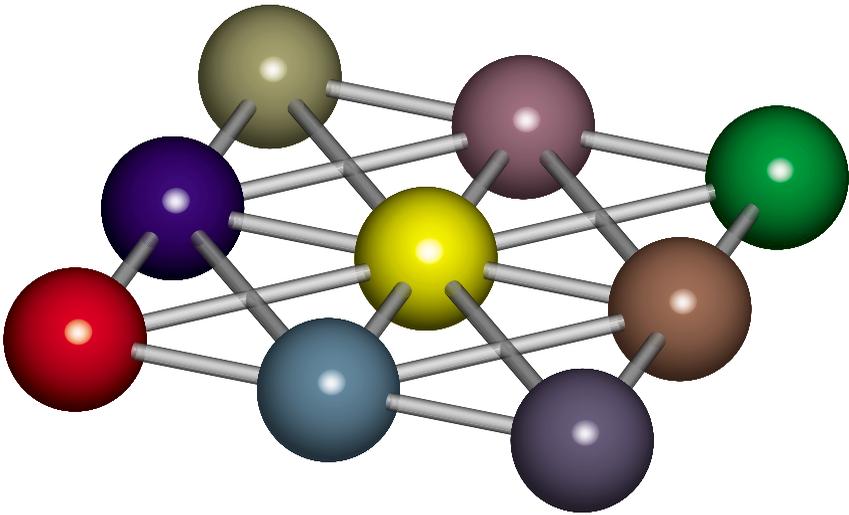


H+H NetMan 1.5 Workgroup Edition



Manual

H + H Zentrum für Rechnerkommunikation GmbH



Trademarks

Apple Computer Inc.

Power Macintosh and MacOS are registered trademarks of Apple Computer Inc.

Citrix Inc.

Citrix, ICA and WinFrame are registered trademarks, and MetaFrame a trademark, of Citrix Systems Inc.

H+H-GmbH, Goettingen, Germany

CD-Manager and NetMan are registered trademarks of H+H-GmbH, Goettingen, Germany.

IBM Inc.

OS/2 is a registered trademark of IBM Inc.

iXOS Software AG

iXOS is a registered trademark of iXOS Software AG.

Microsoft Inc.

Microsoft, Windows and NT are trademarks or registered trademarks of Microsoft Inc.

Microtest Inc.

DiscPort is a registered trademark and WebZerver and DiscZerver trademarks of Microtest Inc.

Novell Inc.

NetWare is a registered trademark and IntranetWare and NDS trademarks of Novell Inc.

SAP Software AG

SAP and R/3 are registered trademarks of SAP AG.

Unix System Laboratories

Unix is a registered trademark of Unix System Laboratories.

Translated by Elisabeth Crawford

All rights reserved. Reproduction of all or part of this manual by written permission only. The company names, brand names and product names mentioned in this manual in addition to those listed above are in most cases protected by copyright, patent or trademark laws.

Foreword	i
Prerequisites for working with this manual	i
Support	i
Before you ask your questions...	ii
Ideas and suggestions	ii
Just ask Bob!	iii
<i>The many faces of Bob</i>	iv
Introduction	1-1
Contents of This Manual	1-1
What is NetMan?	1-2
Requirements	1-6
<i>Network Server</i>	1-6
<i>Client PCs</i>	1-6
NetMan Registration	1-6
Installing NetMan	2-1
Installing NetMan on a File Server	2-1
<i>Destination Drive and Path for NetMan Installation; The NetMan Root Directory</i>	2-2
<i>Setup Type</i>	2-3
<i>NetMan Registration Data</i>	2-4
<i>Program Group; Summary</i>	2-4
Starting NetMan	2-4
Registering NetMan to License the Full Version	2-5
Updating from NetMan Version 1.0 to 1.5	2-6
Configuring NetMan Clients	3-1
Client Installation	3-1
Starting the NetMan Desktop	3-2

Global NetMan Configurations4-1

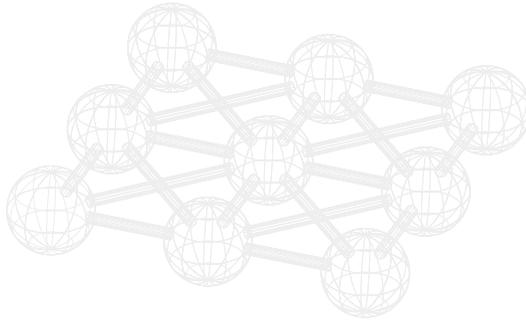
The NetMan Client	4-1
NetMan Components	4-6
NetMan Directories and Network Rights	4-7
Defining NetMan Administrators	4-8
Configuring Drives and Shares	4-9
<i>Application Drive</i>	4-10
<i>Commonly Used Network Resources</i>	4-12
NetMan Settings	4-14
<i>Global Settings Dialog Page</i>	4-14
<i>Network Resources and Dynamic Connection Dialog Pages</i>	4-15
<i>Information View Dialog Page</i>	4-16
<i>User ID/Station ID Dialog Page</i>	4-16
<i>Runtime Recording Dialog Page</i>	4-17
<i>Advanced Dialog Page</i>	4-18

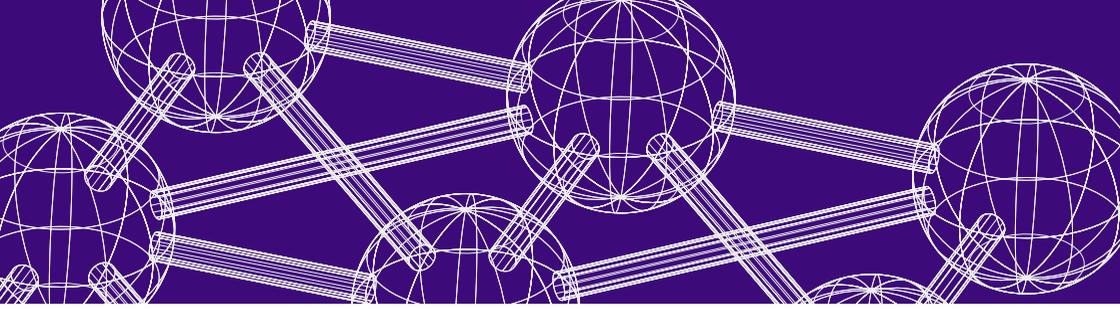
Integrating Applications in NetMan5-1

Integrating Applications in NetMan Configurations.....	5-1
Integrating NetMan Configurations in the Public Desktop	5-5
The First Steps	5-6
<i>The Management Console</i>	5-6
<i>The Public Desktop</i>	5-7
<i>Program Actions</i>	5-12
<i>Additional Program Properties</i>	5-15
<i>Creating and Deleting Desktop Entries</i>	5-19
<i>Your First Application</i>	5-22
<i>Examples of Actions</i>	5-27
<i>Access Rights to Configurations</i>	5-34
<i>Your Second Application: Microsoft Bookshelf</i>	5-39

Users and Stations6-1
 NetMan Users 6-1
 NetMan Stations 6-4

Statistical Analysis of Application Usage7-1





Foreword

Foreword

The NetMan Workgroup Edition is designed for use in small networks and is limited to 30 workstations. This can be expanded in increments of 20 up to 250 workstations. The Workgroup Edition cannot be expanded by the addition of NetMan software modules.

Prerequisites for working with this manual

Before you can make the best use of this manual, you need to know:

- How to install a PC and connect it to your network
- How to manage your PC's operating system
- How the network operating system is administered
- How to install and operate the applications you want to use with the NetMan system

The NetMan manual does not include instructions regarding any of these operations.

Support

You can use the NetMan Download Wizard at any time to obtain information about patches and, if desired, to download these from the H+H Download Server.

If you have questions regarding support, contact your software dealer.

You can send questions about NetMan software to the following e-mail address:

supportnm@hh-zfrk.com

These questions will be answered within the scope of the Frequently Asked Questions list on our Web server.

Before you ask your questions...

Before you contact your software dealer, please read the relevant sections of the manual and refer to the on-line Help in the NetMan program; if you are not sure where to look, check the indexes.

If you still have not found the answer, please provide the following information when you place your question:

- NetMan version number
- NetMan serial number
- Network operating system and version number
- Text of any error messages and any relevant NetMan event log entries
- The steps required to reproduce the problem

Ideas and suggestions

We appreciate hearing from you. Please send any ideas, comments or suggestions for improvement to:

H+H Zentrum für Rechnerkommunikation GmbH
Attn: „NetMan“ Product Manager
Maschmühlenweg 8-10
37073 Goettingen
Germany

Telephone +49 (0)551 / 5 22 08-0
Fax: +49 (0)551 / 5 22 08-25

Or e-mail them to:

supportnm@hh-zfrk.com
(please indicate "NetMan" in the "Subject" line)

Just ask Bob!

Bob is a Wizard, here to assist you in completing standard NetMan tasks.

He also pops up now and again in this manual and in the on-line Help, to offer handy hints and tips and answer those “frequently asked questions” you are bound to have.

You should make the acquaintance of this friendly little guy right at the outset:



We would also like to introduce the various manifestations that Bob takes on in this manual:

The many faces of Bob

The Note



Notes tell you things you should know about NetMan, or about using the manual.

The Tip

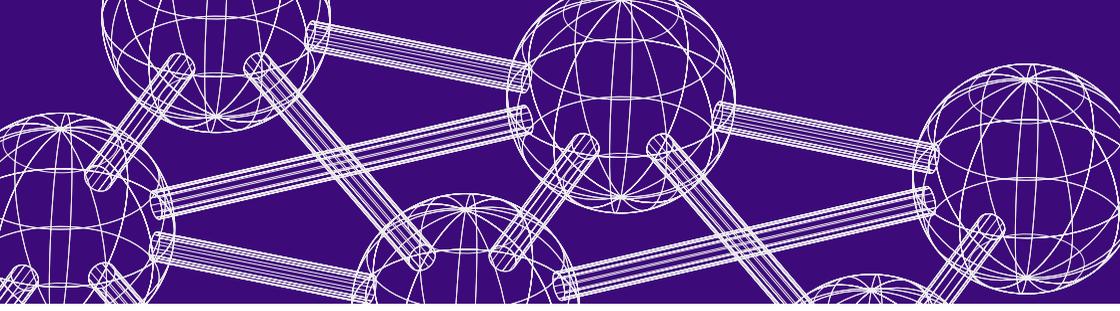


Tips show you how to simplify tasks or how to avoid problems before they occur.

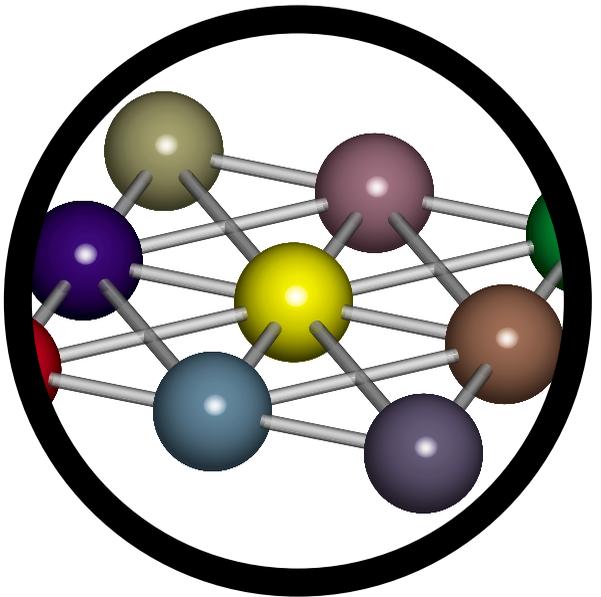
The Discussion



Discussions go into details about a general topic or a specific problem.



NetMan Workgroup Edition



Introduction

Contents of This Manual

- Chapter 1, "Introduction", provides an overview of the NetMan software, including performance features, system requirements and basic components
- Chapter 2, "Installing NetMan", describes the steps required to install NetMan on a network server
- Chapter 3, "Configuring NetMan Clients", shows you how to call the "NetMan Client" interface from a workstation. This chapter concludes the installation instructions; after this, you can start NetMan.
- Chapter 4, "Global NetMan Configurations", introduces the NetMan Client and NetMan's system programs and describes how to adjust the settings for your network configuration. The basic configuration options are explained to help you find the optimum NetMan setup for your network requirements and personal preferences.
- Chapter 5, "Integrating Applications in NetMan", tells you how you can use NetMan to make applications available to your network clients and describes the properties you can assign using NetMan, including licensing, event logging, access rights, and much more. The second part of this chapter covers the expanded functions available in the Enterprise Edition.
- Chapter 6, "Users and Stations", explains NetMan's internal definitions of users and profiles and describes how you can use these concepts to configure user-specific and station-specific presentations of centrally defined applications.

- Chapter 7, “Statistical Analysis of Application Usage”, acquaints you with NetMan’s basic statistical evaluation functions.

Our Web server (<http://www.hh-netman.com/>) has the answers to a list of “**Frequently Asked Questions**” (FAQs) as well as a knowledge base all about NetMan and any problems that users have encountered while working with it.

What is NetMan?

NetMan is a software suite for application management. NetMan enables you to manage applications in your LAN efficiently and present them attractively to users.

NetMan offers you high-powered performance features such as:

- Central definition of program properties in the NetMan database
- Central assignment of application use rights to NetMan users
- Intuitive user interfaces that allow you to group your applications logically
- Automatic documentation when users and stations access the system
- “Help” programs for analyzing runtime problems in your applications

NetMan is thoroughly up-to-date Windows software, with 32-bit architecture throughout and the kind of easy-to-use operating elements and context-sensitive Help that you are already familiar with in your operating system.

NetMan is easy to install. At the client end, in fact, there is no installation required; all you have to do is create a shortcut on each client PC to the NetMan “Public Desktop”. NetMan provides a built-in interface to the H+H Support Server, where you can find and download updated versions as they become available.

**Note**

Think about how much time you spend creating application links in desktops or start menus for each of your end users, not to mention keeping these links up to date. Or, if these tasks are left up to your users, just think how much time you or other network maintenance personnel spend providing technical support to users; for instance, in adapting applications or solving problems.

In many cases, the time-saving aspect alone is enough to make the NetMan package worth your while – but NetMan offers much more:

NetMan expands your programs by adding new properties

What do we mean by this?

The program properties that your operating system offers for a Windows link are:

- Program call (command line)
- Working directory
- Icon
- Program window property (maximized, minimized, normal)

With NetMan, not only can you define these properties *centrally*; you can also define *additional properties* that greatly expand your range of possibilities:

- Define a maximum number of parallel users (licenses) per application
- Create a detailed record of application use, sorted by user and station; this can also be used as a basis for creating easy-to-read tables and graphs with NetMan's powerful statistical evaluation tools
- Assign "execute" rights for NetMan users (independent of the elaborate file and directory rights defined at the network level)
- Assign "execute" rights for NetWare NDS groups as well as local and global Windows NT groups.
- Configure licensed applications to close automatically—and release the license—if they are left unused for a certain period of time
- Provide information in HTML format about individual applications
- Define whether multiple simultaneous instances of an application are allowed on a client PC
- Define mutually blocked applications (for example, define application "A" as one that cannot be started on a given client PC while application "B" is running on that PC)
- Activate or deactivate application or groups of applications, with a special message to the user (for example, "This application is currently being re-installed. Please try again later.")

These functions are made possible by additional *program* properties that you can assign. Beyond all of these features, NetMan provides you, as administrator, with a more complex perspective on each application; one that involves far more than just the program call parameters:

NetMan shifts the focus from the *program call* to *application management*, which significantly increases your control in the network.

NetMan sees each program call as an *action* within the framework of a complex application definition. In the "Bookshelf" application, for example, you can control far more than the program call ("bshelfk2.exe"); the application is administered internally as a *configuration* made up of almost any number of actions. In the "Bookshelf" *configuration*, you can include components for such operations as:

- Making the application available by mapping network paths
- Making required resources available (for example, by mapping to the Bookshelf CD)
- Calling the program
- Undoing the network path mapping when the user quits the application
- Linking the application call to a variety of other NetMan actions, such as password prompts, or having a specified program or programs called before and/or after Bookshelf is started

Requirements

Network Server

You can run NetMan on a Microsoft NT server (version 3.51 or later), a Novell server (version 3.12 or later) or other PC-compatible server.

Client PCs

A NetMan client requires 32-bit Windows; in other words, Windows 95 or later or Windows NT 4.0 (Service Pack 3 or later). For administrative stations we recommend generous proportions for both storage capacity (128 MB) and monitor (17 inches).

NetMan Registration

If the program serial number is valid, the Workgroup Edition is registered automatically by the setup program.

Installing NetMan

This chapter describes how to install your NetMan software.

Installing NetMan on a File Server

NetMan requires about 20 MB capacity on the hard disk. Keep in mind that the NetMan databases will be filling with data as you work with the NetMan system; make sure you reserve enough capacity on the hard disk for this as well.

You can install NetMan from any 32-bit workstation. The installation program will copy files only into the directory entered as the destination, and will create a link to the NetMan Client.

NetMan is usually installed on a file server.



Tip

If you want to use NetMan in a “pure” application server environment, we recommend installing NetMan on the application server. A “pure” application server environment in this case means that NetMan application calls will be accessed only from application server sessions and not directly from the LAN. If you have several application servers (a “server farm”), you should choose a fast file server for your NetMan installation.

Call **setup.exe** from the H+H NetMan CD-ROM and enter the data requested.

Destination Drive and Path for NetMan Installation: The NetMan Root Directory

A “Welcome” window is opened first, followed by the licensing contract. Then you are prompted to enter the target directory for installation.



The destination is usually a path on a file server in your network. You can enter either the drive letter and pathname of the desired directory or use the UNC (“Universal Naming Convention”) format (\\<server>\<share>\).

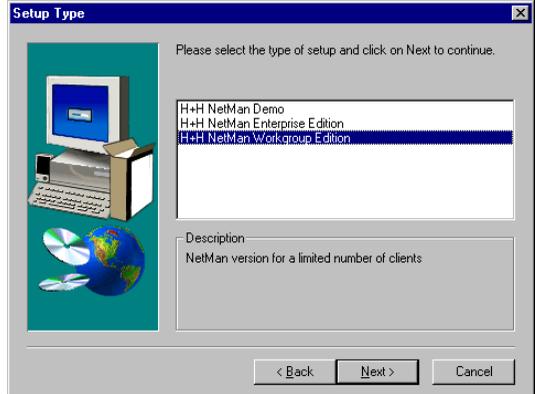


Note

The installation path is also referred to here as the NetMan root directory.

Setup Type

In the next dialog box, you are prompted to select the type of setup. Your selection depends on which NetMan Edition and which modules you have.

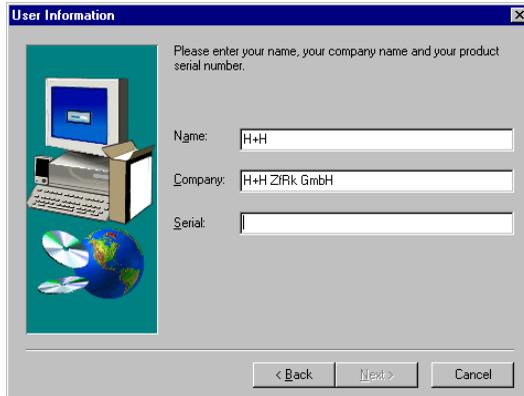


The following choices are offered:

- **H+H NetMan Demo:** This is a demo version of the NetMan Workgroup Edition, useable only for demonstration purposes.
- **H+H NetMan Workgroup Edition:** This version is designed for use in smaller networks with a limited number of clients. No additional modules can be installed with this version. The 30-user license can be extended, in increments of 20, to cover up to 250 stations.
- **H+H NetMan Enterprise Edition:** This expandable version is designed for use in large networks, including intranets and the Internet. If you select this type of setup, the next window presents a list of modules you can choose from.

NetMan Registration Data

In the next dialog, you are prompted to enter the registration information. Your serial number is enclosed with your NetMan program, on adhesive labels.



Program Group; Summary

In the last dialog box you can define which program group the NetMan startup link will be located in.

Then a summary is displayed of the information you have entered. Click on BACK if you need to change any of the input data. When you are ready, click on NEXT to install the software. Check the "readme" file for any new information that may have been added after this manual was printed.

Starting NetMan

You can now start NetMan using the link in the program group that you defined in the setup program. You can also start NetMan from the **NetMan root directory** in the Windows Explorer (call **bin\nm32.exe**).

Registering NetMan to License the Full Version

If the program serial number is valid, the Workgroup Edition is registered automatically by the setup program.



Note

The NetMan Edition, modules, licensing version and number of licenses are all defined when you order the software and have to be registered once the software is installed.

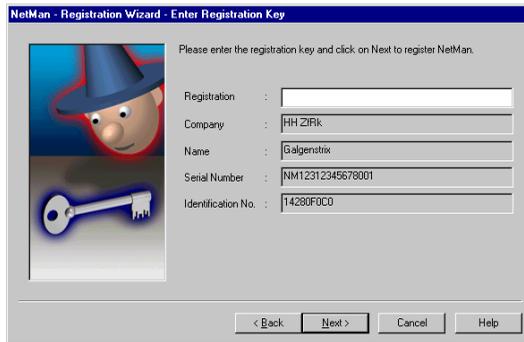
NetMan comes with a program for software registration; this program is in the SYSTEM ADMINISTRATION/ CONFIGURATION / UTILITIES/ REGISTRATION directory.

Call your software dealer to obtain the registration code.

The following information is required for registration:

- Your registration data (name and company)
- NetMan serial number (see the enclosed adhesive labels)
- Identification number

This is the data you entered in the setup program. It is displayed in the registration dialog:



Enter the registration code. The next window shows the version, modules and number of NetMan client licenses purchased. The next time you start the NetMan Client, the full NetMan version will run.

Updating from NetMan Version 1.0 to 1.5

The NetMan Workgroup Edition Version 1.5 setup updates the program without overwriting user data.

Configuring NetMan Clients

This chapter describes how to make NetMan available on your client PCs. This is the shortest chapter in the entire “Base Module” manual, because the procedure is so simple.

Client Installation

You do not need to install anything on the client PC. NetMan does not require any resources from the client. The only point that must be mentioned here is that NetMan records current information regarding its own dialog window (coordinates and position) in the client’s Registry. You can delete this data at any time.

The NetMan Client does not require any mapped server drive or connection to a shared drive. It can be started directly in the network environment (UNC: \\servername\sharename).

Users and stations are automatically detected by NetMan—you do not have to set these up, either. For more information you might want to refer to Chapter 6, “Users, Stations, Groups and Profiles” and perhaps, for details on the mode of station detection, Chapter 4 as well, under the section entitled “NetMan Settings: ‘User ID/Station ID’ Dialog Page”. For details about system security, see the sections entitled “NetMan Directories and Network Rights” and “Defining NetMan Administrators” in Chapter 4.

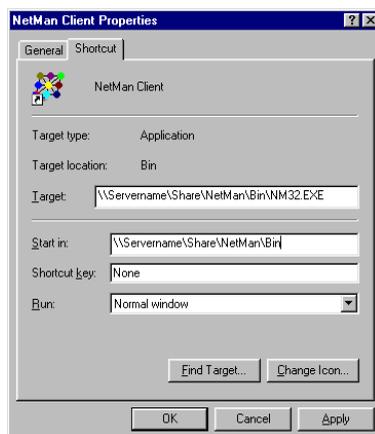
There are two different ways to start NetMan and access NetMan applications calls:

- Start the NetMan Client from the *NetMan desktop*

Starting the NetMan Desktop

To start the NetMan desktop, you need to set up a link from your workstation to the NetMan Client program, *NM32.exe*:

\\<server>\<share>\<installation directory>\bin\NM32.exe



Note

*Make sure the NetMan working directory **\\<server>\<share>\<installation directory>\bin** is entered correctly. If you use "drag & drop" in the Explorer to create the link, the path is automatically entered correctly; if you use the Windows desktop context menu, it is not entered.*

You can also enter drive letter rather than the UNC path to start NetMan.

New users automatically inherit the **Public Desktop**.



Note

*You can change the name of the **Public Desktop** if desired*

To force a NetMan login dialog, enter the command

\\<server>\<share>\<installation directory>\bin\NM32.exe /logon



Note

The NetMan login dialog box can be a practical alternative if the network login names which would otherwise be used for working with the NetMan system are not relevant or meaningful in the NetMan environment. This may be the case if, for example, you have grouped together several users who work in one department by giving them a single user name under NetMan, or if you create a user name for anonymous users, for purposes of statistical evaluation.

The user name entered in the NetMan login dialog box is not authenticated by the network. This is why the login dialog box only works for users that already exist in the NetMan user database; otherwise, any typing mistake made when entering a user name would result in the creation of a new user account in the NetMan database.

Global NetMan Configurations

This chapter introduces the NetMan Client and describes how you can configure the settings to best suit your working environment and to ensure the system security you require.

The NetMan Client

When you start the NetMan Client, the **Public Desktop** is loaded. You can browse through the applications you see here in the same manner as in the Windows Explorer. The view, status and program information, Help and exit functions are the same as those under Windows.

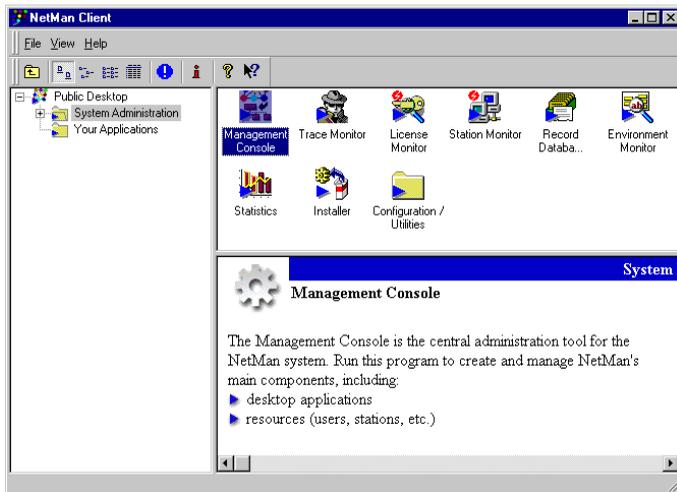
The left-hand pane of the NetMan Client window shows the elements that are linked to NetMan; this is the **structure display**. The initial NetMan installation includes 2 folders under PUBLIC DESKTOP: SYSTEM ADMINISTRATION, which contains NetMan system programs and components, and YOUR APPLICATIONS, for your programs. The upper right-hand pane of the NetMan Client window, the **folder display**, shows the contents of the folder opened in the structure display. Double-click on a folder entry to activate it. If the entry is a NetMan **configuration**, it is launched when you activate it; if it is another folder, it becomes your current directory.



Note

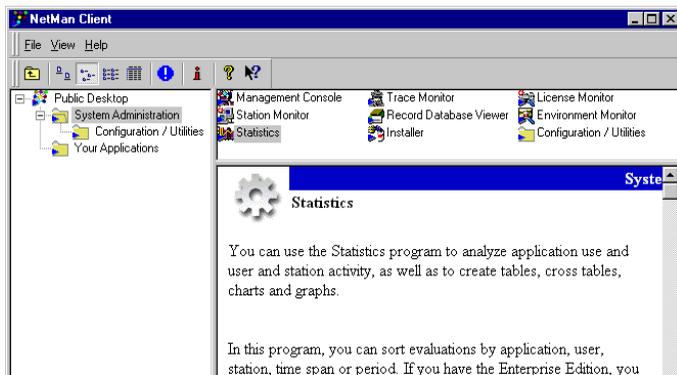
For a detailed explanation of the terms **application, folder, configuration, program, etc.**, as they are used in this manual, see Chapter 5.

You can have the elements in the folder display shown with large symbols:

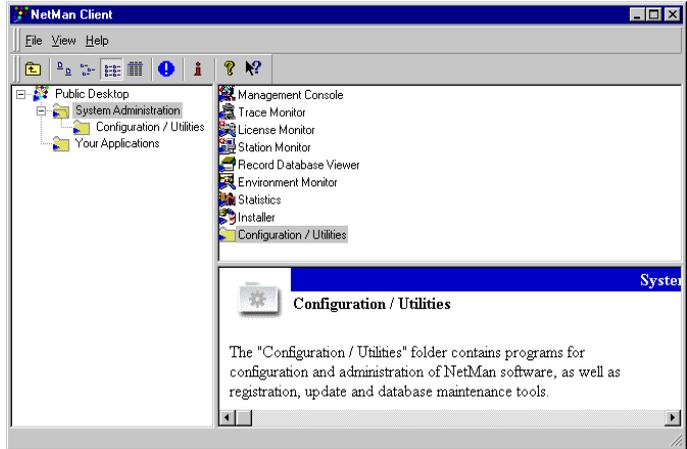


Use the buttons in the toolbar or the commands in the VIEW menu to change the display; for instance, to show

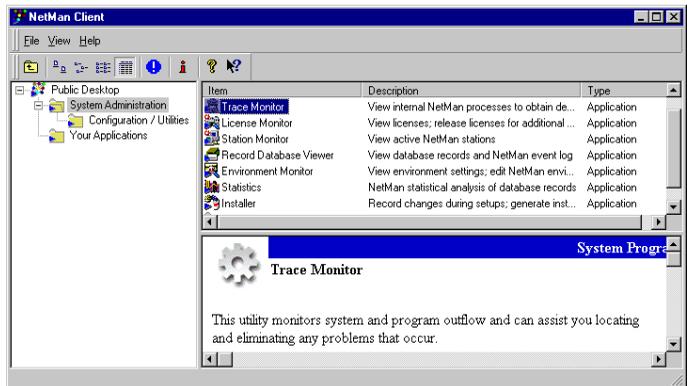
- small symbols:



- a list:

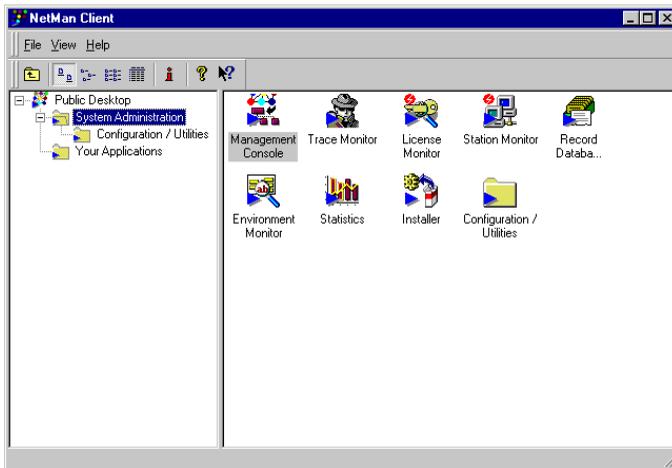


- or details:

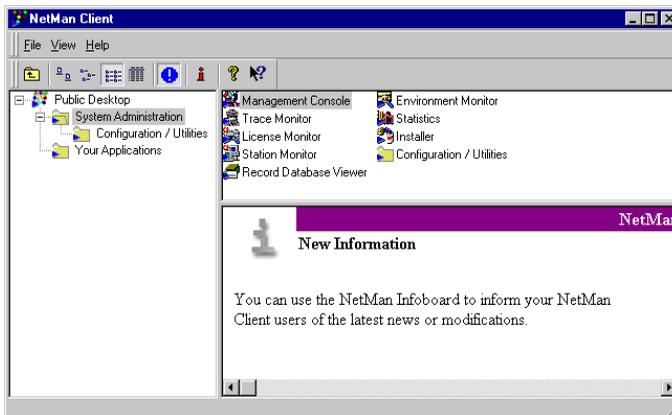


The **information display** in the lower right-hand pane shows information about the element selected in the folder display; this text is written in HTML.

You can switch the information display off entirely, if desired, in which case the Client appears as shown here:

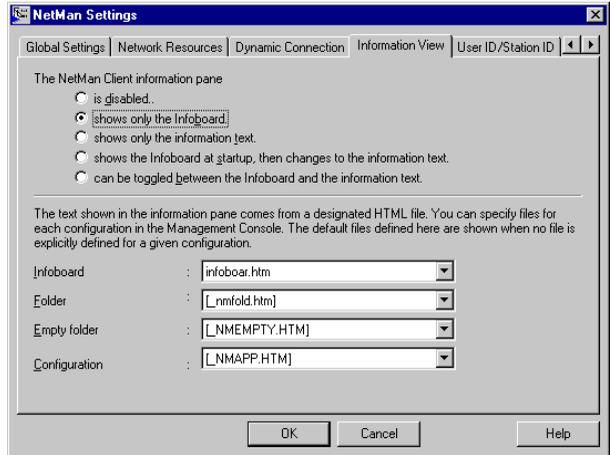


Alternatively, you can define an "Infoboard" for the information display, which is a global information page, not specific to any entry in the folder or structure displays:



You can define the contents of the information display on the INFORMATION VIEW dialog page in the NetMan Settings program,

which is located under PUBLIC DESKTOP/ SYSTEM ADMINISTRATION/ CONFIGURATION/ UTILITIES/ NETMAN SETTINGS (see also “NetMan Settings” at the end of this chapter):



Note

Your NetMan installation comes with an HTML file that is defined as an Infoboard. If you want to present an Infoboard in your system, we recommend creating your own file that contains the information you want to provide for your NetMan users. To do this, create an .HTM file and assign it on the Information View page of the NetMan Settings, under “Infoboard”. If the information display is configured to show both the Infoboard and information files on individual elements, you can activate or deactivate the Infoboard display by clicking on the “exclamation point” button in the toolbar, as shown here:



NetMan Components

The following describes the main NetMan programs, which are linked to the NetMan Client in the `SYSTEM ADMINISTRATION` folder in the initial NetMan installation:

- ***Management Console***
This is the central NetMan administration program. The Management Console is used to administer NetMan desktops and all NetMan configurations (NetMan application calls), as well as resources (users, stations, etc.).
- ***License Monitor***
This program keeps track of licensed applications and shows the number of application licenses available, whether anyone is waiting in the queue for a license, which users and stations are currently using licenses, and who is waiting in the queue. You can also use this program to release individual licenses.
- ***Station Monitor***
This monitor shows you which workstations are currently using NetMan. If stations are monitored by the NetMan Service, you can also call up a view of the programs currently running on a given station.
- ***Record Database Viewer***
This display shows the event log and the sequential log file as well as the cumulative log file, in which a record of application use is updated monthly.
- ***Statistics***
The statistics program evaluates the runtime data collected on application usage to give you an overview of how applications were used in a given time period; the data collected can be sorted by user or workstation. With the Enterprise Edition, you can also generate statistical evaluations of parallel application use, license use and errors.

- **Trace Monitor**
This program records system and program sequences; the data collected here can help you trace and solve problems.
- **Environment Monitor**
This program lets you view the system's environment variables as well as the current NetMan environment in the client. It also allows you to set, change and delete variables.

NetMan Directories and Network Rights

The standard NetMan setup program installs the following four subdirectories in the NetMan root directory:

- bin
- prot
- system
- user

A NetMan system administrator must have unrestricted rights in the NetMan root directory.

NetMan users need certain rights in the following directories:

- **bin:** contains executable system programs and system data; users should have "read" rights.
- **prot:** contains log files as well as user and station databases; users should have "read" and "write" rights.
- **user:** this is the user directory; users should have "read" and "write" rights.
- **system:** standard users should not be assigned any rights in this directory, as it contains tools that should only be used by NetMan system administrators.

The following table summarizes the rights required by Microsoft networks and NetWare:

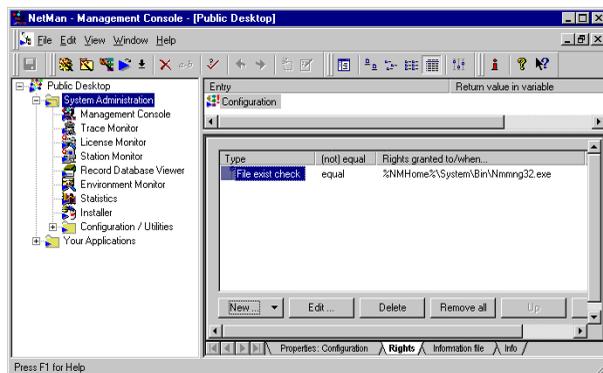
Folder/Files	Microsoft Network	Novell Netware
bin	Read/Execute	Read/Filescan
prot	Read/Write	Read, Write, Filescan
user	Full Access	Full Access
system	No Access	No Access

Defining NetMan Administrators

How can you protect system programs within the NetMan Client?

The default entries in the SYSTEM ADMINISTRATION folder are for the most part program calls for NetMan system administration components.

To safeguard the NetMan system, these components should only be accessible to NetMan administrators. To give you an example of how you can hide the SYSTEM ADMINISTRATION folder in the PUBLIC DESKTOP, we have assigned access rights to the folder based on a **File exist check** condition; this means the system checks for the existence of the file management console program (nmmng32.exe) before showing the directory (see Chapter 5 for more information):



If you have assigned network rights as described above in the section entitled “NetMan Directory Structure and Network Rights”, then this configuration will effectively hide the **system** directory from your standard users, because they do not have the required rights at the network level. In other words, NetMan users who have not been defined within the network as NetMan administrators will not see the SYSTEM ADMINISTRATION folder in their PUBLIC DESKTOP.

You can define this option as best suits your environment. Select NEW... on the PERMISSIONS dialog page to define other conditions; for example, to assign rights based on Novell or NT group membership.

Configuring Drives and Shares

NetMan always uses variables to address logical drives, paths and system states. For instance, the variable for the NetMan root directory is **NMHome**.

If you want to know exactly why Bob recommends using variables, read the following Discussion of the NetMan environment:



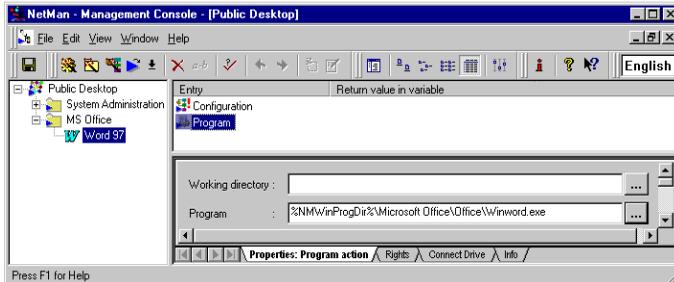
Discussion

Bob recommends the using environment variables wherever possible, because a system that consistently uses variables is easier to manage.

For example, you can make changes that affect the entire system by adapting one little element: the variable.

This of course makes system management highly flexible.

For example, you can use the ***NMWinProgDir*** variable rather than the explicit path to call MSWord for Windows in a NetMan configuration:



This gives you a certain independence when defining your configurations. The program call defined above will start Word whether the MS Office package is located in ***c:\programme***, ***d:\program files***, or some other directory.

Some variables can be changed by user activities; this means you can use variables for dynamic administration of system states. For a detailed example of how this can work, please refer to the manual for the NetMan Language Module.

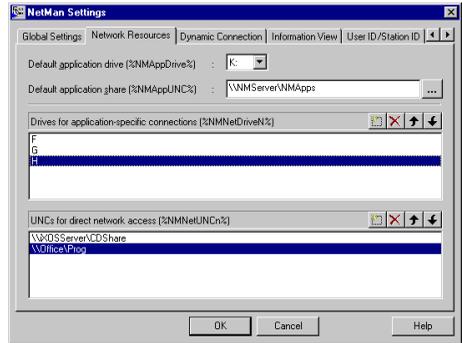
Application Drive

Where are your applications?

In network systems, applications are often installed in one or more designated application directories. Some applications require a specific drive letter to be entered when the application is installed; for example, if the application cannot use UNC paths.

In NetMan you can set variables for both an application drive, ***NMAppDrive***, and a UNC path, ***NMAppUNC***, to install applications you want to start under NetMan. When you configure a NetMan application call, just enter the corresponding variable rather than a fixed designation. You

can DEFINE VARIABLES on the NETWORK RESOURCES dialog page in the *NetMan Settings* program (see below).



Note

In the Enterprise Edition, you can have the **NetMan application drive** mapped automatically when the NetMan Client is started, by simply defining the desired drive mapping operation in a NetMan startup configuration (see "**Fehler! Verweisquelle konnte nicht gefunden werden**" below).



Tip

With 32-bit applications, the paths and working drives are usually entered using UNC syntax. We recommend mapping the application drive as a root drive, i.e. a separate drive just for applications, if 16-bit (DOS) applications are used in your system. (With most DOS applications you can enter only a drive letter, not a UNC path, as the target for installation.) The software is subsequently installed automatically in a subdirectory directly below the root directory on this drive.

Commonly Used Network Resources

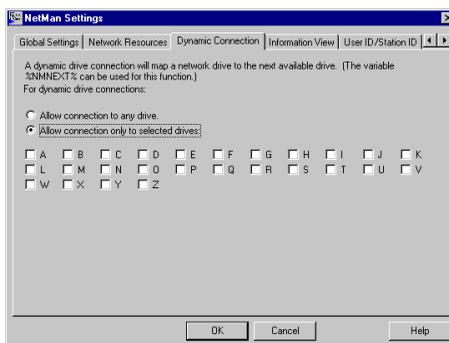
Where are the network resources that are used most often? Do you have applications that require a volume or a network share mapped to a drive letter (often the case in CD-ROM networks)?



Tip

Use the **NMNetUNCn** variable to map the resources you need most! Use variables in your configuration, such as %NMNetUNC1%, %NMNetUNC2%, etc., rather than fixed UNC paths. You can define an **NMNetDriveN** variable for mapping application-specific drive designations and then address %NMNetDrive1%, %NMNetDrive2%, etc., rather than entering fixed drive letters. See Chapter 5 for more details.

You can set a special function for dynamic drive mapping on the DYNAMIC CONNECTION dialog page in the Settings program:



Another option is to use the **NmNext** variable to map a drive letter (in place of **NMNetDriveN** or a fixed drive letter). In this case, NetMan assigns the first available drive letter. In the standard setup, all drive letters are allowed. If you only want to

allow certain drive letters for this function, you can define them here.



Note

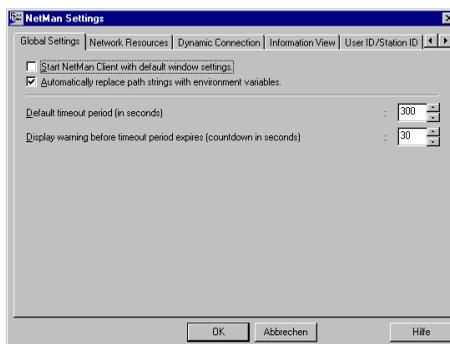
*Resources with application-specific data can be dynamically assigned to drive letters only if this is allowed by the application. In many cases, however, the drive letter that contained the resources when the application was installed is registered, and this is the drive letter that is required. See "Notes on Special Types of Applications / CD-ROM Applications" in Chapter 5 for details on the best uses of the **NmNext** variable.*

NetMan Settings

The continuous design of your NetMan Clients and the integration of applications are for the most part performed in the “Desktop” files, processed in the NetMan Management Console.

The following section give details on the most important global settings, configured in the NetMan Settings under PUBLIC DESKTOP/ SYSTEM ADMINISTRATION/ CONFIGURATION / UTILITIES.

GLOBAL SETTINGS Dialog Page



- **START NETMAN CLIENT WITH DEFAULT WINDOW SETTINGS:** This option is not active in the initial configuration, which means that NetMan saves the current screen coordinates in the client's Registry when the program is exited, and opens the program window with these coordinates when the program is started. When this option is activated, however, the program always opens a window in the upper left-hand corner of the screen (position 0.0, 640, 480). This option is useful in environments with public PCs and when working with application servers. It also eliminates problems that can arise when NetMan Client windows are shifted, for example if the Client is started on workstations with different screen resolutions.

- **AUTOMATICALLY REPLACE PATH STRINGS WITH ENVIRONMENT VARIABLES:** This option is active in the initial configuration, which means that in the various configuration fields, NetMan automatically replaces pathnames or parts of pathnames that it recognizes as values defined in variables (see the *ADVANCED* dialog page and refer to the *Almanac*). To deactivate this option, remove the checkmark by clicking in the box.

**Note**

If you want to know why Bob recommends using environment variables, read the Discussion on the NetMan environment in the section above entitled “Configuring Drives and Shares”.

- **DEFAULT TIMEOUT PERIOD (IN SECONDS):** This field defines the “timeout” delay, in seconds. If an application is left unused for a period of this length, it shuts down automatically. The value entered here is the default value in the “timeout” field when a new Program action (see Chapter 5) is created.
- **DISPLAY WARNING BEFORE TIMEOUT PERIOD EXPIRES (COUNTDOWN IN SECONDS):** This function acts as a reminder to the user. When the timeout function is running, this “countdown” window is opened before the timeout delay has elapsed (in the example shown here, 10 seconds before the end of the timeout), to inform the user that the application will shut down automatically if it is not used again before the displayed time has elapsed.

NETWORK RESOURCES AND DYNAMIC CONNECTION Dialog Pages

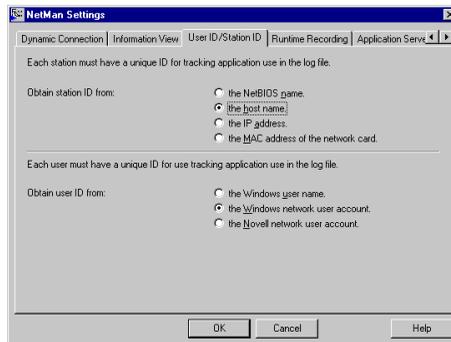
See the section above entitled “Configuring Drives and Shares” for a detailed description of the settings available here.

INFORMATION VIEW Dialog Page

See the section entitled “The NetMan Client” at the beginning of this chapter for details on the settings available here.

USER ID/STATION ID Dialog Page

NetMan automatically records user and station IDs in a database. On this dialog page you can select the manner in which these IDs are defined.

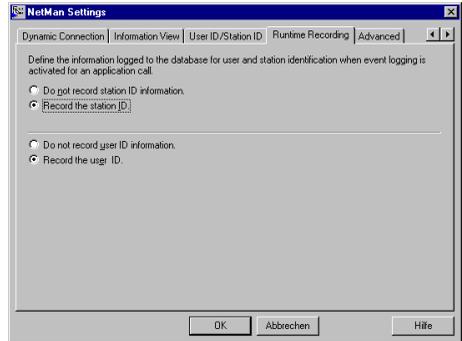


Note

For station IDs it is especially important to choose an identification method that will always be available in your environment and will always provide a unique name. For instance, if you select “the host name” for identification, make sure that all IP addresses of all potential NetMan clients are entered in the DNS server. It is also important to keep in mind that, if you are using “Named Sites”, changing the method of station identification during system operation will at first result in all stations being counted twice. See Chapter 6 for more information on this topic.

RUNTIME RECORDING Dialog Page

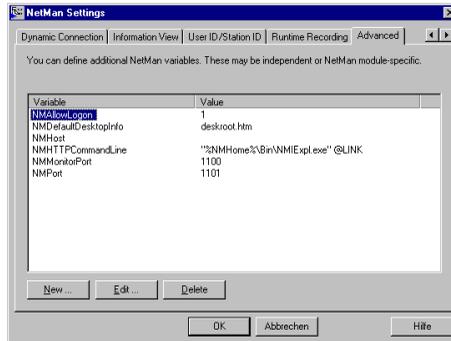
With the default settings, NetMan logs user ID and station ID when an application is started. On this dialog page, you can disable ID recording or choose to have the profile recorded rather than the ID.



- **DO NOT RECORD STATION ID INFORMATION:** When applications are called from a NetMan Client, the log entry for the calling station is left blank if this option is selected.
- **RECORD THE STATION ID:** With this option selected, the calling station ID is recorded in the log file when an application is called.
- **DO NOT RECORD USER ID INFORMATION:** When applications are called from a NetMan Client, the log entry for the calling user is left blank if this option is selected.
- **RECORD THE USER ID:** With this option selected, the ID of the calling user ID is recorded in the log file when an application is called.

ADVANCED Dialog Page

You can create your own NetMan environment variables on this page.



You can use these variables in your NetMan configurations.

Integrating Applications in NetMan

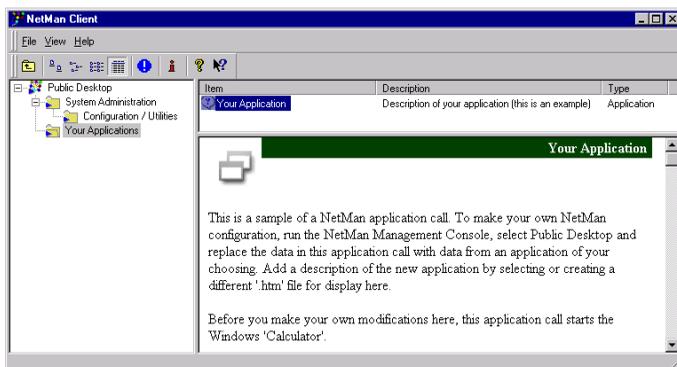
This chapter describes how to integrate applications into the NetMan system to make them available to your users in the NetMan Client interface. It also tells you how to configure the additional program properties NetMan offers for your applications. The chapter is divided into the following sections:

- The first two sections explain some of the basic concepts of the NetMan software and explain the terminology used here.
- The third section, called “The First Steps”, introduces the Management Console, your central system program, and describes its operating elements. Examples are given to show you how additional program properties can be activated in your applications. You will also learn how to create your own desktop entries and how to integrate your applications in the NetMan system. This section includes a complete description of all the options available in the Workgroup Edition.
- The fourth section describes the Trace Monitor and presents a detailed discussion of how the concepts introduced in the previous sections are implemented in the NetMan software.
- The last section contains specific information on integrating DOS and CD-ROM applications.

Integrating Applications in NetMan Configurations

As you have noticed by now, the terms “application,” “program” and “configuration” come up frequently in this manual. The examples below provide a more precise definition of these terms as they are used in the context of the NetMan software; this will give you a better understanding of the way NetMan works.

When you start the NetMan Client, you see a number of desktop entries that have already been configured for you:



The folder called YOUR APPLICATIONS contains a “configuration” called YOUR APPLICATION. For demonstration purposes, we have integrated the Windows “Calculator” program (“calc.exe”) in this entry as an example; we think we can safely assume that this program already exists in your Windows directory.

Now we have to ask the question: is “calc.exe” an application or a program? We do not mean to be splitting hairs here—this is an important point in understanding the basic concepts and operating elements of the NetMan software.

We are of the opinion that the Windows Calculator is both a **program** and an **application**, but this is an exceptional case. As a rule, an application consists of more than just a program. For example, Word is referred to as a “Microsoft Office application”; this is because the program itself (in this case, winword.exe) requires several specific other files and directories to be present before it can run. Thus the term “application” indicates both a program and an array of other elements.

The term “configuration”, *as used in the context of the NetMan software*, is even broader; it refers to a logical unit, created by a NetMan administrator, that is completely user-definable.

A “NetMan configuration” is like an empty container that you can fill up with “execute” jobs that NetMan processes in sequence. An individual job is referred to here as an **action**. In our example, the configuration YOUR APPLICATION contains only one action, in this case a “Program action”, which calls the calc.exe program.

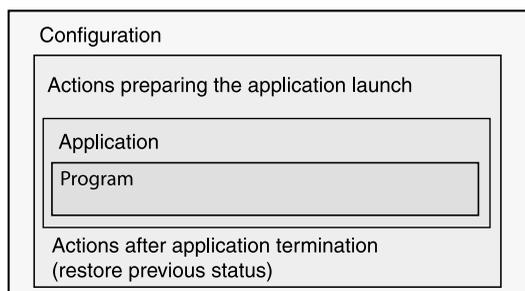
Let us assume that you did not install the Accessories package, which contains the Calculator application, when you installed Windows on your client workstations. To make the Calculator available to your users during runtime, all you have to do is add your choice of actions to the NetMan configuration for calc.exe; these actions could copy the program, map a drive to the program, or log the user onto the network.

You can also add another action, positioned after the Program action, for example to undo the drive mapping or logoff the user. Think about the possibilities this opens up in connection with a “serious” application, such as Microsoft Bookshelf, which we will demonstrate below.

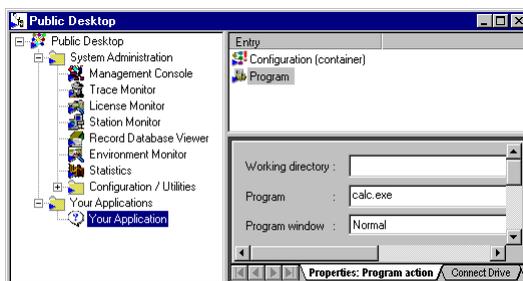
You can configure a wide range of operations to take place before or after the program is started. You could, for example:

- provide access to a program, or to program components, such as data on CD, through network login or resource mapping.
- create DLL files or Registry entries on the client workstation.
- open a dialog box for password input, or other user input which is then passed to the program as a command line argument.
- start other programs.
- restore the previous working environment when the program is ended.

The following diagram illustrates the relationship between **program**, **application** and NetMan **configuration**:



With the most basic programs, the NetMan configuration will not contain any preparatory or closing actions; the only action is the application start, as is the case in our calc.exe example:



In many cases, integrating an application in NetMan will consist of no more than two steps: first you create a **configuration**, then you add a single **action** containing the command that starts the application. This is the Program action shown in the dialog box above; the number and variety of actions available, however, give you a wide range of possibilities for your configurations. The different types of actions are explained in detail later in this chapter.

A configuration is a logical unit that can be executed by a user; a **configuration** can contain up to 999 **actions**, or none at all. A **program action** starts an **application** that is integrated in a NetMan configuration.



Note

*Whenever this manual mentions launching a NetMan application call, whether from the NetMan Client, the HTML Client or the command line, it always means that the processing of a NetMan configuration is activated; this configuration may contain a number of actions that are processed in addition to the **program** action, which contains the command that starts the application.*

Integrating NetMan Configurations in the Public Desktop

The first time you start the NetMan Client after installation, the **Public Desktop** is loaded automatically. Here you see the SYSTEM ADMINISTRATION and YOUR APPLICATIONS folders in the left-hand pane, called the “folder display.”

The SYSTEM ADMINISTRATION folder contains NetMan system programs, and the YOUR APPLICATIONS folder contains a configuration called YOUR APPLICATION.

The layout of this desktop can be compared to that of Windows Explorer:

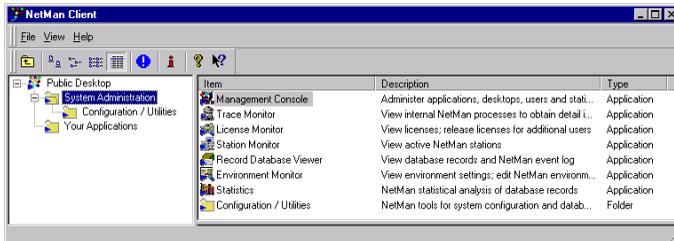
In the **Windows Explorer** you navigate through **folders** to get to **files**; in the **NetMan Desktop** you navigate through **folders** to start **applications**.

All of the entries in the NetMan desktop are stored in NetMan databases as **configurations**, as defined above (with the exception of the root entry at the top).

The desktop that appears when the NetMan Client is first started has the hierarchical structure that we defined; you can adapt this structure to your own preferences.

There are two different types of desktop entry: “folder” and “application” entries. You have to define the type when you create an entry.

The **type of entry** is shown when you select the detailed view:



As you can see in the above example, each configuration has either **folder** or **application** listed as the Type.

The SYSTEM ADMINISTRATION entry is a configuration that does not have any actions, and is defined as a folder.

When you double-click on this folder, it opens and shows the elements it contains. The elements within a folder are again either **applications** or **folders**. Folders can be nested up to 9 deep in the NetMan desktop.

The First Steps

The **Management Console**, located in the SYSTEM ADMINISTRATION folder, is the main system program used for integrating applications in NetMan. We will begin our instructions for taking your “first steps” by introducing the Management Console and its operating elements.

The Management Console

In addition to the usual menus and tool bars, familiar to you from other Windows software, the Management Console also has a selection bar.

The elements that appear here will depend on whether you have the NetMan Workgroup or Enterprise Edition and, in the

latter case, on the additional modules installed. The **Resources** and **Public Desktop** elements are included in both Editions.



You can hide the selection bar to have more space for the desktop, if desired.

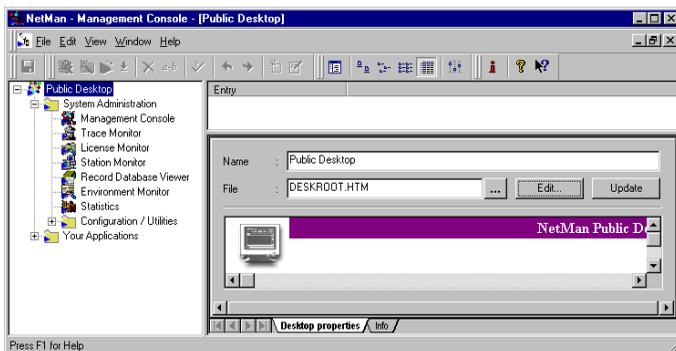
Click on an element in the selection bar to open it. When you click on **RESOURCES**, a window opens where you can view and edit **users** and **stations**. See Chapter 6 for a detailed description of the **RESOURCES** element. The only element in the selection bar described in detail here is the **PUBLIC DESKTOP**.

The Public Desktop

When you activate this element, the NetMan Client **Public Desktop** is opened in editing mode. The data contained here is central system data, which means that any changes you make will be global; in other words, they will affect the NetMan Client interface for all of your users.

The dialog box below shows the fully expanded desktop structure with the selection bar hidden. The active element in the folder display is the root desktop entry. Since the root entry is not a configuration and does not contain any elements, entries or actions, the Entry pane is blank. The lower right-hand pane automatically shows the **DESKTOP PROPERTIES** page, where you can edit the name and file defining the desktop. This page

always shows information on the entry selected in the upper right-hand pane; as there are no entries in this case, however, the information shown is about the Desktop Editor itself.

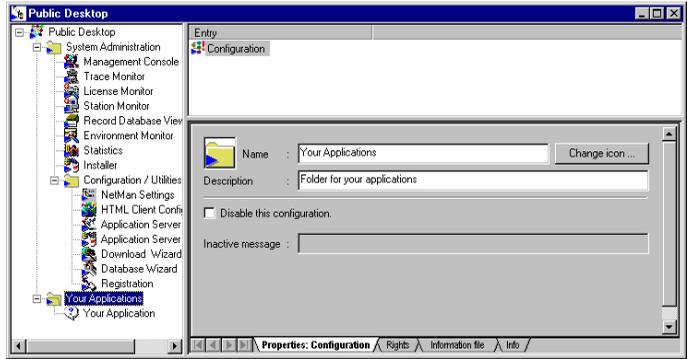


Tip

When you first start working with NetMan, it is a good idea to read the INFO pages that go with each of the entry types.

Below the root entry, you see all of the configurations integrated in the desktop, all of which are either folders or applications.

Let us take a closer look at a “folder” entry. Expand the Your Applications folder; your screen should show the following:



The first element listed under Entry is “Configuration”. The Properties dialog page for this element is shown in the lower right-hand pane, where you can also see the tabs for the other dialog pages. The Properties page shows the NAME and DESCRIPTION of this configuration, as well as a button for viewing symbol options (CHANGE ICON...) and an option for deactivating the configuration. As a rule, “folder” configurations contain no actions. If you do not change the symbol, the default symbol is shown in both the NetMan Client and the Desktop Editor.



Tip

*When selecting symbols for your desktop entries, it is best to avoid resources that cannot be accessed quickly, such as UNC paths, as these will noticeably reduce the startup speed of the NetMan Client. You can store symbol files, for example, in the **%NMHome%\Bin\Data** directory.*

You can edit the name and description of the configuration on the properties page. Your changes take effect after you have saved the new version.

If you select the `DISABLE THIS CONFIGURATION` option, the configuration will still be visible in the NetMan Client, but if a user tries to activate it, a message tells the user that the configuration is currently inactive.

A default message is generated automatically; you can also create your own message text, if desired.

For example, you might want the message to say, "A new version of this application is being installed.

Please try again after 1:00 p.m." This could save you from being asked repeatedly by various users why the application is not working.

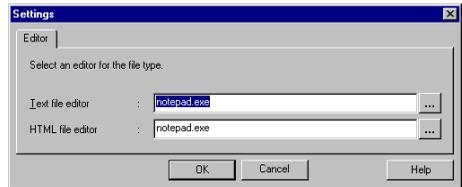
Each configuration has the following dialog pages:

- `PROPERTIES: CONFIGURATION`
- `RIGHTS`
- `INFORMATION FILE`
- `INFO` (mentioned above)

We will take a closer look at the `RIGHTS` page later. In this case, nothing has been entered on this page, which means that any NetMan user can access this configuration and can see and open this entry as a desktop folder.

Click on the `INFORMATION FILE` tab to view the information page for this configuration. Because you have opened the Public Desktop from the Management Console, the desktop is in editing mode and you can edit the information text, if desired. The default editor for this is `notepad.exe`.

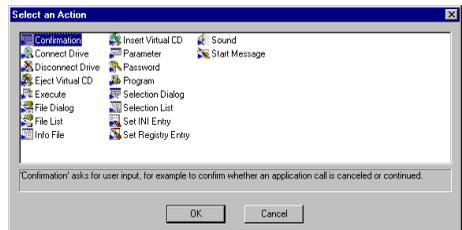
To use a different editor, select **SETTINGS...** from the **VIEW** menu and enter the command line call for the desired program:



Tip

Click on the **INFO** tab and read the text about the “**Configuration**” entry.

If desired, you can add actions to a configuration that is defined as a folder (rather than as an application). To do this, position the mouse cursor in the Entry pane and click the right-hand mouse button (“right-click”); this opens a window where you can select the type of action to add:

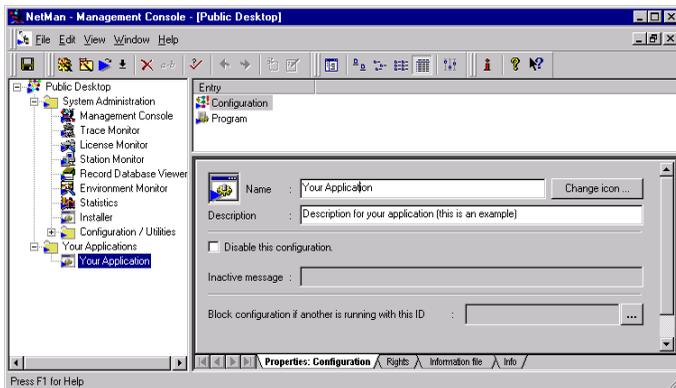


If you add a **Password** action, for example, the folder will still be visible to all your users, but can be opened only if the correct password is entered, and the user will be prompted for the password every time the desktop is loaded or refreshed.

Program Actions

Now let us look at a desktop entry defined as an **application**. Select the YOUR APPLICATION configuration, in the YOUR APPLICATIONS folder.

This configuration contains only a single Program action:

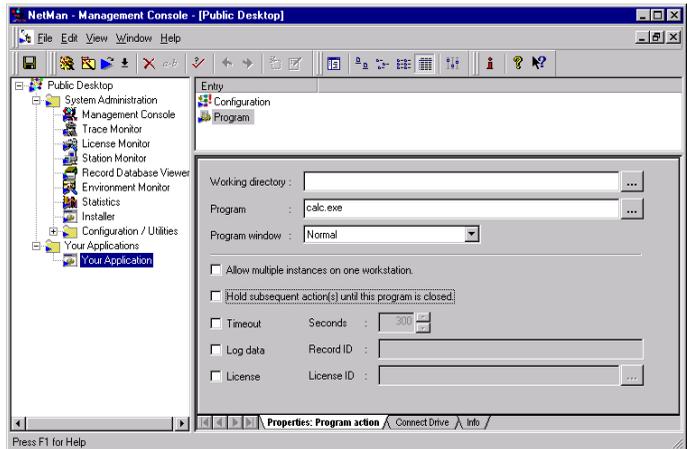


An “application” configuration, as opposed to a “folder” configuration, has another option on the Properties dialog page: you can enter an ID to BLOCK CONFIGURATION IF ANOTHER IS RUNNING WITH THIS ID. This option can be used to prevent incompatible applications from being started on a single workstation.

Applications that have the same ID entered here will be mutually blocked. In other words, if a user is running an application that has an ID entered here, they will not be able to launch any other application call that has the same ID while the first application is still running.

This can be useful if you have applications (or separate instances of the same application) that interfere with one another. For example, one application might try to access data that another application has locked, or an application might be internally designed to run in only a single instance on a given machine.

Now select the Program action in the Entry pane, click on the INFO tab and read the information about this action.



The Properties dialog page contains the following input fields and options:

- **WORKING DIRECTORY:** NetMan will start the program from the directory entered here.
- **PROGRAM:** The program to be executed is entered here.
- **PROGRAM WINDOW:** You can select the type of starting window for the program (i.e., Normal, Maximized, or Minimized).
- **ALLOW MULTIPLE INSTANCES ON ONE WORKSTATION:** Defines whether more than one instance of this program can run at one time on a given workstation. With this option activated, the user can start an unlimited number of instances of this program.
- **HOLD SUBSEQUENT ACTION(S) UNTIL THIS PROGRAM IS CLOSED:** Before you decide whether to activate this option, think about

the definition of a NetMan configuration, given at the beginning of this chapter: a user-defined sequence of almost any number of actions. With this option selected, the subsequent actions (following this Program action) will not be executed until the user exits this program; otherwise, any actions in this configuration that come after this Program action will be executed as soon as this program has started.

- **TIMEOUT:** Select this option to define a period of time after which the program will be shut down if it has not been used. The default number of seconds is defined in the NetMan Settings (see “NetMan Settings” in Chapter 4) and can be overwritten here. This option is particularly useful for applications with a limited number of user licenses. The timeout option may not work with all programs, however; this depends in part on the way a given program works. You cannot assign a timeout to a DOS program, for example.
- **Log data:** With this option selected, log entries are written when the program is started and when it is closed, so you have a record of the program running time. How events are logged is defined in the NetMan Settings. The “Record ID” you define here is included in the log file entries.
- **LICENSE:** Activate this option to limit the number of workstations that can run this program simultaneously. You can create a new license ID or assign an existing ID to this Program action.

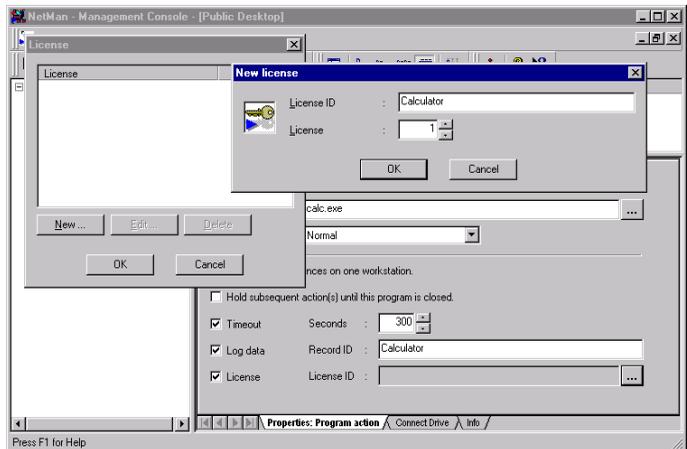
Note that the Program action also has a Connect Drive dialog page. Here you can map a drive letter to the network resource required by the program.

Additional Program Properties

Now you know enough to take your own first steps. In the following, you will activate three of the additional program properties available in NetMan:

- timeout
- event logging
- licensing

In the dialog box below, these properties have been activated. Click on the button to the right of the “License ID” field to open a dialog box for creating, deleting and assigning licenses.



Note

The number of licenses for a given application is not stored directly in this configuration. This means that you can assign the same

license to more than one configuration. You may wish to do this if, for instance, different NetMan configurations share a single license.

The settings configured here are effective in the NetMan Client as soon as they are saved. You can test your changes before saving the settings; the Test function is available in the toolbar, in the EDIT menu and in the context menu in the Entry pane. If only one action is selected when you activate the Test function, the action alone is tested; if you select Configuration at the top of the Entry list, the entire sequence is tested.



Note

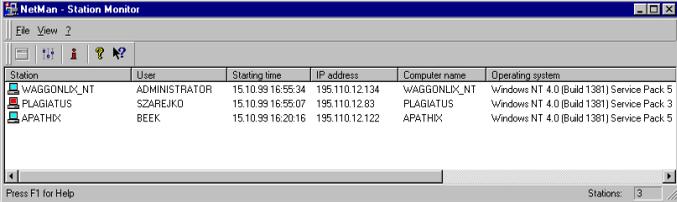
Testing a licensed application from within the Management Console does not reduce the number of licenses available for actual users.

Now we will start Your Application on three different workstations. The following message is displayed on the second workstation:



The message displayed on the third workstation indicates that the user is second in line. The next step is to call the **Station**

Monitor from the System Administration folder and see what is going on with our three workstations:



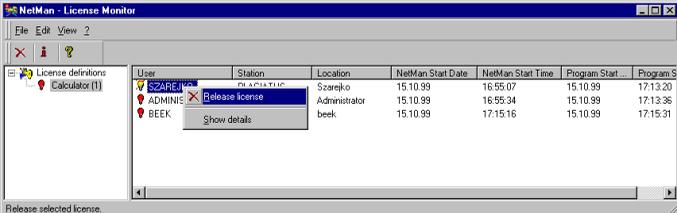
Station	User	Starting time	IP address	Computer name	Operating system
WAGGONLK_NT	ADMINISTRATOR	15.10.99 16:55:34	195.110.12.134	WAGGONLK_NT	Windows NT 4.0 (Build 1381) Service Pack 5
PLAGIATUS	SZAREJKO	15.10.99 16:55:07	195.110.12.83	PLAGIATUS	Windows NT 4.0 (Build 1381) Service Pack 3
APATHIX	BEEK	15.10.99 16:20:16	195.110.12.122	APATHIX	Windows NT 4.0 (Build 1381) Service Pack 5



Note

The example above does not show all of the available information. To choose which items are displayed here, select **SETTINGS** from the **VIEW** menu. This manual gives only a few examples of the operating features available in system programs. For more detailed information, refer to the on-line help.

You can call the **License Monitor** to see which licensed applications are in use, and to release licenses if desired. In this example, you can release the license for the Calculator, in which case the user who had been first in line (the second workstation) can start the program right away:



User	Station	Location	NetMan Start Date	NetMan Start Time	Program Start ...	Program S
SZAREJKO	PLAGIATUS	Szarejko	15.10.99	16:55:07	15.10.99	17:13:20
ADMINIS	Administrator	Administrator	15.10.99	16:55:34	15.10.99	17:13:36
BEEK	beek	beek	15.10.99	17:15:16	15.10.99	17:15:31

Context menu for Calculator (1):

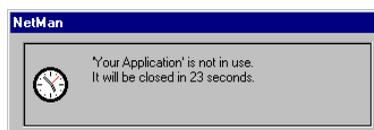
- Release license
- Show details



Note

If all the licenses for a given application are in use and you release a license for another user, this does not close the application on any workstation where it is already running. Thus releasing a license may result in a breach of the software licensing agreement for the application in question, depending on whether you entered the full number of licenses obtained for the application when you configured the Program action for this NetMan configuration.

To test the timeout function, wait until the defined delay has elapsed:



Once the timeout period has been reached on all three workstations, let us take a look at the **Record Database Viewer**:

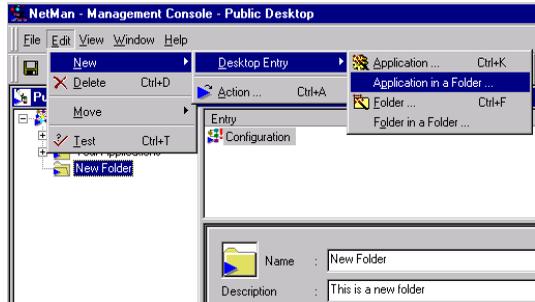
Record ID	Start date	Stop date	Start time	Stop time	User ID	Station ID	Record attribute
3	15.10.99	15.10.99	17.16.43	17.17.40	BEEK	APATHX	/W/L71
2	15.10.99	15.10.99	17.16.32	17.18.02	ADMINISTRATOR	WAGGONLIX_NT	/W/L176
1	15.10.99	15.10.99	17.13.21	17.17.05	SZAREJKO	PLAGIATUS	

Two of the events listed here show values in the “Record Attribute” column indicating the number of seconds spent **w**aiting for a **l**icense (WL); this attribute can be summarized in the statistics program, by application and by time period, to get an idea of where “bottle-necks” occur with licensed applications.

Creating and Deleting Desktop Entries

In the examples above, we added new program properties to the existing Calculator program. But how can you create your own desktop entries?

Just select **NEW**, either from the **EDIT** menu...



...or from the context menu (right-click) in a desktop element.



The menu for creating a new entry contains the following choices:

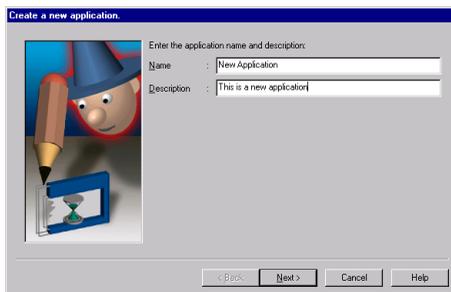
- **Application** – In the case illustrated above, this selection will create an “application” entry in the YOUR APPLICATIONS folder.
- **Application in a Folder** – Creates an “application” entry at the top of the list under YOUR APPLICATIONS.
- **Folder** - Creates a “folder” entry under YOUR APPLICATIONS.
- **Folder in a Folder** - Creates a “folder” entry at the top of the list under YOUR APPLICATIONS.

You can also click on the corresponding button in the tool bar to **Create a new application** or **Create a new folder**.

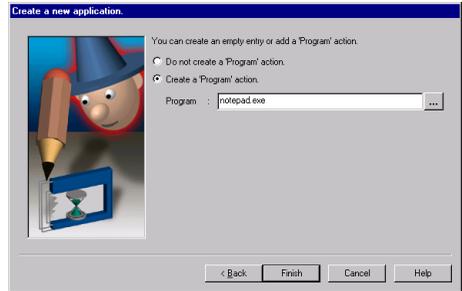
In the following example, we will create a folder called New FOLDER.



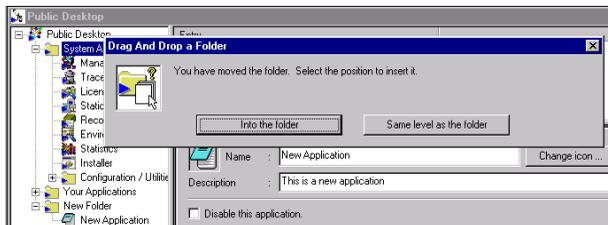
Here we enter a name and a brief description of the new folder and tell good old Bob to "Finish" the job for us. Next, we create an entry within this folder; this time it is an "application" entry:



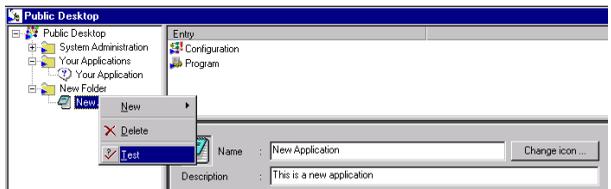
Again, we enter a name (New Application) and a brief description; then we can go on to define a Program action for our new NetMan configuration, because it was created as an application, rather than a folder:



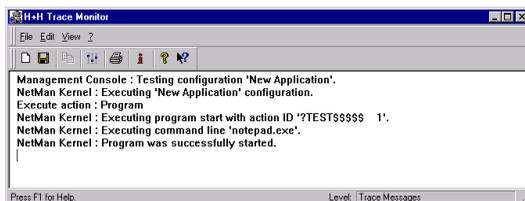
Bob takes over from here and completes the new configuration. Then, however, we decide we would rather have the new folder positioned above the Your Applications folder, so we use the mouse to drag it up to the SYSTEM ADMINISTRATION folder. Now we have to make a decision:



We choose SAME LEVEL AS THE FOLDER.



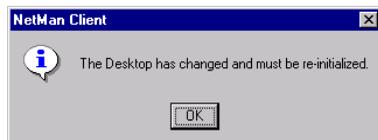
Now we turn on the Trace Monitor (in the System Administration folder) and test the new application, and lo and behold, "notepad.exe" is started.



Since this was only an example, we can delete this folder now:



In the preceding steps, we made several changes in the desktop structure. If we save the changes now, or did so at any point during the steps performed above, any NetMan Client interfaces that were already running would have to refresh their desktops if a desktop entry is to be activated. If a user tries to activate an entry that is no longer available or no longer exists, the following message is displayed:



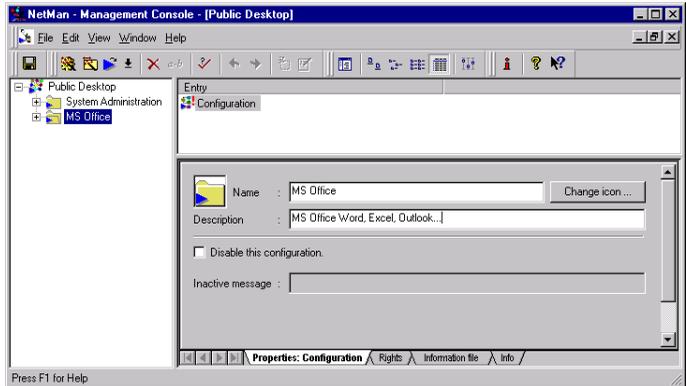
The desktop is then refreshed automatically; you can also select REFRESH from the VIEW menu.

Your First Application

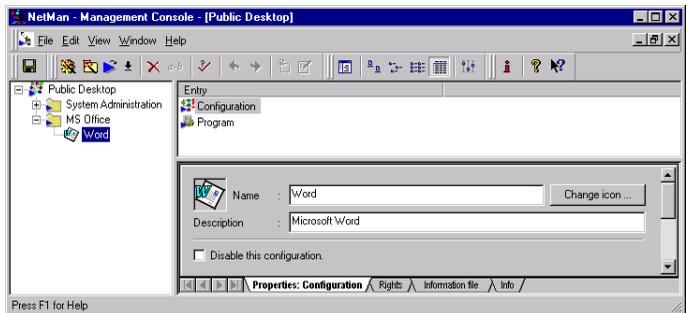
Now you will make some changes in the pre-configured YOUR APPLICATIONS folder and YOUR APPLICATION, to create a NetMan

configuration of your own. In this example, you will integrate Microsoft Word in your NetMan system.

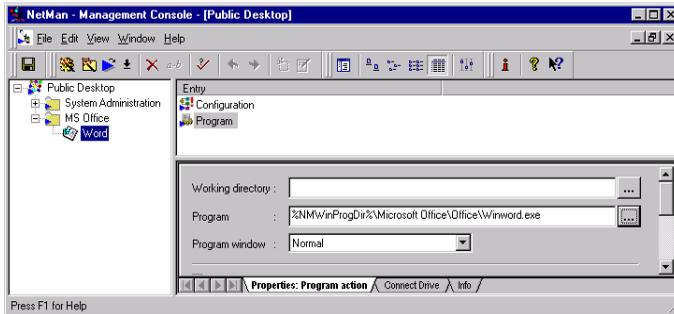
First, select the YOUR APPLICATIONS folder; change the name of the folder to “MS Office” and enter “MS Office: Word, Excel, Outlook...” as the brief description:



Now move the focus in the structure display to the YOUR APPLICATION entry. In the Entry window pane, select CONFIGURATION and change the name and description. The click on “Change icon...” and find the “Word for Windows” symbol.



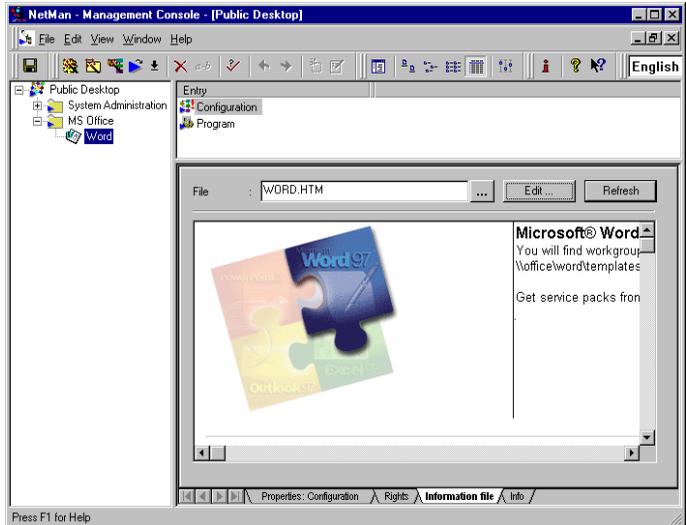
Now click on the PROGRAM action and replace “calc.exe” with the MS Word program call:



Note

*With the default global settings, NetMan automatically inserts environment variables in place of specific path designations whenever a path or part of a path is recognized. In this example, C:\Program Files is replaced by the **NMWinProgDir** variable. The advantage of this is that the program is found on each workstation, because it is always installed in the Windows directory on the local drive, whether the drive letter is C: or D: and no matter what the directory is called.*

Move the focus back to the “Configuration” entry and click on the INFORMATION FILE tab. In the File field you can enter or select the HTML file you wish to assign as the Information file for this NetMan configuration (these files are user-definable and stored in a designated subdirectory):

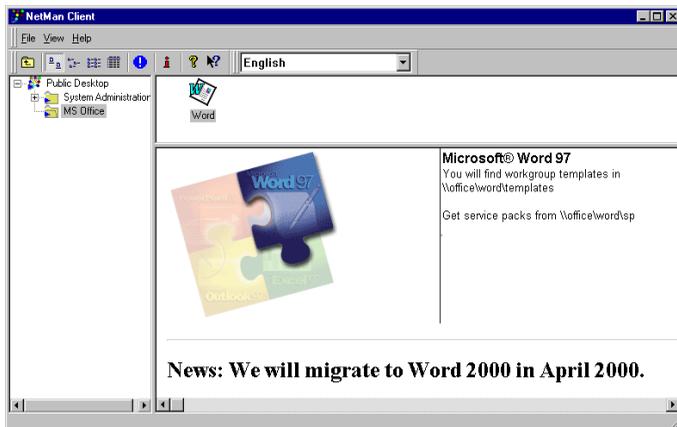


Note

It is not absolutely necessary to create an HTML information file. As an alternative, you could either have the information display show the Infoboard and maintain this as your information source, or simply hide the information display altogether. For details on these alternatives, see “The NetMan Client” in Chapter 4 or the on-line Help.

Now activate the additional program properties for licensing and event logging.

NetMan can now be put into operation with your first application. The NetMan Client desktop will look something like this to your average user:



Note

The NetMan Client desktop on your workstations may still show the System Administration folder, which contains the NetMan system programs. For information on hiding elements and restricting user access, see "NetMan Directories and Network Rights" and "Defining NetMan Administrators" in Chapter 4.

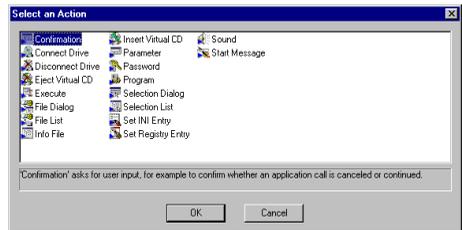
Up to now we have described each step in great detail, because these were your "first steps" and because we wanted to acquaint you with the program's internal logic. From this point onward we will be operating on the assumption that you know

how to create, edit, delete and move desktop entries, and will provide details only on other aspects of NetMan operating elements.

Examples of Actions

At the beginning of this chapter, we referred to the broad range of possibilities afforded by the variety and number of actions you can add to your NetMan configurations. What do we mean by this, and why would you even need other entries besides Program actions?

The following actions are available in the Workgroup Edition.



There are 18 types of action in the Workgroup Edition; the Enterprise Edition has many more.



Tip

*Each type of action is described in detail in the Management Console. A good way to learn about all the possibilities offered is to create an action, read its **INFO** page, and then test it.*

Once you have read the **INFO** pages, you should have no trouble using the **Execute, Confirmation, Information File, Password, Start Message, Sound** (there are a number of WAV files under **%NMHome%/bin/data**) and other actions. We have already presented an example of a **Program** action. We would like to point out once more that a NetMan configuration is a **user-**

definable sequence of actions. Any type of action, including Program actions, can occur repeatedly in a given NetMan configuration and can be used in any combination.

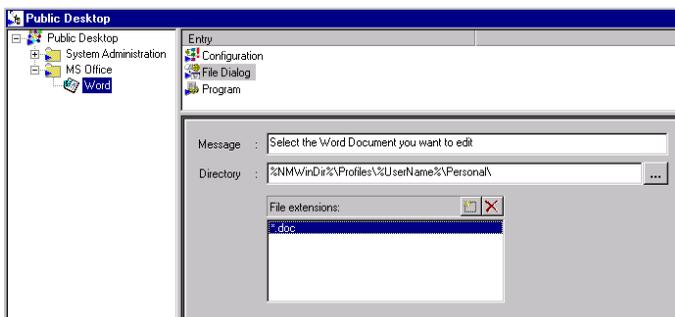
The following examples of the remaining 5 types of action will help you develop ideas for your own network environment. What these actions have in common is that they pass user input to the subsequent Program action as command line arguments.

Depending on the action, the user may enter data directly or by selecting from a range of options. Multiple parameters are passed to the program in the order in which the actions occur in the configuration.

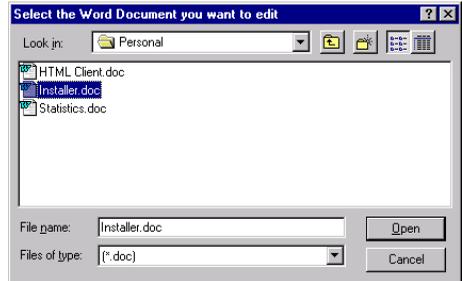
File Dialog

This action opens a dialog where the user can select a file, which is then opened with the program called by the subsequent Program action. In the dialog box below, the File Dialog action is configured to present the DOC files in the user's own directory for selection.

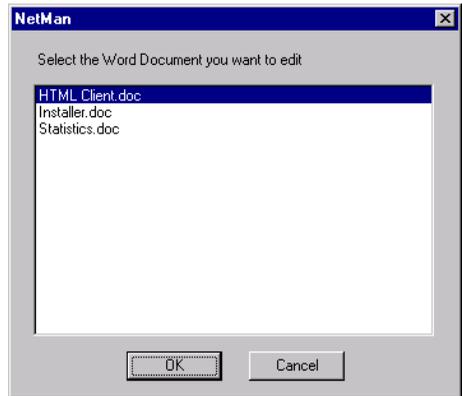
As you see here, you can also use system variables in the path name (%USERNAME% is a system variable in Windows NT); these are resolved at runtime.



When it is executed, the File Dialog action opens the standard Windows File/Open dialog:



If you use a **File List** action, as opposed to **File Dialog**, the user cannot browse through folders and drives; rather, a list of files is shown for selection. You specify individual files for inclusion in this list, and you can also use wildcards, for example, to include all files of a given type that are located in one directory.



Selection Dialog

This action opens a dialog box that presents the user with a choice defined by the NetMan administrator. With the action configured in the example below, the user chooses between two macros to open with MS Word:

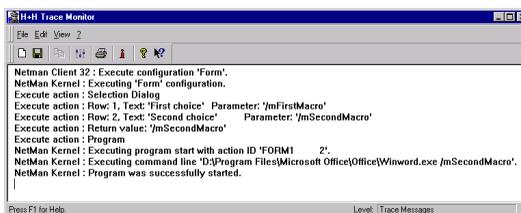


When the user activates this NetMan configuration, the following dialog box opens:



When a NetMan action adds command line arguments to a program call, multiple parameters are separated by commas.

In this example, the user selects the "Second choice" and the action sequence runs as shown here in the Trace Monitor (see the next section for a detailed discussion of the Trace Monitor):



The command line at runtime is:

```
%NMWinProgDir%\Microsoft  
Office\Office\Winword.exe /mSecondMacro
```

If you had 40 macros to choose from rather than just 2, you might insert a **Selection List** action instead of the **Selection Dialog**; the function is similar, but the macros are presented in a list (of unlimited length) rather than on buttons.

Parameter

This action type opens a dialog box for **user input**; the input is passed to the program as command line arguments.

The following two features are available for customizing this dialog:

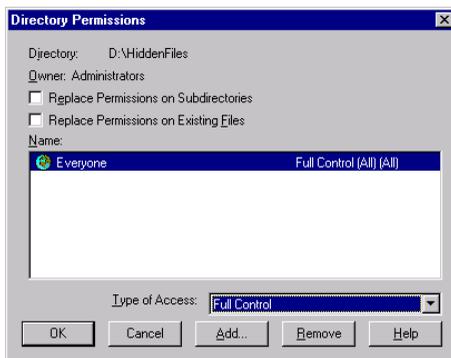
- If you use square brackets in the "Parameter" definition, the user will see only what is inside the square brackets and nothing else that is in the "Parameter" field. The square brackets might contain spaces, or a default parameter that the user can overwrite. Text outside the square brackets is passed to the program in the command line without modification.
- You can have the user input hidden (only asterisks displayed during input).

The following is an example of how you can use a "Parameter" action in conjunction with Microsoft Word or another word processing program:

Say you want to offer files for selection that can be opened only by specially authorized users, but you do not want to control this through the network, as that would require the user(s) in question to log on to the network under another name just to access these files.

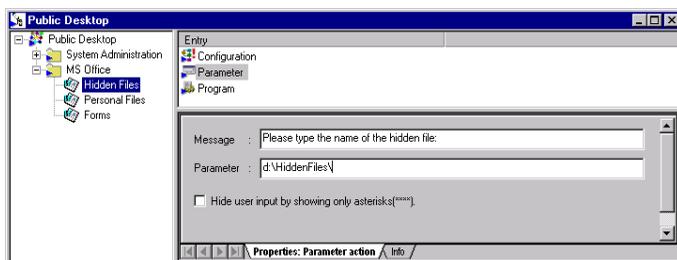
You can solve this problem as follows:

Set up a directory called \HiddenFiles and assign directory rights to the network administrator(s) (special user or group of users). This is done as follows under Windows NT:



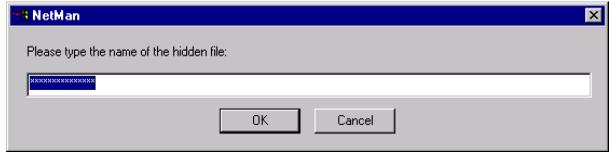
Assign rights to the files in this directory to the desired user(s).

Now create a NetMan configuration for MS Word in the "MS Office" folder, call it "Hidden Files", and insert the following Parameter action:



When your authorized users launch this configuration, they do not know what path the hidden files are stored in, nor can they find this directory using operating system functions because they have no rights here. They do know, however, the name of the file they want to open, and this is all they need. They enter this in the dialog box that opens when the

configuration is launched; the file name they enter is hidden, to prevent unauthorized users from reading it:



(This example is somewhat contrived, since Word will show the file name on screen anyway.)

We have given just a few examples here, but the new configurations that result from these show you MS Word in several guises:



Note

You can assign the same license to all three of these configurations.

Access Rights to Configurations

You can restrict access to configurations to specific users, stations and network groups, or make access rights dependent on specified conditions.

You can make the display of a configuration dependent on the

- **global Windows NT group** (primary domain controller required),
- **local Windows NT group,**
- **NetWare group**

that a user belongs to.

This mechanism provides full support for the groups used in the most common network operating systems. You can use the rights structures that are already in place in your network without having to create new definitions within the NetMan system.

Since all of your user and workstation names are automatically copied into NetMan databases, you have the option of linking access rights not only to **user's network login names**, but also to **workstation names**.

With this feature, **NetMan closes a gap in network operating systems** that assign rights only to user accounts.

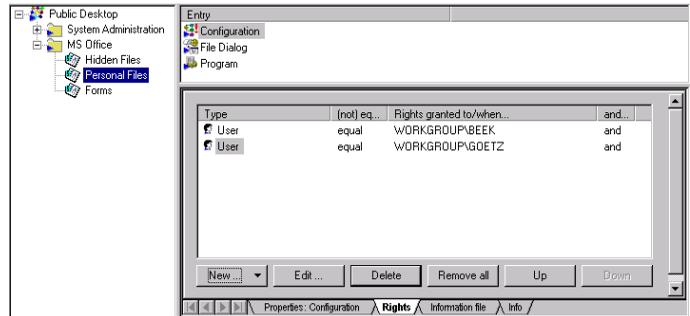
Moreover, NetMan lets you control access to configurations according to specified **conditions as well** – another feature that takes you beyond the realm of conventional network capabilities. In the Workgroup Edition, depending on the **type of condition** you choose, you can make configuration access dependent on whether a specified **file, INI file entry, drive or Registry entry** exists, or a specified **operating system** is running, on the workstation in question.

The variations on the rights structure can be used in any combination and linked to logical **ANDs** and **ORs**, and can be formulated in the positive or the negative. In the simplest cases, you give “execute” rights to

- **users**
- **stations**
- **local Windows NT groups**
- **global Windows NT groups**
- **NDS groups**

Example of invalid **user** rights assignment:

Select the configuration and click on the RIGHTS tab. Click on the NEW button and select NETMAN USER. Enter a second user to the list in the same manner as the first:



This definition, where the second user is linked by a logical **AND**, would make it impossible to launch this configuration.

The entries in the RIGHTS list are evaluated logically by the NetMan Client: each entry is a proposition that is either true or false. The assignment of “execute” rights for this configuration will depend on the truth value resulting from the evaluation of all entries in the RIGHTS list.

The expression

User = "Workgroup\Beek" and User =
"Workgroup\Goetz"

is always false (due to the **AND** operator), while the expression

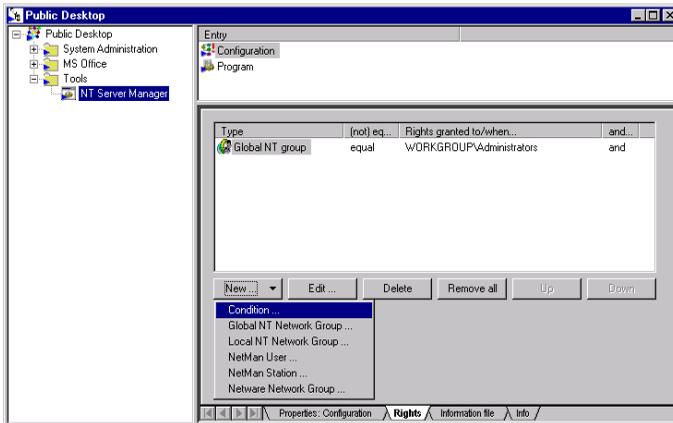
User = "Workgroup\Beek" or User =
"Workgroup\Goetz"

is true whenever the user's name is either "Workgroup\Goetz" or "Workgroup\Beek" (**OR** in place of **AND**).

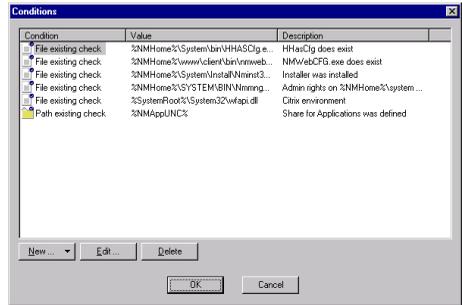
The next example illustrates a more practical use of the **AND** link:

Your Windows NT Server Manager runs only on **Windows NT workstations**, but you want to make it available to administrators in a network that also has **Windows 95/98** stations.

To do this, just link the "execute" rights for the corresponding NetMan configuration to your domain administrators and then create a new **condition** for these rights:



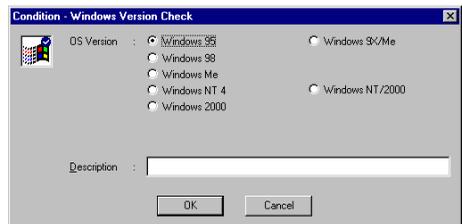
To do this, click on **NEW** and select **CONDITION**; this opens a list of conditions that you can choose from.



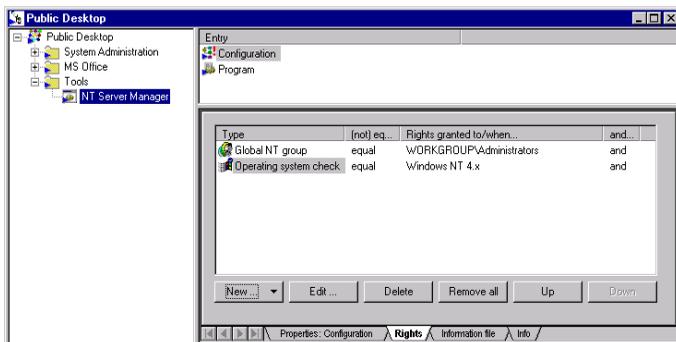
Note

The conditions listed here were configured automatically by the NetMan installation program, to hide the names of system programs that are not installed and to hide the System Administration folder from users who do not have rights in this directory (see "Defining NetMan Administrators" in Chapter 4). You can delete any of these entries that you do not need and, if desired, remove the desktop entries for system programs that are not installed.

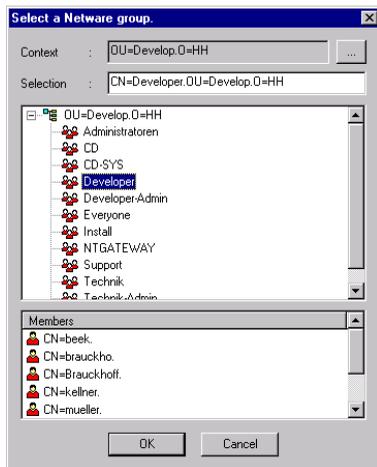
Since the condition you require does not appear in this list, you have to create it. To do this, click on **NEW** and select **OPERATING SYSTEM CHECK**; in the next dialog box, select **WINDOWS NT 4**.



And that is all you have to do:



In conclusion we must point out that NetWare Directory Services (NDS) can be accessed only if the IntraNetWare Client interface from Novell is installed on all workstations in your network:

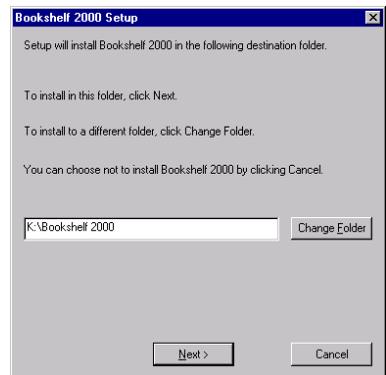


Your Second Application: Microsoft Bookshelf

In the example above, you integrated Microsoft Word in the NetMan system. This was done under the assumption that the application had already been installed locally on each workstation; only the application call was centralized. Now we will show you how to install an application in the network. For this example we have chosen Microsoft Bookshelf.

Most networks have a central directory where applications are installed; usually the user login script will map this directory to a drive letter that is accessible to all users. For the purpose of this demonstration, we will assume there is such a directory, and that it is mapped to K:. This is then the drive letter that should be assigned to the **NMAppDrive** variable in the NetMan Settings. For details, refer to the section entitled "Application Drive" in Chapter 4.

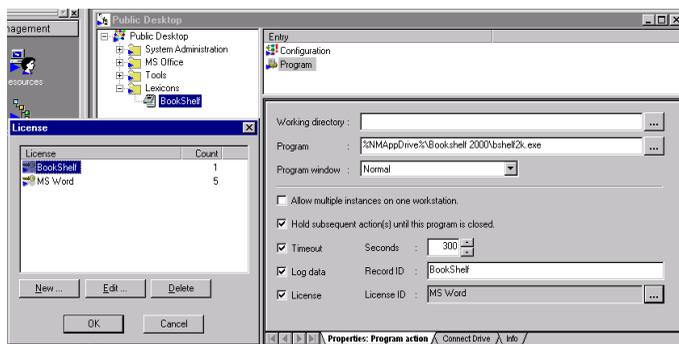
This is the environment we want for centralized installation of Bookshelf in the network. First, we start the setup program on the CD from a network connection, because with Bookshelf, software is not simply installed from the CD, but the application also needs to access the data on the CD at runtime. We place the CD in a drive on the Windows NT server and define it as a shared resource. Then we start the setup program and enter the drive letter mapped to the application directory as the target path:



When the setup is finished, we create a new folder and call it “Lexicons”, and then make an “application” configuration in this folder and add a Program action to it:



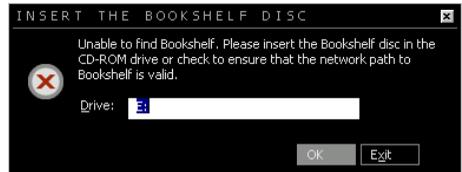
The next steps should also be familiar: We enter a brief description of the configuration, activate the event logging and licensing functions, and – since we have only a single-workstation license for Bookshelf – activate the timeout function as well, so the application will not hang around unused in one user’s task bar while another user waits for the license to be released.



The last step is to create an information file for this application. The desktop now looks like this:



Unfortunately, when this configuration is launched on a workstation other than the one on which the setup was performed, an annoying message appears, asking for information that the average user cannot supply:



The application will run if the user enters the network CD path using UNC syntax (`\\<server>\<share>`), this message does not appear again upon subsequent application starts on this station. This means that we can solve the problem by including this information in the information file, to tell our users what they need to enter the first time this application is started on a given workstation.

But what can you do if an application writes a large number of entries in the client's Registry, or creates DLL files, INI files, and font files on the workstation where the installation is performed?

If you are working with the **Workgroup Edition**, rather than the Enterprise Edition with its Installer Module, you can solve this problem if you have other software that monitors installation procedures and distributes applications in the network. In this case you can use this software to distribute the required application components using NetMan **Execute actions** or other mechanisms (such as login scripts). If you do not have this type of software, you can perform the setup on those workstations that will use the applications. This should be feasible in the small networks that the Workgroup Edition is designed for (up to 30 stations).

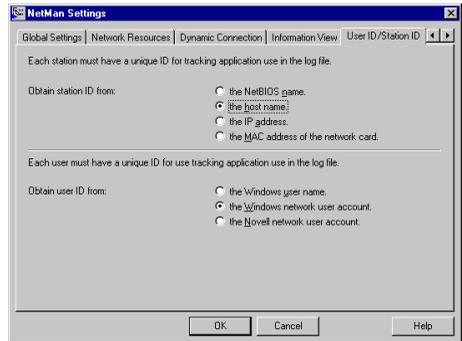
This concludes our “first steps”. Since the first steps are always the most difficult, we provided detailed instructions in the examples above. We hope that you now have some idea of the wide range of possibilities that NetMan opens up for you. Beyond the “concrete” performance features, the additional program properties

- make it easy for the inexperienced user to do everything they need to do (for example, by providing forms in Microsoft Word), and
- make it hard for the all-too-experienced user to do anything they shouldn't do (for example, by using “Hidden Documents” in Microsoft Word).

User and Stations

The first time you start NetMan, the users and workstations in your network are automatically added to the NetMan user and station databases. When a new user or station starts NetMan for the first time subsequent to your first NetMan startup, a new data record is created. The key field in these data records is the "User/Station ID".

You can choose from a number of options to define the source for the user and station IDs. To do this, run the NetMan Settings program and click on the USER ID/STATION ID tab:



To view or edit these data records, open the RESOURCES program window from the Management Console:

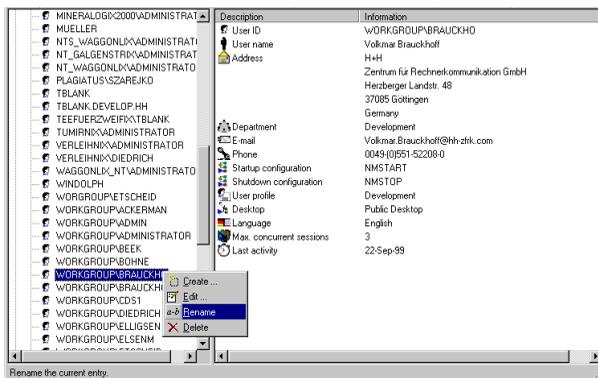


NetMan Users

In our example, we have chosen to use the Windows NT network user login name as the user ID. The format of this ID in the user database is "domain\user". NetWare user names are

written with NetWare syntax, and can only be determined through the Novell IntraNetWare Client. If a NetWare user name cannot be determined, the Windows NT user name is entered instead.

You can create, edit, re-name and delete user data records.



To create new user, select CREATE from the EDIT menu and enter a User ID. The window shown below opens:

The 'Edit User Data' dialog box is shown for user 'MAECKER'. The 'Last activity' field in the upper right corner displays '(DD.MM.YY) 01.03.01'. The form contains the following fields:

- Name:
- Address:
- Phone:
- Department:
- E-mail:

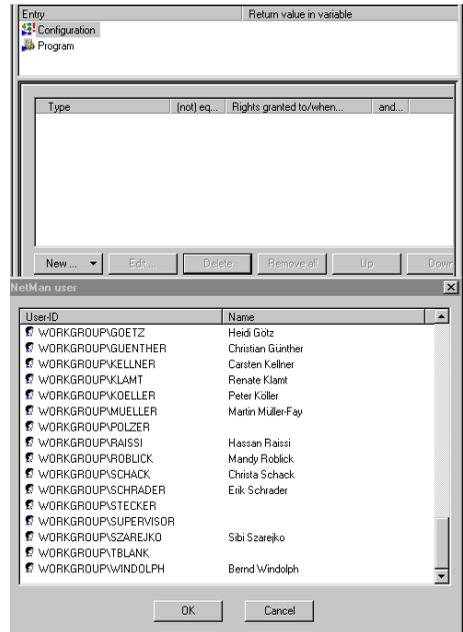
At the bottom of the dialog are 'OK' and 'Cancel' buttons.

The LAST ACTIVITY DATE in the upper right-hand corner cannot be edited; it is updated every time the user starts NetMan.

The fields for ADDRESS, DEPARTMENT, E-MAIL and PHONE are not required for NetMan operation; they are for your administrative purposes only.

The NAME you enter here is separate from the User ID.

You can open a list of users compiled from this database when assigning access rights to configurations and actions in the Management Console:



You can create a user data record “manually”, to enter a new user who has never started NetMan.



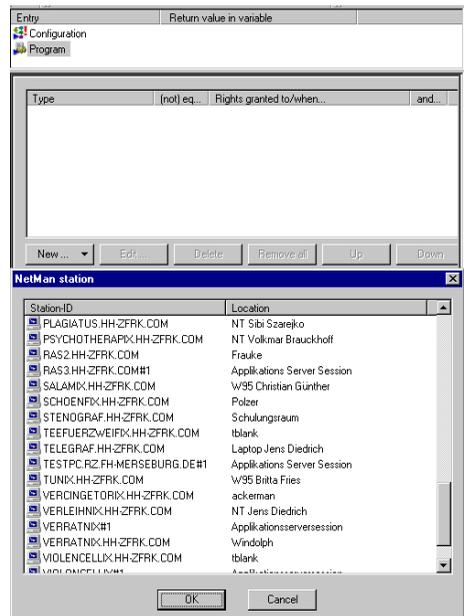
Note

NetMan rights are independent of network rights; they are equivalent to “execute” rights to NetMan configurations.

The `REGISTRATION DATE` is important if you are using the **Named Sites** licensing scheme; the station's NetMan license is revoked 40 days from this date. If there is no license active on the date that this station starts NetMan, this date is overwritten.

The `LOCATION` field is for your information only; it can help ensure a clear overview when stations are listed in programs for statistics, license administration, station monitoring and rights assignment. No entry is required here for NetMan operation. NetMan automatically enters the name of the user who is logged on at the station when it is registered; you can overwrite this entry, if desired.

You can open a list of stations compiled from this database when assigning access rights to configurations or actions in the Management Console:



The station database detects the following data for inclusion in the station database record:

- BIOS data
- hardware
- cards installed and peripheral devices connected
- network configuration, including drivers and protocols installed
- standard software installed (mail programs and browser)

All of this data is recorded the first time this station starts NetMan. You can also have this data updated every time this station starts NetMan by activating the `RELOAD STATION DATA ON NEXT START` option.

Statistical Analysis of Application Usage

When you select the **LOG DATA** option in the **Program** action of a **NetMan** configuration, events involving that program are logged and can be analyzed with the **NetMan STATISTICS** program. There are a number of practical uses for these statistical evaluations, ranging from an overview of system use to an accounting of application usage. With the **Enterprise Edition**, you can also create parallel-use spreadsheets to determine the number of licenses you require for an application.

This chapter describes the functions available in the **Statistics** module.



Tip

Refer to the on-line Help for detailed information on the settings available in the statistics program.



Note

In the **NetMan Settings** you can define **whether** and **how** users and stations are identified in the event log (see “**NetMan Settings: RUNTIME RECORDING Dialog Page**” in **Chapter 4**).

To view the log data, run the **Record Database Viewer** in the **SYSTEM ADMINISTRATION** folder:

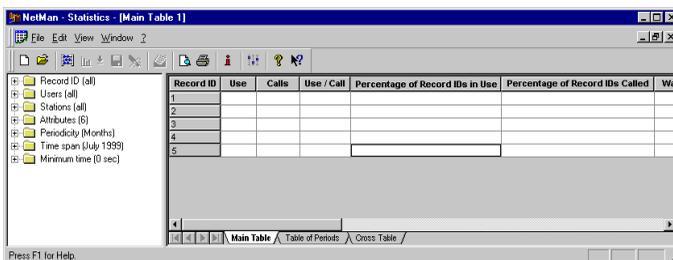
Record ID	Start date	Stop date	Start time	Stop time	User ID	Station ID	Record attribute
7	04.07.99	04.07.99	18.18.38	18.18.58	WORKGROUP\BEEK	APATHX.HH.ZFRK.COM	
6	04.07.99	04.07.99	18.14.54	18.14.59	WORKGROUP\BEEK	APATHX.HH.ZFRK.COM	
5	01.07.99	01.07.99	15.07.47	15.07.59	WORKGROUP\BEEK	APATHX.HH.ZFRK.COM	
4	01.07.99	01.07.99	14.51.47	14.51.54	WORKGROUP\BEEK	APATHX.HH.ZFRK.COM /TEST	
3	01.07.99	01.07.99	14.50.55	14.51.37	WORKGROUP\BEEK	APATHX.HH.ZFRK.COM /TEST	
2	30.06.99	30.06.99	14.05.25	14.06.22	WORKGROUP\BEEK	APATHX.HH.ZFRK.COM	
1	30.06.99	30.06.99	14.04.46	14.05.10	WORKGROUP\BEEK	APATHX.HH.ZFRK.COM	

This data forms the basis for evaluations with the NetMan Statistics program.

First, open the SYSTEM ADMINISTRATION folder in the NetMan desktop and start the Statistics program.



Statistik



When you start the Statistics program, an empty spreadsheet is opened with the name “Main Table 1”. The left-hand pane of the “Main Table” window shows the items you can choose from for inclusion in your evaluation. The default **Selections** include the following:

- All record IDs shall be analyzed
- All users shall be included in the analysis
- All stations shall be included in the analysis
- 7 attributes shall be analyzed
- The periodicity of the time span to be analyzed is “Months”
- The period to be evaluated is the current month (Month 0)

- The minimum application usage time for inclusion in the evaluation is 0 seconds

The **Minimum time** selection defines how long an application has to have been used before it shall be included in the current statistical analysis. If 20 seconds' usage time is recorded for Microsoft Word, for example, this does not necessarily indicate that anyone really made use of the application. You can change this setting if desired.



Note

*If a user is put on a waiting list for an application license but cancels the application call before a license becomes available, the time spent waiting in line is recorded as 0 seconds application usage. If you want to include these events in your analysis, set the **MINIMUM TIME** to "0 seconds".*

The following explanation of the **Attributes** selection refers to the Record Database Viewer window shown at the beginning of this chapter. In our example, the Microsoft Word application was assigned an attribute called "/TEST", which indicates that the application call was launched by a NetMan administrator from the Management Console, for test purposes.

Record ID	Use	Calls	Use / calls	% of use	% of cal
1					
2					
3					
4					
5					

Refer to the on-line Help for definitions of each attribute, to help you decide which attributes might be useful for your analyses.

In our example we use the default selection of attributes. With this configuration, all application calls are included in the analysis unless the application call could not be launched (indicated by the attributes "N/E": not executed, and "M/F": mount failed). Waiting periods for licenses, however, are included in the evaluation.

The "Selection" settings basically define that **all** data (record, user and station IDs) collected for the **current** period is to be calculated, together with 6 attributes.

To activate the calculation, we now select EDIT/CALCULATE/MAIN TABLE:

Record ID	Use	Calls	Use / Call	% in Use	% in Calls	Wait time for license	Wait time before cancellation	Total wait time for license	Cancellations in license
Bookshelf	00:00:25	2	00:00:12	29.07	40.00	00:00:00	00:00:00	00:00:00	
Microsoft Word	00:01:01	5	00:00:20	70.93	60.00	00:00:00	00:00:00	00:00:00	
Sum	00:01:26	7	00:00:17	100.00	100.00	00:00:00	00:00:00	00:00:00	

The main table shows the following values:

- Period of application use in hours:minutes:seconds.
- Number of application calls
- Average use period per call (the SUM line shows the average use in square brackets, because this value was not arrived at through summation)
- Percentage of the use time of this application in relation to all application use
- Percentage of the application calls of the application in relation to all application calls
- Time spent waiting for a license before the application started ("/WL" attribute)

- Time spent waiting for a license before canceling the application call (“/NL” attribute)
- Total time spent waiting in line for a license (“/NL” and “/WL” attributes)
- Number of cancellations while waiting for licenses

To include all data records in the evaluation, we select the entire time span in which data was recorded:



After repeating the calculation—this time for June and July—we select the TABLE OF PERIODS dialog page:

Period	Use	Calls	Use / Call	Percentage of Record IDs in Use	Percentage of Record IDs Called	Total wait time for licenses	Cancellations in license queue
June 1999	00:01:21	2	00:00:40	75.42	50.00	00:00:00	
July 1999	00:00:25	2	00:00:06	23.58	50.00	00:00:00	
Sum	00:01:46	4	00:00:26	100.00	100.00	00:00:00	

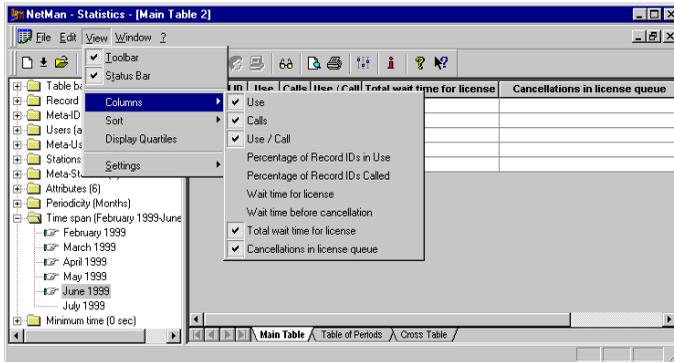
Navigation: Main Table / Table of Periods / Cross table (Usage Time)

This page shows the values calculated for the application in the first line in the main table - in this case, “Bookshelf” - distributed over the periods in the selected time span.

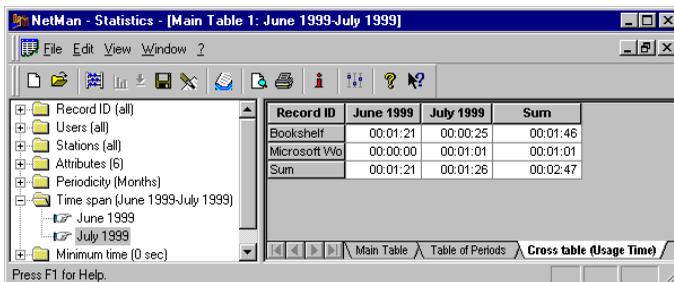
The data is shown relating to the first line, because we did not select a line before clicking on the TABLE OF PERIODS tab. So we return to the main table and select a different line; then view the TABLE OF PERIODS again.

Like the *table of periods*, the *cross table* also shows detailed information about a selected portion of the main table. You can calculate cross tables for each of the values given in the main table (for the columns).

To define the type of cross table, select **EDIT/CALCULATE/CROSS TABLE**:

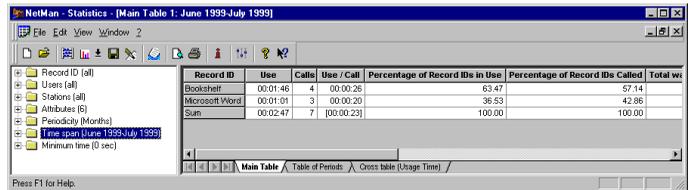


Two detailed views of the main table can be compared and contrasted as follows: the **table of periods** shows the distribution of **all values in a single data line** in the main table (in our example, each line shows the information collected on a **given** record ID) over the individual periods in the calculated time span, while the **cross table** shows—depending on the type of spreadsheet calculated—the table of periods for a **given value** in the main table (in our example, the length of time an application was used) for **all data lines** (in this example, **all** record IDs).

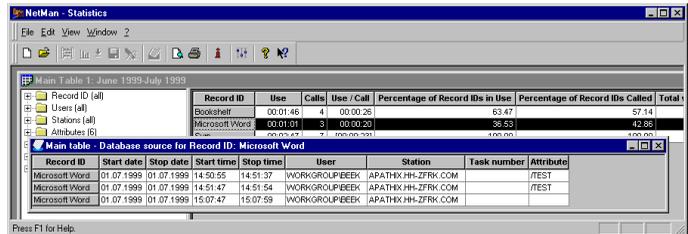


To view the log data that forms the basis of the current main table, mark the desired data line and select **Detailed Informati-**

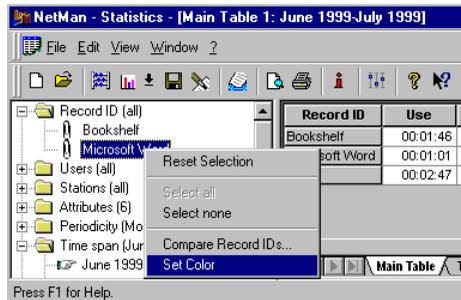
on from the EDIT menu. In the example below, we marked the “Microsoft Word” line and then selected DETAILED INFORMATION:



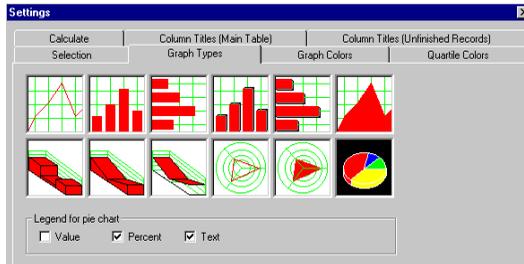
This opens a spreadsheet with the original data records for the lines in the main table:



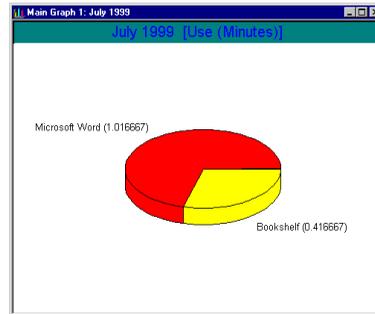
You can also create charts and graphs based on the main table and the table of periods. To assign a color to an application, mark the application in the “Selection” pane and right click for a context menu:



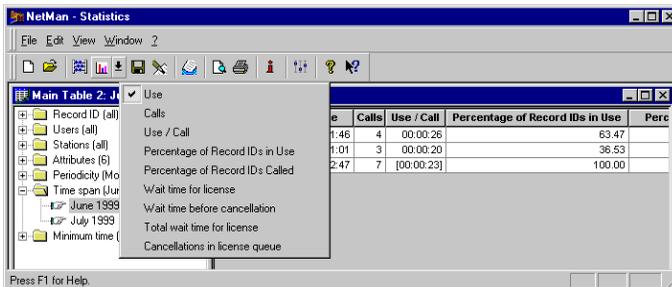
Select **SETTINGS/GLOBAL** from the **VIEW** menu to select the type of chart...



and then select **GRAPH** from the **EDIT** menu to generate the graphic representation of your application usage data:



You can also generate a graph by clicking on the "Graph" button in the tool bar; click on the down-arrow next to this button to select the values to be included in the graph.



You can save graphs as BMP files.

There are two ways to save spreadsheets:

When you use the `SAVE` and `SAVE AS...` functions, the spreadsheets are saved in a format that the NetMan statistics program can open (using `FILE/OPEN`). These are DBF files containing special data records.

If you wish to process the spreadsheets with another program, such as Excel, select `FILE/CREATE REPORT`. Here you can choose either DBF or TXT as the file name extension. Spreadsheets exported in this manner cannot be opened with the NetMan statistics program.



Note

When you output data by selecting `CREATE REPORT`, both the spreadsheet and any existing graphs are output.

