



# EMC<sup>®</sup> NetWorker<sup>®</sup>

Release 8.0

## Licensing Guide

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EMC<sup>2</sup>

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For the most up-to-date regulatory document for your product line, go to the technical documentation and advisories section on the EMC online support website.

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# PREFACE

*As part of an effort to improve its product lines, EMC periodically releases revisions of its software and hardware. Therefore, some functions described in this document might not be supported by all versions of the software or hardware currently in use. The product release notes provide the most up-to-date information on product features.*

*Contact your EMC representative if a product does not function properly or does not function as described in this document.*

## NOTICE

This document was accurate at publication time. New versions of this document might be released on the EMC online support website. Check the EMC online support website to ensure that you are using the latest version of this document.

## Purpose

This document describes how to evaluate and permanently license the NetWorker software. It also helps you determine which of the two NetWorker licensing models to use:

- ◆ NetWorker Traditional Licensing Mode
- ◆ NetWorker Capacity Licensing Model

## Audience

This guide is intended for use by system administrators who are responsible for installing and licensing NetWorker software.

Readers of this document are expected to be familiar with the following topics:

- ◆ NetWorker software installation
- ◆ NetWorker software requirements and configuration

The information in this guide assumes that the EMC NetWorker software is installed and that all of the software and hardware requirements have been met on the computer that accesses the NetWorker Management Console interface, (known as the Console). These requirements are described in the *EMC NetWorker Installation Guide*.

You can use either the traditional licensing model or the capacity licensing model to permanently license the NetWorker software. Capacity licensing is a new licensing option and is offered as an alternative to the traditional licensing model. You can choose either the traditional or capacity licensing, but can use only one method per NetWorker server or datazone.

## Related documentation

The following EMC publications provide additional information:

- ◆ *EMC NetWorker Release Notes* for your current release
- ◆ *EMC NetWorker Installation Guide* for your current release
- ◆ *EMC NetWorker Administration Guide* for your current release, for information about using your current NetWorker release and its Management Console (Console).
- ◆ *EMC NetWorker License Manager Installation and Administration Guide*

## Conventions used in this document

EMC uses the following conventions for special notices:

### NOTICE

NOTICE is used to present information that is important or essential to software or hardware operation.

**Note:** Notes appear in tables only and present information that is important or essential to software or hardware operation.

## Typographical conventions

EMC uses the following type style conventions in this document:

<b>Normal</b>	Used in running (nonprocedural) text for: <ul style="list-style-type: none"> <li>• Names of interface elements, such as names of windows, dialog boxes, buttons, fields, and menus</li> <li>• Names of resources, attributes, pools, Boolean expressions, buttons, DQL statements, keywords, clauses, environment variables, functions, and utilities</li> <li>• URLs, pathnames, filenames, directory names, computer names, links, groups, service keys, file systems, and notifications</li> </ul>
<b>Bold</b>	Used in running (nonprocedural) text for names of commands, daemons, options, programs, processes, services, applications, utilities, kernels, notifications, system calls, and man pages  Used in procedures for: <ul style="list-style-type: none"> <li>• Names of interface elements, such as names of windows, dialog boxes, buttons, fields, and menus</li> <li>• What the user specifically selects, clicks, presses, or types</li> </ul>
<i>Italic</i>	Used in all text (including procedures) for: <ul style="list-style-type: none"> <li>• Full titles of publications referenced in text</li> <li>• Emphasis, for example, a new term</li> <li>• Variables</li> </ul>
Courier	Used for: <ul style="list-style-type: none"> <li>• System output, such as an error message or script</li> <li>• URLs, complete paths, filenames, prompts, and syntax when shown outside of running text</li> </ul>
<b>Courier bold</b>	Used for specific user input, such as commands
<i>Courier italic</i>	Used in procedures for: <ul style="list-style-type: none"> <li>• Variables on the command line</li> <li>• User input variables</li> </ul>
< >	Angle brackets enclose parameter or variable values supplied by the user



[ ]	Square brackets enclose optional values
	Vertical bar indicates alternate selections — the bar means “or”
{ }	Braces enclose content that the user must specify, such as x or y or z
...	Ellipses indicate nonessential information omitted from the example

## Where to get help

EMC support, product, and licensing information can be obtained as follows:

**Product information** — For documentation, release notes, software updates, or information about EMC products, licensing, and service, go to the EMC online support website (registration required) at:

<http://Powerlink.EMC.com>

**Technical support** — For technical support, go to EMC online support and select Support. On the Support page, you will see several options, including one to create a service request. Note that to open a service request, you must have a valid support agreement. Contact your EMC sales representative for details about obtaining a valid support agreement or with questions about your account.

## Your comments

Your suggestions will help us continue to improve the accuracy, organization, and overall quality of the user publications. Send your opinions of this document to:

[BSGdocumentation@emc.com](mailto:BSGdocumentation@emc.com)



# CHAPTER 1

## Introduction

This chapter includes the following topics:

- ◆ [About this guide](#) ..... 12
- ◆ [Deciding which licensing model to use](#)..... 13

## About this guide

The information in this guide assumes that the EMC® NetWorker® software is installed and that all of the software and hardware requirements have been met on the computer that accesses the NetWorker Management Console (NMC) interface, (known as the Console.) These requirements are described in the *EMC NetWorker Installation Guide*.

You can use either the traditional licensing model or the capacity licensing model to permanently license the NetWorker software. Capacity licensing is a new licensing option and is offered as an alternative to the traditional licensing model. You can choose either the traditional or capacity licensing, but can use only one method per NetWorker server or datazone.

### About this Guide

[Chapter 1, “Introduction,”](#) provides information to help you determine which of the two NetWorker licensing models to use:

- ◆ NetWorker Traditional Licensing Model
- ◆ NetWorker Capacity Licensing Model

### NetWorker Traditional Licensing Model

[Chapter 2, “NetWorker Traditional Licensing Model,”](#) provides information outlining the traditional NetWorker licensing model. This chapter outlines how to evaluate and permanently license the NetWorker software. It also provides information on the various product licenses available for purchase through the traditional licensing model.

The traditional licensing model is price effective for deploying basic backup technology such as regular client and tape backup.

### NetWorker Capacity Licensing Model

[Chapter 3, “NetWorker Capacity Licensing Model,”](#) provides information outlining the NetWorker capacity licensing model. This chapter describes this new licensing model and its benefits. It also outlines how to evaluate and permanently license the NetWorker software.

### Troubleshooting and Best Practices

[Chapter 4, “Troubleshooting and Best Practices,”](#) provides NetWorker licensing troubleshooting information.

### NetWorker License Manager

[Chapter 5, “NetWorker License Manager,”](#) provides information about the NetWorker License Manager software including information outlining how to enter and delete an enabler code, enter an authorization code, and how to change a License Manager server.

## Deciding which licensing model to use

Review this section to determine which of the two NetWorker licensing models to use:

- ◆ [“Home > Support > Interoperability and Product Lifecycle Information > Product Release, End of Life Dates, Support Policy” on page 14](#)
- ◆ [“Capacity licensing model” on page 13](#)

### Traditional licensing model

The traditional licensing model is price-effective for backup environments that:

- ◆ Contain a small number of backup clients. NetWorker FastStart might be more price-effective in this backup environment.
- ◆ Have an average amount of data per client that is greater than 250 GB. The backup clients can include physical clients, virtual clients, deduplication clients, and application clients.
- ◆ Deploy basic backup technology, such as standard clients and tape backup.

[“NetWorker Traditional Licensing Model” on page 15](#) provides information outlining the traditional NetWorker licensing model.

### Capacity licensing model

The capacity licensing model is price-effective for backup environments that:

- ◆ Contain a large number of backup clients, where the average data per client is 250 GB or less. The backup clients can include physical clients, virtual clients, deduplication clients, and application clients.
- ◆ Deploy advanced backup technology, such as:
  - Deduplication
  - Disk backup
  - Microsoft applications
  - Oracle
  - Other application and modules
  - VTL backup

With capacity licensing, you can deploy unlimited quantities of the NetWorker options and modules to protect up to the amount of licensed capacity.

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**Note:** PowerSnap, and SnapImage are not included in the NetWorker capacity licensing and must be ordered separately. The PowerSnap capacity licensing model is separate from the NetWorker capacity licensing model.

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[“NetWorker Capacity Licensing Model” on page 57](#) provides information outlining the capacity licensing model.

## Support obsolescence

For detailed information on products and operating systems that are no longer supported, go to the Product Obsolescence page on the EMC support website.

The following documents provide more information:

- ◆ The *Technical Guidance for Upgrades to EMC NetWorker 7.6 Technical Note* provides technical guidance for upgrades to EMC NetWorker 7.6.
- ◆ The *NetWorker End of Life and End of Support Announcement* can be found on EMC Powerlink at this menu path:

**Home › Support › Interoperability and Product Lifecycle Information › Product Release, End of Life Dates, Support Policy**

# CHAPTER 2

## NetWorker Traditional Licensing Model

This chapter includes the following topics:

- ◆ Selecting a NetWorker licensing model..... 16
- ◆ About the traditional licensing model..... 16
- ◆ The evaluation process ..... 18
- ◆ License process flow ..... 20
- ◆ How to permanently license the NetWorker software ..... 22
- ◆ Product licenses ..... 28
- ◆ EMC NetWorker 45-Day Evaluation Enabler Codes ..... 41

## Selecting a NetWorker licensing model

“[Deciding which licensing model to use](#)” on page 13 details criteria for selecting when to use the traditional licensing model or the capacity licensing model to permanently license the NetWorker software.

## About the traditional licensing model

NetWorker software and added features, such as modules, can be downloaded and evaluated for free from EMC Powerlink, the EMC website, or the media kit. The software can be evaluated for 30 days without an enabler code or license. After that, you can obtain evaluation enablers for each added feature to extend the evaluation period for an additional 45 days. “[The evaluation process](#)” on page 18 provides information.

To permanently use the NetWorker software, you must license the software on the EMC Powerlink Licensing site and apply the supplied licensing key on the NetWorker server. The license key includes permanent enabler codes and corresponding authorization (auth) codes. “[How to permanently license the NetWorker software](#)” on page 22 provides information.

The licensing information in this chapter applies to NetWorker release 8.0. The *EMC Software Price Guide: Open Storage Software* provides detailed licensing information.

“[Deciding which licensing model to use](#)” on page 13 details the selection criteria of when to use the traditional licensing model or the capacity licensing model to permanently license the NetWorker software.

## Base enabler

Each installation of NetWorker server software must be licensed with a base enabler. Only the server’s enabler is called a *base* enabler. This enabler *turns on* the software and allows the use of a particular bundle of features, such as a specified number of clients and devices. All license keys are typed and stored on the NetWorker server, which enforces the licensing.

Base enablers come in different editions that enable varying degrees of functionality. Add-on enablers allow a broader scope of features.

### NOTICE

You cannot delete the base enabler. You can use the **nsrccap** command line utility to upgrade or downgrade the base enabler. However, once a base enabler has been upgraded or downgraded, you cannot return to the original lower function base enabler. You must obtain a new base enabler from EMC Licensing. For example, if you upgrade from Work Edition to Power Edition but then regress back to Work Edition, the old Work Edition base enabler is invalid. You must obtain a new Work Edition base enabler from EMC Licensing.

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The following tips apply to the base enabler:

- ◆ As soon as the base enabler is typed, the evaluation mode ends. A function that was available during a 30-day evaluation mode must be specifically enabled with either an evaluation or permanent enabler.
- ◆ When typing a group of enablers, always type the base enabler last to avoid disabling the non-base-enabled features.

## Evaluation enabler

Evaluation enablers are free, and must be applied on the NetWorker server. An evaluation enabler extends the evaluation period for an additional 45 days. The evaluation enabler cannot be extended or permanently enabled. It must be removed from the production environment before or on its expiry date.

[“Evaluation enabler” on page 19](#) provides more information.

## Update enabler

An update enabler is necessary to move from an existing major NetWorker release to a newer major NetWorker release, for example, from NetWorker 7.5 to NetWorker 8.0.

Updating within a minor release, for example, from NetWorker 7.6 SP2 to NetWorker 7.6 SP3, does not require an update enabler.

With NetWorker 7.6 and later, if an update enabler is required, the NetWorker software automatically adds the required update enabler code to its configuration. The update enabler expires after 45 days. You must contact EMC Powerlink Licensing within 45 days to permanently authorize the update enabler.

### NOTICE

If the auth (authorization) code for the update enabler code is not applied within 45 days, the NetWorker server software will be disabled. Typing the auth code enables the software even if the update enabler code has expired. The NetWorker 7.5 update enabler code cannot be deleted, only authorized with the auth code.

## Update enabler alert

An alert message is generated 45 days before a NetWorker update enabler code expires. This alert remains until the NetWorker update enabler is authorized.

To view the license alert, use one of the following methods:

- ◆ In the **NetWorker Administration** window:
  - a. Click **Monitoring**.
  - b. Select the **Alert** tab.
- ◆ In the **Console** window, click **Events**.
- ◆ Type **nsrwatch** at the command line.

A colored icon within the alert message indicates that the update enabler will expire within 45 days. The message appears daily up to and including the day of the update enabler code expiration.

Before the end of the evaluation period, contact Licensing at emc.com, your authorized reseller, or the EMC sales team to request and obtain your update authorization code.

By the end of the evaluation period, you must permanently license the software to continue using modules or features that you have evaluated. If you do not permanently authorize the update enabler before its expiry, your backups might be impacted. [“How to permanently license the NetWorker software” on page 22](#) provides information.

## The evaluation process

EMC NetWorker software and added features, such as modules, can be downloaded and evaluated for free from EMC Powerlink, the EMC website, or the media kit.

You can evaluate NetWorker software in two ways:

- ◆ [“Evaluating a new installation of NetWorker software” on page 18](#)
- ◆ [“Evaluating features of an existing NetWorker installation” on page 18](#)

By the end of the evaluation period, you must permanently license the NetWorker software to continue using modules or features that you have evaluated to back up and recover data. [“How to permanently license the NetWorker software” on page 22](#) provides information.

### Evaluating a new installation of NetWorker software

When you first install the NetWorker software, you can evaluate the software with all the modules and features for free for 30 days without typing any enabler codes or licenses.

[“Evaluation enabler” on page 19](#) provides information on extending the evaluation period for an additional 45 days.

### Evaluating features of an existing NetWorker installation

If you are evaluating one or more NetWorker modules or features on an edition of NetWorker software that has already been installed and licensed, perform the following steps:

1. Contact your EMC sales representative or your authorized reseller who will place an EVAL order on your behalf. As a result of the activation of your Eval License Authorization Code (LAC) number you will obtain a temporary license key.
2. On the NetWorker server, type an evaluation enabler code for each module or feature to be evaluated. [“How to apply an evaluation enabler code” on page 19](#) provides information.

## Evaluation enabler

Evaluation enablers are free, and must be applied on the NetWorker server. An evaluation enabler extends the evaluation period for an additional 45 days. The evaluation enabler cannot be extended or permanently enabled. It must be removed from the production environment before or on its expiry date.

To obtain entitlement extensions and the resulting evaluation enablers, do one of the following:

- ◆ Contact your EMC Sales Representative or your authorized reseller who will place an EVAL order on your behalf.
- ◆ Refer to the media kit for EMC Information Protection and Availability Product Families.

### How to apply an evaluation enabler code

To apply an evaluation enabler on the **NetWorker** server:

1. Start the **NetWorker Management Console** software.
2. Open the **Administration** window:
  - a. In the **Console** window, click **Enterprise**.
  - b. In the left pane, select a NetWorker server in the **Enterprise** list.
  - c. In the right pane, select the application.
  - d. From the **Enterprise** menu, click **Launch Application**. The **Administration** window is launched as a separate application.
3. From the **Administration** window, click **Configuration**.
4. In the left pane, select **Registration**.
5. From the **File** menu, select **New**.
6. In the **Enabler Code** attribute, type the enabler code.
7. (Optional) In the **Comment** attribute, type a description of the license.
8. Click **OK**.

### Evaluation enabler alert

An alert message is generated 30 days before a NetWorker evaluation enabler code expires. The alert remains until the NetWorker software has been authorized or the evaluation enabler has been deleted.

To view the license alert, use one of the following methods:

- ◆ In the **NetWorker Administration** window:
  - a. Click **Monitoring**.
  - b. Select the **Alert** tab.
- ◆ In the **Console** window, click **Events**.

Color-coded icons appear with the alert message:

- ◆ A yellow icon indicates that the enabler will expire within 30 days. The message displays the yellow icon until 10 days prior to the evaluation enabler code expiration.
- ◆ A red icon indicates that the enabler will expire within 10 days. The message displays the red icon up to and including the day of the enabler code expiration.

## How to delete an enabler code

You can delete a license enabler code at any time, whether or not it has been permanently authorized. The license is *not* removed when the software is uninstalled.

### NOTICE

You cannot delete the enabler code that enables the basic NetWorker software, called the “**base enabler**”. You can use the **nsr`cap`** command line utility to upgrade or downgrade the base enabler. However, once a base enabler has been upgraded or downgraded, you cannot return to the original lower function base enabler. You must obtain a new base enabler from EMC Licensing.

For example, if you upgrade from Work Edition to Power Edition but then regress back to Work Edition, the old Work Edition base enabler is invalid. You must obtain a new Work Edition base enabler from EMC Licensing.

To delete an enabler code:

1. In the **Administration** window, click **Configuration**.
2. Click **Registrations**.
3. Right-click the license to delete, then select **Delete**.
4. Click **Yes** to confirm the deletion.

## License process flow

To permanently use the NetWorker software to back up and recover data, you must license the software. The licensing process is the same for all editions of the NetWorker software, and for the individual modules and features.

The NetWorker license process consists of the following basic steps:

1. Download and install the software for evaluation.
2. Purchase the required NetWorker product, options, and modules from EMC or an authorized partner. The purchase order for the software lists the requested NetWorker product, options, and modules. EMC sends a LAC certificate by email in response to the valid purchase order.

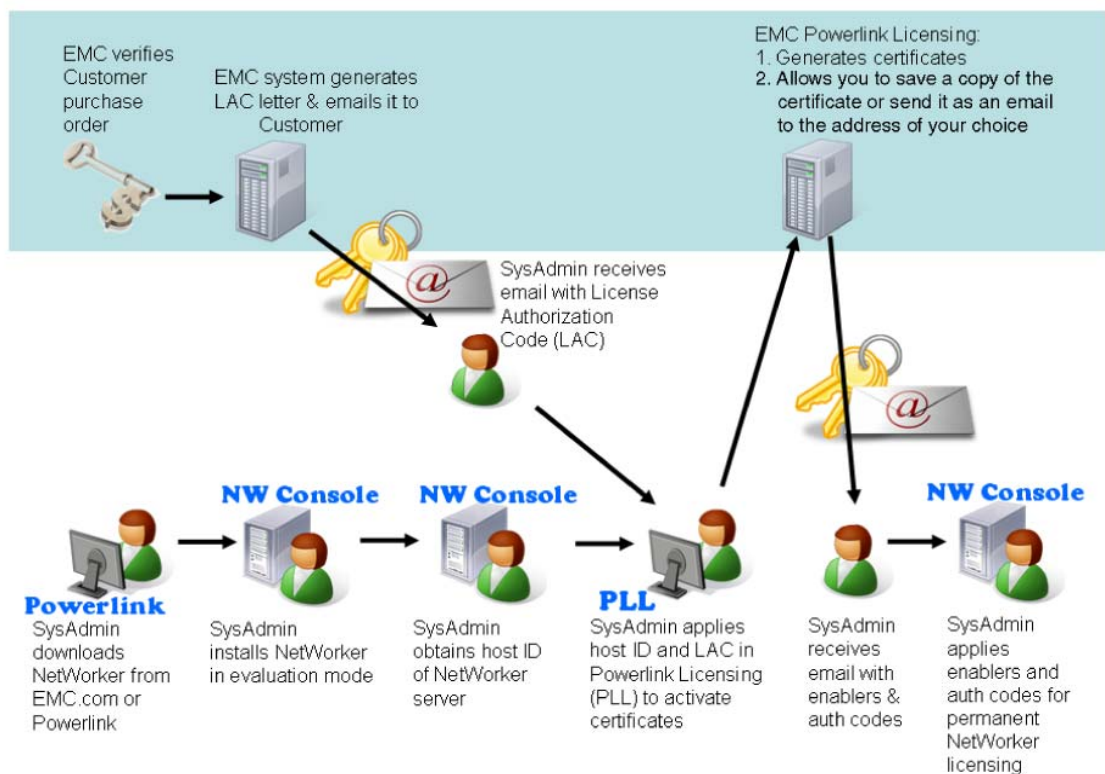
### NOTICE

If no evaluation period is required, the first and second steps can be done together.

3. At the EMC Powerlink Licensing site:
  - a. Open the activation menu.
  - b. Type the LAC and the host ID of the NetWorker server to obtain the software license certificate.

EMC Powerlink Licensing confirms the license activation by email, and provides you with access to your permanent entitlements online. You can also send the certificate to an email address of your choice or print and save in a PDF format. The product license activation letter contains the license key (permanent enabler codes and auth codes).

4. Apply the license key on the NetWorker server. **Figure 1 on page 21** illustrates the licensing process flow.



**Figure 1** NetWorker license process flow

## How to permanently license the NetWorker software

To license the NetWorker software, perform the following tasks:

- ◆ “Task 1: If required, install the NetWorker software for evaluation” on page 22
- ◆ “Task 2: Send the purchase order” on page 22
- ◆ “Task 3: Review the License Authorization Code letter” on page 22
- ◆ “Task 4: Obtain the host ID of the NetWorker server” on page 23
- ◆ “Task 5: Activate the software license certificate” on page 23
- ◆ “Task 6: Download the NetWorker license key”
- ◆ “Task 7: If required, delete all evaluation enabler codes” on page 25
- ◆ “Task 8: If required, upgrade or downgrade the base enabler” on page 26
- ◆ “Task 9: Apply the license key on the NetWorker server” on page 26

### Task 1: If required, install the NetWorker software for evaluation

If this is a new installation, install the NetWorker software according to the instructions in the appropriate NetWorker Installation Guide.

Installing the NetWorker software provides complete access to all NetWorker features for an evaluation period of 30 days.

### Task 2: Send the purchase order

Send the customer purchase order list of NetWorker product models to be purchased to EMC or an authorized partner.

The purchase can include a variety of products, such as a NetWorker server, client packages, storage node packages, database modules, and deduplication.

### Task 3: Review the License Authorization Code letter

Upon receipt of a valid purchase order, EMC sends a LAC letter by email to the specified customer contact. The information in the LAC letter is used to activate the software license certificate. The NetWorker server’s host ID is also required for the activation.

Review the LAC letter, which contains the following:

- ◆ A LAC to be used to activate the license keys for the products. A license key consists of permanent enabler codes and auth codes.
- ◆ Instructions for activating the software and obtaining the license keys.
- ◆ Software download instructions, in case the NetWorker software has not yet been downloaded in evaluation mode.
- ◆ A list of the NetWorker products ordered, along with their SKU and revision numbers.
- ◆ The end user site name and address. This information was posted at the time the purchase order was entered.
- ◆ Contacts for licensing and support information.

**NOTICE**

Do not confuse a LAC with an auth code. LACs are used in EMC Powerlink Licensing to obtain and activate the license key. A LAC enables you to obtain an auth code, but it is the *combined* application of permanent enabler and auth codes in NetWorker software that permanently licenses the software.

## Task 4: Obtain the host ID of the NetWorker server

The host ID is required during the software authorization process. It identifies where the NetWorker server has been installed.

To ensure that EMC Licensing receives accurate information, use the host ID value displayed in the NetWorker Registration window. The host ID is an 8-character alphanumeric code that always appears in lowercase. An example of a host ID is abab1234

The following steps should be performed by the customer, preferably a NetWorker system administrator.

To obtain the host ID:

1. On the NetWorker server, start the **NetWorker Management Console**.
2. Select **NetWorker Administration**.
3. In the **Administration** window, click **Configuration**.
4. Right-click **Registrations** in the navigation tree.
5. Right-click the NetWorker evaluation license (or any NetWorker license) in the **Registrations** area of the screen. The **Properties** window appears.
6. Note the alphanumeric host ID number.

## Task 5: Activate the software license certificate

The following steps should be performed by the customer, preferably a NetWorker system administrator.

To create and activate the software license certificate:

1. Go to the EMC Powerlink website (registration required) at:  
<http://Powerlink.EMC.com>  
If you do not have an account, follow the New Member Registration steps.
2. Log in with your username and password.
3. Select **Support > Software Downloads and Licensing > License Management**.
4. Locate and click **NetWorker**. The **EMC Powerlink Licensing** page appears.
5. In the **LAC(s)** field, type the LAC number found in your LAC letter.
6. If you are creating a new machine, in the **Machine Name** field, type the name of the machine where you activate your licenses.

Machine names and locking IDs must be unique for each parent company.

7. If you are activating an add-on product to an existing machine:
  - a. Navigate to the **Activation** page.
  - b. Select an existing machine to activate your LAC.
8. In the **Locking ID** field, type the NetWorker server host ID that you obtained in [“Task 4: Obtain the host ID of the NetWorker server”](#) on page 23.
9. Click **Activate**.

## Product license activation letter

EMC emails the product license activation letter by email to the registered user on the machine after the software license certificate has been activated in EMC Powerlink Licensing.

The letter contains the following:

- ◆ A list of the purchased products, their part numbers, quantities, and version levels.
- ◆ The site information.
- ◆ Parent company information.
- ◆ The LAC.
- ◆ The NetWorker host ID.
- ◆ The license key that consists of permanent enablers and auth codes.

Once applied jointly in the NetWorker Console interface, these codes permanently license the NetWorker software.

- ◆ Contacts for licensing, a NetWorker Licensing Help section, and support information.

## Task 6: Download the NetWorker license key

You can install the license key on a local NetWorker server, a remote NetWorker server, or a NetWorker License Manager system.

To download the license key from EMC Powerlink:

1. Go to the EMC Powerlink website (registration required) at: <http://Powerlink.EMC.com>
2. Open the **EMC Powerlink Licensing Home** page:
  - a. Select **Support > Software Downloads and Licensing > License Management**.
  - b. Select **NetWorker** from **Licensing D-Q**.
  - c. Follow the instructions for your product. The **EMC Powerlink Licensing Home** page appears.

If the LAC number has not yet been typed, activated, and associated with the host ID, follow the instructions in the email received from EMC Powerlink Licensing before proceeding to the next step.

3. On the **EMC Powerlink Licensing Home** page, select **Download Enabler Codes**. The **Search for Downloading Enabler Codes** page appears.
4. In the **%HostID** attribute, type the NetWorker server host ID number that you obtained in [“Task 4: Obtain the host ID of the NetWorker server”](#) on page 23.



5. Click **Search**. The **Search for Downloading Enabler Codes** page appears, displaying the list of hosts that match the criteria.
6. Select the host ID that matches the criteria. The **Download** page appears.
7. Click **Download Enablers** and perform the following:

- a. Click **Download CSV** and save the file.

The **CSV** file contains the enabler codes and the information related to them, including part descriptions, part numbers, and auth codes.

You can import this file into Excel and search and sort the contents:

- Format: *host ID.csv*
- Example: df010b3f.csv

- b. Click **Download nsradmin** and save the file:

- Format: *host ID\_date.nsradmin*
- Example: df010b3f\_20080814.nsradmin

- c. Click **Download ReadMe** and save the file.

The readme file describes the process and how to use **nsradmin** to load the enablers:

- Format: *ReadMe\_host ID\_date.txt*
- Example: *ReadMe\_df010b3f\_20080814.txt*

You can download these files at any time from EMC Powerlink.

As additional licenses are added to a host profile, these new licenses will be included in future downloads.

## Task 7: If required, delete all evaluation enabler codes

If your evaluation requirements extended beyond 30 days, you might have installed some evaluation enablers.

All evaluation enablers except for the base enabler should be deleted before the license key is applied on the NetWorker server to permanently license the software. The evaluation enabler cannot be permanently authorized.

To delete an enabler code:

1. Save all of your old enabler codes in a text file:

```
echo print type : NSR license | nsradmin > saved_enablers.txt
```

2. In the **Administration** window, click **Configuration**.
3. Click **Registrations**.
4. Right-click the enabler code to be deleted, then select **Delete**.

You should remove all of the old enablers from the NetWorker software. You can delete an evaluation enabler code at any time. The license is *not* removed when the software is uninstalled.

5. Click **Yes** to confirm the deletion.

- When prompted, repeat the license deletion task. This repetition prevents accidental license deletion.

You cannot delete the following enablers:

- ◆ NetWorker update enabler
- ◆ Base enabler

The base enabler code enables the basic NetWorker software. The base enabler can only be upgraded or downgraded. [“Task 8: If required, upgrade or downgrade the base enabler” on page 26](#) provides details.

## Task 8: If required, upgrade or downgrade the base enabler

If already installed, a base enabler cannot be deleted. However, you can upgrade or downgrade the base enabler by using the **nsrccap** command.

If a base enabler has already been installed on a NetWorker server for extended evaluation, an error message appears when you attempt to install a new base enabler.

To upgrade or downgrade the base enabler:

- Open a command prompt on the NetWorker server.
- Type the following at the command line:

```
nsrccap -u base_enabler_code -a authorization_code
```

## Task 9: Apply the license key on the NetWorker server

The final step in the licensing process is to apply the license key on the NetWorker server. The license key consists of permanent enablers and auth codes.

### NOTICE

Even if you have installed evaluation enablers that have not yet expired, in order to license the NetWorker software permanently you must apply the license key. The license key is provided in the product license activation letter.

The recommended way to obtain and install NetWorker permanent enablers and authorization codes is to automatically import and install them from EMC Powerlink Licensing.

If you cannot automatically import and install the permanent enablers and authorization codes from EMC Powerlink Licensing, you can manually install the permanent enablers and authorization codes. [“How to manually type the license key on a NetWorker server or a NetWorker License Manager system” on page 87](#) provides detailed instructions.

To import and apply the NetWorker license key from EMC Powerlink Licensing directly to a NetWorker server or a NetWorker License Manager system:

- Ensure that you have the following permissions on the NetWorker server. The permissions differ for Windows, Linux, and UNIX:
  - Windows: administrator
  - UNIX and Linux: root

2. Identify the location where the files were downloaded.
3. Ensure that no NetWorker backups are running.
4. Run the following **nsradmin** command in the directory where the *source\_file* is located. You can run the **nsradmin** command from any NetWorker client, storage node, or server:

- To install the NetWorker license keys on a local NetWorker server, type:

```
nsradmin -i source_file > output_file
```

- To install the NetWorker license keys on a remote NetWorker server, type:

```
nsradmin -i source_file -s server_name > output_file
```

- To install the NetWorker license keys on a NetWorker License Manager system, type:

```
nsradmin -i source_file -s server_name -p 390115 > output_file
```

5. Open and review the *output\_file* for success or failure messages to ensure that the NetWorker licenses have been properly installed:

- Success entry message in the output file:

If the first attempt to load a license was successful, an entry similar to the following appears in the output file:

```
C:\PROGRA~1\Legato\nsr\bin\std>nsradmin -i infile
created resource id 25.0.0.20.96.108.23.72.137.69.168.135(1)
Current query set
updated resource id 25.0.0.20.96.108.23.72.137.69.168.135(2)
```

- Failed entry message in the output file:

If a license load failed, entries similar to the following might appear:

- This entry in the output file indicates that the license already exists in NetWorker and can be ignored:

```
C:\PROGRA~1\Legato\nsr\bin\std>nsradmin -i infile
create failed: A license enabler already exists with enabler
code xxxxxx-xxxxxx-xxxxxx
Current query set
updated resource id 25.0.0.20.96.108.23.72.137.69.168.135(3)
```

If the **nsradmin** command has previously been used to install licenses on a host, failure messages might be generated for NetWorker licenses that already exist.

- This entry in the output file indicates that the NetWorker server processes are not running on the system:

To work around this issue, start the NetWorker processes on the NetWorker server.

```
C:\PROGRA~1\Legato\nsr\bin\std>nsradmin -i infile pasb-tomp
39078:nsradmin: RPC error: Program not registered (severity 4,
number 15)
```

## Product licenses

This section includes the following topics:

- ◆ “Using a licensing template” on page 28
- ◆ “NetWorker license tips” on page 29
- ◆ “Archiving licensing” on page 29
- ◆ “Client connection licenses” on page 29
- ◆ “Cluster licensing” on page 30
- ◆ “DDS licensing” on page 31
- ◆ “HomeBase server/agent licensing” on page 31
- ◆ “NDMP licensing” on page 31
- ◆ “NetWorker cloud licensing” on page 31
- ◆ “NetWorker Data Domain device licensing” on page 32
- ◆ “NetWorker Module licensing” on page 32
- ◆ “NetWorker storage node licensing” on page 35
- ◆ “Virtual environments simplified licensing” on page 36
- ◆ “Virtual Tape Library licensing” on page 40

NetWorker software and added features, such as modules, can be downloaded and evaluated for free from EMC Powerlink, the EMC website, or the media kit. The software can be evaluated for 30 days without an enabler code or license. After that, you can obtain evaluation enablers for each added feature to extend the evaluation period for an additional 45 days.

To permanently use the NetWorker software, you must license the software on the EMC Powerlink Licensing site and apply the supplied licensing key on the NetWorker server. The license key includes permanent enabler codes and corresponding authorization (auth) codes.

The licensing information in this chapter applies to NetWorker release 7.6.1 *The EMC Software Price Guide: Open Storage Software* provides detailed licensing information.

## Using a licensing template

When determining which licenses are required, try using a template, which can prevent “forgotten” licenses. For example:

1. Start with the NetWorker server (the base license).
2. Determine the desired NetWorker Server Edition.
3. Calculate the client licenses.
4. Calculate the dedicated storage node licenses.
5. Calculate the autochanger or silo licenses.
6. Calculate the Virtual Tape Library (VTL) licenses.
7. Calculate the Disk Backup Option (DBO) licenses.
8. Calculate any additional licenses, such as database module licenses.

A template can also help determine the *necessary* licenses for a given configuration, which does not necessarily mean that all of these licenses must be purchased, since certain licenses are included in other licenses. For example, base licenses include a certain number of client licenses.

## NetWorker license tips

The following tips apply to the NetWorker licenses:

- ◆ Calculating NetWorker licenses can sometimes be difficult. For example, recent software changes might not apply yet to the current NetWorker release.
- ◆ Prior to NetWorker 7.5, update numbers do not equate to NetWorker release numbers.

For example:

- The update enabler called Update/8 updates the software to NetWorker release 7.0.
- The update enabler called Update/9 updates the software to NetWorker release 7.3 or 7.4.

Always check the current version of the *EMC NetWorker Release Notes* for your installed release for possible licensing changes.

## Archiving licensing

The archive feature must be purchased and licensed separately from other NetWorker software components.

Before licensing and using the NetWorker archive feature, ensure that you have a device, either a stand-alone device or in an autochanger or silo, connected to a NetWorker server or storage node. If you are cloning archives, you must have at least two devices available.

## Client connection licenses

Every computer to be backed up in a NetWorker datazone requires a client connection license, even the NetWorker server. The base enabler supports a certain number of client connections.

If more client connections are required, their licenses must be purchased separately. An NDMP data server requires a special type of client connection license. Contact your EMC Sale team or your authorized reseller for more information

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**Note:** EMC ClientPak<sup>®</sup> enablers are no longer required. Client licensing is now based solely on the client connection enablers.

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## Cluster licensing

This section discusses NetWorker cluster licensing, including the following:

- ◆ “Enabling the highly available NetWorker server” on page 30
- ◆ “Enabling cluster and virtual clients” on page 30
- ◆ “Backing up NetWorker Modules on cluster clients” on page 30

### NOTICE

Cluster client connection enablers are no longer required. Cluster client licensing is now based solely on the client connection enablers. However, existing cluster client connection licenses will still be honored. Each physical node of the cluster requires a client license. Virtual clients of a cluster do not require their own license.

### Enabling the highly available NetWorker server

A client connection license is required for each physical node in the cluster on which you intend to run the highly available NetWorker server.

In addition, a storage node that is configured locally, that is, a storage node that uses a hostname that matches the physical hostname of the node that is running the NetWorker virtual server, does *not* require a separate storage node enabler.

For example, on a node in a cluster with the physical hostname Node A, a remote device defined as `rd=NodeA:/dev/tape1` would not require a separate storage node enabler while the NetWorker virtual server was running on Node A. An example of this configuration is provided in the *EMC NetWorker Installation Guide*.

The Power Edition base enabler is required to run the NetWorker server on a cluster.

### Enabling cluster and virtual clients

NetWorker client licensing differentiates between stand-alone computers and computers that participate in a cluster. The licenses are bound to physical nodes. Therefore, once a client connection license is allocated, any virtual clients that are running on that physical node can be backed up.

### Backing up NetWorker Modules on cluster clients

The following two scenarios apply to NetWorker Modules in cluster environments:

#### Scenario One

To back up a NetWorker Module:

- ◆ From the *virtual* client, an application module license is required for the virtual client.
- ◆ From the *physical*/host, an application module license is required for the physical client computer.

For example, physical nodes A and B are clustered and run a database. Virtual node C runs on this cluster and provides access to the database. If node C is the only way the database is backed up, one database application module license is required. If the physical node also backs up the database, a second database application module is required. Of course, client connection licenses are required for both of the physical nodes.

## Scenario Two

For active-passive clusters which are made up of physical hosts, for example clusters in which one host is active and the other host is used for failover one Module license is required per virtual hostname. To obtain a failover authorization code, add a failover host ID during the LAC activation process. Alternatively, contact the licensing team who can assist you with the transaction at [licensing@emc.com](mailto:licensing@emc.com)

For example, four Solaris physical hosts making up three active-passive DB2 clusters require three NMDB2 UNIX licenses.

## DDS licensing

To enable DDS, one license is required for each drive that is to be shared. Once a drive is licensed as shared, any number of storage nodes can share it. DDS licensing is independent of library and storage node licensing.

## HomeBase server/agent licensing

The HomeBase server/agent have a separate licensing scheme and require separate enablers. More information on HomeBase licensing is provided in the following documentation:

- ◆ *EMC HomeBase Server Installation and Configuration Guide*
- ◆ *EMC HomeBase Agent Installation and Configuration Guide*

## NDMP licensing

NetWorker clients using the NDMP interface are licensed differently than standard client connections.

The following apply to NDMP licensing:

- ◆ One NDMP Client Connection license is required to protect each network-attached file system using NDMP, EMC Celerra®, Network Appliance, and so on.
- ◆ NAS systems with multiple data movers, such as Celerra, or multiple IP hosts require only a single NDMP Client Connection License. To share the license among multiple data movers or hosts, specify the user-defined array name in the **NDMP array name** attribute of the Client resource.
- ◆ When the NetWorker NDMP interface is not used, a storage node license is required to use the NetWorker storage node software with NDMP.
- ◆ Additionally, a file type device is supported for NDMP operations, which can also be used as a bootstrap device. A DiskBackup license is required for the file type device.

## NetWorker cloud licensing

A NetWorker cloud backup option license enables you to add an unlimited number of cloud backup devices depending upon the NetWorker edition that was licensed.

## NetWorker Data Domain device licensing

With NetWorker 7.6 Service Pack 1 (SP1) and later, to take advantage of the Clone Controlled Replication feature, you can configure a Data Domain<sup>®</sup> host directly as the Data Domain media type.

In NetWorker 8.0, one Data Domain Storage System Enabler is required per datazone.

The amount of Data Domain formatted storage available in a NetWorker datazone is provided by a Data Domain Capacity Entitlement license. There is no restriction on the number of NetWorker Data Domain Device resources that can be created, other than the overall device limits for the datazone. However, there must be sufficient Data Domain storage capacity entitlement licenses for the amount of Data Domain storage used in the datazone.

The Data Domain server must be enabled with a DD Boost license. This is a Data Domain license, not a NetWorker license. If clone-controlled replication will be used, an additional Replication license is required.

To verify the license key, type the license show command on the Data Domain system. For versions 4.8.x and 4.9x, the output should read OPENSTORAGE.

If clone-controlled replication will be used, add the Replicator license key supplied by Data Domain:

```
# license add license_key
```

## NetWorker Module licensing

NetWorker Modules are licensed on the basis of one enabler per database type host.

For example, to back up the Oracle database on two hosts, two NetWorker Module for Databases and Applications enablers are required, even if the two hosts are backed up by the same server. However, if multiple Oracle instances are running on a single NetWorker client, only one NetWorker Module for Databases and Applications enabler is required.

### NetWorker Module for Microsoft Applications 2.3 licensing information

The section discusses the traditional licensing model requirements for NetWorker Module for Microsoft Applications (NMM). This information is not applicable when using the NetWorker capacity licensing model because the NMM software is included in the NetWorker capacity licensing model.

#### NMM licensing enabler code

As with all other NMM releases, the NMM 2.3 software is also a licensed module. This means that when using the traditional NetWorker licensing model, the NMM software requires an enabler code and the authorization to enable permanent licensing.

The NMM software is also included in the NetWorker capacity licensing model. When using the NMM software with this licensing model, it is not necessary to individually enable NMM clients.

Existing NMM enablers, that is enablers that are used for previous releases of NMM, are valid in an NMM 2.3 environment. This means that new application support, such as Microsoft Exchange 2010 and Microsoft SharePoint 2010, is enabled for existing users.



Users must upgrade and configure the NMM 2.3 software. Once installed, the NMM 2.3 software supports the backup and recovery of both, the new as well as the older Microsoft server applications.

### NOTICE

NMM 2.3 is tested and supported with NetWorker 7.5 SP3 and NetWorker 7.6 SP1 or later software.

## Additional licensing requirements

Additional licensing is required when:

- ◆ **Using Data Domain Boost with NMM 2.3** — When using Data Domain Boost with the NMM software, ensure that the licensing required for using this device type in the NetWorker datazone is in place.

The following software should be enabled for the solution to work:

- NetWorker server 7.6 SP1 or later software
- Data Domain Device Type licensing. This enables the NetWorker software to define and address a Data Domain deduplication storage system that uses Data Domain Boost.
- Data Domain Boost must be enabled at the Data Domain system
- ◆ **Using NMM 2.3 as dedicated storage node** — NMM 2.3 supports dedicated storage node (DSN). The DSN license is required for any NMM client configured as a DSN.
- ◆ **Using client connections with NMM 2.3** — A client connection license is required for every NMM 2.3 client in a NetWorker datazone. This is similar to the client connection licensing that is used with previous releases of the NMM software. The only difference is that the client software is installed separately from the NMM software on the application host.
- ◆ **Using NMM 2.3 in a virtual environment** — When using the NMM software in a virtual environment, one NMM license is required per application type on the physical host.

For example, in a VMWare environment, if the user has a single ESX server that hosts several SQL servers, one Exchange server, and three SharePoint servers, three NMM licenses will be required, for example:

- 1 license to cover the SQL virtual machines
- 1 license to cover the Exchange virtual machine
- 1 license to cover the SharePoint virtual machines

This is regardless of the application environment that is being used.

- ◆ **Using NMM 2.3 in a cluster environment** — For cluster environments, one NMM license is required per active node. There are exceptions to this which depend on the cluster type, the application, and where the backup takes place.

- ◆ **Migrating from NME and NMSQL to NMM** — For a NetWorker user who has licenses for legacy NetWorker modules, such as the NetWorker Module for Exchange (NME) or the NetWorker Module for SQL (NMSQL) software, the existing license enablers will work to enable the NMM 2.3 software, as long as the NetWorker server that is in use is NetWorker 7.6 SP1 or later.

**Note:** Replacing the NME and NMSQL licenses with the NMM license code is not required.

### NMM licensing examples

Table 1 on page 34 provides some examples of the NMM 2.3 licensing rules. It focuses on the traditional licensing model for a standalone server setup and a cluster setup for both active-passive and active-active clusters.

**NOTICE**

There are differences between physical and virtual environments.

**Table 1** NMM 2.3 licensing examples

Application configuration	Virtual or physical	Number of required NMM licenses
Standalone	Physical	1 license per physical host
	Virtual	1 license per application per physical host
Active-passive cluster	Physical	1 license per virtual cluster name (default) or 1 license per physical host (can be configured)
	Virtual	1 license per application per physical host
Active-active application cluster	Physical	1 license per cluster
	Virtual	1 license per application per physical host

Table 2 on page 34 provides some examples of licensing rules for Microsoft Exchange and Microsoft SharePoint.

The licensing rules vary depending on the application, the type and number of servers, and the type of backup to be performed.

**Table 2** Exchange and SharePoint licensing examples (1 of 2)

Application configuration	Virtual or physical	Number of required NMM licenses
Exchange standalone	Physical	1 license per physical host
	Virtual	1 license per application per physical host
Exchange server 2007 CCR	Physical	1 license per Exchange CCR server where backup will take place
	Virtual	1 license per application per physical host

**Table 2** Exchange and SharePoint licensing examples (2 of 2)

Application configuration	Virtual or physical	Number of required NMM licenses
Exchange server 2010 DAG	Physical	1 license per Exchange server in the DAG where backup will take place  <b>Note:</b> A user may have a four server Exchange DAG environment. However, if the backup is done from only one of these servers, only one NMM license is required, although the data may originate from other systems in the environment.
	Virtual	1 license per application per physical host
SharePoint	Physical	1 license per server in the SharePoint farm where backup will take place  <b>Note:</b> For SharePoint, different data types reside on and are owned by different servers that make up a farm. For backup of this environment, the NMM software is installed on and licensed for each of the servers in the farm to ensure a complete and consistent backup. It is not necessary to backup each web front end in the environment. Protect only one web front end to capture a consistent farm backup. For example, if the SharePoint farm has one configuration database server, two content database servers, the search index server and one web front end, the user would require five NMM licenses (one for each of these distinct entities).
	Virtual	1 license per application per physical host

## NetWorker storage node licensing

The following apply to storage node licensing:

- ◆ Each storage node requires a storage node license, in addition to its client connection license.

Although the NetWorker server is also considered a storage node, it does not require a separate storage node license.

- ◆ A storage node which allows backup only of local data is licensed separately as a dedicated storage node.
- ◆ Devices such as files or jukeboxes require device enablers, regardless of whether they are on the server, storage node, or dedicated storage node.

### NOTICE

If the NetWorker storage node software is disabled (if the NetWorker server is disabled or the storage node enabler is expired), you will not be able to recover backed-up data by using the storage node. To recover that data, the remote volume must be moved to a local drive connected to the server, and the recovery performed from there.

## Virtual environments simplified licensing

NetWorker introduces a simplified licensing model for virtualized environments. The *EMC Software Compatibility Guide* provides a detailed list of supported server virtualization environments.

Two new attributes have been added to the General tab of the Client resource to identify the client as a virtual client:

- ◆ **Virtual client** — Set the attribute to **Yes** by selecting the Virtual Client attribute checkbox if the client is a virtual client.
- ◆ **Physical host** — If the client is a virtual client, set the attribute to the hostname of the primary/initial physical machine that is hosting the virtual client.

This section includes information on the following topics:

- ◆ [“Virtual Edition Client Connection license” on page 36](#)
- ◆ [“NetWorker Modules in virtual environments” on page 37](#)
- ◆ [“Applying the Virtual Client license to an existing virtual machine after upgrading from a previous release” on page 37](#)
- ◆ [“Enabling Virtual Client licensing for existing Client resources” on page 37](#)
- ◆ [“Licensing NetWorker support for VMware” on page 37](#)

### Virtual Edition Client Connection license

A new license type, Virtual Edition Client Connection, works with all server virtualization environments supported by the NetWorker software.

The physical host specified in the Client resource's Physical host attribute will consume one Virtual Edition Client Connection license, regardless of how many virtual clients are running on that host. If a virtual machine is licensed on one physical host and then migrates to another physical host, the new physical host requires its own Virtual Client Connection license. The physical hostname does not need to be fully qualified, and must be less than 64 bytes. All clients sharing the same physical host must use an identical name. Do not mix name formats such as short, FQDN, or IP address.

To free a Virtual Client Connection license that has been assigned to a physical host, all references to the physical host must be removed, by doing one of the following:

- ◆ Changing the virtual client or physical hostname attribute in the Client resources for all virtual clients that reference the physical host.
- ◆ Deleting all Client resources for virtual clients that reference the physical host.

## NetWorker Modules in virtual environments

One license is required for each application type (Microsoft SQL, Exchange, and SharePoint, Oracle, and SAP) used within all of the virtual machines on a single physical server. There are no changes to model codes for NetWorker Modules in a virtual environment, so use existing codes and license enablers.

When NetWorker Module software is running natively on one or more virtual machines, one module license per module type will be consumed per physical host, regardless of the number of virtual clients associated with that physical host. The physical host itself will also require a Virtual Edition Client Connection license. Every physical machine that might host virtual clients with modules must be licensed in this way.

## Applying the Virtual Client license to an existing virtual machine after upgrading from a previous release

The Virtual Edition Client Connection license is not automatically applied to an existing virtual machine after upgrading to NetWorker 7.6. As a result, the virtual machine uses one standard client license for the preexisting virtual client instead of using the virtual client license.

To take advantage of the Virtual Edition Client Connection licensing policies and free up the use of the standard client license, select the Virtual Client attribute checkbox for this Client resource, and specify the physical host.

## Enabling Virtual Client licensing for existing Client resources

After upgrading from a release prior to NetWorker release 7.4 SP3, to enable the use of the virtual client license:

1. Edit the existing client by selecting **Clients** and right-clicking the client in the **Configuration** screen of the **Administration** window and selecting **Properties**.
2. Select the **Virtual client** option.
3. For the **Physical host** attribute, type the hostname of the physical machine hosting the virtual client.

The hostname does not need to be fully qualified, and must be less than 64 bytes.

## Licensing NetWorker support for VMware

The client license used for physical ESX hosts in non-VCB/VADP configurations is the Virtual Edition Client license. This license enables backup from any resident guest VM that has the NetWorker client software installed. When upgrading to NetWorker 7.6 SP2, existing Client Connection licenses are recognized and will be used to license the physical ESX host.

For VMware environments being backed up via VADP or VCB, a single Virtual Edition Client license is required for each VADP/VCB proxy host. This license is sufficient to back up any number of VMs through that proxy host.

## Virtual environments simplified licensing

NetWorker introduces a simplified licensing model for virtualized environments. The *EMC Software Compatibility Guide* provides a detailed list of supported server virtualization environments.

Two new attributes have been added to the General tab of the Client resource to identify the client as a virtual client:

- ◆ Virtual client. Set the attribute to **Yes** by selecting the **Virtual Client** attribute checkbox if the client is a virtual client.
- ◆ Physical host. If the client is a virtual client, set the attribute to the hostname of the primary/initial physical machine that is hosting the virtual client.

## Using existing licenses to support VADP

When upgrading to NetWorker 7.6 SP2, the VADP proxy is used instead of VCB. The existing license used by the VCB proxy will automatically be migrated to support the VADP proxy.

## AMP virtual appliance

The EMC Asset Management and Planning (AMP) appliance is a free, virtual appliance that can be downloaded from EMC Powerlink and installed on any VMware ESX server. The AMP appliance can be used to understand your software usage, measure the source capacity usage for the NetWorker software, plan future software investments and ensure license compliance. NetWorker leverages the EMC AMP to provide an estimate of the source capacity usage in a customer environment.

## Guest-based licensing

For guest based backups (not using VCB/VADP) with the NetWorker client installed on each physical host running a virtualization technology (Virtual Machine), only one Virtual Edition Client license is required per physical host. The Virtual Edition Client license backs up an unlimited number of Virtual Machines or guest host operating systems.

Guest based backups that use this license include:

- ◆ VMWare ESX servers
- ◆ Solaris zones
- ◆ LDOMs
- ◆ LPARs
- ◆ nPARs
- ◆ VPARs
- ◆ Microsoft Hyper-V
- ◆ Xen and others

The following licensing model is used:

- ◆ Only one NetWorker Module license is required per application type, per physical host for non-VCB/VADP based backups.
- ◆ Only one client connection license is required per physical host for non-VADP based backups.
- ◆ When using VMotion, each ESX server that hosts the source Virtual Machine or destination Virtual Machine will require the virtual edition client license and the appropriate application module license.
- ◆ For ESX Servers using VMware Distributed Resource Scheduler (DRS) and VMware HA, a NetWorker Virtual Edition Client is required for each ESX Server in the ESX Cluster Farm. The appropriate number of module licenses depending upon the applications running in the farm.

For example: An environment has 60 VMs on 5 ESX Servers. Of the 60 VMs, 6 host SQL Server, 1 hosts Exchange and 1 hosts SharePoint. DRS and VMotion are used and the entire farm needs to be protected.

The following licenses are needed:

- ◆ Quantity 5 of NetWorker Virtual Edition Clients (1 for each ESX Server in the farm)
- ◆ Quantity 7 of NMM licenses
  - For SQL, it would be minimum  $(6, 5) = 5$
  - For SharePoint, it would be minimum  $(1, 5) = 1$
  - For Exchange, it would be minimum  $(1, 5) = 1$

For a total of 7 NMM licenses

- ◆ For application backups:
  - A NetWorker Virtual Edition Client and the appropriate NetWorker Application module is required for each physical server.
  - One license is required for each application type (SQL, Exchange, SharePoint, Oracle, and SAP) used within all of the virtual machines on a single physical server.
  - There are no changes to model codes for NetWorker Modules, so use the existing codes and license enablers.
- ◆ For application protection, one NetWorker Module license is required per application type, per physical host for all virtualization technologies, including VMware ESX Server, IBM LPAR, and Solaris Domains.

For example, an ESX server hosting three (3) Exchange servers requires only a single NMM license. An ESX server hosting three (3) Exchange servers and a SharePoint server would require two NMM licenses; one license for the three Exchange servers and one license for the SharePoint server.

## **VADP licensing**

For VADP backups of a VMware environment, a Virtual Edition Client license on the proxy host is required.

One Virtual Edition Client license is required per VADP proxy host regardless of the number of virtual machines and ESX servers configured to perform backups by using the proxy backup host.

## **Virtual Tape Library licensing**

A Virtual Tape Library Frame license must be purchased for each physical hardware frame that supports VTLs. If the Virtual Jukebox attribute is set to Yes during configuration, but a Virtual Tape Library license does not exist, the configuration will succeed but subsequent library operations will fail.



## EMC NetWorker 45-Day Evaluation Enabler Codes

The following table provides 45-day temporary evaluation enabler codes for NetWorker products. These codes can be used to extend the evaluation period on NetWorker server products.

If your NetWorker software is purchased and licensed, you can use these codes to evaluate the rest of the EMC family of products. If more than one enabler code is listed for a part number, any of the codes can be used.

### Notes:

- ◆ After entering the enabler code, the feature can be evaluated for 45 days.
- ◆ These enabler codes are temporary and cannot be permanently authorized. To permanently authorize NetWorker products, you must purchase new enabler codes, which can then be authorized.
- ◆ Each evaluation enabler code can be entered on only one computer on the network. If a code is entered on more than one computer on the same network, a copy violation error occurs and the NetWorker server software is disabled.
- ◆ Case is important when entering enabler codes.

Table 3 EMC NetWorker 45-day evaluation enabler codes (1 of 16)

Product	Model Code	Description	Usage	Temp Enabler
Atmos	456-101-709	EMC Atmos on Premise Option 1 TB	Enables backup to an onsite Atmos cloud device up to 1 TB.	ce7650-922a17-bcfb94
	456-101-710	EMC Atmos on Premise Option 5 TB	Enables backup to an onsite Atmos cloud device up to 5 TB.	d16b53-902d12-bff49b
	456-101-711	EMC Atmos on Premise Option 10 TB	Enables backup to an onsite Atmos cloud device up to 10 TB.	59e3db-19a59a-374d23
	456-101-712	EMC Atmos on Premise Option 25 TB	Enables backup to an onsite Atmos cloud device up to 25 TB.	60d8e2-259ca1-0e4c2a
	456-101-713	EMC Atmos on Premise Option 50 TB	Enables backup to an onsite Atmos cloud device up to 50 TB.	e8506a-ac1429-86c5b2
	456-101-714	EMC Atmos on Premise Option Tier 6	Enables backup to an onsite Atmos cloud device up to 100 TB.	f9437b-b4053f-9d8043
Archive	456-005-006	NetWorker Archive Module Windows	Enables file-level archiving on supported Windows platforms in the datazone. Available for Network and Power Editions.	3b26bd-fcc784-9ca901 Licensed one per backup server.
	456-004-622	NetWorker Archive Module UNIX	Enables file-level archiving on supported on supported UNIX platforms in the datazone. Available for Network and Power Editions.	9c991e-5d58e1-2207e6 Licensed one per backup server.
	456-004-960	NetWorker Archive Module NetWare	Enables file-level archiving on supported on supported NetWare platforms in the datazone. Available for Network and Power Editions.	160698-dbe25e-cfe75c Licensed one per backup server.
	456-005-476	NetWorker Archive Module Linux	Enables file-level archiving on supported on supported Linux platforms in the datazone. Available for Network and Power Editions.	9c991e-5d58fc-0ee4e6 Licensed one per backup server.

Table 3 EMC NetWorker 45-day evaluation enabler codes (2 of 16)

Product	Model Code	Description	Usage	Temp Enabler
Data Deduplication with Avamar	456-101-595	NetWorker Client for Data Deduplication Quantity 25	Enables deduplication backups of non-virtual clients.	db5f5d-872721-95e9a1
	456-101-596	NetWorker Client for Data Deduplication Quantity 100	Enables deduplication backups of non-virtual clients.	382aba-9fc479-80cd02
	456-101-597	NetWorker Virtual Edition Client for Data Deduplication	Enables deduplication backups of virtual clients. Licenses one client per ESX server.	9da81f-6159e0-decbe7
	456-100-484	NetWorker Agent for Data Deduplication	Enables a deduplication metadata backup to an advanced file type device	a29324-605ee7-c7d1e8
Data Deduplication with Data Domain	456-100-513	NetWorker Data Domain Device Type	Enables the NetWorker Data Domain Device Type that features DD Boost. Capacity enablement is not required for evaluation.	2126a3-6add66-a1eb6b
DiskBackup Option	456-100-697	NetWorker DiskBackup Option Tier 1 1 TB	Enables up to 1TB of backup data to be written by a storage node to a disk file within a filesystem.	8abb0c-4c76d0-52e6d0
	456-100-698	NetWorker DiskBackup Option Tier 2 5 TB	Enables up to 6 TB of backup data to be written by a storage node to a disk file within a filesystem.	c27344-873c07-488988
	456-100-699	NetWorker DiskBackup Option Tier 3 10 TB	Enables up to 10 TB of backup data to be written by a storage node to a disk file within a filesystem.	ca7b4c-8e340f-509190
	456-100-700	NetWorker DiskBackup Option Tier 4 25 TB	Enables up to 25 TB of backup data to be written by a storage node to a disk file within a filesystem.	f24374-b10c37-78b9b8
	456-100-701	NetWorker DiskBackup Option Tier 5 50 TB	Enables up to 50 TB of backup data to be written by a storage node to a disk file within a filesystem.	fa4b7c-b8043f-80c140
Virtual Tape Library	457-100-013	NetWorker 3rd party VTL 10 TB Capacity	For non-EMC VTLs For EMC Disk Library with NetWorker 7.3.x and earlier	838e7a-b97f7f-2790c9
	456-004-638	NetWorker Autochanger Software Module Unlimited slots	Enable to configure Data Domain storage as a VTL. <b>Note:</b> Do not use this enabler when the Data Domain appliance is configured by using CIFS/NFS.	da5123-622613-815da0
	456-100-704	NetWorker Virtual Tape Library 5 TB Capacity Add-on	Enable to increase the NetWorker VTL capacity by 5 TB. Adding this license to the base NetWorker EMC Disk Library 10 TB Capacity Frame license increases support for VTL capacity up to 15 TB. <b>Note:</b> Only use this license to add incremental capacity above the 10 TB capacity that is included in both 457-100-038 and 457-100-013.	e05462-a61e25-66a7aa

Table 3 EMC NetWorker 45-day evaluation enabler codes (3 of 16)

Product	Model Code	Description	Usage	Temp Enabler
Virtual Tape Library	456-100-042	NetWorker Virtual Tape Library 10 TB Capacity Add-on	Enable to increase the NetWorker VTL capacity by 10 TB. Adding this license to the base NetWorker EMC Disk Library 10 TB Capacity Frame license increases support for VTL capacity up to 20 TB. <b>Note:</b> Only use this license to add incremental capacity above the 10 TB capacity that is included in both 457-100-038 and 457-100-013.	88bc0a-4176cd-0e4fd2
	456-100-043	NetWorker Virtual Tape Library 25 TB Capacity Add-on	Enable to increase the NetWorker VTL capacity by 25 TB. Adding this license to the base NetWorker EMC Disk Library 10 TB Capacity Frame license will increase support for VTL capacity up to 35 TB. <b>Note:</b> Only use this license to add incremental capacity above the 10 TB capacity that is included in both 457-100-038 and 457-100-013.	013783-dfff46-87c84b
	456-100-705	NetWorker Virtual Tape Library 50 TB Capacity Add-on	Enable to increase the NetWorker VTL capacity by 50 TB. Adding this license to the base NetWorker EMC Disk Library 10 TB Capacity Frame license will increase support for VTL capacity up to 60 TB. <b>Note:</b> Only use this license to add incremental capacity above the 10 TB capacity that is included in both 457-100-038 and 457-100-013.	4efad0-23a893-d41514
EDL	457-100-014	NetWorker Embedded Storage Node for EDL	Enable only on EMC EDL 4xxx series embedded storage nodes. This temp enabler applies to EDL ESN only. <b>Note:</b> <ul style="list-style-type: none"> <li>The embedded storage node is for cloning purposes only.</li> <li>The embedded storage node cloning feature does not use network resources, and is the preferred method over traditional cloning operations where the clone data flows through a standard host based NetWorker storage node.</li> <li>Backup operations are <i>not</i> supported.</li> </ul>	9d9c1f-6a59ff-0f76e7 <b>Note:</b> EDL ESN does not require an additional traditional NetWorker storage node license.
	457-100-038	NetWorker EMC Disk Library 10 TB Capacity	Enable only on EMC EDL 4xxx series embedded storage nodes with NetWorker 7.4 or later. Order this license for each physical hardware frame of the EMC Disk Library 4xxx. This license includes the Frame license, plus 10 TB of initial capacity in the EDL. If the capacity requirements exceed 10 TB, an additional VTL Capacity Add-on license is required.	3b38bd-77c79e-0ebe01
	456-100-635	Convert Autochanger to EDL for NetWorker 7.4	Enable if you are using an Autochanger license to: <ul style="list-style-type: none"> <li>Manage EDL/CDL 4xxx with NetWorker 7.3 or earlier.</li> <li>Update to NetWorker 7.4 or later.</li> </ul> <b>Note:</b> This license will only work on NetWorker 7.4 and later and EMC EDL 4xxx. It will <i>not</i> work with DL3D 1500/3000, which still requires the Autochanger license.	da515c-9526a8-4dd5a0

Table 3 EMC NetWorker 45-day evaluation enabler codes (4 of 16)

Product	Model Code	Description	Usage	Temp Enabler
EDL	457-100-227	Licensing bundle for Data Domain 10 TB Capacity	<p>Enable if you are replacing DL3D units with Data Domain. This single product model replaces any of the DL3D product models.</p> <p>This license can be used for Data Domain configured as either a VTL, CIFS, or NFS:</p> <ul style="list-style-type: none"> <li>For NFS/CIFS configurations, use a DiskBackup Option enabler.</li> <li>For VTL configurations, use one or more Autochanger enablers.</li> <li>For Temporary Capacity Entitlements, a temporary enabler is not required.</li> </ul>	N/A
Documentum	<p>The NetWorker Module for Documentum (NMD) software is no longer available.</p> <ul style="list-style-type: none"> <li>For End of Sale (EOS) information, see: <a href="http://Powerlink.EMC.com/km/live1/en_US/Offering_Technical/Software_Download/Release_and_EOSL_Dates_-_NetWorker.pdf">http://Powerlink.EMC.com/km/live1/en_US/Offering_Technical/Software_Download/Release_and_EOSL_Dates_-_NetWorker.pdf</a></li> <li>For information on an alternative to NMD, see: <a href="http://powerlink.emc.com/km/live1/en_US/Sales_Support/Presentation/NetWorkerModule_Documentum_EOL.pptx">http://powerlink.emc.com/km/live1/en_US/Sales_Support/Presentation/NetWorkerModule_Documentum_EOL.pptx</a></li> </ul>			
Dynamic Drive Sharing (DDS)	456-004-678	DDS for Windows, UNIX, Linux (Universal)	<p>Enable to allow the NetWorker software to recognize shared drives. DDS enables the NetWorker software to skip shared drives that are in use and to route backups or recoveries to other available shared drives.</p> <p>License per tape drive for all operating systems.</p>	50d5d2-38ac8a-ebc31a
NetWorker Modules	456-100-595	NetWorker Module for Microsoft SQL Server Windows Client	Enable to protect Microsoft SQL Server databases on supported Windows platforms.	203ba2-eadc6b-11516a
	456-004-725	NetWorker Module for SAP on Oracle UNIX Client	Enable to protect SAP on Oracle databases on supported UNIX platforms.	79fefb-3385a4-050bc3
	456-004-726	NetWorker Module for SAP on Oracle Linux Client	Enable to protect SAP on Oracle databases on supported Linux platforms.	d25754-9a2e0a-74ba98
	456-005-031	NetWorker Module for SAP on Oracle Windows Client.	Enable to protect SAP on Oracle databases on supported Windows platforms.	9e8520-6e5aec-55a6e4
	456-101-780	NetWorker Module for Databases and Applications UNIX Client	Enable to perform backups of Oracle, DB2, Informix, or Lotus Notes applications on UNIX operating systems.	5edbe0-aa9aa7-03f924
	456-101-779	NetWorker Module for Databases and Applications Windows, Linux Client	Enable to perform backups of Oracle, DB2, Informix, or Lotus Notes applications on Windows and Linux operating systems.	4ed5d0-9aaa97-33f014
	456-100-633	NetWorker Module for Microsoft Applications (NMM)	Enable to perform VSS backups of SQL, Exchange, SharePoint, Hyper-V, or DPM applications.	63fee5-099faa-6a9c29
	456-100-632	NetWorker Module for Meditech License	Enable to perform Meditech backups with EMC CLARiiion and EMC Symmetrix storage systems.	8b960d-c477d2-a846d1

Table 3 EMC NetWorker 45-day evaluation enabler codes (5 of 16)

Product	Model Code	Description	Usage	Temp Enabler
NetWorker Modules	456-100-595	NetWorker Module for Microsoft SQL Server Windows Client	Enable to protect MS SQL databases on supported Windows platforms.	2a31ac-e4d661-075b70
	456-004-563	NetWorker Module for Oracle on OpenVMS Alpha Client Tier 1	Enable to protect Oracle on a supported OpenVMS Alpha Workgroup Server.	7f8401-617bc1-566bc5
	456-004-564	NetWorker Module for Oracle on OpenVMS Alpha Client Tier 2	Enable to protect Oracle on a supported OpenVMS Alpha Departmental Server.	fb787d-9d0745-d2e441
	456-004-565	NetWorker Module for Oracle on OpenVMS Alpha Client Tier 3	Enable to protect Oracle on a supported OpenVMS Alpha Enterprise Server.	79fefb-1f85bb-ac61c3
	456-010-506	NetWorker Module for Oracle on OpenVMS Integrity Server SGL Client	Enable to protect Oracle databases on supported OpenVMS Integrity platforms.	1c199e-fcd864-f18b66
	456-004-617	NetWorker Module for SNMP	Enable to protect SNMP on supported UNIX and Windows clients.	3fc4c1-01bb87-95b405
	456-100-042	NetWorker Virtual Tape Library 10 TB Capacity Add-on	Enable to increase the NetWorker VTL Capacity by 10 TB in both 457-100-038 and 457-100-013. <b>Note:</b> Adding this license to the base NetWorker EMC Disk Library 10 TB Capacity Frame license will increase support for VTL capacity up to 20 TB.	Temp enablers are not required. Contact EMC Licensing to purchase appropriate entitlement licenses.
NetWorker OpenVMS	456-004-537	NetWorker OpenVMS Client for Alpha Tier 1 Quantity 5	Enable to provide NetWorker client functionality on five supported OpenVMS Alpha Workgroup Servers.	1d1d9f-e5d967-f0bc67
	456-004-539	NetWorker OpenVMS Client for Alpha Tier 2 Quantity 1	Enable to provide NetWorker client functionality on one supported OpenVMS Alpha Departmental Server.	e76b69-ab1329-3eeaad
	456-004-542	NetWorker OpenVMS Client for Alpha Tier 3 Quantity 1	Enable to provide NetWorker client functionality on one supported OpenVMS Alpha Enterprise Server.	e9696b-ad152b-3cf0b3
	456-010-504	NetWorker Client for OpenVMS on Integrity Server Single Pro	Enable to provide NetWorker client functionality on a supported OpenVMS HP Integrity (Itanium) Server. Order one licenses for each CPU in the Integrity Server. One license per CPU/socket; not per core.	6dedef-3189b7-a00d37
	457-000-128	NetWorker OpenVMS Client for VAX Tier 1	Enable to provide NetWorker client functionality on one supported OpenVMS VAX Workgroup Server.	NA
	457-000-131	NetWorker OpenVMS Client for VAX Tier 2	Enable to provide NetWorker client functionality on one supported OpenVMS VAX Departmental Server.	NA
	457-000-134	NetWorker OpenVMS Client for VAX Tier 3	Enable to provide NetWorker client functionality on one supported OpenVMS VAX Enterprise Server.	NA

Table 3 EMC NetWorker 45-day evaluation enabler codes (6 of 16)

Product	Model Code	Description	Usage	Temp Enabler
NetWorker OpenVMS	457-000-119	NetWorker OpenVMS Storage Node Alpha Tier 1 Quantity 1	<p>Enable to provide NetWorker storage node functionality on OpenVMS Alpha Workgroup Servers.</p> <p>The license bundle consists of:</p> <ul style="list-style-type: none"> <li>• NetWorker Client on OpenVMS for Alpha Server</li> <li>• NetWorker OpenVMS storage node for Alpha Servers.</li> </ul> <p>This option is licensed per processor; not core. It is compatible with Network and Power Editions. It provides full storage node functionality. Dedicated storage node functionality is not available.</p> <p><b>Note:</b> This license supports only Alpha hardware.</p>	121794-c0ee52-cbec58
	457-000-122	NetWorker OpenVMS Storage Node Alpha Tier 2 Quantity 1	<p>Enable to provide NetWorker storage node functionality on OpenVMS Alpha Departmental Servers.</p> <p>The license bundle consists of:</p> <ul style="list-style-type: none"> <li>• NetWorker client on OpenVMS for Alpha Server</li> <li>• NetWorker OpenVMS storage node for Alpha Servers</li> </ul> <p>This option is licensed per processor; not core. It is compatible with Network and Power Editions. It provides full storage node functionality. Dedicated storage node functionality is not available.</p> <p><b>Note:</b> This license supports only Alpha hardware.</p>	838005-537fcd-5a1cc9
	457-000-125	NetWorker OpenVMS Storage Node Alpha Tier 3 Quantity 1	<p>Enable to provide NetWorker storage node functionality on OpenVMS Alpha Enterprise Servers.</p> <p>The license bundle consists of:</p> <ul style="list-style-type: none"> <li>• NetWorker Client on OpenVMS for Alpha Server</li> <li>• NetWorker OpenVMS storage node for Alpha Servers.</li> </ul> <p>This option is licensed per processor; not core. It is compatible with Network and Power Editions. It provides full storage node functionality. Dedicated storage node functionality is not available.</p> <p><b>Note:</b> This license supports only Alpha hardware.</p>	828704-507ec2-5b1dc8
	457-000-502	NetWorker OpenVMS Storage Node for Integrity Server Single Pro Quantity 1	<p>Enable to provide NetWorker storage node functionality on OpenVMS Integrity Servers.</p> <p>The license bundle consists of:</p> <ul style="list-style-type: none"> <li>• NetWorker Client for OpenVMS on Integrity Server</li> <li>• NetWorker OpenVMS storage node for integrity Servers</li> </ul> <p>This option is licensed per processor; not core. It is compatible with Network and Power Editions. It provides full storage node functionality. Dedicated storage node functionality is not available.</p> <p><b>Note:</b> This item supports Integrity hardware only.</p>	010683-d1fd43-d49b4b

Table 3 EMC NetWorker 45-day evaluation enabler codes (7 of 16)

Product	Model Code	Description	Usage	Temp Enabler
NetWorker PowerSnap 2.5.1 and later	456-005-405	NetWorker PowerSnap Module 1 TB Capacity	Order this item to increase the capacity of the data that is snapshot above the default TB level that was purchased in the PowerSnap Bundle licensing. This feature is licensed based on the capacity of data that is intended to be snapshot, in terabytes. NetWorker PowerSnap 2.5.1 and later is licensed at a capacity which is different from the NetWorker Capacity license. <b>Note:</b> Add-on capacity can be purchased as the space that is snapped increases. A base enabler is no longer required for each platform.	Contact EMC Sales
	456-005-406	NetWorker PowerSnap Module 2 TB Capacity	Order this item to increase the capacity of the data that is snapshot above the default TB level that was purchased in the PowerSnap Bundle licensing. Licensed based on the capacity of data that is intended to be snapshot, in terabytes. NetWorker PowerSnap 2.5.1 and later is licensed at capacity which is different from the NetWorker Capacity license. <b>Notes:</b> Add-on capacity can be purchased as the space that is snapped increases. A base enabler is no longer required for each platform.	Contact EMC Sales
NetWorker PowerSnap releases prior to release 2.5.1	456-005-381	NetWorker PowerSnap Module for EMC Symmetrix	Enable the Base Storage Array license when protecting proxy hosts with PowerSnap and EMC Symmetrix.	Contact EMC Sales
	456-005-385	NetWorker PowerSnap Module for EMC Symmetrix DMX	Enable the Base Storage Array license when protecting proxy hosts with PowerSnap and EMC Symmetrix DMX.	Contact EMC Sales
	456-005-386	NetWorker PowerSnap Module for EMC CLARiiion	Enable the Base Storage Array license when protecting proxy hosts with PowerSnap and EMC CLARiiion.	Contact EMC Sales
	456-010-555	NetWorker for PowerSnap Module EMC RecoverPoint	Enable the Base Storage Array license when protecting proxy hosts with PowerSnap and EMC RecoverPoint.	Contact EMC Sales
	457-000-159	NetWorker PowerSnap Module for NetApp	Enable the Base Storage Array license when protecting proxy hosts with PowerSnap and NetApp Appliance.	Contact EMC Sales
	457-000-159	NetWorker Modules for Oracle AT Edition Kit	Enable the Base Enabler license in conjunction with NetWorker PowerSnap Module for NetApp. <b>Note:</b> One enabler is required for each Oracle database on each physical host.	Contact EMC Sales
	456-004-689	NetWorker NDMP Client Connection Tier 1	Enable to backup a Tier 1 EMC Celerra or non-EMC NAS system when using the NDMP protocol for: <ul style="list-style-type: none"> <li>• PowerSnap Module for NetApp</li> <li>or</li> <li>• PowerSnap for NAS devices</li> </ul> <b>Note:</b> Systems in each tier are defined in the <i>EMC Hardware Compatibility Guide</i> .	Contact EMC Sales



Table 3 EMC NetWorker 45-day evaluation enabler codes (8 of 16)

Product	Model Code	Description	Usage	Temp Enabler
NetWorker PowerSnap releases prior to release 2.5.1	456-004-690	NetWorker NDMP Client Connection Tier 2	Enable to backup a Tier 2 EMC Celerra or non-EMC NAS system when using the NDMP protocol for: <ul style="list-style-type: none"> <li>PowerSnap Module for NetApp</li> <li>or</li> <li>PowerSnap for NAS devices</li> </ul> <b>Note:</b> Systems in each tier are defined in the <i>EMC Hardware Compatibility Guide</i> .	Contact EMC Sales
	456-004-691	NetWorker NDMP Client Connection Tier 3	Enable to backup a Tier 3 EMC Celerra or non-EMC NAS system when using the NDMP protocol for: <ul style="list-style-type: none"> <li>PowerSnap Module for NetApp</li> <li>or</li> <li>PowerSnap for NAS devices</li> </ul> <b>Note:</b> Systems in each tier are defined in the <i>EMC Hardware Compatibility Guide</i> .	Contact EMC Sales
	456-004-692	NetWorker NDMP Client Connection Tier 4	Enable to backup a Tier 4 EMC Celerra or non-EMC NAS system when using the NDMP protocol for: <ul style="list-style-type: none"> <li>PowerSnap Module for NetApp</li> <li>or</li> <li>PowerSnap for NAS devices</li> </ul> <b>Note:</b> Systems in each tier are defined in the <i>EMC Hardware Compatibility Guide</i> .	Contact EMC Sales
	456-005-404	NetWorker PowerSnap Module 500 GB Capacity	Enable to increase the capacity of the data that is snapshot above the default TB level that was purchased in the PowerSnap Bundle license. <b>Note:</b> The license is based on the capacity of the data that is intended to be snapshot, in terabytes.	Contact EMC Sales
	456-005-405	NetWorker PowerSnap Module 1 TB Capacity	Enable to increase the capacity of the data that is snapshot above the default TB level that was purchased in the PowerSnap Bundle license. <b>Note:</b> The license is based on the capacity of the data that is intended to be snapshot, in terabytes. Add-on capacity can be purchased as the space that is snapped increases.	Contact EMC Sales
	456-005-406	NetWorker PowerSnap Module 2 TB Capacity	Enable to increase the capacity of the data that is snapshot above the default TB level that was purchased in the PowerSnap Bundle license. <b>Note:</b> The license is based on the capacity of the data that is intended to be snapshot, in terabytes. Add-on capacity can be purchased as the space that is snapped increases.	Contact EMC Sales
	456-005-407	NetWorker PowerSnap Module 5 TB Capacity	Enable to increase the capacity of the data that is snapshot above the default TB level that was purchased in the PowerSnap Bundle license. <b>Note:</b> The license is based on the capacity of the data that is intended to be snapshot, in terabytes. Add-on capacity can be purchased as the space that is snapped increases.	Contact EMC Sales
	457-000-206	NetWorker PowerSnap Module for EMC Symmtrix 5 TB License	Enable to increase the capacity of the data that is snapshot above the default TB level that was purchased in the PowerSnap Bundle license. <b>Note:</b> The license is based on the capacity of the data that is intended to be snapshot, in terabytes. Add-on capacity can be purchased as the space that is snapped increases.	Contact EMC Sales



Table 3 EMC NetWorker 45-day evaluation enabler codes (9 of 16)

Product	Model Code	Description	Usage	Temp Enabler
NetWorker PowerSnap releases prior to release 2.5.1	457-000-208	NetWorker PowerSnap Module for EMC Symmtrix DMX 5 TB License	Enable to increase the capacity of the data that is snapshot above the default TB level that was purchased in the PowerSnap Bundle license. <b>Note:</b> The license is based on the capacity of the data that is intended to be snapshot, in terabytes. Add-on capacity can be purchased as the space that is snapped increases.	Contact EMC Sales
	457-000-209	NetWorker PowerSnap Module for EMC CLARiiion 2 TB License	Enable to increase the capacity of the data that is snapshot above the default TB level that was purchased in the PowerSnap Bundle license. <b>Note:</b> The license is based on the capacity of the data that is intended to be snapshot, in terabytes. Add-on capacity can be purchased as the space that is snapped increases.	Contact EMC Sales
	457-100-053	NetWorker PowerSnap Module for EMC RecoverPoint CDP 2 TB License	Enable to increase the capacity of the data that is snapshot above the default TB level that was purchased in the PowerSnap Bundle license. <b>Note:</b> The license is based on the capacity of the data that is intended to be snapshot, in terabytes. Add-on capacity can be purchased as the space that is snapped increases.	Contact EMC Sales
SnapImage Module	457-000-173	NetWorker SnapImage for Windows and Solaris	Enable to perform high speed backups of large quantities of smaller files on supported Microsoft Windows and Solaris operating systems. The SnapImage bundle consists of: <ul style="list-style-type: none"> <li>• 1 NDMP Client Connection Tier 1 license</li> <li>• SnapImage Module Client license</li> </ul>	819803-2d7df4-824acb
NetWorker SNMP Module	456-004-617	NetWorker SNMP Module	Enable to perform SNMP traps and system management framework on Windows and UNIX NetWorker servers. This module is: <ul style="list-style-type: none"> <li>• Available for Network and Power Editions.</li> <li>• Licensed one per backup server.</li> </ul>	a7ac29-6953ef-7c6ced
Storage Nodes	456-005-474	NetWorker Network Edition Storage Node for Linux	Enable to use a storage node for an environment with NetWorker server Network Edition which will be installed on a Linux host.	bdba3f-95391f-6f9d87
	456-101-769	NetWorker Power Edition Storage Node for Windows/Linux	Enable to use a NetWorker 7.6 or later Power Edition Storage Node for Windows or Linux.	1b189d-cbe765-f8a661
	456-005-474	NetWorker Network Edition Storage Node for Linux	Enable to use a storage node for an environment with NetWorker Server Network Edition which will be installed on a Linux host.	bdba3f-95391f-6f9d87
	456-010-511	NetWorker Network Edition Storage Node for Solaris	Enable to use a storage node for an environment with NetWorker Server Network Edition which will be installed on a Solaris host.	1d1a9f-f5d97a-e8ee67

Table 3 EMC NetWorker 45-day evaluation enabler codes (10 of 16)

Product	Model Code	Description	Usage	Temp Enabler
Storage Nodes	456-004-659	NetWorker Network Edition Storage Node for UNIX	Enable to use a storage node for an environment with NetWorker Server Network Edition which will be installed on a UNIX host.	9c991e-4a58f9-696ae6
	456-001-665	NetWorker Network Edition Storage Node for UNIX Quantity 5	Enable to use a Storage Node for an environment with NetWorker Server Network Edition which will be installed on a UNIX host. This item includes 5 storage nodes licenses.	9d9a1f-7559fa-686fe7
	456-004-660	NetWorker Network Edition Storage Node for Windows	Enable to use a storage node for an environment with NetWorker Server Network Edition which will be installed on a Windows host.	6aefec-389618-dbdb30
	456-005-475	NetWorker Power Edition Storage Node for Linux	Enable to use a storage node for an environment with NetWorker Server Power Edition which will be installed on a Linux host.	a0a522-765cf8-0a78ea
	456-010-512	NetWorker Power Edition Storage Node for UNIX	Enable to use a storage node for an environment with NetWorker Server Power Edition which will be installed on a UNIX host.	eb686d-bb1787-5c3fb1
	456-005-123	NetWorker Power Edition Storage Node for UNIX	Enable to use a storage node for an environment with NetWorker Server Power Edition which will be installed on a UNIX host.	eb686d-bb1787-5c3fb1
	456-005-124	NetWorker Power Edition Storage Node for Windows	Enable to use a storage node for an environment with NetWorker Server Power Edition which will be installed on a Windows host.	ee6b70-a40a84-5926b4
	456-101-768	NetWorker Network Edition Storage Node for UNIX	Enable to use a NetWorker 7.6 or later Network Edition Storage Node for UNIX.	7efb00-547ac6-5f4dc4
	456-101-767	NetWorker Network Edition Storage Node for Windows/Linux	Enable to use a NetWorker 7.6 or later Network Edition Storage Node for Linux, or Windows.	191e9b-c9e55b-c6a063
	456-101-770	NetWorker Power Edition Storage Node for UNIX	Enable to use a NetWorker 7.6 or later Power Edition Storage Node for UNIX.	7dfaff-5579c7-5842c7
Autochanger Modules	456-004-603	NetWorker Autochanger Software Module 1-9 slots	Enable to use an autochanger that has 9 slots or fewer.	78f3fa-3284a0-12d6c2
	456-004-606	NetWorker Autochanger Software Module 1-16 slots	Enable to use an autochanger that has 16 slots or fewer.	0f0691-c2eb59-b89e55
	456-001-624	NetWorker Autochanger Software Module 1-20 slots	Enable to use an autochanger that has 20 slots or fewer.	7bf6fd-2a87de-3318c1
	456-004-602	NetWorker Autochanger Software Module 1-32 slots	Enable to use an autochanger that has 32 slots or fewer.	1a0d9c-fde653-f87960
	456-001-633	NetWorker Autochanger Software Module 1-40 slots	Enable to use an autochanger that has 40 slots or fewer.	878209-6273d2-3f11cd

Table 3 EMC NetWorker 45-day evaluation enabler codes (11 of 16)

Product	Model Code	Description	Usage	Temp Enabler
Autochanger Modules	456-004-607	NetWorker Autochanger Software Module 1-64 slots	Enable to use an autochanger that has 64 slots or fewer.	b9b044-83c5fe-028b8a
	456-004-635	NetWorker Autochanger Software Module 1-128 slots	Enable to use an autochanger that has 128 slots or fewer.	000b82-43fcf2-abbe4a
	456-004-636	NetWorker Autochanger Software Module 1-256 slots	Enable to use an autochanger that has 256 slots or fewer.	44d1c7-07b085-014e0e
	456-004-762	NetWorker Autochanger Software Module 1-400 slots	Enable to use an autochanger that has 400 slots or fewer.	0209fb-3afef0-a61048
	456-004-763	NetWorker Autochanger Software Module 1-512 slots	Enable to use an autochanger that has 512 slots or fewer.	030efa-39ffff-a71149
	456-004-764	NetWorker Autochanger Software Module 1-700 slots	Enable to use an autochanger that has 700 slots or fewer.	1d14e0-1fd965-193167
	456-004-638	NetWorker Autochanger Software Module Unlimited slots	Enable to use an autochanger that has any number of slots.	da5123-622613-815da0
	456-001-624	NetWorker Workgroup Edition Autochanger Software Module 1-20 slots	Enable to use an autochanger that has 20 slots or fewer.	7bf6fd-2a87de-3318c1
	456-004-602	NetWorker Workgroup Edition Autochanger Software Module 1-32 slots	Enable to use an autochanger that has 32 slots or fewer.	1a0d9c-fde653-f87960
	456-004-603	NetWorker Workgroup Edition Autochanger Software Module 1-9 slots	Enable to use an autochanger that has 9 slots or fewer.	78f3fa-3284a0-12d6c2
	456-004-606	NetWorker Workgroup Edition Autochanger Software Module 1-16 slots	Enable to use an autochanger that has 16 slots or fewer.	0f0691-c2eb59-b89e55
	456-100-606	Autochanger Silo feature NetWorker 7.3 and earlier	Enable to use the silo functionality only on NetWorker Server 7.3.x or earlier. <b>Notes:</b> This item alone will not enable the silo. An appropriate autochanger license is required that matches the number of slots on the silo.	d47129-68201e-e0e29e
	457-100-004	NetWorker Autochanger Slot Upgrade from 1-9 to 1-16 slots	Enable to upgrade an existing 1-9 slot autochanger license to support 16 slots.	8e8510-416ad6-4acad4
	457-100-005	NetWorker Autochanger Slot Upgrade from 1-16 to 1-20 slots	Enable to upgrade an existing 1-16 slot autochanger license to support 20 slots.	6de4ef-2489b7-adaa37

Table 3 EMC NetWorker 45-day evaluation enabler codes (12 of 16)

Product	Model Code	Description	Usage	Temp Enabler
Autochanger Modules	457-100-006	NetWorker Autochanger Slot Upgrade from 1-20 to 1-32 slots	Enable to upgrade an existing 1-20 slot autochanger license to support 32 slots.	0d048f-f0e957-cd4957
	457-100-007	NetWorker Autochanger Slot Upgrade from 1-32 to 1-40 slots	Enable to upgrade an existing 1-32 slot autochanger license to support 40 slots.	cd444f-b82917-0d0897
	457-100-008	NetWorker Autochanger Slot Upgrade from 1-40 to 1-64 slots	Enable to upgrade an existing 1-40 slot autochanger license to support 64 slots.	0d048f-90e957-cd4f57
	457-100-009	NetWorker Autochanger Slot Upgrade from 1-64 to 1-128 slots	Enable to upgrade an existing 1-64 slot autochanger license to support 128 slots.	8f9a11-d26bd1-4bccd5
	457-100-010	NetWorker Autochanger Slot Upgrade from 1-128 to 1-256 slots	Enable to upgrade an existing 1-128 slot autochanger license to support 256 slots.	0e0591-d1ea56-ca4c54
	457-100-075	Autochanger Slot Upgrade from 1-256 to 1-400 slots	Enable to upgrade an existing 1-256 slot autochanger license to support 400 slots.	020985-55fe42-d65148
	457-100-076	Autochanger Slot Upgrade from 1-400 to 1-512 slots	Enable to upgrade an existing 1-400 slot autochanger license to support 512 slots.	090089-ccf54b-d14753
	456-004-638	NetWorker Autochanger Software Module Unlimited slots	Enable to configure Data Domain storage as a VTL. <b>Note:</b> Do <i>not</i> use this enabler when the Data Domain appliance is configured using CIFS/NFS	da5123-622613-815da0
NetWorker Virtual Edition Client	456-100-676	NetWorker Virtual Edition Client Connection	Enable to backup all virtual clients of a physical host with the NetWorker software. <b>Note:</b> Supported on all operating systems.	8bba0d-4f77d0-1109d1
Client Connections	456-100-692	NetWorker Client Quantity 25	Enable to backup 25 hosts with the NetWorker software. <b>Note:</b> Supported on all operating systems.	db5f5d-872721-95e9a1
	456-100-693	NetWorker Client Quantity 100	Enable to backup 100 hosts with the NetWorker software. <b>Note:</b> Supported on all operating systems.	382aba-9fc479-80cd02
	Requested from Product Manager	NetWorker Client	Enable to backup 500 hosts with the NetWorker software. <b>Note:</b> Supported on all operating systems.	CXLALAVY-MKNJVTW G-NF56DMP8
	Requested from Product Manager	NetWorker Client	Enable to backup 1000 hosts with the NetWorker software. <b>Note:</b> Supported on all operating systems.	Y4W3HFQM-7RYV00A 2-Q4X1TVGL
	456-004-681	NetWorker Cluster Client Connection for Windows	For NetWorker 7.4 SP1 or earlier only. Enable to backup a host that is a member of a cluster and has a Windows operating system.	e64d68-a81236-78d2ac
	456-004-682	NetWorker Cluster Client Connection for Windows Quantity 5	For NetWorker 7.4 SP1 or earlier only. Enable to backup 5 hosts that are members of a cluster and have the Windows operating system. Order this item to receive 5 licenses.	80ab02-467cd8-12c5ca
	456-005-477	NetWorker Cluster Client Connection for Linux	For NetWorker 7.4 SP1 or earlier only. Enable to backup a host that is a member of a cluster and has a Linux operating system.	59f1db-1da583-f3ae23

Table 3 EMC NetWorker 45-day evaluation enabler codes (13 of 16)

Product	Model Code	Description	Usage	Temp Enabler
Client Connections	456-005-478	NetWorker Cluster Client Connection for Linux Quantity 5	For NetWorker 7.4 SP1 or earlier only. Enable to backup 5 hosts that are members of a cluster and have the Linux operating system. Order this item to receive 5 licenses.	b49e36-7240e4-16e9fe
	456-004-685	NetWorker Cluster Client Connection for UNIX	For NetWorker 7.4 SP1 or earlier only. Enable to backup a host that is a member of a cluster and has a UNIX operating system.	da705c-9c2602-7432a0
	456-004-686	NetWorker Cluster Client Connection for UNIX Quantity 5	For NetWorker 7.4 SP1 or earlier only. Enable to backup 5 hosts that are members of a cluster and have the UNIX operating system. Order this item to receive 5 licenses.	b69c38-7c42e6-28e7fc
NetWorker NDMP Client Connection	456-004-689	NetWorker NDMP Client Connection Tier 1	Enable to backup a Tier 1 EMC Celerra or non-EMC NAS system using the NDMP protocol. <b>Note:</b> Each tier is defined in the <i>EMC Hardware Compatibility Guide</i> .	81ac03-457dd9-45f5cb
	456-004-690	NetWorker NDMP Client Connection Tier 2	Enable to backup a Tier 2 EMC Celerra or non-EMC NAS system using the NDMP protocol. <b>Note:</b> Each tier is defined in the <i>EMC Hardware Compatibility Guide</i> .	56f9d8-18a2a95b6c1c
	456-004-691	NetWorker NDMP Client Connection Tier 3	Enable to backup a Tier 3 EMC Celerra or non-EMC NAS system using the NDMP protocol. <b>Note:</b> Each tier is defined in the <i>EMC Hardware Compatibility Guide</i> .	d07f52-922c27-d1e39a
	456-004-691	NetWorker NDMP Client Connection Tier 3	Enable to backup a Tier 3 EMC Celerra or non-EMC NAS system using the NDMP protocol. <b>Note:</b> Each tier is defined in the <i>EMC Hardware Compatibility Guide</i> .	d07f52-922c27-d1e39a
	456-004-692	NetWorker NDMP Client Connection Tier 4	Enable to backup a Tier 4 EMC Celerra or non-EMC NAS system using the NDMP protocol. <b>Note:</b> Each tier is defined in the <i>EMC Hardware Compatibility Guide</i> .	50ffd2-12aca7-51621a

Table 3 EMC NetWorker 45-day evaluation enabler codes (14 of 16)

Product	Model Code	Description	Usage	Temp Enabler
NetWorker Dedicated Storage Node	456-010-513	NetWorker Network Edition Dedicated Storage Node for Solaris Quantity 7	Enable to use a dedicated storage node for an environment with NetWorker Server Network Edition which will be installed on a Solaris host.	46c3c8-1cb296-d87a0c
	456-004-826	NetWorker Network Edition Dedicated Storage Node for UNIX Quantity 7	Enable to use a dedicated storage node for an environment with NetWorker Server with Network Edition which will be installed on a UNIX host.	c54247-9d3117-5ff88f888d0a-6574e2-1aab2080d8a-e5f462-9a2a52
	456-004-824	NetWorker Network Edition Dedicated Storage Node for Windows Quantity 7	Enable to use a dedicated storage node for an environment with NetWorker Server with Network Edition which will be installed on a Windows host.	ec776e-ba082c-66d9b64ad1cc-23b6a0-c4f110cb564d-a0373f-457391
	456-010-514	NetWorker Power Edition Dedicated Storage Node for Solaris Quantity 7	Enable to use a dedicated storage node for an environment with NetWorker Server with Power Edition which will be installed on a Solaris host.	c84d4a-9e3410-5af592
	456-004-827	NetWorker Power Edition Dedicated Storage Node for UNIX Quantity 7	Enable to use a dedicated storage node for an environment with NetWorker Server with Power Edition which will be installed on a UNIX host.	c74c49-9f3311-59f68d898e0b-6275e1-1bb6d3090e8b-e2f561-9b3753
	456-004-825	NetWorker Power Edition Dedicated Storage Node for Windows Quantity 7	Enable to use a dedicated storage node for an environment with NetWorker Server with Power Edition which will be installed on a Windows host.	e8736a-be1430-7addb24bd6cd-20b7bf-c5f011d44f56-b92036-4e789e
	456-004-828	NetWorker Network Edition Dedicated Storage Node for Linux Quantity 7	Enable to use a dedicated storage node for an environment with NetWorker Server with Network Edition which is installed on a Linux host.	51c8d3-3aad89-95c31b8a8f0c-6376e0-04b9d00a0f8c-e3f660-843850
	456-004-829	NetWorker Power Edition Dedicated Storage Node for Linux Quantity 7	Enable to use a dedicated storage node for an environment with NetWorker Server with Power Edition which will be installed on a Linux host.	171c99-f4e343-df0e5d8b880d-6077ff-05b8d10b088d-e0f77f-853951
	456-101-772	NetWorker Network Edition Dedicated Storage Node for UNIX Edition	Enable to use a NetWorker 7.6 or later Network Edition dedicated storage node for UNIX.	3431b6-d9c07c-e1f87e
	456-101-774	NetWorker Power Edition Dedicated Storage Node UNIX Edition	Enable to use a NetWorker 7.6 or later Power Edition dedicated storage node for UNIX.	3330b5-d8cf7d-e2fb79

Table 3 EMC NetWorker 45-day evaluation enabler codes (15 of 16)

Product	Model Code	Description	Usage	Temp Enabler
NetWorker Server	456-101-238	NetWorker Server Release 7.5 of later Workgroup Edition UNIX Edition	Enable to use a NetWorker Server with Workgroup Edition for NetWorker 7.5 or later which will be installed on a UNIX host.	b2b134-714ee5-2c83f8
	456-004-677	NetWorker Server Workgroup Edition UNIX Edition	Enable to use a NetWorker Server with Workgroup Edition which will be installed on a UNIX host.	3336b5-f2cf6a-ad0779
	456-005-471	NetWorker Server Workgroup Edition Linux Edition	Enable to use a NetWorker Server with Workgroup Edition which will be installed on a Linux host.	969518-5162c6-2dfddc
	456-004-987	NetWorker Server Workgroup Edition Windows Edition	Enable to use a NetWorker Server with Workgroup Edition for NetWorker 7.5 or later which will be installed on a Windows host.	51dbd3-10ad99-cfc1b
	456-010-507	NetWorker Server Workgroup Edition Solaris X64/X86 Edition	Enable to use a NetWorker Server with Workgroup Edition which will be installed on a Solaris x86/x64 host. For Solaris on SPARC, order the UNIX version.	b2b134-714ee5-2c83f8
	456-101-237	NetWorker Server NetWorker 7.5 or later Network Edition Linux Edition	Enable to use a NetWorker Server with Network Edition for NetWorker 7.5 or later which will be installed on a Linux host.	9d9c1f-6a59ff-0f76e7
	456-101-240	NetWorker Server NetWorker 7.5 or later Workgroup Edition Linux Edition	Enable to use a NetWorker Server with Workgroup Edition for NetWorker 7.5 or later which will be installed on a Linux host.	979a19-5263c1-2cfcdd
	456-101-235	NetWorker Server NetWorker 7.5 or later Network Edition UNIX Edition	Enable to use a NetWorker Server with Network Edition for NetWorker 7.5 or later which will be installed on a UNIX host.	bebd40-8b3a04-ff1484
	456-101-236	NetWorker Server NetWorker 7.5 or later Network Edition Windows Edition	Enable to use a NetWorker Server with Network Edition for NetWorker 7.5 or later which will be installed on a Windows host.	232da5-ecdf6f-10aa69
	456-005-472	NetWorker Server Network Edition Linux Edition	Enable to use a NetWorker Server with Network Edition which will be installed on a Linux host.	9c9f1e-5558fc-0e73e6
	456-010-509	NetWorker Server Network Edition Solaris X64/X86 Edition	Enable to use a NetWorker Server with Network Edition which will be installed on a Solaris x86/x64 host. For Solaris on SPARC, order the UNIX version.	2522a7-e9d16a-ab2b6f
	456-004-676	NetWorker Server Network Edition UNIX Edition	Enable to use a NetWorker Server with Network Edition which will be installed on UNIX host.	ca494c-873616-4bd490
	456-004-984	NetWorker Server Network Edition Windows Edition	Enable to use a NetWorker Server with Network Edition which will be installed on a Windows host.	232da5-ecdf6f-10aa69

Table 3 EMC NetWorker 45-day evaluation enabler codes (16 of 16)

Product	Model Code	Description	Usage	Temp Enabler
NetWorker Server	456-101-243	NetWorker Server NetWorker 7.5 or later Power Edition Linux Edition	Enable to use a NetWorker Server with Power Edition for NetWorker 7.5 or later which will be installed on a Linux host.	cc554e-85280c-7e8496
	456-101-241	NetWorker Server NetWorker 7.5 or later Power Edition UNIX Edition	Enable to use a NetWorker Server with Power Edition for NetWorker 7.5 or later which will be installed on a UNIX host.	eb746d-a41724-f75bb1
	456-101-242	NetWorker Server NetWorker 7.5 or later Power Edition Windows Edition	Enable to use a NetWorker Server with Power Edition for NetWorker 7.5 or later which will be installed on a Windows host.	f66578-b30229-ad4bbc
	456-005-473	NetWorker Server Power Edition Linux Edition	Enable to use a NetWorker Server with Power Edition which will be installed on a Linux host.	cb544d-84370d-7d8791
	456-010-510	NetWorker Server Power Edition Solaris X64/X86 Edition	Enable to use a NetWorker Server with Power Edition which will be installed on a Solaris x86/x64 host. For Solaris on SPARC, order the UNIX version.	ea736c-a7163b-f656b0
	456-005-126	NetWorker Server Power Edition UNIX Edition	Enable to use a NetWorker Server with Power Edition which will be installed on a UNIX host.	e9726b-a6153a-e955b3
	456-005-139	NetWorker Server Power Edition Windows Edition	Enable to use a NetWorker Server with Power Edition which will be installed on a Windows host.	f16073-be0d24-a640bb
	456-005-139	NetWorker Server Power Edition Windows Edition	Enable to use a NetWorker Server with Power Edition which will be installed on a Windows host.	f16073-be0d24-a640bb
	456-100-631	NetWorker Server Upgrade from Network to Power Edition Linux Edition	Enable to upgrade an existing NetWorker Server with Network Edition to the Power Edition in the Linux environment. Power Edition provides additional functionality over the Network Edition, specifically: <ul style="list-style-type: none"> <li>• Support for cluster technology.</li> <li>• The ability to support more devices</li> <li>• Includes twice the number of streams compared to the Network Edition.</li> </ul>	f16073-be0d24-a640bb
	456-100-630	NetWorker Server Upgrade from Network to Power Edition UNIX Edition	Enable to upgrade an existing NetWorker Server with Network Edition to the Power Edition in the UNIX environment. Power Edition provides additional functionality over the Network Edition, specifically: <ul style="list-style-type: none"> <li>• Support for cluster technology.</li> <li>• The ability to support more devices</li> <li>• Includes twice the number of streams compared to the Network Edition.</li> </ul>	f16073-be0d24-a640bb
NetWorker FastStart	457-100-086	NetWorker FastStart with Autochanger for Linux	Enable to use the NetWorker FastStart bundle for Linux environments.	6e96f0-258ab6-aed334
	457-100-085	NetWorker FastStart with Autochanger for Windows	Enable to use the NetWorker FastStart bundle for Windows environments.	6dd6ef-2489b7-a9d337



# CHAPTER 3

## NetWorker Capacity Licensing Model

This chapter includes the following topics:

- ◆ Selecting a NetWorker licensing model..... 58
- ◆ About the capacity licensing model..... 58
- ◆ How to evaluate the NetWorker software ..... 60
- ◆ Licensing process flow ..... 61
- ◆ How to permanently license the NetWorker software ..... 62
- ◆ About the AMP appliance ..... 71
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## Selecting a NetWorker licensing model

[“Deciding which licensing model to use” on page 13](#) details the criteria for selecting when to use the traditional licensing model or the capacity licensing model to permanently license the NetWorker software.

## About the capacity licensing model

Source capacity is defined as the total capacity of data on the clients or devices on which:

- ◆ The NetWorker software is installed.
- ◆ The NetWorker software is used to provide data protection.

Source capacity is measured as the total capacity of data that is protected by the NetWorker software over a two-month period (60 days). This is irrespective of where the data is backed up, for example, to a tape, disk, VTL, Avamar Data Store, or Data Domain system:

- ◆ For pre-deduplicated data, the quantity of data is included in the calculation.
- ◆ For synthetic full backups, where the combination of infrequent full backups is supplemented with regularly scheduled incremental backups, total capacity is measured as the total capacity of the most recent full backup, even if that backup is older than 60 days.

[“Task 2: Estimate the backup environment's capacity” on page 63](#) provides information on how to measure the capacity of the backup environment.

The EMC Asset Management and Planning (AMP) appliance is a free virtual appliance that you can download from EMC Powerlink and install on any VMware ESX server.

You can use the AMP appliance to:

- ◆ Understand your software usage.
- ◆ Measure the capacity usage for the NetWorker software.
- ◆ Plan future software investments and ensure license compliance.

NetWorker leverages the AMP appliance to provide an estimate of the capacity usage in a backup environment. [“About the AMP appliance” on page 71](#) provides more information.

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**Note:** PowerSnap, SnapImage, and AlphaStor, are not included in the NetWorker capacity licensing model. These options must be ordered separately. The PowerSnap capacity licensing model is separate from the NetWorker capacity licensing model.

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[“Deciding which licensing model to use” on page 13](#) details the selection criteria for when to use the traditional licensing model or the capacity licensing model to permanently license the NetWorker software.

## NetWorker capacity licenses

Capacity licensing includes two types of license enablers:

1. NetWorker Datazone Enabler — You must license each installation of NetWorker server software with a NetWorker Datazone Enabler. This enabler, when installed on the NetWorker server, enables the software for capacity licensing. Without it, the NetWorker datazone remains under the traditional licensing model. One NetWorker Datazone Enabler is required for each NetWorker server or datazone.
2. Tiered Capacity Entitlement — You must apply the appropriate number of Tiered Capacity Entitlement License enablers for each NetWorker server or datazone to protect up to the amount of purchased licensed source terabytes.

The Tiered Capacity Entitlement License Enabler is available in 1 TB and 10 TB increments.

## NetWorker capacity licensing options and modules

With capacity licensing, you can deploy unlimited quantities of the following NetWorker options and modules to protect up to the amount of licensed capacity:

- ◆ AlphaStor
- ◆ NetWorker clients including the following:
  - Deduplication clients
  - NDMP clients
  - Virtual Edition clients
- ◆ NetWorker Server and Storage Node
- ◆ NetWorker Autochanger Software Module
- ◆ NetWorker Data Domain Device Type, using DD Boost
- ◆ NetWorker Disk Backup
- ◆ NetWorker Dynamic Drive Sharing
- ◆ NetWorker Fast Start
- ◆ NetWorker Module for Databases and Applications
- ◆ NetWorker Module for DB2
- ◆ NetWorker Module for Informix
- ◆ NetWorker Module for Lotus
- ◆ NetWorker Module for MEDITECH
- ◆ NetWorker Module for Microsoft Applications
- ◆ NetWorker Module for Microsoft Exchange Server
- ◆ NetWorker Module for Oracle
- ◆ NetWorker Module for SAP with Oracle
- ◆ NetWorker Module for Microsoft SQL

- ◆ NetWorker Module for Sybase
- ◆ NetWorker SNMP Module
- ◆ NetWorker Virtual Tape Library Option

**NOTICE**

PowerSnap, and SnapImage are not included in the NetWorker capacity licensing and must be ordered separately. The PowerSnap capacity licensing model is separate from the NetWorker capacity licensing model.

## Benefits of the capacity licensing model

The capacity licensing model includes the following benefits:

- ◆ Simplified license management.
- ◆ Unlimited access to and deployment of all NetWorker features, modules, and options.
- ◆ Simplified maintenance renewals because only the capacity of the datazone is tracked.

## Requirements of the capacity licensing model

The NetWorker capacity licensing model is available to new customers and existing NetWorker customers under maintenance.

The capacity licensing model requires that the NetWorker server must be at NetWorker release 7.6 SP1 or later. However, the capacity licensing model supports earlier versions of NetWorker clients and storage nodes.

With the NetWorker capacity licensing model, you can license the NetWorker 7.6 SP1 and later software by using a capacity metric, the capacity in terabytes (TB).

With capacity licensing, you can deploy unlimited quantities of the NetWorker options and modules, such as Microsoft applications, databases, deduplication, VTL, disk, and drive sharing, to protect up to the amount of licensed capacity.

## How to evaluate the NetWorker software

NetWorker software can be downloaded and evaluated for free from the EMC Powerlink website or the media kit.

When you first install the NetWorker software, you can evaluate the software with all the modules and features for free for 30 days without typing any enabler codes or licenses.

Evaluation enablers for the NetWorker traditional licensing model are free, and must be applied on the NetWorker server. An evaluation enabler extends the evaluation period for an additional 45 days. The evaluation enabler cannot be extended or permanently enabled. It must be removed from the production environment before or on its expiry date.

To evaluate the NetWorker capacity licensing model, contact your EMC sales representative or your authorized reseller.

To permanently use the NetWorker software to back up and recover data, you must license the software. [“How to permanently license the NetWorker software” on page 62](#) provides information.

## Licensing process flow

To permanently use the NetWorker software to back up and recover data, you must license the software. The licensing process is the same for all editions of the NetWorker software and for the individual modules and features.

The NetWorker licensing process consists of the following basic steps:

**Note:** If no evaluation period is required, you can perform steps 1 and 2 together.

1. Download and install the software for evaluation.
2. Purchase the required NetWorker product, options, and modules from EMC or an authorized partner.

The purchase order for the software lists the requested NetWorker product, options, and modules. EMC sends a LAC letter by email in response to the valid purchase order.

3. At the EMC Powerlink Licensing site:
  - a. Open the activation menu.
  - b. Type the LAC and the host ID of the NetWorker server to obtain the software license certificate.

EMC Powerlink Licensing confirms the license activation by email and provides you access to your permanent entitlements online.

You can also send the certificate to an email address of your choice or print and save the certificate in a PDF format. The product license activation letter contains the license key (permanent enabler codes and auth codes).

4. Apply the license key on the NetWorker server.

Figure 2 on page 62 illustrates the licensing process flow.

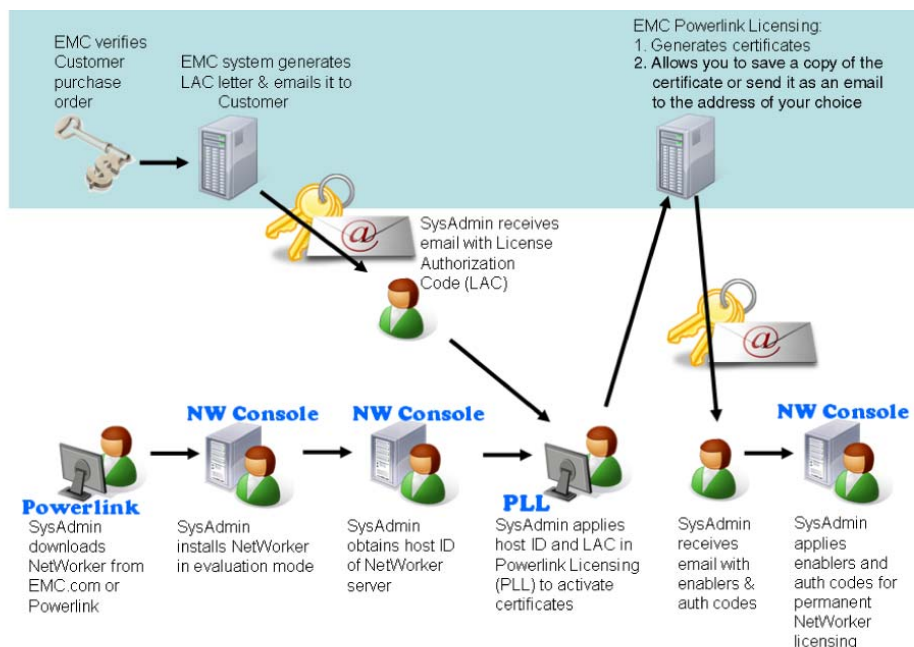


Figure 2 NetWorker licensing process flow

## How to permanently license the NetWorker software

To license the NetWorker software by using the capacity licensing model, perform the following tasks:

- ◆ “Task 1: If required, install the NetWorker software for evaluation” on page 63
- ◆ “Task 2: Estimate the backup environment's capacity” on page 63
- ◆ “Task 3: Send the purchase order” on page 63
- ◆ “Task 4: Review the LAC letter” on page 64
- ◆ “Task 5: Obtain the host ID of the NetWorker server” on page 64
- ◆ “Task 6: Activate the software license certificate” on page 65
- ◆ “Task 7: Download the NetWorker license key” on page 66
- ◆ “Task 8: Apply the license key on the NetWorker server” on page 67
- ◆ “Task 9: If required, delete enabler codes that are not relevant to capacity licensing” on page 69
- ◆ “Task 10: Record the new capacity licenses and enabler codes” on page 70
- ◆ “Task 11: Verify that the capacity licenses and enablers have been properly installed” on page 70
- ◆ “Task 12: Back up the NetWorker server” on page 71

## Task 1: If required, install the NetWorker software for evaluation

If this is a new installation, install the NetWorker software according to the instructions in the appropriate NetWorker installation guide.

Installing the NetWorker software provides complete access to all NetWorker features for an evaluation period of 30 days.

## Task 2: Estimate the backup environment's capacity

You can use scripts, NMC reports, or the EMC AMP appliance to estimate the capacity of the backup environment. Capacity is defined as the total aggregate amount of data for which the NetWorker software is used to provide data protection.

For most sources, the capacity is measured as the largest aggregate of full backups or synthetic full backups that are performed for all protected data by the NetWorker software over the last 60 days. A synthetic full backup is the combination of all full backups and incremental backups.

NetWorker save set names are used for file system backups and to identify which backups are from the same source. However, databases and applications often have their save set names defined outside of the NetWorker software. This makes it difficult to accurately distinguish between the same and different sources. For this reason, the capacity of databases and applications are estimated by the largest amount of data backed up in a 24-hour (noon to noon) period.

### Capacity for a new NetWorker installation

For a new installation of the NetWorker software, contact EMC Sales or an authorized reseller to estimate the capacity that will be protected by the NetWorker software.

EMC Sales or the reseller will perform a Data Profiling Assessment and use the Backup Quick Scripts tool to estimate the capacity of the backup environment.

The capacity is measured as the largest aggregate of full backups or synthetic full backups (which is the combination of full backups plus incremental backups) that are performed for all protected data by the NetWorker software over a two-month period (60 days).

### Capacity for an existing NetWorker installation

For an existing installation of the NetWorker software, you can use the AMP appliance, NMC reports, or the Backup Quick Scripts tool to estimate the capacity protected by the NetWorker software.

[“About the AMP appliance” on page 71](#) provides detailed information on how to use the AMP appliance to estimate the capacity.

## Task 3: Send the purchase order

Based on your calculation of your capacity estimates as determined by using the AMP appliance, scripts, or NMC reports, send to EMC or an authorized partner the customer purchase order that lists the amount of capacity to be purchased.

## Task 4: Review the LAC letter

Upon receipt of a valid purchase order, EMC sends a LAC letter by email to the specified customer contact. The information in the LAC letter is used to activate the software license certificate. The NetWorker server's host ID is also required for the activation.

Review the LAC letter, which contains the following:

- ◆ A LAC to be used to activate the license keys for the products. A license key consists of permanent enabler codes and auth codes.
- ◆ Instructions for activating the software and obtaining the license keys.
- ◆ Software download instructions, in case the NetWorker software has not yet been downloaded in evaluation mode.
- ◆ A list of the NetWorker products ordered, along with their SKU and revision numbers.
- ◆ The end user site name and address. This information was posted at the time the purchase order was entered.
- ◆ Contacts for licensing and support information.

### NOTICE

Do not confuse a LAC with an auth code. LACs are used in EMC Powerlink Licensing to obtain and activate the license key. A LAC enables you to obtain an auth code, but it is the *combined* application of permanent enabler and auth codes in NetWorker software that permanently licenses the software.

## Task 5: Obtain the host ID of the NetWorker server

The host ID is required during the software authorization process. It identifies where the NetWorker server has been installed.

To ensure that EMC Licensing receives accurate information, use the host ID value displayed in the NetWorker Registration window. The host ID is an 8-character alphanumeric code that always appears in lowercase. An example of a host ID is abab1234

The following steps should be performed by the customer, preferably a NetWorker system administrator.

To obtain the host ID:

1. On the NetWorker server, start the **NetWorker Management Console**.
2. Select **NetWorker Administration**.
3. In the **Administration** window, click **Configuration**.
4. Right-click **Registrations** in the navigation tree.
5. Right-click the NetWorker evaluation license (or any NetWorker license) in the **Registrations** area of the screen. The **Properties** window appears.
6. Note the alphanumeric host ID.



## Task 6: Activate the software license certificate

The following steps should be performed by a NetWorker system administrator.

To create and activate the software license certificate:

1. Go to the EMC Powerlink website (registration required) at:  
<http://Powerlink.EMC.com>  
 If you do not have an account, follow the New Member Registration steps.
2. Log in with your username and password.
3. Select **Support** > **Software Downloads and Licensing** > **License Management**.
4. Locate and click **NetWorker**. The **EMC Powerlink Licensing** page appears.
5. In the **LAC(s)** field, type the LAC number found in your LAC letter.
6. If you are creating a new machine, in the **Machine Name** field, type the name of the machine where you activate your licenses. Machine names and locking IDs must be unique for each parent company.
7. If you are activating an add-on product for an existing machine:
  - a. Navigate to the **Activation** page.
  - b. Select an existing machine to activate your LAC.
8. In the **Locking ID** field, type the NetWorker server host ID that you obtained in [“Task 5: Obtain the host ID of the NetWorker server” on page 64](#).
9. Click **Activate**.

### Product license activation letter

EMC send by email the product license activation letter to the registered user on the machine after the software license certificate has been activated in EMC Powerlink Licensing.

The letter contains the following:

- ◆ A list of the purchased products, their part numbers, quantities, and version levels.
- ◆ The site information.
- ◆ Parent company information.
- ◆ The LAC.
- ◆ The NetWorker host ID.
- ◆ The license key that consists of permanent enablers and auth codes.  
 Once applied jointly in the NetWorker Console interface, these codes permanently license the NetWorker software.
- ◆ Contacts for licensing, a NetWorker Licensing Help section, and support information.

## Task 7: Download the NetWorker license key

You can install the license key on a local NetWorker server, a remote NetWorker server, or a NetWorker License Manager system.

To download the license key from EMC Powerlink:

1. Go to the EMC Powerlink website (registration required) at:  
<http://Powerlink.EMC.com>
2. Open the **EMC Powerlink Licensing Home** page:
  - a. Select **Support > Software Downloads and Licensing > License Management**.
  - b. Select **NetWorker** from **Licensing D-Q**.
  - c. Follow the instructions for your product. The **EMC Powerlink Licensing Home** page appears.

If the LAC number has not yet been typed, activated, and associated with the host ID, follow the instructions in the email received from EMC Powerlink Licensing before proceeding to the next step.

3. On the **EMC Powerlink Licensing Home** page, select **Download Enabler Codes**. The **Search for Downloading Enabler Codes** page appears.
4. In the **%HostID** attribute, type the NetWorker server host ID number that you obtained in [“Task 5: Obtain the host ID of the NetWorker server”](#) on page 64.
5. Click **Search**. The **Search for Downloading Enabler Codes** page appears, displaying the list of hosts that match the criteria.
6. Select the host ID that matches the criteria. The **Download** page appears.
7. Click **Download Enablers** and perform the following:
  - a. Click **Download CSV** and save the file.

The **CSV** file contains the enabler codes and related information, including part descriptions, part numbers, and auth codes.

You can import this file into Excel and search and sort the contents:

- Format: *host ID.csv*
- Example: df010b3f.csv

- b. Click **Download nsradmin** and save the file:

- Format: *host ID\_date.nsradmin*
- Example: df010b3f\_20080814.nsradmin

- c. Click **Download ReadMe** and save the file. The readme file describes the process and how to use **nsradmin** to load the enablers:

- Format: *ReadMe\_host ID\_date.txt*
- Example: ReadMe\_df010b3f\_20080814.txt

You can download these files at any time from EMC Powerlink. As additional licenses are added to a host profile, these new licenses will be included in future downloads.

## Task 8: Apply the license key on the NetWorker server

The steps to apply the license key on the NetWorker server differ for a new installation and an existing installation that uses the traditional licensing model.

The following sections provide details:

- ◆ [“Capacity for a new NetWorker installation” on page 67](#)
- ◆ [“Capacity for an existing NetWorker installation that uses the traditional licensing model” on page 68](#)

The license key consists of permanent enablers and auth codes.

### NOTICE

The recommended way to obtain and install NetWorker permanent enablers and auth codes is to automatically import and install them from EMC Powerlink Licensing.

If you cannot automatically import and install the permanent enablers and auth codes from EMC Powerlink Licensing, you can manually install the permanent enablers and auth codes. [“How to manually type the license key on a NetWorker server or a NetWorker License Manager system” on page 87](#) provides detailed instructions.

Even if you have installed evaluation enablers that have not yet expired, in order to license the NetWorker software permanently you must apply the license key. The license key is provided in the product license activation letter.

### Capacity for a new NetWorker installation

To import and apply the NetWorker license key from EMC Powerlink Licensing directly to a NetWorker server or a NetWorker License Manager system:

1. Ensure that you have the following permissions on the NetWorker server:
  - Windows: administrator
  - UNIX and Linux: root
2. Identify the location where the files were downloaded.
3. Ensure that no NetWorker backups are running.
4. Run the following **nsradmin** command in the directory where the *source\_file* is located.

You can run the **nsradmin** command from any NetWorker client, storage node, or server:

- To install the NetWorker license keys on a local NetWorker server, type:

```
nsradmin -i source_file > output_file
```

- To install the NetWorker license keys on a remote NetWorker server, type:

```
nsradmin -i source_file -s server_name > output_file
```

- To install the NetWorker license keys on a NetWorker License Manager system, type:

```
nsradmin -i source_file -s server_name -p 390115 > output_file
```

5. Open and review the *output\_file* for success or failure messages to ensure that the NetWorker licenses have been properly installed:

- Success entry message in the output file:

If the first attempt to load a license was successful, an entry similar to the following appears in the output file:

```
C:\PROGRA~1\Legato\nsr\bin\std>nsradmin -i infile
created resource id 25.0.0.20.96.108.23.72.137.69.168.135(1)
Current query set
updated resource id 25.0.0.20.96.108.23.72.137.69.168.135(2)
```

- Failed entry message in the output file:

If a license load failed, entries similar to the following might appear:

- This entry in the output file indicates that the license already exists in NetWorker and can be ignored:

```
C:\PROGRA~1\Legato\nsr\bin\std>nsradmin -i infile
create failed: A license enabler already exists with enabler
code xxxxxx-xxxxxx-xxxxxx
Current query set
updated resource id 25.0.0.20.96.108.23.72.137.69.168.135(3)
```

If the **nsradmin** command has previously been used to install licenses on a host, failure messages might be generated for NetWorker licenses that already exist.

- This entry in the output file indicates that the NetWorker server processes are not running on the system:

```
C:\PROGRA~1\Legato\nsr\bin\std>nsradmin -i infile pasb-tomp
39078:nsradmin: RPC error: Program not registered (severity 4,
number 15)
```

To work around this issue, start the NetWorker processes on the NetWorker server.

## Capacity for an existing NetWorker installation that uses the traditional licensing model

To apply the NetWorker license key to an existing NetWorker server:

1. Ensure that you have the following permissions on the NetWorker server:
  - Windows: administrator
  - UNIX and Linux: root
2. Review the bootstrap to determine the time when the last bootstrap backup of the NetWorker server was performed:

```
mminfo -B
```

Typically, the bootstrap is produced from the last group to run in the backup window.

3. Back up the NetWorker server if any groups were run or have finished running after the time of the last bootstrap:

```
savegrp -G group_name -N parallelism -c client_name
```

The **savegrp** man page provides detailed information about the required flags.

4. Ensure that you have a record of all the traditional licensing model enabler codes that EMC Licensing issued in case of regression back to the traditional licensing model.

For example:

- a. Save the traditional enabler codes in a text file by typing the following at the command line:

```
echo print type : NSR license | nsradmin > saved_enablers.txt
```

- b. Create a script or batch files that use the **nsrcap** command to create and authorize the saved traditional enabler codes. This speeds up regression back to the traditional licensing model, if required.
5. Type the following command to apply the capacity entitlement enablers:

```
nsrcap -u capacity_base_license -a authorization_code
```

6. Upgrade the base enabler to the new NetWorker Datazone Enabler:

- a. Open a command prompt on the NetWorker server.
- b. Type the following at the command line:

```
nsrcap -u NetWorker_Datazone_Enabler -a authorization_code
```

This step removes the existing base enabler. If already installed, a base enabler cannot be deleted; it can only be upgraded to capacity licensing or downgraded to traditional licensing. If a base enabler has already been installed on a NetWorker server for extended evaluation, an error message appears when you attempt to install a new base enabler.

## Task 9: If required, delete enabler codes that are not relevant to capacity licensing

To use the capacity licensing model, you must delete all enablers that do not apply to this model.

If installed, do *not* delete the following licenses:

- ◆ AlphaStor
- ◆ PowerSnap
- ◆ SnapImage
- ◆ NetWorker update enabler

### NOTICE

AlphaStor, PowerSnap, and SnapImage are not included in the NetWorker capacity licensing and must be ordered separately. The PowerSnap capacity licensing model is separate from the NetWorker capacity licensing model.

Do not delete these license enablers:

- ◆ NetWorker Datazone Enabler
- ◆ Tiered Capacity Entitlement License Enabler

“[NetWorker capacity licenses](#)” on page 59 provides details about these license enablers.

Delete any enabler codes that are not relevant to the capacity licensing model if either of these conditions apply:

- ◆ Your evaluation requirements extend beyond 30 days and evaluation enablers are installed.
- ◆ You are moving from the traditional licensing model to the capacity licensing model and enablers are installed.

#### NOTICE

You cannot delete the following enablers:

- NetWorker update enabler
- Base enabler

The base enabler code enables the basic NetWorker software. The base enabler can only be upgraded to capacity licensing or downgraded to traditional licensing.

## How to delete enablers that do not apply to capacity licensing

To delete all enablers that do not apply to the capacity licensing:

1. Type the following to save all of your old enabler codes in a text file:

```
echo print type : NSR license | nsradmin > saved_enablers.txt
```

2. In the **Administration** window, click **Configuration**.
3. Click **Registrations**.
4. Right-click all of the old enabler codes to be deleted, then select **Delete**.

#### NOTICE

EMC recommends removing all of the old enablers from the NetWorker software.

5. Click **Yes** to confirm the deletion.
6. When prompted, repeat the license deletion task. This repetition prevents accidental license deletion.

## Task 10: Record the new capacity licenses and enabler codes

Type the following to save the new capacity licenses and enabler codes in a text file:

```
echo print type : NSR license | nsradmin > capacity_enablers.txt
```

## Task 11: Verify that the capacity licenses and enablers have been properly installed

To verify that the capacity licenses and enablers have been properly installed:

1. Run either of the following:
  - **nsrlc** command
  - NMC

Notes:

- You are not required to reboot or restart the NetWorker server or any clients, storage nodes, or modules to enable the licensing.
  - In order to use the capacity licensing model, the NetWorker server release must be NetWorker 7.6 SP1 or later. However, the capacity licensing model supports earlier versions of NetWorker clients and storage nodes.
2. Test the backups, and check that sessions, devices, and jukeboxes are correctly configured and enabled.

---

**Note:** You can only downgrade the NetWorker server base enabler when regressing from capacity licensing to traditional licensing. The **nsrkap** command cannot downgrade any other enabler.

---

3. If regression to traditional licensing is required, you can do either of the following:
- Recover the NetWorker server from the bootstrap backup.
- or
- Use the script or batch file that was created in the [“Capacity for an existing NetWorker installation that uses the traditional licensing model”](#) on page 68 section to enter *all* of the traditional enabler codes that were deleted. You must also downgrade the NetWorker server base enabler back to traditional licensing *only after* you have entered all of the traditional enabler codes that were previously installed.

---

**Note:** Failing to enter all of the traditional enabler codes that were previously installed before downgrading the base enabler to traditional licensing might disable some NetWorker resources.

---

## Task 12: Back up the NetWorker server

Back up the NetWorker server to ensure that you have a point-in-time backup after licensing the NetWorker software to capacity licensing:

```
savegrp -G group_name -N parallelism -c client_name
```

The **savegrp** man page provides detailed information about the required flags.

## About the AMP appliance

The AMP appliance is a free virtual appliance that you can download and install from EMC Powerlink.

You can use the AMP appliance to:

- ◆ Understand your software usage.
- ◆ Measure the source capacity usage for the NetWorker software.
- ◆ Plan future software investments.
- ◆ Ensure license compliance.

NetWorker software uses the AMP appliance to provide an estimate of the capacity usage in a backup environment. Together with the EMC account team, you must perform periodic reviews of the software usage information.

The following are important features of the AMP appliance:

- ◆ Based on policies that you can set, the AMP appliance extracts usage information from select EMC software products, including NetWorker on Windows, UNIX, and Linux hosts. The AMP appliance uses the NetWorker **nsrexecd** client process to connect to the NetWorker server.
- ◆ The AMP appliance enables you to specify the frequency at which the appliance will automatically collect software usage information.
- ◆ You can filter and sort usage data, export reports to PDF format for printing, and export to Microsoft Excel for further analysis.
- ◆ You can configure the AMP appliance and set up usage monitoring policies in a browser.
- ◆ The AMP appliance does *not* support authentication using the **nsrauth** command. You must use **oldauth** authentication for the IP address and the AMP appliance. The *EMC NetWorker Administration Guide* provides detailed information on authentication.
- ◆ The AMP appliance does *not* support IPv6.

The *EMC AMP User Guide* provides detailed information on how to set up and use the AMP appliance.

This section includes the following information:

- ◆ [“Setting up the virtual machine environment” on page 72](#)
- ◆ [“Downloading and installing the AMP appliance” on page 73](#)
- ◆ [“Configuring the AMP appliance for the NetWorker software” on page 74](#)
- ◆ [“Using the AMP appliance to measure the capacity usage” on page 75](#)
- ◆ [“Cases where the estimated and actual capacities differ” on page 76](#)
- ◆ [“Calculating the backup environment’s capacity” on page 77](#)

## Setting up the virtual machine environment

The AMP appliance is a virtual machine. The requirements to run the software include the following:

- ◆ 1 CPU
- ◆ A hypervisor, such as the VMware ESX Server which runs directly on the server hardware
- ◆ 1.5 GB of virtual RAM
- ◆ 8 GB of available virtual disk space that can be expanded up to 40 GB, if required

As is common with all virtual machines, the AMP appliance cannot run within another virtual machine. Tools such as VMWare Player will generally not operate within a virtual machine.



## Downloading and installing the AMP appliance

To download and install the AMP appliance:

1. Download the AMP appliance from to the following location on EMC Powerlink to a location within your network:

**Support > Product and Diagnostic Tools > Asset Management and Planning (AMP)**

2. Extract the contents of the downloaded zip file.

When using a hypervisor such as VMware ESXi to open the virtual machine, select the AMP-Base.vmx file from the unzipped files.

3. Run the AMP appliance from the location where the files were downloaded.

You can use a bare metal hypervisor, such as VMware ESXi, to run the appliance from the location where the files were downloaded. At the prompt, type a new root password. If direct access is required to the AMP appliance, the username is **amp** and the password is **password**. This provides access to the AMP appliance code, not the web browser that is being used for running the AMP appliance once it has been installed.

4. In the **AMP Configuration Console**:

- a. Select **Advanced Menu**.
- b. Select **Networking: Configure Appliance Networking**.
- c. Scroll down and select **Static IP: Configure this NIC manually**.
- d. Populate the required static IP information.

5. Copy the IP address located at the top of the main configuration screen.

6. Substitute the IP address contained within the following URL with the IP address copied in the previous step:

<https://10.64.45.32:8443/amp-web/app/mysum/index>

7. In the web browser, type the amended URL address.

The following web browsers are supported:

- Firefox version 3.6 or later
- Chrome version 5 or later

8. Save the URL address to the favorites list within the browser or create a shortcut desktop icon.

If the IP address in the URL expires or is replaced, create a new shortcut desktop icon or save the new URL to the favorites list.

## Configuring the AMP appliance for the NetWorker software

You should run the AMP appliance during a low activity time. For example, run the collection on the day of the month that you expect to be the least busy. The time required to populate the data into the AMP appliance depends on the number of clients and backups managed by the NetWorker server. For example, a NetWorker server with 200 clients may take an hour to process.

### NOTICE

Do not run the data collection with the AMP appliance more than once a week.

To configure the AMP appliance to calculate the software usage for the NetWorker software:

1. Identify each NetWorker server and its IP address in your environment.
2. Log in to the AMP appliance with the following credentials:
  - Username: admin
  - Password: admin
3. For each NetWorker server, create a monitoring job:
  - a. On the home page, select **Policy Administration for EMC AMP**.
  - b. On the **Manage Policies** screen, select **Create**.
  - c. On the **Edit Policy** screen:
    - Define a name for the policy that is being created.
    - Select **NetWorker** for the product to discover.
    - Type the IP range information.
    - Type the associated login credentials of the host or array where the NetWorker software resides.
    - Ensure that the **Active** radio button is selected.
4. Set the scan frequency to run a scan during a low activity time of the month:
  - Select **Monthly schedule**.
  - In the **Day of month** attribute, type the number of the day in the month that you want to run the scan.  
  
For example, type **1** to run the scan on the first day of the month.
  - In the **Start Time** attribute, type the time and select the time zone to begin the scan. The time attribute uses a 24-hour clock.

5. Select **Save and Execute Now**.

## Using the AMP appliance to measure the capacity usage

The time required for a policy to run and return data is dependent on the environment that the AMP appliance is searching. The monitoring process connects to each NetWorker server and reads the data from the RAP database and media database for each client. The time required to populate the data into the AMP appliance depends on the number of clients and backups managed by the NetWorker server. For example, a NetWorker server with 200 clients can take an hour to process.

To reduce the load on the NetWorker sever, the AMP appliance is designed to pause a few seconds between each query. However, you should run the appliance during a low production time.

### About NetWorker product usage reports

The EMC Product Usage Information report provides the following fields of information:

- ◆ Product Name — Represents the product name, NetWorker.
- ◆ Ver — Represents the NetWorker server version.
- ◆ Proxy IP — Represents the NetWorker server IP address.
- ◆ **Platform** — Represents the host operating system of the NetWorker server.
- ◆ Asset — Represents the identification number for the NetWorker server.
- ◆ Metric — Represents the estimated amount of capacity for each NetWorker server:
  - **ESTIMATED TB GRAND TOTAL** represents the total estimate of how much data the NetWorker server is protecting.
  - ESTIMATED TB SUBTOTAL: *client\_name* represents the per-client-machine subtotals.
  - *client\_name* | *save\_set* represents the estimated amount of data protected for each save set or application type. For example:  
agnes|C:\WCW-AROWANA|MS-SQL
  - Value — Represents the estimate for the metric field. The only exception is for the subtotals, where the cell is blank when the value for the subtotals appears in the metric column.
  - Timestamp — Represents the time when the estimates were calculated.

Figure 3 on page 76 illustrates the NetWorker product usage report.

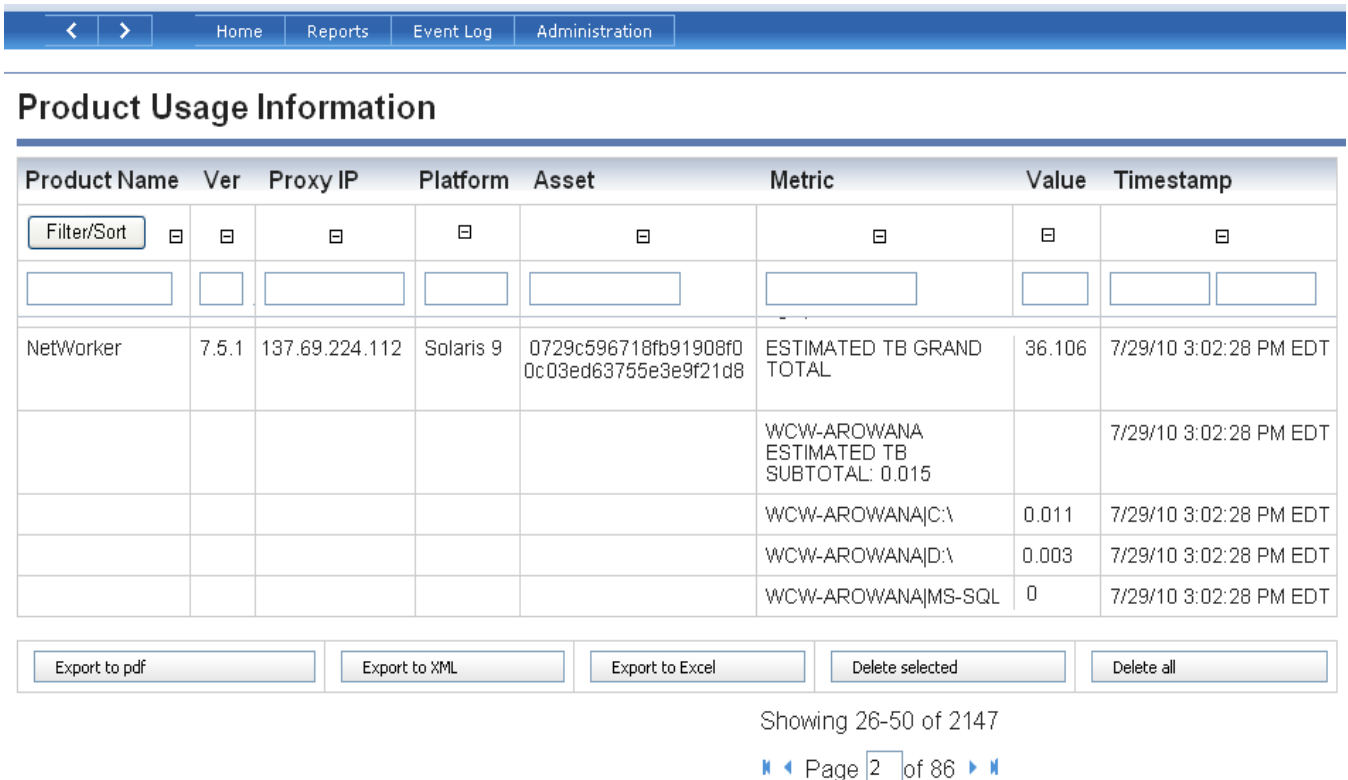


Figure 3 EMC Product Usage Information report

### Creating NetWorker product usage reports

To create NetWorker product usage reports from the EMC AMP home page:

1. Click **EMC Product Report**.
2. In the **Product Name** field, type **NetWorker**.
3. Click **Filter/Sort**. The NetWorker usage information appears in the report. This data can be filtered and sorted by column and can also be exported to a PDF or Microsoft Excel report.

### Cases where the estimated and actual capacities differ

The following are three cases where the estimated capacity and actual capacity might differ:

1. If a full database backup of all the instances on a machine includes more than one save set and the full backup takes several days, the estimate will be less than the true size:
  - If the database backs up over two days, the estimated size will be approximately half of the true size.
  - If the database backs up over three days, the estimated size will be approximately a third of the true size.

2. If a database is backed up as follows, the estimate will be greater than the true size:
  - If the database is backed up multiple times in a single day, the estimate will be high.
  - If the database is backed up once at a full level, and five more times during the day as a log file backup with a typical log size of less than 1 percent, then the estimate will be roughly 105 percent of the true size.
  - If a database is backed up at a full level six times in a day, the estimate will be approximately six times the true size.

Notes:

  - PowerSnap backups are not counted unless they roll over to disk, VTL, or tape.
  - Oracle backups that rollover one snapshot six times a day and take snapshots off to tape each day will be estimated accurately.
3. If a backup, including a module backup, uses client-side compression, the estimate will be less than the true size:
  - How much less the estimate is than on the true size will depend on the data.
  - Values of 1.2 times to 2 times are typical and might result in an estimate between 50 percent and 85 percent of the true size.

## Calculating the backup environment's capacity

The AMP appliance estimates source capacity protected by the NetWorker software. Capacity is defined as the total aggregate amount of data for which the NetWorker software is used to provide data protection.

For most sources, capacity is estimated as the largest aggregate full backup performed for each protected data source over the last 60 days. NetWorker save set names are used for file system backups and to identify which backups are from the same source. However, databases and applications often have their save set names defined outside of the NetWorker software. This makes it difficult to accurately distinguish between the same and different sources. For this reason, the capacity of databases and applications are estimated by the largest amount of data backed up in a 24-hour (noon to noon) period.

To calculate the actual amount of protected capacity:

1. Verify that the sum totals are accurate in the following fields in the EMC Product Usage Information report for NetWorker:
  - ESTIMATED TB GRAND TOTAL represents the total estimate of how much the NetWorker server is protecting.
  - ESTIMATED TB SUBTOTAL: <client\_name> represents the per-client-machine subtotals.
  - <client\_name> <save\_set> represents the estimated amount of data protected for each save set or application type.

2. If you have machines in your backup environment that fall into the scenarios outlined in [“Cases where the estimated and actual capacities differ” on page 76](#), perform a manual verification of the protected data sources and their associated sizes.

For example:

- a. Manually find the sizes of the largest and most complex databases or file systems that use compression.
- b. Replace the estimates in the EMC Product Usage Information report for NetWorker with your measured values, as required.

To calculate the amount of capacity that is required to be purchased, you can export the EMC Product Usage Information report for your NetWorker system to Microsoft Excel. In Microsoft Excel, you can adjust the values in the appropriate fields to accurately reflect your backup environment that is protected by the NetWorker software.

## FAQ: capacity licensing

This section provides answers to frequently asked questions about NetWorker capacity licensing.

*Question 1* What is the NetWorker capacity licensing model?

EMC NetWorker capacity licensing is a licensing option that enables customers to license the NetWorker software by using a single metric, source capacity in terabytes. The capacity licensing option has been available since October, 2010.

*Question 2* What is the NetWorker capacity licensing model?

EMC NetWorker capacity licensing is a licensing option that enables customers to license the NetWorker software by using a single metric, source capacity in terabytes. The capacity licensing option has been available since October 2010.

*Question 3* Who are the target customers for capacity licensing?

The capacity licensing model is available to both new and existing NetWorker customers with NetWorker server 7.6 SP1 and higher.

- ◆ Capacity licensing is price-effective for environments with a large number of backup clients or environments with advanced backup technology, such as Microsoft applications, Oracle and other application and database modules, deduplication, and disk/VTL backup.
- ◆ Traditional licensing is price-effective for environments with a small number of backup clients or environments with basic backup technology, such as standard clients and tape backup.

*Question 4* What are the ground rules for the customer environment to use the capacity licensing model?

The NetWorker server or datazone must have NetWorker 7.6 SP1 or later. The customer environment will be examined on a periodic basis.

**Question 5** Is the capacity licensing model a replacement for the existing NetWorker licensing model?  
Capacity licensing is an alternative to the traditional licensing model.

Customers can choose traditional or capacity licensing but can use only one method per NetWorker server or datazone.

**Question 6** What are the benefits of NetWorker capacity licensing?

Capacity licensing dramatically simplifies license management and maintenance renewals. There is not need to manage numerous license keys, and the model offers early and unlimited access to most NetWorker features, options, and modules.

**Question 7** What NetWorker options and modules can be deployed with NetWorker capacity licensing? What NetWorker options and modules are not included?

With capacity licensing, you can deploy unlimited quantities of NetWorker options and modules to protect up to the amount of licensed capacity. [“NetWorker capacity licensing options and modules” on page 59](#) lists the available options and modules.

**NOTICE**

AlphaStor, PowerSnap, and SnapImage are not included in the NetWorker capacity licensing and must be ordered separately. The PowerSnap capacity licensing model is separate from the NetWorker capacity licensing model.

**Question 8** What is the definition of source capacity?

Source capacity is defined as the total capacity of data on clients or devices on which the NetWorker software is installed or for which the NetWorker software is used to provide data protection functionality.

**Question 9** Does the capacity calculation include data on client systems that are not protected by NetWorker?

No, only data being protected by the NetWorker software is used in the capacity calculation.

**Question 10** Does the capacity calculation include data that is no longer on the client when the backup image is retained by NetWorker for recovery?

No, this data is excluded from the source capacity calculation.

For example, the capacity calculation does not include a SQL server with 5 TB that is no longer in production and is not backed up by the NetWorker software when its old backups are still retained by the NetWorker software for recovery. In this case, this SQL server is not used in the source capacity calculation.

**Question 11** How does the capacity calculation handle source data that is deduplicated?

The quantity of pre-deduplicated data is included in the capacity calculation. Licensing is based on source terabytes, irrespective of the data deduplication technology that the NetWorker software applies.

**Question 12** Can this model be used in an integrated NetWorker and Avamar environment?

Yes, NetWorker capacity licensing is based on source terabytes, irrespective of where the data is moved. For example:

- ◆ Tape
- ◆ Disk
- ◆ VTL
- ◆ Avamar Data Store
- ◆ Data Domain

The back-end Avamar solution can be purchased separately as with the traditional licensing model.

**Question 13** Can this model be used in an integrated NetWorker and Data Domain environment?

Yes, NetWorker capacity licensing is based on source terabytes, irrespective of where the data is moved. For example:

- ◆ Tape
- ◆ Disk
- ◆ VTL
- ◆ Avamar Data Store
- ◆ Data Domain

**Question 14** Is Data Domain Boost support included in the capacity licensing model?

Yes, the integration of DD Boost is included. However, a separate license for the Data Domain system software option is required.

**Question 15** How is source capacity measured?

Source capacity is defined as the total capacity of data on the clients or devices on which:

- ◆ The NetWorker software is installed.
- ◆ The NetWorker software is used to provide data protection.

Source capacity is measured as the total capacity of data that is protected by the NetWorker software over a two-month period (60 days). This is irrespective of where the data is backed up, for example, to a tape, disk, VTL, Avamar Data Store, or Data Domain system:

- ◆ For pre-deduplicated data, the quantity of data is included in the calculation.
- ◆ For synthetic full backups, where the combination of infrequent full backups is supplemented with regularly scheduled incremental backups, total capacity is measured as the total capacity of the most recent full backup, even if that backup is older than 60 days.

To calculate the actual amount of protected capacity, see the following sections for more information:

- ◆ [“Cases where the estimated and actual capacities differ” on page 76](#)
- ◆ [“Calculating the backup environment’s capacity” on page 77](#)



*Question 16* How is capacity measured in an environment where a single full backup is followed by incremental backups that run for more than 60 days, in which case there will not be any full backups for the last 60 days?

For synthetic full backups, where the combination of infrequent full backups is supplemented with regularly scheduled incremental backups, total capacity is measured as the total capacity of the most recent full backup, even if that backup is older than 60 days.

*Question 17* What is the AMP appliance?

EMC offers customers a free virtual tool called Asset Management & Planning (AMP) to:

- ◆ Understand their software usage.
- ◆ Plan future software investments.
- ◆ Ensure license compliance.

The NetWorker software leverages the AMP appliance to provide an estimate of capacity usage in the backup environment.

The following are features of the AMP appliance:

- ◆ Installation — You can download the AMP tool from EMC Powerlink and install it on any VMware ESX server.
- ◆ Configuration — You can configure the AMP appliance and set up usage monitoring policies by using a web browser.
- ◆ Discovery — Based on policies that you set, the AMP appliance extracts usage information from select EMC software products, including NetWorker on Windows, UNIX, and Linux hosts.
- ◆ Automated scheduler — You can specify the frequency at which the AMP appliance will automatically collect software usage information.
- ◆ View/print/export reports — You can filter and sort usage data, export reports to PDF format for printing, and export to Microsoft Excel for further analysis.

*Question 18* Does capacity licensing require enablers? Does a customer still use EMC Powerlink Licensing in the capacity model?

Yes, capacity licensing requires a small set of license enablers that you download from EMC Powerlink Licensing.

*Question 19* What license enablers are required for capacity licensing?

There are two types of license enablers associated with capacity licensing:

- ◆ NetWorker Datazone Enabler
- ◆ Tiered Capacity Entitlement License Enabler

Each installation of NetWorker server software must be licensed with a NetWorker Datazone Enabler. This enabler, when installed on the NetWorker server turns on the software for capacity licensing. Without it, the NetWorker datazone remains under the traditional licensing model. One NetWorker Datazone Enabler is required for each NetWorker server or datazone.

In addition to the NetWorker Datazone Enabler, the appropriate number of capacity entitlement licenses must be applied per NetWorker server or datazone.

**NOTICE**

AlphaStor, PowerSnap, and SnapImage are not included in the NetWorker capacity licensing and must be ordered separately. The PowerSnap capacity licensing model is separate from the NetWorker capacity licensing model.

*Question 20* Can the Capacity Entitlement Licenses be split across NetWorker servers?

No, the Capacity Entitlement Licenses cannot be split across NetWorker servers. Individual Capacity Entitlement Licenses are required for each NetWorker server or datazone.

For example, if NetWorker server A protects 10 TB capacity and NetWorker server B protects 20 TB capacity:

- ◆ NetWorker server A requires at least a 10 TB Capacity Entitlement License.
- ◆ NetWorker server B requires at least a 20 TB Capacity Entitlement License.

*Question 21* How is license entitlement proved during the NetWorker license audit process?

The capacity entitlements are listed in the Registrations Report in NMC. This report is used as proof of entitlement, based upon the Capacity Entitlement Licenses that have been applied by the NMC administrator.

You can run the AMP appliance to estimate the capacity usage of the backup environment. The estimate must be used in conjunction with a manual verification of all the protected data sources and their associated sizes. Licenses are compliant if the capacity usage does not exceed the licensed entitlement.

# CHAPTER 4

## Troubleshooting and Best Practices

This chapter includes the following topics:

- ◆ Diagnosing licensing issues ..... 84
- ◆ How to obtain NetWorker license information ..... 84
- ◆ How to avoid an interruption in backups when changing the computer or network address ..... 85
- ◆ How to query a server ..... 85
- ◆ How to manually type the license key on a NetWorker server or a NetWorker License Manager system..... 87
- ◆ License Conformance Summary..... 89
- ◆ How to provide feedback..... 91
- ◆ Best Practices ..... 92

## Diagnosing licensing issues

Ensure that you check the NetWorker logs and alerts for licensing information.

The following circumstances might cause an interruption in backups:

- ◆ A required enabler code (temporary evaluation enabler, license enabler, or authorization code) is missing. For example, a storage node enabler is missing which results in an insufficient number of licenses on the system.
- ◆ An enabler code has expired.
- ◆ An update enabler is missing.
- ◆ A new client was added, which requires an existing enabler code to be released through the deletion of an old client.
- ◆ Old enabler codes must be deleted before new enabler codes are applied.
- ◆ Following a host ID change, an authorization code is invalid. However, permanent enabler codes remain the same. A re-host must be processed through EMC Powerlink Licensing to obtain the new set of authorization codes) based on the new locking ID.
  - If using the traditional licensing model, refer to [“Task 4: Obtain the host ID of the NetWorker server” on page 23](#) for more information on how to obtain a locking ID.
  - If using the traditional licensing model, refer to [“Task 5: Obtain the host ID of the NetWorker server” on page 64](#) for more information on how to obtain a locking ID.
- ◆ The IP address of the NetWorker server is changed during an update, which invalidates an existing enabler code.
- ◆ A NetWorker server is migrated to a new host without obtaining a Host Transfer Affidavit.
- ◆ The server was moved to a new operating system, for example, from Solaris to Linux), which invalidates an existing enabler code or host ID.
- ◆ An enabler code, already in use by a NetWorker server, is applied to a second NetWorker server.

## How to obtain NetWorker license information

To obtain license information from a NetWorker server, use the **nsrlic** command. For NetWorker release 7.5 or later, check the License Conformance Summary in NMC as well.

The following sources provide more information:

- ◆ **nsrlic** man page on UNIX
- ◆ **nsrlic** man page information in the *EMC NetWorker Command Reference Guide*
- ◆ *EMC NetWorker Administration Guide*

## How to avoid an interruption in backups when changing the computer or network address

To avoid an interruption in backups if you move the NetWorker software from one computer to another, or you change the network address of a computer after the software is installed:

1. Obtain the host ID of the original server and the new server. The host ID appears in the server's **Registration** window. [“Task 4: Obtain the host ID of the NetWorker server” on page 23](#) provides more information.
2. Contact EMC Powerlink Licensing to obtain the new auth code for the NetWorker server.
3. Perform either of the following:
  - Configure the new NetWorker server with the new auth codes obtained from EMC Powerlink Licensing.
  - Install and configure the NetWorker License Manager software with the new auth codes obtained from EMC Powerlink Licensing.

## How to query a server

To query a specific server, type the `-s server` option at the command line:

- ◆ On UNIX: `/usr/sbin/nsrlic -s bacoor`
- ◆ On Windows: `networker_install_dir\bin\nsrlic -s bacoor`

where `bacoor` is the server name that is being queried.

A report is produced with various quantities and servers indicated. This report includes all client licenses including those for modules and features such as NDMP. However, it does not list device licensing details.

## Querying a server for all information

To query a specific server for all information, type the `-v server` option at the command line:

```
/usr/sbin/nsrlic -v bacoor
```

where `-v` is for a verbose query for `bacoor`.

Note: This query may be helpful in troubleshooting license issues. A verbose report is produced with various quantities indicated.

## How to determine the number of available client licenses

To determine the number of available client licenses, look at the following line:

```
"nsrlic: Remaining"
```

In the previous listing, where it indicates sv=12 this means this particular server has 12 licenses available. Also, you can look to the STANDARD CLIENT LICENSES section and locate: "Remaining: 12." This is another indication of the number of available servers.

### Example 1 Verbose report

```
12116:nsrlic: License Summary:
  66441:nsrlic: Available: sv=12, virt=1, ndmp=0
  64047:nsrlic: Borrowed: sv_borrowed=2
  66442:nsrlic: Remaining: sv=7, virt=3, ndmp=0
nsrlic: Connected Clients: (4)
nsrlic: Saturn, Mars, Venus, Jupiter
nsrlic: Connected Virtual Client Physical hosts: (3)
nsrlic: esx-11 esx-38 sol-zone-jupiter

STANDARD CLIENT LICENSES
Available: 12
Used: 3
Loaned to Virtual: 2
Remaining: 7
Connected Clients: Saturn, Mars, Venus, Jupiter

VIRTUAL CLIENT LICENSES
Available: 1
Borrowed from Server: 2
Used: 3
Remaining: 0
Connected Virtual Client Physical: esx-11, esx-38, sol-zone-jupiter

NDMP CLIENT LICENSES
Available: 0
Used: 0
Remaining: 0
Connected Clients

SERVER/CLUSTER CLIENT TYPES
AIX: 0
Digital UNIX: 0
HP UX: 0
HP MPE: 0
Linux: 0
NetWare: 0
Network Appliance: 0
IBM DYNIX/ptx: 0
SGI: 0
Solaris: 2
SunOS: 0
UnixWare: 0
Windows NT Server: 8

WORKSTATION CLIENT TYPES
DOS: 0
Macintosh: 0
OS/2: 0
OS/2: 0
Windows 3.1x: 0
Windows 95: 0
Windows NT Workstation: 1
```

```

UX/4800: 0
Others: 0

Defined Clients          PRE-5.0 CLIENT TYPES

APPLICATION LICENSES
NetWorker Module for Microsoft SQL Server
Available: 1
Used: 1
Remaining: 0
Connected Clients: SQLhost_7

NetWorker Module for Microsoft Exchange Server
Available: 4
Used: 3
Remaining: 1
Connected Clients: Exch1, Exch17, Exch18

NetWorker Module for Oracle, Unix Client/1
Available: 2
Used: 0
Remaining: 2
Connected Clients:

```

## How to manually type the license key on a NetWorker server or a NetWorker License Manager system

### NOTICE

Automatically importing and installing the NetWorker permanent enablers and authorization codes from EMC Powerlink Licensing is the recommended way to obtain and install NetWorker permanent enablers and authorization codes. Do not perform these steps manually unless you cannot import and install automatically.

To type the license keys on a NetWorker server or a NetWorker License Manager system:

1. Start the **NetWorker Management Console** software.
2. Open the **Administration** window:
  - a. In the **Console** window, click **Enterprise**.
  - b. In the left pane, click a NetWorker server in the **Enterprise** list.
  - c. In the right pane, click the application.
  - d. From the **Enterprise** menu, select **Launch Application**. The **Administration** window is launched as a separate application.
3. In the **Administration** window, click **Configuration**.
4. In the left pane, select **Registrations**.
5. From the **File** menu, select **New**. The **Create Registration** dialog box appears.

6. Leave the **Identity** area blank. The name of the product to be licensed will be extracted from the enabler and displayed in the **Registrations** area.
  - a. Apply the permanent *base* enabler (for the NetWorker server) and its auth code last, after having applied all other permanent enablers.
  - b. Once a base enabler is applied, any device that does not yet have its auth code applied might be disabled, and would have to be re-enabled manually.
7. In the **Configuration** area of the **Create Registration** window, type the enabler code for the product to be licensed.

The enabler code can be found in the product license activation letter. It is an 18-character or 24-character alphanumeric code.

A 24-character enabler signifies a bulk enabler intended for installation only on a NetWorker License Manager server. When typing the enabler for the NetWorker server, consider typing **Base Enabler** in the **Comment** field of either the **Create Registration** or **Properties** window.

8. Click **OK** to apply the enabler and leave the **Create Registration** window.
9. Select and right-click the product in the **Registrations** area. The **Properties** window appears.

The **Configuration** area of the window now displays the following information:

- Enabler code number
- Product name
- Enable code expiration date

10. In the **Auth code** field, type the corresponding auth code.

You can find the auth code in the product license activation letter. It is a unique 8-character alphanumeric code.

The auth code is node-locked, which means that it can only be applied to a specific host and host ID. It can also be used only with the specific enabler code with which it was associated in the product activation letter. Do not confuse the auth code with the License Authorization Code (LAC).

The product is now listed in the **Registrations** area. The enabler expiration date appears in the **Expiration date** column. This date is 45 days after the date on which the enabler was typed.

The following tips apply to the auth code:

- When applying an enabler from a license key (in other words, once the software is paid for and the license certificate has been activated), always apply its corresponding auth code at the same time.
- Do not use a NetWorker system as a production system unless the auth codes have been applied.
- If the host ID (NetWorker server) changes, all auth codes become invalid. There is a 15-day period during which a host transfer can be done in EMC Powerlink Licensing. During that period, reregister and reapply the auth codes on the NetWorker server.



11. Click **OK**. The new license is added and appears in the right pane.
12. Confirm that the auth code is correct for enabler to which it has been applied.  
If the authorization process is successful, the expiration date for the license appears:  
`Authorized - No expiration date.`
13. Check to confirm that the authorization has been verified. For example:
  - In the **Registrations** area of the screen, the **Expiration date** column entry for the product has changed and now says “Authorized - No expiration date.”
  - If the authorization is not verified:
    - Check the host ID of the machine on which you are registering the codes and refer to the License authorization certificate to ensure that the authorization codes are based on the same host ID.  
  
If the host ID differs, use the re-host option in EMC Powerlink licensing to issue new matching authorization codes.
    - Contact the <http://Powerlink.EMC.com> website for detailed instructions.
14. To add any additional enabler codes and auth codes, repeat [step 4 on page 87](#) to [step 13 on page 89](#).

## License Conformance Summary

In the course of using NetWorker software to protect enterprise data, users add clients, modules, and devices as needed. It can be helpful to see a summary report of the current license information for any given NetWorker server.

A summary report enables users to determine several things. For example:

- ◆ Which or how many products or features have been enabled
- ◆ Which or how many licenses have been purchased and authorized
- ◆ Which or how many of those licenses have been used and, conversely, how many are still available to use
- ◆ How many additional licenses might be needed
- ◆ Whether the number of licenses conforms to the number of licenses in use

From the Console, a License Conformance Summary report that shows relevant information about the NetWorker related product licenses purchased or under evaluation can be run.

The information is presented in a tabular form that displays installed products, licenses that are in conformance, and which additional licenses, if any, must be obtained in order to close conformance gaps.

In addition to product and license information, the summary displays certain details about the environment and the software version that is run by the NetWorker server.

## Accessing the License Conformance Summary

To display the License Conformance Summary:

1. In the main Console window, click the **Enterprise** button on the taskbar.
2. Highlight a host in the navigation tree, and then in the right pane, right-click NetWorker, and select **Launch Application**. The **NetWorker Administration** window appears.
3. Click the **Configuration** button on the taskbar.
4. Select **Configuration > License Conformance Summary** on the toolbar. The **License Conformance Summary** appears.
5. When finished, click **OK** or **Cancel** to exit the summary.
6. The License Conformance Summary can also be displayed by right-clicking **Registrations** in the server's navigation tree, and selecting **License Conformance Summary**.

## License Conformance Summary details

The License Conformance Summary provides the following information:

- ◆ Server and environment information:
  - **NetWorker Server:** Name of the NetWorker server.
  - **Version:** NetWorker software release and build number.
  - **Full Conformance:** Possible values are **Yes**, **No**, or, if in evaluation mode, **Eval**.
  - **Base License:** Possible values include:
    - The NetWorker edition that is installed
    - **Eval** indicates evaluation mode.
    - **Yes or No indicates** whether an authorization code has been applied to the license.
    - **Disabled** indications that the server has been disabled.
  - **Operating System:** Operating system installed on the NetWorker server.
  - **Report Date:** Date and time when the summary was created.
- ◆ License related information is displayed in the following columns:
  - **License:** Type of license. For example, Storage Node, Client, module name.
  - **Number Used:** How many licenses of this type have been used.
  - **Number of Licenses:** How many licenses of this type are installed and not expired on the server. While the license is in evaluation mode, the number displayed is the maximum number possible for the license type.

- **% Conformance:** Degree to which the number of licenses purchased is less than or equal to the number used. For DiskBackup Option and Virtual Tape Library, this might be blank, because more than one device can be created for each license of these license types.
- **Notes:** Additional information, specific to the license type, provided by the system. For example, the capacity of a DiskBackup license.
- ◆ A checksum (**five groups of generated alphanumeric characters**) is listed at the bottom of the summary if the summary contents are valid. Users may ignore this line.

When viewing the License Conformance Summary, consider the following:

- ◆ For the DiskBackup Option (DBO) and the Virtual Tape Library (VTL) frames license types, the **Number Used** is the number of DBO devices or VTL jukeboxes that the user has created. The **Number of Licenses** is the number of DBO licenses or VTL frame licenses that are installed. DBO and VTL are the only license types for which the **Number Used** can exceed the **Number of Licenses**. This is because more than one device can be created for each license of this type.
- ◆ The License Conformance Summary is not available for use with the NetWorker License Manager software.
- ◆ The License Conformance Summary supports the standard Console table functions, such as **Print** and **Export**.
- ◆ A time-stamped snapshot License Conformance Summary is sent to the `/nsr/logs` directory at the start of each quarter.
- ◆ The NetWorker server updates license information only once daily, at noon. Changes made after noon will be reflected in the next day's update.
- ◆ **License Conformance** is a new attribute for the server (nsr) resource.
- ◆ **License Conformance Checksum** is a new attribute used by the system to maintain the integrity of the summary.

## How to provide feedback

To provide feedback:

- ◆ If error messages appear in the output file or you would like to provide feedback, contact EMC Powerlink Licensing at [licensing@EMC.com](mailto:licensing@EMC.com).
- ◆ If you cannot determine the reason for a failure or experience problems with updating the NetWorker license, contact EMC Powerlink Licensing at [licensing@emc.com](mailto:licensing@emc.com). Additionally, you can also open a Service Request on [Powerlink.EMCS.com](http://Powerlink.EMCS.com).

## Best Practices

This section outlines the best practices for licensing the NetWorker software:

- ◆ [“Using a licensing template” on page 92](#)
- ◆ [“NetWorker license tips” on page 92](#)
- ◆ [“Using the base enabler” on page 93](#)
- ◆ [“Applying the auth code” on page 93](#)

### Using a licensing template

When determining which licenses are required, try using a template, which can prevent *forgotten* licenses. For example:

- ◆ Start with the NetWorker server (the base license).
- ◆ Determine the desired NetWorker Server Edition.
- ◆ Calculate the client licenses.
- ◆ Calculate the dedicated storage node licenses.
- ◆ Calculate the autochanger or silo licenses.
- ◆ Calculate the Virtual Tape Library (VTL) licenses.
- ◆ Calculate the Disk Backup Option (DBO) licenses.
- ◆ Calculate any additional licenses, such as database module licenses.

A template can also help determine the *necessary* licenses for a given configuration, which does not necessarily mean that all of these licenses must be purchased, since certain licenses are included in other licenses. For example, base licenses include a certain number of client licenses.

### NetWorker license tips

The following tips apply to the NetWorker licenses:

- ◆ Calculating NetWorker licenses can sometimes be difficult. For example, recent software changes might not apply yet to the current NetWorker release.
- ◆ Prior to NetWorker 7.5, update numbers do not equate to NetWorker release numbers.  
For example:
  - The update enabler called Update/8 updates the software to NetWorker release 7.0.
  - The update enabler called Update/9 updates the software to NetWorker release 7.3 or NetWorker release 7.4.
- ◆ Always check the current version of *EMC NetWorker Release Notes* for your installed release for possible licensing changes.

## Using the base enabler

The following tips apply to the base enabler:

- ◆ As soon as the base enabler is typed, evaluation mode ends. Function that was available during a 30-day evaluation mode must be specifically enabled with either an evaluation or permanent enabler.
- ◆ When entering a group of enablers, always type the base enabler last to avoid disabling the non-base enabled features.

## Applying the auth code

The following tips apply to the auth code:

- ◆ When applying an enabler from a license key (in other words, once the software is paid for and the license certificate has been activated), always apply its corresponding auth code at the same time.
- ◆ Do not use a NetWorker system as a production system unless the auth codes have been applied.
- ◆ If the host ID (NetWorker server) changes, all auth codes become invalid. There is a 15-day period during which a host transfer can be done in EMC Powerlink Licensing. During that period, reregister and reapply the auth codes on the NetWorker server.

## How to upgrade or downgrade the base enabler

If already installed, a base enabler cannot be deleted. However, you can upgrade or downgrade the base enabler by using the **nsrccap** command.

If a base enabler has already been installed on a NetWorker server for extended evaluation, an error message appears when you attempt to install a new base enabler.

To upgrade or downgrade the base enabler:

1. Open a command prompt on the NetWorker server.
2. Type the following at the command line:

```
nsrccap -u base_enabler_code -a authorization_code
```



# CHAPTER 5

## NetWorker License Manager

This chapter includes the following topics:

- ◆ [About the NetWorker License Manager .....](#) 96
- ◆ [Using an enabler code.....](#) 96
- ◆ [Using an authorization code.....](#) 96

The latest *EMC NetWorker License Manager Installation and Administration Guide* provides more information on how to install and use the NetWorker License Manager.

## About the NetWorker License Manager

The NetWorker License Manager software provides centralized license management, which enables you to maintain all of an enterprise's NetWorker licenses from a single computer.

With the NetWorker License Manager, you can move NetWorker software from one computer to another, or change the IP address on an existing NetWorker server without having to reauthorize the software. The NetWorker License Manager can be installed as an option during the NetWorker software installation.

The latest *NetWorker License Manager Installation and Administration Guide* provides more information on how to install and use the NetWorker License Manager.

## Using an enabler code

To type an enabler code if you are using the NetWorker License Manager:

1. From the **Console** window, click **Setup**.
2. Right-click **Licensing**, then select **New**. The **Create** dialog box appears.
3. In the **Enabler Code** attribute, type the enabler code and leave the other attributes blank.
4. Click **OK**.

## Using an authorization code

To type an authorization code if you are using the NetWorker License Manager:

1. From the **Console** window, click **Setup** and then click **Licensing**.
2. Right-click the license to be authorized, then select **Properties**. The **Properties** dialog box appears.
3. In the **Auth Code** attribute, enter the authorization code for the product (the authorization code assigned to the specified permanent enabler or update enabler code).
4. Click **OK**. The license is now permanently enabled.



# GLOSSARY

This glossary contains definitions for terms used in this guide.

## A

- activation certificate** See [“Product License Activation Certificate.”](#)
- administrator** Person who normally installs, configures, and maintains software on network computers, and who adds users and defines user privileges.
- authorization code** Unique code that in combination with an associated enabler code unlocks the software for permanent use on a specific host computer. Also called auth code. See also [“license authorization code \(LAC\).”](#)

## B

- base enabler** See [“enabler code.”](#)

## C

- Console server** See [“NetWorker Management Console \(NMC\).”](#)

## E

- EMC Powerlink Licensing portal (PLL)** Portal within the EMC Powerlink web site that enables EMC customers to list and manage their licenses for products such as NetWorker software.
- enabler code** Unique code that activates the software, also called an enabler key or license enabler:
- ◆ Evaluation enablers or temporary enablers, such as a EMC Powerlink entitlement for NetWorker, expire after a fixed period of time.
  - ◆ Base enablers unlock the basic features of the software.
  - ◆ Add-on enablers unlock additional features or products, for example, library support.
- See also [“authorization code.”](#)
- entitlement** See [“enabler code.”](#)
- event** Notification generated by an application that could require user action, such as the impending expiration of a software enabler key that appears in the daemon log of the Console server.
- expiration date** Date on which a software program may no longer be used due to any of the following reasons:
- ◆ Evaluation copy of the software expires
  - ◆ Temporary enabler expires
  - ◆ Permanent enabler expires that was not made permanent by the application of an authentication code

**H**

**host ID** Eight-character alphanumeric number that uniquely identifies a computer. For licensing purposes, this computer is the NetWorker server or the NetWorker License Manager server.

**L**

**license authorization code (LAC)** Unique 20-character code emailed to a customer to electronically obtain license keys through the EMC Powerlink Licensing portal. Also called LAC number.

**license enabler** [See “enabler code.”](#)

**license key** Combination of an enabler code and authorization code for a specific product release to permanently enable its use. Also called an activation key.

**License Manager (LLM)** Application that provides centralized management of product licenses.

**N**

**NetWorker Management Console (NMC)** Software program that is used to manage NetWorker servers and clients. The NMC server also provides reporting and monitoring capabilities for all NetWorker processes.

**NetWorker server** Computer on a network that runs the NetWorker server software, contains the online indexes, and provides backup and restore services to the clients and storage nodes on the same network.

**notification** Message sent to the NetWorker administrator about important NetWorker events.

**P**

**permanent enabler** Enabler code that has been made permanent by the application of an authorization code. [See also “license key.”](#)

**PLL** [See “EMC Powerlink Licensing portal \(PLL\).”](#)

**Product License Activation Certificate** Email containing a detailed list of purchased NetWorker product releases and their license keys to be installed on the NetWorker server by the customer. [See also “license key.”](#)

**T**

**temporary enabler** Code that enables operation of the software for an additional period of time beyond the evaluation period. [See also “enabler code.”](#)

**U**

**update enabler** Code that updates software from a previous release. It expires after a fixed period of time.