

Novell NetWare 4 - Reducing Cost of Ownership Help

The Novell NetWare 4 Reducing Cost of Ownership is a tool which will help you understand the the cost benefits of using NetWare 4.

When you run the application you will start on the main window. On the main window you will be presented with the following options:

- The [Reducing Client-Server Costs](#) section will provide an overview of the cost and benefits of migrating to NetWare 4.
- The [NetWare 4 - Features, Benefits, and Cost Savings](#) section will provide you with information on evaluating the NetWare 4.1 network operating system.
- The [NetWare 4 - Return on Investment Analysis](#) section will provide you with a Return on Investment Analysis for migrating to the NetWare 4 product.
- The [NetWare 4 - Product Information](#) section will provide you with information on evaluating the NetWare 4.1 network operating system.

Select one of these options by using the mouse to point and click on the desired button, or by using the keyboard equivalents.

The menu bar contains the following categories. Select one of these options by using the mouse to point and click on the desired option, or use the keyboard equivalent:

[File](#)
[Action](#)
[Options](#)
[Window](#)
[Help](#)

Reducing Client-Server Costs

To obtain information on Reducing Client-Server Costs associated with the NetWare 4 Product use the mouse to point and click on the **Reducing Client-Server Costs** button on the main window, or use the keyboard equivalent.

You are now presented with the Browser screen. On the right hand side of the screen is a tree showing the currently selected topic and a list of available topics. To select a different topic, press the previous or next arrow buttons, or directly select the desired tree item topic. The product information is displayed on the left hand side of the screen.

The browser icon bar contains the following options which can be selected.

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[Print](#)

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NetWare 4 - Features, Benefits, and Cost Savings

To obtain information on the Features, Benefits, and Cost Savings associated with the NetWare 4 Product use the mouse to point and click on the **NetWare 4 - Features, Benefits, and Cost Savings** button on the main window, or use the keyboard equivalent.

You are now presented with the Browser screen. On the right hand side of the screen is a tree showing the currently selected topic and a list of available topics. To select a different topic, press the previous or next arrow buttons, or directly select the desired tree item topic. The product information is displayed on the left hand side of the screen in three sections: Feature, Benefit, Cost Savings.

The browser icon bar contains the following options which can be selected. Use the mouse to point and click on the desired option, or use the keyboard equivalents: . is section is used to provide you with an overview of the cost of ownership.

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NetWare 4 - Return on Investment Analysis

To perform the Return on Investment Analysis use the mouse to point and click on the **NetWare 4 - Return on Investment Analysis** button on the main window, or use the keyboard equivalent.

When you enter this section, for a new analysis, you will be presented with a series of questions relating to your computing environment. You should answer all questions on the page. When you have completed the questions on a page press the **Next** button to proceed to the next page. When the last page is completed press the next button. You will now be asked if you want to view the analysis results now. Answer "Yes" to view the results. Answer "No" to make additional changes to the question screens.

You will now be presented with the main Cost Benefit view window. Presentation text is provided on the left hand side to describe the results of the analysis and highlight key results and explain the graph. You should always read this presentation text. Use can use the scroll bar to view all of the presentation text.

The menu bar contains the following categories. Select one of these options by using the mouse to point and click on the desired option, or use the keyboard equivalent:

[File](#)
[Edit](#)
[View](#)
[Options](#)
[Window](#)
[Help](#)

The icon toolbar contains the following options. Use the mouse to point and click on the desired option, or use the keyboard equivalents.

[New](#)
[Open](#)
[Save](#)

[Table Gallery](#)
[Graph Gallery](#)

[Customer Profile](#)
[Print](#)
[Help](#)

NetWare 4 - Product Information

To obtain information on the NetWare 4.1 network operating system use the mouse to point and click on the **NetWare 4 - Product Information** button on the main window, or use the keyboard equivalent.

You are now presented with the Browser screen. On the right hand side of the screen is a tree showing the currently selected topic and a list of available topics. To select a different topic, press the previous or next arrow buttons, or directly select the desired tree item topic. The product information is displayed on the left hand side of the screen.

The browser icon bar contains the following options which can be selected.

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File

This option allows you to access various application functions.

The following options are available within the **File** category on the menu bar. Select one of these options by using the mouse to point and click on the desired option, or use the keyboard equivalent:

[New](#)

[Open](#)

[Save](#)

[Save As](#)

[Print](#)

[Print Setup](#)

[Exit](#)

Edit

The customer profile option is available within the **Edit** category on the menu bar. Select this option to change the customer profile by using the mouse to point and click on the desired option, or use the keyboard equivalent.

View

This option allows you to select a view for various storage analysis results.

The following views are available within the **View** category on the menu bar. Select one of these views by using the mouse to point and click on the desired tab view, or use the keyboard equivalent:

Storage
Expansion
Management
Availability
Cost
Return

The following gallery views are available within the **View** selection on the menu bar or select one of these views by using the mouse to point and click on the desired gallery icon, or use the keyboard equivalents:

[Table Gallery](#)
[Graph Gallery](#)

Table Gallery

This option will display result information in a table chart format.

To view the information in a Table format select **View/Table Gallery** from the main menu or point and click on the **Table** icon on the main tool bar.

Graph Gallery

This option will display result information in a growth chart format showing analysis over a time period.

To view the information in a growth chart format select **View/Growth Gallery** from the main menu or point and click on the **Growth** icon on the tool bar.

Options

This option gives you choices for setting various default application values.

The following options are available within the **Options** category on the menu bar. Select one of these options by using the mouse to point and click on the desired option, or use the keyboard equivalent.

[Preferences](#)

[Save Layout on Exit](#)

Window

These options give you choices on how to arrange your windows and icons so they are easy to see.

The following options are available within the **Window** category on the menu bar. Select one of these options by using the mouse to point and click on the desired options, or use the keyboard equivalent.

[Cascade](#)

[Tile](#)

[Arrange Icons](#)

Help

To obtain help, select Help by clicking on the **Help** icon or by selecting **Help/Contents** from the menu bar. In addition, Context-sensitive help can also be obtained by pressing <F1> on a desired field.

The following options are available within the **Help** selection. These options provide the on-line Help to assist you while working. Select one of these options by using the mouse to point and click on the desired selection.

[Contents](#)

[About](#)

Selecting "Search for Help" displays a menu with a list of Help topics. Selecting and double-clicking on any topic, and then choosing "Go To," advances you to a screen that displays more information and/or procedures about that topic. Or, you can type in the topic you desire Help on, and the menu will automatically scroll to the chosen topic.

Selecting "Help" displays a "How to Use Help" screen. From that screen, you may choose "Help Basics," which explains how to use Help, or, should you know exactly, the Help topic you need help on, click on that topic and you will advance to a screen that displays additional information and/or procedures about that topic.

Cascade

The "Cascade" command makes all open windows the same size and overlaps them such that the selected window and the title Bars are visible.

Select **Window/Cascade** from the menu bar to cascade the windows.

Tile

The "Tile" command sizes and arranges the open group of windows so all the windows are equally visible to the greatest extent possible.

Select **Window/Tile** from the menu bar to tile the windows.

Arrange Icons

The "Arrange Icons" command evenly arranges the icons. If a window is maximized you will not see the effect of this action.

Select **Window/Arrange Icons** from the menu bar to arrange icons.

Contents

Selecting "Contents" displays a list of selectable topics. Clicking on any of these topics will advance you to a screen that displays more information and/or procedures about that topic.

About

Selecting "About" displays the current version number and copyright/development information.

Select **Help/About** from the menu bar to view the "About" information.

Preferences

From the menu bar choose **Options/Preferences** to:

- Set the tip help delay.
- Specify whether to confirm application closing on exit.
- Specify whether to always show the welcome screen on startup.
- Specify gray scale or cross hatch printing patterns for graph printing.

Save Layout on Exit

You can "Save Layout on Exit" so your main application window will be positioned in the same fashion when you return.

Select **Options/Save Layout on Exit** from the menu bar to activate the option.

New

This option allows the user to enter the customer information, and other general information to create a new set of parameters for a given analysis configuration. Use a new configuration to play what if scenarios by setting different model parameters in each configuration file.

File New is available by selecting **File/New** from the menu or selecting the **New** icon on the tool bar.

Open

This option is used to open an existing analysis file.

File open is available by selecting **File/Open** from the menu or selecting the **Open** icon on the tool bar.

Save

This option is used to save all the values from the customer profile window. Save should be used in order to maintain all of your values within the customer profile section.

Save is available by selecting **File/Save** from the menu or selecting the **Save** icon on the tool bar.

Save As

This option is used to save an existing analysis file under another name.

File Save As is available by selecting **File/Save As** from the menu.

Print

Using print you can print an individual or complete report. Select the print icon from the toolbar, or select **File/Print** from the application menu. You will be presented with the option of printing the current view or a complete report (which will includes all views and the customer profile summary). Select the appropriate option and select OK or Cancel.

Print Setup

The Windows print setup dialog will be displayed.

Print Setup is available by selecting **File/Print Setup** from the menu.

Load Default Parameters

You can reset the parameters back to the original factory values by using this option. This should be used if you want to restore the original settings after changing values.

Warning: This option will restore all model parameters, erasing all of your entries.

Load Default Parameters is available by selecting **File/Load Default Parameters** from the menu.

Exit

To exit the application , select **File/Exit** from the menu, or double-click on the application control menu (very upper left hand corner).

Next Topic

Use this button to view the next topic.

Previous Topic

Use this button to view the previous topic.

Close

To close the browser and exit to the previous screen, point and click on the **close** button.

File

Select this option to select the Print setup window or exit the application.

Action

This option gives you choices for selecting the four main sections of the application.

The following options are available within the Action category on the menu bar.

[Reducing Client-Server Costs](#)

[NetWare 4 - Features Benefits, and Cost Savings](#)

[NetWare 4 - Return on Investment Analysis](#)

[NetWare 4 - Product Information](#)

Select one of these options by using the mouse to point and click on the desired option, or use the keyboard equivalent.

Options

This option gives you choices for setting various default application values.

The following options are available within the **Options** category on the menu bar. Select one of these options by using the mouse to point and click on the desired option, or use the keyboard equivalent.

[Preferences](#)

[Save Layout on Exit](#)

Print

Using print you can print an individual or complete report. Select the print icon from the toolbar. You will be presented with the option of printing the current view or a complete report. Select the appropriate option and select OK or Cancel.

Customer Profile

The customer profile section will allow you to make changes to the Currency, Customer, Profile, Storage, Management, Availability and Upgrade Costs questions/values so you can model different cases.

You can get additional Help while in the Customer Profile section by:

- Pressing <F1> on a desired field for context-sensitive help.

Currency - Exchange Rate, Currency Multiplier Symbol & Date Format

This section will allow you to change the exchange rate, thousand/million/billion symbol, and select a long or short date format. From this screen, you will also be able to view your Microsoft Windows International Control Panel settings for Country, Currency Format, and Number Format.

For optimal performance you should make any and all changes to your International Control Panel settings before running the application. The application will use the Country, Currency Format, and Number format settings that you have selected in the International Control Panel. Once the application is running the exchange rate, thousand/million/billion symbol, and date format can be changed at any time. If you make a change to the Windows International Control Panel settings while running the application, the changes may not be recognized. Therefore, you must close and restart the application.

For best results the Currency Format - Decimal Digits setting in the Microsoft Windows International Control Panel should be set to 2. If the decimal digits setting is 0, undesired rounding may occur.

Note: Whenever the exchange rate is changed, all Customer Profile values associated with currency will be updated to reflect the new exchange rate.

Enter the exchange rate, thousand/million/billion symbol, and select a date format.

Example:

Exchange Rate: 1.00 to US dollar (allowable range for the exchange rate is .01 to 10000)

Thousand Symbol: K

Million Symbol: M

Billion Symbol: B

Short Date Format: 6/13/95

Long Date Format: Tuesday, June 13, 1995

Customer - Customer Information

This section will allow you to enter Company Name, Contact Name, Address, Phone Number, and Fax Number. Required entries: Company Name, Contact Name, and Phone Number.

Enter the Customer information.

Example:

Company Name:	Novell, Inc.
Contact Name:	John Smith
Address:	122 East 1700 South Provo, UT 84606
Phone Number:	801-888-8888
Fax Number:	801-888-8888

Customer - Business Type

In this field the customers' business type is identified.

Enter the business type, or use the pull down arrow to choose the business type from a predefined list of business types.

Example: Computing & Electronics

Customer - Estimated Annual Revenue

Estimated Annual Revenue is used to project the productivity savings and opportunity cost savings available from improved network uptime. These savings are **not** used in the final calculations of cumulative savings, net present value, or internal rate of return highlighted in analysis results. The revenue figure used here could represent:

- **Total annual revenue** - if business critical applications are dependent on network uptime.
- **Partial annual revenue** - based on the percentage of revenue dependent on network uptime.
- **Department or Division revenue** - if this analysis is for division or department in the company.
- **Partial Department or Division revenue** - based on the percentage of department or division revenue dependent on network uptime.
- **Zero** - if productivity savings or opportunity cost savings are not being considered. Again, these projections **do not** affect the overall return on investment calculations.

Enter the appropriate estimated revenue (millions of \$).

Example: 20

Customer - Estimated Annual Revenue Growth

Estimated Annual Revenue Growth is needed to project increases or decreases in productivity cost savings and opportunity cost savings per year.

Enter the estimated revenue growth percentage.

Example: 10

Customer - Report Prepared By

This field allows you to customize your report by entering your name and/or company information. This will appear on the cover sheet of the printed report.

Please enter the name of the person/persons or company preparing this report.

Example: John Smith, Novell, Inc.

Profile - Network Environment

On this screen, current network profile information and growth projections are entered. These numbers could be based on your company wide, division wide, or location wide networks, depending on what you want to analyze.

Number of servers and number of client workstations is required.

In order to build a baseline for financial analysis, this tool compares "**migration**" to "**no migration**" scenarios. Even if NetWare 4 is planned to run on any additional servers, for analysis purposes you should assume that additional servers would continue to run the current network operating system. The report will then contrast the financial implications of "migrating to NetWare 4" versus "not migrating" and staying with the current operating system. This tool assumes that all the servers identified here will be migrated to NetWare 4. If you want to analyze only a portion of the total number of servers in the company, enter the number you want to analyze. You can build several cases by changing your assumptions and your input.

Growth projections are entered in percentages. For example, if there are four NetWare 3 servers, 25% growth would mean that approximately one NetWare 3 server would be added per year. Again, for comparative purposes "no migration" is assumed.

Enter current profile information and growth projections.

Example:

Number of NetWare 2 & 3 Servers:	4	
Expected Annual Growth (%):		25
Number of NetWare 4 Servers:	0	
Expected Annual Growth (%):		25
Total Number of Other Servers:	0	
Expected Annual Growth(%):		25
Total Number of Client Workstations:		200
Expected Annual Workstation Growth(%):	25	

Storage - Total Network Server Storage

Total network server storage was calculated using an industry average of 2.1 gigabytes per server. This default can be changed to match actual network server storage.

Enter actual total network server storage (in GB) for all servers that were entered on the profile screen.

Example: 21

Storage - Annual Network Storage Growth

The industry average for network storage growth is right around 50 percent per year (Source: Strategic Research Corporation). This default can be changed according to your projection.

Enter the percent growth projection for network server storage.

Example: 50

Storage - NetWare 4 Storage

It is important to deduct NetWare 4 storage from the total storage being analyzed. This way, benefits already derived from migrating some servers to NetWare 4 will not be included. Enter the percent of total network storage that is currently running under NetWare 4. For example, if you currently have 100 gigabytes of total server storage, but 10 of those gigabytes are on NetWare 4 servers, 10% of storage would be NetWare 4 storage. Therefore, you would enter "10" in this field.

Enter what percent of your storage is NetWare 4.

Example: 10

Storage - NetWork Storage Used Space

According to industry averages, 70% of network hard disk storage is used space and 30% is free space (Source: Strategic Research Corporation). This default can be changed based on actual used space statistics.

Enter the percent of total network hard disk storage that is used (%).

Example: 70

Storage - Inactive Data

Inactive data (data not accessed in more than 90 days) can make up the largest portion of used space on disk. The average for inactive data is around 50%. Based on your network, this default can be adjusted to match your environment.

Enter the percent of data that is more than 90 days old.

Example: 50

Storage - Storage Costs

In these fields you can input your costs for hard disk and optical storage. Since hardware costs have traditionally decreased, you can also project how prices will drop. Customers surveyed are paying anywhere from \$400 per gigabyte to \$2,000 per gigabyte for hard disk storage. Most customers are around \$800 per gigabyte. Optical storage appears to run about half that of hard disk storage.

Change the defaulted values for hard disk storage and optical storage and adjust the annual price decreases to accurately reflect your environment and projections.

Example:

Hard disk storage per gigabyte (\$):	800	
Annual price decrease (%):	20	
Optical storage per gigabyte (\$):		400
Annual price decrease (%):	20	

Storage - Compression Ratio

Customers are freeing anywhere from 40% to 60% of hard disk storage by implementing NetWare 4's compression feature. Compression happens automatically, in the background, on files identified for compression. Files can be marked for non compression if desired. By turning on compression, accounts can avoid purchasing additional hard disk or postpone purchases. This field allows you to project the compression ratio you expect in your account. Then, after installing NetWare 4, you can adjust this ratio to match actual results. Analysis results will show you just how much you can improve free space on disk and how this will affect costs over the analysis period.

Enter expected compression ration using NetWare 4.

Example:

Expected compression ratios?	2:1	50%
	2.5:1	40%
	1.7:1	59%

Storage - Block Suballocation Savings

By implementing block sub-allocation, customers are able to improve free space and avoid or delay hard disk purchases. This field allows you to estimate the percent of disk you can save by implementing this feature. For mail servers with small file sizes, savings may exceed the defaulted value. For servers with large block sizes, savings may be less. On average, customers are reporting 15% savings.

Enter the percent block suballocation savings expected using NetWare 4.

Example: 15

Management - Number of NetWork Administrators

Number of network administrators can be changed to match your environment. This should represent the number of full-time equivalents who manage the network. In other words, if an individual spends half his or her time managing the network, this would be counted as $\frac{1}{2}$ headcount.

Enter the number of administrators that manage your network.

Example: 2

Management - Administrator's Annual Burdened Salary

Burdened salary represents salary plus benefits. Benefits can range from 30 to 50 percent of salary. For example, \$40K salary times 1.4 equals a burdened salary of \$56K.

Enter the average administrator's annual burdened salary.

Example: 60000

Management - Annual Administrator Growth

If you were to continue with your current Network Operating System (NOS), how would the number of administrators grow?

Enter the annual percent increase in the number of administrators.

Example: 10

Management - Administrator's Annual Salary Increase

This represents the annual burdened salary increase that the administrator is expected to receive.

Enter the annual increase in the administrator's burdened salary.

Example: 6

Management - Expected Annual Staff Avoidance

Many companies moving to NetWare 4 have been able to avoid hiring additional administrators, or have been able to move this valuable resource into areas that more directly effect the bottom-line. The default assumes that moving to NetWare 4 would save one headcount. This value should be changed to match your projection for headcount savings.

Enter the expected annual staff avoidance using NetWare 4 (\$).

Example: 60000

Management - Network User Access

Network users access servers to share files, printer and other resources. They may also access network services like electronic mail, fax, and host access. Any of these services may require a separate directory that must be maintained. In this field you should average the number of servers and services that a network user accesses.

Enter the average number of network servers and services that a user accesses.

Example: 4

Management - Network Management Tasks

Network administrators spend time adding users, changing users, deleting users, etc. NetWare 4 helps eliminate these redundant tasks by allowing administrators to make these changes once in the "directory" rather than on each server or service the user accesses. For example, with NetWare 3, if a new user needs access to four servers and services, he or she would have to be added four times. With NetWare 4, the user would be added once in the "directory" and be granted access rights to the servers and services needed. This eliminates tasks, saves time, and reduces mistakes.

Task times are defaulted based on customer averages. Number of tasks is defaulted based on the number of client workstations and the growth rate specified on the Profile screen.

Change the defaults to reflect your environment.

Availability

On this screen we consider the benefits of improved network uptime. NetWare 4 offers improved memory management and fault tolerant login. These features can reduce downtime thus reducing productivity and opportunity costs. The benefits calculated from this screen are **NOT** included in cumulative savings, Net Present Value or Internal Rate of Return projections.

Modest improvements in network availability can boost productivity and shrink opportunity losses. The defaults on this screen can be adjusted to match your environment. "What if" analysis provides the ability to project productivity and opportunity cost savings based on estimated decreases in network downtime. For example, if your network is down an average of two hours per week and NetWare 4 decreases downtime by 15%, or 18 minutes, what would it mean in productivity and opportunity dollars? Now, you can find out by running these estimates. And, even though these savings are not included in the final return on investment projections, they could be used for additional justification.

Update the defaults on this screen to reflect your environment.

Upgrade Costs - Average License Upgrade

These are the NetWare 4.1 Retail Upgrade Prices from any Network Operating System. To select the average upgrade cost for each NetWare 4 user you can use the chart below:

	<u>Price/Server</u>	<u>Price/Per Node</u>
5-user to 5-user	\$495	\$99
10-user to 10-user	\$995	\$100
25-user to 25-user	\$1,495	\$60
50-user to 50-user	\$1,995	\$40
100-user to 100-user	\$2,795	\$28
250-user to 250-user	\$4,995	\$20
500-user to 500-user	\$6,295	\$13
1000-user to 1000-user	\$8,395	\$9

Note: Prices are subject to change.

Please contact your authorized Novell reseller for help in determining pricing.

Enter the average license upgrade cost for each NetWare 4 user.

Example: 100

Upgrade Costs - Hardware

Most NetWare 3 customers do not need to upgrade their server or client hardware before installing to NetWare 4. However, if server memory is tight, or if cache is not being used effectively, additional server memory may be needed. Minimum server memory requirement is 8 megabytes. Minimum workstation low memory required is around 40K.

Enter the estimated hardware upgrade cost to move to NetWare 4.

Example: 100

Upgrade Costs - Planning

In this field you can enter the total number of hours you will need for planning. Planning time can range from a few hours for one person, to many hours for several people. For example, a small installation, with a few servers, using the simplified install and a single level directory structure, may only need three to four hours to plan. On the other hand, an account with 5000 users and multiple divisions, may need two or three people for a week to effectively plan. Planning is important, however; the directory tree structure can be altered and changed as needs or organizations change. Chances are the directory design will be dynamic, not static.

Enter the total number of hours you will need for planning the upgrade. You will notice that the hourly rate is defaulted based on your administrative hourly rate. Change this rate if needed.

Example: 40

Upgrade Costs - Testing

Most companies plan for the same number of testing hours as they did planning hours. If you need 40 hours to plan, you may want 40 hours to test.

Enter the total number of hours needed for testing. Notice the hourly rate is based on the administrative salary entered on the Management screen. Change this rate if needed.

Example: 80

Upgrade Costs - Implementation

As a rule of thumb, many companies plan for two to three hours per server and 30 to 45 minutes per workstation to implement NetWare 4. For example a company with two servers and 100 clients could estimate implementation time at 54 hours.

Please enter the total number of hours you will need to implement NetWare 4. The hourly rate is based on the salary figure entered on the Management screen. Update this rate if needed.

Example: 200

Upgrade Costs - Training Hours and Class Fee

Companies should plan to train at least one person on NetWare 4. Implementation training could take around a week and cost \$1,000 to \$2,500 depending on travel and class fees. If NetWare 4 experience is already available in the company, or if implementation is being contracted, training needs could be minimal. On the other hand, large organizations may choose to train several individuals.

Enter the total number of hours needed for training. Change the hourly rate, if needed, to reflect your cost and include the class fee.

Example: 100

Upgrade Costs - Rate of Return

In this field, you can enter your required rate of return. This is sometimes known as the "hurdle rate" or "cost of funds" rate adjusted for risk. The question is, "What rate of return is acceptable for investments in information technology?"

Enter your required rate of return. This rate will be reflected in the Net Present Value calculation. Generally, if the Net Present Value is positive, the investment is acceptable. Other criteria may include "Pay-Back Period" and the "Internal Rate of Return" which are included in the Return section of the report. Return on assets, and return on equity could also be calculated based on table results in the Return section of the report.

Example: 12

Customer - Analysis Period

The projected customer analysis period will allow you to select a three, four, or five year analysis period. All calculations will be based on the analysis period selected.

Enter the projected customer analysis period.

Example: 5 year

