Migrating from Netfinity Manager to Netfinity Director

- Helps you plan for and implement a conversion
- Explains how the two products can coexist
- Shows what data can be transferred

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Migrating from Netfinity Manager to Netfinity Director

July 2000

Take Note!

Before using this information and the product it supports, be sure to read the general information in Appendix B, “Special notices” on page 185.

First Edition (July 2000)

This edition applies to Netfinity Director Version 2.12.

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Preface

In 1993, IBM announced Version 1.1 of NetFinity Manager and NetFinity Services. The products supported OS/2 2.0 with planned support for Windows 3.1 manager systems and Windows 3.1, NetWare 3.11 and NetWare 4.0 client systems. NetFinity Manager shipped on one 3.5" diskette and Services shipped on two 3.5" diskettes. The product went through three name changes since then: to IBM PC SystemView in early 1996, to TME 10 NetFinity in late 1996, then to IBM Netfinity Manager (lower-case F) in 1997.

In 1999, IBM announced a new product, Netfinity Director, which was based on Tivoli IT Director and was to replace Netfinity Manager. The current version, V2.12 announced in April 2000, builds on the function and features of the new product.

This redbook describes the migration process that will help customers with the transition from Netfinity Manager to Netfinity Director. We explain the differences between the products and what you need to consider before you begin. The book then explains how to configure your management environment so that Netfinity Manager and Netfinity Director can coexist, and what options you have to roll out UM Services, the Netfinity Director agent, to all of your client workstations and servers. Finally we help you retrieve your data from your Netfinity Manager configurations and put that into Netfinity Director. We also discuss the Tivoli IT Director product and how it compares to Netfinity Director.

This book is aimed at customers, business partners and IBMers who will be involved in migrating existing Netfinity Manager installations to Netfinity Director. A partner redbook to this publication is *Netfinity Director Integration and Tools*, SG24-5389. The combination of these two books will help you understand what Netfinity Director is compared to Netfinity Manager, how to use Netfinity Director, and how to migrate from one to the other.

The team that wrote this redbook

This redbook was produced by a team of specialists from around the world working at the International Technical Support Organization, Raleigh Center.

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Chapter 1. Introduction

Netfinity Director is the new IBM Netfinity systems management software product. It is now easier to use and contains greater functionality than the existing Netfinity Manager product offering.

Netfinity Director can coexist with Netfinity Manager and Netfinity Services products. Both products can function independently and some integration of Netfinity Manager into a Netfinity Director configuration is possible to provide discovery, alerts, and inventory from Netfinity Manager clients. This integration is made possible by installing the Netfinity Multi-Platform Manager (MPM) Provider along with the Netfinity Director product. This interface acts as a gateway to reach native Netfinity Manager systems from Netfinity Director.

Beyond coexistence and integration, the transfer of customer configuration data (for example, alerts and schedules) from Netfinity Manager to Netfinity Director is largely a manual process. This redbook will help you through this process by providing information on where the information is stored, and worksheets to let you record your configuration data.

There are a number of reasons why you should convert your Netfinity Manager configuration to Netfinity Director:

- Windows 2000 support.

  Netfinity Manager does not support Windows 2000 either as a manager or as a client. If you wish to manage Windows 2000 systems, you must use Netfinity Director.

- Support for new systems.

  While support for Netfinity Manager will remain beyond 2000 through fixpacks, it is possible that newer systems will not be supported by Netfinity Manager.

- Centralized security.

  Netfinity Manager is a peer-to-peer configuration and access from one system to another is based on passwords stored in both systems. With Netfinity Director all client access is controlled through the Netfinity Director server, either using existing Windows user IDs as a basis for access, or with user IDs created within Netfinity Director, or a combination of both. Netfinity Director offers a higher level of user ID and password security by integrating with the Windows Security Accounts Manager (SAM) database.

- Improved interface and functionality.

  The new Netfinity Director user interface is much easier to use and is based on a drag-and-drop Explorer-like interface rather than the older OS/2-Windows 3.1 iconic interface of Netfinity Manager. Netfinity Director is based on Tivoli's IT Director and, as such, offers a greater level of functionality over Netfinity Manager.

Netfinity Director does not support older systems that do not have SMBIOS (systems management BIOS) 2.0 support. If you have older systems that don't have this support, you may wish to maintain both Netfinity Manager and Netfinity Director: use Netfinity Director to manage all the new systems and use Netfinity Manager (either with or without MPM) to manage all the older systems.

This redbook provides you with the following information to help you migrate from Netfinity Manager to Netfinity Director:

- How the two products compare, what the system prerequisites are and what the licensing issues are for Netfinity Director
- What you should do to plan for a migration
- How to install the Netfinity Director server and console
- How to use MPM to manage Netfinity Manager systems from Netfinity Director
- How to install Netfinity Director clients, both attended and unattended
- What customer configuration data is stored in your Netfinity Manager systems, where it is stored, and steps to transfer that information to Netfinity Director
- Reasons to remove Netfinity Manager once Netfinity Director is running and how to do so
- How IT Director compares with Netfinity Director and how to upgrade

Chapter 2. Comparing Netfinity Director with Netfinity Manager

This chapter introduces Netfinity Director and compares it with Netfinity Manager.

Netfinity Director is a new product that will replace Netfinity Manager. It is based on Tivoli IT Director and can be easily upgraded to IT Director to receive the full benefits of Tivoli systems management. Netfinity Director is designed to manage a small-to-medium sized environment of up to 1,500 licensed clients with one management server.

In comparison to Netfinity Manager, Netfinity Director adds many features, such as a completely redesigned user interface, dynamic rules-based grouping and an integrated database, so the system information is still accessible even when the managed client is offline.

Using the Java-based graphical user interface, an administrator can manage individual or groups of IBM and non-IBM Intel processor-based server, desktop, workstation and notebook systems on a variety of platforms. It is designed to use industry-standard information-gathering technologies and messaging protocols, including Common Information Model (CIM), Desktop Management Interface (DMI), and Simple Network Management Protocol (SNMP).

Leveraging these standards, Netfinity Director can integrate into enterprise and workgroup management systems including:

- Tivoli Enterprise Framework
- Tivoli NetView NT
- Computer Associates Unicenter TNG Framework
- Microsoft SMS
- Intel LANDesk Management Suite

2.1 Components

A Netfinity Director configuration is made up of three main components as shown in Figure 1:

- Netfinity Director server
- Netfinity Director console
- Netfinity Director clients

In addition, Netfinity Director can be extended to have additional functions through the use of plug-ins, known as Life Cycle Tools, such as UM Server Extensions.

Each of these is now described.

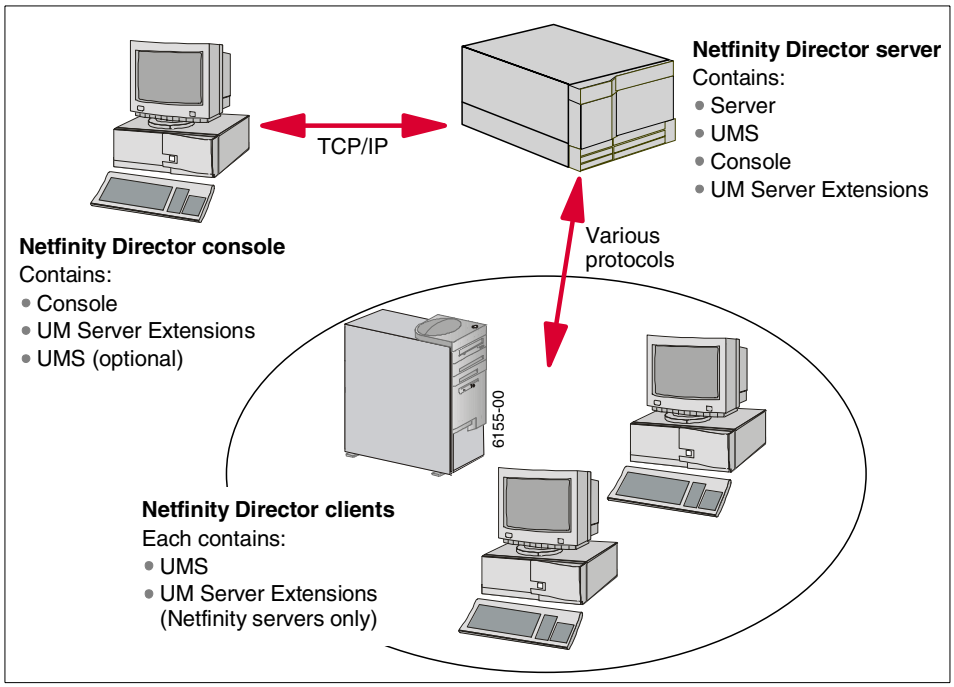


Figure 1. A typical Netfinity Director configuration

2.1.1 Netfinity Director server

The server is the heart of Netfinity Director. This is where the management data, server engine, and management application logic reside. The management information is stored in a database (Jet, SQL Server or DB2). Only one server to needed to manage up to 1500 clients.

The server can be either a Windows NT 4.0 or a Windows 2000 Server system. Installation is described in Chapter 4, “Installing Netfinity Director server and console” on page 45. When you install the server component, the client and the console components are automatically installed as well.

If this system is a Netfinity server or if any managed system is a Netfinity server, you should also install UM Server Extensions.

A license is required for the server.

The server and the console communicate via TCP/IP. The server can communicate with the clients using any of the following network protocols:

- NetBIOS
- Novell IPX
- TCP/IP
- SNA/APPC

2.1.2 Netfinity Director console

The console is the user interface for Netfinity Director and is where all administrative tasks are performed. You can have as many consoles as you need, since these do not require software licenses.

The console can be any WIN32 system (Windows 95, 98, NT 4.0 or 2000). Installation is described in Chapter 4, “Installing Netfinity Director server and console” on page 45. When you install the console, UMS is not installed automatically — if you want to manage the console system, you must also install UMS. If you are have any Netfinity servers in your network, you should also install UM Server Extensions.

2.1.3 Netfinity Director agent

The agent is installed on all systems to be managed, including the console and the server. The agent is known as UM Services (UMS) which is a Tivoli-ready set of services. Netfinity Director recognizes two types of managed systems:

- Native Netfinity Director systems: these have an agent installed and act as a passive system. Users of these systems do not have access to a GUI.
- Multiplatform Manager (MPM) systems: these are PCs or devices that are running Netfinity Manager and communicate with Netfinity Director via an MPM provider.

UMS runs on the following operating systems:

- Windows 2000 (Professional, Server and Advanced Server)
- Windows NT 4.0 Workstation or Server (with Service Pack 4 or higher)
- Windows 95 (OSR 2 or later) and Windows 98
- NetWare 4.x with Service Pack 5 or higher
- NetWare 5.0 with Service Pack 1 or higher
- SCO UnixWare 7.1
- OS/2 4.0 with Service Pack 5

- OS/2 Warp Server for e-business

Notes:

- All systems must have a BIOS that supports SMBIOS Version 2.0 or higher.
- The Universal Management Agent (UMA) is not supported by Netfinity Director.

UMS installation is covered in Chapter 6, “Installing UMS on clients” on page 93. If the client is a Netfinity server, you should also install UM Server Extensions as well.

2.1.4 UM Server Extensions

Netfinity Director is an extensible system through the use of Life Cycle Tools (LCT). One of these is UM Server Extensions, a set of tools for use on Netfinity servers. UM Server Extensions is installed on the following systems:

- Each Netfinity server
- Each Netfinity Director console
- The Netfinity Director server (even if it isn’t a Netfinity system)

UM Server Extensions includes:

- Advanced System Management

  Server problems happen for a number of reasons:

  – Applications with memory leaks
  – Failing or soon to fail hardware
  – Unstable applications
  – Everyday use

  Advanced System Management through the service processor gives you control of remote systems. You can monitor critical subsystems, restart logs, and troubleshoot Netfinity servers, even if the targeted system is not powered on.

- Capacity Manager

  As the number of users of server applications increases so does the server resource use. Over time, this can result in an application failure due to resource depletion. Capacity Manager tracks resource utilization, identifies multiple levels of existing or potential bottlenecks, and makes recommendations to improve performance.

- Cluster Systems Management

  IBM Cluster Systems Management (ICSM) is used to help you control, set up, and manage clustered servers from a single graphical user interface. Systems administrators can be alerted to any event in a cluster (hardware, operating system, and MSCS).

- Netfinity SP Switch administration

  The Netfinity SP Switch is resilient to failure due to redundant components and an integrated service processor. The Netfinity SP Switch Administrator monitors the operating status of various switch components by providing proactive alert notification if a component should fail.

- RAID Manager

  This tool reduces the time needed to configure and to manage ServeRAID. Hot spares are reduced with the new RAID 5E support, which reserves space on existing drives for rebuilds. Data scrubbing and auto synchronization of the parity drive can be done remotely. RAID migration enables migration from previous RAID levels to increase free space and logical drive space.

- Software rejuvenation

  Cumulative application software errors affect the availability of your server. Through a calendar interface, Software Rejuvenation allows refreshing of the software on your MSCS clustered nodes.

- Fibre Channel Storage Manager

  The Enterprise Management windows provides the following primary storage management functions:

  – Discover hosts and storage subsystems on your local subnetwork, to add to your management domain

  – Manually add or remove hosts and storage subsystems to your management domain

  – Provide the ability to sort rows in the device table according to different criteria

  – Store your enterprise management windows view preferences and management domain data in local configuration files

  – Monitor the condition of storage subsystems and report a high-level status using appropriate icon

  – Configure alert notifications (e-mail or SNMP traps) and report critical events to the configured alert destinations

– Load the appropriate subsystem management window for a selected storage subsystem to allow detailed configuration and management operations

– Execute a script to perform batch management tasks on a particular storage subsystem

UM Server Extensions is available from the Web at:

`http://www.ibm.com/pc/ww/solutions/enterprise/sysmgmt/products`

For information on how to install UM Server Extensions see 6.4, “Installing UM Server Extensions” on page 117.

2.2 Differences between the products

The most significant visible difference between Netfinity Manager and Netfinity Director is the user interface. Netfinity Manager was loosely based on an OS/2-style iconic interface, while the Netfinity Director is based on a hierarchical tree-oriented interface as shown in Figure 2. The components of the main window are:

- Menu bar, used to set up the configuration and preferences setting.
- Tool bar containing icons for easy access to key functions.
- Groups panel, a list of all the groups of systems.
- Group Contents panel, a list of systems in the currently selected group.
- Tasks panel, the functions that can be performed on groups or systems.
- Status bar, where actions are acknowledged, and the name, logon userid and server time and date are displayed.
- Ticker tape, where you can monitor system attributes without having to view a separate window. The ticker tape can contain information about specific systems or conditions and serves as a status indicator, providing real time monitoring of critical resources.

Functions are performed by dragging tasks from the task panel onto either a group in the Groups panel, or a system in the Group Contents panel.

Tasks are discussed in 2.3, “Netfinity Director functions” on page 14.

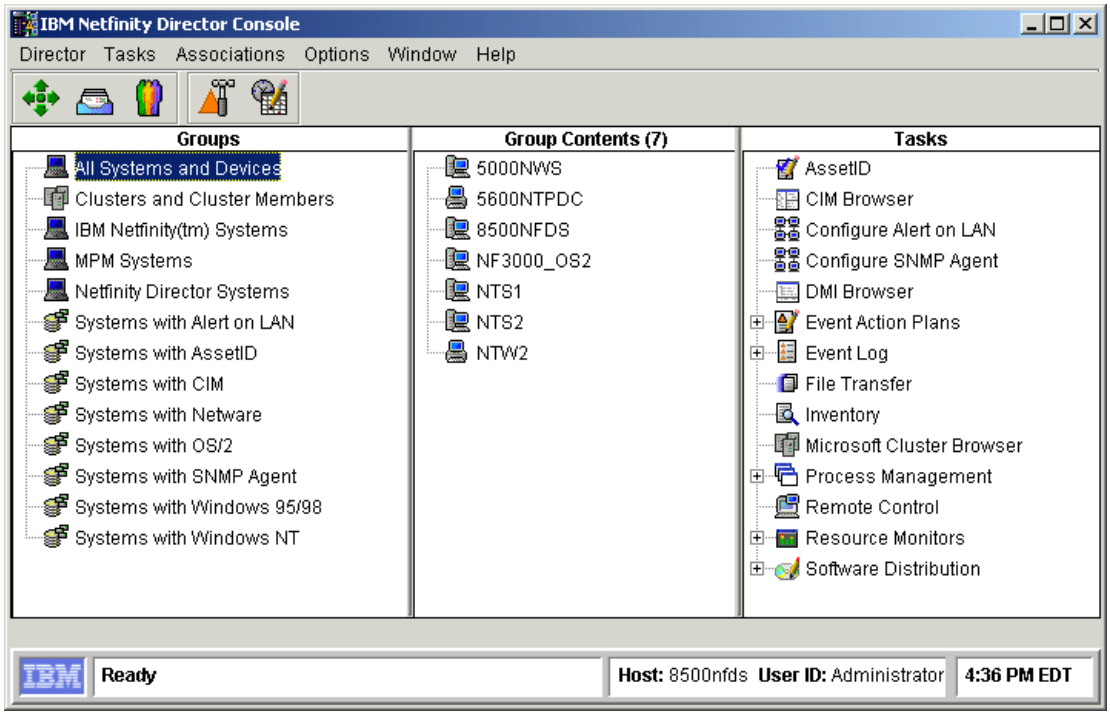


Figure 2. Netfinity Director Console

2.2.1 Architecture

Aside from the user interface enhancement, Netfinity Manager and Netfinity Director are fundamentally different in the way they operate, as shown in Figure 3 on page 10:

- Netfinity Manager uses peer-to-peer communications to establish a connection between a manager system and a client system. Information about the connection and related security are stored in both the manager and the client systems, but not in any central location. Any one manager does not have to be able to directly connect to all systems — it can connect to remote systems by first connecting to an intermediate system, then “leap frogging” to the remote client. No dedicated central server is used.
- Netfinity Director operates in a client/server system management configuration. The configuration uses a dedicated server acting as the core engine for the environment that keeps all the data about all systems.

All requests to access any clients from a management console are passed through the server.

Data about the systems, such as inventory, is collected at the server in an SQL database. This enables an administrator to simply perform queries on the data to obtain information about all systems regardless of the current state of those systems.

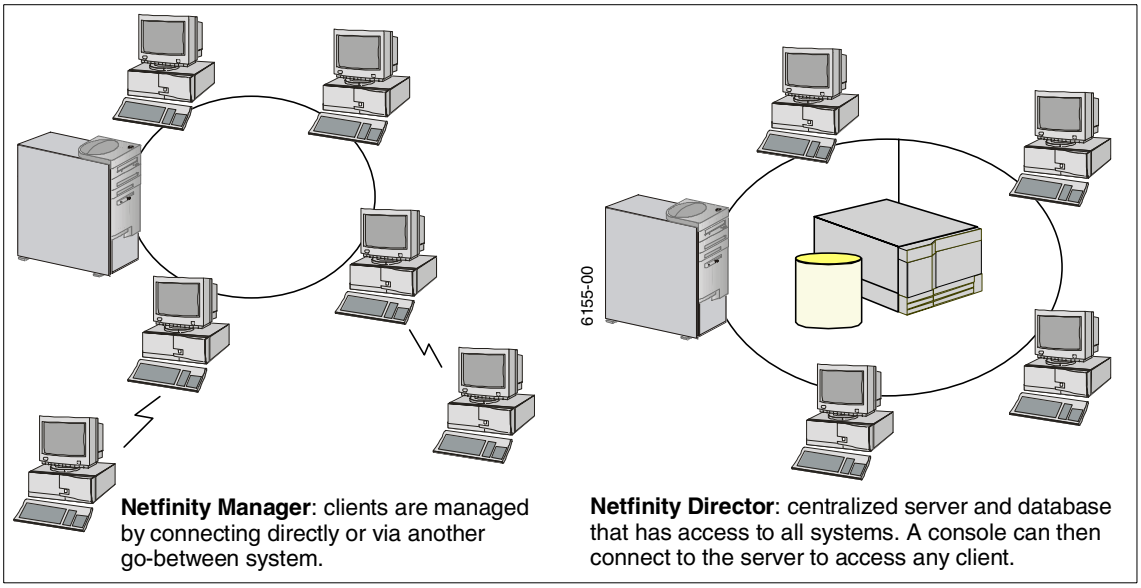


Figure 3. Comparing the architectures of Netfinity Manager and Netfinity Director

2.2.2 Security

Netfinity Manager uses application-level security, configured using the Security Manager. On each system, you create user IDs and passwords that allow access to specific Netfinity Manager functions.

Netfinity Director uses a centralized security model, storing all security access information on the Netfinity Director server. Security is implemented at two levels:

- User-logon security. This controls which users can log on to a Netfinity Director console and what functions they can perform. This is discussed in more detail in this section and in the *Netfinity Director Installation and User's Guide*.

- Agent-server security — defines trust relationships between the agent and one or more servers through the use of public and private keys. This is discussed in detail in the *Netfinity Director Installation and User's Guide*.

Access to the Netfinity Director console is implemented through the Console Security function (click **Options > Console Security** from the console window). The console security window initially displays a table of all user IDs that are authorized to access the Netfinity Director server. You can:

- Define general access, group access, and task access privileges
- Add a new user ID
- Edit the information of an existing user ID
- View the list of user IDs defined in Netfinity Director

Users can be defined in two ways:

- Create the user using Console Security in Netfinity Director. You can use this option if you want a group of administrators to access Netfinity Director all with the same user ID and password. These are known as *non-native user accounts*.
- Create the user using Windows NT/2000's User Manager on the Netfinity Director server. The user's ID and password are controlled through the operating system's security functions. This means that Netfinity Director administrators need to remember only their Windows password. These are known as *native user accounts*.

  To allow a native user account to have access to Netfinity Director, the user must be a member of one of the following groups on the Netfinity Director server:

  – Administrators (local administrators)

  – Domain Admins (if the Netfinity Director server is part of a domain)

  – TWGAdmins (a group created when the Netfinity Director server is installed as shown in Figure 4)

  – TWGSuperAdmins (a group created when the Netfinity Director server is installed as shown in Figure 4)

  Native user accounts that are members of Administrators, Domain Admins, and TWGAdmins can have their access to specific tasks and systems limited through settings in Console Security. Native user accounts that are members of TWGSuperAdmins have complete access to all tasks and systems and cannot be restricted.

  Note: You would normally add users to the TWGAdmins or TWGSuperAdmins groups only when you want them to be Netfinity

Director administrators but you do not want them to be Windows local or domain administrators.

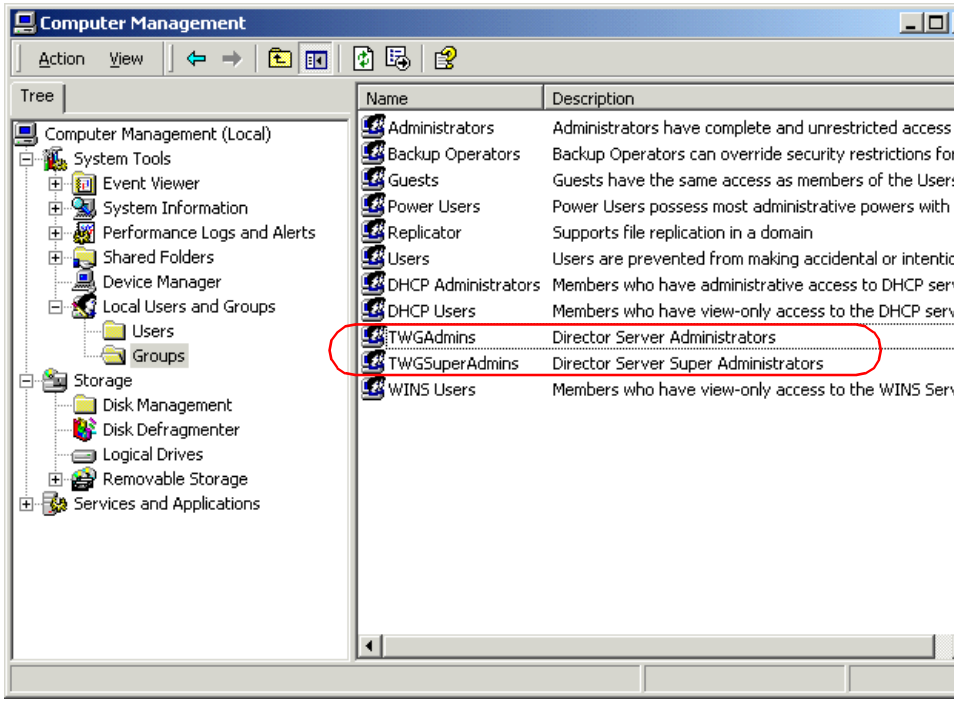


Figure 4. Two Netfinity Director administrator groups defined in Windows

Notes:

- The account that was used to install Netfinity Director server is automatically made a member of TWGAdmins and TWGSuperAdmins.
- By default, local administrators, domain administrators and TWGAdmins do not have access to the Console Security function. This means that only members of TWGSuperAdmins can change user access to the console. This can be changed by adding the privilege **Allow user account administration** in Console Security.
- Membership in the TWGAdmins and TWGSuperAdmins groups does not give you the authority to start or stop the Netfinity Director server service (TWGIPC). This requires specific operating system authorities and is not controlled within Netfinity Director.

Once the console users have been defined, access can be restricted to specific groups and tasks. See 7.2, “Security Manager” on page 130 for more information.

2.2.3 Groups

Netfinity Manager uses keywords to determine a group. When you define a group, you specify what keywords should be present in each machine to be included in the group. You can also filter the groups based on the networking protocol used and the operating system of the client.

In Netfinity Director, groups can be defined based on “rules” including the hardware and software inventory of the clients. Groups can be:

- Dynamic groups — group membership changes as clients change and is automatically updated.
- Static groups — once defined, the contents of these groups never change
- Task-based groups — groups that contain members that can all have specific tasks performed on them (for example, Advanced System Management)

Netfinity Director does not use keywords to define groups.

For details about Netfinity Director group management, please refer to section 3.3 of the redbook *Netfinity Director Integration and Tools*, SG24-5389.

2.2.4 Wake On LAN

Netfinity Director supports Wake on LAN. This is enabled by selecting the **Enable Wake-On-LAN** checkbox during client installation as shown in Figure 5:

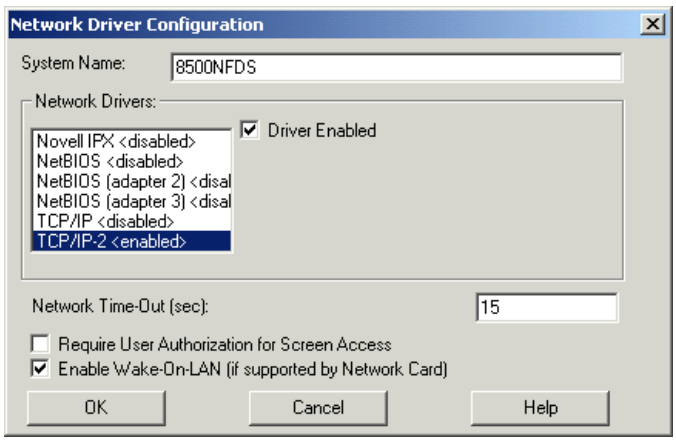


Figure 5. Netfinity Director Network Driver Configuration

To access this window:

- On the Netfinity Director server, the window appears automatically during installation. To access it later, click **Start > Programs > IBM Netfinity Director > Network Driver Configuration**.
- On UMS systems other than the Netfinity Director server, it is not displayed during installation. You can start it by running `TWGIPCCF` from a command line (the directory where it is installed, C:\Program Files\IBM\Director\bin, is in the path statement)

2.3 Netfinity Director functions

This section describes how to perform Netfinity Manager functions in Netfinity Director.

The main window is divided into three panels as shown in Figure 6.

- Groups — contains predefined and administrator-defined groups, similar to the Remote Systems Manager in Netfinity Manager
- Group Contents — the contents of the currently selected group
- Tasks — all the tasks that are available from this console. If UM Server Extensions is installed on this console, the additional tasks will be shown

Before you can manage clients, you have to find or *discover* them. To launch the discovery process, click **Tasks > Discover Systems > All Systems and Devices**.

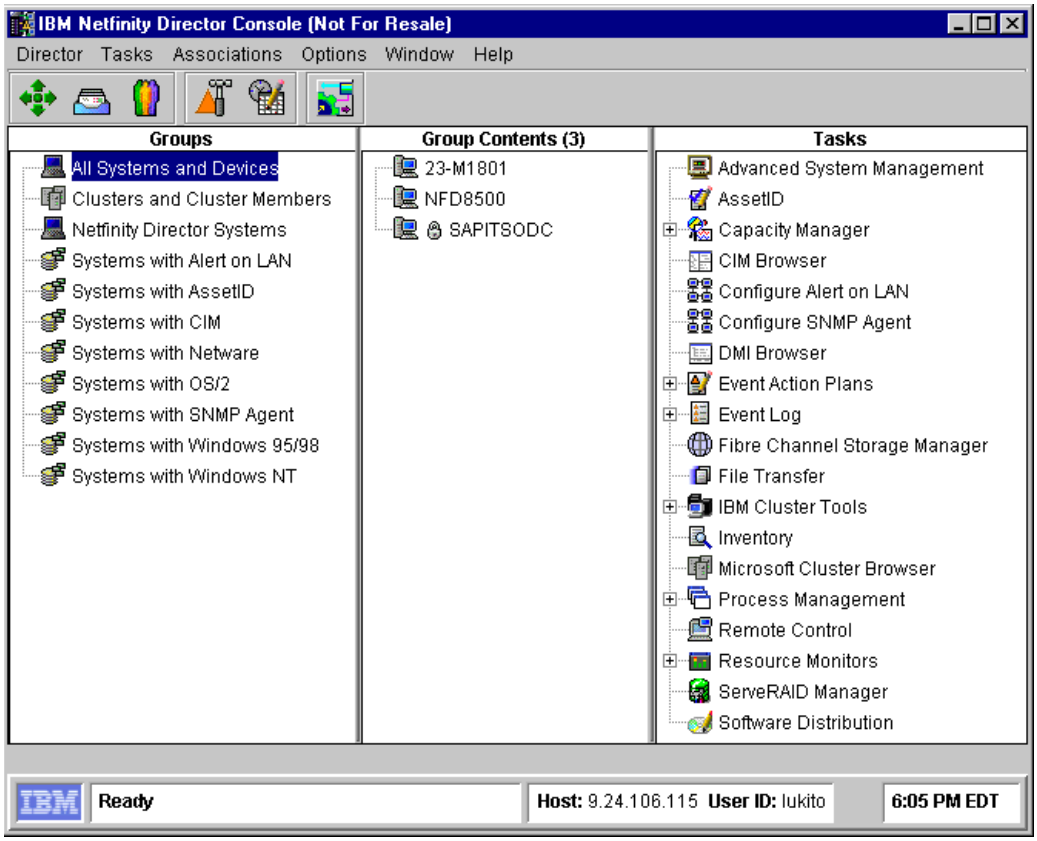


Figure 6. Netfinity Director console

The functions that appear in the Tasks panel are discussed briefly below. Table 1 lists the Netfinity Manager functions and the equivalent Netfinity Director functions.

Table 1. Equivalent Netfinity Manager functions in Netfinity Director

Netfinity Manager functions	Netfinity Director tasks
Advanced System Management	Advanced System Management
Alert Manager	Event Action Plan
Alert Log	Event Log
(Not implemented)	CIM Browser
Alert Manager	Configure Alert on LAN
(Not implemented)	Configure SNMP Agent

Netfinity Manager functions	Netfinity Director tasks
Capacity Manager	Capacity Manager
Critical File Monitor	(Not implemented)
DMI Browser	DMI Browser
Dynamic Connection Manager	Advanced System Management
Event Scheduler	Task Scheduler
File Transfer	File Transfer
Fibre Channel Storage Manager	Fibre Channel Storage Manager
Power-On Error Detect	(Not implemented)
Predictive Failure Analysis	SMART
Process Manager	Process Management
Remote System Manager	Group pane
Remote Session	(Not implemented)
Remote Workstation Control	Remote Control
RAID Manager	RAID Manager
Screen View	(Not implemented)
Security Manager	Console Security
Service Configuration Manager	Event Action Plan Builder
Software Inventory	Inventory
(Not implemented)	SP Switch Administrator
System Information	Inventory
System Monitor	Resource Monitor
System Profile	Asset ID and the TWGUSER.INI file
Update Connector Manager	Update Connector Manager
Web Manager	(Not implemented)
(Not implemented)	Software Distribution

Complete instructions on how to use each of these services can be found in the online help provided with the product. The following manuals are

available in PDF format in the DOCS directory of the Netfinity Director CD-ROM:

- NFDBOOK.PDF — *Netfinity Director Installation and User's Guide*
- QUICKBOOK.PDF — *Netfinity Director Quick Beginnings*
- UMSBOOK.PDF — *UM Services User's Guide*

You can initiate tasks in different ways, including:

- Dragging and dropping icons
- Right-clicking on tasks or systems
- Selecting operations from pull-down menus

To use the drag-and-drop techniques, drag the desired task icon from the Tasks pane and drop it onto the desired managed system icon in the Group Contents pane or vice versa.

To apply the task for more than one system at a time, hold down the Shift and/or Ctrl key, click on a range of systems then drag the task from the Tasks panel and drop it on any of the highlighted managed systems in the Group Contents pane.

Table 2 shows what tasks can be carried out with Netfinity Director V2.12 on the different client operating systems that are supported.

Table 2. Netfinity Director tasks supported by the operating systems

	Windows 9x	**Windows NT**	**Windows 2000**	**OS/2**	**NetWare**	**SCO**
Inventory	Yes	Yes	Yes	Yes	Yes	Yes
Monitors	Yes	Yes	Yes	Yes	Yes	Yes
Events	Yes	Yes	Yes	Yes	Yes	Yes
Software Distribution	Yes	Yes	Yes	Yes	**No**	**No**
Process Manager	Yes	Yes	Yes	Yes	Yes	Yes
Remote Control	Yes	Yes	Yes	Yes	**No**	**No**
Cluster Manager	**No**	Yes	Yes	**No**	**No**	**No**
File Transfer	Yes	Yes	Yes	Yes	Yes	**No**
DMI Browser	Yes	Yes	Yes	**No**	**No**	**No**

	Windows 9x	Windows NT	Windows 2000	OS/2	NetWare	SCO
CIM Browser	Yes	Yes	Yes	**No**	**No**	**No**
Upward Integration[1]	Yes	Yes	Yes	**No**	**No**	**No**
1 Upward Integration refers to point-to-point management only. Alerts from Netfinity Director can be sent from all operating systems.						

The remainder of this section introduces the tasks that are available.

2.3.1 Advanced System Management

In Netfinity Manager, the Advanced System Management service is implemented through the Advanced System Management icon. It enables communication between Netfinity Manager and the Advanced System Management processors and adapters. It can be used to configure and monitor many of your system's features. With the Advanced System Management service, you can configure events such as POST, loader, and operating system time-outs, critical temperature, voltage, and tamper alerts, and redundant power supply failures. This service also enables you to dial out and directly access and control a remote system's Advanced System Management processor or adapter.

Netfinity Director does the same functions as shown in Figure 7. The difference is in the connection options. You can establish a TCP/IP connection in Netfinity Director, similar to Dynamic Connection Manager in Netfinity Manager.

Note: Netfinity Director currently doesn’t support serial connections via Advanced System Management.

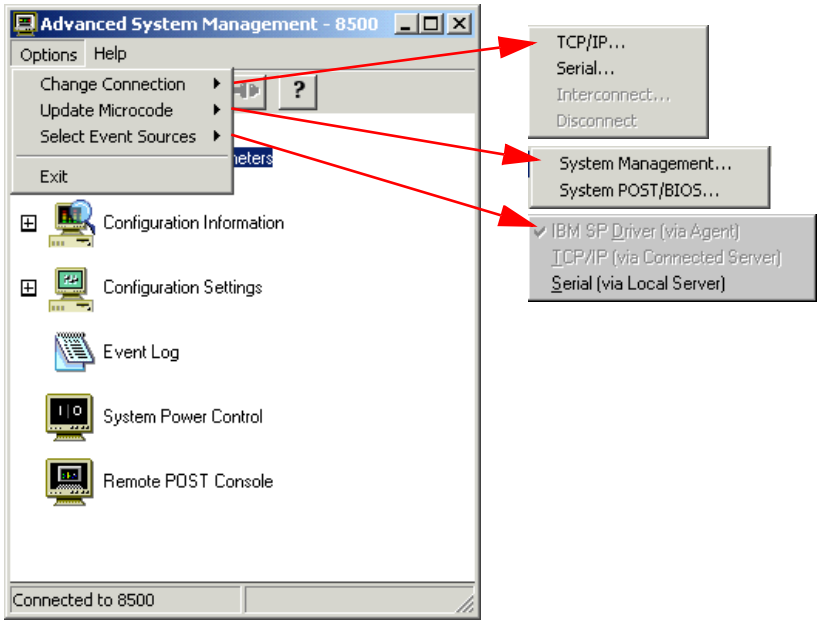


Figure 7. Advanced System Management window

2.3.2 Asset ID

Similar to the System Profile service in Netfinity Manager, the Asset ID task shows you information on your IBM hardware. Asset ID comes with the base Netfinity Director installation and uses SMBIOS to obtain information about the client.

Systems that support radio-frequency ID technology (RF ID) can scan this information with a special radio frequency scanner and if there is a change in the configuration, Asset ID can send a DMI compliant alert. UMS Asset ID can store information into the DMI database if no EEPROM is present on a system. Asset ID information is divided into the following sections. These are tabs in the Asset ID window as shown in Figure 8.

- Serial numbers
- System information
- User information
- Lease information
- Asset information
- Personal information
- Warranty information

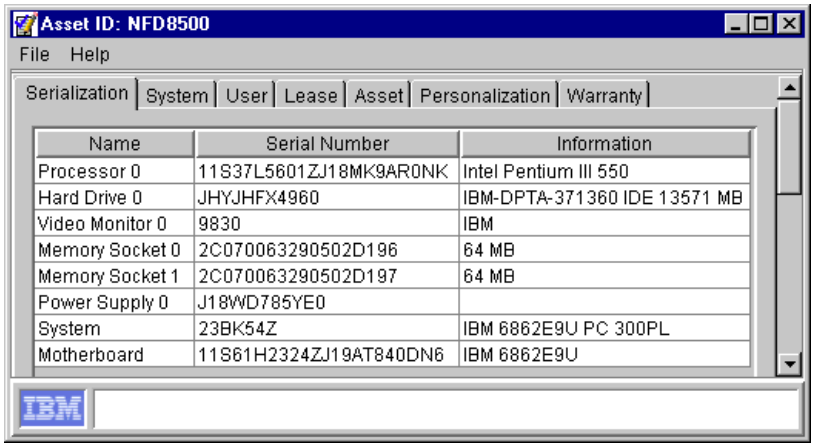


Figure 8. Asset ID window

For more details about Asset ID, see:

`http://www.pc.ibm.com/ww/assetid/index.html`

2.3.3 Capacity Manager

Capacity Manager has the same function in both Netfinity Manager and Netfinity Director, which is to automatically monitor and store data of the performance of your system. The previous month's data is automatically recorded on each client and you can use the Capacity Manager to gather this data from multiple systems on your network to generate reports and to perform analysis on the systems' throughput.

For comprehensive information on how to use Capacity Manager, see Chapter 12 of the redbook *Tuning Netfinity Servers for Performance — Getting the most out of Windows 2000 and Windows NT 4.0*, SG24-5287.

2.3.4 CIM Browser

The Common Information Model (CIM) is a set of methodologies and syntaxes (also called a language) that describes the management features and capabilities of hardware or software components.

CIM is a standard defined by the Distributed Management Task Force (DMTF). The CIM model is implemented in systems using Managed Object Format (MOF) files. It means each hardware component or piece of software that is CIM-compliant must be provided with its set of MOF files to be managed. See Figure 9.

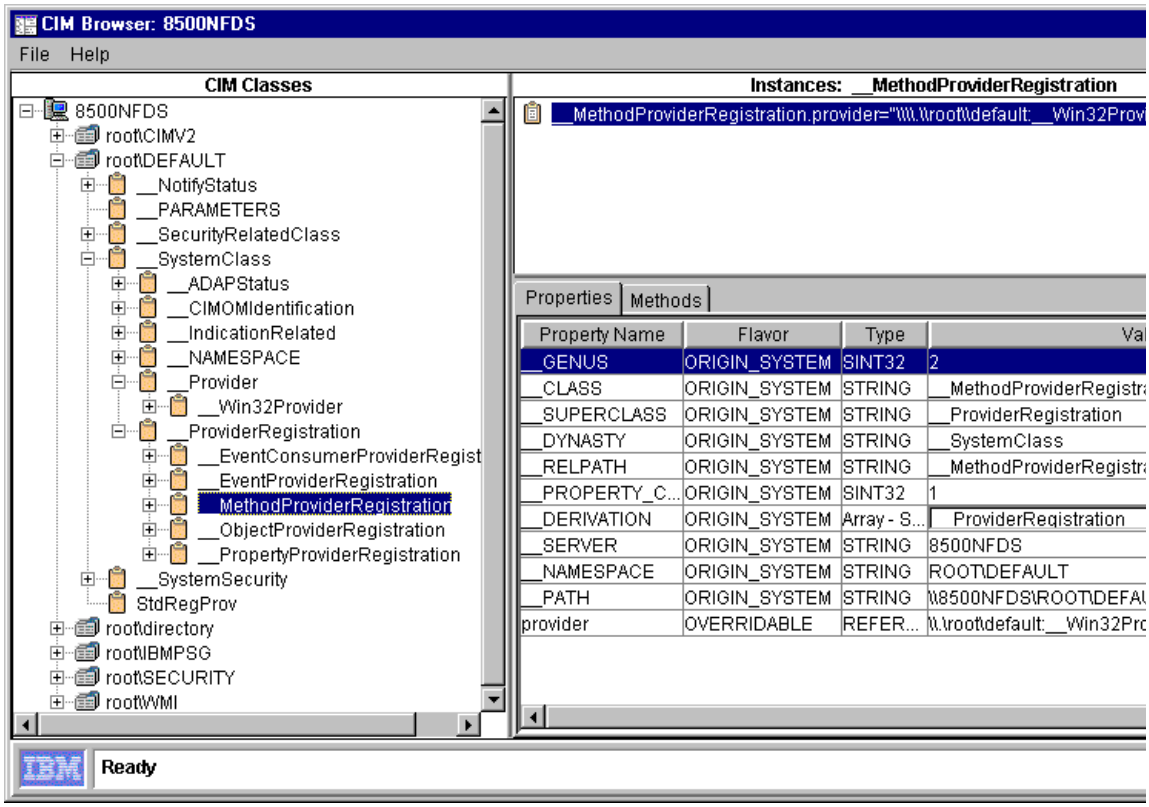


Figure 9. CIM window

The CIM Browser is part of Netfinity Director and it is installed during the normal installation of the console. The CIM layer is also part of UMS and is installed during the UMS installation.

Note: To provide CIM data, managed systems must be running under Windows 95, 98, Windows NT 4.0 or Windows 2000 and have Windows Management Interface (WMI) core services Version 1.1 installed. The WMI core services are installed with Netfinity Director.

For more information about the standards and descriptions of the management features and capabilities see `http://www.dmtf.org`.

2.3.5 Configure Alert on LAN

In Netfinity Manager, this function enable alerts to be sent to a network administrator if a system problem occurs, no matter whether the system is

powered on or off. Alert on LAN only appears on machines that have the Alert on LAN hardware. An alert will be sent if there is a cover intrusion, processor removal, power or network plug removal, fan speed problems, temperature and detected voltage problems.

Alert on LAN 2, the next release of Alert on LAN, is included in Netfinity Director and extends the capabilities to remotely manage and control networked PCs:

- Remote system reboot upon report of a critical failure
- Repair operating system
- Update BIOS image
- Perform other diagnostic procedures

Alert on LAN 2 allows a management console to work directly with a PC. Alert on LAN proxy tool was installed in the network by using the Netfinity Director Workgroup/ Enterprise integration option. For more details about Alert on LAN, go to `http://www.pc.ibm.com/us/desktop/alertonlan/index.html`.

2.3.6 Configure SNMP Agent

The SNMP configuration tool is used to perform actions on SNMP trap destinations, as shown in Figure 10:

- Add new community names and new SNMP trap destinations
- Edit existing SNMP trap destinations
- Remove existing community names and SNMP trap destinations

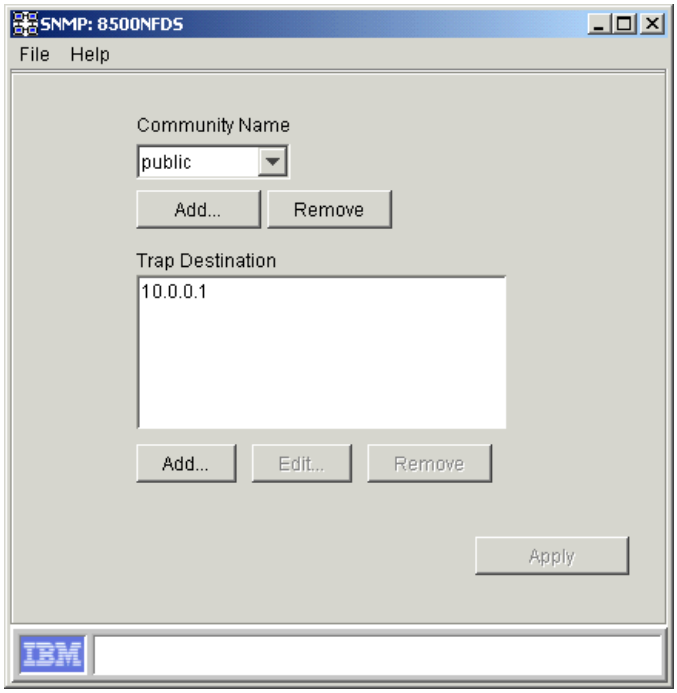


Figure 10. Configure SNMP Agent window

This tool works in Windows 95, Windows 98, Windows NT and Windows 2000 environments. UMS forwards the SNMP traps only if the SNMP agent is installed on both the server and the client workstation. You can install and configure the SNMP agent as part of the UMS installation process or by using the operating system installation CD.

Note: If you install the SNMP agent for Windows 95 or Windows 98 after UMS has been installed, you must use the SNMP trap configuration tool to add the trap destinations to the registry.

2.3.7 DMI Browser

The Desktop Management Interface (DMI) enables you to examine information about DMI-compliant hardware and software products that are installed on your system. A DMI layer is installed as part of UMS so that the browser can have access to that layer. The DMI layer can also come from third parties such as Intel (go to `http://www.intel.com` and search for DMISL.EXE).

Netfinity Manager comes with DMI Version 1.0, and Netfinity Director comes with a new version, DMI V2.0s, and is shown in Figure 11. DMI is supported only on Windows 95/98, Windows NT and Windows 2000.

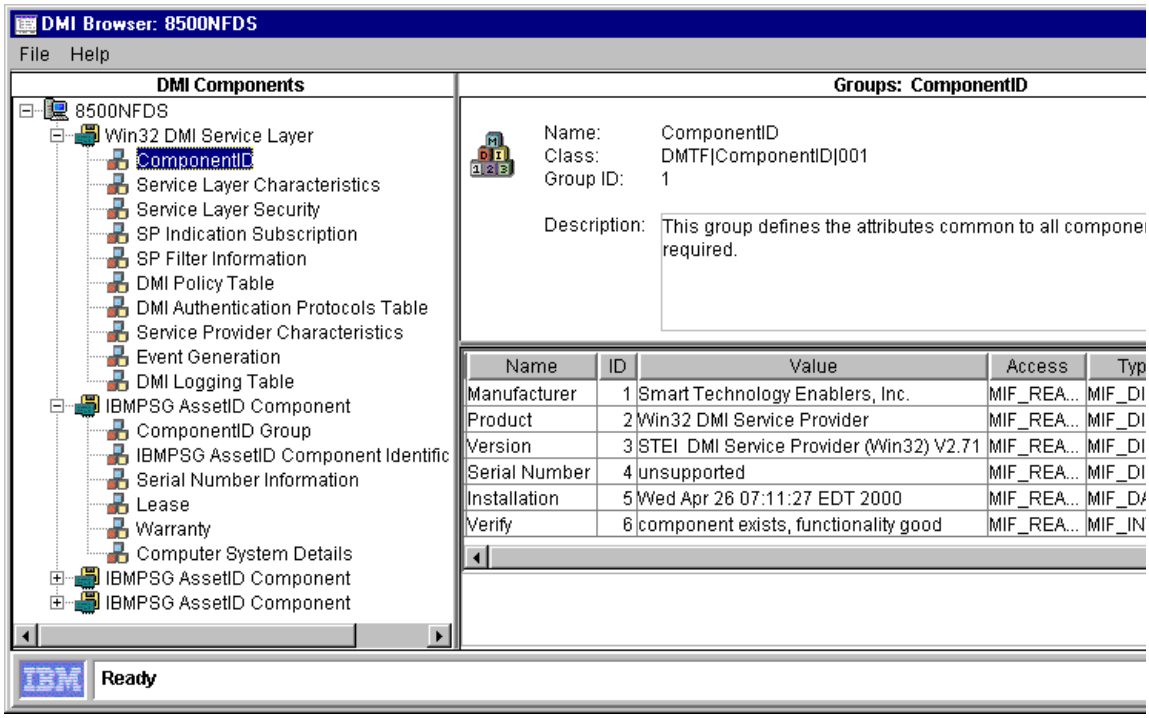


Figure 11. DMI Browser window (Netfinity 8500R)

2.3.8 Event Action Plans

The Event Action Plans task is the equivalent of the Alert Manager in Netfinity Manager.

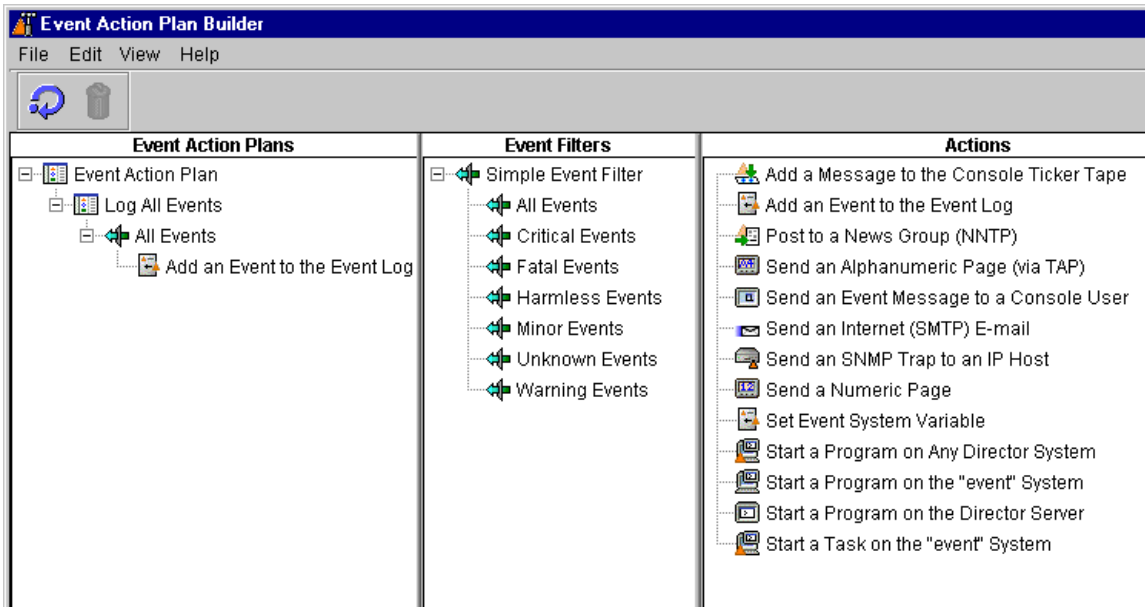


Figure 12. Event Action Plan Builder console

In Netfinity Manager, Alert Manager had two main functions:

- Maintain a log of all events (alerts) that are received and logged by the system management software.
- Execute predefined responses or user-specific responses (actions) to specified events.

In Netfinity Director, event and alert management consists of three main components:

- Event manager configuration — lets you create an action plan to handle the specific types of events and alerts, and respond with specific actions.
- Event action plan builder — allows you to associate events and alerts with action plans and manage systems and devices.
- Event log — allows you to view the events and alerts that are saved in the log, as described in 2.3.9, “Event Log” on page 26.

Defining alerts and action plans are explained in 7.1, “Alert Manager” on page 122.

More details can be found in section 6.2.3.1 “Event Action Plan Builder” of the redbook *Netfinity Director Integration and Tools*, SG24-5389.

2.3.9 Event Log

In Netfinity Manager, all alerts are shown in the alert log, which enables you to view a log of events that have occurred in the managed system or group of systems.

In Netfinity Director, you can find this function in the Event Log task. Any event that happen within the system can be intercepted by the agent and forwarded to the Netfinity Director server. Events can be classified in terms of severity. By default Netfinity Director defines seven event filters:

- All Events
- Critical Events
- Fatal Events
- Harmless Events
- Minor Events
- Unknown Events
- Warning Events

You can build your own event filter based on your needs. For details about event management, see 7.1, “Alert Manager” on page 122.

For more information, see section 3.3.2.1 of the redbook *Netfinity Director Integration and Tools*, SG24-5389.

2.3.10 File Transfer

In Netfinity Manager, you can use the file transfer service to easily send, receive, or delete files or directories, synchronize directories, or remotely clean up the remote or Client Services systems in your network.

Netfinity Director offers simple file transfer functions, and can also perform additional functions, such as creating directories and renaming files. It does not have the ability to perform directory synchronization or remote cleanup assistance.

2.3.11 IBM Cluster Tools

Netfinity Manager supports the cluster management service only when the MSCS is installed on your system.

In Netfinity Director, the IBM cluster tools user interface and function have not been changed. Double-clicking this icon will start IBM Cluster Systems

Management, the IBM tool for improved MSCS management. IBM cluster tools are divided into two separate tools:

- Cluster System Management, for cluster management tools
- Software Rejuvenation, the tool to schedule tasks onto a cluster node or reboot a node in a cluster.

2.3.12 Inventory

As a combination of Software Inventory, System Information and System Profile in Netfinity Manager, Netfinity Director allows you to collect hardware and software inventory on a group of systems or on an individual system. Furthermore, you will get more functions than you have in Netfinity Manager:

- Group operations
- Create your own queries
- Store query results in HTML format

Netfinity Director collects information from discovered managed systems and stores the information in the inventory database on the Netfinity Director server. You can then view and analyze collected hardware and software inventory data and customize the display.

2.3.13 Microsoft Cluster Browser

The function only lets you view your MSCS-based cluster. To manage the cluster, use the IBM Cluster Tools component as described in 2.3.11, “IBM Cluster Tools” on page 26.

2.3.14 Process Management

This task lets you start, stop or monitor applications and processes on remote systems. You can also start, stop, pause, and resume Windows NT/2000 services and devices. You can configure Netfinity Director to watch a particular process or application and generate an event when the application or process is started or terminated.

The key feature of Netfinity Director and Netfinity Manager is the ability to manage individual processes on remote systems. The Process Management tasks of Netfinity Director and Netfinity Manager function lets the administrator view and manipulate all applications or processes. The system administrator will be able to set monitors for a specific process or application so that if an application or process terminates, an event (alert) will be generated. That means if a process stops or starts, you can configure the

process management or process manager to send an alert. Based on the contents of the alert you can run a script that can do anything from restarting the application to notifying the help desk.

For more information, see 3.2.8 “Process Management” in *Netfinity Director Integration and Tools*, SG24-5389.

2.3.15 Remote Control

To access and control managed nodes remotely for troubleshooting and problem resolution, both Netfinity Director and Netfinity Manager support remote control. The equivalent function in Netfinity Manager is Remote Workstation Control. There are no significant differences between the ways they support it.

Netfinity Director has an easy way to start it by using drag and drop, while Netfinity Manager requires you to click through several icons to access the remote system and then log onto the system.

2.3.16 Resource Monitor

This task offers functions similar to System Monitor in Netfinity Manager although the interface is different. Resource Monitor lets you view statistics and usage of resources on the network, information on attributes such as the CPU, disk, memory, and network protocols that are collected and monitored. On Windows NT/2000 systems, you can monitor any Performance Monitor counter. You can also set thresholds, records monitored data, generate graphs, and generate events when thresholds are exceeded.

For more information, see 3.2.4 “Resource Monitoring” in *Netfinity Director Integration and Tools*, SG24-5389.

2.3.17 Scheduler

The scheduler is accessed by clicking the  button in the console main window.

You can schedule tasks on an hourly, daily, weekly, monthly or yearly basis. Tasks can be triggered by changes in the managed system status, or by the discovery of new hardware or software in the network. In addition, you can schedule tasks for individual managed systems or by groups of managed systems.

See 7.4, “Event Scheduler” on page 143 in this book and 3.2.7 “Task scheduling” in the redbook *Netfinity Director Integration and Tools*, SG24-5389 for more information.

2.3.18 ServeRAID Manager

The ServeRAID Manager task is a comprehensive management tool that lets you monitor and perform actions on a ServeRAID subsystem through Netfinity Director. It has a similar interface to the CD-ROM based configurator that is shipped with the ServeRAID adapters and is a significant improvement over the RAID Manager in Netfinity Manager.

For details, see Chapter 6 of the *UM Server Extensions User's Guide*.

2.3.19 Software Distribution

The software distribution task is a menu to build a software distribution package that you can distribute to a system, group of system, or a group. This feature is not fully supported by Netfinity Director. You only have limited predefined packages, such IBM UM Server Extensions. You cannot build new packages.

Software distribution is discussed in detail in 6.3, “Software distribution through MPM” on page 112.

2.4 What is missing in Netfinity Director

Several functions are not available in Netfinity Director:

- Critical File Monitor, which can issue an alert whenever critical files are deleted or altered.
- Web Manager, which lets you access most Netfinity Manager functions through a browser. With Netfinity Director, the Web browser is not supported as a console because current browsers do not support the level of Java used in the Netfinity Director console. UMS offers Web-based management — this function can be installed when UMS is installed on the client.
- Remote Session, a text-based command-line session. The closest function is the Remote Control task as described in 2.3.15, “Remote Control” on page 28.

- Screen View, a snapshot of a remote Netfinity Manager system. The closest function in Netfinity Director is the Remote Control task as described in 2.3.15, “Remote Control” on page 28.

Chapter 3. Planning to migrate

Before you begin the process of converting your Netfinity Manager environment to Netfinity Director, it is very important that you understand the four high-level stages that can aid in structuring your migration plan.

The major reasons companies are moving to Netfinity Director are stability, ease-of-use, availability of support for new hardware and operating systems (Windows 2000 for example), and better integration with higher-level enterprise systems management software. This chapter looks at planning the move.

3.1 Deployment

When rolling out Netfinity Director, companies have two main options:

- Coexistence with Netfinity Manager
- Complete migration, replacing Netfinity Manager

Choosing how to migrate from Netfinity Manager to Netfinity Director is not a straightforward decision. Companies with significant Netfinity Manager expertise and supported hardware understandably want to protect their investment. In large environments, investment in PCs will also affect the deployment method:

- As a company turns over older PCs and replaces them with new PCs, it is normal to install the latest software on them. Therefore, a strategy of coexistence may be more appropriate.
- If a company upgrades its PC population in one large rollout, then it may be possible to migrate to the new version without having to manage the old product as well.

Ultimately, the economics of the transition play a large role in the decision of when to deploy Netfinity Director:

- Size of company and dependency on Netfinity Manager
- Time frame
- Complexity of existing environment
- State of legacy systems
- Geographic dispersion
- Skills of staff
- Cost of hardware
- Cost of software licenses

3.1.1 Coexistence

This is the piecemeal deployment of Netfinity Director into an existing Netfinity Manager environment. Coexistence will have less impact on the existing environment and is more common in larger companies.

Many companies follow a technology-refresh cycle, and at any point in time, 10-40% of their systems can be at the end of their life. They can gradually introduce newer systems with Netfinity Director, which allows them to test, verify and fine tune the deployment of Netfinity Director and not incur the transition costs of replacing their entire environment all at once.

Alternatively, when purchasing new hardware or moving to a different operating system (for example, Windows 2000), customers will require systems management software that will support both the new hardware and software.

Integration has the lowest impact on the environment and allows users and support staff to ease into a Netfinity Director environment. The disadvantage to this method is that it is the slowest and adding machines in “ones and twos” may not be the optimal way to manage a new environment.

3.1.2 Migration

Complete migration or cutover, moving the entire Netfinity Manager environment to Netfinity Director, is typically used in smaller companies or for complete projects that are fairly autonomous from the rest of the environment where, due to their size, the impact to the environment is mitigated by the speed of the transition. Complete migration will have a higher transition cost because the entire environment is being moved, but a lower maintenance and support cost due to having a homogeneous systems management platform.

An example where a project can be migrated to Netfinity Director could be where the IT manager considers that to achieve the highest levels of performance, a move to newer software applications is required that could be made to coincide with a move to a different operating system platform (for example, Windows 2000). Netfinity Director software is capable of supporting both the new hardware and software.

An alternative way to carry out a complete migration from Netfinity Manager to Netfinity Director is to build the new project environment from the ground up with new hardware and software. This method is attractive to small enterprises that want to completely divest from their old systems environment because they often can build a parallel environment. There are many benefits

to migrating directly to Netfinity Director at this time, the main one being the existence of only one systems management application to support. This would lead to reduced complexity, easier data-sharing, and increased tasks that can be applied.

With complete migration, the entire system management solution is moved from Netfinity Manager to Netfinity Director. Changes will also include cabling and connections to the network/server because we are moving from a peer-to-peer environment to a client/server environment. All Netfinity Director clients must be directly accessible from the Netfinity Director server.

The advantage of this method is that it provides a true test bed for the new Netfinity Director environment while giving visibility to the new applications and new operating system. The disadvantage to this method is that it can create many segregated subnetworks within a company.

Total migration is the most extreme transition and can cause the most short-term disruption. However, it is also the cleanest.

3.2 Implementation road map

To help the implementation process go smoothly, it is good to have a road map. This section contains a road map to assist you in making the Netfinity Director transition. The road map contains four stages to facilitate the deployment process:

1. Planning
2. Design
3. Implementation
4. Training

3.2.1 Planning

This first stage of the process is crucial. A thorough understanding of the limitations of your existing environment, the goals of the future environment, and the steps to get there is essential for a smooth transition.

- Decide when the migration can occur

  Understand the life cycle of your current environment. Look for technology refresh opportunities. It's possible that a high percentage of systems are changing at any one time, so if you can look for these opportunities to move to Netfinity Director, this will lessen the impact on your organization, and shorten the investment recovery period.

- Determine what need to be changed

  Develop a strategic plan for the transition including systems units, network/cabling and all hardware, as well as software, operating system components, and personnel.

  Connectivity between systems

  Netfinity Manager is a peer-to-peer environment. You could manage a remote system by first connecting to an intermediate system then "hopping" to the remote system. Netfinity Director is a client/server environment where all clients are managed directly from the server.

  This may mean that you'll have to change how your systems are connected together.

- Decide which method you'll use

  Make a decision on how to deploy (coexistence or migration, or a combination of the two) and how extensive the deployment will be (project-based or enterprise-wide).

- Decide when Netfinity Manager will be "turned off"

  If you are planning to have both Netfinity Manager and Netfinity Director running at the same time (either completely independently or integrated through MPM), you may want to set a time frame as to when Netfinity Manager is removed from your systems.

- Who will do the work?

  Determine who in your organization (or services companies such as IBM Global Services) will be doing the remainder of the project.

3.2.2 Design

Once the decision to move has been made and the high-level planning accomplished, the next step is to determine how implementation will be done. This design stage will answer the *what* and *how* questions. The result of this phase should be a blueprint for the implementation phase. The majority of the research, analysis and system design should take place during the design phase.

- Determine the sequence of the rollout

  The server will be installed first, followed by clients and consoles. Decide if a test environment will be created first, where all functions can be verified as working as expected.

- Verify that client prerequisites are met

  Determine if the proposed clients are sufficiently powerful. 32 MB of system memory is sufficient for the default UMS configuration. However, if more UMS options are selected, 64 MB of system memory is recommended.

  Verify that all clients support SMBIOS 2.0 or later. See 3.4.4, “Netfinity Director client (UM Services)” on page 39 for information on how to check for SMBIOS support.

- Select the server

  Determine computing needs for the Netfinity Director server. Refer to 3.4, “Supported systems” on page 37.

- Determine if the network capacity and topology is sufficient

  Verify that network infrastructure will not be a bottleneck for the new technology. The number of clients that can be efficiently managed by Netfinity Director can vary according to existing network load and the functions being performed. System discovery, frequent presence checks, and alert usage will increase network traffic. Since Netfinity Director uses a central server to gather and store all client data, the data traffic characteristics will be different from those of Netfinity Manager.

  Use tools such as Performance Monitor or Capacity Manager to determine what load Netfinity Manager puts on the network. This information can then give you an idea as to what to expect with Netfinity Director.

  The system that you select to be the Netfinity Director server needs to be able to connect to every client through one of the supported protocols. Ensure that your network is set up to allow this.

- Decide how client rollout will occur

  Decide how to install UMS on the workstations. For information see Chapter 6, “Installing UMS on clients” on page 93.

  Decide if MPM will be used so that Netfinity Manager clients can be managed by Netfinity Director. See Chapter 5, “Coexistence using MPM” on page 57 for details about MPM and 3.5.1, “MPM licensing” on page 43 for information about licensing aspects of MPM.

- Netfinity Director consoles

  Consoles should be placed where convenient to administrators but not in unsecured locations.

  Determine who will be able to access Netfinity Director and how security will be implemented. You can either create administrator user IDs in

Netfinity Director or you can use existing Windows user IDs defined at the server or you can use a combination of both of these. See 2.2.2, “Security” on page 10 for details.

- Determine if all tasks you use in Netfinity Manager are still available in Netfinity Director

  See Table 1 on page 15 for a comparison of tasks between the two products. If any of the tasks you use are not available in Netfinity Director, see what alternative (and potentially better) methods exist to perform the same task.

- Check if there are better ways to perform old tasks in Netfinity Director

  Evaluate how tasks are currently performed in Netfinity Manager and find out if it’s still the best way to do the task or if Netfinity Director offers an alternative method that is more efficient.

- Testing and signoff

  Develop a testing strategy to ensure that all functions are working properly. This testing should assist in identifying limitations and bottlenecks. See Table 2 on page 17 for a list of tasks supported by each operating system.

  Develop a backout plan if any part of the rollout is unsuccessful. You should ensure that all your systems remain manageable throughout the entire process.

  Get agreement that once the products are rolled out and certain tests are completed successfully, the rollout project is completed and can be signed off.

3.2.3 Implementation

The implementation stage is where all of the transition activity takes place. The process should be straightforward provided you’ve designed a complete rollout strategy.

- Install the server
- Rollout UMS to the clients
- Install the consoles
- Test the installation

3.2.4 Training

In conjunction with the implementation phase, you should also provide training to those who will be administering the new Netfinity Director system.

The IBM PC Institute team in your country offers a variety of training classes for hardware and software. They deliver both Web-based online training and technical hands-on workshop classes. The Web site for details is:

`http://www.ibm.com/pc/training/`

- For the online systems management training courses click on **Online Training** on the Web page (free registration required).
- The instructor-led hands-on one-day technical class is *IBM Netfinity Director Workshop*, course code TNI08. This course covers many of the scenarios for Netfinity Director Integration/Migration discussed in this redbook. Click **Course Catalog** for details.

3.3 Support

The following Netfinity Director support is available:

- A Web-based forum and e-mail-based support for Netfinity Director and related products, accessible from the IBM Enterprise Support Web page at:

  `http://www.ibm.com/pc/ww/solutions/enterprise/support`

  This support, monitored by IBM personnel, includes a search facility to quickly locate previous postings on Netfinity Director and UM Services related topics.
- The e-mail-based TechConnect list (which covers all topics related to Netfinity):

  `http://www.pc.ibm.com/techconnect/tech/forum.html`

3.4 Supported systems

Netfinity Director V2.12 is supported on most of the current IBM systems:

- Netfinity servers
- IntelliStation workstations
- IBM PC desktops
- ThinkPad notebooks

For the latest list of IBM systems supported, see the combination of the following:

- The ServerProven Compatibility page:

  `http://www.pc.ibm.com/us/compat/applications/matrix.shtml`

- The Netfinity Director product announcement:

  `http://www.ibmlink.ibm.com/usalets&parms=H_200-084`

Non-IBM systems are also supported, but the client must support SMBIOS 2.0 to be able to install UMS.

3.4.1 Operating system summary

Table 3 summarizes the supported operating systems:

Table 3. Operating systems supported by Netfinity Director V2.12

Operating System	NFD Server	NFD Console	UMS Agent
Windows 2000 Professional, Server and Advanced Server	Yes	Yes	Yes
Windows NT 4.0 with SP4+	Yes	Yes	Yes
Windows 2000 Terminal Services and Windows NT 4.0, Terminal Server Edition (the server itself)	No	No	No[1]
Clients of Windows 2000 Terminal Services and Windows NT 4.0, Terminal Server Edition	No	No	No[1]
Windows NT 3.51	No	No	No
Windows 95 SR2 or 98	No	Yes	Yes
Windows 3.11 (not supported)	No	No	No
NetWare 5.0 with SP1+	No	No	Yes
NetWare 4.1, 4.11 with SP5+ (SFT III not supported)	No	No	Yes
NetWare 3.x (not supported)	No	No	No
OS/2 4.0 with FixPak 5+	No	No	Yes
OS/2 Warp Server for e-business	No	No	Yes
SCO UnixWare 7.1 (with patch ptf7441a) or later	No	No	Yes

Note:

1 Support for UMS on Windows 2000 Terminal Services and Windows NT 4.0, Terminal Server edition is planned for a future release.

3.4.2 Netfinity Director server

Netfinity Director server has the following minimum hardware requirements:

- Pentium II 300 MHz or faster

- 128 MB system memory
- 150 MB virtual memory
- 300 MB free disk space

Netfinity Director server has the following software requirements:

- Operating systems as per Table 3
- TCP/IP for connectivity to the Netfinity Director console

The following databases are supported:

- Microsoft JET 4.0 (included)
- Microsoft SQL Server 6.5 and 7.0
- IBM DB2 Universal Database 5.2

3.4.3 Netfinity Director console

Netfinity Director console has the following minimum hardware requirements:

- Pentium II 300 MHz processor or faster
- 64 MB RAM
- 60 MB free disk

Note: The system does not need to support SMBIOS 2.0 to run the Netfinity Director console.

Netfinity Director console has the following software requirements:

- Operating systems as per Table 3 on page 38
- TCP/IP for connectivity to the Netfinity Director server

3.4.4 Netfinity Director client (UM Services)

UMS has the following minimum hardware requirements:

- Specific IBM systems listed in the ServerProven and IBM announcement letter Web pages as listed above
- Non-IBM systems that are compatible with SMBIOS 2.0 or above
- Pentium class processor
- 64 MB RAM (more if optional features are selected during installation)
- 16 MB disk space (more if optional features are selected during installation)

The System Management BIOS (SMBIOS) is a specification which, when implemented in a computer's BIOS, lets you export some management data in a standard table format. Instrumentation software can then retrieve the

information and use it for management purposes. SMBIOS is based on the WfM 2.0 specification.

The Wired for Management (WfM) specification, published by Intel is the result of the industry initiatives to define a common platform to make computers easily manageable. WfM covers BIOS, hardware, software, and instrumentation requirements, and can be considered as a reference source for developers of management applications.

A BIOS with management abilities is a critical requirement since it is the only code that can detect configuration and system settings, particularly during the boot stage. The types of data exported by SMBIOS include the following:

- Information related to the manufacturer of the computer
- Characteristics of the present processors
- Information related to physical slots, memory type, and system enclosure

For more information about SMBIOS and to download software that can do compatibility checks see:

`http://www.ibm.com/products/surepath/other/smbios.html`

The test utility SMBIOS2.EXE, available from this Web site lets you determine what revision of SMBIOS your system supports. Run the command:

```
SMBIOS2 /I
```

This shows the SMBIOS Entry Point Structure, which includes the revision level. On a system with SMBIOS support you will see something similar to the following:

```
SMBIOS 2.1 Structure Table Entry Point Structure (at FDFCh:0000h):
  Anchor String                = _SM_
  Checksum                     = 64h
  Entry Point Structure Length = 1Fh bytes
  SMBIOS Revision              = 2.1
  Maximum Structure Size       = 283 (decimal) bytes
  Entry Point Revision         = 0
  Formated Area:
        Reserved            = 0 0 0 0 0
DMI BIOS Structure Entry Point Structure (at FDFDh:0000h):
  Header                       = _DMI_
  Checksum                     = 7Eh
  Length                       = 067Ah (1658 decimal) bytes
  BIOS Structure Table Address = 000F7B93h
  Number of Structures         = 44
  DMI BIOS Revision            = 2.1
```

Figure 13. Output of the `SMBIOS2 /I` *command showing support for SMBIOS 2.1*

If your client doesn't support SMBIOS, you'll see the following output:

```
No valid DMI BIOS Structure Entry Point Structure found in F0000h-FFFFFh!
```

Figure 14. A system without SMBIOS support

UMS has the following software requirements:

- Operating systems as per Table 3 on page 38
- Optionally, one of the following Web browsers for direct access to a client running UMS:
  - Microsoft Internet Explorer 4.01 or later
  - Netscape Communicator 4.5 or later
  - Netscape Navigator 4.5 or later
- One of the following network protocols:
  - TCP/IP
  - NetBIOS
  - IPX
  - SNA

3.5 Licensing

The components of Netfinity Director are licensed as follows:

- Netfinity Director server: A license is required for each server. Each Netfinity Director server can manage up to 1500 clients.
- Netfinity Director console: No licenses are required. There is no limit to the number of consoles supported.
- UMS clients:
  - IBM systems: No licenses are required
  - Non-IBM systems: A Netfinity Director client license is required
  - MPM systems: A Netfinity Director client license is required. See 3.5.1, "MPM licensing" on page 43
- Life cycle tools. Licensing depends on the vendor. IBM's UM Server Extensions and UM Desktop Extensions do not require licenses.

The following Netfinity Director licenses are shipped with Netfinity servers:

- One license of the server code
- 20 Netfinity Director client (UMS) license for non-IBM systems or systems connected through MPM

If you received IBM Netfinity Manager with your Netfinity server, you can upgrade to Netfinity Director for a small fee. For details, see:

`http://www.pc.ibm.com/ww/netfinity/systems_management/nfdirfulfill.html`

Licenses shipped with Netfinity servers cannot be combined

The set of 20 client licenses shipped with a Netfinity server cannot be combined with sets of licenses shipped with other Netfinity servers to allow more than 20 non-IBM or MPM connections. If you need more than 20, you must order additional licenses as per Table 4.

For example: A customer buys 12 Netfinity 5600 systems, each shipping with a copy of Netfinity Director. They could install Netfinity Director on each of these 5600s and manage up to 240 non-IBM (or MPM) systems. However, it is more usual to install only a single copy of Netfinity Director server on one 5600, which will entitle them to manage only 20 non-IBM or 20 MPM systems.

If you require more licenses, you can order them using the following part numbers:

Table 4. Additional licenses

Product	Part number
Netfinity Director V2.12 with 20 client licenses	41L2940
Netfinity Director V2.12 with 20 client licenses (upgrade)	41L2941
20 additional client licenses	11K6314
100 additional client licenses	11K6315
1000 additional client licenses	11K6316

3.5.1 MPM licensing

As described in Chapter 5, “Coexistence using MPM” on page 57, MPM lets you manage Netfinity Manager systems from Netfinity Director. The use of MPM has specific licensing implications:

- Each MPM client (that is, each Netfinity Manager system to be managed using Netfinity Director via MPM) counts as one license key.
- If a non-IBM client has both Netfinity Manager and UMS installed, and you are managing the system using both UMS and MPM, this requires *two* client licenses. If you’re managing the system with UMS or MPM but not both, then only one license is required.

If a supported IBM system has both UMS and Client Services for Netfinity Manager installed, a license is not required to manage it from Netfinity Director via UMS. If you have MPM support installed and have discovered these systems, you may see multiple instances of the same system (one for UMS and one for Client Services via MPM).

You can revoke the license consumed by MPM for that system by right-clicking on the MPM version of the discovered system and clicking **Revoke License**. This will then make the license available for another system.

UMS agent is supported on the systems with SMBIOS 2.0 or greater meeting Intel Wired for Management (WfM) 2.0 specification. However, if a system does not have SMBIOS 2.0 or greater it can still be managed by Netfinity Director as an MPM agent. However, all MPM systems take up a non-IBM client license even though the system could be an IBM system.

Note: if MPM agent systems are discovered multiple times by the MPM Provider (that is, because the MPM Provider and agent are running more than one network protocol) then a client license will be consumed for every instance of a system.

A summary of licensing is shown in Table 5. Here, you can see how many client licenses are required based on:

- IBM or non-IBM system
- SMBIOS 2.0 system
- UMS client or MPM client
- The number of network drivers enabled between the MPM client (Netfinity Manager) and the MPM Provider

Table 5. Determining how many client licenses are required

IBM system	SMBIOS V2.0+	UMS agent	MPM system	Number of network drivers enabled	Client licenses required
Yes	Yes	Yes	No	n (1 or more)	0
Yes	Yes	Yes	Yes	n	n
Yes	Yes	No	Yes	n	n
Yes	No	No	Yes	n	n
No	Yes	Yes	No	n	1
No	Yes	No	Yes	n	n
No	No	No	Yes	n	n
No	Yes	Yes	Yes	n	n+1 (i.e. 2 or more)

3.5.2 IT Director licensing

If you plan to upgrade your Netfinity Director system to Tivoli IT Director, you must purchase a license for each client. This includes IBM systems, OEM systems, non-SMBIOS systems, and MPM systems. The upgrade is sold by certified Tivoli resellers and is available through the IBM Passport Advantage program.

Chapter 4. Installing Netfinity Director server and console

This chapter describes how to install Netfinity Director server and Netfinity Director console on your machine.

As described in 2.1, “Components” on page 3, the Netfinity Director server is the center of the management configuration. All transactions pass through the server and a database is used to keep data about every client. The Netfinity Director console is the administrator’s user interface to the Netfinity Director server.

When you install Netfinity Director server, the console and UMS software are also installed. When you install the console, UMS is *not* installed.

The hardware and software prerequisites are listed in 3.4, “Supported systems” on page 37.

4.1 Before you begin

Upgrade from 2.11

If you are upgrading your server and consoles from Netfinity Director 2.11 to Netfinity Director 2.12, you must uninstall 2.11 before you begin the 2.12 installation. See section 3 of the README.TXT on the installation CD for more information.

Before you begin the installation of the server make sure that you are logged on as an administrator or an ID with equivalent privileges. Consider the following when deciding which user ID to use for installation:

- The server service will always start using the user account you are logged on with during installation. You may want to consider creating a specific ID to use for starting services (perhaps even create a separate ID for *each* service). This is useful for security requirements such as changing passwords.
- If you are logged on as a domain user, you must be a domain administrator to install the Netfinity Director server database properly. If you are not a domain administrator, log on locally to the system with local administrator rights.
- If you are logged on as a local administrator during installation, Netfinity Director server will use the local administrator for starting the Netfinity

Director Support Program, and will use the local accounts database for Console Security. If you are logged on as a domain administrator during installation, Netfinity Director server will use domain administrator for starting the Netfinity Director Support Program, and will use the domain accounts database for Console Security.

- If you are using a domain user ID to start the service, and you authorize a Windows NT/2000 user to access the Netfinity Director console, that user will be authorized for *all* management servers using a user account from the same domain (since that ID is added to the TWGAdmins or TWGSuperAdmins domain group).

4.2 Installing the server

The Netfinity Director installation can be started either by inserting the CD into the CD-ROM drive or by executing `ibmsetup.exe` (`X:\win32\install\ibmsetup.exe`). And follow the steps as below:

1. Click **Next** in the Welcome window and the License Agreement.
2. The Select Components window appears, where there are four different installation choices, as shown in Figure 15:
   - Server — installs the server, console and UMS code
   - Console — installs the console
   - Client — installs UMS
   - Workgroup/Enterprise Integration — to install software to enable UMS to communicate with Enterprise Managers such as CA Unicenter TNG, Tivoli, and Microsoft SMS

   Notes:

   - If you have Netfinity Director 2.11 installed you must completely uninstall the server and consoles before you install this product. See section 3 of the README.TXT file on the CD-ROM for details.
   - If you have a beta level of Netfinity Director installed you must completely uninstall the beta code before you install this product.
   - When you run the installation program on a Windows 95/98 system, you will only see the Console and Client buttons. You cannont install the server on these systems.

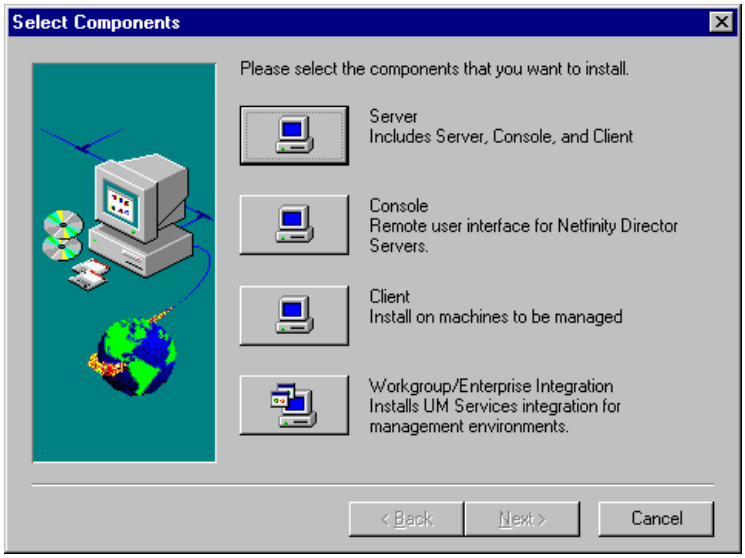


Figure 15. Select Components window

3. Click the **Server** button. This will install UMS, server, and console.
4. The first component to be installed is the UMS code. Figure 16 appears asking which options you want. See 6.1, “Installing UMS” on page 93 for details about this window.

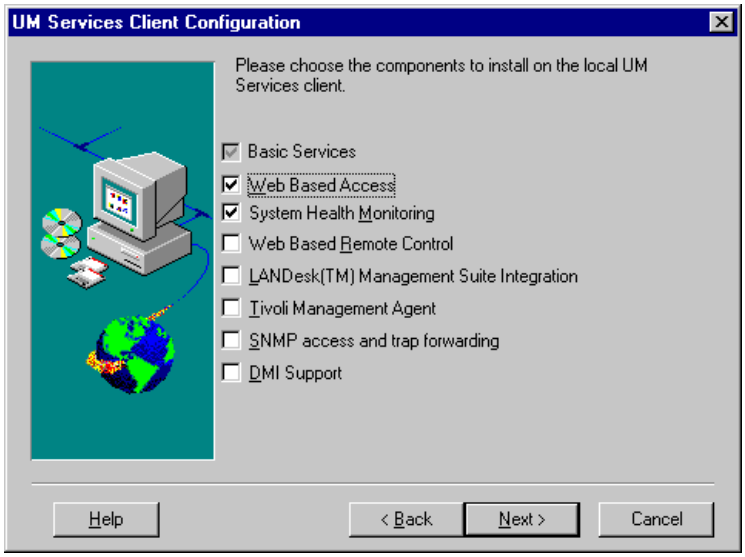


Figure 16. UMS Client Configuration window

Select the components you want installed and click **Next**.

5. If you selected **Web Based Access**, Figure 17 appears.

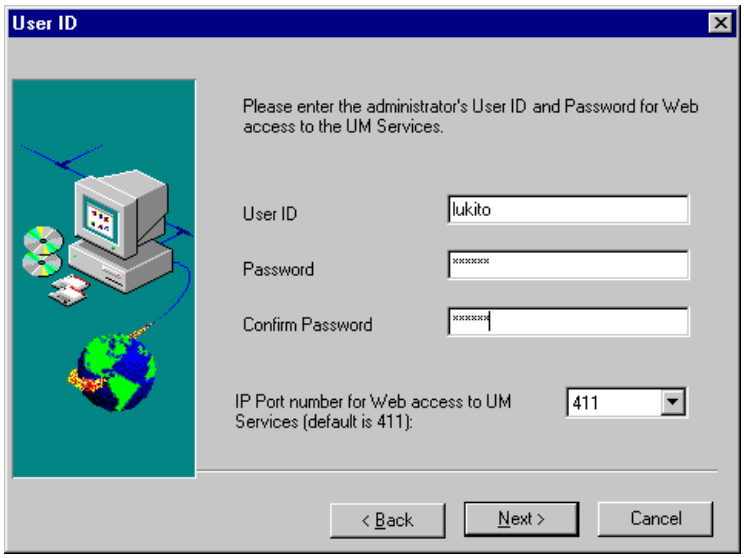


Figure 17. User ID for Web access window

Here, you need to provide a user ID for browser access to the UMS client. You can also select the IP port number (the default is 411). Make sure that the selected port is not used by other TCP/IP applications.

Note: Figure 17 is asking for a user ID to access UMS from a browser. This is not related to Netfinity Director console access. Currently, you cannot access the Netfinity Director console from a browser.

6. Click **Next** to continue and the installation routine prompts you if you want to add a Netfinity Director icon to the Start menu.
7. Now the installation of the server component begins. If you are installing the Netfinity Director server, you will then be prompted to enter a license key for the server software. You do not need a license for the console nor the client code. Click **Next**.
8. Specify the directory where you want the server and console code placed then click **Next**. The default is C:\Program Files\IBM\Director\

   Note: If you are planning to manage a large number of clients, the database stored in this directory can become very large (upwards of 1 GB). Ensure you have sufficient space on the selected drive.

9. Now you are prompted for a directory to put the software distribution packages. Click **Next** to accept the default directory, C:\Program Files\IBM\Director\SwDistPk\.

10. Now you are prompted for the directory where the software distribution packages that are installed on this system will be placed. Click **Next** to accept the default directory, C:\Program Files\IBM\Director\SwDistPk\

11. You are prompted if you want to install files for remote control.

12. You are prompted if you want to install files for a TMR Gateway. Click **Yes** only if there is Tivoli management agent software installed on the network.

13. The system begins installing the necessary files, then the NT Account Information window opens, shown in Figure 18. Enter your Windows account password, then click **Next** to continue.

    Note: The user ID displayed is the ID that you logged on with before beginning the installation. This is used to set the security for the database and cannot be changed in the future.

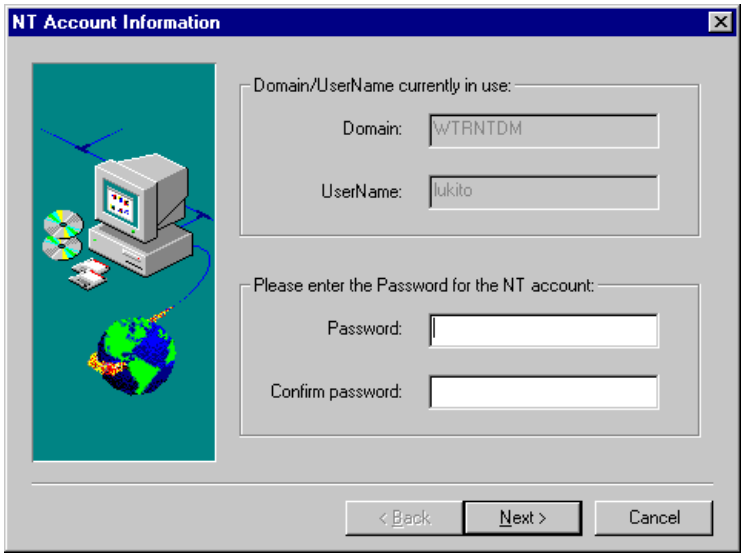


Figure 18. Windows account information window

14. The Director Database Configuration window opens, shown in Figure 19. This is where you select which DBMS you wish to use to store the Netfinity Director database. Click the button next to the appropriate database for the installation.

    The default button (the top one in Figure 19) installs a Microsoft Jet database system.

Note: The Jet database is suitable only for managing up to about 1000 users. If you plan to manage large numbers of users, you should select SQL Server or DB2.

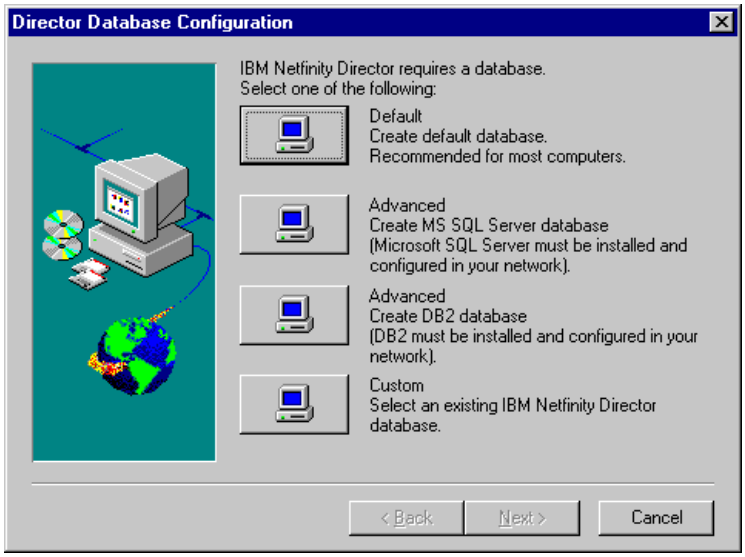


Figure 19. Director Database Configuration window

15. The **Network Driver Configuration** window opens, shown in Figure 20.

    Enable the appropriate network driver by selecting the driver from the Network Drivers list and check the **Driver Enabled** checkbox. You may change the Network Timeout if desired. Also select the **Required User Authorization for Screen Access** checkbox if you want to give client users the authority to deny the system administrator remote control access to their machine. This option allows users to control who accesses their machines. Select the **Enable Wake-On-LAN** checkbox if the agent system has Wake on LAN capability. Then select **OK** to continue.

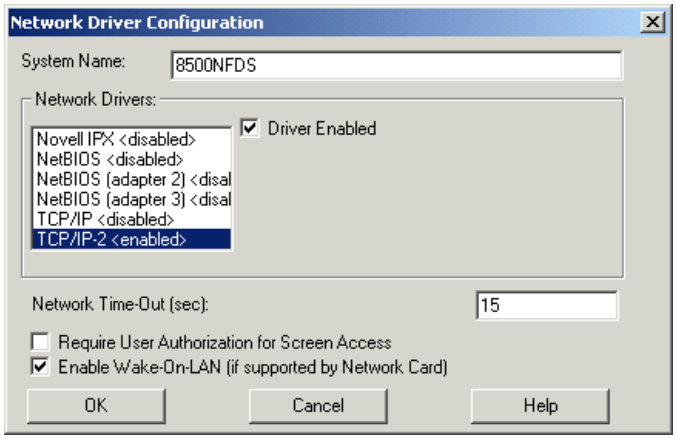


Figure 20. Network Driver Configuration window

Note: To access this window on the server later, click **Start > Programs > IBM Netfinity Director > Network Driver Configuration**.

16. The installation is now complete. Reboot the system.

17. The server status can be monitored via an icon in the lower-right portion of your desktop (taskbar). The program that shows this status indicator is TWGSRVST.EXE, which gets started from the Windows StartUp folder. The icon shows Netfinity Director's status as follows:

Table 6. Server status icon

Status icon	Description
	The server is inactive
	The server is starting
	Server startup has completed successfully

If you double-click the taskbar icon, you get information as shown in Figure 21.

Note: The server must be fully started (as shown by a green circle in the taskbar), before you can log on to the server.

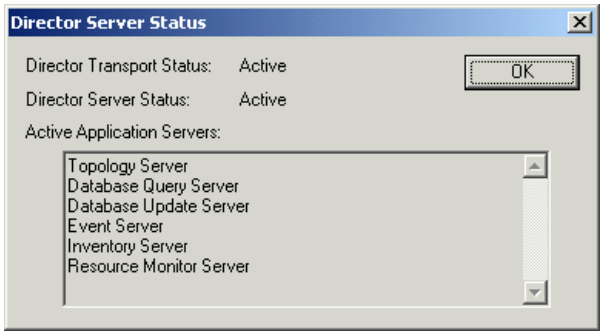


Figure 21. Netfinity Director Server Status

18. After the system is installed, the following options are added to the Start menu, under IBM Netfinity Director:
    - Management Console
    - Network Driver Configuration
    - View readme
19. If you have installed or plan to install UM Server Extensions on any Netfinity server system in your network, you must also install UM Server Extensions on the Netfinity Director server as described in 6.4, “Installing UM Server Extensions” on page 117.

To start the console click **Start > Programs > IBM Netfinity Director > Management Console.** The Netfinity Director Login window appears, as shown in Figure 22.

Note: Ensure the server is fully started before you log on to the console.

Figure 22. Netfinity Director Login window

For more information about installation, see Chapter 2 of the redbook *Netfinity Director Integration and Tools*, SG24-5389.

4.3 Installing the console

The Netfinity Director installation can be started either by inserting the CD into the CD-ROM drive or by executing `ibmsetup.exe` (`X:\win32\install\ibmsetup.exe`). And follow the steps below:

1. Click **Next** in the Welcome window and the License Agreement.
2. The Select Components window appears, where there are four different installation choices, as shown in Figure 23:
   - Server — installs the server, console and UMS code
   - Console — installs the console
   - Client — installs UMS
   - Workgroup/Enterprise Integration — to install software to enable UMS to communicate with Enterprise Managers such as CA Unicenter TNG, Tivoli, and Microsoft SMS

   Notes:

   - If you wish to manage the system where you plan to install the console, you should install UMS before you install the console. However, if you do not plan to manage the console (for example, if you are installing

the console on a non-SMBIOS system), then you do not need to install UMS.

– If you have Netfinity Director 2.11 installed you must completely uninstall the 2.11 console before you install this product. See section 3 of the README.TXT file on the CD-ROM for details.

– If you have a beta level of Netfinity Director installed you must completely uninstall the beta code before you install this product.

– When you run the installation program on a Windows 95/98 system, you will only see the Console and Client buttons.

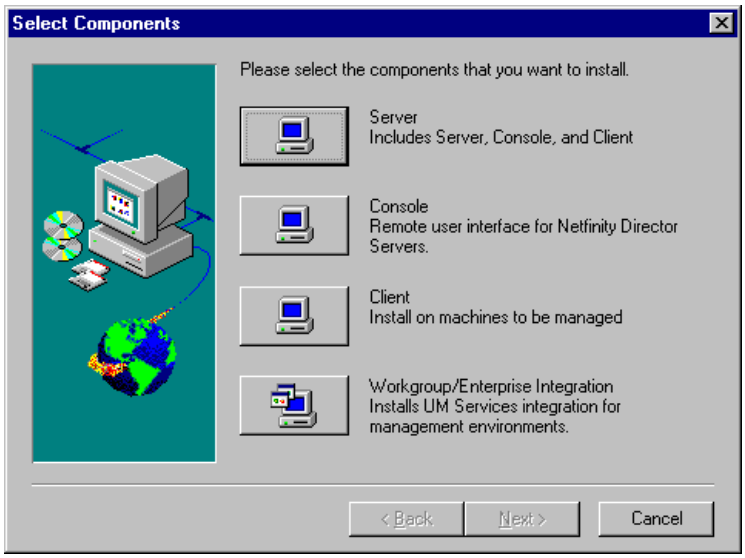


Figure 23. Select Components window

3. Click the **Console** button. This will install the console only (not UMS).
4. Specify the directory where you want the console code placed then click **Next**. The default is C:\Program Files\IBM\Director\
5. The code is now copied to your hard disk.
6. Once the installation is complete, reboot the system.
7. The following options are added to the Start menu, under IBM Netfinity Director:
   – Management Console
   – Uninstall
   – View readme

8. If you have installed or plan to install UM Server Extensions on any Netfinity server system in your network, you must also install UM Server Extensions on the Netfinity Director console as described in 6.4, “Installing UM Server Extensions” on page 117.

To start the console click **Start > Programs > IBM Netfinity Director > Management Console.** The Netfinity Director login window appears, as shown in Figure 24.

Note: Ensure the server is fully started before you log on to the console.

Figure 24. Netfinity Director Login window

For more information about installation, see Chapter 2 of the redbook *Netfinity Director Integration and Tools*, SG24-5389.

Chapter 5. Coexistence using MPM

The Multi-Platform Manager (MPM) initiative is used to define an open and consistent way to allow different system management solutions to work together extending the level of control between a higher-level workgroup or enterprise management to PC LAN management tools. You may think of MPM as a translator for management applications.

The MPM API is an open industry initiative that was developed with representation from many of the leading industry companies including Tivoli Systems, Intel Corporation, Microsoft, and Novell. They provided review, input, and guidance to the MPM specification. There is a consideration to propose it before an open standards group such as the DMTF.

There are three components to the MPM environment:

- MPM Broker. This component resides on the Netfinity Director server and allows the server to send and receive messages between each MPM Provider. It is installed as part of the installation of the Netfinity Director server.
- MPM Provider. This is also known as the MPM Site or the Netfinity Provider. It performs the translation of information between Netfinity Manager and Netfinity Director and allows the two to communicate. It is installed during the installation of UMS or Netfinity Director on systems where Netfinity Manager is already installed and running.

  Note: The MPM Provider cannot be a Windows 2000 system because it must be running Netfinity Manager. Netfinity Manager is not supported on Windows 2000.
- MPM Agents. These are the Netfinity Manager systems that communicate with the MPM Broker via the MPM Provider.

The two scenarios covered in this chapter describe the two possible situations as shown in Figure 25:

- Scenario 1: the MPM Provider is on a system with Netfinity Manager and UMS installed, and the MPM Broker is on a separate Netfinity Director system, the Netfinity Director server.
- Scenario 2: the MPM Broker and the MPM Provider are on the same system, the Netfinity Director server.

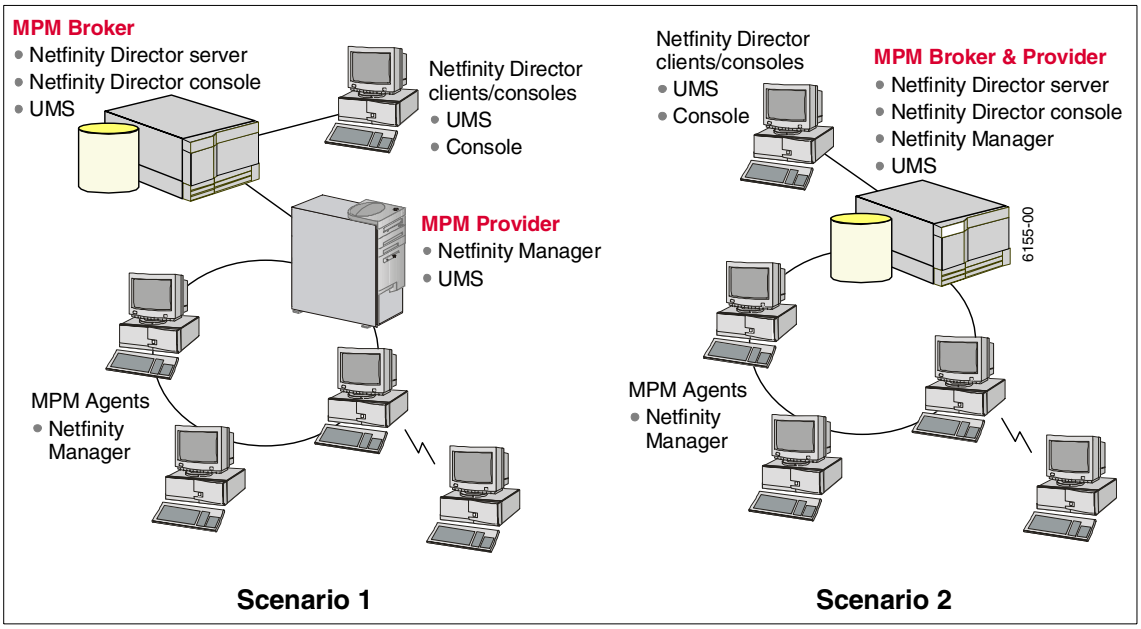


Figure 25. MPM scenarios

These two scenarios are discussed later in this chapter.

We recommend you use scenario 1 because it keeps the Netfinity Director server code separate from the MPM environment. This makes it easier to migrate completely to Netfinity Director, removing all traces of Netfinity Manager and the MPM Provider.

5.1 What you can do with MPM?

Netfinity Director V2.12 has the ability to manage the clients of Netfinity Manager using the MPM API. MPM acts as a gateway to other Netfinity Manager systems and lets them be managed by Netfinity Director.

Note: The tasks capable of being applied to these MPM agents are only a *subset* of the tasks applicable to Netfinity Director agents running UMS.

The use of MPM means you can perform the following tasks on MPM agents:

- Discovery of MPM systems
- Hardware and software inventory
- Event management
- Remote program execution within event action plans

- Software distribution

  Streaming mode only: that is, software is distributed directly from the Netfinity Director sever to the client. You cannot configure a distribution server to alleviate bandwidth problems.

These are discussed in 5.5, “Managing MPM systems” on page 77.

Support for MPM

The next version of Netfinity Director after Version 2.12 may *not* include support for MPM. The implications of this are that there will no longer be any integration with Netfinity Manager from Netfinity Director.

5.2 Before you begin

Before installing the Netfinity Director server and UMS, do the following:

- Understand the licensing implications of using MPM. See 3.5.1, “MPM licensing” on page 43.
- Select the Netfinity Manager system that will be the MPM Provider.
  - The MPM Provider cannot be a system running Client Services for Netfinity Manager. It must be running the full Netfinity Manager software.
  - If you plan to use scenario 1 as described above, it is likely that you’ll use an existing Netfinity Manager system.
  - If you plan to use scenario 2, the MPM Provider will also be your Netfinity Director server, so you may want to consider using a new dedicated Windows NT system. You cannot use Windows 2000 because Netfinity Manager is not supported on that operating system.
- On the MPM Provider, ensure that Netfinity Manager is installed and running. Ensure that the NETFBASE process is running.
- On the MPM Provider system, start Netfinity Manager and discover all Netfinity Manager systems.

  The discovery does not have to be performed before the MPM configuration is set up, but it needs to be done before Netfinity Director “sees” any of the Netfinity Manager systems. It also aids as a test to ensure that the Netfinity Manager configuration is working properly.

Note: Netfinity Director will recognize all systems in all groups in Netfinity Manager. You do not have to define special groups in Remote System Manager.

- If you are using scenario 1, select a system that will act as the MPM Broker. This system will have Netfinity Director server installed on it. See 3.4, “Supported systems” on page 37 for prerequisites.

Our Netfinity Manager lab configuration is shown in Figure 26. We have selected NFM_NTS4 (top right in the figure) to be the MPM Provider.

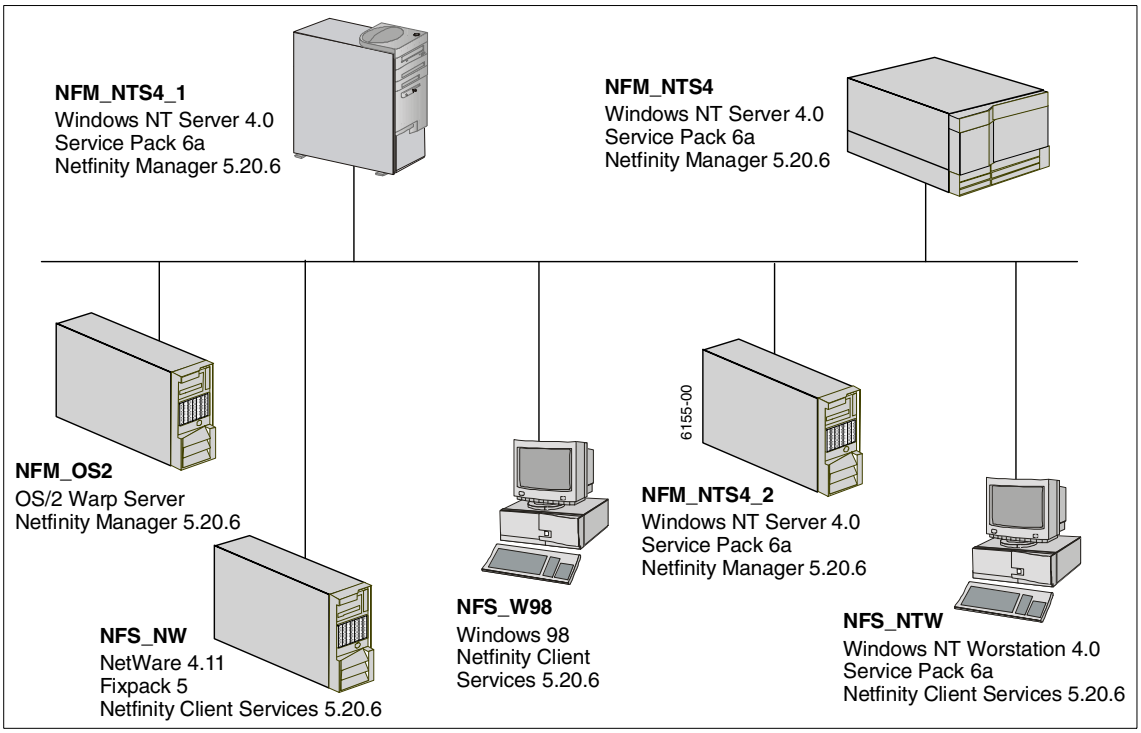


Figure 26. Existing Netfinity Manager environment

The next two sections describe the two scenarios where MPM can be used to integrate Netfinity Director with Netfinity Manager:

- Scenario 1: Install UMS with the MPM provider on an existing Netfinity Manager system and install Netfinity Director server with the MPM broker on a new system.
- Scenario 2 (page 70): Install Netfinity Director server and UMS on an existing Netfinity Manager system. In this scenario, the MPM Broker and the MPM Provider are on that same system.

5.3 Scenario 1

In this scenario, we install UMS with the MPM provider on an existing Netfinity Manager system and install Netfinity Director server with the MPM broker on a separate system.

We recommend this method because it keeps the Netfinity Director server separate from the MPM Provider. This makes it easier to migrate completely to Netfinity Director, removing all traces of Netfinity Manager and MPM Provider.

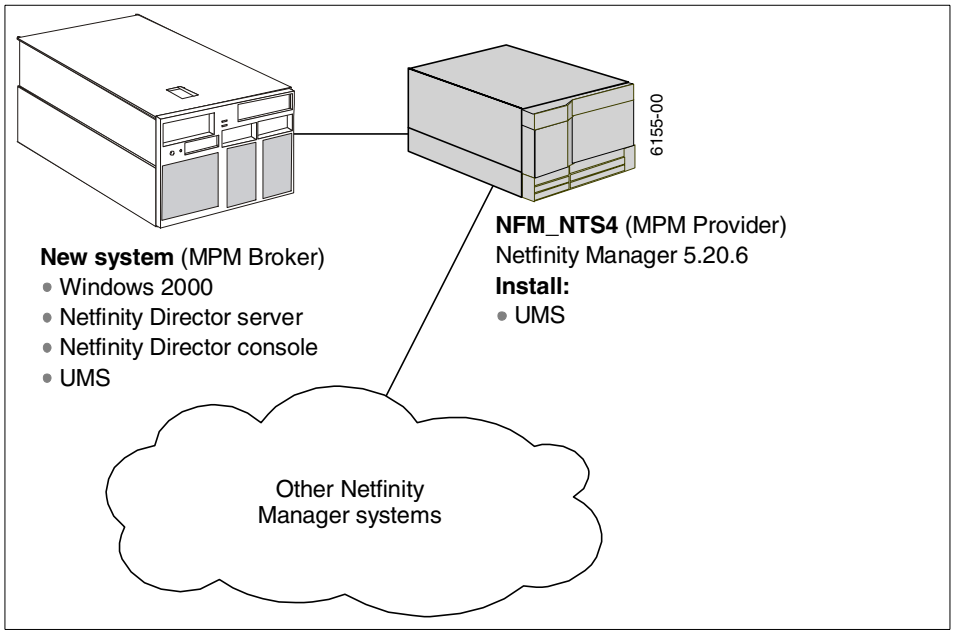


Figure 27. Scenario 1

In our lab, we used a Netfinity Server 8500R system running Windows 2000 as the Netfinity Director server.

The overall steps are as follows:

1. Install UMS on one of the Netfinity Manager systems
2. Install the Netfinity Director server
3. Configure MPM on the Netfinity Director server

5.3.1 Install UMS on one of the Netfinity Manager systems

The first step is to install UMS on the selected Netfinity Manager system that will be the gateway to the other Netfinity Manager systems. In our lab setup, we selected NFM_NTS4 as shown in Figure 27.

Note: The MPM Provider must have the full Netfinity Manager installed and running, not just Client Services for Netfinity Manager. Netfinity Manager must be running (that is, the NETFBASE process must be running).

1. Log on as a local administrator and install UMS. Run the Netfinity Director installer and click the **Client** button as shown in Figure 28:

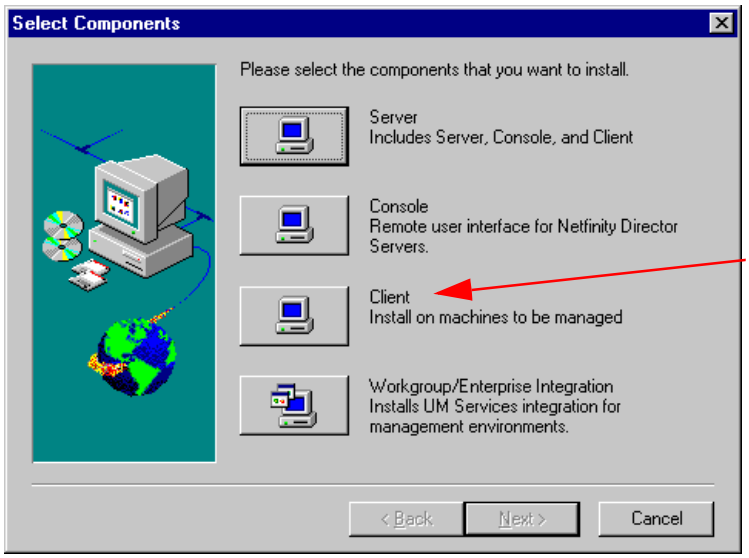


Figure 28. Installing the Netfinity Director client

2. When you see Figure 29 during the client installation, ensure that **Netfinity Director Support** is selected. This installs the MPM Provider. The MPM Provider lets you use Netfinity Manager as a gateway to reach other systems that only have Netfinity Manager installed.

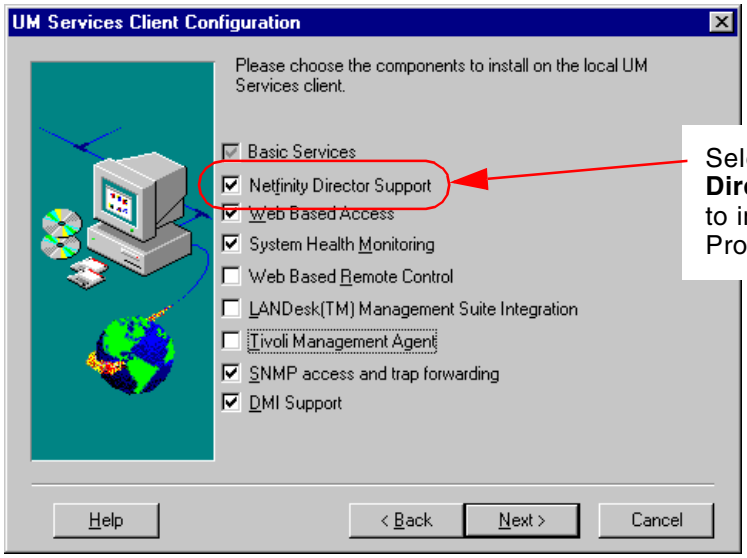


Figure 29. UMS configuration window

3. Continue the installation as described in 6.1, “Installing UMS” on page 93.
4. Once UMS is installed, you are prompted reboot the system. However, you can delay this reboot until step 7.
5. Run NFPRVCFG.EXE from the directory where it is installed. By default, this is C:\Program Files\IBM\UMS\Director\bin. Figure 30 appears.

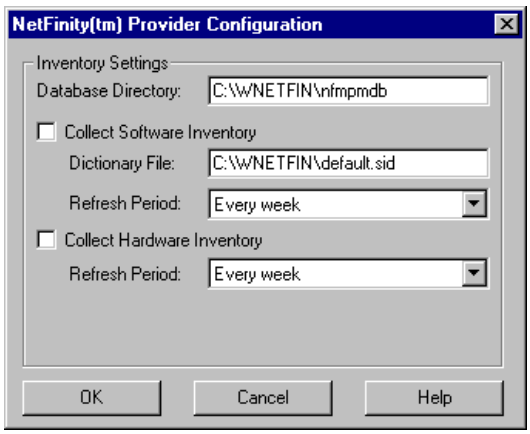


Figure 30. Configuring the MPM Provider for inventory collection

6. Check both **Collect Software Inventory** and **Check Hardware Inventory** and adjust the Refresh Period as you feel appropriate for you installation.

7. Reboot the system.

   Note: If you run NFPRVCFG.EXE at a later stage, you will need to do the following befor your changes to take affect:

   – Reboot the MPM Provider system
   – Remove the MPM Provider from the active list in the Netfinity Director console, then re-add it again.

8. Start Netfinity Manager and discover all systems via Remote Systems Manager.

   Note: You do not need to create any specific group. Using the All group will be sufficient as Netfinity Director will “see” all systems from all Netfinity Manager groups on the MPM Provider systems.

Now that the Netfinity Manager system has UMS installed, complete with the MPM provider, the next step is to bring online the new Netfinity Director server and configure it.

5.3.2 Install Netfinity Director server

Here, we install Netfinity Director server and discover the MPM Provider we created in the previous step.

1. Install Netfinity Director server, Netfinity Director console, and UMS on the system you’ve selected (in our lab, we’ve selected a Netfinity 8500R running Windows 2000).

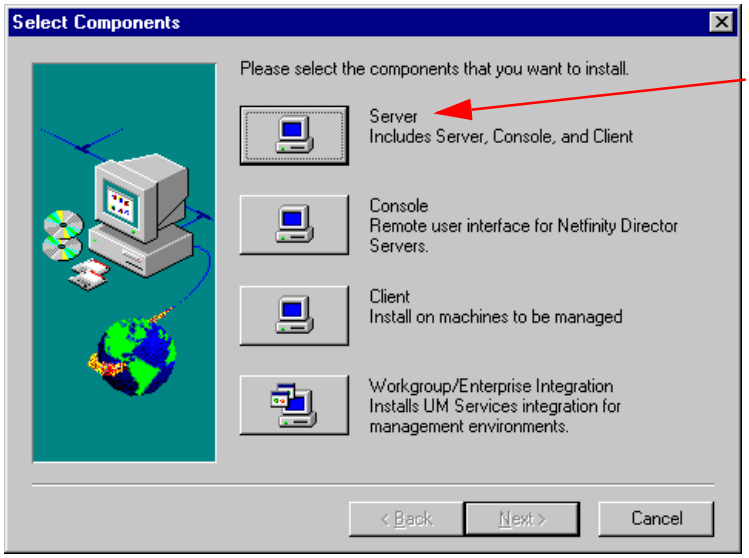


Figure 31. Installing Netfinity Director server

2. Follow the server installation instructions in 4.2, “Installing the server” on page 46.
3. Reboot the system once the installation is complete.
4. Start the Netfinity Director console and log on to the server. (If you can’t log on, make sure the server has fully started and try again.)
5. From the console, discover the MPM Provider (and all other systems) by clicking the **Discover All Systems** button,  or click **Task > Discover Systems > All Systems and Devices**. In our lab, as shown in Figure 32, only the two systems with UMS installed are discovered. These are:
   – The 8500R server running Netfinity Director server
   – The NFM_NTS4 system running UMS, which we have configured to be the MPM Provider

   Note: At this point the other Netfinity Manager systems are not detected by the Netfinity Director server. These will be discovered after MPM has been configured.

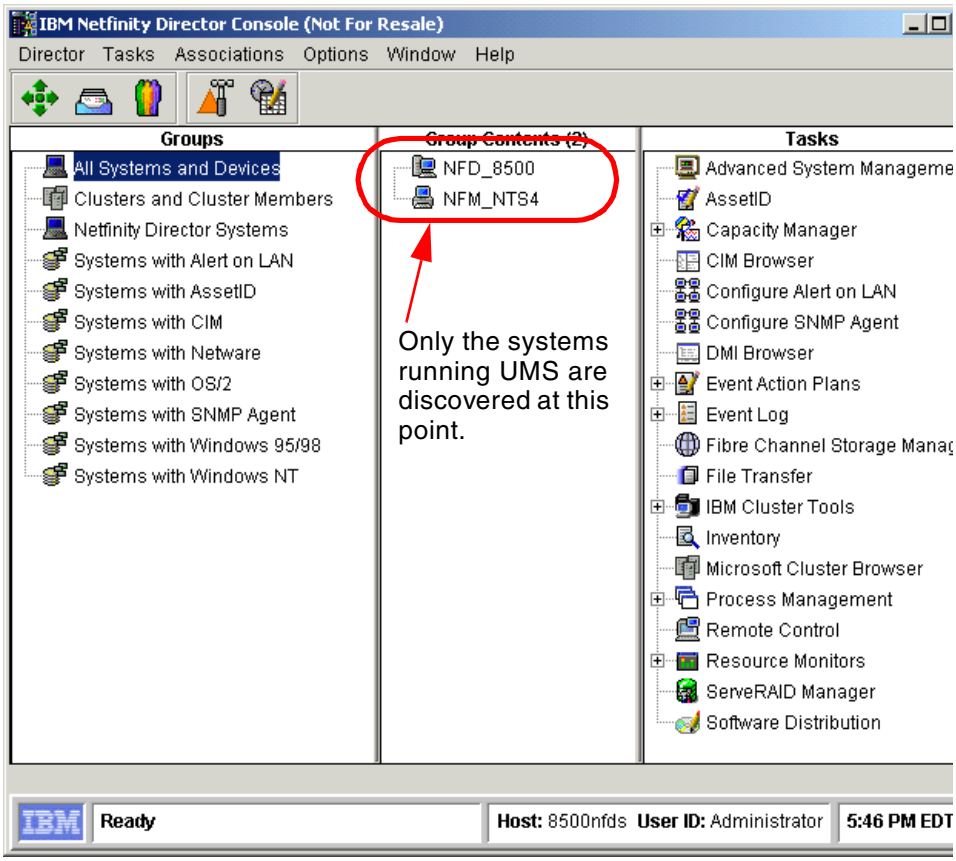


Figure 32. Discovering the MPM Provider and other UMS systems

5.3.3 Configure MPM

The next step is to configure MPM on the Netfinity Director server so that it can discover the Netfinity Manager systems via the MPM Provider.

1. From the Netfinity Director console, click **Options > Discovery Preferences**. Click the **MPM Sites/Providers** tab. Figure 33 appears.

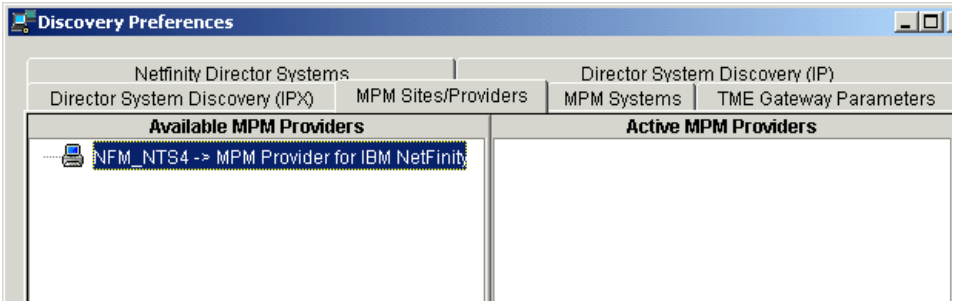


Figure 33. MPM Providers found by Netfinity Director

We can see that system NFM_NTS4 is recognized as an MPM Provider. It is possible to have more than one provider if you have installed UMS on multiple Netfinity Manager systems. However, this is unnecessary since all systems in that environment can be discovered at the same time

Note: Netfinity Director supports only MPM Providers on Netfinity Manager systems. MPM Providers from other products such as Intel LANDesk are support by IT Director but not Netfinity Director as described in Chapter 9, “Upgrading to IT Director” on page 165.

2. Highlight the MPM Provider and click **Add**. The MPM Provider is then added to the list of Active MPM Providers as shown in Figure 34

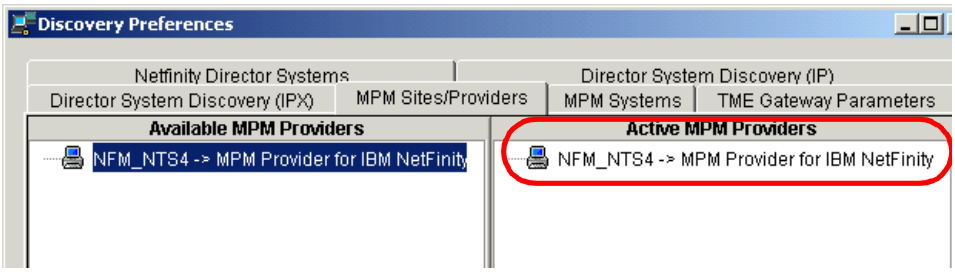


Figure 34. Active MPM Providers

3. Click the **MPM Systems** tab. Here, you can specify how often you want Netfinity Director to look for new Netfinity Manager systems. Figure 35 appears.

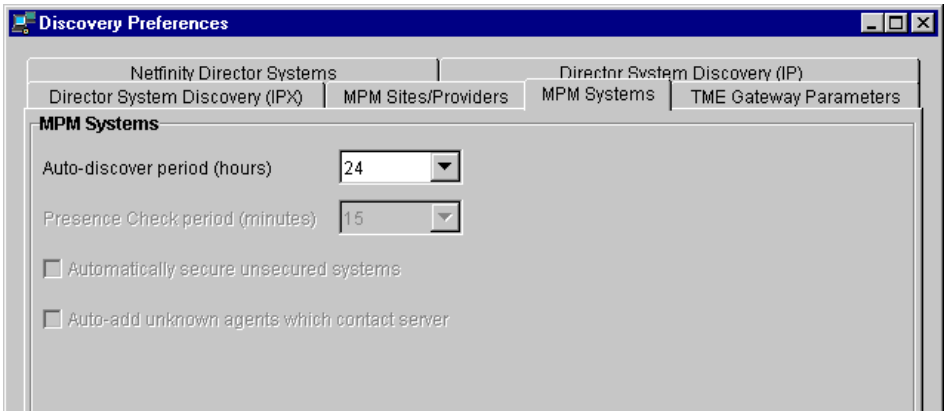


Figure 35. Setting the auto-discover period

4. Specify the number of hours between discoveries. The auto-discover function is disabled by default. We have set our auto-discover to occur every 24 hours.

   If you also have auto discovery enabled in Netfinity Manager on the MPM Provider, then the combination of both auto discovery settings will ensure that Netfinity Director can automatically detect any new Netfinity Manager systems.

5. Click **OK**. This will initiate an MPM discovery on the selected MPM Provider, which finds the other Netfinity Manager systems, as shown in Figure 36.

   The system in the angled brackets (for example, <NFM_NTS4>) is the name of the MPM Provider that was used to detect each Netfinity Manager system.

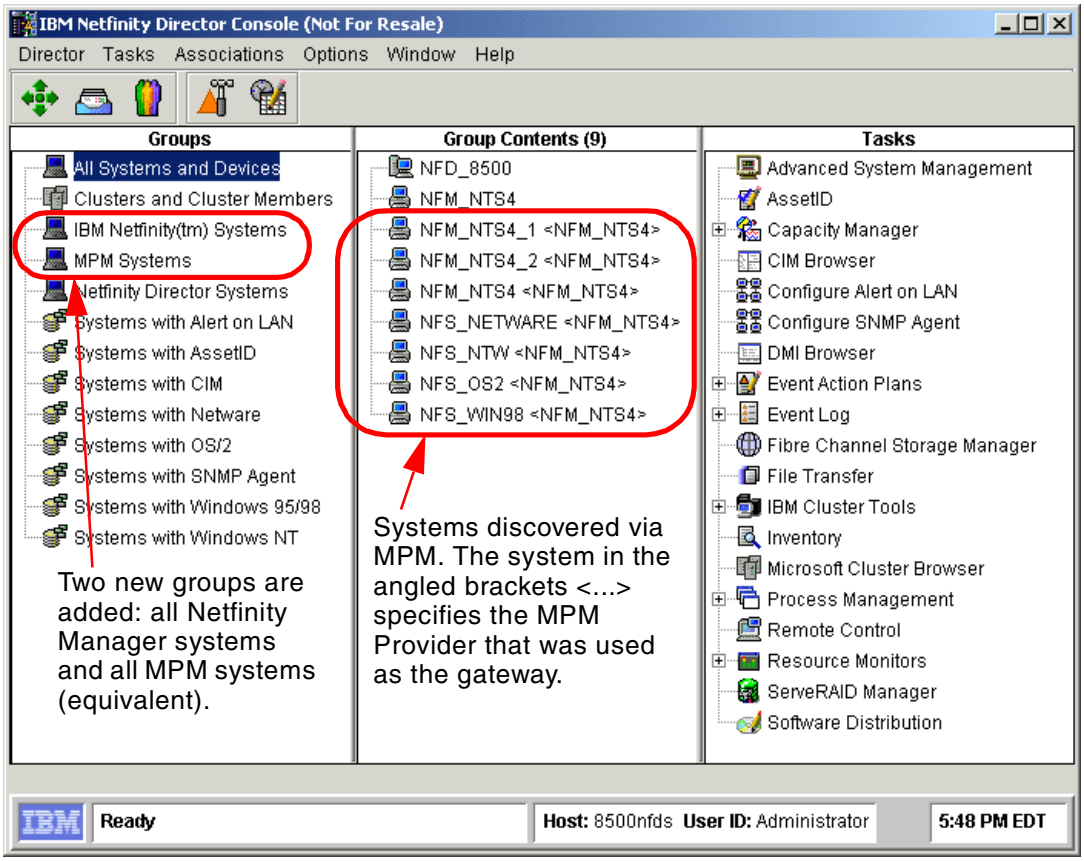


Figure 36. Netfinity Director has detected all Netfinity Manager systems via the MPM Provider

The following new entries appear in the console as shown in Figure 36:

a. Two new groups are created:

- IBM Netfinity(tm) Systems
- MPM Systems

These groups are, in fact, identical in membership. MPM Systems is all clients discovered by any MPM system. IBM Netfinity Systems is all Netfinity Manager systems discovered via MPM. Since Netfinity Director supports only Netfinity Manager-based MPM Providers, these groups are the same.

b. The MPM clients are discovered.

These are the systems that were discovered by Netfinity Manager in 5.2, “Before you begin” on page 59.

These MPM systems can now be managed from Netfinity Director.

Notes:

- Netfinity Manager must be started before Netfinity Director starts. To do this, either increase the value of the StartUpDelay registry key for Netfinity Director, or add a DependOnService registry key to make TWGIPC dependent upon NETFBASE.
- If you do not see the Netfinity Manager systems, ensure that Netfinity Manager is running on the MPM Provider and that all systems have been discovered in Netfinity Manager on that system.
- If the systems are listed more than once in the Group Contents panel, this may be due to each client connecting to the server with more than one network protocol (for example, NetBIOS and TCP/IP).

Now that the system is configured, you can manage these Netfinity Manager systems from Netfinity Director as described in 5.5, “Managing MPM systems” on page 77.

5.4 Scenario 2

In this scenario, we install Netfinity Director server and UMS on an existing Netfinity Manager system. Here, the MPM Broker and the MPM Provider are on that same system.

Select a Netfinity Manager system that will be your Netfinity Director server system. You may want to consider a new server for this. In our lab, we have selected NFM_NTS4 as shown in Figure 37:

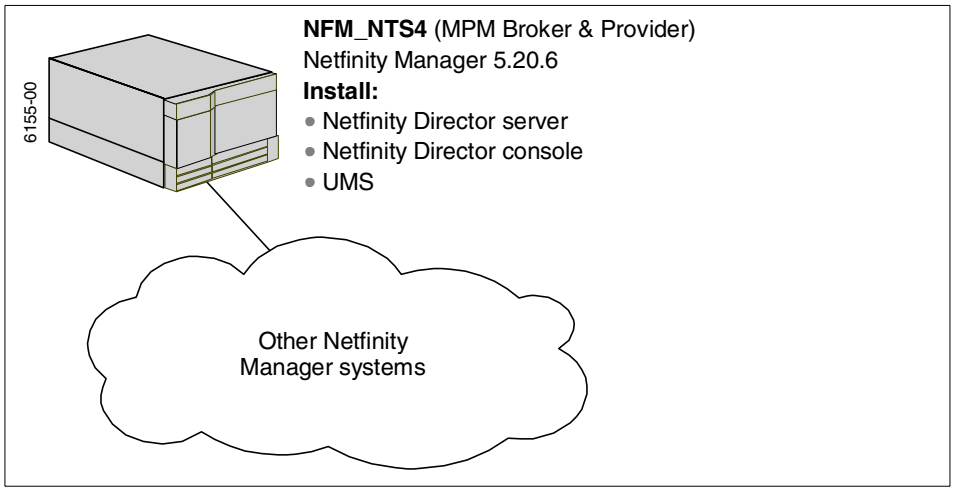


Figure 37. Scenario 2

The main steps are:

1. Install Netfinity Director server
2. Configure MPM on the server

5.4.1 Install Netfinity Director server

Install Netfinity Director server on a system that already has Netfinity Manager installed and running.

1. Install Netfinity Director server (this also installs UMS and the console) on the selected Netfinity Manager system. In our lab, we used NFM_NTS4. See 4.2, “Installing the server” on page 46 for specifics.
2. During the server installation, you are prompted to install the Netfinity Provider as shown in Figure 38. This component provides the MPM interface between Netfinity Manager and Netfinity Director. Make sure the component is selected before continuing.

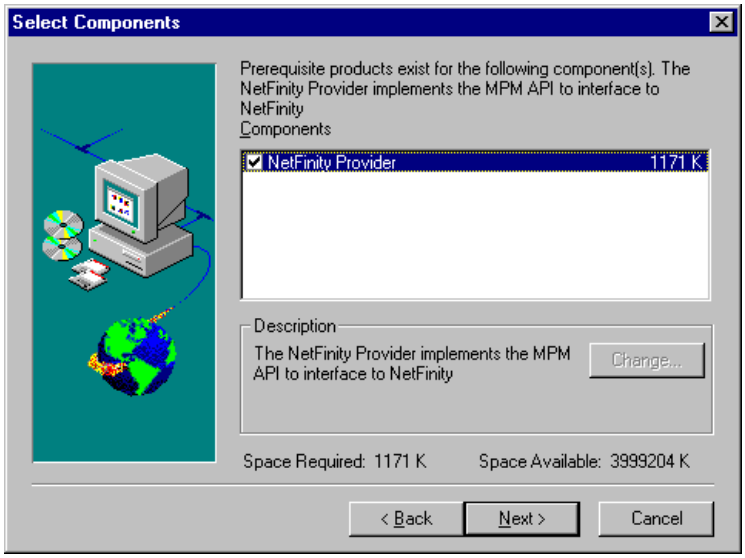


Figure 38. Installing the Netfinity Provider

Netfinity Manager must be running

You must have Netfinity Manager already installed and *running* when you install Netfinity Director. If it isn't running, you will not see Figure 38 where you can install the Netfinity Provider.

3. The installation continues. Figure 39 will appear. Ensure that both **Collect Software Inventory** and **Collect Hardware Inventory** are selected. Adjust the Refresh Period as you feel appropriate — the minimum refresh period is one hour.

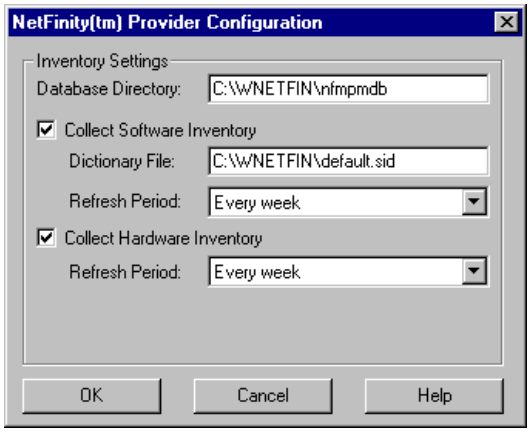


Figure 39. MPM Provider inventory settings

Note: You can access this window after the installation is complete by running **Start > Programs > IBM Netfinity Director > MPM Provider for Netfinity Configuration** or by running NFPRVCFG.EXE. If you make changes, you must restart Netfinity Manager.

4. Complete the installation of Netfinity Director and reboot the system. When the system reboots, the Netfinity Director server will start. Wait for the server to fully start before continuing.

5.4.2 Configure MPM

The next step is to configure Netfinity Director to detect the MPM clients. Remember that the Netfinity Director server and the MPM Provider are the same system (unlike Scenario 1):

1. Start the Netfinity Director console and log on to the server. (If you can't log on, make sure the server has fully started and try again.)
2. From the console, discover all systems by clicking the **Discover All Systems** button,  or click **Task > Discover Systems > All Systems and Devices**.

   You'll see that the MPM Provider is listed, but none of the Netfinity Manager-only systems are listed as shown in Figure 40. This is because the Netfinity Director server does not automatically discover MPM clients.

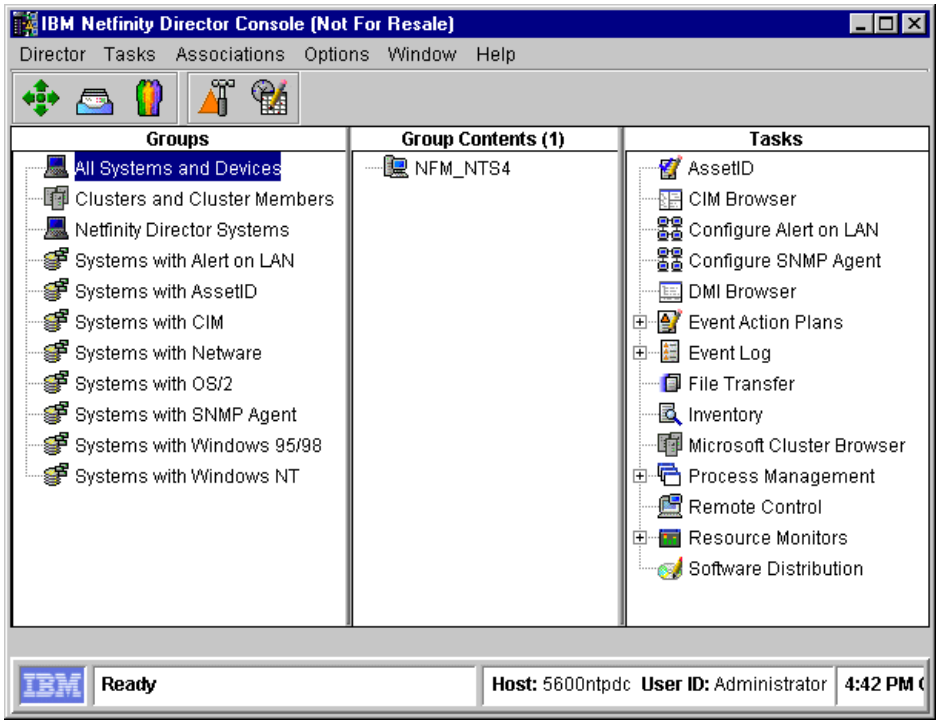


Figure 40. Netfinity Director console — only the server is discovered

3. Configure Netfinity Director to discover MPM clients. Click **Options > Discovery Preferences**. Click the **MPM Sites/Providers** tab. Figure 41 appears.

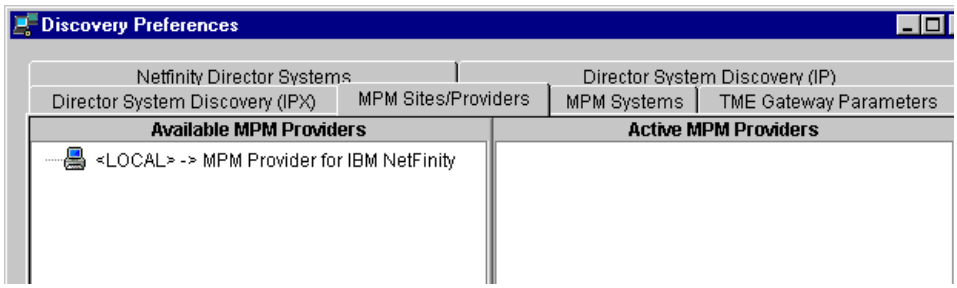


Figure 41. Discovery Preferences panel

All of the available MPM Providers will be listed in the left column. These are systems on which the MPM Provider has been installed. In our lab environment, the system NFM_NTS4 is the only one listed.

You'll notice that in Figure 41, the MPM Provider starts with <LOCAL>. Compare this with the equivalent window in Scenario 1, Figure 33 on page 67. <LOCAL> indicates that the MPM Provider is the system where the console is running.

4. Select the MPM Provider and click the **Add** button to activate it.

   The added providers then appear in the right column as shown in Figure 42:

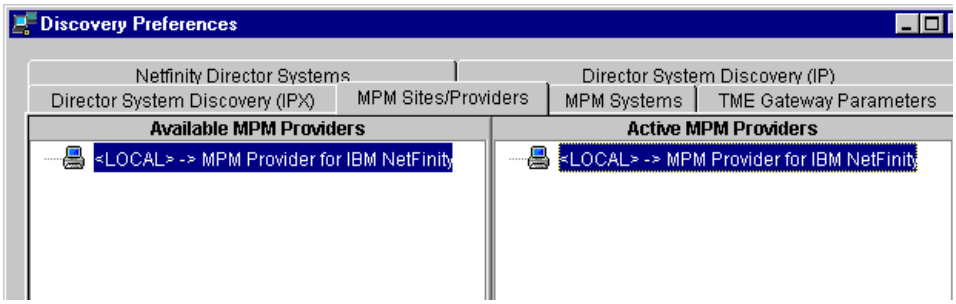


Figure 42. Active MPM Providers

5. Click the **MPM Systems** tab. Here, you can specify how often you want Netfinity Director to look for new Netfinity Manager systems. Figure 43 appears.

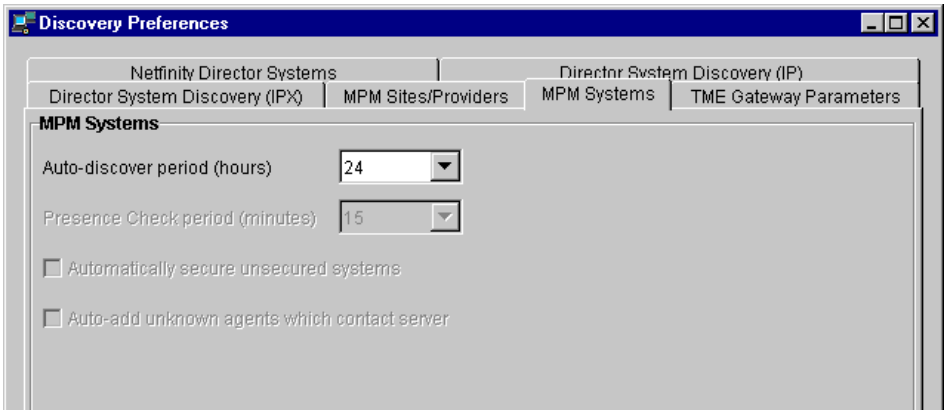


Figure 43. Setting the auto-discover period

6. Specify the number of hours between discoveries. The auto-discover function is disabled by default. We have set our auto-discover period to occur every 24 hours.

   If you also have auto discovery enabled in Netfinity Manager on the MPM Provider, then the combination of both auto-discovery settings will ensure that Netfinity Director can manage any new Netfinity Manager systems.

7. Click **OK**. This will initiate an MPM discovery on the selected MPM Provider, which finds the other Netfinity Manager systems, as shown in Figure 44.

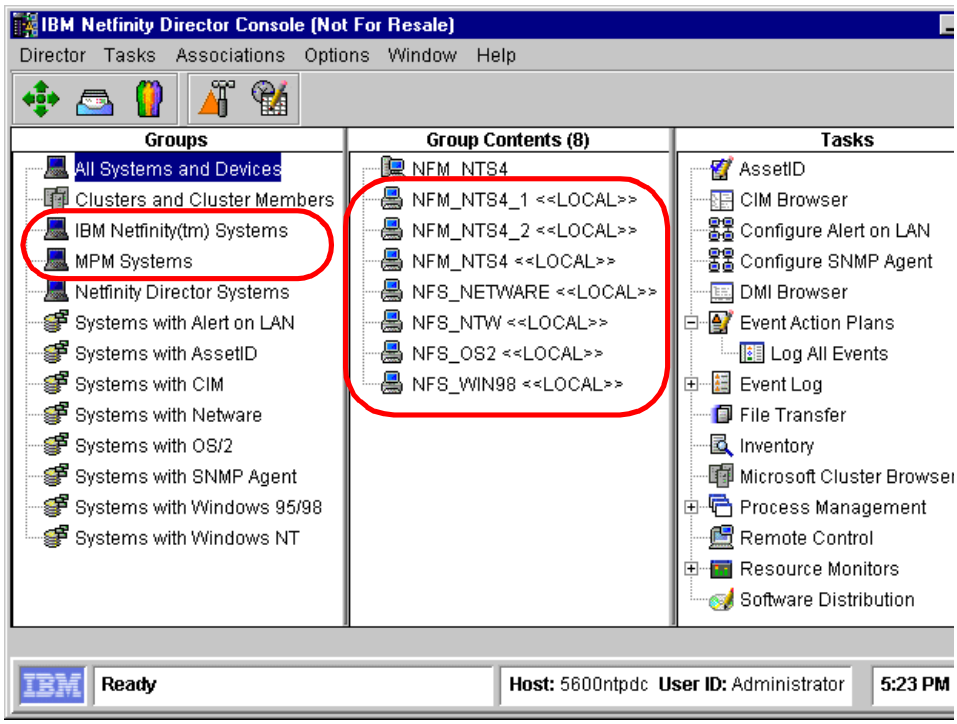


Figure 44. Netfinity Manager systems manageable by Netfinity Director

Next to each MPM client is the text <<LOCAL>>. This indicates that the local system is the MPM Provider that was used to detect each Netfinity Manager system.

The following new entries appear in the console as shown in Figure 44:

a. Two new groups are created:

   - IBM Netfinity(tm) Systems
   - MPM Systems

These groups are, in fact, identical in membership. MPM Systems is all clients discovered by any MPM system. IBM Netfinity Systems is all Netfinity Manager systems discovered via MPM. Since Netfinity Director supports only Netfinity Manager-based MPM Providers, these groups are the same.

b. The MPM clients are discovered.

These are the systems that were discovered by Netfinity Manager in 5.2, “Before you begin” on page 59.

These MPM systems can now be managed from Netfinity Director.

Notes:

- Netfinity Manager must be started before Netfinity Director starts. To do this, either increase the value of the StartUpDelay registry key for Netfinity Director, or add a DependOnService registry key to make TWGIPC dependent upon NETFBASE.
- If you do not see the Netfinity Manager systems, ensure that Netfinity Manager is running on the MPM Provider and that all systems have been discovered in Netfinity Manager on that system.
- If the systems are listed more than once in the Group Contents panel, this may be due to each client connecting to the server with more than one network protocol (for example, NetBIOS and TCP/IP).

Now that the system is configured, you can manage these Netfinity Manager systems from Netfinity Director as described below.

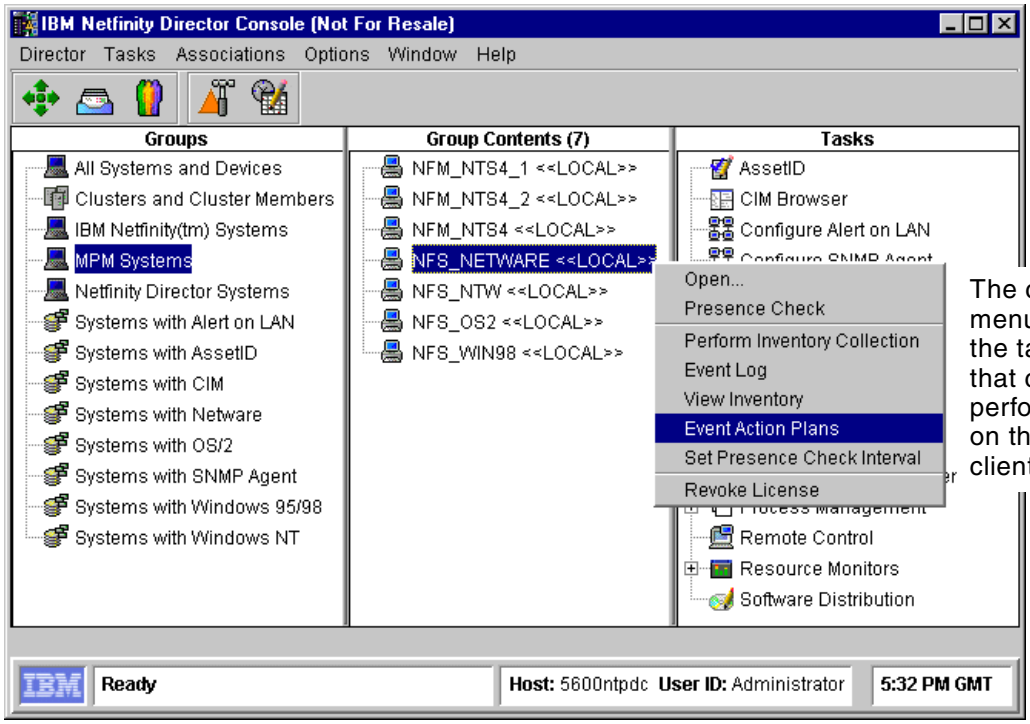
5.5 Managing MPM systems

Now that the MPM systems are discovered, they are managed in the same way as Netfinity Director systems. MPM systems are valid targets for the following Netfinity Director tasks:

- Send Netfinity Manager alerts to Netfinity Director
- Perform inventory collection
- View inventory
- View the event log
- Software distribution to Netfinity Manager clients

Software distribution is covered in 6.3, “Software distribution through MPM” on page 112. The other tasks listed are covered in this section.

Tasks that can be dragged and dropped onto the systems in the groups IBM Netfinity Systems and MPM Systems are listed in the context menu when you right-click a system name as shown in Figure 45:



The context menu shows the tasks that can be performed on the MPM clients.

Figure 45. Tasks available on Netfinity Manager MPM clients

Notes:

- The Presence Check entry in the context menu is incorrectly listed there. This task is not supported with MPM clients.
- Software distribution is not available from the context menu. Refer to 6.3, “Software distribution through MPM” on page 112 for instructions regarding the use of the software distribution task.

If you attempt a task that is not valid, you will see Figure 46:

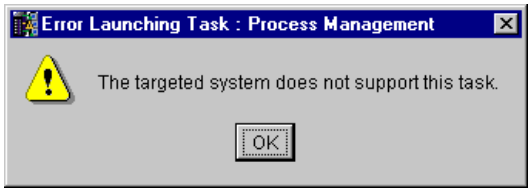


Figure 46. Attempting to perform a task not supported

When managing MPM systems, you will notice the following differences when compared to managing Netfinity Director clients:

- Individual MPM systems cannot be deleted from a dynamic group. The MPM Provider can be de-activated by cli cking **Discovery Preferences,** which will delete all MPM systems.
- Individual MPM systems cannot be added using the New function. Only the MPM Provider can be activated, as opposed to individual systems.
- The amount of inventory data returned from MPM systems will be different from the amount of inventory data returned from Netfinity Director systems.
- When the MPM Provider is activated, it will automatically start forwarding all of its alerts and events to Netfinity Director for processing. To control or determine the cause of the alerts, refer to the documentation provided with Netfinity Manager.

Note: Deleting the Netfinity Director system that is acting as the MPM Provider will automatically delete all MPM systems discovered via the provider.

5.5.1 Sending alerts to Netfinity Director

Alerts received by Netfinity Manager on the MPM Provider are automatically forwarded to the event log of the Netfinity Director server. To send alerts from all other Netfinity Manager systems, you must configure each of them to forward all of their alerts to Netfinity Manager on the MPM Provider system.

When you install UMS on a system running Netfinity Manager (making it an MPM Provider) as described in 5.3, “Scenario 1” on page 61 and 5.4, “Scenario 2” on page 70, a new action **Forward to MPM service** is automatically defined, as shown in Figure 47.

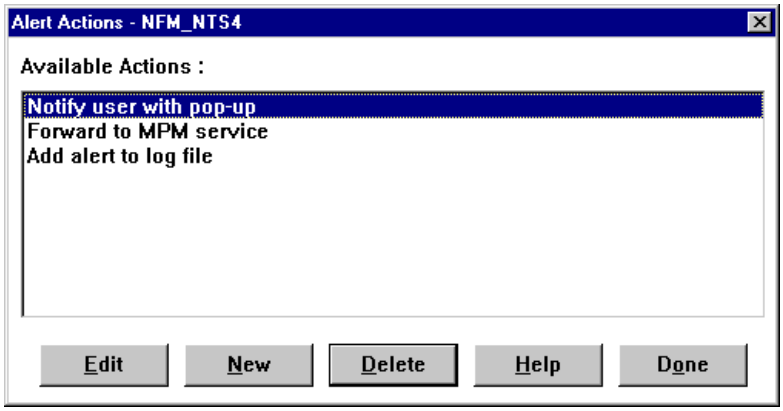


Figure 47. New action Forward to MPM service

As you can see from Figure 48, this action forwards all alerts to Netfinity Director:

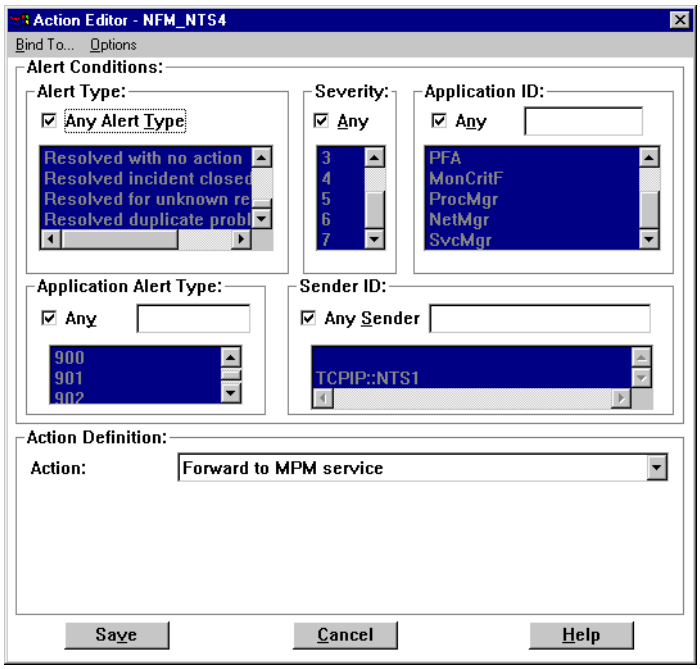


Figure 48. Actions Forward to MPM service

In Netfinity Director, these alerts are, by default, saved to the server's event log.

As an example, we configured a Process Manager alert in Netfinity Manager on the system NFM_NTS4_2 to monitor the CALC.EXE process. When the process stops, the alert will be forwarded to the Netfinity Director server log as shown in Figure 49:

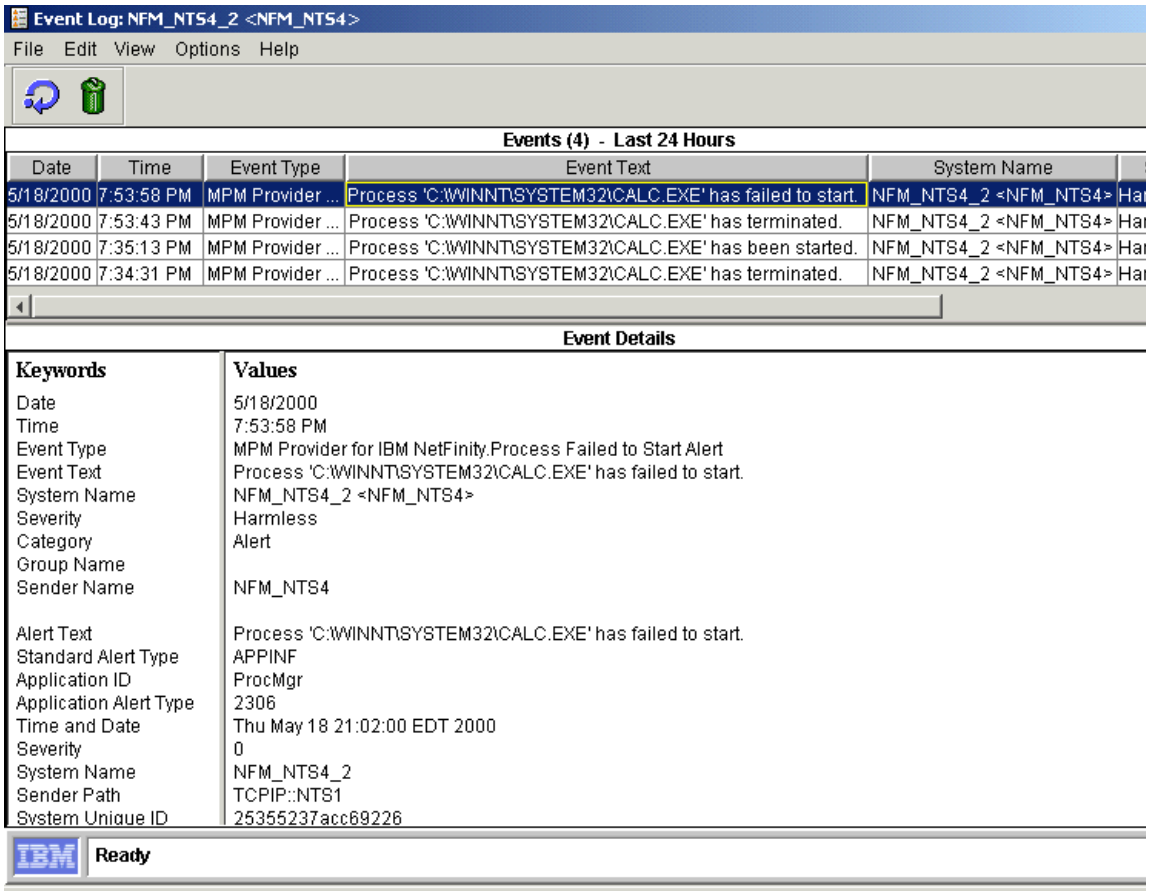


Figure 49. Event log showing the alert received from the Netfinity Manager client through the MPM Provider

If you want Netfinity Director to perform actions in addition to writing the alert to the event log, then you must define an event action plan.

In the following steps, we configure an action plan which will pop up a window on the console when certain alerts are issued from any of our Netfinity Manager systems.

1. From the main console window, click the Event Builder icon  .

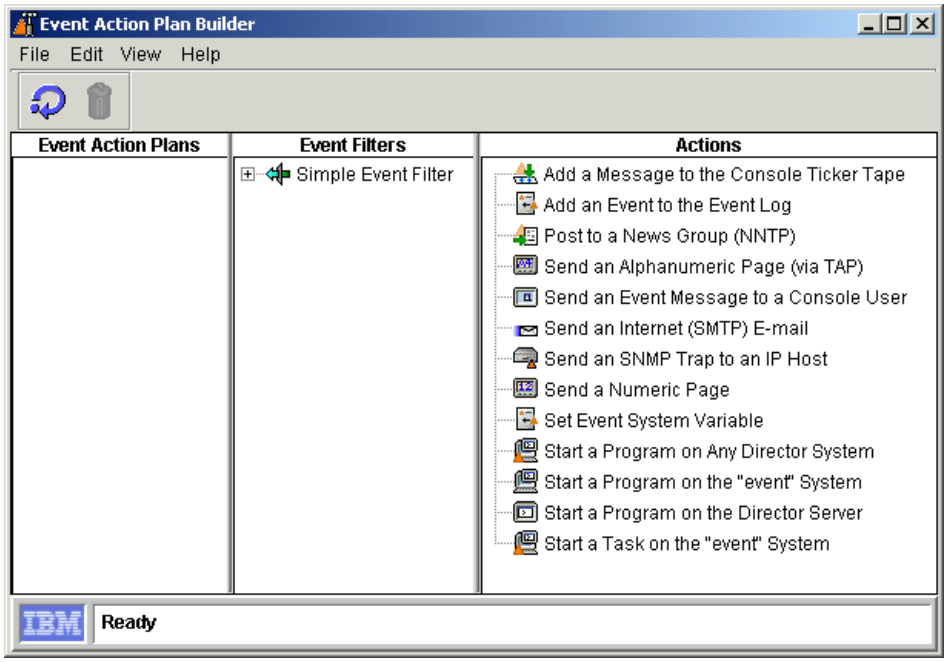


Figure 50. Creating a new MPM filter for MPM events

2. In the Event Filters panel, right click on **Simple Event Filter** and click **New**.
3. Deselect the **Any** checkbox and then expand the **MPM Provider for IBM Netfinity** branch. Figure 51 appears.
4. From the list select the specific events that you wish to receive from Netfinity Manager to pass onto Netfinity Director. Use the Ctrl key to select multiple events.

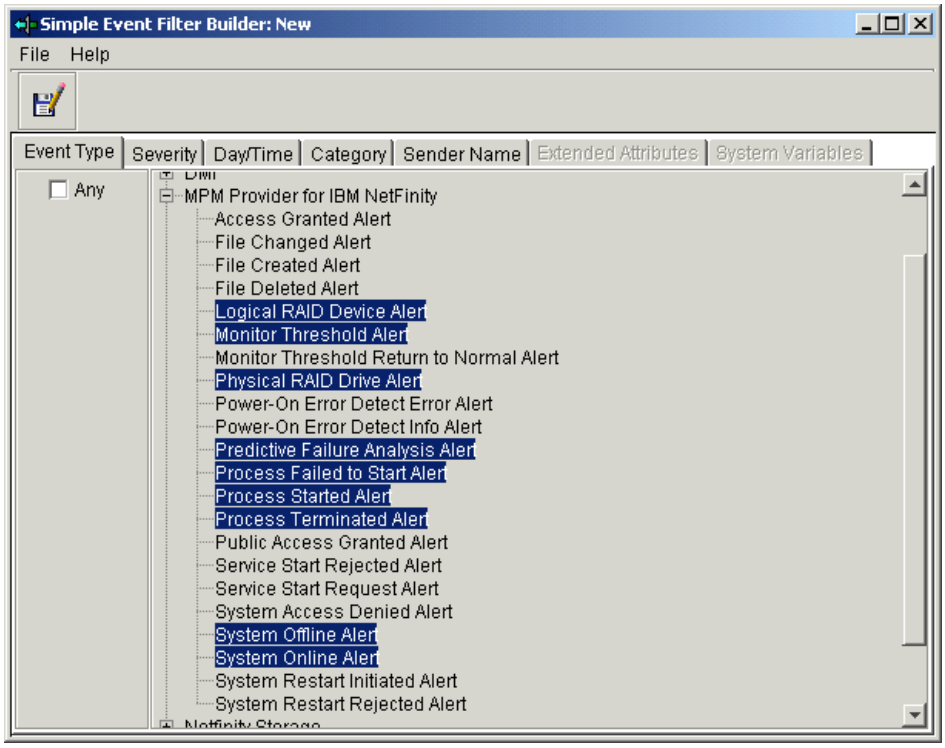


Figure 51. Selecting specific MPM events

5. Adjust any other filter settings, or leave them as the defaults.
6. Click the **Save** button  and enter a name for the filter.

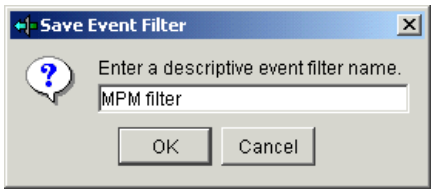


Figure 52. Save the event filter

7. The new event filter now appears in the list:

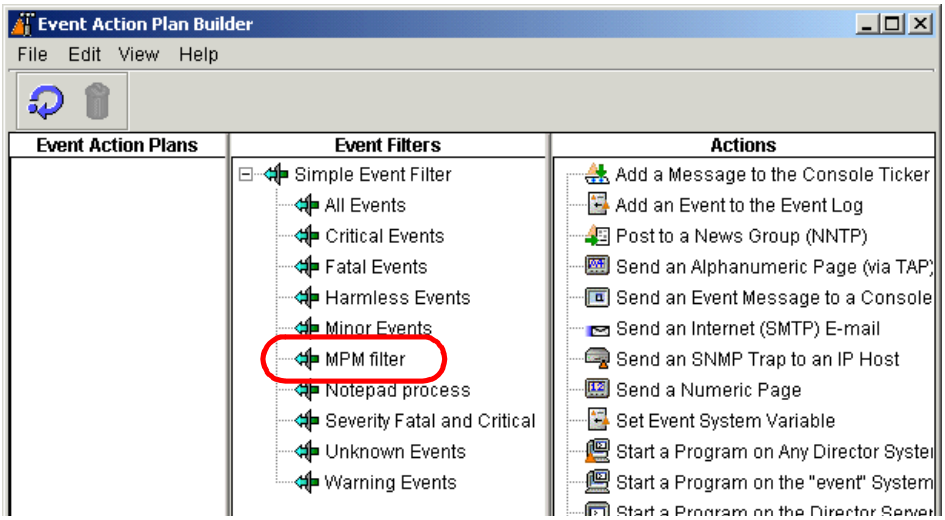


Figure 53. MPM filter created

8. Next, define the action. In our example, the action is to display a pop-up message on the console. Double-click **Send an Event Message to a Console User** in the Actions panel. Figure 54 appears:

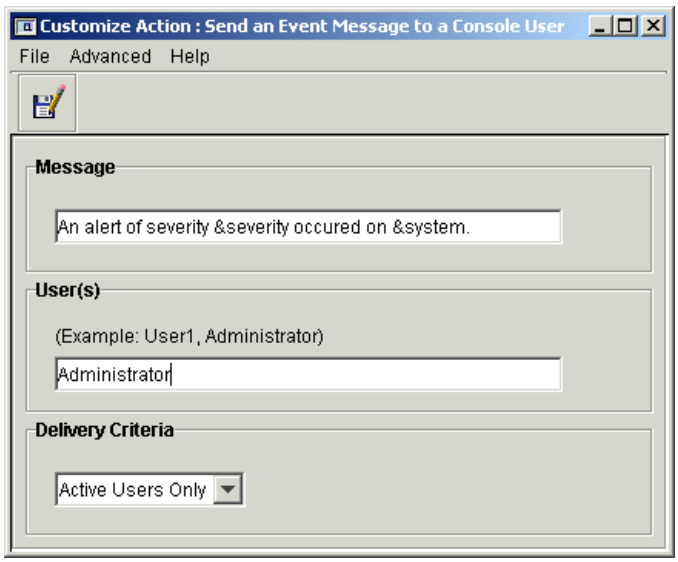


Figure 54. Creating the customized action

9. Fill in the following information in the window:
   - The text of the message to appear on the console. The text can include variables; see online help for details and a list.
   - The users that are to receive the message. Use * to send the message to all administrators.
   - Whether the administrators must be logged on at the time of the alert or they receive the message the next time they log on.
10. Save the action. We named ours MPM pop-up, which now appears as an action item under Send an Event Message to a Console User as shown in Figure 55:

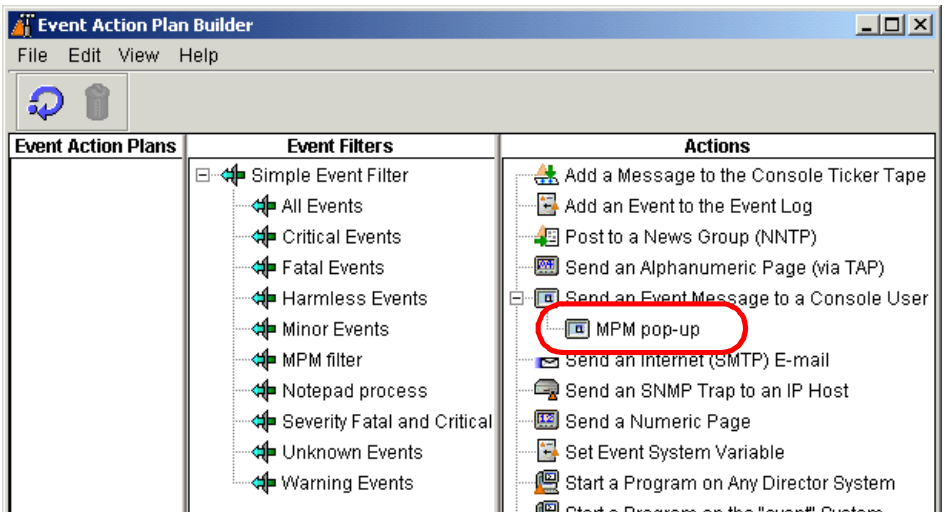


Figure 55. New action created

11. Next, create a new event action plan. Right click in the Event Action Plans panel and click **New > Event Action Plan**.
12. Name the event action plan. We named ours MPM EAP. This then creates a new icon in the Event Action Plans panel as shown in Figure 56:

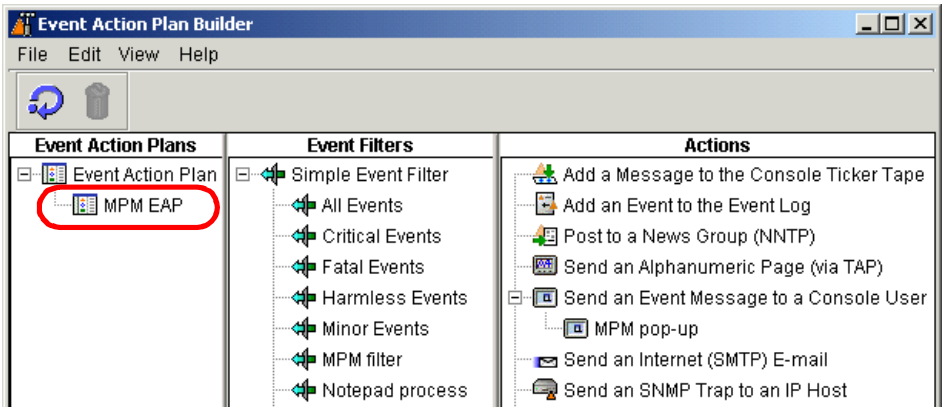


Figure 56. New Event Action Plan

13. The final step is to assign both the event filter and the action to the event action plan:

    ❶ Drag the new filter, MPM filter, to the new event action plan, MPM EAP

    ❷ Drag the new action, MPM pop-up, to the filter icon that gets created in step ❶.

    These are shown in Figure 57:

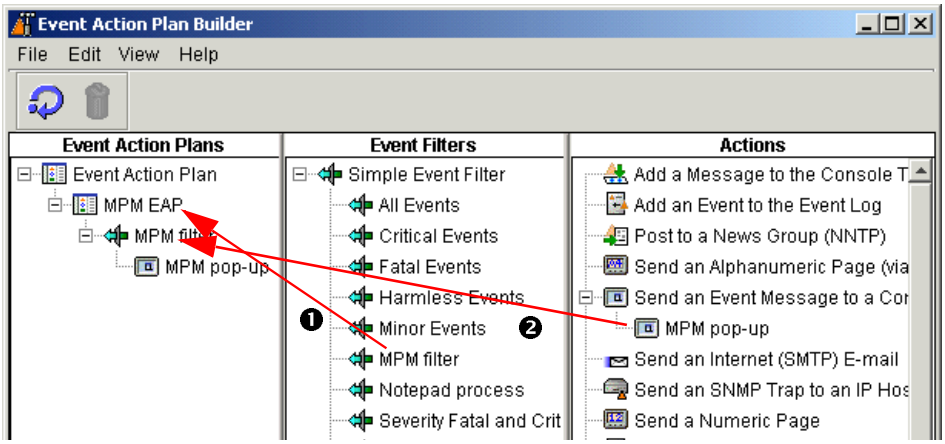


Figure 57. Adding event filter and the action to the event action plan

14. Close the Event Action Plan Builder window.

15. Next, the event action plan is assigned to the MPM clients. Highlight each of the MPM clients that you wish to have this event action plan applied to. Use the Shift and Ctrl key to select multiple systems.

16. Drag the new event action plan, MPM EAP from Tasks onto one of the highlighted systems.

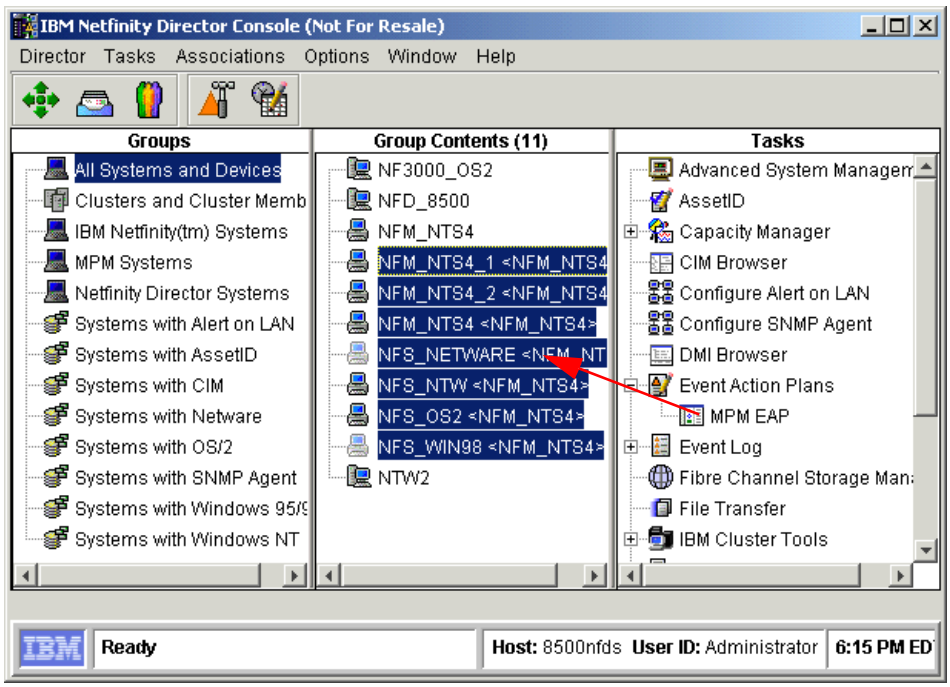


Figure 58. Drag the event action plan onto the systems to activate it

17. You will then get the message:

```
Event action plan has been added to the selected group/system(s)
```

18. To verify that the event action plan was applied correctly, right click one of the groups that contain the MPM clients (for example, All Systems and Devices or MPM Systems) and click **Event Action Plans**. Figure 59 shows the event action plans associated with each system.

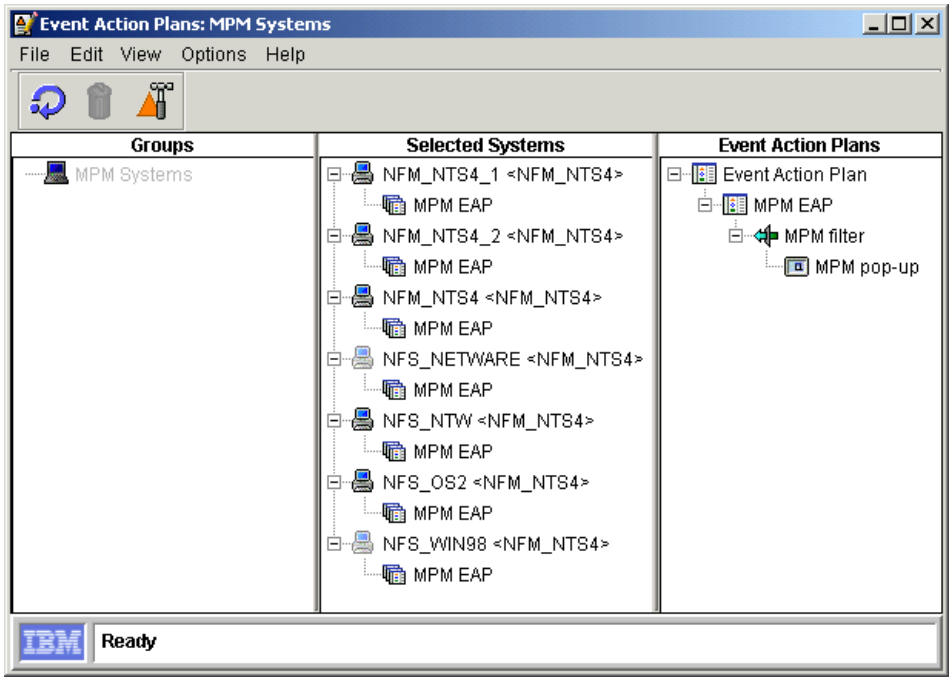


Figure 59. Verifying the event action plan

That completes the setup to send alerts from Netfinity Manager systems through the MPM Provider to Netfinity Director.

The next time a Netfinity Manager generates an alert for the specific conditions that we chose, a pop-up message will appear on the Netfinity Director console as shown in Figure 60:

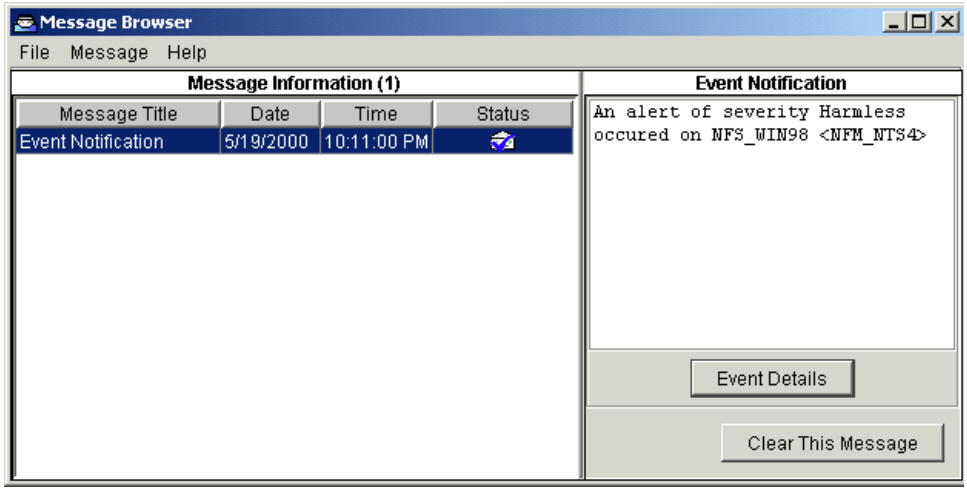


Figure 60. Pop-up message appears in Netfinity Director

For more detailed information about the alert, click the **Event Details** button:

Figure 61. More details about the event

5.5.2 Collecting inventory from Netfinity Manager clients

Hardware and software inventory information for Netfinity Manager (MPM systems) is available to the Netfinity Director server via the MPM Provider once Netfinity Director has discovered the MPM systems.

To gather inventory data from systems:

1. From the Group Contents panel in the console, select one or more systems. Use the Ctrl and Shift keys to select multiple systems.

2. Right click one of the selected systems, and click **Perform Inventory Collection**.

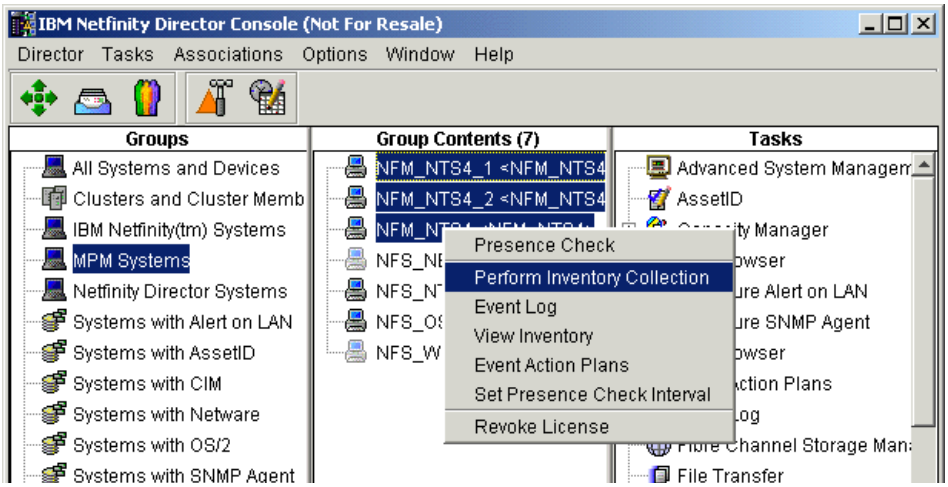


Figure 62. Select the MPM systems you wish to perform inventory on

A status window appears with the message `Collection in progress` for each system. Once the inventory is succesfully gathered, the status will change to `Collection completed successfully`.

Note: If the status immediately changes to `No Inventory Data Returned`, run the Netfinity Provider Configuration program (NFPRVCFG.EXE) on the MPM Provider system and verify that both software and hardware inventory is enabled. (see Figure 30 on page 63 or Figure 39 on page 73 depending on whether you used scenario 1 or scenario 2). See the online help for other status messages.

Once the inventory collection has completed successfully, the inventory information can be viewed by dragging the Inventory task onto the systems you wish to view.

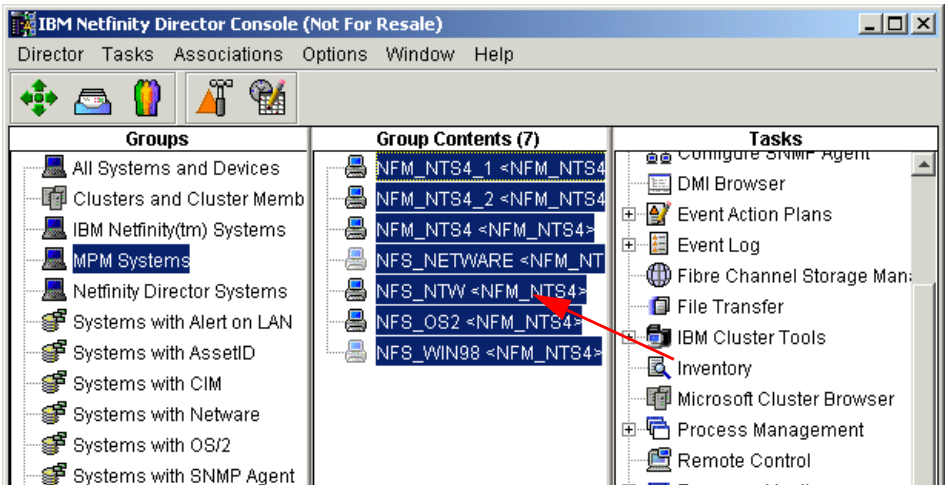


Figure 63. Viewing the inventory of selected systems

This then starts the Inventory Query Browser window, where you can view the data about each system.

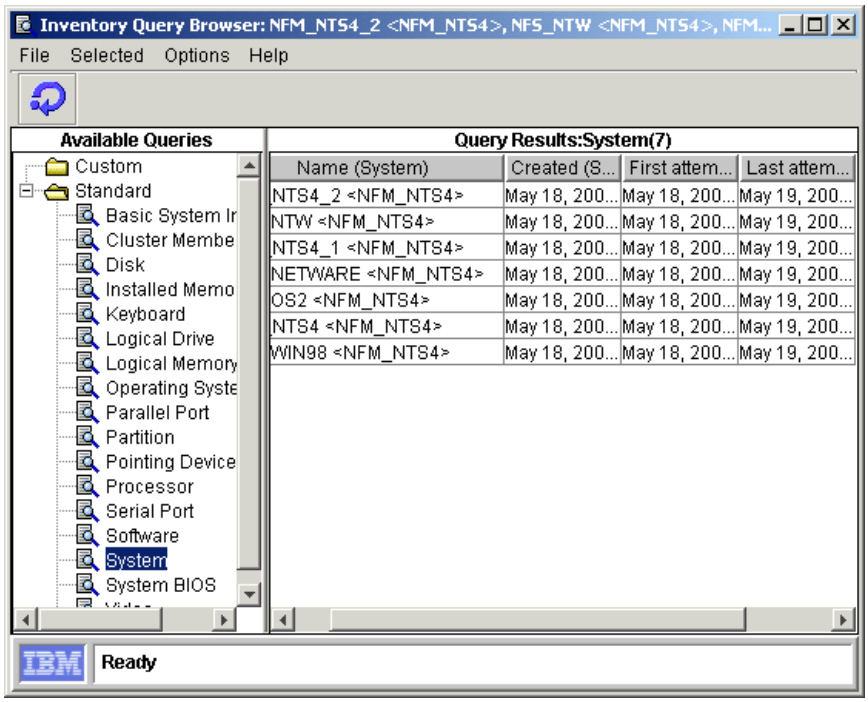


Figure 64. The Inventory Query Browser

5.5.3 Software distribution to Netfinity Manager systems

Software distribution to an MPM-managed system is only possible using the streaming methods. Redirected distribution via a distribution server is not supported with Netfinity Director (IT Director does support this however). This means that the software package is copied directly from the Netfinity Director server to all MPM-managed systems.

During streamed distribution, software packages from Netfinity Director server are first copied to each destination agent machine. After that, the agent initiates the local installation process.

Netfinity Director has a limited ability to perform software distribution. You can install only preconfigured software packages. Currently, you can install only the following products using Netfinity Director software distribution:

- UMS client
- UM Server Extensions

The procedure is described in 6.3, “Software distribution through MPM” on page 112.

Chapter 6. Installing UMS on clients

As described in 2.1, “Components” on page 3, Universal Manageability Services (UMS) is the Netfinity Director client. This chapter shows how to install UMS on clients. We explain the installation process using two methods:

- Manual install using the graphical user interface
- Unattended install

We cover the installation of UMS on Windows, OS/2, and NetWare systems. We discuss the different choices and explain the prerequisites for the clients.

Note: There is no unattended installation option for NetWare clients. We will not cover the installation of the SCO client. It is not a part of the upgrade path. For more information of how to install the SCO client see the readme.unix file located at \win32\install\en\readme.unix.

The hardware and software prerequisites are listed in 3.4, “Supported systems” on page 37.

6.1 Installing UMS

The UM Services client is a software program that needs to run on every system to be managed by the Netfinity Director server (from a Netfinity Director console) or from a Web browser. In this section, we describe how to install the Windows, OS/2 and NetWare clients via the standard user interface. We also discuss unattended installation in 6.2, “Unattended installation of UMS” on page 105.

Note: The installation of UMS is the same, regardless of whether the system is a client workstation (such as an IBM PC 300PL) or a Netfinity server. The differences are in the separately installed extensions such as the Netfinity server extensions, not in the base UMS code itself. For more information about UM Server Extensions see 6.4, “Installing UM Server Extensions” on page 117.

6.1.1 Manually installing the Windows client

This section describes the UMS installation on:

- Windows 95 (with OEM Service Release 2 or later)
- Windows 98
- Windows NT (Workstation or Server, SP 4 or later)

- Windows 2000 (Professional, Server, or Advanced Server)

Note

You must be logged on to the client with local administrator or equivalent rights.

The UMS installation begins the same way as the server and console began as described in Chapter 4, “Installing Netfinity Director server and console” on page 45. Depending on how you obtained the UMS client code, either you simply insert the CD-ROM and let the install program start automatically or you run `x:\win32\install\ibmsetup.exe` (where `x` is your CD-ROM drive).

A welcome window appears. Click **Next** to continue, then the software license agreement will appear. Click **Accept** to bring up Figure 65.

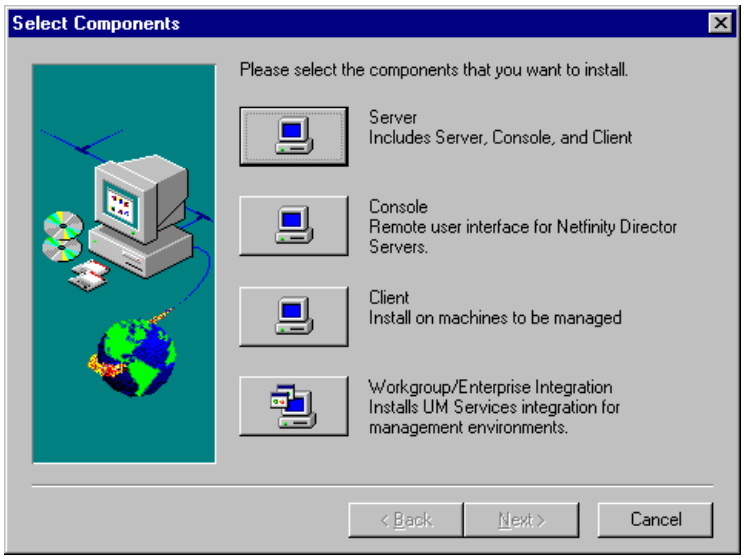


*Figure 65. Click **Client** to install the UMS client*

As we are installing the UMS client, click **Client** to continue your installation. For information regarding the other options refer to Chapter 4, “Installing Netfinity Director server and console” on page 45.

Figure 66 appears.

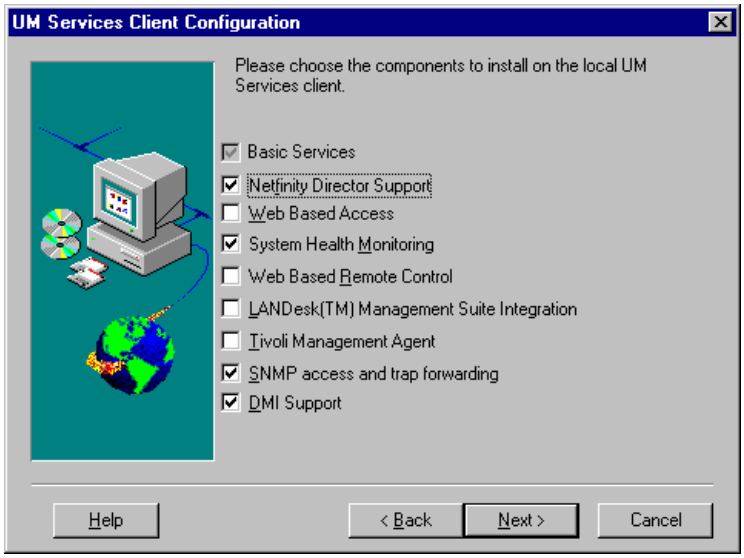


Figure 66. UMS client configuration

Click the checkbox next to each components in Figure 66 that you want to install on the client system. These are as follows:

- **Basic Services** (selected by default)

  Basic Services installs the Java Virtual Machine, Common Information Model (CIM) repository, Desktop Management Interface (DMI) 2.0 compliant service provider, and basic instrumentation for gathering hardware inventory data.

  The inventory information provided by Basic Services can be viewed through a CIM browser such as Microsoft WBEMTEST. The IBM managed information format (MIF) generator program (CIM2MIF) can also be used to generate inventory files that can be exported to system-management applications, such as Tivoli Enterprise. Microsoft SMS, or CA Unicenter TNG Framework. Basic Services must be installed on all UMS clients.

  You cannot deselect this component.

- **Netfinity Director Support** (selected by default)

  Installs the support to be able to manage the agent with the Netfinity Director server. This component is required since we are using Netfinity Director.

  Note: This option appears only where you are installing the client. When you install the Netfinity Director server, the option does not appear.

- **Web Based Access** (selected by default)

  Web Based Access offers a convenient Java-based tool for managing a client system and for viewing the CIM-based inventory data. With Web Based Access installed on the client system, the client can be managed from any remote computer with a supported Web browser. No software other than a Web browser is needed on the remote system.

  If you install Web Based Access, an HTTP daemon is installed and requires a user name and password be entered during the installation. The user name and password is used to limit access to the HTTP daemon.

- **System Health Monitoring** (selected by default)

  System Health Monitoring provides active monitoring of critical system functions such as:

  – Disk space available
  – System temperature
  – Fan functionality
  – Power supply voltage
  – System cover removal

  System Health Monitoring lets you detect system problems early, before system failures occur. System administrators are notified of a system problem by a CIM event, SNMP trap, or SMS Status Message (Microsoft SMS 2.0 only). SNMP traps are available only if SNMP access and trap forwarding is also selected.

  Critical problems also result in a pop-up message appearing on the display of the client system.

  Note: Only specific systems fully support this feature. These systems currently are IBM PC 300GL, 300PL, Intellistation, Netfinity 1000, Nefinity 3000, and Netfinity 3500.

- **Web Based Remote Control**

  This component lets a systems administrator on a remote system take control of the client desktop using a Web browser or the Microsoft Management Console (MMC).

  You must also install the Web Based Access component if you install the Web Based Remote Control component.

  Note: You should not enable both Web-based remote control (Figure 66 on page 95) and Netfinity Director-based remote control (Figure 70 on page 99). If you do, you may receive a trap screen (blue screen of death) on the target system.

- **LANDesk Management Suite Integration**

  LANDesk Management Suite Integration installs the Intel Common Base Agent on the client system. This enables the systems administrator to use UMS with LANDesk Management Suite.

  Select this component is you want to manage this client using LANDesk.

- **Tivoli Management Agent**

  Tivoli Management Agent installs support on the client system that enables it to be managed by the Tivoli Enterprise systems-management platform.

  Select this component is you want to manage this client using Tivoli.

- **SNMP access and trap forwarding**

  This feature enables CIM information to be accessed from a system using the Simple Network Management Protocol (SNMP). If System Health Monitoring is enabled, this option also enables System Health to forward CIM events as SNMP traps.

  This component requires that you have the SNMP service (provided with the operating system) installed on the client. If the SNMP service is not installed, the system prompts you to insert the operating system installation media and install SNMP during the UMS installation.

- **DMI Support**

  Desktop Management Interface (DMI) is a standard that is the result of the work of the Distributed Management Task Force. DMI is code that is implemented in your system's BIOS and in the operating system. It acts as a layer of abstraction between the management software and the system's components.

  By selecting this component, you are installing support for DMI to be able to manage and inventory DMI-compliant components in your system. The DMI interface generates a standard framework for managing and tracking components in a desktop PC, notebook, or server. When this component is selected, you will be asked what type of system you are installing on as shown in Figure 67 on page 98.

Click **Next** to continue with your installation.

Select the directory where you want the client code installed. We recommend you choose the default. Click **Next** to continue the installation.

Note: Depending on the selections you make you will see different installation windows at this point. Figure 67 appears because we select DMI Support in Figure 66 on page 95:

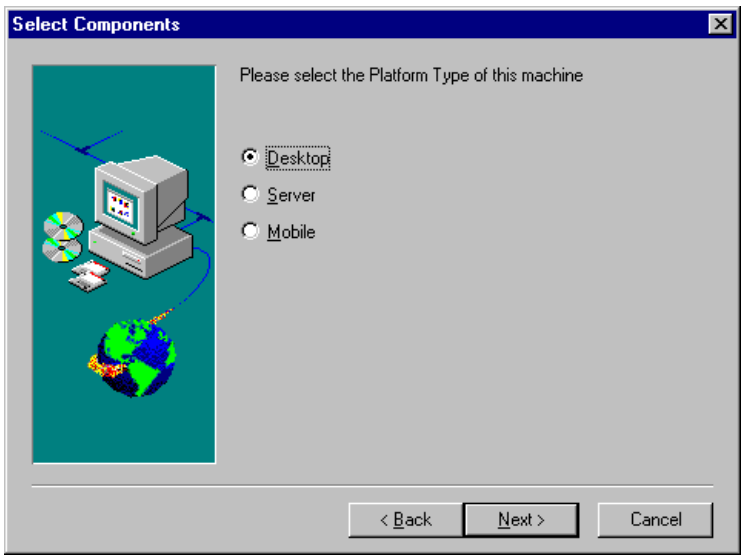


Figure 67. Select the type of client

This window prompts you to specify what type of system this is. It is used by the DMI support to determine which DMI components should be installed.

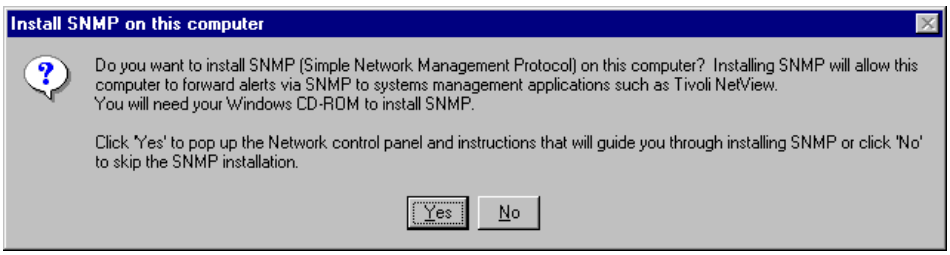


Figure 68. Install SNMP on the client

To start the operating systems installation wizard for adding SNMP support click **Yes**. For a guided tour through the SNMP installation see 1.4.4 “SNMP’s role” in *Netfinity Director Integration and Tools*, SG24-5389.

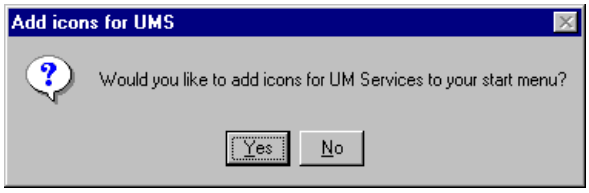


Figure 69. Add icons for UMS to the client's start menu

Click **Yes** if you want to add icons for UMS to the client's start menu.

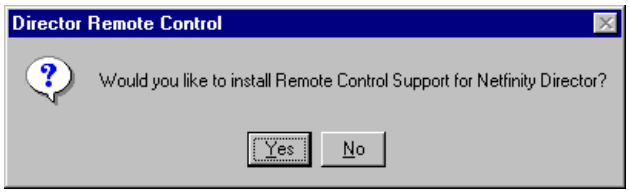


Figure 70. Netfinity Director Remote Control installation option

Clicking **Yes** will enable this client to be remotely controlled from a Netfinity Director console. Based on the selections that we made in Figure 66 on page 95 it is the only way to remotely control the client, so we clicked **Yes**.

Note: You should not enable both Web-based remote control (Figure 66 on page 95) and Netfinity Director-based remote control (Figure 70). If you do, you may receive a trap screen (blue screen of death) on the target system.

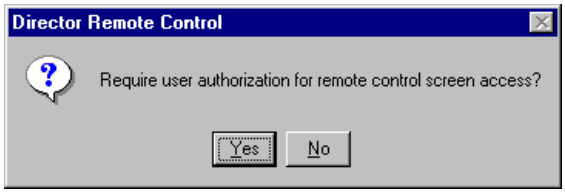


Figure 71. User authorization for remote control

If you are installing the UMS client on a Netfinity server, then you probably should select **No** to this question. A server is usually locked away so there will be no one to authorize your request. On the other hand if you are installing a client on which there is an active user you want to select **Yes** so that the user will have to authorize you to access his or her computer.

Reboot the system when prompted.

After the reboot, if you plan to install UM Server Extensions, follow the instructions in 6.4, “Installing UM Server Extensions” on page 117.

As with Netfinity Manager, you can use the Network Driver Configuration window to configure the system name and protocols that are enabled to communicate from the client to the Netfinity Director server. During installation, however, you are not prompted to set these values; they are set automatically.

To change them once installation is compete, run `TWGIPCCF` from a command line (the directory where it is installed, C:\Program Files\IBM\Director\bin, is in the path statement). Figure 72 appears:

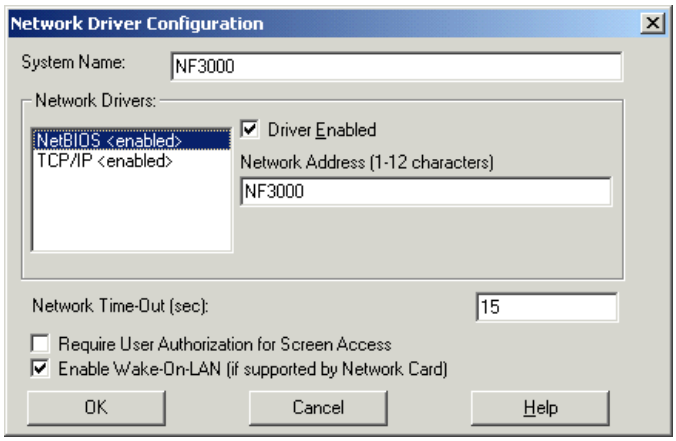


Figure 72. Network Driver Configuration for the client

All network protocols are enabled by default. Once you’re finished making changes, reboot the system.

6.1.2 Manually installing OS/2 clients

To start the OS/2 installation of UMS run the `setup.cmd` in x:\os2, where x: is the drive letter of the CD-ROM drive or the installation point on the network.

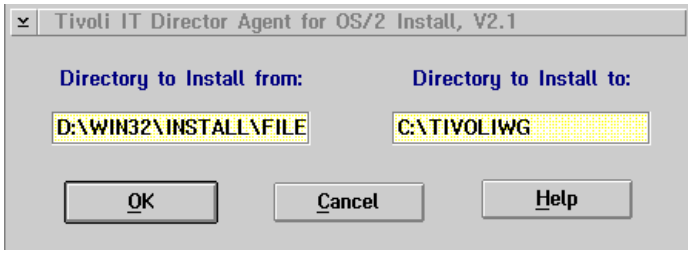


Figure 73. UMS installation on OS/2

Choose the directory to install from and where to put the code.

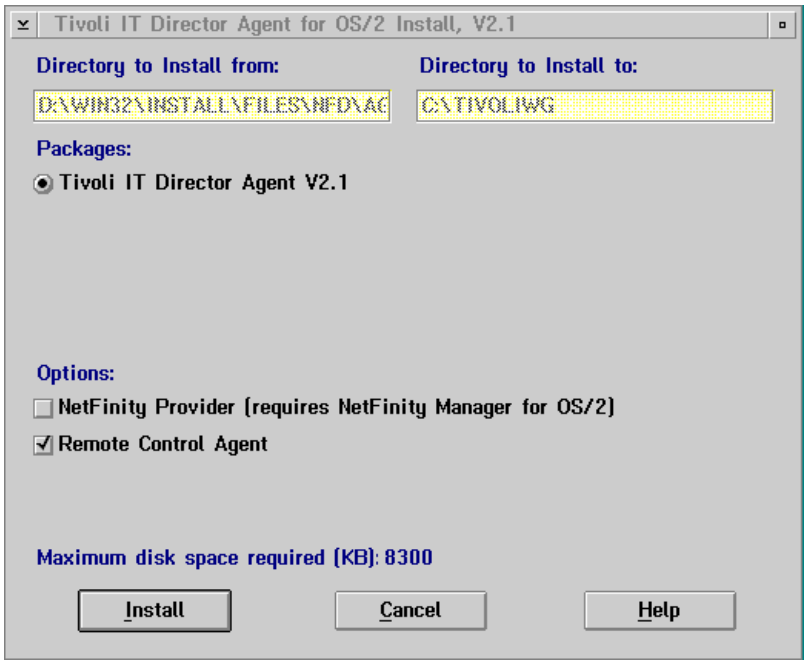


Figure 74. Options to install

Choose which options you want to install:

- **Netfinity Provider**

  This component gives you the ability to let the client act as a gateway to Netfinity Manager systems. That means that you can manage your old Netfinity Manager systems through the Netfinity Director console. You must have Netfinity Manager installed on the system before this option can be selected. The Netfinity Provider is also known as the MPM

Provider and is discussed in detail in Chapter 5, “Coexistence using MPM” on page 57.

- **Remote Control Agent**

  This component gives you the capability to remotely control the keyboard and mouse from the Netfinity Director console and performs the same function as Remote Workstation Control in Netfinity Manager. We installed the Remote Control Agent to be able to manage this client from our Netfinity Director consoles.

Click **Install** to continue.

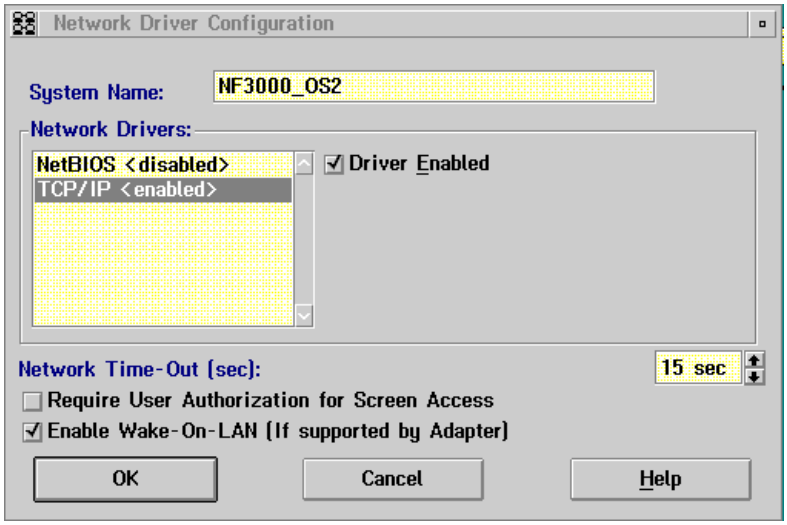


Figure 75. Network Driver Configuration

Figure 75 lets you configure your network settings. Enable the network drivers you want to use and select the timeout value.

- **Require User Authorization for Screen Access**

  If you are installing the client on a Netfinity server, then you would probably leave this setting unchecked. A server is usually locked away and there will be no one to authorize your request. On the other hand if you are installing a client on which there is an active user you may want to check the option so that the user will have to authorize you to access his or her computer.

- **Enable Wake on LAN**

Wake on LAN (WOL) is a remote wake-up technology that enables you to remotely power systems on. It is a result of the Intel-IBM Advanced Manageability Alliance. To be able to use this function your hardware must support it. The components that are needed to support WOL are the motherboard, network adapter, and the system's BIOS. If you have a system that is capable of Wake on LAN you may want to check the **Enable Wake-On-LAN** check box. This will enable the system to be powered on remotely. Click **OK** to continue.

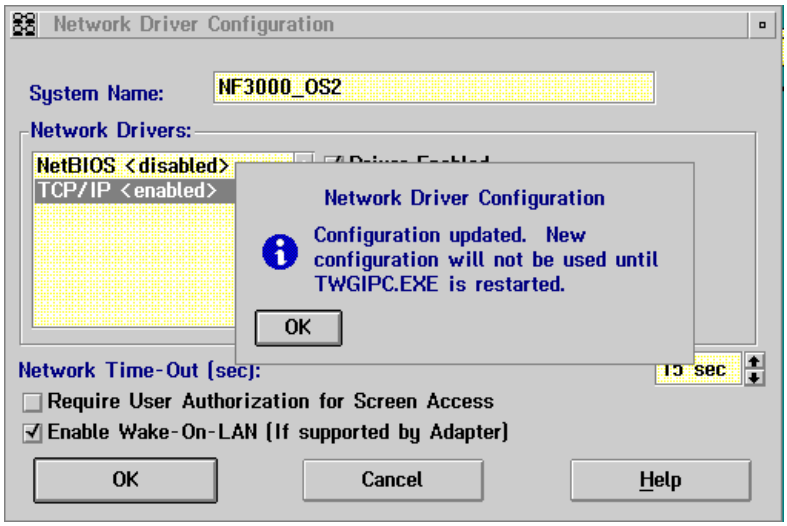


Figure 76. Driver configuration saved

The driver configuration is saved.

Click **OK** to continue the installation. The installation prompts you that it needs to update your CONFIG.SYS.

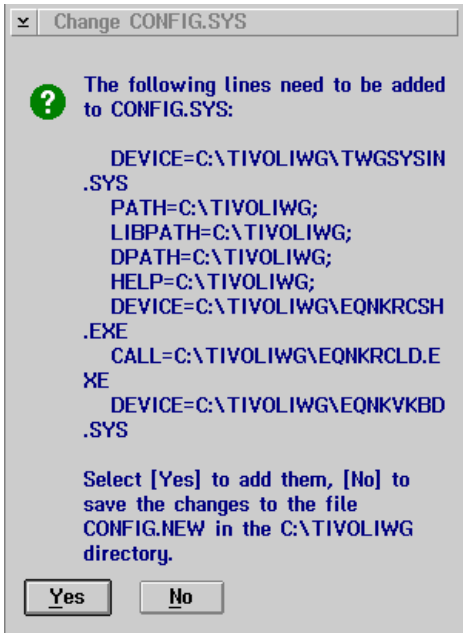


Figure 77. Change CONFIG.SYS

Select **Yes** if you want to automatically add the lines in your CONFIG.SYS. Select **No** to manually add them. We clicked **Yes**.

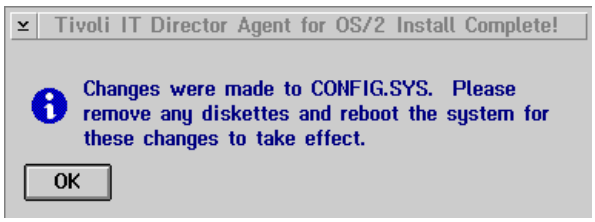


Figure 78. Installation complete

Click **OK** to finish your installation. Reboot to complete and activate the UMS client.

6.1.3 Manually installing NetWare clients

Before you begin installing the NetWare client, you must remove Netfinity Manager Client Services. The Netfinity Manager and Netfinity Director clients cannot coexist on the same NetWare system due to common module names.

To uninstall Netfinity Manager Client Services, unload the Netfinity module and remove the following lines from AUTOEXEC.NCF:

```
SEARCH ADD sys:netfin
LOAD netfbase
```

For instructions on how to install the NetWare client, see 2.4 “NetWare V5.0 agents” in *Netfinity Director Integration and Tools*, SG24-5389. One exception to these instructions is that the installation is started with the following command:

```
..\WIN32\INSTALL\files\NfD\AGENT\NOVW32\TWGSETUP.EXE
```

Note: The UMS client does not run on a Novell NetWare 4.11 SFT III system.

6.2 Unattended installation of UMS

This section describes how to install UMS remotely without the use of the client user interface.

6.2.1 Unattended installations on Windows

The UMS installation wizard uses InstallShield as the installation engine. As well as providing a GUI to the installation routine, InstallShield is also capable of unattended installations using response files. This section introduces this capability. If you are already familiar with InstallShield from other product installations, then this process will be straightforward.

For more information and troubleshooting see:

```
http://www.installshield.com
```

The UMS installation is based on the response file WIN32\INSTALL\EN\SETUP.ISS in the installation CD-ROM. You can copy and modify this file to suit your installation requirements.

The file contains the following:

```
[InstallShield Silent]
Version=v3.00.000
File=Response File

[Application]
Name=UMS
Version=2.0
Company=IBM

[DlgOrder]
Dlg0=SdAskOptions-0
```

```
Dlg1=AskDestPath-0
Dlg2=AskSecurInfo-0
Count=3

[SdOptionsButtons-0]
Result=103

[SdOptionsButtons-1]
Result=101

;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;
;              USER CONFIGURABLE SECTION                     ;
;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;
;UMS detected on system. Would you like to upgrade? Yes or No
;Available options:
;   1 = Yes
;   0 = No
[UpgradeYesNo]
Result=0

;The following is a list of available options. If adding options in the section below,
;Component-count must be accurately indicated, and all options must be sequentially
numbered,
;starting at zero. Available options: (note: Basic Services cannot be removed as an
option)
;Component-x=Basic Services
;Component-x=Netfinity Director Support
;Component-x=Web Based Access
;Component-x=System Health Monitoring
;Component-x=Web Based Remote Control
;Component-x=LANDesk(TM) Management Suite Integration
;Component-x=Tivoli Management Agent
;Component-x=SNMP access and trap forwarding
;Component-x=DMI Support
;Add components below if desired. Recommended defaults are already set below.
[SdAskOptions-0]
Component-type=string
Component-count=4
Component-0=Basic Services
Component-1=Web Based Access
Component-2=System Health Monitoring
Component-3=SNMP access and trap forwarding
Result=1

;installation directory
[AskDestPath-0]
szPath="C:\Program Files\IBM\UMS"
Result=1

;username and password for web access
[AskSecurInfo-0]
svUser=ums
svPassword=ums
svConfirm=ums
svPort=411
Result=1

;DMI machine type
; Options: Server
;   Mobile
```

```
;   Desktop
[DMI]
DMIType=Desktop

;Do you want icons on the start menu?
[Icons]
Result=0

;If you installed Netfinity Director support, Would you like NfD Remote Control?
[NfDRemote]
Result=1

;Auto Reboot machine when install is finished?
[AutoReboot]
Result=0
```

The InstallShield software supports recording your own response files by running the standard UMS installation program with some command-line parameters and making all selections you want during the installation process.

Note: The process of recording the installation actions to a response file actually performs a real installation of the product, based on your selections.

Run the following from a command prompt:

```
SETUP -R -F1[ISS-file] -F2[LOG-file]
```

where:

- `SETUP` is the executable installation file.
- `-R` specifies run setup in record mode
- `[ISS-file]` is the full path and name where you want to save the response file.
- `[LOG-file]` (if specified) is the log file where additional debug information is recorded. This is useful if you encounter problems.

Notes:

- Case is not important.
- The default file name for the response file is SETUP.ISS.
- The default directory for SETUP.ISS is in the same as the SETUP.EXE file.
- There is no space between `-f1` and the path for example `-f1x:\responsefiles\setup.iis`
- When you create the ISS file, you should use a system that is similar to the clients in your network (operating system, drive letters, and so on).

When you run the setup program with these parameters, you will see the same dialogs that you see in an attended setup. Based on the selections you make, a response file is created. If you want to do the same installation as shown in 6.1.1, “Manually installing the Windows client” on page 93 just follow the instructions listed there. The resulting response file will look like the following:

```
[InstallShield Silent]
Version=v3.00.000
File=Response File
[Application]
Name=UMS
Version=2.12
Company=IBM
[DlgOrder]
Dlg0=SdWelcome-0
Count=11
Dlg1=SdOptionsButtons-0
Dlg2=SdAskOptions-0
Dlg3=AskDestPath-0
Dlg4=AskOptions-0
Dlg5=AskYesNo-0
Dlg6=AskYesNo-1
Dlg7=AskYesNo-2
Dlg8=AskYesNo-3
Dlg9=SdFinishReboot-0
Dlg10=MessageBox-0
[Squelches-0]
Result=1
[SdOptionsButtons-0]
Result=103
[SdAskOptions-0]
Component-type=string
Component-count=5
Component-0=Basic Services
Component-1=Net&finity Director Support
Component-2=System Health &Monitoring
Component-3=&SNMP access and trap forwarding
Component-4=&DMI Support
Result=1
[AskDestPath-0]
szPath=C:\Program Files\IBM\UMS
Result=1
[AskOptions-0]
Result=1
Sel-0=0
Sel-1=1
Sel-2=0
[AskYesNo-0]
Result=0
[AskYesNo-1]
Result=1
[AskYesNo-2]
Result=1
[AskYesNo-3]
Result=1
[SdFinishReboot-0]
Result=1
```

```
BootOption=0
[MessageBox-0]
Result=1
```

Once you have the response file ready, you can repeat the installation on another system in unattended or *silent* mode, with the following command:

```
SETUP -SMS -S -F1[ISS-file] -F2[LOG-file]
```

- The SMS parameter must be uppercase. The other parameters are not case sensitive.
- `-S` specifies to run the installation in silent mode.
- `-SMS` prevents a network connection and the SETUP.EXE from closing before the installation is complete. This switch works with installations originating from a Windows NT server over a network.
- `-F1` specifies the path to the response file.
- `-F2` specifies the full path to put a log file.

Notes:

- If you run setup without specifying the -F1 parameter, setup will look for the file SETUP.ISS in the same directory as SETUP.EXE.
- With the -F1 variable you can have many response files covering all your different client types and configurations.

6.2.2 Unattended installations on OS/2

The install engine for unattended installations of the OS/2 client works with *.RSP files. An RSP file is a file that answers the same questions that you do in a manual installation. The response files for the unattended installation for OS/2 are included in the OS/2 language subdirectory. For example, the sample English language response file, DIRAGENT.RSP, is located in the WIN32\INSTALL\FILES\NFD\AGENT\OS2\EN\ directory on the CD-ROM. Comments within the response files begin with a semicolon in the first column. All entries can be changed. When you have completed the configurations in the DIRAGENT.RSP file, launch the unattended installation of the OS/2 agent by running the following from a command prompt:

```
install.exe /R:filename
```

Where `filename` is the fully qualified response file.

6.2.3 Getting the code to the clients

Once you have prepared your unattended installation, the next step is to make the code available to the clients so that you can run the SETUP or INSTALL program unattended. In this section, we introduce some of the ways to do this.

Note: You must be logged on to the client with local administrator or equivalent rights.

6.2.3.1 System image

If you want to roll out a client image containing UMS using tools such as Ghost or DriveCopy, you must first do the following before creating the source image:

- Remove the TWGMACH.ID file from the C:\Program Files\IBM\UMS\Director\Data directory.
- Remove the value for the TWGMachineID key in the registry.

6.2.3.2 Login script

The login script lets you run a program when the user logs on to the system. To be able to use this option, you need good knowledge about the login script language you choose. There are a lot of different script languages that can be used, especially in a Windows NT environment. These are some of the most common:

- Batch files

  These are ordinary batch files that you set up on your server. For more information about batch files and login scripts in the NT environment ,see the *Windows NT Server System Guide* on Microsoft's Web site at `http://www.microsoft.com`, through Microsoft TechNet or your MS-DOS documentation.

- OS/2 REXX

  OS/2 supports REXX-based logon scripts by default. Refer to the *OS/2 REXX Command Reference* for details.

- Perl

  Perl is supported by most platforms, including OS/2 and Windows. This support, however, is not enabled by default. A Perl interpreter must be installed before Perl scripts can be used.

- KIXTART or KIX32

  KIXTART is a logon script processor and/or enhanced batch language for Windows NT and Windows 9x workstations in a Windows networking environment. It is very powerful and can be used to do many things that you cannot do with ordinary batch files. To get the latest version and more information use your favorite search engine and search for KIXTART on the Web.

- NetWare login scripts

  NetWare supports a lot of variables and functions, for a detailed list on the commands see “Login Script Commands and Variables” in Chapter 3 of *Supervising the Network* or visit `http://support.novell.com` and search for login scripts to get hints and tips on how to configure your scripts.

Note

Be careful when you modify or add script files to your domain as this will affect everyone using the login script.

For Windows NT and Windows 2000, the use of logon scripts to install UMS requires that the users be local administrators.

To be able to install UMS through the login script, you would need all your clients and computers to be connected to the network. They must be organized so that when the users login they will run some kind of centralized login script that includes the installation command as described in 6.2, “Unattended installation of UMS” on page 105.

As part of your login script, you may also want to consider:

- Adding a version checker. This means that the installation process won’t need to run every time your clients log in. For example, it could work like this:

  a. Copy a file with the installation package named after the version.
  b. In your login script check for the file and if you find it skip the installation program.

- Load balancing, so that installation can take place from different servers on different subnets. This is especially important if you have a lot of WAN connections. In this scenario you will need a network chart. The easiest way to do this is if you have a naming convention of your computers that tells where they are located. If you do not have that, you will need to use the IP addresses to sort out the different computers. For more information

about this, visit `http://www.microsoft.com` or use Microsoft TechNet to help you decide which way is best for your environment.

- Adding a routine to the script in multiplatform configurations, so the correct operating system-specific version of UMS is installed. If you have a Windows environment you can do that with the `VER` command from a login script. For more information about this visit `http://www.microsoft.com` or use Microsoft TechNet.

6.2.3.3 Netfinity Manager: file transfer and batch file

This way depends on whether you are able to get the files out to the client and then execute a file locally on the system.

One way of doing this is to use Netfinity Manager's scheduler to distribute the files using the file transfer feature and then use the remote session feature to start the unattended installation.

6.2.3.4 Using MPM

This method uses the MPM Provider configuration you set up in Chapter 5, "Coexistence using MPM" on page 57 to install the UMS and UM Server Extensions code on the clients. See the following section for details.

6.3 Software distribution through MPM

Netfinity Director has a limited ability to perform software distribution. You can only install pre-configured software packages. Currently, you can install only the following products using Netfinity Director software distribution:

- UMS client
- UM Server Extensions

There are three main limitations:

- You must go through an MPM Provider, which means that the client must be accessible from Netfinity Director via MPM. See Chapter 5, "Coexistence using MPM" on page 57 for details about MPM.
- Since MPM is required, each client will need one client license from Netfinity Director. For more information about licensing, see 3.5.1, "MPM licensing" on page 43.
- Only Windows 95/98 and Windows NT are supported.

Notes:

- In Netfinity Director, MPM works only with Netfinity Manager clients. With IT Director, you can also distribute to SMS and Intel LANDesk clients.
- On Windows 95/98 systems running Netfinity Manager 5.1 or earlier, there is a problem with remote execution of the software distribution function. To solve this, copy the file RCSHD.EXE from the Netfinity Manager 5.20.X CD-ROM to the WNETFIN directory.

The procedure to install UMS via Netfinity Director's software distribution is as follows:

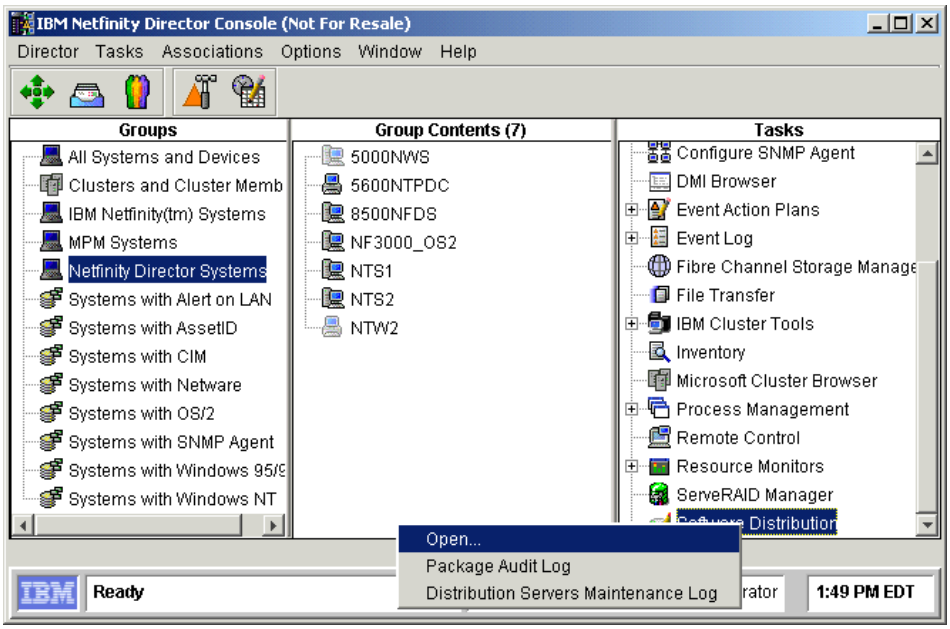


Figure 79. Software distribution through MPM

1. The first step is to import the predefined package available to Netfinity Director. From the Netfinity Director console, shown in Figure 79, right click **Software Distribution** under Tasks and click **Open** to open the Software Distribution Manager. Figure 80 on page 114 appears.

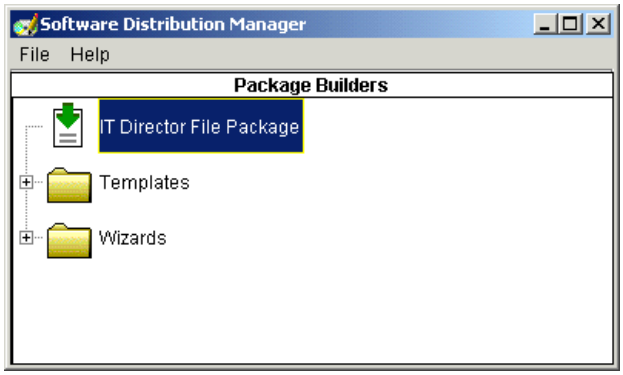


Figure 80. Package selection

2. Double-click **IT Director File Package** to get to the browser menu in Figure 81.

Figure 81. Import IT Director Package

3. Browse to the file package you want to import.

Latest packages

The latest UMS and UM Server Extensions file packages are not included on the Netfinity Director CD. However, they should be available on ServerGuide and from the following Web site:

`http://www.pc.ibm.com/ww/software/applications/ums/download.html`

4. Click **Next** to continue. Verify that the correct package has been selected as per Figure 82.

Figure 82. Netfinity Director file package

5. Click **Finish** to complete the import process. You should then see something similar to Figure 83 showing the file package that was imported.

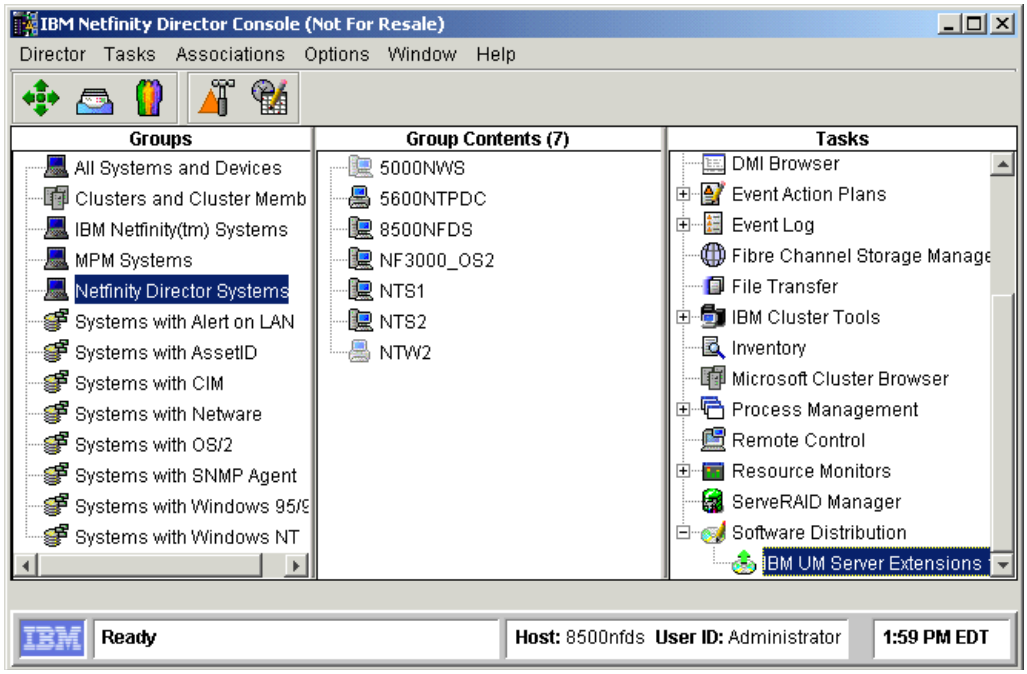


Figure 83. Software distribution package ready for distribution

To install the package on an MPM client, simply drag and drop the package onto an MPM system. The package will then be installed on the client without further user interaction (that is, an unattended installation).

Notes:

- You cannot create your own file packages for distribution with Netfinity Director. You can, however, do this with IT Director. Refer to Chapter 9, “Upgrading to IT Director” on page 165 for more information.
- The file packages that will be available from the Web are standard installations. It is not possible to modify any settings in the package. To be able to change or build your own packages you will need to upgrade to IT Director.
- The distribution in Netfinity Director supports only streaming mode distribution. This means that every package is distributed directly from the Netfinity Director server. This is not recommended if you have systems in a WAN environment, because you will probably impact network performance.

6.4 Installing UM Server Extensions

As described in 2.1.4, “UM Server Extensions” on page 6, UM Server Extensions is a set of tools to extend the manageability of IBM Netfinity servers (that is, the Netfinity-branded PC servers). There are three components to UM Server Extensions and each component is installed depending on which components of Netfinity Director or IT Director are installed:

- Server component: installs on the system running the Netfinity Director server (or IT Director server)
- Console component: installs on the systems running the Netfinity Director console (or IT Director console)
- Client component: installs on the systems running UMS. You only need to install UM Server Extensions on Netfinity servers running. Installing UM Server Extensions on other types of clients (such as ThinkPads, Intellistations or PCs) will work, but does not install any additional function on those systems.

For example, because the Netfinity Director server has the server, console, and UMS products installed, all three UM Server Extensions components will be installed as well.

Before you begin installing UM Server Extensions, you must have the appropriate Netfinity Director component(s) already installed.

See the *UM Server Extensions User's Guide* for more information about the product. It is available from:

`ftp://ftp.pc.ibm.com/pub/special/sysmgmt/UMSRVEXT.pdf`

IT Director support

UM Server Extensions is only supported on IT Director systems when IT Directory is upgraded from Netfinity Director (that is, Netfinity Director and UM Server Extensions are installed and Netfinity Director is subsequently upgraded to IT Director).

UM Server Extensions is not supported when IT Director is installed from scratch without Netfinity Director being installed first.

To install UM Server Extensions, do the following:

1. Run Setup from the UM Server Extensions directory on the CD.

2. Click **Next** to get the welcome window and click **Next**. You will then see all the tools that will be installed on your system. There are no options you can change.
3. Click **Next.** If Netfinity Director is still running on the server you will be prompted to shut it down.
4. Click **Yes** to continue the installation. Once the installation says it is finished, click **OK**.

Notes:

- The UMS service will automatically start up again.
- The server does not need to be rebooted, unless you are running Windows 2000.

6.4.1 Unattended installation of UM Server Extensions

The UM Server Extensions uses InstallShield and works the same way as an unattended installation of UMS, as described in 6.2, “Unattended installation of UMS” on page 105.

To create the setup.iss file, execute the following command:

```
x:\setup.exe -r -f1x:\setup.iss
```

It will create the following file:

```
[InstallShield Silent]
Version=v3.00.000
File=Response File
[Application]
Name=IBM Netfinity Director Extension Installer
Version=CurrentVersion
Company=IBM
[DlgOrder]
Dlg0=SdBitmap-0
Count=5
Dlg1=SdWelcome-0
Dlg2=SdStartCopy-0
Dlg3=AskYesNo-0
Dlg4=MessageBox-0
[SdBitmap-0]
Result=1
[SdWelcome-0]
Result=1
[SdStartCopy-0]
Result=1
[AskYesNo-0]
Result=1
[MessageBox-0]
Result=1
```

To install a client unattended, execute the following command:

```
x:\setup.exe -s -SMS -f1x:\setup.iss
```

For information about these parameters, see 6.2.1, “Unattended installations on Windows” on page 105.

Note: You do not have to reboot the server after installing UM Server Extensions.

Chapter 7. Recreating configuration data

At this point in your migration, you have installed Netfinity Director on many of your systems and the environment is working properly. The next step is to bring all your Netfinity Manager configuration settings into Netfinity Director.

Unfortunately, there is no simple, automatic procedure to convert from Netfinity Manager to Netfinity Director. There are no tools currently available that help us convert data from Netfinity Manager to Netfinity Director. Instead, you will have to find all the configuration settings you've made in Netfinity Manager and reenter those into Netfinity Director.

This chapter shows you the important values and settings and gives you some hints and tips on how to insert the data from Netfinity Manager into your Netfinity Director environment. We provide some worksheets to aid in the gathering of your data.

Blank worksheets

A set of blank worksheets as described in this chapter is available in Appendix A, "Worksheets" on page 179.

We will focus on those parts in Netfinity Manager that contains data that can be moved from Netfinity Manager to Netfinity Director.

- Alert Manager
- Security Manager
- System Monitor
- Event Scheduler
- Remote System Manager
- Process Manager
- Advanced System Manager

Notes:

- Not all data in Netfinity Manager can be transferred to Netfinity Director. In the tables in this chapter, we show the data that is usable in Netfinity Director. Some functions may be named differently in Netfinity Director. For more information about the functions see 2.3, "Netfinity Director functions" on page 14 and particularly Table 1 on page 15.
- In Netfinity Manager you can use the Critical File Monitor to monitor changes to specific files. In Netfinity Director, there is no similar function.

7.1 Alert Manager

In Alert Manager, user settings are configured in the Actions and Profiles functions. These functions are accessible via buttons in Alert Manager, as shown in Figure 84:

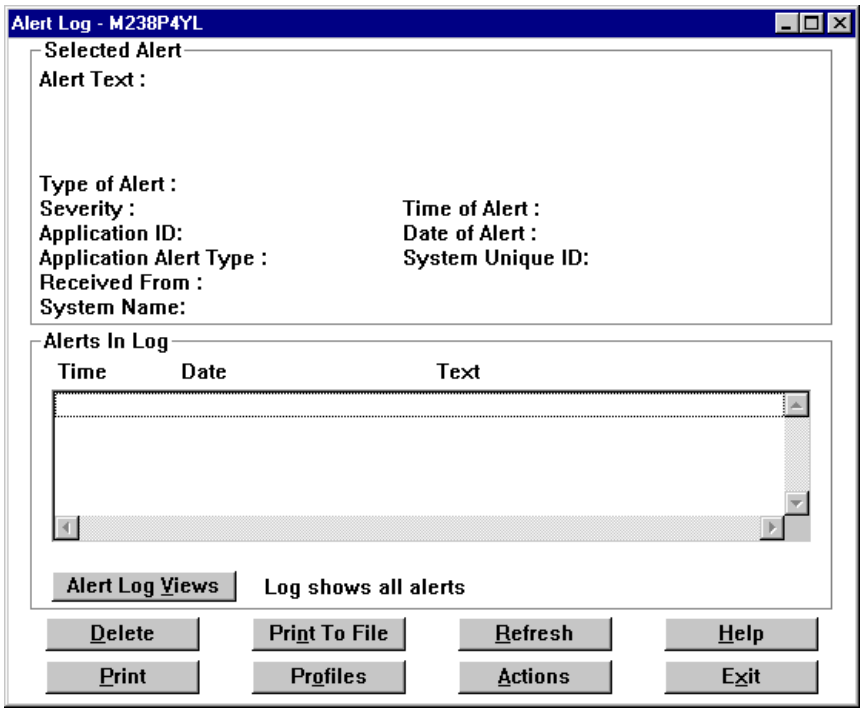


Figure 84. Alert Manager in Netfinity Manager

The list of actions that you've defined can be obtained by clicking the **Actions** button. Figure 85 appears:

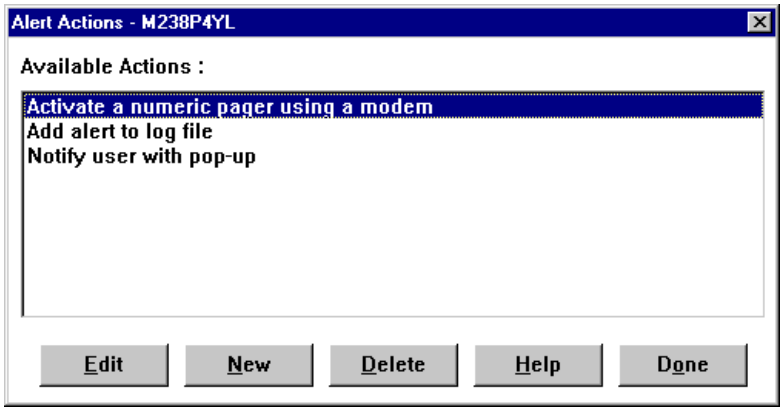


Figure 85. Alert Actions in Netfinity Manager

The list of profiles that have been defined can be obtained by clicking the **Profiles** button. Figure 86 appears:

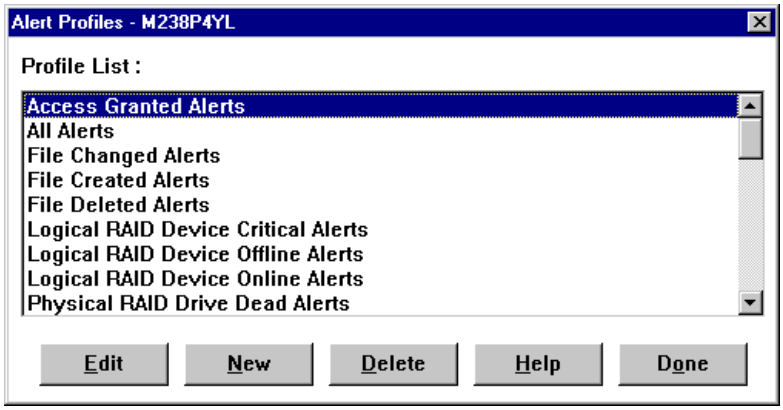


Figure 86. Alert Profiles in Netfinity Manager

You should go through the actions and profiles listed and write down the properties for all of them that you wish to use in Netfinity Director. Highlight each action or profile, and click **Edit** to view the configuration of that action or profile. You'll see something like Figure 87:

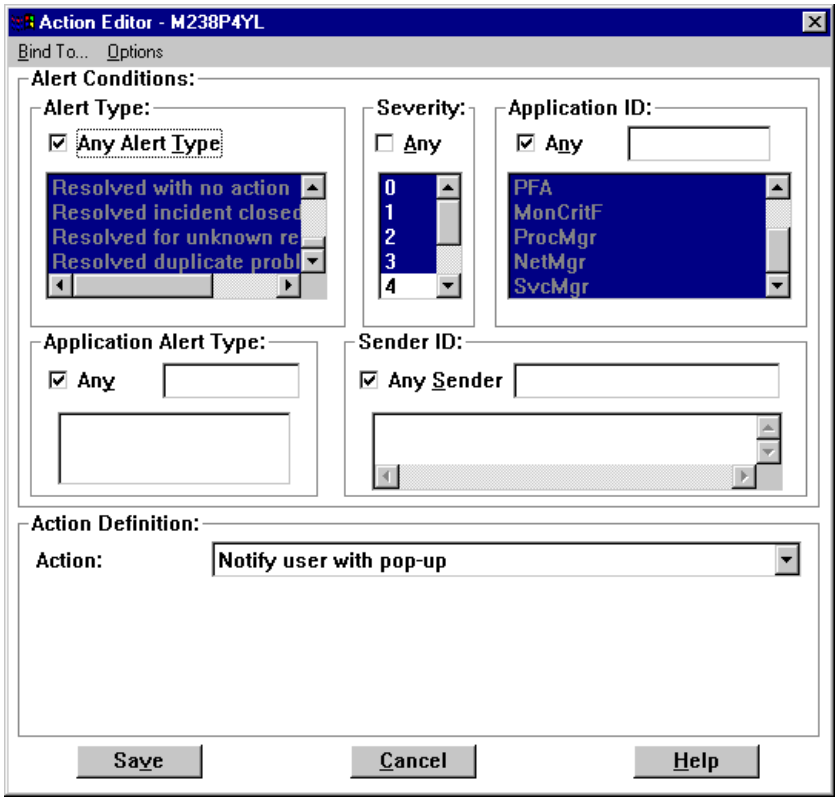


Figure 87. Action Editor in Netfinity Manager

Use Table 7 as a guide to what you need to write down. Blank worksheets can also be found in Appendix A, “Worksheets” on page 179.

Table 7. Alert conditions

Action	Alert types	Severity	Source applications	Sender ID
Example: Notify user with pop-up	Any	0,1,2,3	Any	Any

The data from Table 7 should be inserted in the Event Action Plan Builder in Netfinity Director. The Event Action Plan Builder manages all of the alerts in Netfinity Director as shown in Figure 88.

For more information on how to use and configure the Event Action Plan Builder, see 6.2.3 “Event Action Plans” in the redbook *Netfinity Director Integration and Tools*, SG24-5389.

To open the Event Action Plan Builder, click the Event Builder icon  from the main console window.

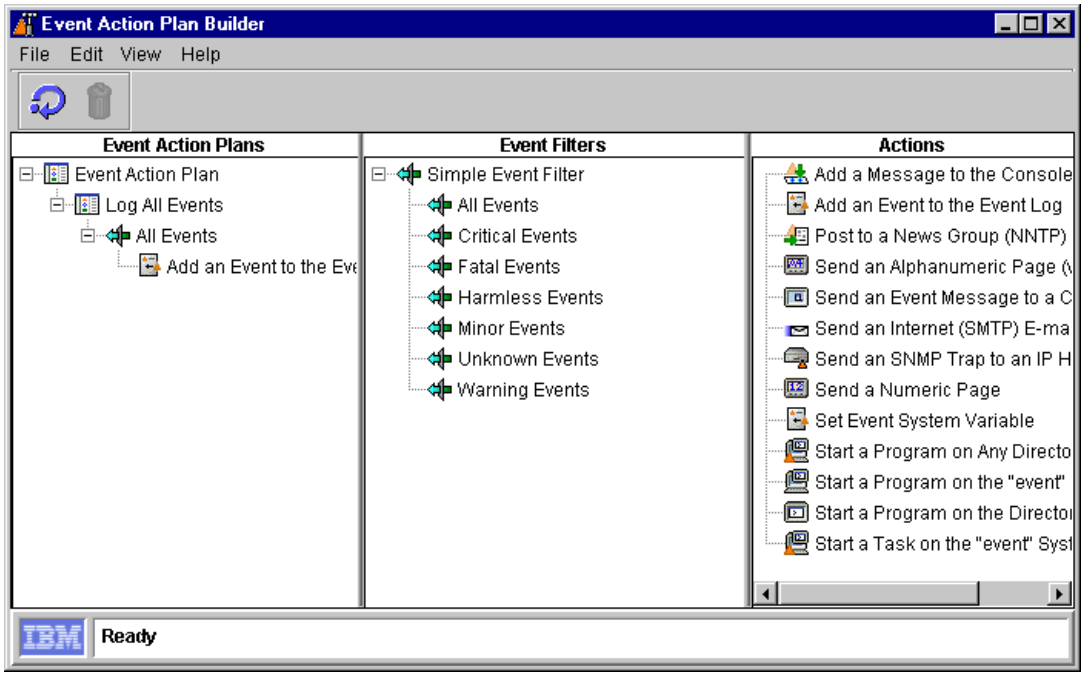


Figure 88. Event Action Plan Builder in Netfinity Director

Note: Most actions cannot be performed on the UMS client. The exceptions are to start a program or to start a Netfinity Director task at the client. All other actions must occur either at the console or at the server.

You can have multiple actions and filters in the one event action plan. As a result, you can either create a new event action plan or you can add events to an existing event action plan.

To create the action shown in Figure 87 on page 124 in Netfinity Director, do the following from the Netfinity Director console:

1. Create an event action plan or use one that you have created before. To create a new event action plan, right-click in the Event Actions Plans panel in Figure 88 and click **New > Event Action Plans**. Figure 89 appears.

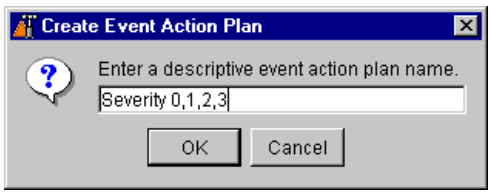


Figure 89. Create Event Action Plan in Netfinity Director

2. Enter the name of the event action plan. We named ours “Severity 0,1,2,3”.
3. Right-click in the Event Filters panel and click **New > Event Filter**. Figure 90 appears. From here you can select which monitor type you are interested in. In our example we are just interested in the severity.

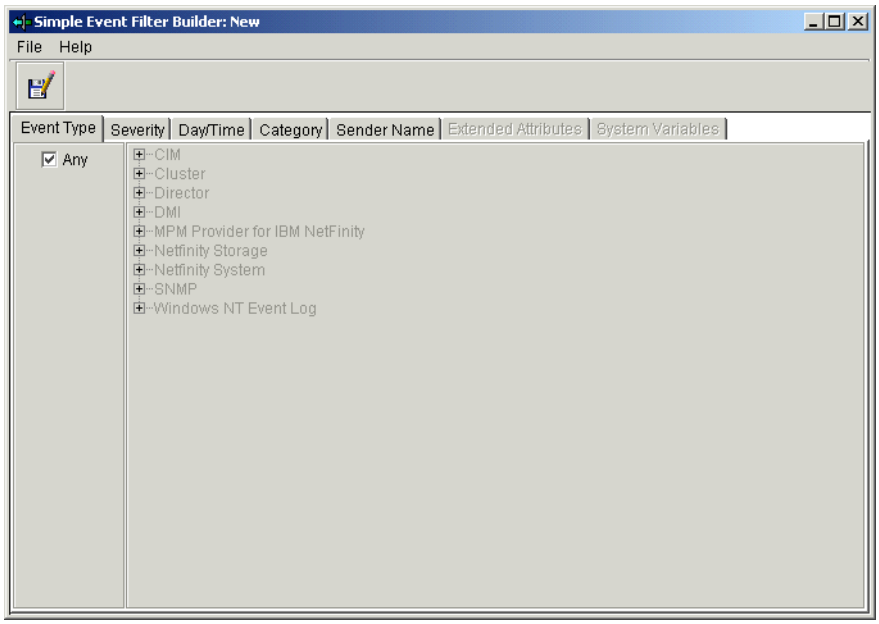


Figure 90. New event filter in Netfinity Director

4. Click the **Severity** tab and specify the severities listed in Table 7 on page 124 as shown in Figure 91. Use the following as a guide to convert Netfinity Manager severity levels to Netfinity Director levels:

   0 Fatal
   1 Critical
   2 Minor
   3 Warning
   4-7 Harmless

   Note: In Netfinity Director, there is a severity Unknown. There is no equivalent in Netfinity Manager. Unknown is used when the application generating the event does not assign a severity level to the alert.

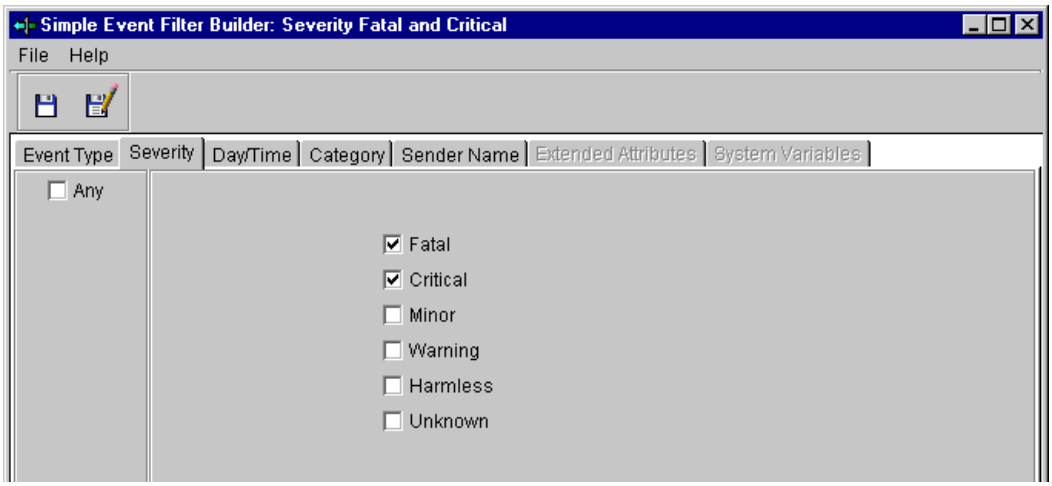


Figure 91. Severities in Netfinity Director

5. Save the filter by clicking  . When prompted, name your filter. We named ours “Severity Fatal and Critical”. Close the window.

6. Create an action by double-clicking one of the actions in the Actions panel in Figure 88 on page 125. We double-clicked on **Send an Event Message to a Console User**. Figure 92 appears.

   Since we cannot pop up a window on the client in Netfinity Director, we will display the pop-up message at the console instead, as shown in Figure 92:

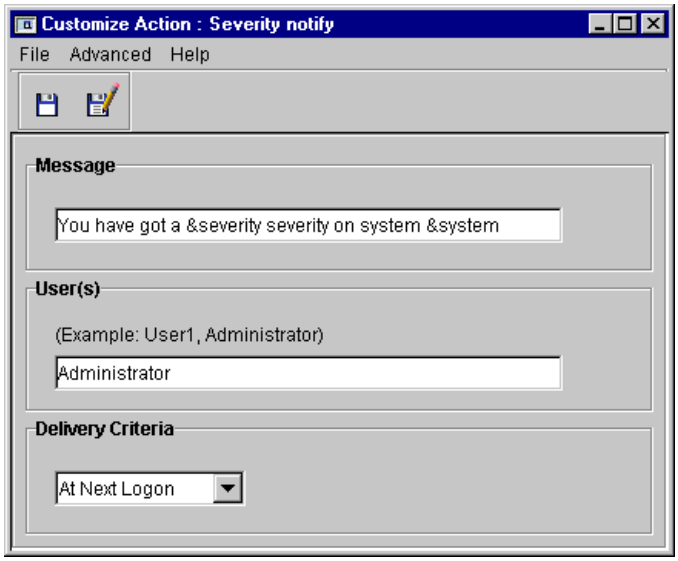


Figure 92. Customize action in Netfinity Director

7. In the Message field, you can put whatever text you want. There are also a number of predefined variables that you can use. See the online help for a full list. In this example we used:

   – `&severity` — the severity of the alert
   – `&system` — the name of the system where the alert occurred

   Two other commonly used variables are `&date` and `&time`. They put a date and time when the action occurred.

8. Save the action by clicking  . When prompted, name the action. We named ours “Severity notify”.

9. Close the window.

10. Apply the new filter and new action as follows:

    a. Drag the newly created event filter “Severity Fatal and Critical” from the Event Filters panel to the Event Action Plans panel, shown as ❶ in Figure 93.
    b. Drag the newly created action “Severity notify” from the Actions panel to the Event Action Plans panel, shown as ❷ in Figure 93.

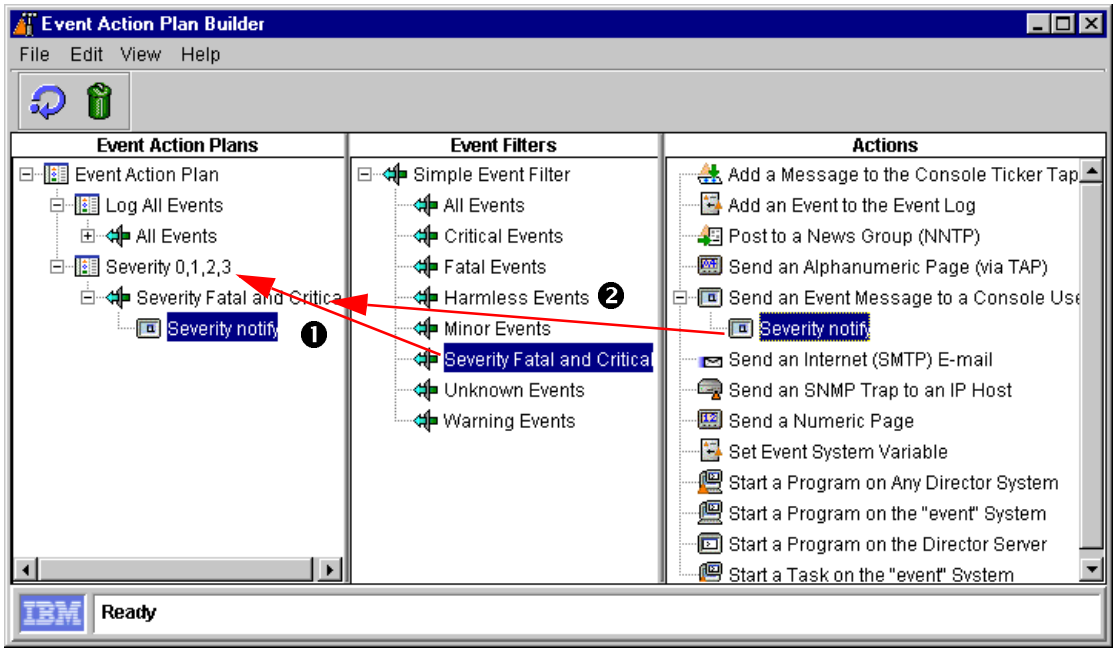


Figure 93. Event Action Plan Builder in Netfinity Director

Note: You must perform these two steps in the correct order.

11. Close the Event Action Plan Builder window. The main console window appears as shown in Figure 94.

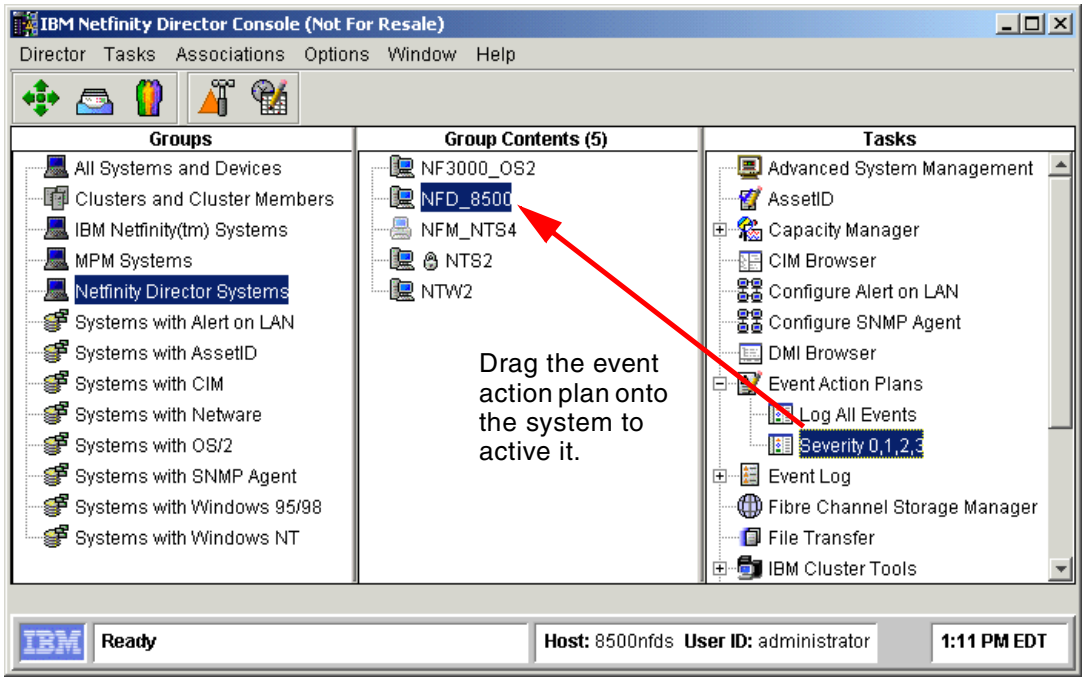


Figure 94. Applying an event action plan to a system

12. Activate the event action plan by dragging it from the Tasks panel to the system that you want to use the event action plan on as shown in Figure 94.

The action is now enabled in Netfinity Director.

Note: As we describe in 9.1.5, “Advanced group management” on page 173 there is no support to drop the event action plan to a group of systems in Netfinity Director. You can, however, select multiple systems using the Shift or Ctrl keys in conjunction with a mouse click, and drag the event action plan to one of the selected systems.

For more information on how to use and configure the Event Action Plan Builder, see 6.2.3 “Event Action Plans” of the redbook *Netfinity Director Integration and Tools*, SG24-5389.

7.2 Security Manager

In Netfinity Manager the security is handled separately by each of the clients. It is called Peer to Peer security system. That means that the security is

provided locally on each system. In Security Manager, we need to write down the configured users and what they are allowed to do. Figure 95 shows a user that is configured in Netfinity Manager.

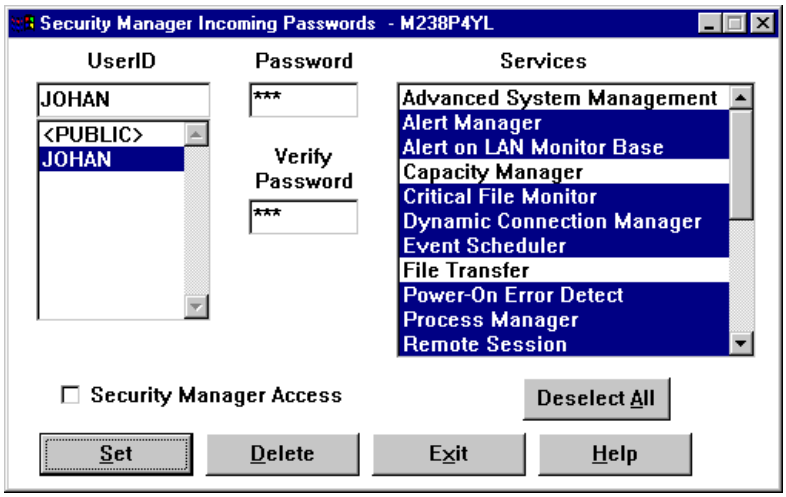


Figure 95. Security Manager in Netfinity Manager

Enter the configuration information in Netfinity Manager into Table 8:

Table 8. Security Manager configuration data

User ID	Services	Security Manager
Example: JOHAN	Alert, AOL, CFM, DCM, Scheduler, POED, Process, Remote Session, RWC, Inventory, SI, SysMon, Profile	No

As described in 2.2.2, “Security” on page 10, Netfinity Director uses a centralized security model, storing all security access information on the Netfinity Director server and users can be defined in two ways:

- Create the user using Console Security in Netfinity Director. You can use this option if you want a group of administrators to access Netfinity Director all with the same userid and password. These are known as *non-native user accounts*.
- Create the user using Windows NT/2000’s User Manager on the Netfinity Director server. The user’s ID and password are controlled through the operating system’s security functions. This means that Netfinity Director administrators need to remember only their Windows password. These are known as *native user accounts*.

  See 2.2.2, “Security” on page 10 for details on how Windows user groups are used to gain access to Netfinity Director.

Once the user is defined, the Console Security task is used to restrict access to specific groups and tasks. Click **Options > Console Security**, which displays a window similar to Figure 96:

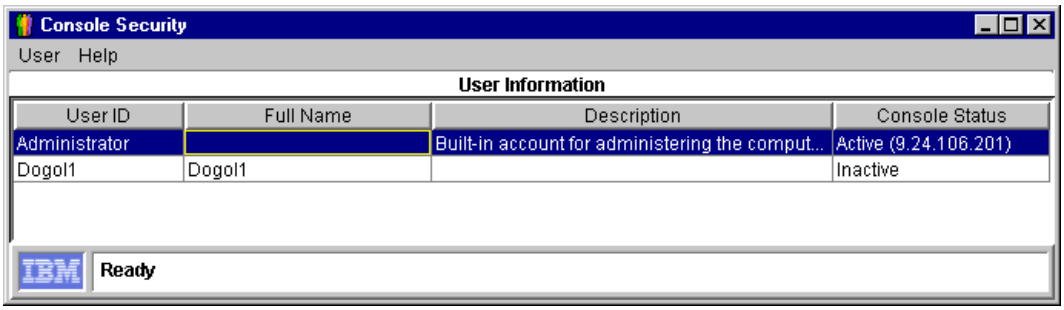


Figure 96. Console Security in Netfinity Director

This will show all users that can access Netfinity Director. It shows native user accounts (those created in Windows User Manager), such as Administrator in Figure 96, and non-native user accounts (those that have been created in Netfinity Director), such as Dogol1 in Figure 96. The window will also show if the user is currently logged onto a console. The User menu has the following functions:

- **New User**. Create your own users independent of Windows’ security model.

- **Edit**. Modify existing users created either in Windows User Manager or created in Netfinity Director's User Editor.

  Note: If you attempt to modify a user that is a member of the TWGSuperAdmins group, you will see that all settings in the User Editor have been grayed out, except for the e-mail address and pager information fields. You cannot modify the access of TWGSuperAdmins users — they have complete control in Netfinity Director.

- **Delete**. Delete non-native users (those that have been created in Netfinity Director) and native users that are members of TWGAdmins or TWGSuperAdmins but are not members of Administrators or Domain Admins.
- **User Defaults**. Set up or change defaults authorizations that all new users created in Netfinity Director will have.
- **Show Unauthorized Server Users**. Shows all users defined via the Windows User Manager, including those that are not authorized to access Netfinity Director.

To create a new non-native user account in Netfinity Director, click **User > New User**. The User Editor appears, similar to Figure 97. Here, we created a user similar to the Netfinity Manager user shown in Figure 95 on page 131 and used the data from Table 8 on page 131 as input.

Note: The services in Netfinity Manager have a corresponding task in the Task Entry tab of the User Editor as shown in Figure 100 on page 137.

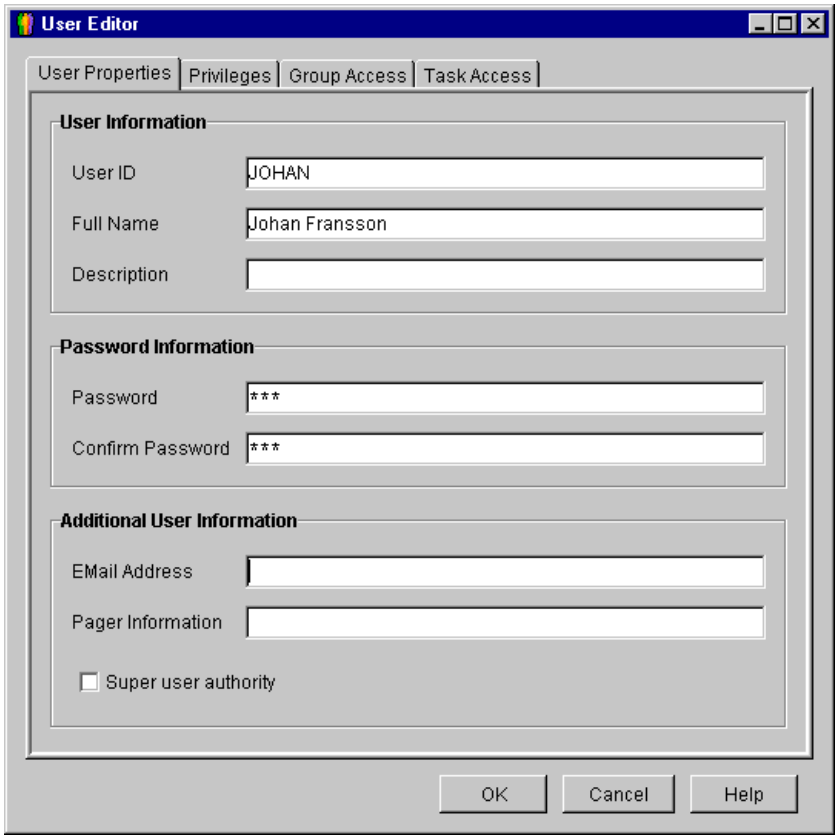


Figure 97. Basic information about the user

The security model in Netfinity Director is much stronger than in Netfinity Manager and offers more granularity. You can set different privileges to different users as shown in Figure 98 on page 135. These will affect all systems that the user can access.

If you wish to set default access settings, click **User > Set User Defaults**.

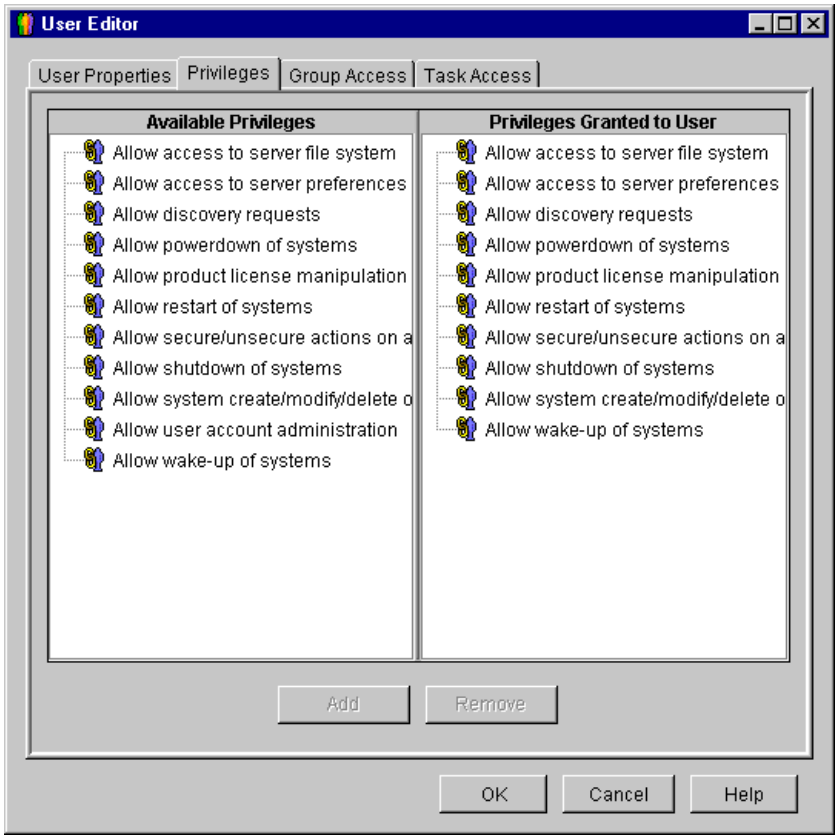


Figure 98. Privileges we can grant to a user

By default, the user has access to all groups. To change this, use the Group Access tab and select the groups you want to give access to, as shown in Figure 99.

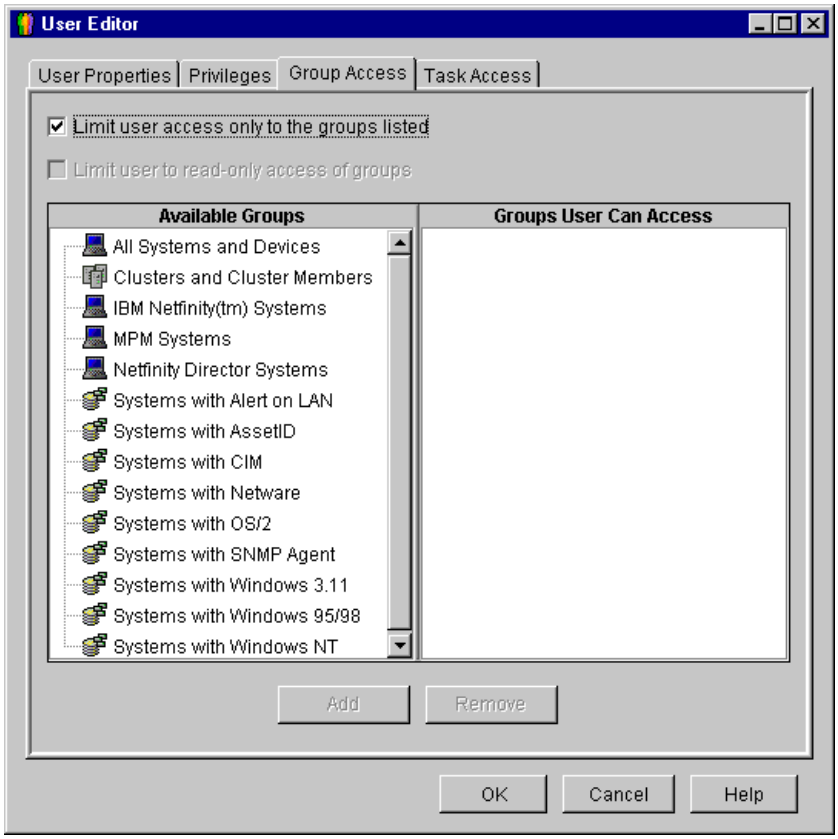


Figure 99. Group Access configuration

The Task Access tab, shown in Figure 100, lets you limit access to specific functions in Netfinity Director. This is similar to the security access settings in Netfinity Manager.

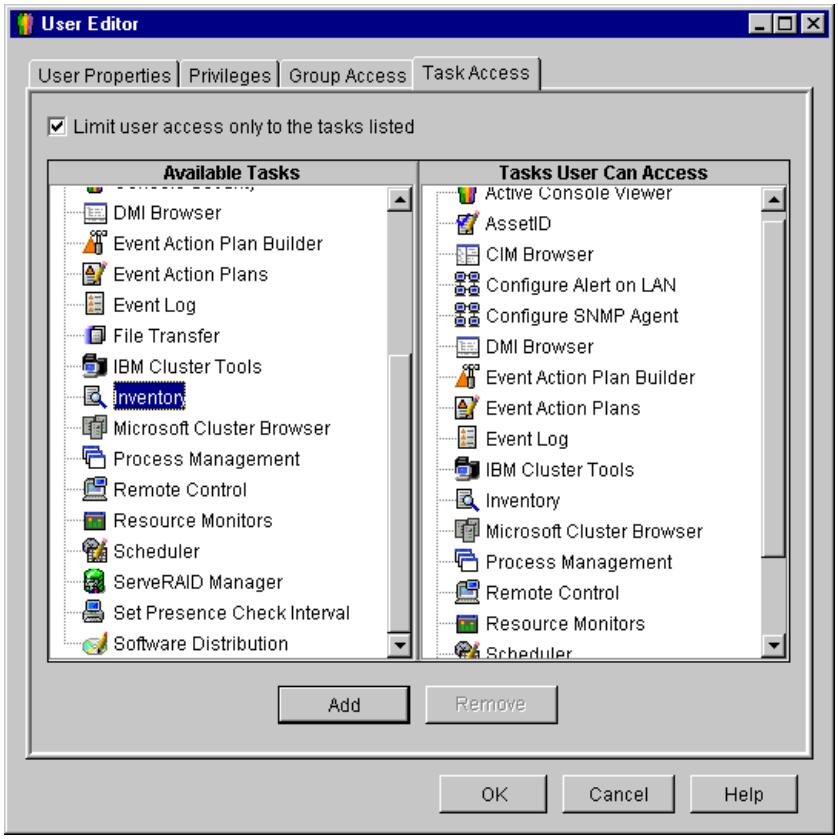


Figure 100. Task Access configuration

Once you have configured the security access, click **OK**.

Based on the settings you have made here, Netfinity Director will display a desktop that will show only the supported functions for the specific user.

7.3 System Monitor

The System Monitor in Netfinity Manager lets you monitor system performance and to set thresholds to alert you when system components have exceeded set values. The thresholds are set by right clicking on the particular monitor and clicking **Open > Thresholds**. For the CPU Utilization monitor, a window similar to Figure 101 appears.

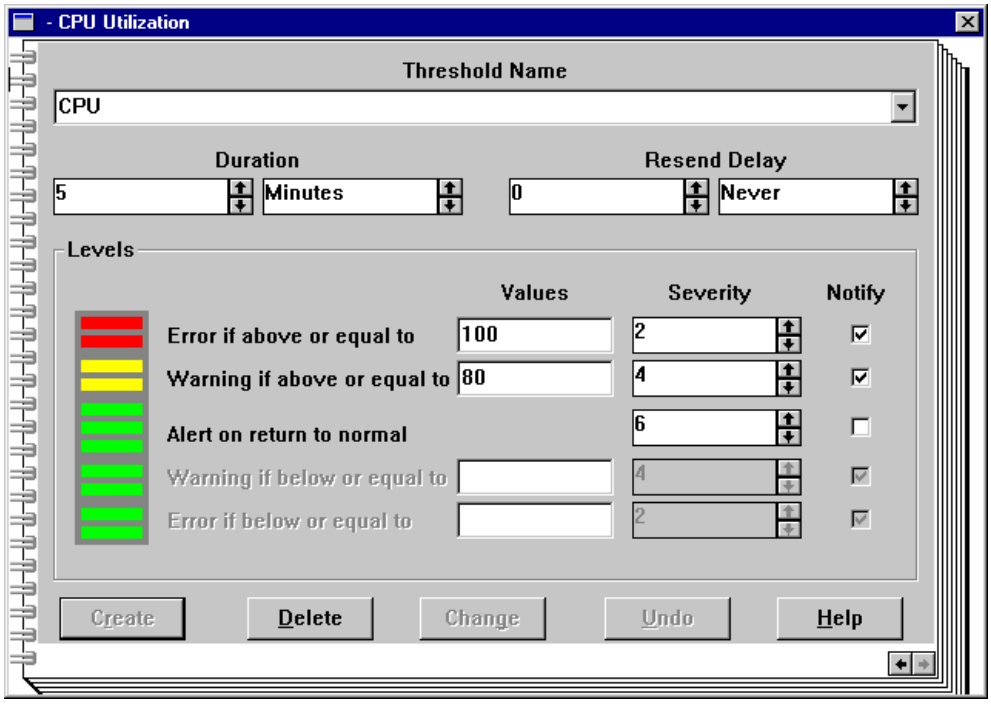


Figure 101. Threshold configuration in Netfinity Manager

Use Table 9 to record all the thresholds you monitor. The example in Figure 101 is shown as a sample.

Notes:

- You cannot specify the severity for each level in Netfinity Director, so there is no need to record these values.
- The checkbox **Notify** specifies that the alert is to appear on the system's window as well as any other action. Since this function is not supported in Netfinity Director, it can be ignored.

Table 9. Thresholds in Netfinity Manager

Monitor	Name	Duration	Resend	Error above	Warning above	Warning below	Error below
CPU Utilization	CPU	5 mins	Never	100	80	None	None

To add this data to Netfinity Director, do the following (we'll use our sample CPU Utilization threshold as an example):

1. From the Group Contents panel of the console, right-click on the system and select **Resource Monitors** from the menu. Figure 102 appears.

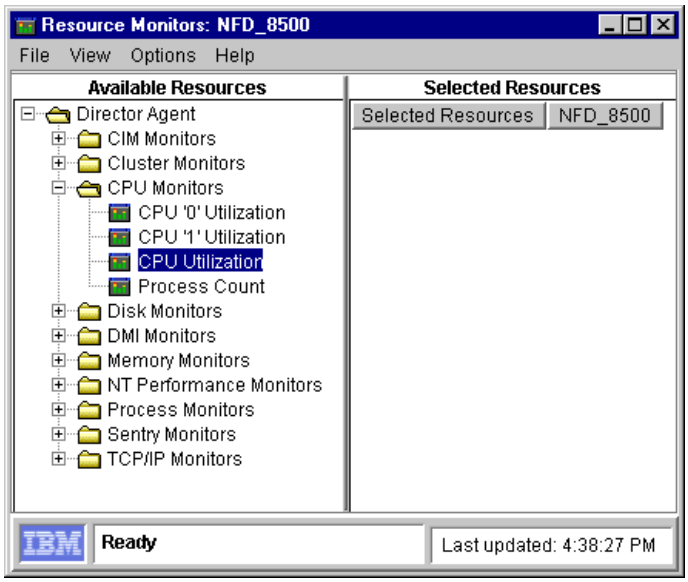


Figure 102. Resource Monitors in Netfinity Director

2. Expand **CPU Monitors** to show the available CPU monitors. Right-click on **CPU Utilization** and click **Add to Selected Resource Table** (or double click on **CPU Utilization**). This will add the monitor to the right panel.
3. Right-click as shown in Figure 103 and click **Individual Threshold**.

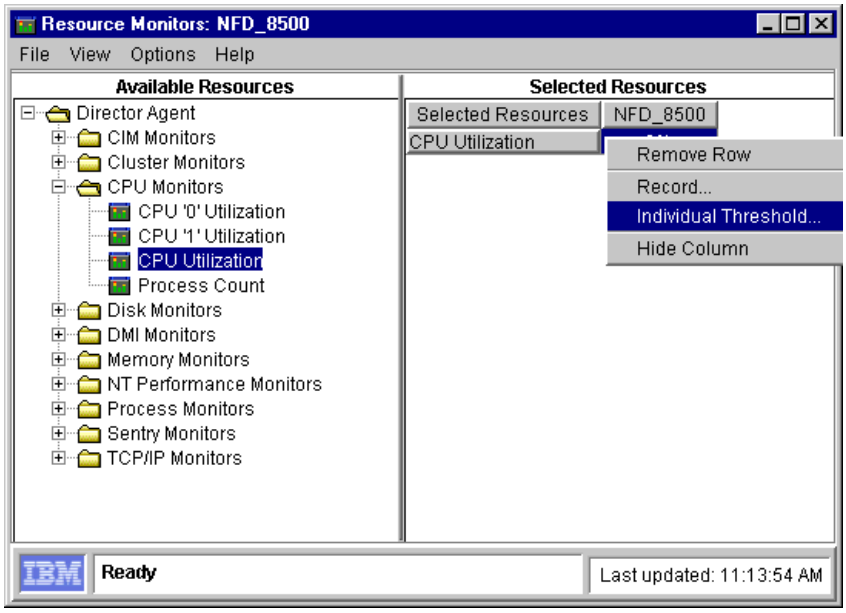


Figure 103. Individual Thresholds in Netfinity Director

4. Figure 104 appears:

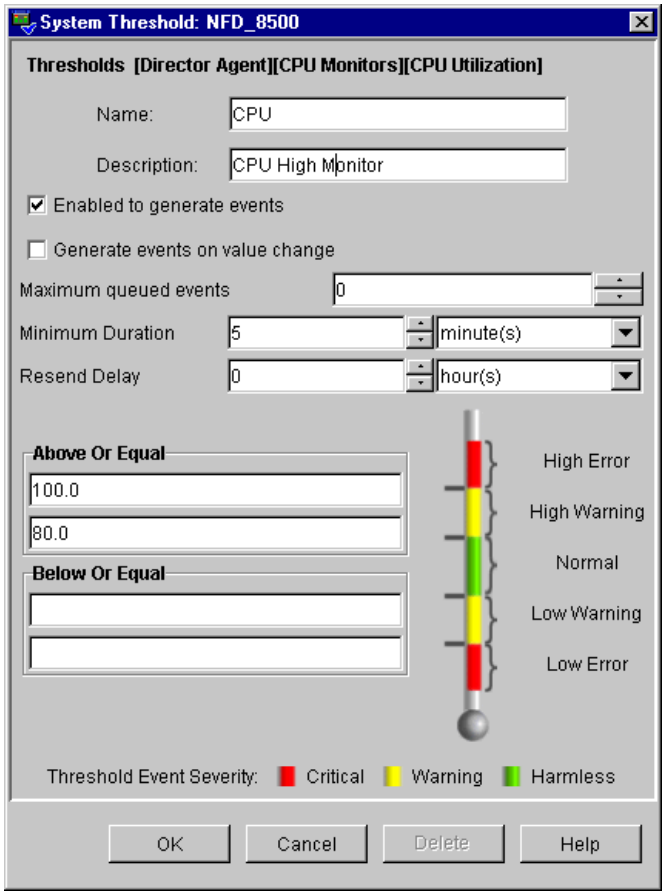


Figure 104. CPU High Monitor in Netfinity Director

5. Fill in your data from Table 9 on page 139 and click **OK**.

The thresholds have now been configured.

7.3.1 Exporting recorded data

In Netfinity Manager, you can export System Monitor data to a Lotus Notes or ODBC database. In Netfinity Director, you can export the data and you can view the recorded data, as follows:

1. Right click as shown in Figure 103 but click **Record** instead. This brings up the recording configuration page as shown in Figure 105.

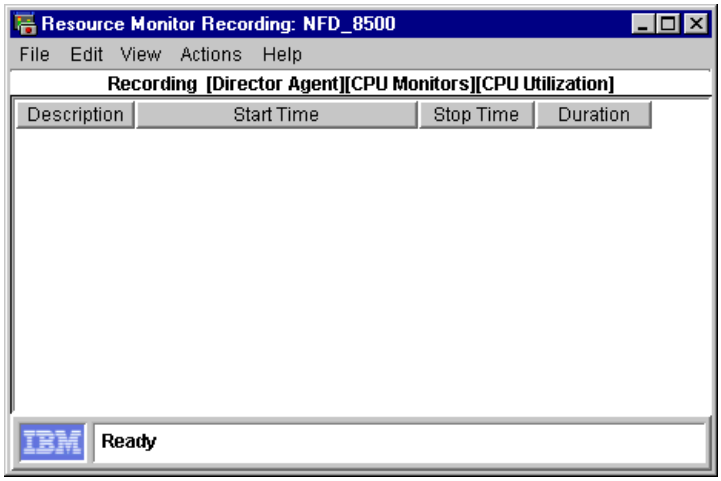


Figure 105. New Resource Monitor page in Netfinity Director

2. Select **File > New** that will bring up the New Record menu.

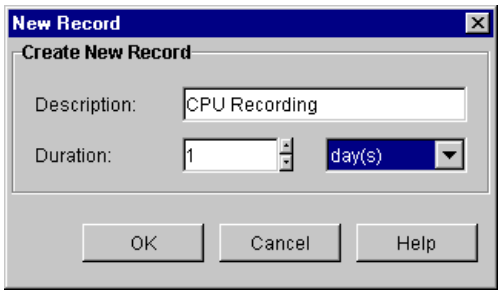


Figure 106. New Record menu in Netfinity Director

3. Enter a name, select a duration, and choose how long the recording will last. Click **OK** to continue. This will bring up the configuration page as shown in Figure 107.

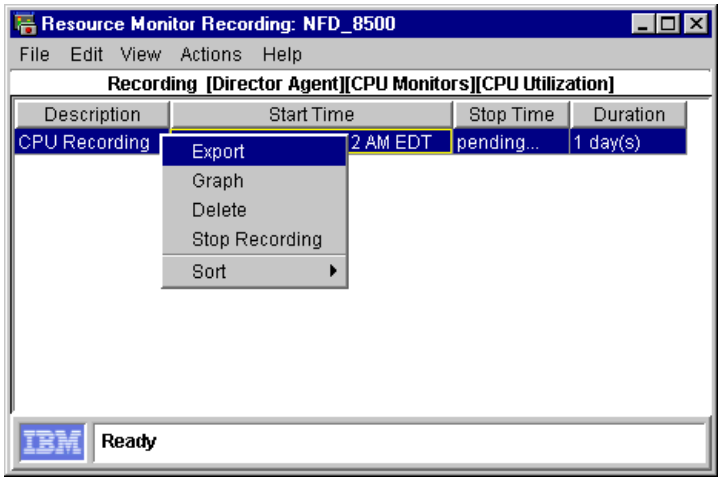


Figure 107. Resource Monitor Recording in Netfinity Director

From here you can:

- Export the data to:
  - .TXT file
  - .HTM file
  - .CSV file
- Create a graph of the data recorded
- Delete the configuration
- Stop the recording

For more information about Resource Monitors and how to configure them see 6.2.9 “Resource Monitors” in *Netfinity Director Integration and Tools*, SG24-5389.

7.4 Event Scheduler

The Event Scheduler in Netfinity Manager is used to schedule tasks. To export them to Netfinity Director you need to write down the names of your events as shown in Figure 108. Use Table 10 on page 145 as a reference.

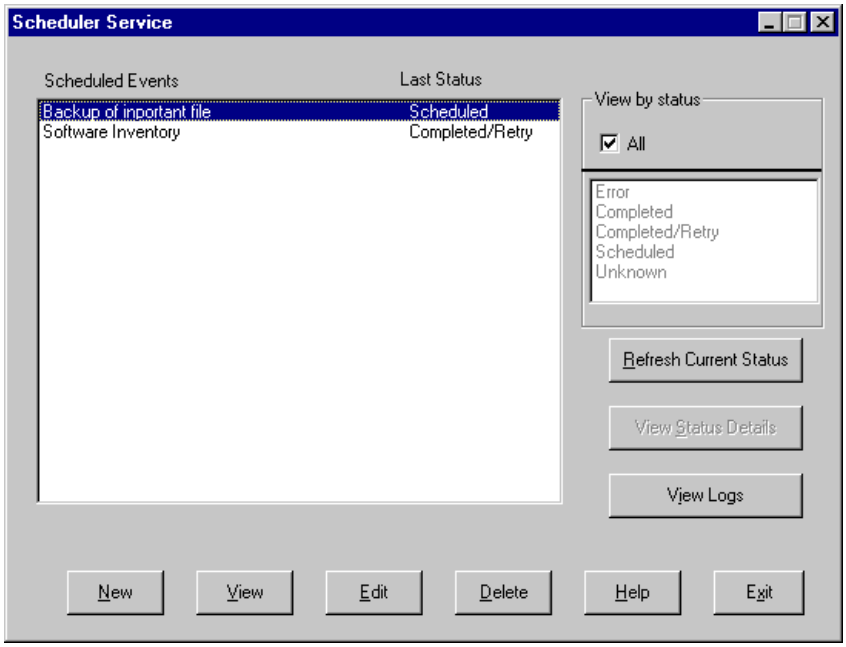


Figure 108. Scheduler Service in Netfinity Manager

When you have noted all the events, you need to write down the configuration of the events. Select each event, click **Edit** and write down the information shown in Figure 109 into Table 10.

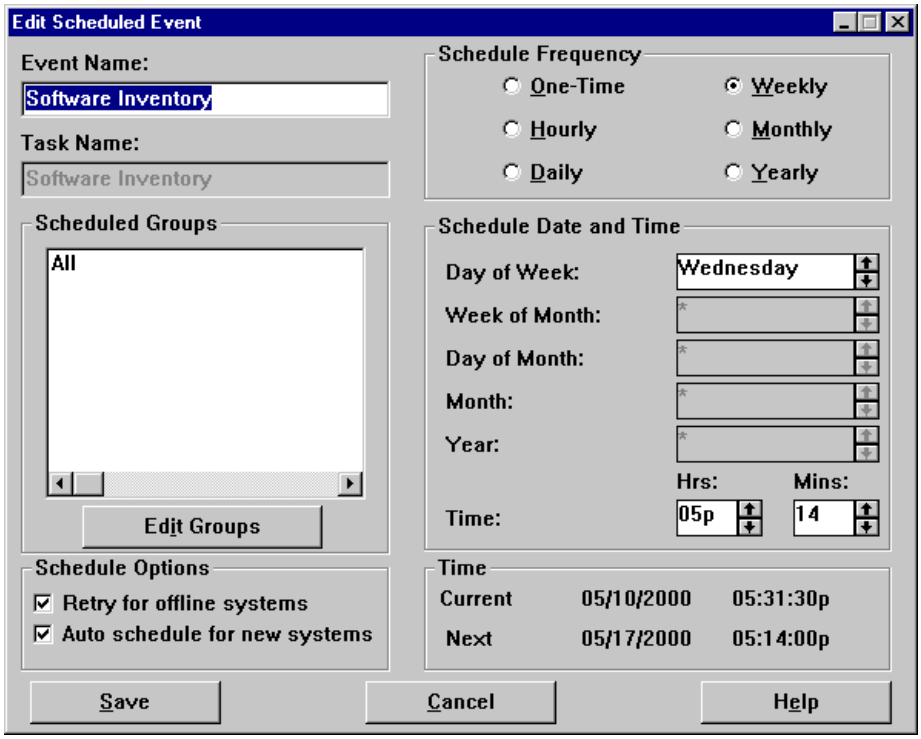


Figure 109. Event information in Netfinity Manager

Table 10. Detailed scheduled event data

Name	Frequency	Date/time	Groups or systems	Retry for offline	New systems
Software inventory	Weekly	Wednesday 05:14pm	All	Yes	Yes

In Netfinity Director, start the Event Scheduler by clicking **Task > Scheduler**. Figure 110 appears.

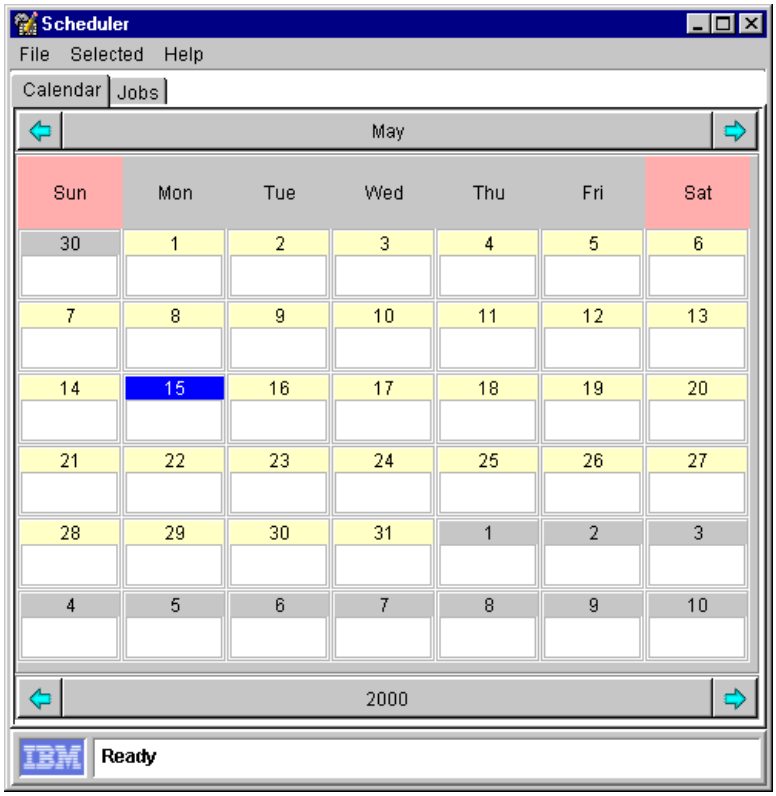


Figure 110. Scheduler in Netfinity Director

To create a new event, or *job* as it is called in Netfinity Director, click **File > New Job**. This will bring up the New Scheduled Job window as shown in Figure 111.

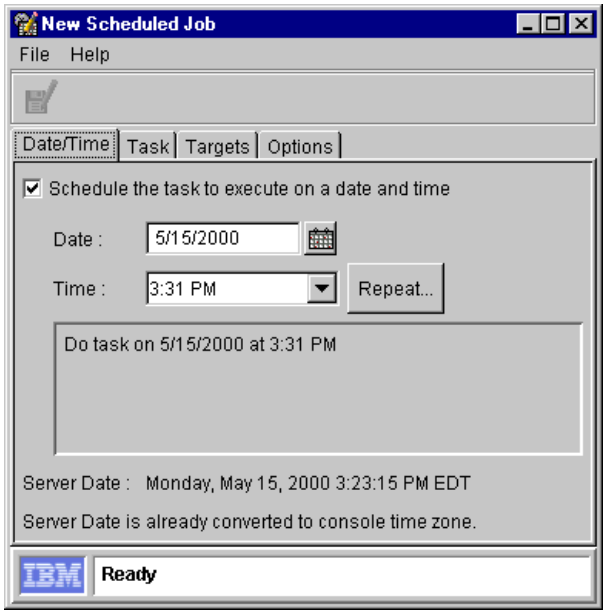


Figure 111. New Scheduled Job menu in Netfinity Director

From here you can schedule the jobs to fit your needs.

For details about the Event Scheduler, see 3.2.7 “Task scheduling” in *Netfinity Director Integration and Tools*, SG24-5389.

7.5 Remote System Manager

In Netfinity Manager, you can use system keywords to group your systems as shown in Figure 112.

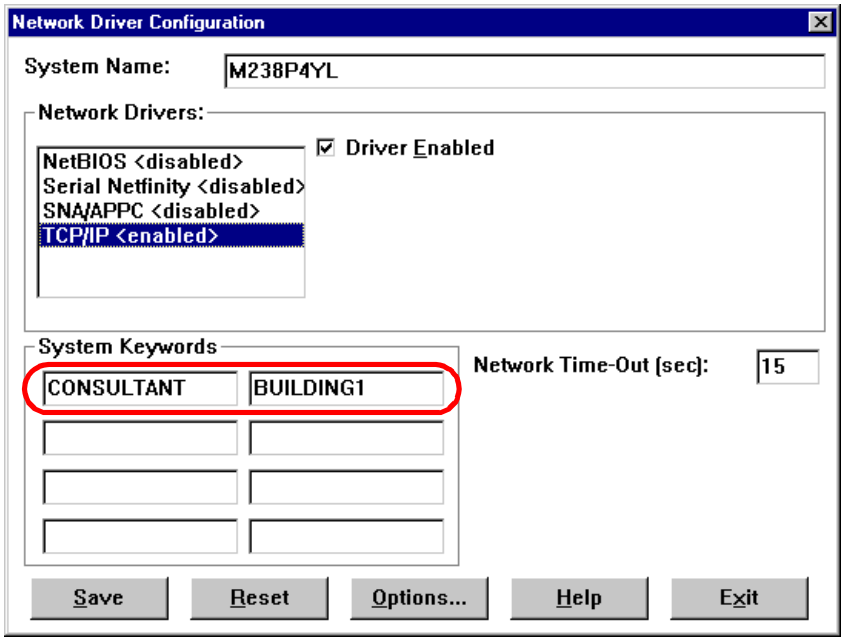


Figure 112. Using keywords to build groups in Netfinity Manager

In the installation process of Netfinity Director there is no equivalent function. There are two ways of inserting free text data to Netfinity Director.

- Edit the TWGUSER.INI file on the client system
- Asset ID

7.5.1 Edit TWGUSER.INI

TWGUSER.INI exists on every client. The file is located in the BIN directory of your Netfinity Director installation.

The TWGUSER.INI file is a plain ASCII file that you can insert data into.

```
################################################################################
# Tivoli Workgroup Native Inventory Client Configuration File - twguser.ini
# (C) Copyright IBM Corporation 1994, 1998.
################################################################################

#################################################################
# User -
#   This section provides a mapping of IT Director Inventory
#   Database Table Column names to the actual information per
#   client which is collected by the Inventory Collection
#   Process such that this client information
#   can to be viewed in the Inventory Query Browser and used in
```

```
#   the Group Editor Consoles. Each client should add/edit this
#   information so that it may be gathered during the next
#   scheduled Inventory Collection.
#
#   NLS Note - only the values should be translated
#     (the column names remain the same)
############################################################
[USER]
   FIRST_NAME      =
   MIDDLE_NAME     =
   LAST_NAME       =
   EMPLOYEE_ID     =
   TITLE           =
   DEPT_NAME       =
   DEPT_NUMBER     =
   DIVISION        =
   WORK_PHONE      =
   CELLULAR_PHONE  =
   FAX_NUMBER      =
   PAGER_NUMBER    =
   PAGER_TYPE      =
   EMAIL_ADDRESS   =
   HOME_PHONE      =


[LOCATION]
   CITY            =
   STATE           =
   ZIPCODE         =
   COUNTRY         =
   BUILDING        =
   FLOOR           =
   ROOM_NUMBER     =
   LATITUDE        =
   LONGITUDE       =
   USER_DATA1      =
   USER_DATA2      =
```

You can add the system keywords to this file, and then create dynamic groups based on the information.

Note: If you add data to TWGUSER.INI after the client has been discovered and inventoried, the configuration will not appear until you perform an inventory collection from the Netfinity Director console.

More information about inventory and inventory collections can be found in Chapter 3, “Core functions” in *Netfinity Director Integration and Tools*, SG24-5389.

7.5.2 Asset ID

Similar to the System Profile service in Netfinity Manager, the Asset ID task offers information on your IBM hardware. You can also enter your own

information about warranty, leasing, purchase date, and other information as shown in Figure 113. For more information about Asset ID see:

`http://www.pcco.ibm.com/ww/assetid/`

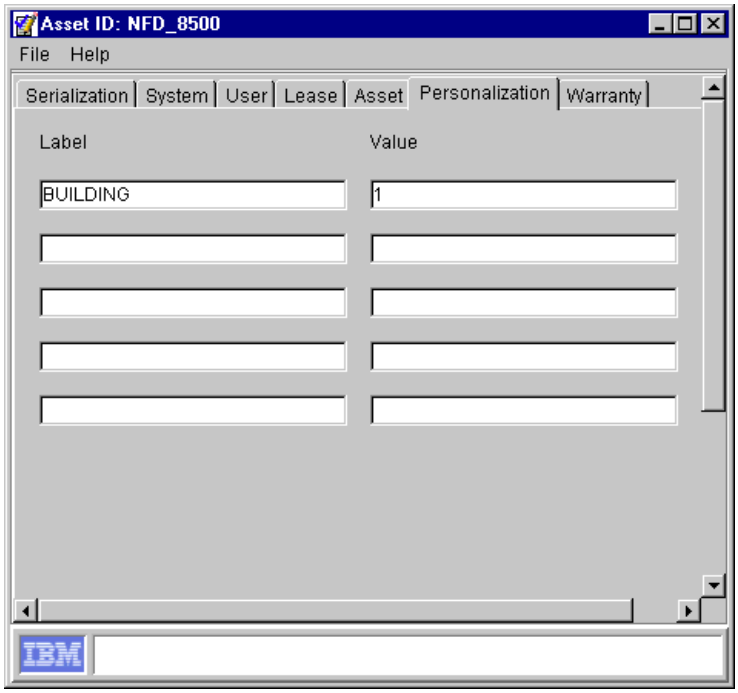


Figure 113. Asset ID in Netfinity Director

You can create your own parameters and add values to them. After you have saved the Asset ID information and performed an inventory collection you can create groups based on the values you entered.

Note: You cannot create a dynamic group before you have the inventory data. For more information about groups and inventory information see Chapter 3, “Core functions” in *Netfinity Director Integration and Tools*, SG24-5389.

Depending on how your environment looks like you might want to use either Asset ID or TWGUSER.INI or maybe both. Here are some key things about the functions.

- TWGUSER.INI
  - You can preconfigure the file and copy it when you install the client. If you have some way to determine which system should have the

different versions of TWGUSER.INI files, you don't have to manually add the values to every client.

– If you reinstall the client or wipe the hard drive, the configuration will be lost.

- Asset ID
  – Asset ID uses a separate EEPROM to store the configuration. That means that you can wipe the hard drive and still keep the information.
  – By default you will have to put in all the data manually for each of your clients. For more information about Asset ID see:

    `http://www.pcco.ibm.com/ww/assetid/`

7.6 Process Management

The process manager in Netfinity Manager is used to manage processes in Windows, OS/2 and NetWare. From the process manager window shown in Figure 114 you can:

- View running processes
- Run commands
- Stop processes
- Create alerts when a specific process starts or stops.

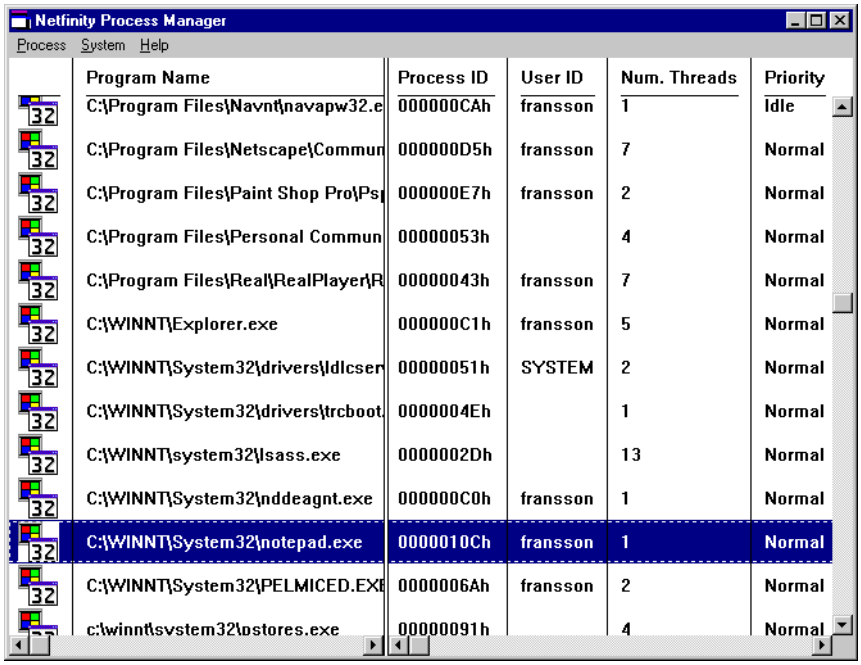


Figure 114. Process Manager in Netfinity Manager

We are interested in copying the process alerts to Netfinity Director.

To access your configured process alerts in Netfinity Manager click **Process > Process Alerts...** This brings up a window containing all your configured process alerts as shown in Figure 115.

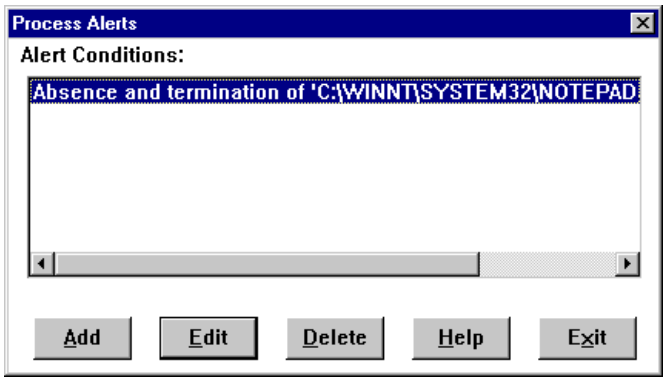


Figure 115. Process Alerts in Netfinity Manager

To access the configuration data of the process alerts, highlight the alert and click **Edit**. A window similar to Figure 116 appears.

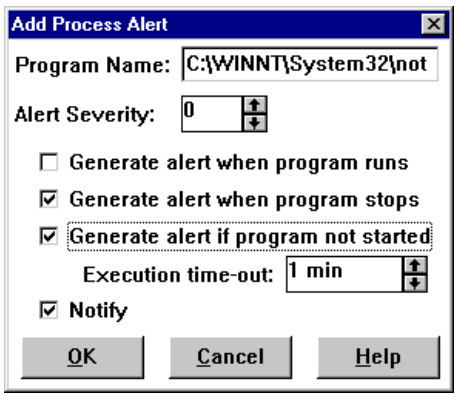


Figure 116. Properties for process alert in Netfinity Manager

For each alert, enter the data in Figure 116 into Table 11.

Table 11. Process alerts

Program Name	Alert when started	Alert when stopped	Not started within timeout
Example: Notepad	None	Severity 0	Severity 0, timeout=1 min

Note: The Notify checkbox, when enabled, displays a pop-up window on the user's workstation. This is not supported in Netfinity Director.

To access the process manager window in Netfinity Director, you can either drag and drop the **Process Management** icon from the task panel to your selected system or right-click the system and select **Process Management**. Either will bring up Figure 117.

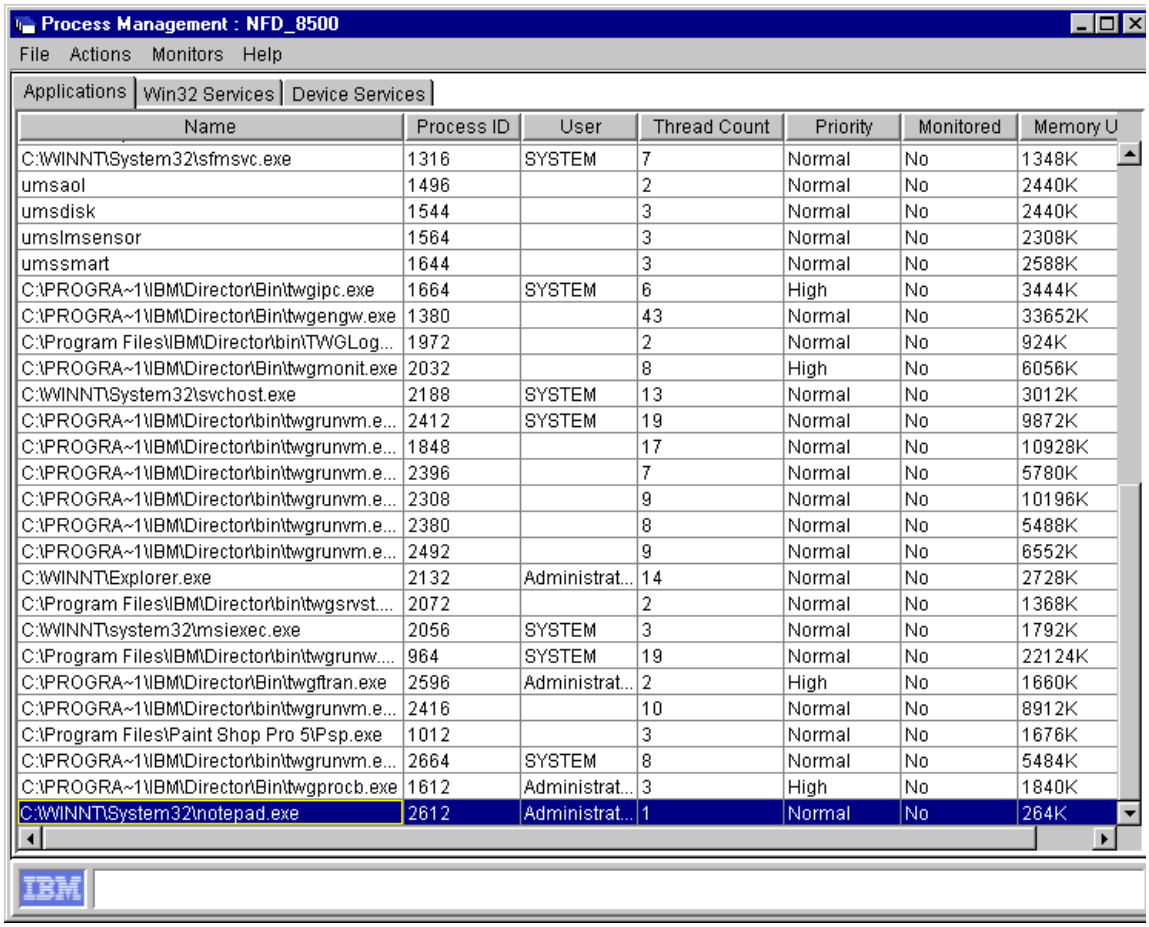


Figure 117. Process manager in Netfinity Director

From here you can:

- See all started processes on the system
- Execute commands
- Send Ctrl-C to a process
- Send Ctrl-Break to a process
- Kill processes
- Monitor processes
- View and manage all Win32 services on the system
- View and manage all the device drivers on the system

To create a process alert do the following:

1. Select the process you wish to work with.
2. Click **Monitors** > **Process Monitors**. Figure 118 appears.

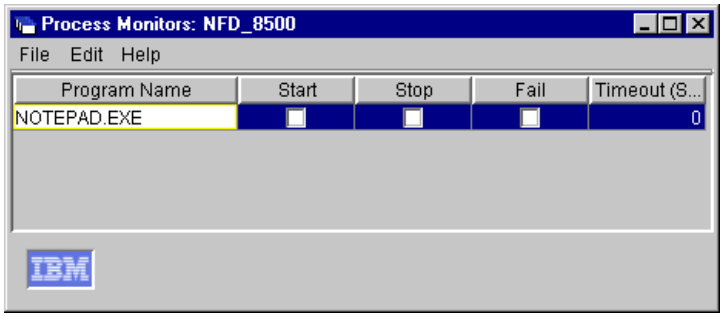


Figure 118. Configuring an alert on a process

3. Fill in the values from Table 11 on page 153.

   For our example, We checked **Stop** and **Fail** and entered 60 in the Timeout field. Click **File > Save** and you will be prompted if you want to replace the monitors. Click **Yes** to update your monitor. Close the window.

   Now we need to set an action based on the alerts.
4. Start the Event Action Plan Builder to create an action by clicking  in the main console window.
5. Create a new event action plan by right clicking the Event Action Plans panel and clicking **New > Event Action Plan.** Name the action plan “Process Alerts”, as shown in Figure 119. You can use an existing Event Action plan if you wish.

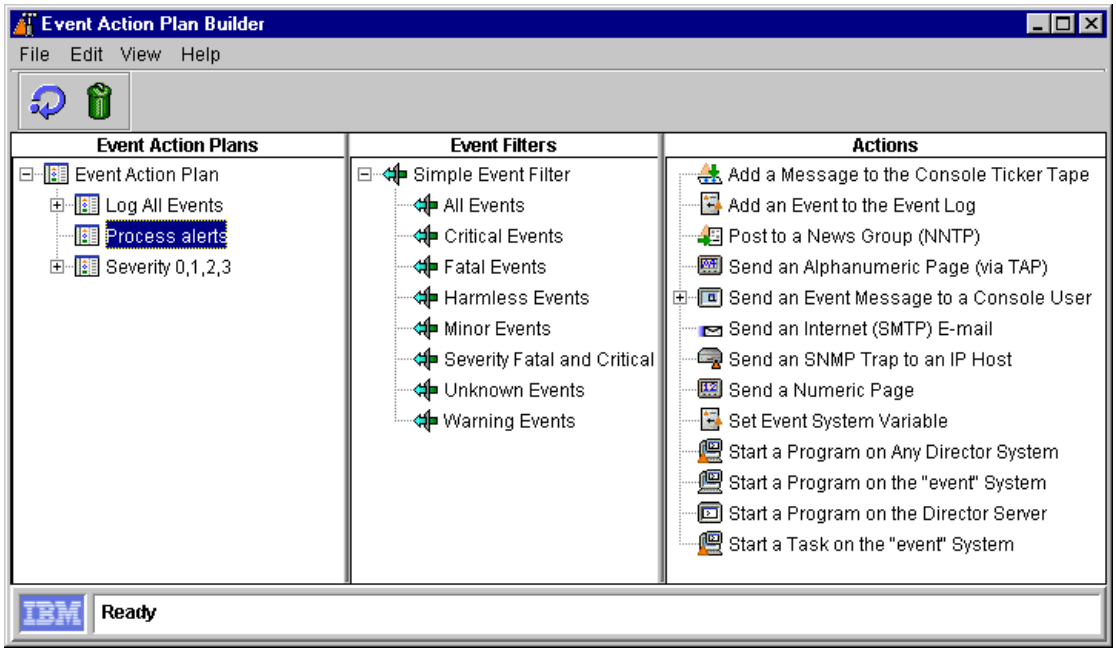


Figure 119. Event Action Plan Builder in Netfinity Director

6. Create a filter for the process by right clicking the **Event Filters** panel and clicking **New > Simple Event Filter**. This brings up the Simple Event Filter Builder:

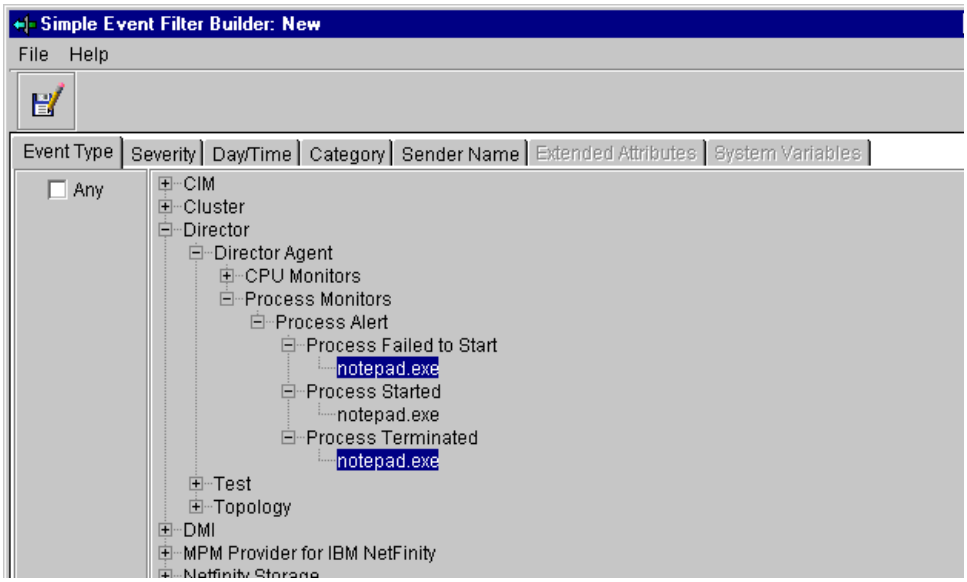


Figure 120. Simple Event Filter Builder in Netfinity Director

7. In the Event Type tab, deselect the **Any** checkbox.
8. Expand Director, Director Agent and Process Alert branches as shown in Figure 120.
9. Since we want to do the same when the process stops or fails, we selected **notepad.exe** in both Process Failed to Start and in Process Terminated as shown in Figure 120. We do that by holding down the Ctrl key and clicking **notepad.exe**. Save the event filter by Select **File > Save as** and name the filter. We named ours “Notepad process”.
10. Specify the action that will be performed based on the alert.

    For our example, we want to start Notepad back up again. From the Event Action Plan Builder, double-click **Start a program on the “event” system** in the Actions panel (see Figure 119).

    Figure 121 appears.

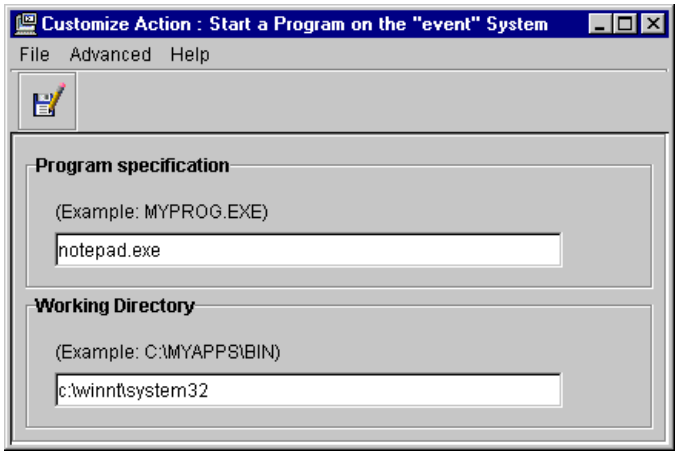


Figure 121. Customize action in Netfinity Director

11. Enter the location of Notepad as shown. Click **File > Save as** and name the action; we named it “Notepad”.

12. Now we have to activate the event action plan. Apply the new filter and new action as follows:

    a. Drag the newly created event filter “Notepad Process” from the Event Filters panel to the Event Action Plans panel, shown as ❶ in Figure 122.

    b. Drag the newly created action “Notepad” from Actions panel to the Event Action Plans panel, shown as ❷ in Figure 122.

    Note: You must perform these two steps in the correct order.

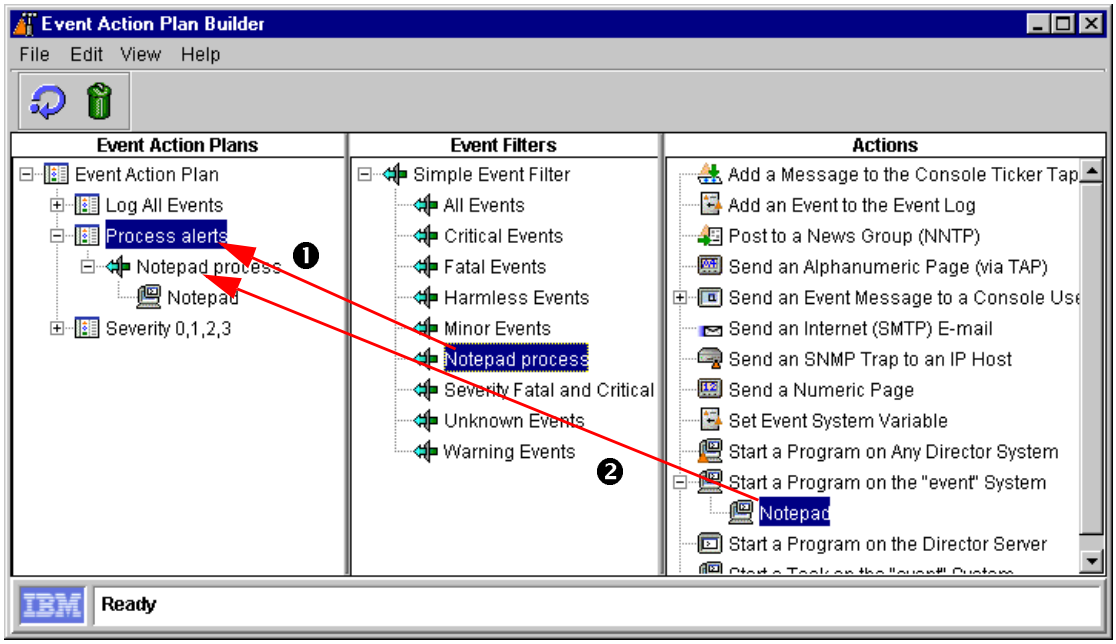


Figure 122. Activating the event action plan

13. Close the Event Action Plan Builder window. The main console window appears as shown in Figure 123.

14. Activate the event action plan by dragging it from the Tasks panel to the system that you want to use the event action plan on, as shown in Figure 123.

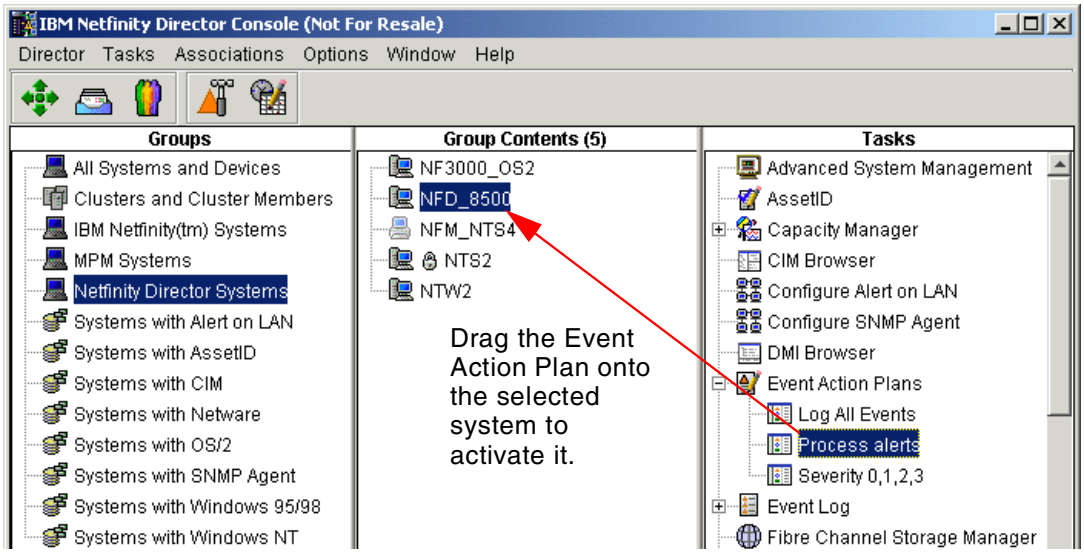


Figure 123. Activating the Event Action Plan

The action is now enabled in Netfinity Director.

Note: As we describe in 9.1.5, “Advanced group management” on page 173 there is no support to drop the event action plan to a group of systems in Netfinity Director. In Netfinity Director, you can only activate the action on one system at a time.

For more information on how to use and configure the Event Action Plan Builder, see 6.2.3 “Event Action Plans” of the redbook *Netfinity Director Integration and Tools*, SG24-5389.

7.7 Advanced System Management

The Advanced System Management functionality is the same in Netfinity Manager and Netfinity Director. The GUI is the same and you can do the same things.

All the configuration data in ASM PCI Adapter is stored in the adapter, which means that you don’t have to convert any data or reconfigure your adapter.

If you have configured the adapter with Netfinity Manager you can see and use that data in Netfinity Director without any further steps.

Chapter 8. Removing Netfinity Manager

Once you have UMS on all your clients and your Netfinity Director configuration running properly, the next step you many want to consider is removing Netfinity Manager. In most cases, removing Netfinity Manager is optional because Netfinity Manager can run on the same system as UMS and Netfinity Director.

There are a few reasons why you could leave Netfinity Manager on your systems:

- No effort required.
- You may wish to use Netfinity Manager as an emergency backup if Netfinity Director is unavailable.

However, there may be reasons why you should consider removing Netfinity Manager:

- Reclaim disk space (15-30 MB) and memory (5-10 MB) consumption taken by Netfinity Manager.
- On NetWare systems, Netfinity Manager and Netfinity Director cannot coexist due to a module name contention. You must unload NETFBASE from memory and remove the statements from AUTOEXEC.NCF.
- You consider Netfinity Manager to be a security risk because passwords are not stored in the Windows security accounts manager (SAM) database as they are in Netfinity Director.

8.1 Uninstalling Netfinity Manager 5.x

There are two methods to remove Netfinity Manager 5.x:

- Manual uninstall using Netfinity uninstall program
- Unattended uninstall

8.1.1 Manual uninstall

To remove Netfinity Manager Version 5.0 or later, click **Start > Programs > Netfinity > Netfinity Uninstall** or run `NFUNINST` from the Netfinity Manager installation directory (for example, C:\WNETFIN on Windows systems).

You will be prompted to confirm the removal as shown in Figure 124 and Figure 125.

Note: On Windows systems, you cannot use Add/Remove Programs to uninstall Netfinity Manager.

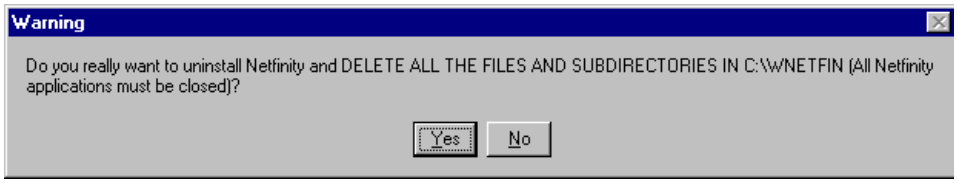


Figure 124. Uninstall warning window

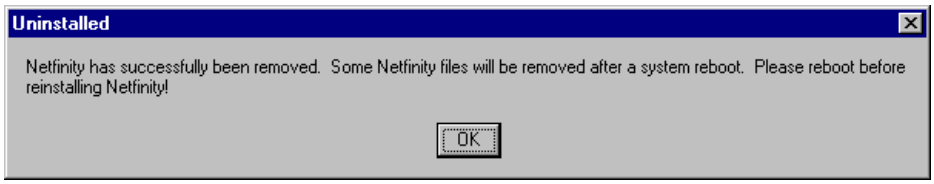


Figure 125. Uninstall completed

8.1.2 Unattended uninstall

On Windows 95/98 and Windows NT systems, you can remove Netfinity Manager 5.0 or later by issuing the following command:

```
NFUNINST /R:
```

(Note the colon at the end). You are not prompted to confirm the removal. Once the command is complete, you should reboot the system.

8.2 Uninstalling versions earlier than Netfinity Manager 5.x

For systems running Netfinity Manager 5.0 or later, no uninstall routine exists. As a result, you have two options:

- Upgrade Netfinity Manager to the latest version, then use the uninstall routine to remove the product
- Delete all files and configuration settings (for example, registry entries on Windows systems)

If you want to upgrade to the latest version of Netfinity Manager, you can download it from:

```
http://www.pc.ibm.com/ww/netfinity/systems_management/nfmgr.html
```

To delete all files and registry entries, do the following:

1. Stop the Netfinity Service (NETFBASE)
2. In the registry, remove Netfinity information from the following keys:
   - HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\RunServices (remove value name and data: NetFinity, c:\wnetfin\netfbase.exe)
   - HKEY_LOCAL_MACHINE\SOFTWARE\IBM\NetFinity\CurrentVersion
   - HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\
3. Remove all files and directories where Netfinity is installed (C:\WNETFIN or C:\NETFIN)

Chapter 9. Upgrading to IT Director

Netfinity Director is based on Tivoli's IT Director. However, not all the functionality of IT Director is available in Netfinity Director. This chapter describes the extra features you get when you upgrade to IT Director. We also show how to do the upgrade.

9.1 Extra features

When you upgrade your Netfinity Director system to IT Director, a number of functions are added or upgraded. These include:

- Improved software distribution
- SNMP browser that supports all SNMP devices
- Application management
- Internet services
- Group management
- Associations

The following tables compare the two products.

Table 12. Comparing core features

Core features	IT Director	Netfinity Director
User administration	Yes	Yes
Software distribution	Yes	Limited
Job task scheduling	Yes	Yes
Event management	Yes	Yes
Real-time monitoring	Yes	Yes
Process Manager	Yes	Yes
Remote control	Yes	Yes
File transfer	Yes	Yes
Microsoft Cluster Server support	Yes	Enhanced
Inventory CIM/DMI support	Yes	Yes
Maximum number of clients	1500	1500
AS/400 support	Yes	Not supported
NetWare 5.0 support	Yes	Yes

Core features	IT Director	Netfinity Director
Database support	Yes	Yes
SNMP management interface	Yes	Not supported
Apply Event Action Plans to group	Yes	Not supported
Set monitor threshold on groups	Yes	Not supported

Table 13. Comparing application management

Application management features	IT Director	Netfinity Director
Application management support	Yes	Not supported
Tivoli Manager for Domino	Yes	Not supported
Tivoli Manager for SQL Server	Yes	Not supported
Tivoli Manager for MS Exchange	Yes	Not supported
Tivoli Manager for Norton 2000	Yes	Not supported
NAV Plus for Tivoli IT Director	Yes	Not supported
Info. Tech. and Software Asset Manager	Yes	Not supported

Table 14. Comparing Internet management features

Internet management	IT Director	Netfinity Director
Web Channel	Yes	Not supported
System Management Home Page	Yes	Not supported
Internet Event Action Plans	Yes	Not supported

Table 15. Comparing tools support

Tools support	IT Director	Netfinity Director
SDK support	Yes	Yes
MPM support	Yes	Netfinity Manager only

Figure 126 shows the Tasks menu in Netfinity Director. Compare it with the IT Directors Task menu shown in Figure 127. You will see that there are many

tasks that are added in the upgrade. We will describe the different tasks and functions that have been added.

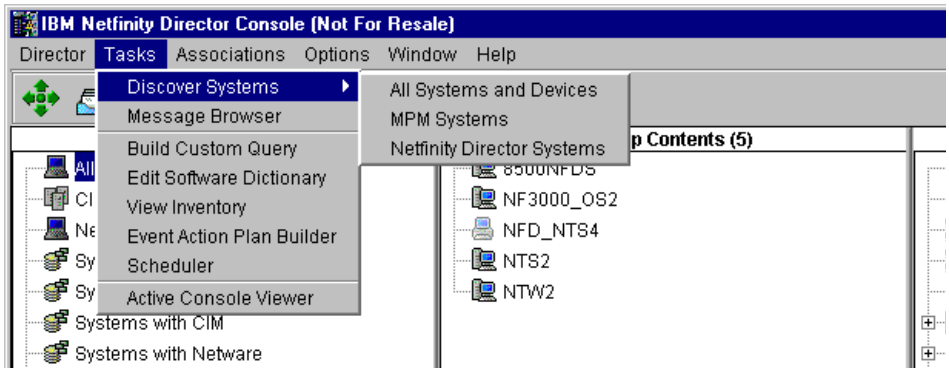


Figure 126. Netfinity Director Tasks Menu

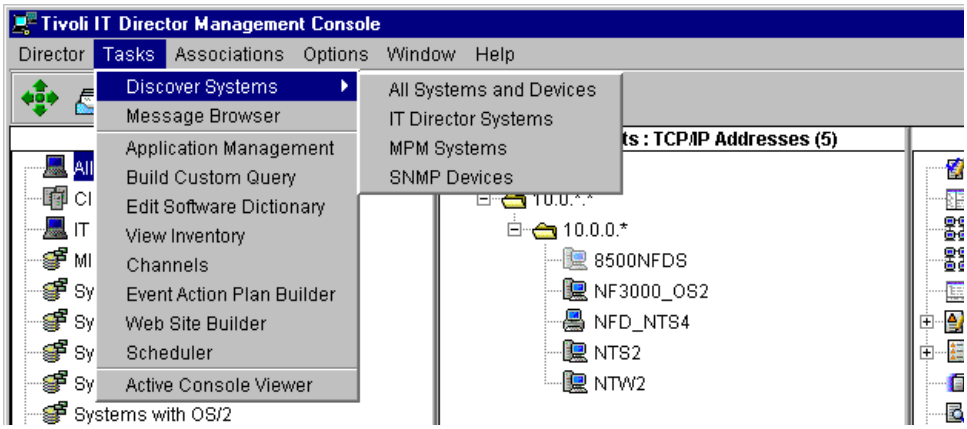


Figure 127. IT Director Tasks menu

This section introduces these extra features. For more information about these features, see the redbook *Integration Examples for Tivoli IT Director: A First Look*, SG24-5207 or visit Tivoli's home page:

`http://www.tivoli.com`

9.1.1 Software distribution

With Netfinity Director, you can distribute only predefined UMS and UM Server Extensions packages. As shown in Figure 128, you cannot build your own packages.

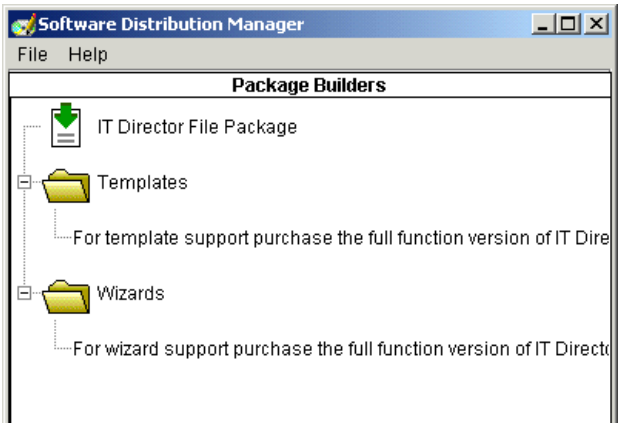


Figure 128. Software distribution in Netfinity Director

With IT Director, you can create your own software distribution packages, use pre-configured templates and directly import unattended installation files to IT Director as shown in Figure 129.

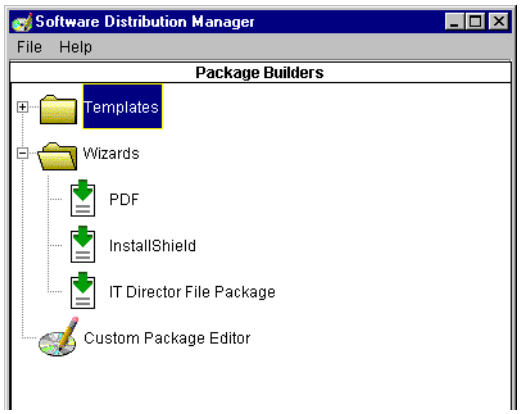


Figure 129. Software Distribution Manager in IT Director

You can also use distribution servers and specify a bandwidth limit for these software distributions.

A distribution server acts as a staging area on a remote site. If you have a WAN connection between two sites you can assign a system on the other site to act as a distribution server. With this function it will be necessary to send the file package only once over the WAN connection. When the file package has arrived at the distribution server, it will provide the assigned clients with the software.

9.1.2 SNMP functions

In Netfinity Director, the Configure SNMP Agent tool only is used to configure the SNMP agent on the clients. Netfinity Director listens for SNMP traps from specific products and translates them into Netfinity Director alerts. The following products are supported today in Netfinity Director:

- IBM tape drives using the following tape backup software:
  - CA ARCserveIT for NT and NetWare
  - Veritas (formerly Seagate) Backup Exec for NT and NetWare
- APC Uninterruptible Power Supplies via the APC PowerChute software
- IBM Fibre Channel RAID adapter
- Alert on LAN events forwarded from the Alert on LAN proxy

The SNMP browser in IT Director lets you view detailed information on any SNMP devices as shown in Figure 130.

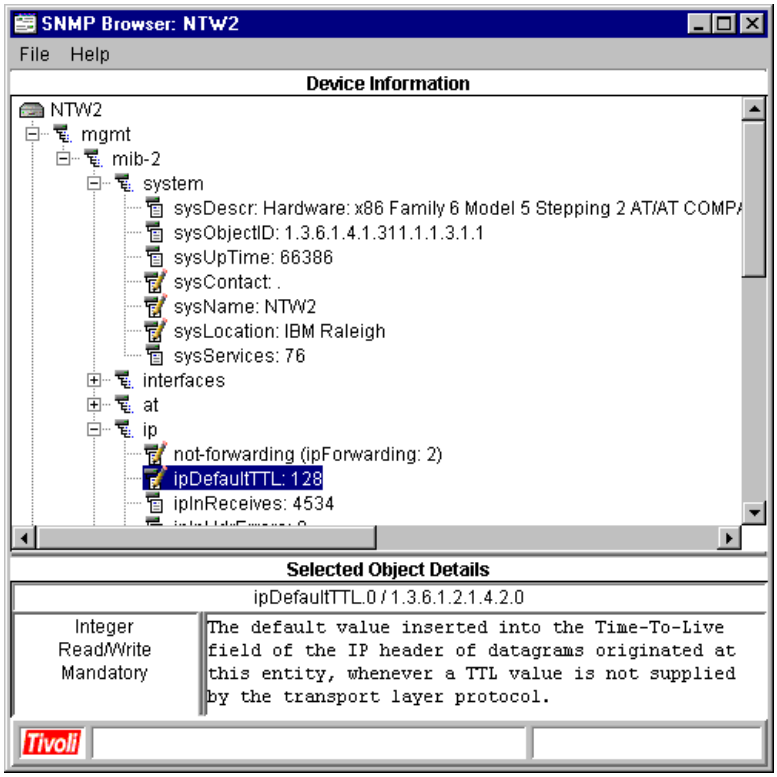


Figure 130. SNMP Browser in IT Director

With the SNMP browser you can manage network devices, printers, and PCs that have SNMP agents installed or embedded. Tasks that can be performed on SNMP devices include:

- Event action plans
- Inventory
- Resource monitors

With IT Director's SNMP browser, you can also compile MIB files from different vendors to gain improved manageability from their products.

9.1.3 Application management

In Netfinity Director there is no support for application management.

With IT Director, you can control and manage server applications directly from the IT Director console, rather than working at the server. The types of tasks that you can perform depend on the server application and the degree to which the server application interfaces with Tivoli's Application Management Specification (AMS).

AMS was developed in open collaboration with partners and customers and is an industry standard. A software package created using AMS is called an application management package (AMP) and is a single compressed file, formatted according to the AMS 2.0 specification.

The AMP file contains all of the information necessary to enable IT Director to manage an application. Generally there is a specific AMP for each software application. The value that an AMP brings to the IT Director environment is threefold:

- Software distribution
- Operational tasks
- Monitoring

There are two AMPs included in IT Director: one for Netscape SuiteSpot and one for Microsoft Internet Information Server (IIS) as shown in Figure 131.

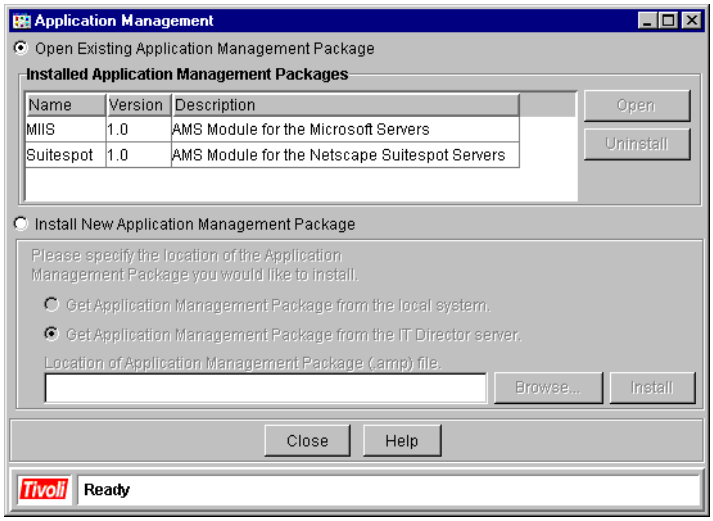


Figure 131. Application management in IT Director

The Netscape SuiteSpot AMP provides management functionality for the following Netscape Internet products:

- Netscape Enterprise 3.0
- Netscape Enterprise 3.5.1
- Netscape Proxy 2.5
- Netscape Proxy 3.5

The Microsoft IIS AMP provides management functionality for the following Microsoft Internet products:

- Microsoft IIS 3.0
- Microsoft IIS 4.0
- Microsoft Proxy Server 1.0
- Microsoft Proxy Server 2.0

Tivoli also has additional AMPs available, including:

- Tivoli Manager for Microsoft SQL Server—IT Director Edition
- Tivoli Manager for Domino—IT Director Edition
- Tivoli Manager for Microsoft Exchange—IT Director Edition

A lot of third-party companies develop AMPs for IT Director to allow integration of their products with IT Director. You can also create your own AMPs with the Tivoli Module Designer (TMD) for IT Director. This means that it is possible for you to manage applications that do not have a management interface, such as applications developed in-house. More information about

application management can be found in the redbook *Managing Applications with Tivoli IT Director*, SG24-5282.

9.1.4 Internet services

Netfinity Director lets you send alerts via the Internet by sending e-mail or by publishing to a news group. With IT Director, you can use the Internet to expand manageability. This lets you communicate information about the network to your end users. The Internet services offered in IT Director include:

- Managing Web servers, such as IIS or Netscape SuiteSpot
- Sending alerts via e-mail and publishing alerts to news groups
- Subscribe to information channels (for example, from resellers)
- Offering a Web page to users to perform management functions
  - Publishing systems monitors to the Web
  - Publishing events to the Web
  - Web page-requested software distribution

The Systems management channel provides a link for your IT Director reseller to provide you with support.

For example, resource monitoring, event management, and software distribution can use the Internet to notify users when specific events occur and to enable users to request software packages from the Web as shown in Figure 132.

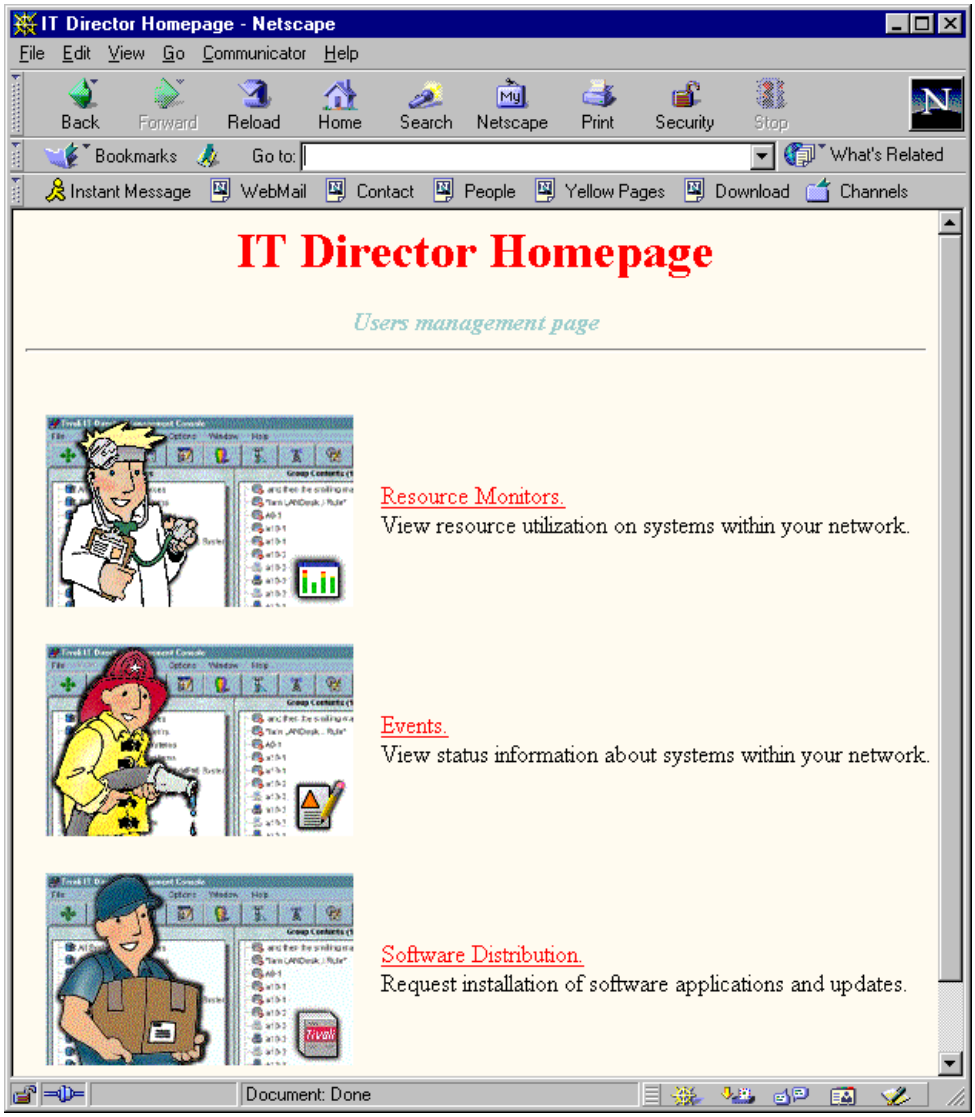


Figure 132. IT Director Homepage

9.1.5 Advanced group management

In Netfinity Director you cannot perform some tasks on groups of systems. For example, you can assign event action plans to individual systems but not to a group of systems.

As shown in Figure 133, the Groups contents is grayed out. If you want to assign an event action plan to a group of systems you have to assign them individually.

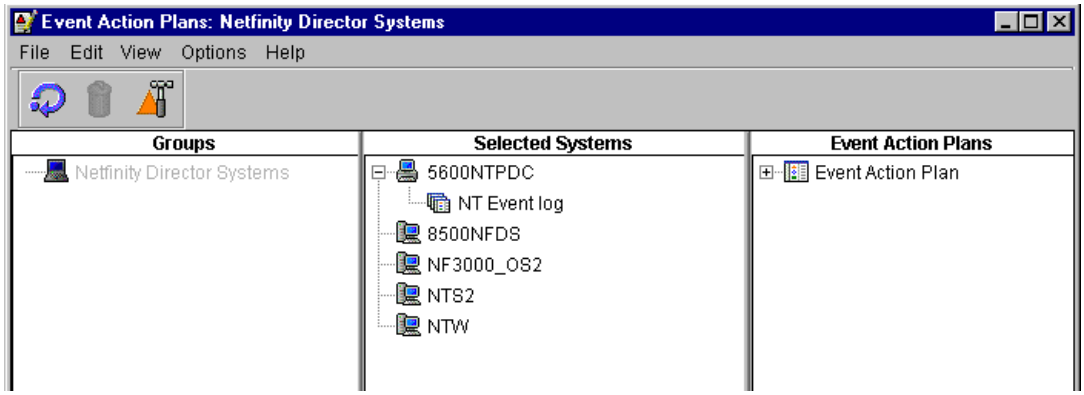


Figure 133. Event Action Plans view in Netfinity Director

In IT Director two group functions are added:

- You can assign event action plans to a group of systems. By default Log All Events is activated for the group All Systems and Devices as shown in Figure 134.
- You can create thresholds for a group of systems in IT Director. For example, if you create a threshold for the CPU, with IT Director you can assign it to a group of systems. In Netfinity Director, you have to assign it to every system that will use it.

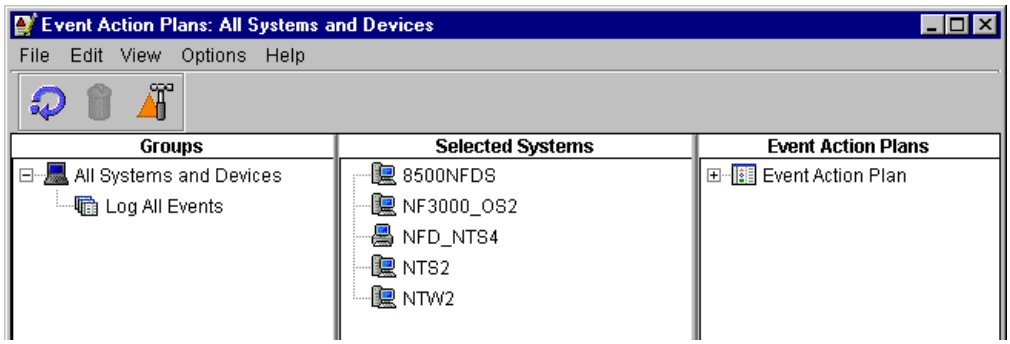


Figure 134. Event Action Plans by IT Director

9.1.6 Associations

With Netfinity Director, the group contents can only be shown alphabetically or sorted by system type. A number of view options (“associations”) are grayed out in Netfinity Director as shown in Figure 135.

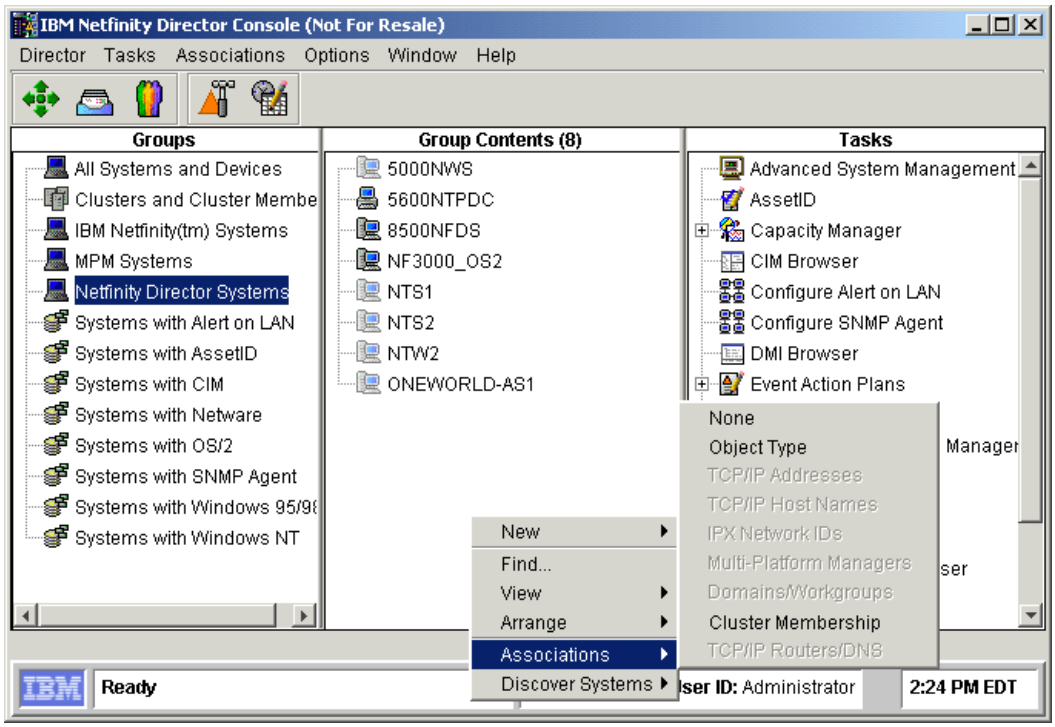


Figure 135. Association of systems

In IT Director these grayed-out options are now available. One useful association is to view the contents group by TCP/IP address. Do this by right-clicking in the Group Contents panel and clicking **Associations > TCP/IP Addresses**. The result in our lab is shown in Figure 136:

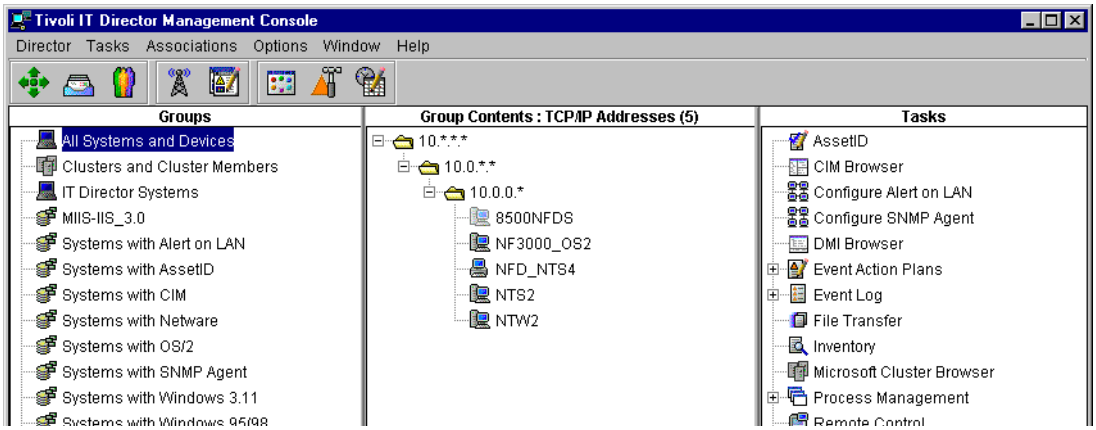


Figure 136. Showing the Group Contents panel by TCP/IP address

9.1.7 AS/400 Support

In Netfinity Director there is no support for AS/400. In IT Director, you can use an AS/400 as an IT Director server or as a client. For more information about AS/400, see the *Netfinity Director Installation and User's Guide* (which includes the complete *Tivoli IT Director User's Guide* as Chapter 4). The combined user's guide is available as NFDBOOK.PDF in the Documents directory on the Netfinity Director installation CD.

For more information, see `http://www.tivoli.com`.

9.2 How to upgrade Netfinity Director to IT Director

The upgrade installation process is very easy and you do not have to install new software or reinstall your management server. All the functions in IT Director are installed by the Netfinity Director installation program. To activate the full IT Director product you need to purchase a new license key.

Before you begin the upgrade process we recommend that you exit all Netfinity Director consoles except the one that you will perform the upgrade from. To start the license key upgrade click **Options > License Administration** as shown in Figure 137:

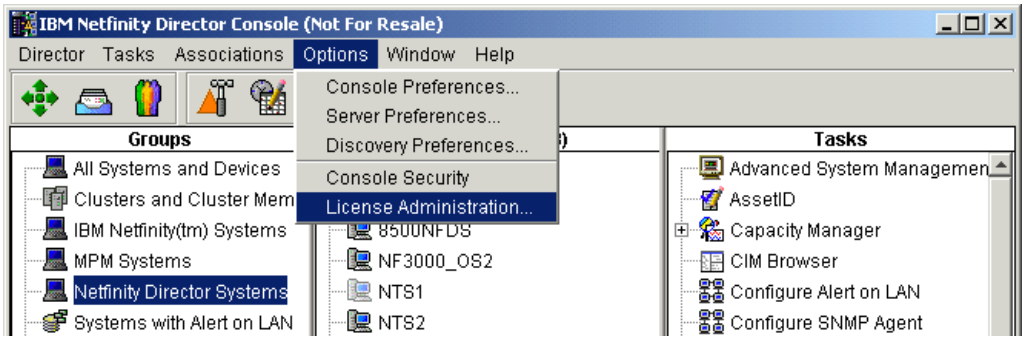


Figure 137. Option menu

Figure 138 shows all license keys installed.You can have many client license packages installed at the same time, but only one server license key can be active at one time.

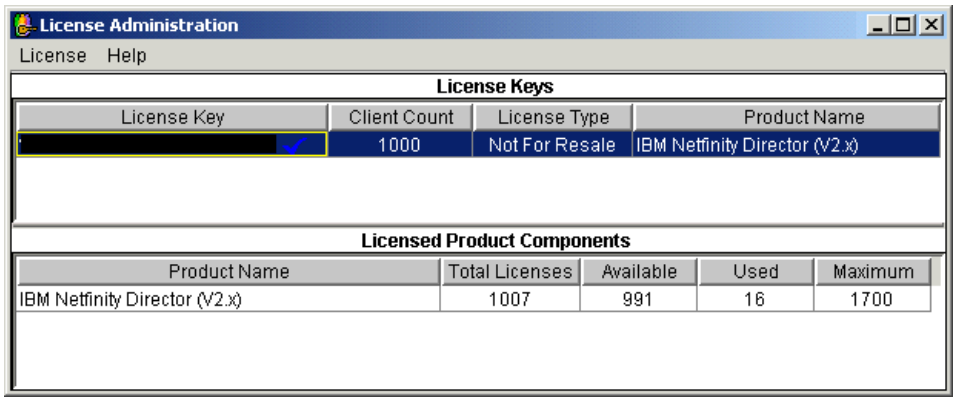


Figure 138. License Administration overview

Click **License > Add Licenses Key**. Figure 139 appears:

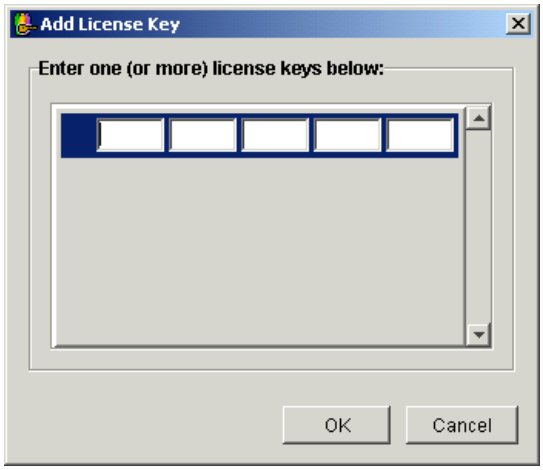


Figure 139. Add License Key

Type in the license key and the Message Browser will pop up as shown in Figure 140.

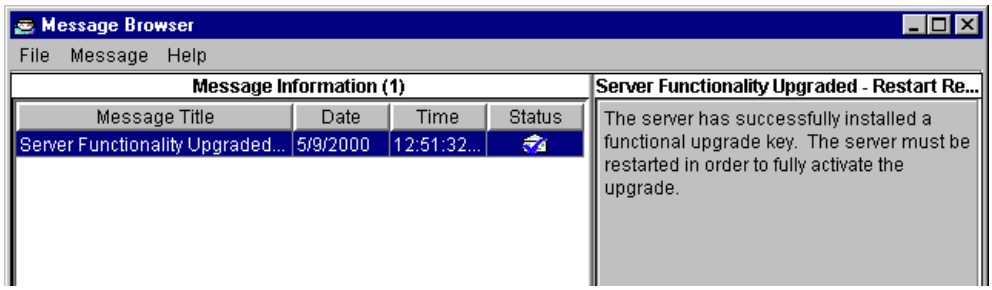


Figure 140. Server successfully upgraded to IT Director

Restart the Netfinity Director server by issuing the following two commands from a command prompt:

```
NET STOP TWGIPC
NET START TWGIPC
```

Now you should be able to access the complete IT Director product.

Appendix A. Worksheets

This appendix contains larger versions of the worksheets described in Chapter 7, “Recreating configuration data” on page 121.

A.1 Alert Manager

Table 16. Alert Manager worksheet

Action	Alert types	Severity	Source applications	Sender ID
Example: Notify user with pop-up	Any	0,1,2,3	Any	Any

A.2 Security Manager

Table 17. Security Manager worksheet

User ID	Services	Security Manager
Example: JOHAN	Alert, AOL, CFM, DCM, Scheduler, POED, Process, Remote Session, RWC, Inventory, SI, SysMon, Profile	No

A.3 System Monitor

Table 18. Threshold alert worksheet

Monitor	Name	Duration	Resend	Error above	Warning above	Warning below	Error below
CPU Utilization	CPU	5 mins	Never	100	80	None	None

A.4 Scheduler

Table 19. Scheduler worksheet

Name	Frequency	Date/time	Groups or systems	Retry for offline	New systems
Software inventory	Weekly	Wednesday 05:14pm	All	Yes	Yes

A.5 Process Manager

Table 20. Process Manager worksheet

Program Name	Alert when started	Alert when stopped	Not started within timeout
Example: Notepad	None	Severity 0	Severity 0, timeout=1 min

Appendix B. Special notices

This publication is intended to help customers, business partners and IBMers to migrate Netfinity Manager installations to Netfinity Director. The information in this publication is not intended as the specification of any programming interfaces that are provided by Netfinity Manager or Netfinity Director. See the PUBLICATIONS section of the IBM Programming Announcement for Netfinity Manager and Netfinity Director for more information about what publications are considered to be product documentation.

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Appendix C. Related publications

The publications listed in this section are considered particularly suitable for a more detailed discussion of the topics covered in this redbook.

C.1 IBM Redbooks

For information on ordering these publications see “How to get IBM Redbooks” on page 193.

- *Netfinity Director Integration and Tools*, SG24-5389
- *Tuning Netfinity Servers for Performance — Getting the most out of Windows 2000 and Windows NT 4.0*, SG24-5287
- *Integration Examples for Tivoli IT Director: A First Look*, SG24-5207
- *Managing Applications with Tivoli IT Director*, SG24-5282
- *Netfinity Server Management*, SG24-5208

C.2 IBM Redbooks collections

Redbooks are also available on the following CD-ROMs. Click the CD-ROMs button at **ibm.com**/redbooks for information about all the CD-ROMs offered, updates and formats.

CD-ROM Title	Collection Kit Number
IBM System/390 Redbooks Collection	SK2T-2177
IBM Networking Redbooks Collection	SK2T-6022
IBM Transaction Processing and Data Management Redbooks Collection	SK2T-8038
IBM Lotus Redbooks Collection	SK2T-8039
Tivoli Redbooks Collection	SK2T-8044
IBM AS/400 Redbooks Collection	SK2T-2849
IBM Netfinity Hardware and Software Redbooks Collection	SK2T-8046
IBM RS/6000 Redbooks Collection	SK2T-8043
IBM Application Development Redbooks Collection	SK2T-8037
IBM Enterprise Storage and Systems Management Solutions	SK3T-3694

C.3 Other resources

These publications are also relevant as further information sources:

- *Netfinity Director Installation and User's Guide*, available on the product CD-ROM
- *UM Server Extensions User's Guide*, available from ftp://ftp.pc.ibm.com/pub/special/sysmgmt/UMSRVEXT.pdf
- *Netfinity Manager to Netfinity Director...A Smooth Transition*, shipped on the Netfinity Director product CD

C.4 Referenced Web sites

These Web sites are also relevant as further information sources:

- **Netfinity Systems Management** Home Page, covering Netfinity Director and Netfinity Manager. Includes product information, downloads and user guides: http://www.pc.ibm.com/ww/netfinity/systems_management/
- For customers with Netfinity Manager, you can get Netfinity Director for a small fee from: http://www.pc.ibm.com/ww/netfinity/systems_management/nfdirfulfill.html
- **UM Services** Home Page, including downloads of UMS: http://www.pc.ibm.com/ww/software/applications/ums/
- **UM Server Extensions**, including downloads and the user guide: http://www.pc.ibm.com/ww/netfinity/systems_management/nfdir/serverext.html
- Universal Manageability: http://www.pc.ibm.com/ww/solutions/enterprise/sysmgmt/
- IBM Announcement Letters (US): http://www.ibmlink.ibm.com/usalets
- Netfinity Director 2.12 product announcement: http://www.ibmlink.ibm.com/usalets&parms=H_200-084
- SMBIOS information, including a DOS utility to determine the SMBIOS revision level of your system: http://www.ibm.com/products/surepath/other/smbios.html
- Asset ID: http://www.pc.ibm.com/ww/assetid/index.html
- Desktop Management Task Force: http://www.dmtf.org
- Alert on LAN: http://www.pc.ibm.com/us/desktop/alertonlan/index.html

- ServerProven compatibility matrix:
  http://www.pc.ibm.com/us/compat/applications/matrix.shtml
- IBM PC Institute for Netfinity Director training:
  http://www.ibm.com/pc/training/
- IBM TechConnect (certification and technical information):
  http://www.pc.ibm.com/techconnect/
- Online support, both forum-based and e-mail-based:
  http://www.ibm.com/pc/ww/solutions/enterprise/support

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Abbreviations and acronyms

AMP	application management package
AMS	application management specification
AOL	alert on LAN
APC	American Power Conversion, Inc.
API	application programming interface
ASCII	American National Standard Code for Information Interchange
ASM	Advanced System Management
BIOS	basic input/output system
CA	Computer Associates
CD-ROM	compact disk-read only memory
CFM	critical file monitor
CIM	common information model
CPU	central processing unit
DBMS	database management system
DCM	dynamic configuration manager
DMI	desktop management interface
EAP	event action plan
EEPROM	electrically erasable programmable read only memory
EMEA	Europe/Middle East/Africa
GUI	graphical user interface
HTML	hypertext markup language
HTTP	Hypertext Transfer Protocol
IBM	International Business Machines Corporation
ID	identification
IIS	Internet Information Server
IP	Internet Protocol
IT	information technology
LAN	local area network
MB	megabyte
MIB	management information base
MIF	managed information format
MOF	managed object format
MPM	Multi-Platform Manager
MSCS	Microsoft Cluster Server
NLS	National Language Support
ODBC	open database connectivity
OEM	other equipment manufacturer
POED	power-on error detect
POST	power-on self test
RAID	redundant array of independent disks
RAM	random access memory
REXX	restructured extended executor language
RF	radio frequency
RSP	response
RWC	remote workstation control
SAM	Security Account Manager
SCO	Santa Cruz Operation, Inc.
SDK	software developers kit
SFT	System Fault Tolerant
SI	systems information
SMBIOS	systems management BIOS
SMS	System Management Server
SNMP	Simple Network Management Protocol
SP	Scalable POWERparallel
SQL	structured query language
TCP/IP	Transmission Control Protocol/Internet Protocol
TMD	Tivoli Module Designer
TMR	Tivoli Management Region

UM	universal manageability
UMA	universal manageability agent
UMS	universal manageability services
URL	universal resource locator
WAN	wide area network
WFM	wired for management
WMI	Windows management interface
WOL	Wake on LAN

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IBM Redbooks

Migrating from Netfinity Manager to Netfinity Director

(0.2”spine)
0.17”<->0.473”
90<->249 pages

Migrating from Netfinity Manager to Netfinity Director

Helps you plan for and implement a conversion

Explains how the two products can coexist

Shows what data can be transferred

This redbook describes the migration process that will help customers transition from Netfinity Manager to Netfinity Director Version 2.12.

We explain the differences between the products and what you need to consider before you begin. The book explains how to configure your management environment so that Netfinity Manager and Netfinity Director can coexist, and what options you have to roll out UM Services, the Netfinity Director agent, to all of your client workstations and servers. Finally we help you retrieve your data from your Netfinity Manager configurations and input that into Netfinity Director. We also discuss the Tivoli IT Director product and how it compares to Netfinity Director.

This book is aimed at customers, business partners and IBMers who will be involved in migrating existing Netfinity Manager installations to Netfinity Director. A partner redbook to this publication is *Netfinity Director Integration and Tools*, SG24-5389.

The combination of these two redbooks will help you understand what Netfinity Director is compared to Netfinity Manager, how to use Netfinity Director, and how to migrate from one to the other.

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