* technical support*
- \* systems management*
- \* education*
- \* implementation*
- \* post-sales support & services*
- ... and beyond*

# IBM

**Compete effectively against Compaq on their home turf . . . using "Winkit Online"**

*IBM's Competeline publishes reference documents that you can access from the PSG Competitive Sales Organization's "Winkit Online" Intranet site.*

*You'll find competitive documents organized in the following categories:*

- \* Comparisons*
- \* Key Messages*
- \* Be Prepared*
- \* Getting Started*

***w3.pc.ibm.com/winkit/competitive\_sales/frameset\_compaq.html***

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# IBM

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## OUTLINE OF ROADMAP TOPICS

### Technical Support

Netfinity Server Technical Sales Support has two primary elements: the IBM North America Technical Support (NATS) Field Technical Support Specialist (FTSS) and the Solution Assurance (SA) Process.

Field Technical Sales Specialist (FTSS) Support

- \* Solutions Development
- \* Proof of Concept
- \* Early Ship Program (ESP) Loaner Support
- \* Software Support
- \* Solution Assurance (SA)
- \* Performance Tuning
- \* Pre-Sales CRITSIT Support
- \* Request for Proposal Support
- \* Customer Performance Lab
- \* Skills Transfer

### Systems Management

Netfinity bring to systems administrators a complete set of tools for addressing the total cost of ownership.

- \* Systems Management in the Enterprise
- \* The Intel Enterprise: No Midrange Machines, No Mainframes
- \* Inventory
  - \* Security
- \* Alerts
  - \* Software Distribution
- \* Failures/Fault Management
  - \* RAID Management
- \* Protocols
  - \* Group Management
- \* SETs
  - \* Critical File Monitor
- \* Snap-Ins
  - \* Automatic/Remote Task Scheduling
- \* Clients
  - \* System Partition
- \* Supported Operating Systems
  - \* Process Manager
- \* Remote Management
  - \* System Monitors
- \* Remote Board
  - \* Asset Management
- \* Web Management
  - \* Capacity Management

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### Education

Education Services can help you and your customers understand today's complex technologies.

The IBM PC Institute

- \* Professional Certification
- \* Sales Education
- \* Service Education Table: Requirements for Pro. Certifications
- \* IBM PC Institute: General Information

### Implementation

IBM has the tools and services to get it right the first time.

- \* ServerGuide 4.0 Tool
- \* IBM Compatibility Testing (ServerProven)
- \* Start Up Support
- \* Internet Downloads, Tools, and Information

### Post-Sales Support & Services

IBM is focused on making maintenance parts more available, placing support specialists locally, regionally, and in the areas, plus assigning customer service representative and technical support managers to your customers.

- \* IBM's integrated approach to quality through teaming
  - \* Netfinity Customer Support Specialist (CSS)
  - \* Netfinity Post-Sales FTSS
  - \* Headquarters' Dedicated resolution Owner (DRO)
  - \* PSS Area Server Managers of Services (ASMS)
  - \* The RAS Team
  - \* IBM HelpCenter
- \* IBM Netfinity Manager: \* Remote Connect \* MoST Connect
- \* IBM 3-Year Warranty
- \* IBM Diagnosis
- \* Personalized "e-Support" via the Web
- \* ServerProven
- \* SystemXtra

*When business is critical, it's critical to have IBM working for your business!*

*Technology is intended to help people focus on their businesses, yet keeping up with technology can be a big challenge. IBM meets that challenge on every IBM Netfinity and PC Server product, with the world's broadest array of technical support — from our worldwide HelpCenters to our proactive programs and extensive services.*

## TECHNICAL SUPPORT

Netfinity Server Technical Support has two elements:

- ◆ the IBM North America Technical Support (NATS) Field Technical Support Specialist (FTSS)
- ◆ the Solution Assurance (SA) process

### Field Technical Sales Specialist (FTSS)

IBM North America Technical Support (NATS) technical experts and Field Technical Sales Specialists (FTSS) are responsible for proactively promoting IBM products and technology sales by establishing partnerships with key technical influencers and decision-makers within “Focus Enterprise Accounts” and top opportunities.

#### FTSS support includes:

- ◆ Solutions Development
- ◆ Proof of Concept
- ◆ Early Ship Program (ESP) Loaner Support
- ◆ Software Support
- ◆ Solution Assurance
- ◆ Performance Tuning
- ◆ Request for Proposal (RFP) Assistance
- ◆ Customer Performance Lab
- ◆ Skills Transfer
- ◆ Benchmarking

#### Solutions Development

Whether your customers are installing Microsoft NT, LAN Server, NetWare, or database servers, we

can help you develop a total hardware-and-software solution. We will perform these services either on-site or remotely.

#### Proof of Concept

Depending upon your customer needs, we can help you prepare “proof of concept” environments, which may include testing for integration, migration, configuration, and interoperability. We’ll also test customer applications on-site for status reporting, recommend software versions for compatibility and coexistence, and can supplement this support with a formal design review.

#### Early Ship Program (ESP) Support

We can help you install, configure, and tune in your customer’s environment. Upon written request, we will include one week of on-site support per loaner customer. We will also receive the machine in our Dallas facility, prepare it for the customer, then ship it to its destination.

#### Software Support

ATS and FTSS experts can perform:

- ◆ Problem determination
- ◆ Configuration planning and implementation
- ◆ Compatibility testing
- ◆ Application validation for software products on Netfinity servers

#### Solution Assurance (SA)

If the product has a Solutions Assurance Checklist, we will validate it, signing off on the validity and success rate of the proposed solution.

#### *How do you contact your FTSS?*

- ◆ *Contact your Netfinity Sales Specialist to engage your local FTSS.*

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### Performance Tuning

We can provide high level steps for enhancing performance in new or existing customer installations. We engage other IBM ATS Centers, publish our results on the Internet, and link to other sites.

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### Pre-Sales Critical Situation (CRITSIT) Support

We will respond to the CSIS system and area CRITSITS by hosting a conference call with the account team, engaging defect support, and also providing on-site assistance for non-defect problems.

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### Request for Proposal (RFP) Assistance

We can review your customer environment/requirements with you to help you answer the many questions about content and product capability typically asked in customer RFPs.

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### Customer Performance Lab

If you request it in writing, we can build demos of the Netfinity Server series and create Freelance Graphics presentations.

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### Skills Transfer

ATS Centers sponsor internships, conference presentations/workshops, or 2-week residencies for field candidates. We can also prepare PC Institute presentations and sponsor monthly Brain Shares (2-hour conference calls with support hints/tips plus the latest solutions).

### Solution Assurance (SA)

Solution Assurance is when IT subject-matter experts examine a proposed Netfinity Server solution to ensure the technical viability and interoperability of the solution components: hardware, software, and services. For an in-depth document describing SA's benefits to your customers, so to: [w3.ibm.com/techsupport/tsc.nsf/Content/A81B1B74941C63E38525663400714399?OpenDocument](http://w3.ibm.com/techsupport/tsc.nsf/Content/A81B1B74941C63E38525663400714399?OpenDocument)

### Solution Assurance includes:

- ◆ In-depth analysis of the proposed solution
- ◆ Ensuring the technical viability and interoperability of the solution components: hardware, software, and services

#### *How do you schedule an SA?*

*You have several choices:*

- ◆ *Fill out an online request form at [w3.techline.ibm.com/contact/tsup\\_request.htm](http://w3.techline.ibm.com/contact/tsup_request.htm)*
- ◆ *Contact your FTSS.*
- ◆ *In the OMSYS record "Comments" section, type "SOLUTION ASSURANCE REVIEW REQUIRED."*

#### *Where is Internet support?*

- ◆ *WWQ&A on ViewBlue* — [w3.viewblue.ibm.com](http://w3.viewblue.ibm.com)
- ◆ *Techline* — [w3.techline.ibm.com](http://w3.techline.ibm.com)
- ◆ *Competeline* — [w3.competeline.ibm.com](http://w3.competeline.ibm.com)
- ◆ *Technical Support Information* — [w3.ibm.com/support](http://w3.ibm.com/support)
- ◆ *Redbooks* — [www.redbooks.ibm.com](http://www.redbooks.ibm.com)
- ◆ *Solution Assurance* — [9.242.116.100/esar/esarhome.nsf/esardoc/esarhome?OpenDocument](http://9.242.116.100/esar/esarhome.nsf/esardoc/esarhome?OpenDocument)
- ◆ *TechTips* — [w3.pc.ibm.com/techtips](http://w3.pc.ibm.com/techtips)

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## SYSTEMS MANAGEMENT

### Systems Management in the Enterprise:

#### IBM's Netfinity and Compaq's Insight Manager

*While Netfinity treats all systems alike (open-systems view), Insight Manager does not have the ability to manage another system (proprietary-system view). Since most organizations run a mix of systems from IBM, Compaq, Dell, HP, and others, they need to know that Netfinity is not only free (when you purchase an IBM system), but it will manage all their systems, regardless of system type.*

*Administrators no longer have to configure and support multiple management applications, nor do they have to go out and purchase a management platform such as OpenView, Tivoli, or SMS (which costs thousands of dollars just for software, not to mention configuration and support).*

*It is widely reported that most organizations spend up to six times more to install and support their systems than they do on the purchase price. This is the infamous "total cost of ownership or TCO," which is exactly the cost burden Netfinity was designed to tackle.*

*Netfinity's feature-rich functionality monitors actual workloads in real time, helping administrators determine (for example) which workstations and servers might need upgrading, tuning, or more memory/disk capacity.*

*Indeed, Netfinity is capable of monitoring critical system components— CPU, hard drive, and memory— individually, providing a historical log of this information that tracks usage over time. The result is that administrators can quickly and correctly assess the need for system enhancements based on actual application performance or system usage. Through its problem detection functions, a Netfinity manager also has powerful local and remote troubleshooting and problem resolution capabilities that result in*

*timely, proactive responses to users, with a minimum of support personnel.*

#### The Intel Enterprise: No Midrange Machines, No Mainframes

Now that we have defined the Intel enterprise, let's look at some key management tasks, and how Netfinity and Insight Manager handle them in this environment. Key tasks include:

- ◆ Inventory
- ◆ Alerts
- ◆ Failures/Fault Management
- ◆ SETs
- ◆ Snap-Ins
- ◆ Clients (End Users)
- ◆ Supported Operating Systems
- ◆ Remote Management
- ◆ Remote Board
- ◆ Web Management
- ◆ Security
- ◆ Group Management
- ◆ Software Distribution
- ◆ RAID Management
- ◆ Critical File Monitor
- ◆ Automatic/Remote Task Scheduling
- ◆ System Partition
- ◆ Process Monitor
- ◆ System Monitor Service
- ◆ System Information
- ◆ Mouse
- ◆ Operating systems
- ◆ Parallel/serial ports
- ◆ Security
- ◆ SCSI subsystem
- ◆ Video subsystem

At first glance, both Netfinity and Compaq Insight Manager play well in this market. Once you investigate, however, you learn that Insight Manager does not offer as high a level of management services as Netfinity.

The next section describes each system management task, comparing Netfinity and Insight Manager functions.

#### Inventory

*Inventory is the ability to (with as little work as possible) get a complete list of all your network assets, such as serial numbers, amount of memory, hard drive size, type of operating systems, etc.*

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Netfinity and Insight Manager both do well at providing this information. **Netfinity** provides information on both IBM and non-IBM servers. **Insight Manager** provides information only on Compaq servers and workstations.

### Alerts

*An alert is a notification of either a hardware failure or user-defined threshold.*

**Netfinity Alert Manager** is an extensible facility for receiving and processing application-generated alerts. You can:

- ◆ Examine, edit, and print reports from the alert log
- ◆ Simplify application use and alert processing
- ◆ When an alert is received, customize actions such as:
  - ◆ Logging the alert
  - ◆ Notifying users (pop-up messages)
  - ◆ Forwarding the alert to another system
  - ◆ Executing a program
  - ◆ Performing an application-defined action
  - ◆ Dialing out to a digital pager
  - ◆ Generating an SNMP version of the alert
  - ◆ Playing a wave form (.WAV) file

**Insight Manager** generate alerts from a management agent, which, once deployed, becomes the focal point of the entire management scheme. Alerts can be delivered across networked segments to multiple management consoles. There is no guarantee of trap or agent delivery; also, if the management console is not running Insight Manager, the alert is ignored. Since the 2.30 release, you can route an alert to a pager, and since the 3.00 release, you can route alerts to text pagers. Although alerts may be seen as generic features that all management applications offer, remember that Insight Manager uses the SNMP protocol. To generate a second alert on the same item, the SNMP protocol states that it must pass both the upper and the lower thresholds (see the sidebar below). Desktop or client agents can also

generate alerts, but only on pre-failure drives, thermal temperature, case removal, and memory resizing. Insight Manager does not allow you to customize desktop agents (SNMP sets).

### Failures/Fault Management

*Fault management refers to either the actual or predictive failure of hardware components.*

**Netfinity** generates both server and workstation alerts based on Predictive Failure Alerting (PFA). IBM invented the PFA on disk drives, so not only does Netfinity monitor the drives' RPMs, plus the read and write errors, seek time, and spin-up time, but IBM monitors the space between the drive platters. No one else in the industry can monitor this drive pre-failure indicator but IBM. IBM tests recommend replacing the drive within 48 hours if you receive an alert. Based on this, you can configure Netfinity to begin backing up the drive to ensure you have a current backup.

**Insight Manager** can generate an alert based on pre-failure. By definition, this is not Insight Manager, but rather "Intelligent Manageability." These alerts are monitored by three functional tests: drive spin-up time; seek time; and RPM speed. Once these variables are crossed, Compaq states that you need to replace the failing component within 72 hours. Insight Manager can also kick off and proactively back up the disk, as long as you have the correct tape backup software agents running.

### Protocols

*Sets of rules for formatting and/or transmitting data on a network.*

**Netfinity Manager** supports NetBIOS, IPX, SNA LU 6.2, and TCP/IP. Netfinity Manager supports OS/2, Microsoft Windows 95, plus Windows NT 3.51 and 4.0.

SNMP-based **Insight Manager** uses IPX, TCP/IP, or NetBEUI as a transport.

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## SETS

*An SNMP SET: the act of changing the structure or numerical values of a MIB. In turn, the SET can trigger a future alert or trap.*

**Netfinity's System Configuration Manager** lets you configure one Netfinity system exactly the way you want to manage it, then to push the configuration to other systems (simplifying administration of many Netfinity-enabled systems).

**Insight Manager** lets administrators do SNMP SETs — provided they have the correct community password (refer to the SNMP sidebar) on the server only. Insight Manager does not support SNMP SETs at the workstation or desktop. Unlike Netfinity's Configuration Manager, when configuring SETs with Insight Manager, you must configure each server individually.

## Snap-Ins

*Snap-ins are pieces of software that integrate smoothly into your base management environment.*

**Netfinity** promotes new technologies through its simple install scripts such as Wake-On LAN, LAN Client Control Manager (LCCM), or Capacity Management. In addition, several third-party suppliers have integrated their products with Netfinity for more robust solutions:

- ◆ American Power Conversion has developed a Netfinity service to monitor their uninterruptible power supplies (UPS)
- ◆ Vinca Corporation ships Netfinity with its StandbyServer32 for LAN Server (monitors servers' condition and issues alerts)
- ◆ Lexmark uses Netfinity to manage networked LAN printer resources

**Insight Manager** has few, if any applications that truly "snap in." By editing the CIM20.INI file, you can add applications to the button or menu bar, then use Insight Manager as a launching point. Compaq will tell you that they can "snap-in" Netelligent (a management tool to manage the Compaq routers), but

Insight Manager can only launch this application; Netelligent and Insight Manager do not understand each other's alerts or traps. True snap-in integration means that you can monitor components that the snap-in brings to the table. Insight Manager's management application lacks the characteristics of a management platform.

## Clients

*Clients are the workstations attached to your network servers.*

**Netfinity** treats servers and clients (workstations) the same. In other words, IBM believes that a workstation is just as important to you as the server, so why not provide just as much information about the workstation as the server? Netfinity, therefore, does not hide the workstation under the server, but displays the workstation on the same sub-screen as the server. Finding a managed client when using

**Insight Manager** can get involved. Not only must you know the client's "name," but you must also know which server that client is logged into. If your network consists of 50+ servers and 200+ workstations, can you imagine how difficult it would be to find one workstation? When you need to find individual workstations, you must install the Compaq workstation agents and the SNMP protocol. You must also set up where the alerts will be sent: no easy task, because you have to configure each and every workstation.

## Supported Operating Systems

### Netfinity

- ◆ Windows 3.1
- ◆ Windows 95
- ◆ Windows NT 3.51 or 4.0
- ◆ Windows for Workgroups

### Insight Manager

- ◆ Windows 95 and/or
- ◆ Windows NT 4.0  
workstation on the managed  
nodes

If you have Windows 3.1 or Windows for Workgroups running on your nodes or clients, Compaq points you to any one of the following



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companies (some of which are very costly): BMC; Tivoli; HP; Peregrine; Sun; Seagate; Novell; IBM; Microsoft; Boole & Babbage; and Cabletron Systems.

### Remote Management

*Remote management is the ability to manage your servers that are attached to either your WAN or to your LAN when the basic network is down (asynchronously). True remote capabilities include functions such as remote control and screen view.*

The next section discusses Remote Hardware Management and Remote Administrative Management.

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### Remote Hardware Management

**Netfinity Manager** can group servers and workstations to simplify managing a large enterprise. Just by giving each system a keyword (e.g., Dallas, Denver, or Seattle), you can group the enterprise geographically. In the past, managing groups remotely meant connecting to each server to customize thresholds. With Netfinity, you do all customizing on one server, then push that out to all the servers in your enterprise. All local functions in Netfinity are also found remotely.

**Insight Manager** offers the same type of functionality; however, you must connect to each server to customize each threshold setting. Also, Insight Manager does not support threshold settings on workstations.

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### Remote Administrative Management

**Netfinity Manager** takes remote administrative management to a new level by not only providing simple management information, but also by remotely controlling both workstations and servers.

- ◆ Netfinity's Serial Control enables remote managers to access your system through your modem.

- ◆ Web Manager enables the Netfinity Web management feature, providing access and security. Though Web Manager, you can access all features in the local Netfinity tool, plus, you can plug in any Java scripts you may want to develop.
- ◆ Though the Remote Session icon, you can access the remote workstation's or server's command prompt to perform simple net commands. With remote workstation or server control, you can monitor or control the screen, keyboard, and mouse of a remote Netfinity system.
- ◆ Screen View allows you to take a snapshot of the remote system's screen, a helpful way to do remote troubleshooting.
- ◆ Though Remote Workstation Control, you can take complete control of the remote server or workstation. With this function, you can do anything from adding a user, running performance monitor software, or bringing a database or application up. The list is endless.

**Insight Manager** also provides Remote Management, but it requires the Remote Insight Manager Board. Insight Manager alone offers only command prompt capabilities. You can, however, reboot your server, then run the Compaq utilities, such as Diagnostics and System Configuration [EISA Config], on that server. For true remote capabilities — functions such as remote control and screen view — Compaq suggests third-party applications. Even the Remote Insight Manager Board cannot do this yet. It is a function that they will be adding in the next release of this board. Once you add this \$1,000.00 option to your system, you have many other features at your fingertips. Compaq is starting to integrate this board into their new high-end models such as the ProLiant 5000, 6000, and soon, 6500 (this is the same as the 6000 with a hot-plug PCI bus).

### Remote Board

**IBM's PC Server Advanced Systems Management Adapter** complements Netfinity so that a systems administrator can completely manage a system, even when it is powered off. This adapter is low cost, yet provides high function, including environmental monitoring,



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*remote system power on and off, event log, and alerting and security features.*

The IBM PC Server Advanced Systems Management Adapter features a dial-out function that you can configure to communicate with a remote Netfinity Manager. When errors are detected, the adapter dials out to the Netfinity Manager to pass alert information to Netfinity, which in turn issues an alert (e.g., paging the system administrator). The system administrator can dial into the server via the IBM PC Server Advanced Systems Management Adapter to remotely determine the cause, then to take corrective action.

Because systems management is a full-time job, the Advanced Systems Management Adapter can still do its job even when you have manually switched the system off. You can dial in from a remote site to power your server on or off or to update the service processor flash. In addition, you can configure the adapter timers to reset your system: if it hangs; if a boot fails; or after a certain number of power-on hours.

**Compaq's Remote Insight Manager Board** combines hardware, firmware, and software, with these functions:

- ◆ Hardware-based remote control
- ◆ Reboot control
- ◆ Server failure alerting
- ◆ Alphanumeric paging
- ◆ Integration with Insight Manager
- ◆ Terminal emulator access
- ◆ Reset failure sequence reply
- ◆ Battery backup

The Remote Insight Manager board comes in two models: one has a US Robotics 28.8 modem; the other has no modem, but has a serial port where you can plug in your own.

## **Web Management**

*The computing world is turning to the Internet and intranets to conduct business by sharing resources and tasks. Administrators must bring their networks "into the future" by Web-enabling applications and operating systems.*

**Netfinity** is the first Web-enabled, cross-platform PC management solution. The Netfinity Web Manager, which can be installed as an option on any Netfinity managing system, acts as a mini-Web server. Web browsers can access the Netfinity information and commands on the remote Netfinity Manager through Hypertext Markup Language (HTML) V2 scripts. You don't even need Netfinity code running on your Web management console!

**Insight Manager** does not offer Web-based management, and has no plans to add this function.

## **Security**

*Security is a way to password-protect your network. Enterprise management security includes critical data, access to this critical data, and multiple user access with definable rights to each user.*

**Netfinity's Security Manager** helps prevent unauthorized access to your Netfinity services by letting you set up login names and passwords for both servers and workstations. IDs can be the same for all systems, or you can configure them differently for each manageable system.

Protocol security is a sore subject in SNMP-based **Insight Manager**, because its security is based on two groups: the *control-community*; and the *monitorcommunity*. The *controlcommunity* has read/write access to management agents and the *monitorcommunity* has simple read access to the agents. Each community's password can be changed for the entire group; default is public.

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## Group Management

*Group management is a way of grouping your workstation and servers to more easily manage them; e.g., all laptops, all 330s, etc.*

With **Remote System Manager**, you can access and control all Netfinity services installed on your network's remote systems. To simplify management, systems are organized into logical system groups. By providing keywords, you can group all your manageable systems (e.g., servers, workstations, or laptops) in any way you like.

**Insight Manager** can group servers (servers only) in easy-to-manage groups. You can customize how they are grouped either by server hardware or by server operating system. You can also place these servers into folders, creating a file cabinet feel. For example, you could view only those servers installed in the accounting group.

## Software Distribution

*Before we can talk about software distribution, we must talk about the push-pull technology. The pull technology is the ability to take a piece of software and pull it off one server (sometimes called a server repository) to another. The push technology is the ability to take that same software and push it out to workstations.*

**Netfinity** provides both the push and pull technologies. File transfer enables you to easily send, receive, or delete files and directories — both locally and remotely. Software inventory allows you to create and manage software dictionaries, which can be used to inventory application programs.

**Insight Manager** does not support the push technology — only the pull. To accomplish this pull technology, you must use the Integration Server. The Integration Server requires hard drive space on either a NetWare or Windows NT server (they are not cross-usable), plus either Internet or modem access to Compaq. Insight Manager can then, based on a database file, tell which files or firmware are outdated. Using that Internet or modem access to Compaq, you can also pull the updated files or firmware down to the repository for manual

intervention. Insight Manager has no functionality to push to the workstation; Compaq suggests that you use a program like Microsoft's SMS to accomplish this task.

## RAID Management

*Redundant Array of Independent Disks (RAID) technology can not only manage your RAID environment, it but can also dramatically increase your striping factor.*

To manage RAIDs, **Netfinity** provides a GUI that lets you view and configure a variety of RAID disk subsystems, including logical drive migration and other RAID tasks.

**Insight Manager** offers a graphical interface to both internal and external RAID subsystems. They provide all support you might expect; however, you cannot span a RAID logical drive or perform other administrative tasks.

## Critical File Monitor

*This function keeps an eye on critical files in your operating system such as your .INI files.*

**Netfinity's Critical File Monitor** warns you when it detects that critical system files have been altered/deleted.

**Insight Manager** has no such feature.

## Automatic/Remote Task Scheduling

*To keep from impacting their end users' daily productivity, today's network managers need to be able to schedule administrative tasks at night or over the weekend.*

**Event Scheduler** lets you start and stop key Netfinity services automatically on your system or on remote systems. This primary subsystem allows you to perform management tasks at night or even on the weekends, to avoid disrupting end users.

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**Insight Manager** does not offer this service; thus, you cannot perform unattended management on your systems.

### System Partition

System partition: a small area of your hard disk for storing setup/diagnostic information.

**Netfinity** provides a mechanism for managing the system partition. System partition management 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).

**Insight Manager** does not offer any such tool. In fact, to do any type of maintenance to the system partition, you must shut down and reboot your system, leaving your server (and your end users) “down” until you have completed your maintenance.

### Process Manager

*Process management allows you to view any and all processes running on your server or workstation, such as kernel32.dll.*

Using **Netfinity's Process Manager**, you can view detailed information about all processes active on a system; you can start or stop a process, and generate alerts if a process is started, stops, or fails.

**Insight Manager** offers no such feature.

### System Monitors

*System monitors are windows into your hardware. They tell you how much drive space you have on your logical drives, how much memory is in use and is free, and so forth.*

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#### Netfinity's System Monitor Service

The System Monitor Service is a key part of Netfinity. Let's face it — if you can't monitor and send alerts on a specific subsystem, what good is the management tool? Netfinity not only sees all subsystems

on a Compaq server (and monitors them correctly), but it can also generate alerts based on the statistics.

Netfinity gives you one easy-to-manage location for viewing every system-related monitor. These system monitors display line graphs and real-time graphical displays for a variety of system resources, and alerts the user or network manager when user-defined thresholds are exceeded.

While testing server processor utilization, I noticed that Netfinity said the processor utilization was at 100%, but that Insight Manager said it was at 77%. I decided to check Performance Monitor (a utility from Microsoft) to see what it said about processor utilization; it, too, was at 100%. I can only base this on the fact that when Netfinity is asked to provide data about a subsystem, it is architected around the poll architecture; therefore, the information provided is real time.

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#### Insight Manager's Agent-Level Polling

Insight Manager, based around the SNMP architecture, does its polling at the agent level; therefore, the information displayed at the screen may not always be the most recent (By default, Insight Manager polls its agents once every minute.)

With Insight Manager, you have to drill down to each monitoring subsystem to view or manage it. Monitoring subsystems in this fashion can mean that you must open many windows at one time to see the entire system.

#### System Information: Netfinity's Subsystem for Asset Management

Let's look at some of the management capabilities Netfinity gives me on a Compaq system. First, let's explore asset management. Within Netfinity, all asset management can be accomplished through one icon. On a Compaq ProLiant 5000 server, this subsystem titled System Information can view and report information about:

- ◆ Adapters
- ◆ Disks
- ◆ Error Logs
- ◆ Keyboards
- ◆ Memory
- ◆ Models and processors
- ◆ Mouse
- ◆ Operating systems
- ◆ Parallel/serial ports
- ◆ Security
- ◆ SCSI subsystem
- ◆ Video subsystem

#### Adapter Information

On the Compaq server, I can view as much detailed information as I can on the IBM server: everything from PCI bridge information to EISA and PCI slot information. Although most information is shared, the graphical interface is not. Netfinity cannot graphically represent the Compaq server; it will not show the system board with slots, but will just show the slot type, such as PCI or EISA.

#### Disk Information

Once you dig into disk information, you will find three submenus:

- ◆ Physical disks
- ◆ Logical drives
- ◆ Diskette drives

The **Physical Disks submenu** tells you how much raw hard disk space you have. This feature is available on both IBM and Compaq servers.

The **Logical Drives submenu** gives you many valuable features, such as volume name, file system type, sectors per cluster, available space, along with any volume attributes. Again, everything is available on both IBM and Compaq servers.

The final option, **the Diskette Drive submenu**, simply tells you what type of diskette drive you have in your system. This, too, is available for both IBM and Compaq servers.

#### Error Log Information

The Error Log Information submenu offers the administrator valuable tools for troubleshooting problems. (Note: This submenu is only available in an IBM server; if you are running Netfinity on a Compaq server, this submenu will not show up on your list.)

#### Keyboard Information

On both IBM and Compaq servers, the Keyboard Information submenu gives you keyboard type, country code, Typematic Rate, and Delay.

#### Memory Information

The Memory Information submenu contains multiple components: Memory Address Ranges and Installed Memory Amounts. Both are displayed and accurate for IBM and Compaq servers.

#### Model and Processor Information

The submenu for Model and Processor Information tells you the processor type, bus type, BIOS ROM date, etc. This information is readily accessible for both IBM and Compaq servers.

#### Mouse Information

This information is readily available on both systems.

#### Operating System Information

This information passed though with no problems on both systems. This is more a function of Netfinity to the operating system than it is Netfinity to the hardware.

#### Parallel and Serial Port Information

The Parallel and Serial Port Information submenus offer a detailed look into the status of your server's ports. On the IBM server, you can get down to buffer size as well as transfer rate. On the Compaq server, you can get everything but buffer size.

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### **Security Information**

Security Information is not reported on the Compaq server; the type of information provided on the IBM server, however, is very useful. This information tells you if and what type of security your server processes such as, mechanical lock, power-on password, privileged access password, etc.

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### **SCSI Subsystem Information**

Although Netfinity does not read the proprietary SMART-2 controller in detail, it does recognize it as a SCSI controller with the correct amount of disk space. As Netfinity reports on the card, "May not comply to ANSISCSI." Netfinity does report complete information on the SCSI-2 controller and CD-ROM drive.

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### **Video Subsystem Information**

The Video Subsystem Information is a valuable tool in GUI environments such as OS/2 and Windows NT. This window provides you with the information needed when looking at graphics, with all items reported on both IBM and Compaq servers.

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### **Capacity Management**

Capacity management means collecting data about server performance, CPU utilization, drive space, memory requirements, etc., plus identifying bottlenecks so that you can maintain your system's optimal performance as well as plan for future growth.

IBM Capacity Management V1.0, an additional Netfinity service, consists of two components: CMGUI and CMBASE. These collect server performance data and display this data graphically. With Capacity Management, system administrators can easily/remotely determine how each network server is performing. Moreover, Capacity Management can identify potential bottlenecks before they turn into problems that cost time and money. By optimizing how you utilize your resources, you maximize the performance of your servers.

In addition, Capacity Management can help you plan for future capacity needs to prevent network slowdowns before they occur, by reviewing past trends of any parameter you choose (e.g., CPU utilization, memory, free drive space).

Insight Manager claims to have capacity management, but they accomplish this by simply running reports over time, then leaving it up to the administrator to determine what needs to be upgraded and why.

### **WHY IS NETFINITY SUPERIOR?**

*Netfinity brings to the systems administrator a complete set of tools that address the cost of ownership through effectively managing, maintaining, and optimizing LAN-attached PC servers and clients. As a result, the technical and administrative support factors that contribute to most network business system failures can be anticipated, assessed, and dealt with well before they become a problem.*

### **DEFINITION OF THE ENTERPRISE**

*The true computer enterprise is defined as "every computer system installed in a company — not only the Intel-based servers, but also the midrange and mainframe systems."*

### **Netfinity**

*IBM develops tools to help organizations manage not only their Intel-based servers, but also their midrange and mainframe systems. Netfinity on its own is not an enterprise management tool; however, it not only manages Intel-based systems, but also midrange systems. Plugging Netfinity into an enterprise management platform, enhances your capabilities to manage a true enterprise.*

### **Insight Manager**

*Although Compaq defines the enterprise as "all of your computer systems," it does not consider either midrange or mainframe computer systems in its management schemes.*

## **Design Objectives of Netfinity and Insight Manager**

Design objectives for these management tools differ drastically from one another. We attempt to explain design objectives for both.

### **Netfinity Design Objectives**

Netfinity operates in a peer-to-peer mode, so your management console can run on a desktop or notebook system, thus minimizing the need for expensive systems management hardware. Netfinity is a powerful suite of tools and utilities designed to manage networked client and server PCs and professional workstations 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. Because it supports industry standards such as the Desktop Management Interface (DMI), Simple Network Management Protocol (SNMP), and the Multi-Platform Management (MPM) API, it can integrate with other robust network management systems. Netfinity is basically split into two main components: Netfinity Services and Netfinity Manager.

Netfinity Services is the base code, or agent code, that runs on the server, desktop or notebook systems you want to manage. It enables these systems to participate in Netfinity configurations. Netfinity Manager is the remote management code that runs on your LAN administrator's PCs or management console. It enables them to remotely access and manage LAN-attached systems enabled with Netfinity Services. Netfinity Services delivers the base function required for a standalone or LAN-connected PC to participate in Netfinity systems management. Netfinity Services software can be configured in three modes: standalone, passive client, and active client.

**Stand-Alone Operation** is for use on an individual system without network connectivity. You can manage your own PC and support IBM OS/2 and MS Windows 3.1x/95/ Workgroups/NT.

**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. This mode is attractive to LAN administrators who prefer to retain responsibility for all systems management. Passive Client operation is available for all Netfinity-supported OSs.

**Active Client Operation**, designed for LAN-attached systems, lets the server or workstation system perform some systems management tasks locally. It also lets

Netfinity Manager software access and manage the client system, but only to perform services authorized by the system owner. Active Client operation is available for all operating systems supported by Netfinity.

Netfinity Manager installs on a LAN- or serial-attached system to be used as a management console. Netfinity Manager works with Netfinity Services, enhancing the local systems management capabilities to enable you to remotely access other LAN-attached systems on which Netfinity Services is installed. Netfinity Manager also has an optional Web interface and multi-protocol management capability.

### **Systems Management from a Web Browser**

With the optional Web Manager, you can manage your systems from a Web browser, through Netfinity Manager.

### **Multi-Protocol 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 passthrough management capability. Passthrough management is the ability of a managing system to access the functions of another managing system on a different LAN segment.

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, providing excellent scalability. This is also known as Manager of Manager capabilities.

### **Simple Network Management Protocol (SNMP)**

An understanding of SNMP is critical in describing the design objectives of Insight Manager. SNMP was developed by the Internet Engineering Task Force to be a simple but extensible network management architecture. Developed and set to standards in 1988, it has since won widespread acceptance, but not without many drawbacks, which we will discuss later in this section. The architecture of SNMP is composed of four basic parts:

- ◆ Element
- ◆ Agent
- ◆ Management Information Base (MIB)



◆ Management Software

**ELEMENT**

An SNMP element is any hardware, software, or firmware with "agent" orientation; also any hardware that can/will be

monitored, such as:

- \* Server
- \* Hub
- \* Workstation
- \* Printer
- \* Gateway
- \* NIC
- \* Processor
- \* SCSI Controller
- \* Hard Drive

**SNMP "GET " AND "SET"**

An SNMP GET is the act of reading the MIB, then passing that information to a management application, which presents the information in a way that you and I can understand.

An SNMP SET is the act of changing the structure or numerical values of the MIB. In turn, this set may trigger a future alert or trap.

NOTE: One essential item in discussing a "user definable threshold" is that great care must be taken. This is due to another shortcoming of SNMP. You must take into account two thresholds: an upper and a lower threshold. You must set both to reset the alert.

**AGENT**

A piece of software usually compiled with the MIB.

Agents can also be integrated into firmware, e.g., manageable routers/hubs. The agent communicates with the MIB, and in most cases, agent and MIB are compiled to become one. The agent also communicates with software drivers on hardware devices such as the NIC or RAID controllers. NOTE: The software drivers must be written to allow the SNMP agent to "hook" in. This does not, however, imply a proprietary driver, simply an SNMP-compliant driver. A key agent function is generating traps or alerts to the management console via TCP/IP, IPX, or NetBEUI protocols.

**MANAGEMENT INFORMATION BASE (MIB)**

In essence the MIB is a numerical distribution of a piece of hardware. Think of a spreadsheet, for example, whose numbers represent the (numerical) distribution of an element. An element is any piece of hardware (for this distribution) which has agent orientation. See GET and SET definitions in the box below.

**MANAGEMENT SOFTWARE**

The systems management application that is designed to graphically represent the managed elements.

**Comparison of Netfinity and Insight Manager in Four Major Management Environments**

**HP OpenView**

Comprehensive product and management platform for the small to global enterprise

**Insight Manager** — SNMP-based IM for OpenView requires Insight Manager Agents 2.60+ to graphically represent Compaq systems on OpenView display maps, including icons for subsystem views of server or desktop and logged event descriptions (nonstandard). As a standard subset of the SNMP MIBs, you can compile Insight Manager MIBs into OpenView but forfeit graphic representation of Compaq systems for an alert repository generated by Compaq server agents.

**Netfinity Manager** — Enhanced SNMP and command line interface allow an SNMP manager to gather data, receive alerts, and identify/ correct problems from Netfinity systems. Supports the MPM API for an unparalleled level of integration and interoperability between enterprise and workgroup management products. Integrates with OpenView, providing alerts and monitoring.

**Microsoft SMS**

More of a software distribution tool than a management platform

**Insight Manager** — Insight Manager integrates with SMS via centralized launch. SMS can be configured to receive SNMP alerts. After configuration, SMS monitors Win NT registries for alerts based on events logged. The desktop agents, however, must be installed on the supported desktops and laptops.

**Netfinity Manager** — Can integrate Netfinity Mgmt. Info. Format (MIF) used in DMI Generator into SMS and scheduled to run: A) when a user logs on; B) periodically with Win NT AT command; or C) as an SMS job. Integrating Netfinity into SMS also delivers traps/alerts and full SNMP support. Can also integrate the Netfinity Inventory into the SMS database.

**Novell ManageWise**

Comprehensive integrated solution to manage and optimize heterogeneous networks



**Insight Manager** —*Insight Manager integrates directly into ManageWise by compiling the MIB and installing launch support to allow Insight Manager to launch directly from the ManageWise map. To install Insight Manager, you must run Win 95 or NT using Novell's Client32 shell. ManageWise has a mechanism for managing clients by reading the client agent installed on supported desktop/laptop Compaqs.*

**Netfinity Manager** — *NetWare networks have a high per cent of IBM hardware, so Netfinity is integrated with ManageWise. Can launch Netfinity on remote system from ManageWise's Internet map. Netfinity exports hardware and system profile info to ManageWise's internal DB, so ManageWise and Netfinity users can seamlessly switch between the two apps.*

### **IBM — Tivoli TME 10**

*Open, OO, end-to-end solution for managing mainframes to desktops.*

**Insight Manager** —*Insight Manager for Tivoli is similar to Insight Manager for Open View: a hardware fault-management tool for Compaq servers, desktops, portables, and workstations. Insight Manager for OpenView and TME 10 NetView graphically represent Compaq servers, plus receive/forward alerts generated by Insight Manager Agents 2.60+ installed on the managed devices (non-standard).*

**Netfinity Manager** — *Since Netfinity 5.0 is a Tivoli-ready product, Netfinity customers can exploit its upgradeability into Tivoli products. Netfinity interoperates with TME 10 with no additional Tivoli agent code on Netfinity-enabled systems.*

## **EDUCATION**

*Join the more than 150,000 people worldwide who have gained a competitive edge by participating in PC Institute education courses.*

URL for IBM PC Institute — [www.ibm.com/pc/techconnect](http://www.ibm.com/pc/techconnect)

Phone: **800-235-4746** 9:00am - 6:00 pm EST Monday - Friday

Fax: **800-IBM-4FAX (426-4329)** and request "Index Document # 3211."

The PC Institute's knowledgeable, experienced, and enthusiastic team offers education on IBM Netfinity Servers in these areas:

- ◆ Professional Certification
- ◆ Sales Education
- ◆ Technical Education
- ◆ Service Training
- ◆ General Information

### **Professional Certification**

Are you responsible for planning LAN configurations? Do you install, configure, or support IBM PC servers and related products? Then you can benefit significantly from these credentials.

#### **TechConnect — for Professional Server Certification**

PC Institute sponsors Professional Server Certification. To learn how the TechConnect program can benefit you or for enrollment and scheduling information, call 800-235-4746 between 7:00am and 7:00pm CST, Monday through Friday.

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**Professional Certification for Networking and Server Technical Specialists**  
Through TechConnect, IBM offers both Professional Server Specialist and Professional Server Expert certifications. The comprehensive TechConnect program is designed exclusively for networking or server technical specialists, technical education, and certification programs. The table below lists requirements.

## Sales Education: Business Partner Satellite Broadcast

PC Institute updates business partners via satellite TV in the spring and fall. For further information or to register at one of our sites, call **888-IBM- PCTV (426-7288)**.

### Broadcast Topics

- ◆ Netfinity Servers
- ◆ Commercial Desktops/Monitors
- ◆ IntelliStations
- ◆ ThinkPads
- ◆ Marketing Programs
- ◆ Integrated offerings (SystemXtra, Small Business Solutions)
- ◆ AFI/AAP

### You'll Learn...

- ◆ How to compete effectively
- ◆ How to position IBM products
- ◆ Product strategies/transition plans
- ◆ Product availability
- ◆ Key product features/benefits

### Who Should Attend

Resellers and IBM personnel who need to know the latest about IBM personal computer solutions.

### How to Register

Call **888-IBM-PCTV (426-7288)** between 8:00am - 5:00pm CST (Monday - Friday) to enroll at an IBM site in the U.S. (The chart on the next page lists the cities.)

**NOTE:** If your reseller location subscribes to the Technology Education Network (TEN), call 800-943-1088 (ext. 222 or 224), 8:00am - 5:00pm CST (Monday - Friday), to ensure that your site receives the broadcast.

### REQUIREMENTS FOR PROFESSIONAL CERTIFICATION:

CERTIFICATION	EDUCATION	TESTING	DOCUMENTATION
Professional Server Specialist (PSS)	V5051- Netfinity/PC Server Tech. Training	Netfinity/PC Server Hardware Test (Opt'l certification testing in class)	Sign IBM Certification Agreement
Professional Server Expert (PSC) - Novell NetWare	V5051- Netfinity/PCServer Tech. Training V5052- Netfinity/PC Server NetWare Installation and Performance or V5072- Netfinity/PC Server Tech./IntranetWare Installation & Perf.	Netfinity/PC Server Technical Training Test Netfinity/PC Server NetWare Install. and Performance Test (Optional certification testing in class)	Provide proof of industry certification (Novell NetWare CNE)  Sign IBM Certification Agreement
Professional Server Expert (PSE)-OS/2 Warp Server	V5051 - Netfinity/PC Server Tech. Training  V5053 - Netfinity/PC Server Warp Server Installation	Netfinity/PC Server Technical Training Test  Netfinity/PC Server Warp Server Install./Perf. Test (Opt'l certification testing in class)	Provide proof of industry certification (OS/2 Warp Server Engineer)  Sign IBM Certification agreement
Professional Server Expert (PSE)-Win. NT Server	V5051 - Netfinity/PC Server Tech. Training  V5055 - Netfinity/PC Server Win NT Installation & Perf. or V5075 - Netfinity /PC Server Tech./Win NT Install. and Perf.	Netfinity/PC Server Technical Training Test  Netfinity/PC Server Win NT Install. and Perf. Test (Optional certification testing in class)	Provide proof of industry certification (Microsoft Certified Systems Engineer)  Sign IBM Certification Agreement

## **BROADCAST SITES**

Albany, NY  
Albuquerque, NM  
Atlanta, GA  
Austin, TX  
Baltimore, MD  
Baton Rouge, LA  
Bellevue, WA  
Beheads, MD  
Bethlehem, PA  
Birmingham, AL  
Bloomington, IL  
Boise, ID  
Buffalo, NY  
Cedar Rapids, IA  
Charlotte, NC  
Chicago, IL  
Cincinnati, OH  
Cleveland, OH  
Columbia, SC  
Columbus, OH  
Coral Gables, FL  
Costa Mesa, CA  
Dallas, TX  
Denver, CO  
Des Moines, IA  
Falls Church, VA  
 Fargo, ND  
Fayetteville, AR  
 Ft. Lauderdale, FL  
 Ft. Wayne, IN  
 Gaithersburg, MD  
 Gardena, CA  
 Greenville, SC  
 Hamden, CT  
 Hartford, CT

## **Service Education**

Courses in this section are offered only to IBM authorized service providers. Choose from a variety of offerings designed to help you master basic hardware diagnostic and repair techniques — quickly and easily. Options for hardware service education include self-paced courses, lecture/lab classroom courses, and seminars.

### **Warranty Service Start-Up Program**

A Warranty Service Start-Up Program is now required for new service locations. As a result of paying a one-time fee, a location becomes eligible to receive technical support, sign-up for electronic warranty claim processing (ECLAIM), and receive a Warranty Start-Up Kit, which includes self-study service education packages. Future courses, or updates to current courses, will be shipped at no charge.

### **Ordering Additional Copies of Self-Study Courses**

To order additional copies of self study courses, call the PC Institute Helpline at **800-937-3737**. Personnel at the Helpline will confirm your status as an IBM business partner, then connect you with the appropriate IBM publications group to place an order.

### **Equipment Requirements**

Self-study service courses are designed to quickly educate IBM business partner personnel on basic diagnostic and repair techniques. The packages are presented in any of these ways:

- ◆ VHS video tape requiring only a typical VHS viewing setup
- ◆ CBT (computer-based education) requires an IBM-compatible PC with both diskette and CD-ROM drives. It will run without a multimedia setup.
- ◆ Multimedia is also computer-based, but additional hardware and software are required to run the course. Additional requirements include:
  - ◆ 486 processor (minimum) system unit and a SuperVGA monitor.
  - ◆ Double speed (or faster) CD-ROM
  - ◆ Mouse/other pointing device
  - ◆ A 16-Bit SoundBlaster compatible sound card
  - ◆ Windows 95 or WinOS/2
  - ◆ 10 MB of hard disk space

### **Helpline**

For assistance with PC Institute service education, call **800-937-3737** between 8:30am and 5:00pm EST Monday through Friday.

## **IBM PC Institute: General Information**

Here's where you can find out how to get in touch with the variety of IBM PC Institute offerings:

- ◆ PC Institute Tour
- ◆ FAX Information
- ◆ Enrollment Information
- ◆ Helpline (Service Education Info.)
- ◆ Cancellation Policy

## **BROADCAST SITES**

Houston, TX  
Indianapolis, IN  
Jackson, MS  
Jacksonville, FL  
Jericho, NY  
Kansas City, MO  
Knoxville, TN  
Las Vegas, NV  
Lexington, KY  
Little Rock, AR  
Louisville, KY  
Madison, WI  
Mechanicsburg, PA  
Memphis, TN  
Milwaukee, WI  
Minneapolis, MN  
Montgomery, AL  
Mount Laurel, NJ  
Nashville, TN  
New Orleans, LA  
New York, NY  
Norfolk, VA  
Okla. City, OK  
Omaha, NE  
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Piscataway, NJ  
Pittsburgh, PA  
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Portland, OR  
Richmond, VA  
Roanoke, VA  
Rochester, NY

## **BROADCAST SITES**

Sacramento, CA  
Salt Lake City, UT  
San Antonio, TX  
San Diego, CA  
San Francisco, CA  
Sioux Falls, SD  
South Bend, IN  
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St. Louis, MO  
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Tampa, FL  
Tulsa, OK  
Waltham, MA  
Westchester, PA  
White Plains, NY  
Wichita, KS  
Wilmington, DE

### **PC Institute Tour**

We take our most popular technical and service classes on a national tour. Many courses offered are one-day and include hands-on exercises. You may choose from courses that cover the entire IBM personal computer product line.

### **FAX Information**

Have PC Institute education information faxed directly to you by calling **800-426-3395**. Request documents **39900 - 39920**.

### **Enrollment**

To enroll in class or order self-paced courses, call **800-IBM-TEACH (800-426-8322)**, extension **“PC Institute”** between 8:00am and 8:00pm EST, Monday - Friday.

### **Tip for faster service:**

Have these items ready:

- ◆ Course code number
- ◆ Course title
- ◆ Customer number
- ◆ Payment information

### **Helpline**

For assistance with PC Institute service education, call **800-937-3737** between 8:30am and 5:00pm EST Monday through Friday.

### **Cancellation Policy**

Students will be charged the full tuition, unless you cancel before class begins. We request that you cancel two weeks before the class.

## **IMPLEMENTATION**

*When you've planned the best route for your customer, consulted with technical experts on their behalf, made them aware of how significant comprehensive systems management tools are, and helped them get trained on skills, it's time to boogie!*

### **Tools and Services...to get it right the first time**

The implementation Phase is the time to get your customer up and running, ensuring that they are comfortable with the solution and delighted with their business results! To make sure that your customers are satisfied (and come back for more), the following tools and support services will help you put the right solution in place — the first time:

- ◆ ServerGuide 4.0 Tool
- ◆ IBM Compatibility Testing
- ◆ Start Up Support
- ◆ Internet Downloads/Tools/Info

### **ServerGuide...software to get you going — [www.pc.ibm.com/us/server/sguide/](http://www.pc.ibm.com/us/server/sguide/)**

Shipped with each IBM Netfinity system, IBM ServerGuide 4.0 addresses most configuration and on-site requirements for installing and tuning systems. Your customer's initial system setup is easier, with click-of-the-mouse access to the following built-ins:

- ◆ Hardware Guide
- ◆ NOS Installation
- ◆ CoPilot Application Guide
- ◆ Diskette Factory
- ◆ Book Factory
- ◆ Update Connector

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## Hardware Guide

The bootable HardwareGuide CD lets your customers run hardware configuration and setup programs. They'll be able to configure their hardware and get it ready for installing the network operating system (NOS). And, they can use the HardwareGuide CD to boot and configure their servers without using diskettes. They can:

- ◆ Install flash BIOS/Firmware updates
- ◆ Run system configuration utilities
- ◆ Run RAID configuration

## NOS Installation

ServerGuide can help your customer install a NOS from a retail package. After booting to the SoftwareGuide CD, they'll be guided through installing the NOS on the Netfinity server. The SoftwareGuide CD works with these network operating systems:

- ◆ Novell NetWare
- ◆ OS/2 Warp Server
- ◆ Microsoft Windows NT
- ◆ SCO OpenServer and UnixWare
- ◆ NCD WinCenter and WinFrame

Not only does the CD install the NOS on only one server, it also furnishes a replicated installation path for multiple NT Server 4.0 installations. If your customer is rolling out many similar servers, this CD can save time by automatically answering most parameters required to install the NOS on the server.

## CoPilot Application Guide

This set of CDs, to use after installing the NOS, contains:

- ◆ Lotus Domino 4.6, a complete solution to help make the Web work for businesses
- ◆ IBM Netfinity Manager v5.1, a system management program for LAN administrators

- ◆ APC PowerChute Plus for Netfinity Manager, for comprehensive power management
- ◆ IBM AntiVirus, to protect servers from over 8,000 viruses
- ◆ IBM Update Connector, a simple way to update servers running Windows NT
- ◆ IBM Netfinity Rack Configurator, to configure and update IBM Netfinity Rack systems.
- ◆ IBM Network Station Manager for Windows NT Server 4.0 provides central client management for designated IBM Network Stations

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## Diskette Factory

creates diskettes so you can store device drivers, configuration programs, and additional utilities from ServerGuide CDs.

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## Book Factory

includes the following documentation to view or print:

- ◆ Hardware manuals for IBM Netfinity and IBM PC Server systems
- ◆ Integration guides for IBM Netfinity Manager
- ◆ PC Server Selection Guide

## Update Connector

- \* Accesses the Web for the latest BIOS and drivers code
- \* Automatically updates Netfinity Server BIOS and driver files
- \* Interrogates system configuration for current levels installed
- \* Notifies you of down levels
- \* Lets you optionally download the latest levels
- \* Prepares code for installation

## Compatibility Testing — [www.pc.ibm.com/us/compat/](http://www.pc.ibm.com/us/compat/)

Don't reinvent the wheel! IBM tests many third party hardware options for Netfinity server compatibility. Let IBM's experienced testers help you decide which non-IBM options will work with your Netfinity server.

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## Start Up Support... for hardware and software — [www3.pc.ibm.com/support?page=helpcenter](http://www3.pc.ibm.com/support?page=helpcenter)

In addition to our warranty coverage, IBM's exclusive HelpCenter offering — 90 days of free support called Server Start Up Support — helps you get your Netfinity or PC Server up and running. Included with the purchase of any IBM Intel processor-based server, this comprehensive support program speeds installing both hardware and system software, as well as helping to resolve other technical challenges associated with installing new systems. To maximize the value of your investment and resolve complex issues, IBM expands its network operating system (NOS) coverage for Start Up Support.

### What does Start Up Support cover?

During the critical 90 days after installation, customers are supported for:

- ◆ IBM Netfinity and PC Server installation, setup, and configuration
- ◆ NOSs, including:
  - Novell NetWare
  - OS/2 Warp Server
  - Microsoft Windows NT
  - SCO OpenServer and UnixWare
  - NCD WinCenter and WinFrame
- ◆ Selected network interface cards (NICs), such as:
  - IBM
  - 3COM
  - Madge Networks
  - Standard Microsystems Corp. (SMC)

## POST-SALES SUPPORT AND SERVICES

*On the Intel platform, IBM offers the best server support in the industry. For years IBM has been a leader in large and midrange system service and support — bar none.*

### Business-Critical Support and Service

By focusing large- and midrange-systems expertise on Netfinity and PC Servers, IBM is maximizing our service and support infrastructure. Our large systems-like business model gives customers high-availability support and services, optimized to meet customers' business needs. Deploying remote, electronic, and on-site support, we can cover you, from pre-sales to installation to post-sales. We want our solutions to be the best fit for your customer.

**Q:** What makes IBM support and service stand out from the competition?

**A:** When your customers consider major purchases of industry-standard servers, they need to know how “the IBM difference” positively impacts business:

- ◆ From the local CSS through both regional and headquarters teams to our global HelpCenter team, IBM's integrated approach to quality through teaming ensures that systems and products are reliable, available, and serviceable throughout their life cycle.
- ◆ The Netfinity Manager tool delivers comprehensive system control.
- ◆ IBM's 3-year warranty includes predictive-failure coverage plus labor and IBM parts.
- ◆ IBM diagnostics define a new standard for the industry.
- ◆ Personalized support via the Web
- ◆ Additional IBM Service Offerings

## IBM's integrated approach to quality service and support through teaming

To integrate new service and support offerings, IBM draws from its vast, rich pool of talent, including:

- ◆ Netfinity CSSs (Customer Support Specialists) to handle customer support issues
- ◆ Netfinity Post-Sales FTSSs (Field Technical Support Specialists) to handle your managed accounts' post-sales support issues
- ◆ Headquarters DROs (Dedicated Resolution Owners) to help manage Netfinity CritSits
- ◆ PSS Area Server Managers of Services (ASMSs), who serve as liaisons between IBM and TSS in the server environment
- ◆ The Reliability, Availability, and Serviceability (RAS) Team
- ◆ IBM HelpCenter

### Netfinity CSS (Customer Support Specialist)

Owns, manages, and resolves customer support issues that are reported from managed accounts. Responsibilities are:

- ◆ Properly engaging support resources, such as the HelpCenter for remote phone support, PSS and/or TSS for parts ordering and delivery, or the dedicated resolution owners for critical situations.
- ◆ Because CSSs understand the escalation procedures within each process, they effectively manage support resources. The CSS also makes sure that customers understand our processes and can engage these channels of support.
- ◆ Proactively engaging management through status reports to ensure that they're aware of account situations and that they act to maintain customer satisfaction (e.g., opening critical situations when appropriate, engaging the ASMS to resolve PSS/TSS issues, or resolving dealers concerns).
- ◆ Ensuring that managed accounts are properly educated on IBM's Netfinity hardware and services offerings. By knowing the customer's goals, strengths, and weaknesses, a CSS can recommend

hardware education (such as TechConnect) and also advise customers when they should engage appropriate services offering (e.g., billable on-site support, project management, or Support Family of Services).

- ◆ Building strong customer relationships starts with understanding the customer's goals, objectives, strategies, and requirements for implementation. With this knowledge, a CSS can interface with customers to effectively assess the situation and determine the magnitude, complexity and resources required for resolving problems in the customer's environment.

This may require engaging the appropriate support channels for the customer (i.e., HelpCenter, TSS, Business Partners, Dealers):

- ◆ Through frequent status reports, identifying problems for the marketing team, client reps, and CritSit DROs.
- ◆ Being able to identify potential revenue opportunities and to engage other divisions of IBM via OMSYS, based on customer needs.
- ◆ Assuming responsibility for support issues within managed accounts may include helping resellers escalate issues within IBM for these accounts and/or ensuring that the accounts have tools (such as ConfigXprt) and that they understand the Solution Assurance process and its value.
- ◆ Participating in Solution Assurance reviews and engaging the post-sales FTSS as appropriate.

### **Internet Downloads, Tools, and Info —**

**For support and general information, search for specific driver, BIOS/firmware, and utility updates** --[www.pc.ibm.com/us/searchfiles.html](http://www.pc.ibm.com/us/searchfiles.html)

**If you prefer to look at file categories** — [www.pc.ibm.com/us/listfiles.html](http://www.pc.ibm.com/us/listfiles.html)

**For general Netfinity server information plus links to:**

- \* **Options**
  - \* **Benchmarks**
  - \* **Certifications**
  - \* **Guides to sizing, selection, and apps**
- [www.pc.ibm.com/us/Netfinity/](http://www.pc.ibm.com/us/Netfinity/)



## Netfinity Post-Sales Field Technical Support Specialist (FTSS)

Owens, managers, and resolves the customer's post-sales technical support issues for managed accounts, which include the following:

- ◆ Support the customers in crisis situations: Responsible for problem determination/problem source identification and performing root cause analysis. Working closely with the project office, the post-sales FTSS will help correct Netfinity Server defects, based on the results of the analysis.
- ◆ Verify third-party product dependencies: When installing new products or upgrading installed ones, the post-sales FTSS will help identify software or hardware enhancements and potential impact on third-party solutions.
- ◆ Perform preventative maintenance and apply ECs: Proactively keep managed accounts informed (via TechTalks or seminars) about ECs, BIOS upgrades/enhancements, and software changes necessary for their environments.
- ◆ Beginning with the implementation stage, pick up technical support responsibility for opportunities, to ensure successful implementation. This will be accomplished by working closely with the FTSS to transition opportunities.
- ◆ By working closely with the customer and participating in the solution assurance process, the post-sales FTSS will identify and resolve technical issues with IBM's products.
- ◆ Understanding new IBM hardware and being able to configure options using ConfiXprt. This will allow the post-sales FTSS to identify new opportunities and contribute to the sales team's goals.

## Dedicated Resolution Owner (DRO)

Dedicated Resolution Owners (DROs) are part of the customer support team in headquarters. These dedicated resources help manage Netfinity Critical Situations. If the customer's problem has not been fixed after exhausting the normal IBM support structure, a new CSIS record is opened. After review, if the situation is determined to be critical, the DRO assumes these responsibilities:

- ◆ Gather details about the situation
- ◆ Qualify the situation, i.e., determine if it warrants CRITSIT status
- ◆ Own the situation
- ◆ Engage the proper resources.

## PSS Area Server Managers of Services (ASMS)

In the server environment, the Area Server Managers of Service (ASMSs) are the contacts for the IBM/TSS relationship, with responsibilities for:

- ◆ Assisting in CRITSITS
- ◆ Ensuring that TSS delivers its services as required
- ◆ Maintaining the interface between the brands and the client teams
- ◆ Ensuring that server deals include appropriate maintenance and services components
- ◆ Ensuring that all deals go through contract, maintenance, and the services assurance process where applicable
- ◆ Assisting in pre-sales, implementation, and support as required

## The RAS team... an integrated approach to quality

Because we recognize the critical nature of our customers' businesses, IBM has dedicated a quality assurance executive for Intel processor-based servers. This executive's RAS (Reliability, Availability, and Serviceability) team must integrate a quality approach at each stage of development, including:

- ◆ Requirements gathering
- ◆ Design
- ◆ Manufacturing
- ◆ Product testing
- ◆ Delivery
- ◆ Support and service

### **IMPRESSIVE STATISTICS**

- ◆ 116,000 people deliver IBM support and services in 164 countries worldwide
- ◆ 2500 IBM support specialists handle thousands of customer and business partner calls each month.

Because the RAS team's skills and disciplines are usually found only in larger systems and complex product manufacturing, you can rely on them to understand the kinds of problems your customers encounter in business. The RAS team is structured to provide input throughout all stages of the product life cycle—beginning with product concept and continuing through development and delivery.

This team also provides input for the maintenance packages and tools our service providers use, ensuring high availability and, when problems do arise, that they are fixed quickly with the as little unscheduled outage as possible. This approach ensures that our products have the best quality as they're being manufactured, and that reliability, availability, and serviceability are built in and will continue after a product is delivered to your customer.

### **IBM HelpCenter...help when and where you need it, if something goes wrong**

Investing heavily in its support and service infrastructure over the past two years, IBM is expanding its global reach and innovative use of technology, including:

- ◆ Advanced technological links to one centralized, worldwide database allow IBM technicians to share information and solutions worldwide, eliminating potential problems and delivering faster, more accurate responses to customer inquiries around the world.
- ◆ Highly skilled specialists support a variety of network products.

#### **Hardware support** includes:

- PCs and servers
- Network adapters
- Routers, bridges, and hubs
- ATM switches
- Modems

#### **Software support** includes:

- Windows NT and 95
- NetWare
- OS/2
- UNIX

- ◆ “7 x 24 x 365” access to IBM HelpCenters via telephone, the Internet, an automated fax system, and electronic bulletin boards.

IBM's nine major international HelpCenters are located in Argentina, Australia, Brazil, Canada, China, Ireland, Japan, Mexico, Scotland, and the US. Collectively, 2500 specialists around the world offer technical support.

- ◆ The Level-2 server team's unique environment combines all the above skills into a virtual global team, offering your customers a total-systems approach to solving problems. This team provides problem determination, problem source identification and problem re-creation in well-equipped labs. The team has direct access to product engineering to assist in solving a problem, if required. And, through technical agreements and relationships with other vendors, we can offer support on selected, other manufacturers' products.

### **IBM Netfinity Manager...for comprehensive server system control**

Using the latest Netfinity 7000 technology advances, IBM's new “Call Home” provides remote support to these Intel processor-based servers. And, through advancements in Netfinity servers, PC Servers, and Netfinity Manager, IBM has enhanced its Mobile Solution Terminal (MoST), the device that our server field-service representatives carry on-site.

#### **HELPCENTER HIGHLIGHTS**

IBM has organized its Netfinity and PC Server support teams within the HelpCenters, to focus and specialize on hardware product families with integrated software NOS skills.

Each team has the deep technical knowledge and experience for re-creating customer problems, communicating solutions to all HelpCenter locations worldwide, and escalating appropriate issues to product engineering, if needed.

Each year, these teams spend several thousand hours improving their server skills, obtaining certification on major network operating systems, and getting in-depth education on new products as they're announced. The teams also participate in new-product testing, proof-of-concept, and benchmarking studies to ensure product quality.

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### Remote Connect... "Call Home" remote support

If your customer's Netfinity 7000 server experiences a problem, it will dial IBM to set in motion the right level of support to keep the system up and running. Options include having IBM contact either your customer or their approved warranty service provider.

Using multiple technologies, "Call Home" lets IBM in minutes:

- ◆ Launch on-site resources, if needed
- ◆ Invoke any level of support, including product engineering

**NOTE:** Remote Connect availability is limited to Netfinity 7000 servers (US only) and supports selected network operating systems at announce. Remote Connect is offered exclusively through IBM Global Services.

### MoST Connect... a direct communication link from the experts to the field

This latest enhancement to the Mobile Solutions Terminal (MoST) directly links IBM field service specialists at your customer's location with IBM HelpCenter experts. Continuing to improve on-site support, MoST Connect delivers full remote-console capability with both voice and data communications through a Netfinity or PC Server's serial port.

- ◆ Using MoST Connect, HelpCenter support specialists can:
  - Determine problems remotely
- ◆ Execute diagnostics
- ◆ Launch additional resources, including product engineering (if required), to solve a server problem.

MoST Connect lets the HelpCenter assemble a pool of skills that are virtually on-site to quickly address complex problems.

**NOTE:** Not yet available in all countries, MoST Connect is offered exclusively through IBM Global Services.

### 3-Year Warranty

Because you never know where or when business-critical problems will occur, IBM stands behind its servers with a 3-year, on-site warranty. This leading-edge warranty includes:

- ◆ **Hardware problem-determination** (both on-site and remote) with IBM's latest technology and tools
- ◆ **Labor and IBM parts covered** for the full duration of the warranty period, including parts identified during predictive-failure analysis when required engineering changes are installed
- ◆ **"24 x 7 x 365" access to the IBM HelpCenter** for remote phone support of IBM server hardware This warranty offers more than the typical industry-standard warranty. IBM was the first to offer coverage on predictive-failure analysis.

**NOTE:** Warranties may vary by country.

### IBM Diagnostics... defining a new standard for the industry

In the industry-standard server market, systems and network environments continue to grow more complex.

When your customer's system has a problem, you want it fixed fast.

The key: quickly identify the customer's problem, then solve it!

IBM Tools help put IBM customers in the driver's seat.

**Capturing soft and intermittent errors as they occur, then logging them for later action lets your customer decide when to perform system maintenance, rather than letting an error determine when the system is taken down.** Our strategy involves adapting our large-system knowledge, expertise, and functions for use with Netfinity servers. IBM solutions can help your customers avoid unscheduled outages. Functions include:

- ◆ Real-time error detection
- ◆ Remote console capability

- ◆ Remote diagnostics
- ◆ Unattended diagnostics
- ◆ Enhancements to Predictive-Failure Analysis (PFA)

Our service providers know these tools and have the skills necessary for operating in complex business-critical network environments.

### Personalized “e-support” via the Web — [www3.pc.ibm.com/support/](http://www3.pc.ibm.com/support/)

One of our new Web-based services personalizes interactions to meet customer needs.

Another enhancement on the electronic-support Web site can automatically update your customers Netfinity and PC Server BIOS and driver files.

In addition, we have new product compatibility and life-cycle management offerings including:

- ◆ Create your own server support Web page
- ◆ Update Connector
- ◆ ServerProven
- ◆ SystemXtra

### Create a personalized Web site...

Go to the PSG Support Home Page, create a Profile with our state-of-the-art system, and we'll build a Web site just for you — right there on the spot!

This personalized site lets you tell us about your operating environment. We do all the work to determine which solutions are applicable to you. Whether you want a list of our frequently asked questions (FAQs), technical tips, or information on downloading a new driver, you can find it on your IBM customized site in no time.

### Access the latest BIOS and driver code through Update Connector...

Connecting and executing through the Web, Update Connector searches your system's configuration, determines the levels of BIOS and drivers currently installed, then notifies you of the latest levels. At your discretion, Update Connector can send you the latest versions for your system and prepare them for installation at your convenience.

### ServerProven...focus on business, not compatibility — [www.us.pc.ibm.com/compat](http://www.us.pc.ibm.com/compat)

**ServerProven takes the complexity out of configuring, installing and setting up options, network operating systems and applications.**

We've carefully tested hundreds of products from Options by IBM (OBI) and other leading industry vendors such as 3Com, Adaptec, Madge, SMC, and Symbios for compatibility with IBM Netfinity, so you can add new capabilities with confidence. We update our comprehensive list frequently, posting it on our Web site. The products are listed as ServerProven to operate in the environments tested. For ISVs and hardware manufacturers, ServerProven now incorporates ServerProven Solutions.

Our ServerProven program now includes **ServerProven Solutions**, IBM's commitment to work with independent software vendors and industry-leading hardware manufacturers to provide you with fully integrated solutions that fit your requirements. By comprehensively testing both software and hardware during server development, IBM can offer:

- ◆ Improved performance
- ◆ Simplified installation
- ◆ Configuration guidelines

**OUR FOCUS —  
SUPPORT AND  
SERVICE**

*IBM is focused on delivering business-critical, high-availability support and service to your customers, including:*

- ◆ *Higher availability of maintenance parts*
- ◆ *Support specialists at the local, regional, and area levels*
- ◆ *Customer service representatives and technical support managers assigned to your business customer*

**SystemXtra...real business value for your investment —**

**[www.pc.ibm.com/us/systemxtra/](http://www.pc.ibm.com/us/systemxtra/)**

**Phone: 800-426-7255, ext. 4749**

**A new life-cycle management offering.**

SystemXtra gives you real business value for your IT investment, including the latest remote manageability, monitoring, security, and investment protection technologies on many IBM systems. It also includes:

- ◆ Network management and support services
- ◆ Clustering Solution Planning services
- ◆ Financing that can deliver both hardware and services at an attractive monthly fee
- ◆ Technology Exchange, a flexible and affordable option for updating PC hardware with newer technology after only two years

SystemXtra can be packaged with a range of hardware products. In today's competitive business world, IBM SystemXtra helps you gain the advantage by focusing on your core

business, boosting productivity, and managing rapid technological change while making the most of your company's time, skills, and IT investment.

**Additional IBM Services**

For additional information, contact your IBM Business Partner or your local IBM Representative.

Complementing IBM's strong portfolio of services and support is a robust package of network and server-based services. Both packaged and customized offerings can meet your customer's business needs with a total suite of network solutions, such as:

- ◆ Network design services
- ◆ Connectivity, cabling and fiber
- ◆ Network monitoring and management
- ◆ Systems management
- ◆ Asset management
- ◆ Site readiness, UPS, environmental, and HVAC services
- ◆ Relocation services
- ◆ Capacity and performance planning
- ◆ Help desk services
- ◆ End-user support
- ◆ Education
- ◆ Disaster and business recovery
- ◆ Backup and restore
- ◆ Outsourcing
- ◆ Warranty upgrades and post-warranty maintenance agreements

# ROADSIDE ASSISTANCE

*Helpful IBM Phone Numbers and URLs*

## PHONE NUMBERS

### General Information

General Information ..... 800-426-3333

### Product Information

Fax Information Service ..... 800-426-4329

Independence Series Info. Center ..... 800-426-4832

Independence Series Info. Center

(TDD - Hearing Impaired) ..... 800-426-4833

OS/2 Info. and Sales Line ..... 800-342-6672

PSG Automated Fax System ..... 800-426-3395

Lexmark Autom. Fax Info. Service ..... 606-232-2380

### Service and Support

Chemical Control Information ..... 800-426-4333

End User Supt. (Exist. Contract) ..... 800-825-8737

Global Information Network ..... 800-727-2222

Health Effects Hotline ..... 800-745-2200

Open Systems Center ..... 817-962-6736

Parts Order Service ..... 800-388-7080

PSG Bulletin Board System ..... 919-517-0001

PSG HelpCenter ("HelpWare") ..... 800-772-2227

PS Support Family Mktg. Ctr. ..... 800-799-7765

"SupportLine" for Customers ..... 800-992-4777

TALKLINK Info/Registration ..... 800-547-1283

IBMLINK Customer Support and

Automated Help Desk ..... 800-543-3912

Solution Developer Program ..... 800-627-8363

### Consulting Services

AntiVirus Services/Support ..... 800-742-2493

Capacity Planning Services ..... 800-426-4682

### Education and Publications

Corporate Technical Journals ..... 800-426-5687

Education and Training (800-IBM-TEACh) ..... 800-426-8322

Software Manufacturing Solutions and Pub Support .. 800-879-2755

Delivery Center (Fax Orders) ..... 800-284-4721

IBM TCdigest Support Newsletter ..... 817-962-7379

### Purchasing and Ordering Information

Direct Networking Catalog Sales ..... 800-426-2255

Customer Fulfillment ..... 800-426-4338

Personal Systems Group ..... 800-426-2968

Aptiva/ThinkPad Info and Dealer Locator ..... 800-426-3377

## WEB SITES

### IBM Netfinity Server Web Sites

PSG Home Page ..... [www.pc.ibm.com/us/](http://www.pc.ibm.com/us/)

Netfinity Servers ..... [www.pc.ibm.com/us/netfinity/index.html](http://www.pc.ibm.com/us/netfinity/index.html)

Server Machine Types ... [www.pc.ibm.com/us/netfinity/index.html](http://www.pc.ibm.com/us/netfinity/index.html)

Server Options ..... [www.pc.ibm.com/us/netfinity/index.html](http://www.pc.ibm.com/us/netfinity/index.html)

Server News ..... [www.pc.ibm.com/us/news/news.html](http://www.pc.ibm.com/us/news/news.html)

Server Services/Support ..... [www3.pc.ibm.com/support](http://www3.pc.ibm.com/support)

Server Files/Tips/Drivers ..... [www3.pc.ibm.com/support](http://www3.pc.ibm.com/support)

Server-Related Links ..... [www3.pc.ibm.com/support](http://www3.pc.ibm.com/support)