EMC® NetWorker®

Version 9.0.x

Licensing Guide

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EMC²

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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 that are 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 technical support professional if a product does not function correctly or does not function as described in this document.

Note

This document was accurate at publication time. Go to EMC Online Support (https://support.emc.com) 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 NetWorker licensing models to use.

Audience

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

The information in this guide assumes that the EMC NetWorker software is installed and that all 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*.

Revision history

The following table presents the revision history of this document.

Table 1 Revision history

Revision	Date	Description
01	September 24, 2015	First release of this document for EMC NetWorker 9.0
02	November 12, 2015	Corrected port number to 27000 for the SERVER line in the license file
03	December 16, 2015	Updates to the section Requirements for new and upgraded installations on page 18
04	December 23, 2015	Updated figure for sample license file
05	March 14, 2016	Added topic Important information for upgraded installations of NetWorker on page 10 Further updates to the section Requirements for new and upgraded installations on page 18
06	April 18, 2016	Revised to indicate the license file that resides on the NetWorker server must be named `dpa.lic`, and if this is not the name you must change it to `dpa.lic`

Table 1 Revision history (continued)

Revision	Date	Description
07	April 25, 2016	Added instruction to change the Flexlm Service 1 Startup type to Automatic in Windows Task Manager after LMTOOLS configuration Added link to Knowledgebase articles on page 78 for troubleshooting common licensing issues Added troubleshooting topic License file permissions may change on Linux when copying file to License server and NetWorker server
08	May 6, 2016	Revisions to the scenarios outlined in the topic Important information for new and upgraded installations of NetWorker on page 10
09	June 10, 2016	Revised the section formerly identified as "Activating the EMC Licensing Solution" as a quick start for new installations of NetWorker 9.0 that will use the EMC Licensing Solution with Capacity Entitlement
10	June 29, 2016	First release of this document for EMC NetWorker 9.0.1

Related documentation

The NetWorker documentation set includes the following publications, available on EMC Online Support:

- *EMC NetWorker Online Software Compatibility Guide*
  Provides a list of client, server, and storage node operating systems supported by the EMC information protection software versions. You can access the Online Software Compatibility Guide on the EMC Online Support site at https://support.emc.com. From the Support by Product pages, search for NetWorker using "Find a Product", and then select the Install, License, and Configure link.
- *EMC NetWorker Administration Guide*
  Describes how to configure and maintain the NetWorker software.
- *EMC NetWorker Network Data Management Protocol (NDMP) User Guide*
  Describes how to use the NetWorker software to provide data protection for NDMP filers.
- *EMC NetWorker Cluster Integration Guide*
  Contains information related to configuring NetWorker software on cluster servers and clients.
- *EMC NetWorker Installation Guide*
  Provides information on how to install, uninstall, and update the NetWorker software for clients, storage nodes, and servers on all supported operating systems.
- *EMC NetWorker Updating from a Previous Release Guide*
  Describes how to update the NetWorker software from a previously installed release.
- *EMC NetWorker Release Notes*
  Contains information on new features and changes, fixed problems, known limitations, environment and system requirements for the latest NetWorker software release.
- *EMC NetWorker Command Reference Guide*
  Provides reference information for NetWorker commands and options.

- *EMC NetWorker Data Domain Boost Integration Guide*
  Provides planning and configuration information on the use of Data Domain devices for data deduplication backup and storage in a NetWorker environment.
- *EMC NetWorker Performance Optimization Planning Guide*
  Contains basic performance tuning information for NetWorker.
- *EMC NetWorker Server Disaster Recovery and Availability Best Practices Guide*
  Describes how to design and plan for a NetWorker disaster recovery. However, it does not provide detailed disaster recovery instructions. The Disaster Recovery section of the NetWorker Procedure Generator (NPG) provides step-by-step disaster recovery instructions.
- *EMC NetWorker Snapshot Management Integration Guide*
  Describes the ability to catalog and manage snapshot copies of production data that are created by using mirror technologies on EMC storage arrays.
- *EMC NetWorker Snapshot Management for NAS Devices Integration Guide*
  Describes how to catalog and manage snapshot copies of production data that are created by using replication technologies on NAS devices.
- *EMC NetWorker VMware Integration Guide*
  Provides planning and configuration information on the use of VMware in a NetWorker environment.
- *EMC NetWorker Error Message Guide*
  Provides information on common NetWorker error messages.
- *EMC NetWorker Licensing Guide*
  Provides information about licensing NetWorker products and features.
- *EMC NetWorker REST API Getting Started Guide*
  Describes how to configure and use the NetWorker REST API to create programmatic interfaces to the NetWorker server.
- *EMC NetWorker REST API Reference Guide*
  Provides the NetWorker REST API specification used to create programmatic interfaces to the NetWorker server.
- EMC NetWorker Management Console Online Help
  Describes the day-to-day administration tasks performed in the NetWorker Management Console and the NetWorker Administration window. To view the online help, click **Help** in the main menu.
- EMC NetWorker User Online Help
  The NetWorker User program is the Windows client interface. Describes how to use the NetWorker User program which is the Windows client interface connect to a NetWorker server to back up, recover, archive, and retrieve files over a network.

Special notice conventions that are used in this document

EMC uses the following conventions for special notices:

NOTICE

Identifies content that warns of potential business or data loss.

Note

Contains information that is incidental, but not essential, to the topic.

Typographical conventions

EMC uses the following type style conventions in this document:

Table 2 Style conventions

Bold	Used for names of interface elements, such as names of buttons, fields, tab names, and menu paths (what the user specifically selects or clicks)
Italic	Used for full titles of publications that are referenced in text
`Monospace`	Used for: • System code • System output, such as an error message or script • Pathnames, file names, prompts, and syntax • Commands and options
Monospace italic	Used for variables
`Monospace bold`	Used for user input
[ ]	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 non-essential information that is 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, go to EMC Online Support at https://support.emc.com.

Technical support

Go to EMC Online Support and click Service Center. Several options for contacting EMC Technical Support appear on the site. 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.

Online communities

Go to EMC Community Network at https://community.emc.com for peer contacts, conversations, and content on product support and solutions. Interactively engage online with customers, partners, and certified professionals for all EMC products.

Your comments

Your suggestions help to improve the accuracy, organization, and overall quality of the user publications. Send your opinions of this document to DPAD.Doc.Feedback@emc.com.

CHAPTER 1

Introduction

This chapter includes the following topics:

- About this guide 10
- Important information for new and upgraded installations of NetWorker 10
- Determining license model options by version 12
- NetWorker License Manager 14
- Troubleshooting and Best Practices 15
- Support obsolescence 15

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*.

The following sections describe which licensing models you can use to permanently license the NetWorker software.

Important information for new and upgraded installations of NetWorker

The EMC Licensing Solution, available starting with NetWorker 9.0, allows new customers the ability to use Capacity Entitlement, where capacity can be shared among NetWorker Servers. If you are an existing customer, you can use the EMC Licensing Solution, or you can continue to use the traditional enabler-based licensing from your previous NetWorker version when you install or upgrade to the NetWorker 9.0 server by applying an Update Entitlement to the EMC License Server.

Also, you can use traditional enabler-based licensing under the following circumstances where you have unused enablers or want to move enablers off an old NetWorker Server to a new NetWorker Server running NetWorker 9.0.x.

Note

EMC is working on a Conversion tool which simplifies the conversion from traditional enabler-based licensing to the EMC Licensing Solution with the Capacity Entitlement. This guide will be updated with this information when the tool is available. Customers requiring conversion from traditional NetWorker 8.x capacity-based enabler licensing to the NetWorker 9.0 EMC Licensing Solution with the Capacity Entitlement must submit a conversion request to licensing. The request should include your original sales order number and the LAC number so that EMC Licensing can issue the correct capacity entitlement. Also, the request must include the IP Address and hostname of the License Server.

New installation of NetWorker 9.0 with unused or new enablers from previous NetWorker versions

If you have unused or new enablers from a NetWorker 8.1.x or 8.2.x release, you can still use these enablers on a new NetWorker 9.0.x server by applying them in the **Server Properties** window in **NMC** and having them authorized by EMC Licensing.

This procedure still requires installation of the EMC License Server and application of a License file with Update Entitlement.

1. If not already installed, install the NetWorker 9.0 server and the EMC License Server.
2. Apply the unused or new enablers to the NetWorker 9.0 server through the **Server Properties** window in **NMC**.
3. Contact Licensing@emc.com.
4. Request authorization of the unused or new enablers from Licensing, and request an Update Entitlement License file for the EMC License Server.

Note

When making this request, include information such as Customer #, SO#, IP Address of the License Server, IP address of the NetWorker server, and Host ID of the NetWorker Server. To obtain the Host ID of the NetWorker Server on Linux, run `nsrlic -p | grep "host id"` . To obtain the Host ID of the NetWorker Server on Windows, run `nsrlic -p | findstr "host id"`

5. Apply the License file with the Update Entitlement provided by EMC Licensing to the License Server and the NetWorker server, as described in the section Requirements for new and upgraded installations on page 18.

Upgrading from traditional licensing without upgrading the NetWorker 8.x.x server

If you have a NetWorker 8.x.x server with enablers from NetWorker 8.1.x or 8.2.x and want to move the enablers to a new server with NetWorker 9.0 without upgrading the existing NetWorker 8.x.x server, perform the following.

1. If not already installed, install the NetWorker 9.0 server and the EMC License Server.
2. Contact Licensing@emc.com.
3. Request a **Host Transfer Affidavit** to move the enablers from the old NetWorker Server to a new Installation of NetWorker 9.0.x on new hardware, and request a License file that includes an Update Entitlement.

Note

When making this request, include information such as Customer #, SO#, IP address of the License Server, IP address of the NetWorker server, and Host ID of the NetWorker Server. To obtain the Host ID of the NetWorker Server on Linux, run `nsrlic -p | grep "host id"` . To obtain the Host ID of the NetWorker Server on Windows, run `nsrlic -p | findstr "host id"`.

4. Apply the transferred enablers to the NetWorker 9.0 server through the **Server Properties** window in **NMC**.
5. Apply the License file with the Update Entitlement provided by EMC Licensing to the NetWorker server and the EMC License Server, as described in the section Requirements for new and upgraded installations on page 18.

Upgrading from traditional licensing on UNIX to a new installation on Linux or Windows

If you are on UNIX and want to move to a new installation of the NetWorker 9.0 server on Linux or Windows, perform the following.

1. Contact your account manager.
2. After your enablers are transferred from UNIX enablers to either Windows or Linux:
   a. Follow the steps that are outlined in the section "New installation of NetWorker 9.0 with unused enablers from previous NetWorker versions" to install the NetWorker software on Linux or Windows with your UNIX enablers.
   b. Have these enablers authorized by EMC Licensing.

Note

If you are planning on performing a NetWorker Server migration from UNIX to Linux or Windows where you are bringing over the media database information from the old server to the new server, contact your account manager who will make arrangements with Professional Services.

Determining license model options by version

For new installations of NetWorker 9.0, you must use the EMC Licensing Solution. When you upgrade to NetWorker 9.0 from a previous release, you can continue to use your previous model (for example, traditional enabler-based licensing), or use the EMC Licensing Solution with the capacity entitlement.

Review this section to determine which NetWorker licensing model to use. The following tables compare licensing between NetWorker versions and available licensing models, as well as the tools used to manage licensing.

Table 3 Licensing between NetWorker versions and licensing models

	Licensing artifacts	Base license for new installation	Post Upgrade state	Entitlement to upgrade from previous version
Traditional (enabler-based) licensing	Licensing metric = Components, modules, features and device capacities			
NetWorker 7.5 and previous	Enablers and authorization codes	Base Enabler	Upgrade Enabler auto applied, call EMC Licensing for authorization code	Must be validated by EMC Licensing within 30 days
NetWorker 7.6 through 8.2	Enablers and authorization codes	Base Enabler	Upgrade Enabler auto applied, call EMC Licensing for authorization code	Must be validated by EMC Licensing within 30 days
NetWorker 9.0	Enablers and authorization codes	Base Enabler	In Evaluation mode, call EMC Licensing for upgrade entitlement	Must be validated by EMC Licensing within 30 days
Capacity licensing	Licensing metric = Components, modules, features and device capacities			
NetWorker 7.5 and previous	n/a	n/a	n/a	n/a
NetWorker 7.6 through 8.2	Enablers and authorization codes	Datazone enabler	Remains fully authorized	No validation required
NetWorker 9.0	License file	Capacity entitlement feature	In Evaluation mode, call EMC Licensing for upgrade entitlement	Must be validated by EMC Licensing within 30 days

Table 3 Licensing between NetWorker versions and licensing models (continued)

Table 4 Tools to manage licensing

Tools used to manage NetWorker licensing	Also known as	Intended use	Cannot be used with
NetWorker License Manager	LLM, Legato License Manager, lgtolmd	Centralized management of bulk enablers with NetWorker traditional licensing	EMC Licensing Solution with capacity entitlement, License files
nsrlic	Command line interface	Generates reports about all license information currently active on a NetWorker server	License files
NetWorker Management Console	Registrations page	Manual entry of enablers and authorization codes	License files
EMC License Management (LMTOOLS on Windows, lmgrd on Linux)	EMC License Server	Managing license files with NetWorker 9.0	Any NetWorker version previous to 9.0

EMC Licensing Solution

NetWorker 9.0.x introduces the EMC Licensing Solution, a new EMC standard for licensing in software products. The EMC Licensing Solution uses an EMC License Server and reads a license file to determine which products are licensed and how much storage space to request for each datazone in the environment.

All new installations of NetWorker 9.0.x use the EMC Licensing Solution. The chapter "EMC Licensing Solution" in the *EMC NetWorker Licensing Guide* provides information on how to implement the EMC Licensing Solution for new and upgraded installations of NetWorker 9.0.x . This section also describes the new EMC License Server and the use of the license file.

Traditional enabler-based licensing model (legacy)

All new installations of NetWorker 9.0 use the EMC Licensing Solution with a capacity entitlement. If upgrading to NetWorker 9.0 and you used the traditional enabler-based licensing model with the previously installed NetWorker release, you can use the EMC Licensing Solution with the capacity entitlement, or continue to use the traditional licensing model.

If you plan to continue using traditional licensing, the following requirements apply:

- Install the License server.
- Obtain a license file from EMC Licensing that contains an update entitlement (NETWORKER_UPDATE).
- Set up the license file on the License Server:
  1. On the License Server host, copy the license file to `/opt/emc/licenses`.

2. On the NetWorker server, copy the license file to `/nsr/lic/` and change the name of the file to `dpa.lic`.

The sections Important information for new and upgraded installations of NetWorker on page 10 and Requirements for new and upgraded installations on page 18 provide further information on these requirements.

Note

When you upgrade to NetWorker 9.0, once you enable use of the EMC Licensing Solution with a capacity entitlement, you can no longer use the traditional enabler-based licensing model.

Capacity licensing model (legacy)

The capacity licensing model in NetWorker releases previous to NetWorker 9 allows the use of any set of NetWorker features provided you do not exceed the amount of purchased storage capacity for the datazone. If you used this model with the previously installed NetWorker release before upgrading to NetWorker 9.0, you can continue to use the legacy capacity licensing model, or use the EMC Licensing Solution with the capacity entitlement.

Upgrading to the EMC Licensing Solution carries over any unused capacity and apply this amount to the capacity purchased for use of the EMC Licensing Solution. For example, if you purchase a 2 TB capacity entitlement for the EMC Licensing Solution, and had 2 TB of legacy capacity entitlement enablers remaining, you now have a total of 4 TB of source data you can protect.

If you plan to continue using the legacy capacity licensing model, the following requirements apply:

- Install the License server.
- Obtain a license file from EMC Licensing that contains an update entitlement (NETWORKER_UPDATE).
- Set up this file on the License Server:
  1. On the License Server host, copy the license file to `/opt/emc/licenses`.
  2. On the NetWorker server, copy the license file to `/nsr/lic/` and change the name of the file to `dpa.lic`.

The sections Important information for new and upgraded installations of NetWorker on page 10 and Requirements for new and upgraded installations on page 18 provide further information on these requirements.

NetWorker License Manager

The chapter NetWorker License Manager (legacy) on page 83 provides information about the NetWorker License Manager software used for traditional licensing, including information outlining how to enter and delete an enabler code, enter an authorization code, and how to change a License Manager server. Only the traditional model of licensing uses NetWorker License Manager.

Note

If you plan to use the EMC Licensing solution, do not install the NetWorker License Manager software during the NetWorker 9.0 installation.

Troubleshooting and Best Practices

The chapter Troubleshooting and Best Practices on page 77 provides NetWorker licensing troubleshooting information.

Support obsolescence

For detailed information on versions and operating systems that are no longer supported, select the document titled *EMC Software Release and End of Service Life Notifications* on the EMC Online Support site at http://support.emc.com.

To find this document:

1. Select **Support by Product**.
2. Type **`NetWorker`** in the **Find a Product** field, select **NetWorker** from the list, and press **Enter**.
3. Select **Maintain, Upgrade your Software** from the list of support topics.
4. Select **EMC Software Release and End of Service Life Notifications** from the list that appears.

CHAPTER 2

EMC Licensing Solution

This chapter includes the following topics:

- About the EMC Licensing Solution 18
- Quick Start: Activating the EMC Licensing Solution 21
- Installing the EMC License Server 22
- Setting up the license file 24
- Managing the EMC License Server 26
- Modifying NetWorker server properties in NMC Administration Window 30
- Additions to the NSR RAP resource 32

About the EMC Licensing Solution

The EMC Licensing Solution introduced in NetWorker 9.0.1 is an EMC licensing standard that stores all the licensing information for the environment in one file (the license file), which is stored on both the NetWorker server and an EMC License Server. All new installations of NetWorker 9.0.1 use the EMC Licensing Solution.

The section provides an overview of the various components required for setting up the EMC Licensing Solution, including:

- EMC License Server
- License file
- Management of the License Server by using **LMTOOLS** (Windows) or `lmgrd` (Linux).

Requirements for new and upgraded installations

The following section provides information on what is required to use the EMC Licensing Solution in both new and upgraded installations of NetWorker 9.0.

New installation of NetWorker 9.0

All new installations of NetWorker 9.0 use the EMC Licensing Solution with the capacity entitlement, which requires the following:

- Install the EMC License Server.
- Obtain the license file, which contains the capacity entitlement (NETWORKER_CAPACITY).
- Set up this license file on the License Server host:
  - On Linux, copy the file to `opt/emc/licenses/`.
  - On Windows, copy the file to `C:\Program Files\EMC License Server \elms\licenses`.
- Set up this license file on the NetWorker server:
  1. Copy the license file to the NetWorker server's `nsr/lic` directory.
  2. Change the name of the file to `dpa.lic`.

Upgrading to NetWorker 9.0

When you upgrade to NetWorker 9.0 from a previous release, you have two options:

- Use the EMC Licensing solution with the capacity entitlement, or
- Continue to use the traditional licensing model in place before upgrading to NetWorker 9.0

Use of the EMC Licensing solution with the capacity entitlement after upgrading to NetWorker 9.0 requires the following:

- Install the EMC License Server. Without a connection to the EMC License Server, NetWorker 9.0 runs in evaluation mode for a period of 30 days with a grace period of 15 days, but you must install the License Server.
- Obtain the license file, which contains a capacity entitlement (NETWORKER_CAPACITY) or an update entitlement (NETWORKER_UPDATE)
- Set up this license file on the License Server host:
  - On Linux, copy the file to `opt/emc/licenses/`.

- On Windows, copy the file to `C:\Program Files\EMC License Server\elms\licenses`.

- Set up this license file on the NetWorker server:
  1. Copy the license file to the NetWorker server's `nsr/lic` directory.
  2. Change the name of the file to `dpa.lic`.

Note

When choosing this option, contact an EMC sales representative to perform the conversion from the previous licensing model (traditional enabler-based licensing) to the EMC Licensing Solution with the capacity entitlement.

Continued use of the traditional licensing model in place before upgrading to NetWorker 9.0 requires the following:

- Install the EMC License Server. Without a connection to the EMC License Server, NetWorker 9.0 runs in evaluation mode for a period of 30 days with a grace period of 15 days, but you must still install the License Server.
- Obtain the license file, which should contain only an update entitlement (NETWORKER_UPDATE).

  Note

  When you apply only an update entitlement, a notification may appear indicating `NETWORKER_CAPACITY entitlement is not present in the license file`. If you are not using the NETWORKER_CAPACITY entitlement, you can ignore this message.

- Set up this license file on the License Server host:
  - On Linux, copy the file to `opt/emc/licenses/`.
  - On Windows, copy the file to `C:\Program Files\EMC License Server\elms\licenses`.
- Set up this license file on the NetWorker server:
  1. Copy the license file to the NetWorker server's `nsr/lic` directory.
  2. Change the name of the file to `dpa.lic`.

EMC License Server

After installing NetWorker 9.0.1, install the Windows or Linux 64-bit License server package if you do not already have the License Server installed. The License Server is responsible for managing the EMC licenses and capacity allocation.

NetWorker supports installation of the License Server on the following 64-bit platforms.

Table 5 Supported License Server platforms

Platform	Versions
Windows	Windows 2008, Windows 2012
Linux	Red Hat Enterprise Linux 6.x, SuSE Linux Enterprise Server 10.x, 11.x

Once you install the License Server, you must obtain the license file from EMC Licensing. This file contains the host and port information of the License Server. The License Server

is expected to use a default or specific TCP/IP port number. For NetWorker, this default port is 27000. If a specific (non-default) port is used, it must match the port number in the license file. You can set the License Server to listen to an available TCP/IP port, typically in the range of 27000 to 27009.

You can start the License Server by using the LMTOOLS application (on Windows) or the `lmgrd` command (on Linux).

Note

EMC does not recommend running the NetWorker Server and the License Server on the same host. If you do run both on the same host, ensure that you start the NetWorker server before you start the `lmgrd` process.

License file

The EMC Licensing Solution relies on a license file to indicate the NetWorker features and capacity you purchased, or options made available for the purposes of evaluating NetWorker.

When you download the NetWorker software and the EMC License Server software, you must also obtain a license file from EMC Licensing. This file must reside both on a platform that runs the License Server, and is accessible to NetWorker. Therefore, you must store a copy of the file in the License server folder, and in the `/nsr/lic` directory on the NetWorker server. When you copy the license file to this directory on the NetWorker server, you must change the file name to `dpa.lic` if this is not the file name already. The license file is an ASCII text file for which the content is encrypted to prevent tampering or changes.

The license file can contain two types of entitlements -- an update entitlement, if updating from a previous NetWorker release, and a single capacity entitlement, which you can share across two datazones if you do not exceed the capacity purchased. All datazones can point to a single License Server to request capacity.

Management of the EMC License Server

After you install the License Server, a management application is placed on an accessible server. Complete the setup and configuration of the EMC Licensing Solution by using the License Server management application appropriate to your platform.

On Windows, use the **LMTOOLS** application. On Linux, use the command line utility `lmgrd`.

The application should be running constantly to serve licenses to NetWorker. To accomplish this, the application requires the existence of a running vendor daemon, `EMCLM`, which delivers license features to NetWorker and keeps track of counted features. The application automatically manages `EMCLM` by starting, restarting, and stopping the daemon as required. It will also write to the License Server's troubleshoot log file `lmgrd.log` to report errors and license feature activity. The `lmgrd`, `EMCLM`, license, and troubleshoot log files are located in the same directory.

Note

Use the *EMC License Server Installation and Administration Guide* for complete EMC License Server management instructions.

Quick Start: Activating the EMC Licensing Solution

The following section provides an overview of the steps that are required to activate the EMC Licensing Solution in a new installation of NetWorker 9.0, as outlined in more detail in subsequent sections of the *EMC NetWorker Licensing Guide* and the *EMC License Server Installation and Administration Guide*.

Procedure

1. Download the License Server package for the platform from the same location you downloaded the NetWorker software.
2. Install the Windows or Linux 64-bit License Server package. You can install the License Server in the same location as the NetWorker server.
   - On Windows, the package is `EMC_LicenseServer_3.4.0_x64 installer.msi`.
   - On Linux, the package is `emclicenseserver-3.4.1-2.x86_64_lsb.rpm`
3. Obtain the license file from EMC Licensing. For a new installation of NetWorker 9.0, this file contains a capacity entitlement.

   You can obtain the file once you provide EMC Licensing with the License Server host/IP information, the required capacity, and the port to use for communication between NetWorker and the License Server if you cannot use the default port 27000. EMC requires this information to create the license file.
4. In the location you installed the License Server:
   a. Create a directory.
   b. Copy the license file to this directory.
   c. Do not rename the license file.

   For example, on the License Server, create the following directories:
   - On Windows: `C:\Program Files\EMC License Server\elms \licenses`
   - On Linux: `/opt/emc/licenses`

   Note

   On Linux, you may be required to complete this step before installing the License Server package.

5. On the NetWorker server:
   a. Copy the license file to the following locations:
      - On Windows: `C:\Program Files\EMC NetWorker\nsr\lic`
      - On Linux: `/nsr/lic`

   b. Rename the file to `dpa.lic` if this is not already the file name.
6. Complete the configuration of the License Server and then start the License Server:
   - On Windows, use **LMTOOLS** or the command line interface.
     An icon for **LMTOOLS** appears on the desktop after the License Server installation.

- On Linux, use `lmgrd`.

7. In the NMC **Administration** window:
   a. Right-click the server.
   b. Select **Properties**.
8. In the **Server Properties** window:
   a. Change the **CLP Refresh** field to **Yes**.
   b. Ensure that the following fields are populated correctly:
      - CLP license server
      - CLP License Server Port
      - Solution ID
      - CLP SWID
   c. Click **Ok**.

Note

CLP refers to the EMC License Server.

In the NMC **Administration** window, when you click **Server** and then select **Registrations**, the right pane displays an entry for CLP Capacity License that indicates the **Authorized -No expiration date**.

Installing the EMC License Server

After installing the NetWorker software, you must install the EMC License Server in order to permanently enable use of the EMC Licensing Solution. Installation packages for the License Server are available from the same download location as the NetWorker software.

Before you begin

Ensure that you install the License Server on a system that is accessible to all data zones in your environment that will require to access the License Server.

If you do not install the License Server during the NetWorker software installation, you can still install this server at a later time. If NetWorker does not detect the license and a `nsrd` check for available licenses does not discover any licenses, NetWorker enters evaluation mode for a period of 30 days, with a grace period of 15 days. You can install the License Server at any time during the evaluation period to enable the EMC Licensing Solution.

This section provides basic instructions to install the License Server on a Windows or Linux 64-bit platform. Use the *EMC License Server Installation and Administration Guide* for complete EMC License Server installation and setup instructions.

Note

Installation of the License Server in NetWorker Virtual Edition (NVE) is not supported.

Install the license Server on a Windows 64-bit platform

After you complete the NetWorker 9.0 installation, install the License Server from the 64-bit Windows package. The License Server package name for Windows is `EMC_LicenseServer_3.4.0_x64 installer.msi`.

Before you begin

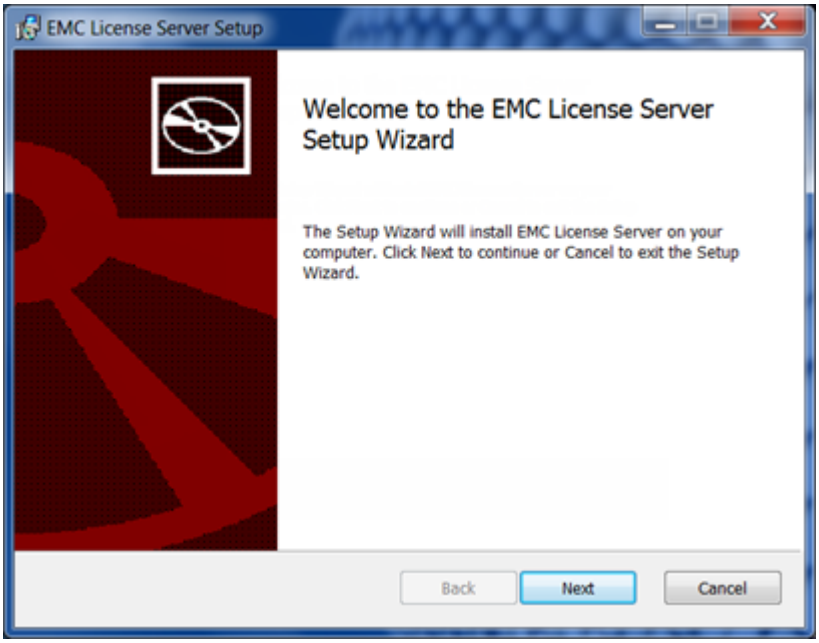
Skip the NetWorker License Manager software during the NetWorker 9.0 installation. To use the EMC Licensing Solution, the NetWorker License Manager is not required

The License Server is required for new and upgraded installations of NetWorker 9.0, even if you plan on using traditional licensing.

Procedure

1. Download the Windows 64-bit installation package from the same location you downloaded the NetWorker software.
2. Open the `EMC_LicenseServer_3.4.0_x64 installer.msi` file to start the EMC License Server Setup wizard.

   Figure 1 EMC license Server Setup Wizard



3. Click **Next** to review and accept the License agreement.
4. Leave the destination folder for the installation of the EMC License Server software as `\EMCLicenseServer`.
5. Click **Next** and then click **Finish** to complete the wizard.

Results

When the installation completes, a shortcut for the **LMTOOLS** utility appears on your desktop. **LMTOOLS** allows you to manage the License Server.
To complete the setup and configuration, perform the steps in the sections Set up the license file on page 24 and LMTOOLS configuration on Windows on page 26.

Install the License Server on a Linux 64-bit platform

After you complete the NetWorker 9.0 installation, install the License Server from the 64-bit Linux package. The License Server package name for Linux is `EMC_LicenseServer_3.4.1-2_x86_64 installer`. The License Server is required for new and upgraded installations of NetWorker 9.0, even if you plan on using the traditional licensing model.

Before you begin

On the License Server, create a folder called `/opt/emc/licenses`, and copy the license file that you obtain from EMC Licensing to this folder.

Note

You can skip the NetWorker License Manager software during the NetWorker 9.0 installation. The NetWorker License Manager is not required in order to use the EMC Licensing Solution.

Procedure

1. Download the Linux 64-bit installation package from the same location you downloaded the NetWorker software.
2. Login to Linux as **`root`** or a user with sudo privileges.
3. Run the following command to install the package:

   `/opt/emc # rpm -v -i /tmp/emclicenseserver-3.4.1-2.x86_64_lsb.rpm`

4. Run the following command to confirm the installation was successful:

   `ls /opt/emc/emclicenseserver/`

   Verify that the following files were extracted:

   - EMCLM
   - lmgrd
   - lmutil
   - Readme.txt

   Note

   After you install the EMC License Server software on a Linux platform, the following error may appear: `"-bash: ./lmgrd: No such file or directory"`. This error occurs due to a missing library, typically `ld-lsb-x86-64.so.3`. The section lmgrd error "No such file or directory" appears upon License Server startup on Linux provides information to troubleshoot this issue.

Setting up the license file

The license file that you obtain from EMC Licensing contains information about the EMC License Server configuration. EMC Licensing pre-populates the file with all this information once you provide the details and requirements for the environment. EMC strongly recommends that you do not edit the license file, as doing so can corrupt the file, making it unusable by the EMC License Server.

Before you begin

EMC recommends obtaining the license file before installing the EMC License Server. If you install the License Server before obtaining the license file, make note of the server hostname/IP and port number, as you must provide the server hostname/IP and port number information to EMC Licensing to pre-populate the file with these details. If the default port 27000 is not available, select an open port that can be used for communication between the License Server and the NetWorker software.

Procedure

1. If you have not already obtained the license file from EMC Licensing, contact EMC Licensing to obtain the file.

   A license file with a capacity entitlement looks similar to the following.

   Figure 2 Sample license file with capacity entitlement

```
#############################################################
# EMC License File
# Activation Date:  Dec 10, 2015 10:52:23 AM
# Activated By: EMC
# Type:SERVED
#############################################################
SERVER WIN-2HAGHD62MFO INTERNET=10.31.225.161 27000
VENDOR EMCLM
USE_SERVER
INCREMENT NETWORKER_CAPACITY EMCLM 1.0 permanent 5 \
      VENDOR_STRING=REVISION=15;SWID=ELMRL749P8J0ZC;PLC=NETWV \
      dist_info="ACTIVATED TO CHEVRON" ISSUER=EMC ISSUED=10-Dec-2015 \
      NOTICE="ACTIVATED TO License Site Number: PTA10NOV20151373569" \
      SN=2605002 SIGN="00AF 20A9 22D8 184B B86E 404E 7FB2 C000 EA16 \
      15C2 B3DC 0C8F 4197 A12E 3933"
```

2. Create a directory in the location you installed the License Server.

   For example, on the License Server, create the following directories:

   - On Windows: `C:\Program Files\EMC License Server\elms\licenses`
   - On Linux: `/opt/emc/licenses`

   Note

   On Linux, you might be required to complete this step before installing the License Server package.

3. Copy the license file to the License Server directory that was previously created. Do not rename the license file.

   Note

   If you use ftp file transfer on Linux, ensure that the file permissions do not change.

4. On the NetWorker server:

   a. Copy the license file. The locations differ on Linux and Windows:

      - On Linux: `/nsr/lic`
      - On Windows: `C:\Program Files\EMC NetWorker\nsr\lic`

b. Rename the license file to `dpa.lic`.

Note

If you use ftp file transfer on Linux, ensure that the file permissions do not change.

Managing the EMC License Server

After you install the License Server and then set up the license file on the License Server and the NetWorker server, you must complete the configuration by starting the License server.

This section provides basic steps for License Server management setup on Windows and Linux platforms. Use the *EMC License Server Installation and Administration Guide* for complete EMC License server management instructions.

EMC License Server management on Windows

The following section contains information on managing and starting the License Server using LMTOOLS on Windows.

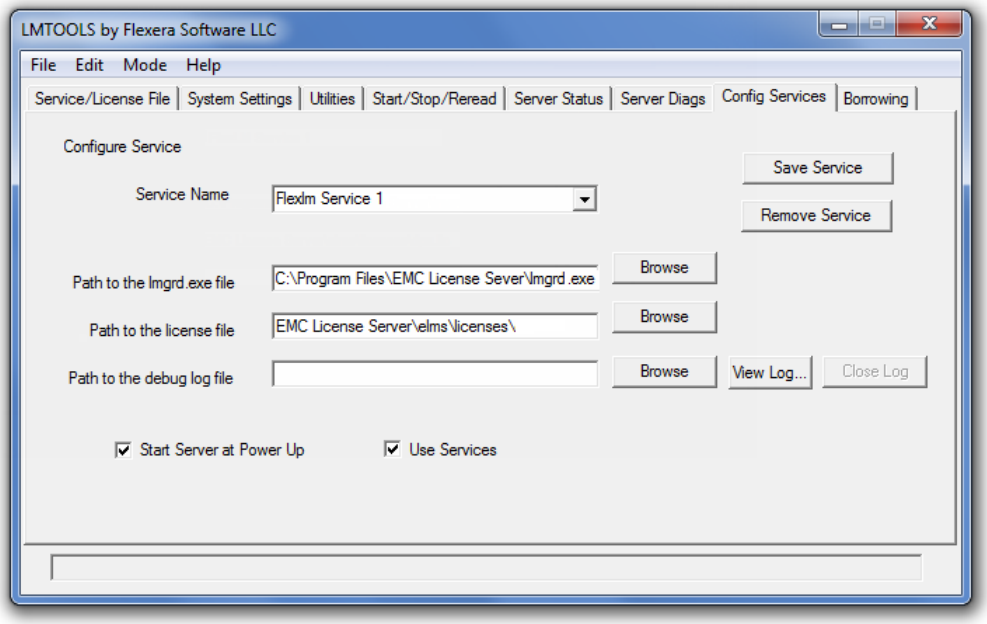
Procedure

1. Open the **LMTOOLS** icon on your desktop.
2. In the **Service/License File** tab, select **Configuration using Services**.
3. Navigate to the **Config Services** tab.
4. In the **Path to the lmgrd.exe file** field:
   a. Click browse to navigate to the location of `lmgrd`.
   b. Select the file.

   For example, navigate to `C:\Program Files\EMC License Server\` and select `lmgrd`.
5. In the **Path to the license file** field:
   a. Click browse to navigate to the location of the license file on the EMC License Server.
   b. Select the file.

   For example, navigate to `C:\Program Files\EMC License Server\elms\licenses\` and select `dpa.lic`.

Figure 3 Config services tab in LMTOOLS



The license file contains information about the License Server, such as the host address/IP and the port that is used for communication, information on the type of licenses, and the amount of capacity purchased.

6. Select **Use Services** and **Start Server at Power Up**, and then click **Save Service**.
7. Browse to the **Start/Stop/Reread** tab, and select **Start Server**.
8. Exit the **LMTOOLS** utility.

Results

After startup, the service **Flexlm Service 1** appears as **Running** in the **Windows Task Manager**.
To change the **Flexlm Service 1** Startup type to **`Automatic`**, in **Windows Task Manager**, go to the **Services** tab and click **Services.....**

EMC License Server management on Linux

The following section contains information on managing and starting the License Server using the `lmgrd` command on Linux.

Before you begin

Before running `lmgrd`, ensure that you create the suggested directories for the license file (`/opt/emc/licenses`) and log files (`/opt/emc/emclicenseserver/logs`), and add the license file you obtained from EMC Licensing in the `/opt/emc/licenses` directory.

Procedure

1. Run the `lmgrd` command to start the License Server.

```
# lmgrd -l /opt/emc/emclicenseserver/logs/lmgrd.log -c /opt/emc/
licenses
```

2. Run the `lmgrd` command with the following arguments to manage the License Server.

`lmgrd [-c license_file_list] [-l [+]debug_log_path] [-2 -p] [-local] [-x lmdown] [-x lmremove] [-z] [-v] [-help]`

The following table provides command line usage information. The section Lmutil application on page 29 provides more information on available commands.

Table 6 Lmgrd command line usage

Term	Description
`-c license_file_list`	Use the specified license files.
`-l [+]debug_log_path`	Writes debugging information to file `debug_log_path`. This option uses the letter l. Prefixing `debug_log_path` with the + character appends logging entries. Use the -l option before other options to log all debugging information to `debug_log_path`.
`-2 -p`	Restricts usage of `lmdown`, `lmreread`, and `lmremove`, as well as `lmswitch`, `lmswitchr`, and `lmnewlog`, to a license administrator who is by default root. If there is a UNIX group called `lmadmin`, then use is restricted to only members of that group. If root is not a member of this group, then root does not have permission to use any of the above utilities. If -2 -p is used when starting `lmgrd`, no user on Windows can shut down the License Server with `lmdown`, nor can they use the `lmswitch`, `lmswitchr`, and `lmnewlog` command line utilities.
`-local`	Restricts the `lmdown` and `lmreread` commands to be run only from the same system where `lmgrd` is running.
`-x lmdown`	Disables the `lmdown` command so that no user can run `lmdown`. If `lmdown` is disabled, stop `lmgrd` via `kill pid` (UNIX), or stop the `lmgrd` and vendor daemon processes through the Windows Task Manager or Windows service. On UNIX, ensure that the kill command does not have a -9 argument.
`-x lmremove`	Disable the `lmremove` command (no user can run `lmremove`).
`-z`	Run in foreground. The default behavior is to run in the background. If –`l debug_log_path` is present, then no windows are used, but if no -l argument specified, separate windows are used for `lmgrd` and each vendor daemon
`-v`	Displays `lmgrd` version number and copyright, and then exits.
`-help`	Displays usage information and then exits.
`-reuseaddr`	Allows the server to explicitly bind to a same port, which remains in TIME_WAIT state after the server restart or crash.

Start the License Server without a license file

If you have not obtained a license file, you can still start the License Server by using the `lmgrd` command. When you add a license file, you can also run a command to re-read the file.

Procedure

1. To start the License Server without copying a license file to the license directory, run the following:

   /opt/emc/emclicenseserver

   /opt/emc/emclicenseserver/lmgrd -l

   /opt/emc/emclicenseserver/logs/lmgrd.log -c

   /opt/emc/emclicensserver/license

2. To view the log file, run:

   /opt/emc/emclicenseserver # cat /opt/emc/emclicenseserver/logs/lmgrd.log

3. To view what is running as the License Server, run:

   /opt/emc/emclicenseserver # ps -aef | grep lmgrd

4. Once you obtain a license file, copy the file to the license directory **/opt/emc/licenses**

5. To re-read the license file, run:

   # lmutil lmstat -a -c /opt/emc/licenses

   # lmutil lmreread -c /opt/emc/licenses

   # lmutil lmdown -c /opt/emc/licenses

Lmutil application

In addition to `lmgrd`, you can also use the `lmutil` application to manage some aspects of the License Server. This application is available on all platforms.

lmutil application arguments

The following table provides valid arguments for most `lmutil` arguments.

Table 7 lmutil arguments

Argument	Description
`-c <license_file_path>`	Most lmutil utilities need to know the path to the license file. This is specified with a `-c` *license_file_path* argument.
`-help`	Displays usage information and exits.
`-v`	Displays the version of the utility and exits
`-verbose`	Displays a longer description for errors found

For the first argument of an `lmutil` command, you can specify one of the following commands:

- `lmdown` – gracefully stop a license server system (manager and vendor daemon)
- `lmhostid` – calculate a hostid to identify a system or user
- `lmreread` – instruct the license server system to reread license and option files, and start new vendor daemons
- `lmstat` – display the status of a license server system
- `lmswitch` – controls license server log location and size
- `lmver` – display the version of a FLEXnet executable

The following topics provide more information for the most common or useful commands to aid in troubleshooting License Server issues.

lmutil lmhostid

Obtains the MAC address system information from the current system. A MAC address is a valid node locking choice (HOSTID=) and can also be used in the SERVER line of a license file to identify the License Server. If multiple MAC addresses are listed by the command, use the first one.

```
lmutil lmhostid
```

Verify the MAC address with its use in any license files. If the MAC address does not match any of the relevant uses, then you may have entered system information incorrectly while activating a license.

lmutil lmreread

Forces the License Server to instruct the EMC vendor daemon to re-read the license file for changes. Execute this command if new or changed license files are made available. Using this command allows the License Server and the EMC vendor daemon to continue running and update its internal cache of license features from newly updated license files.

```
lmutil lmreread -vendor EMCLM
```

lmutil lmstat

Use the following command to determine the running status of the License Server lmgrd:

```
lmutil lmstat -a
```

lmutil lmdown

Gracefully shuts down the License Server and EMC vendor daemon when you provide the name of the license file used to start the License Server. Specifying the license file name ensures that the proper processes are terminated. You may be asked to confirm the shutdown before proceeding.

```
lmlmutil lmdown -c <license_file_list>
```

Modifying NetWorker server properties in NMC Administration Window

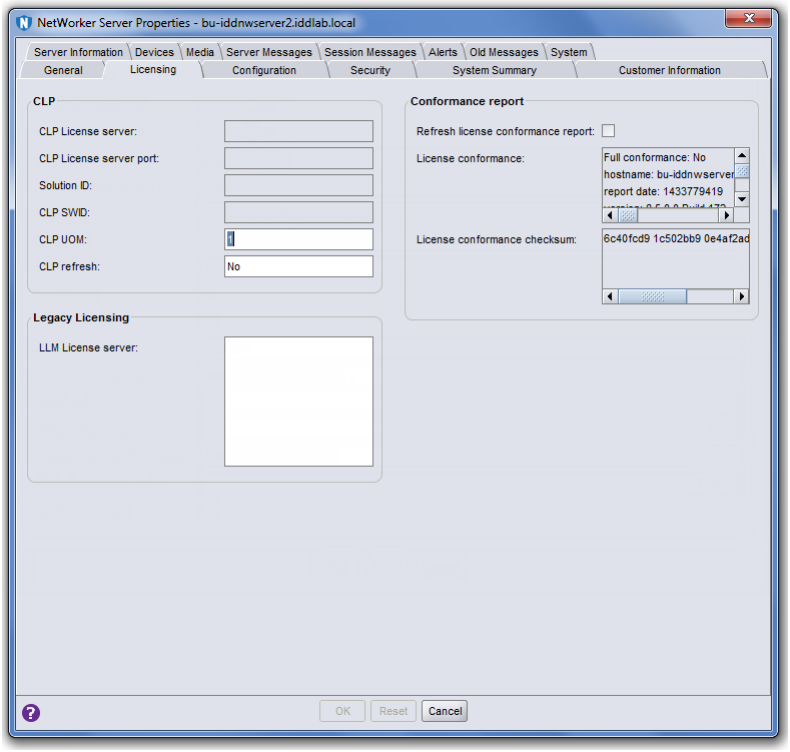
The following section provides information on fields you can modify after installation and set up of the License Server in order for the NetWorker server to detect the license file applied.

Modify the CLP UOM and CLP refresh fields

Use NMC **Administration** window to modify the following two fields. You can access these attributes when you right-click the server in the **Administration** window and select **Properties**.

- CLP UOM - allows you to allocate more capacity to a specific datazone. Initially, only 1 TB is checked out. This amount can be changed if the request is greater than 0.
- CLP refresh - when set to **Yes**, prompts the NetWorker server to search for a new license file or an updated license file. In the absence of a license file, setting to **Yes** forces the server to request a license file with capacity entitlement and, where applicable, an update entitlement.

Figure 4 CLP UOM and CLP refresh fields in the Server Properties window



Additions to the NSR RAP resource

After you complete the License Server installation and setup, the NSR RAP resource gets populated with the License Server information. The following graphic displays the updated information.

Figure 5 NSR RAP resource

```
SCDEV-3 Linux VM
Main Options  VT Options  VT Fonts
Command:  Select  [Next]  Prev   Edit   Create   Delete   Options   Quit
1 of 1 (on scdev-3.lss.emc.com)

                        type: NSR;
                        name: scdev-3;
                  datazone id: scdev-31361494289127002;
                     version: NetWorker dev.Build.7630 CLP Capacity License;
                  save totals: 0 session(s);
               recover totals: 0 session(s);
                 totals since: "Wed Feb 25 10:36:08 2015";
                NSR operation:  Idle    Write    Read    Verify label    Label    Eject ;
                      comment: ;
                  parallelism: 32;
                 manual saves: [Enabled]   Disabled ;
             ACL passthrough: [Enabled]   Disabled ;
   save session distribution: [max sessions]   target sessions ;
             public archives:  Enabled   [Disabled];
                 Monitor RAP: [Enabled]   Disabled ;
         accept new sessions: [Yes]   No ;
 accept new recover sessions: [Yes]   No ;
             volume priority: [NearLine Priority]   SmartMedia Priority ;
       SmartMedia save mount:  volume by name   [volume by characteristics];
          CLP License server: landshark.lss.emc.com;
     CLP License server port: 27010;
                 Solution ID: "TPNZPS64TV2Z77:scdev-3.lss.emc.com";
                    CLP SWID: TPNZPS64TV2Z77;
                     CLP UOM: 1;
                  CLP refresh: No;
               license server: ;
             update licenses:  Yes   [No];
            search new device: [never]   now ;
             device host list: scdev-3;
                   scan mode: [Discover]   Configure and Enable    Configure but Disable ;
          Configuration Type: [scsi]   ndmp    silo ;
                  scan state:  In progress   [Done];
                     scan id: 0;
----------------------------------
Keys: tab=next  return=do command  [a-z]=that command  ^H=help
```

The attributes that are identified in the red square in the graphic (for example, CLP License server and CLP License server port) are populated from the license file stored in the NetWorker server host's `/nsr/lic/` directory, and by querying the License Server. These attributes are updated each time that you check out a license. Solution ID and CLP SWID are read from a license checked out from the License Server and not the license file on the NetWorker server.

CHAPTER 3

NetWorker Traditional Licensing Model

This chapter includes the following topics:

- Upgrading from NetWorker 9.0 and using traditional enabler-based licensing..... 34
- About the traditional licensing model.....34
- The evaluation process..... 36
- How to delete an enabler code..... 37
- License process flow..... 38
- How to permanently license the NetWorker software..... 39
- Product licenses.....45
- EMC NetWorker 45-Day Evaluation Enabler Codes..... 54

Upgrading from NetWorker 9.0 and using traditional enabler-based licensing

When you upgrade to NetWorker 9.0, if you used the traditional enabler-based model of licensing in your previous NetWorker version, you can use the new EMC Licensing Solution with the capacity entitlement, or continue to use your traditional enabler-based licensing.

If you want to continue using traditional licensing, you must still install the EMC License Server and also apply the update entitlement, provided within the license file. The sections Important information for new and upgraded installations of NetWorker on page 10 and Requirements for new and upgraded installations on page 18 provide more information.

You can use the evaluation period, which provides you with 30 days along with an additional 15 days grace period, to determine whether you want to use the EMC Licensing Solution or continue using traditional enabler-based licensing. EMC recommends upgrading to the EMC Licensing Solution as this model provides the most effective management of all NetWorker features and available capacity through the application of a license file.

About the traditional licensing model

You can download and evaluate NetWorker software and added features, such as modules, from the EMC Online Support website at https://support.emc.com. 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 36 provides information.

To permanently use the NetWorker software with the traditional enabler-based licensing model, you must license the software on the EMC 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 39 provides information. Additionally, the *EMC Software Price Guide: Open Storage Software* provides more details.

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 **nsrcap** 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.

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 36 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 8.1 to NetWorker 8.2.

Updating within a minor release, for example, from NetWorker 8.1 SP1 to NetWorker 8.1 SP2, does not require an update enabler.

With NetWorker 8.1 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 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.

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:
  1. Click **Monitoring**.
  2. 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 39 provides information.

The evaluation process

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

You can evaluate NetWorker software in two ways:

- Evaluating a new installation of NetWorker software on page 36
- Evaluating features of an existing NetWorker installation on page 36

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 39 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 36 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:

Procedure

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 37 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

Use the following procedure to apply an evaluation enabler on the NetWorker server.

Procedure

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:
  1. Click **Monitoring**.
  2. 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 `nsrcap` 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:

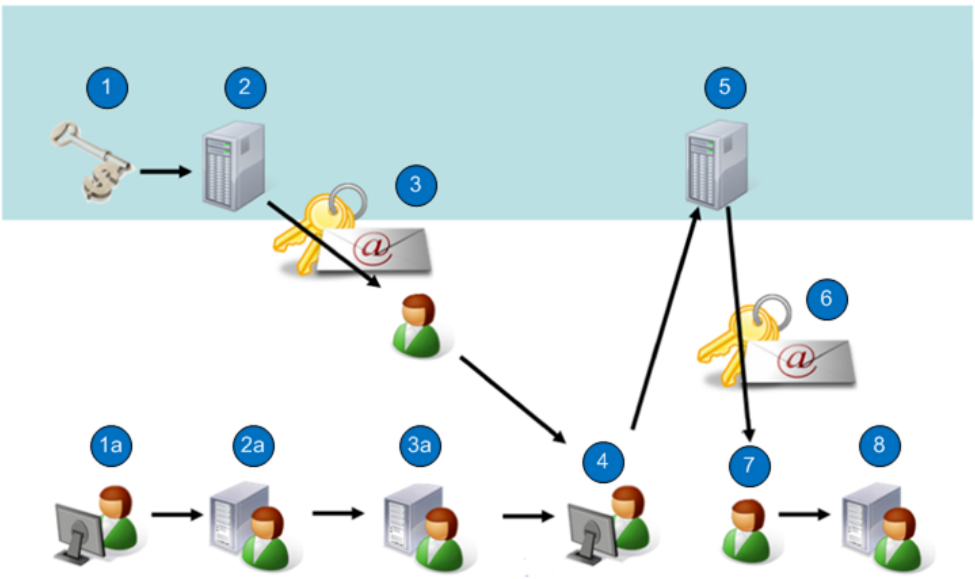
1. In the **Administration** window, click **Configuration**.
2. Click **Registrations**.
3. Right-click the license to delete, then select **Delete**.
4. Click **Yes** to confirm the deletion.

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 following figure illustrates the licensing process flow.

Figure 6 NetWorker license process flow



During the NetWorker licensing process:

1. EMC verifies customer purchase order. SysAdmin downloads the NetWorker software from the EMC Online Support Site.
2. EMC generates a LAC letter and emails it to the customer. SysAdmin installs the NetWorker software in evaluation mode.

3. SysAdmin receives email with the License Authorization Code (LAC) and obtains the host ID of the NetWorker server.
4. SysAdmin applies the host ID and LAC in EMC Licensing to activate certificates.
5. EMC Licensing generates the certificates and allows you to save a copy of the certificate or send it as an email to the address of your choice.
6. SysAdmin receives an email that includes the enables and authorization codes.
7. SysAdmin applies the enablers and authorization codes for permanent NetWorker licensing.

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 performed together.

3. At the EMC 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.

   Note

   EMC 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.

How to permanently license the NetWorker software

To license the NetWorker software, perform the following tasks.

If required, install the NetWorker software for evaluation

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

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

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.

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 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.

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.

Procedure

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.

Activate the software license certificate

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

If you have the LAC letter, use the hyperlink that is provided in the letter to open the license activation landing page, which automatically populates the LAC number. You can then skip to step 6. If you do not have the LAC letter, perform all the following steps.

Procedure

1. Go to the EMC Online Support website (registration required) at:

   http://support.EMC.com
   If you do not have an account, follow the New Member Registration steps.

2. Under **Service Center** , select **Get and Manage Licenses**.
3. On the Manage Licenses page, select **NetWorker** from the list of products.

   The **EMC Licensing** page appears.
4. Click **Activate Licenses**, and then click **Advanced Search**.
5. Type the PO Number or Sales Order Number and click **Search Entitlements**.
6. Choose the entitlements/model numbers that you would like to activate.
7. Click **Start Activation Process**.

   The **Activation** page displays.
8. You can create a machine, or search for an existing machine:
   a. If you are creating a 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.

   b. If using an existing machine, or activating an add-on product to an existing machine, select an existing machine to activate your LAC.
9. Activate to the registered site on the order:
   a. Move to another registered site, or add a site.
   b. Click **Next**.
10. In the **Locking ID** field, type the NetWorker server host ID that you obtained in Obtain the host ID of the NetWorker server on page 40.
11. Click **Finish**.

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 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.

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.

Procedure

1. Go to the EMC Online Support site (registration required) at: http://support.emc.com.
2. Under **Service Center**, select **Get and Manage Licenses**.
3. On the **Manage Licenses** page, select **NetWorker** from the list of products, and then follow the instructions for your product.

   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 Licensing before proceeding to the next step.
4. On the **EMC Licensing** page, select **Download Enabler codes**. The **Search for Downloading Enabler Codes** page appears.
5. In the **%HostID** attribute, type the NetWorker server host ID number that you obtained in Obtain the host ID of the NetWorker server on page 40.
6. Click **Search**. The **Search for Downloading Enabler Codes** page appears, displaying the list of hosts that match the criteria.
7. Select the host ID that matches the criteria. The **Download** page appears.
8. 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

Results

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

If required, delete all evaluation enabler codes

If your evaluation requirements extend 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.

Procedure

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.
6. 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. If required, upgrade or downgrade the base enabler on page 43 provides details.

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 `nsrcap` 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.

Use the following procedure to upgrade or downgrade the base enabler.

Procedure

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

   ```
   nsrcap -u base_enabler_code -a authorization_code
   ```

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 Licensing.

If you cannot automatically import and install the permanent enablers and authorization codes from EMC Licensing, you can manually install the permanent enablers and authorization codes.

Use the following procedure to import and apply the NetWorker license key from EMC Licensing directly to a NetWorker server or a NetWorker License Manager system.

Procedure

1. 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

NetWorker software and added features, such as modules, can be downloaded and evaluated for free from the EMC Online Support 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 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 EMC Software Price Guide: Open Storage Software provides additional detailed licensing information.

Using a licensing template

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

Procedure

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.

NetWorker license tips

Calculating NetWorker licenses can sometimes be difficult. For example, recent software changes might not apply yet to the current NetWorker release.

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.

Note

EMC ClientPak® enablers are no longer required. Client licensing is now based solely on the client connection enablers.

Cluster licensing

This section discusses NetWorker cluster licensing.

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

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.

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 you perform an NDMP-DSA backup, a Storage Node license is required.

- 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

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 5.2.x and later, 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 licensing information

The following 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

The NMM 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 environment. This means that new application support, such as

Microsoft Exchange 2012 and Microsoft SharePoint 2013, is enabled for existing users. Users must upgrade and configure the NMM software. Once installed, the NMM software supports the backup and recovery of both, the new as well as the older Microsoft server applications.

Additional licensing requirements

Additional licensing is required when:

- Using Data Domain Boost with NMM — 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 as dedicated storage node — NMM supports dedicated storage node (DSN). The DSN license is required for any NMM client configured as a DSN.
- Using client connections with NMM — A client connection license is required for every NMM 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 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 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 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

The following table provides some examples of the NMM 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 8 NMM 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

The following table 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 9 Exchange and SharePoint licensing examples

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
Exchange server 2010 DAG	Physical	1 license per Exchange server in the DAG where backup will take place 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 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

Table 9 Exchange and SharePoint licensing examples (continued)

Application configuration	Virtual or physical	Number of required NMM licenses
		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 includes a simplified licensing model for virtualized environments. The *NetWorker Online Software Compatibility Guide* provides a detailed list of supported server virtualization environments.

Two 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.

Virtual Edition Client Connection license

The 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 NetWorker. 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.

Licensing NetWorker support for VMware

The following section provides information on NetWorker licensing requirements for guest-based VM backups, VMware APIs for Data Protection (VADP), and the NetWorker VMware Protection solution.

Physical ESX hosts in non-VADP configurations

The client license used for physical ESX hosts in non-VADP configurations is the Virtual Edition Client license. This license enables backup from any resident guest VM that has the NetWorker client software installed.

Guest-based licensing

For guest based backups (not using 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 VMs 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:

- One NetWorker Module license per application type, per physical host for VADP based backups.
- One client connection license 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:

- Qty 5 of NetWorker Virtual Edition Clients (1 for each ESX Server in the farm)
- Qty 7 of NMM licenses
  - For SQL, it would be Min (6, 5) = 5
  - For SharePoint, it would be Min (1, 5) = 1
  - For Exchange, it would be Min (1, 5) = 1
- 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 VMs 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.

NetWorker VMware Protection licensing

For the NetWorker VMware Protection solution, using the EMC Backup and Recovery appliance with the traditional license requires a disk backup enabler, since this solution uses a single AFTD for NetWorker registration with the EMC Backup and Recovery appliance.

The *NetWorker Licensing Guide* provides more information on the disk backup enabler.

VADP licensing

For VADP backups of a VMware environment, one Virtual Edition Client license is required per VADP proxy host, regardless of the number of VMs and ESX servers configured to perform backups by using the proxy backup host.

Using existing licenses to support VADP after upgrading
When upgrading to NetWorker 8.1 and later from a release previous to NetWorker 7.6 SP2, note that 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.

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

This tables lists the 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.

Consider:

- 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 10 EMC NetWorker 45-day evaluation enabler codes

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

Table 10 EMC NetWorker 45-day evaluation enabler codes (continued)

Product	Model Code	Description	Usage	Temp Enabler
	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.
Data Deduplication with Avamar **Note** These licenses do not include support for virtualization.	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

Table 10 EMC NetWorker 45-day evaluation enabler codes (continued)

Product	Model Code	Description	Usage	Temp Enabler
Data Deduplication with Data Domain	456-102-513	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.	838e7a-b97f7f-2790c9
	456-004-638	NetWorker Autochanger Software Module Unlimited slots	Enables the configuration of Data Domain storage as a VTL. **Note** 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	Enables the increase of 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.	e05462-a61e25-66a7aa

Table 10 EMC NetWorker 45-day evaluation enabler codes (continued)

Product	Model Code	Description	Usage	Temp Enabler
			Note 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.	
	456-100-042	NetWorker Virtual Tape Library 10 TB Capacity Add-on	Enables the increase of 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. **Note** 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	Enables the increase of 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. **Note** 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-ddff46-87c84b
	456-100-705	NetWorker Virtual Tape Library 50 TB Capacity Add-on	Enables the increase of 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.	4efad0-23a893-d41514

Table 10 EMC NetWorker 45-day evaluation enabler codes (continued)

Product	Model Code	Description	Usage	Temp Enabler
			Note 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.	
EDL	457-100-014	NetWorker Embedded Storage Node for EDL	Enables only EMC EDL 4xxx series embedded storage nodes. This temp enabler applies to EDL ESN only. Note: • The embedded storage node is for cloning purposes only. • 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. • Backup operations are not supported.	9d9c1f-6a59ff-0f76e7 **Note** EDL ESN does not require an additional traditional NetWorker storage node license.
	457-100-038	NetWorker EMC Disk Library 10 TB Capacity	Enables only 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
EDL	457-100-227	Licensing bundle for Data Domain 10 TB Capacity	Enables any of the DL3D product models with a single product mode. Use this license if you are replacing	N/A

Table 10 EMC NetWorker 45-day evaluation enabler codes (continued)

Product	Model Code	Description	Usage	Temp Enabler
			DL3D units with Data Domain. This license can be used for Data Domain configured as either a VTL, CIFS, or NFS: • For NFS/CIFS configurations, use a DiskBackup Option enabler. • For VTL configurations, use one or more Autochanger enablers. • For Temporary Capacity Entitlements, a temporary enabler is not required.	
Documentum	The NetWorker Module for Documentum (NMD) software is no longer available. • For End of Sale (EOS) information, see: http://Powerlink.EMC.com/km/live1/en_US/Offering_Technical/Software_Download/Release_and_EOSL_Dates_-_NetWorker.pdf • For information on an alternative to NMD, see: http://powerlink.emc.com/km/live1/en_US/Sales_Support/Presentation/NetWorkerModule_Documentum_EOL.pptx			
Dynamic Drive Sharing (DDS)	456-004-678	DDS for Windows, UNIX, Linux (Universal)	Enables 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. License per tape drive for all operating systems.	50d5d2-38ac8a-ebc31a
NetWorker Modules	456-100-595	NetWorker Module for Microsoft SQL Server Windows Client	Enables protection of Microsoft SQL Server databases on supported Windows platforms.	203ba2-eadc6b-11516a
	456-004-725	NetWorker Module for SAP on Oracle UNIX Client	Enable protection of SAP on Oracle databases on supported UNIX platforms.	79fefb-3385a4-050bc3
	456-004-726	NetWorker Module for SAP on Oracle Linux Client	Enables protection of SAP on Oracle databases on supported Linux platforms.	d25754-9a2e0a-74ba98
	456-005-031	NetWorker Module for SAP on Oracle Windows Client	Enables protection of SAP on Oracle databases on supported Windows platforms.	9e8520-6e5aec-55a6e4

Table 10 EMC NetWorker 45-day evaluation enabler codes (continued)

Product	Model Code	Description	Usage	Temp Enabler
	456-101-780	NetWorker Module for Databases and Applications UNIX Client	Enables 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	Enables 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)	Enables VSS backups of SQL, Exchange, SharePoint, Hyper-V, or DPM applications.	63fee5-099faa-6a9c29
	456-100-632	NetWorker Module for Meditech License	Enables Meditech backups with EMC CLARiion and EMC Symmetrix storage systems.	8b960d-c477d2-a846d1
NetWorker Modules	456-100-595	NetWorker Module for Microsoft SQL Server Windows Client	Enables backups of MS SQL databases on supported Windows platforms.	2a31ac-e4d661-075b70
	456-004-563	NetWorker Module for Oracle on OpenVMS Alpha Client Tier 1	Enables backups of Oracle on a supported OpenVMS Alpha Workgroup Server.	7f8401-617bc1-566bc5
	456-004-564	NetWorker Module for Oracle on OpenVMS Alpha Client Tier 2	Enables backups of Oracle on a supported OpenVMS Alpha Departmental Server.	fb787d-9d0745-d2e441
	456-004-565	NetWorker Module for Oracle on OpenVMS Alpha Client Tier 3	Enables backups of Oracle on a supported OpenVMS Alpha Enterprise Server.	79fefb-1f85bb-ac61c3
	456-010-506	NetWorker Module for Oracle on OpenVMS Integrity Server SGL Client	Enables backups of Oracle databases on supported OpenVMS Integrity platforms.	1c199e-fcd864-f18b66
	456-004-617	NetWorker Module for SNMP	Enables backups of SNMP on supported UNIX and Windows clients.	3fc4c1-01bb87-95b405
	456-100-042	NetWorker Virtual Tape Library 10 TB Capacity Add-on	Enables the increase of NetWorker VTL Capacity by 10 TB in both 457-100-038 and 457-100-013. **Note** 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.

Table 10 EMC NetWorker 45-day evaluation enabler codes (continued)

Product	Model Code	Description	Usage	Temp Enabler
NetWorker OpenVMS	456-004-537	NetWorker OpenVMS Client for Alpha Tier 1 Quantity 5	Enables 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	Enables 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	Enables 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	Enables 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	Enables NetWorker client functionality on one supported OpenVMS VAX Workgroup Server.	NA
	457-000-131	NetWorker OpenVMS Client for VAX Tier 2	Enables NetWorker client functionality on one supported OpenVMS VAX Departmental Server.	NA
	457-000-134	NetWorker OpenVMS Client for VAX Tier 3	Enables NetWorker client functionality on one supported OpenVMS VAX Enterprise Server.	NA
NetWorker OpenVMS	457-000-119	NetWorker OpenVMS Storage Node Alpha Tier 1 Quantity 1	Enables NetWorker storage node functionality on OpenVMS Alpha Workgroup Servers. The license bundle consists of: • NetWorker Client on OpenVMS for Alpha Server. • NetWorker OpenVMS storage node for Alpha Servers. This option is licensed per processor; not core.	121794-c0ee52-cbec58

Table 10 EMC NetWorker 45-day evaluation enabler codes (continued)

Product	Model Code	Description	Usage	Temp Enabler
			It is compatible with Network and Power Editions. It provides full storage node functionality. Dedicated storage node functionality is not available. **Note** This license supports only Alpha hardware.	
	457-000-122	NetWorker OpenVMS Storage Node Alpha Tier 2 Quantity 1	Enables NetWorker storage node functionality on OpenVMS Alpha Departmental Servers. The license bundle consists of: • NetWorker client on OpenVMS for Alpha Server. • NetWorker OpenVMS storage node for Alpha Servers 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. **Note** This license supports only Alpha hardware.	838005-537fcd-5a1cc9
	457-000-125	NetWorker OpenVMS Storage Node Alpha Tier 3 Quantity 1	Enables NetWorker storage node functionality on OpenVMS Alpha Enterprise Servers. The license bundle consists of: • NetWorker Client on OpenVMS for Alpha Server	828704-507ec2-5b1dc8

Table 10 EMC NetWorker 45-day evaluation enabler codes (continued)

Product	Model Code	Description	Usage	Temp Enabler
			• NetWorker OpenVMS storage node for Alpha Servers. 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. **Note** This license supports only Alpha hardware.	
	457-000-502	NetWorker OpenVMS Storage Node for Integrity Server Single Pro Quantity 1	Enables NetWorker storage node functionality on OpenVMS Integrity Servers. The license bundle consists of: • NetWorker Client for OpenVMS on Integrity Server. • NetWorker OpenVMS storage node for integrity Servers. 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. **Note** This item supports Integrity hardware only.	010683-d1fd43-d49b4b
NetWorker Snapshot Management	456-105-048	NetWorker Snapshot Management 1TB	Enables snapshot backups of up to 1 TB.	6ef5f0-788ab3-f1cf34
	456-105-049	NetWorker Snapshot Management 2TB	Enables snapshot backups of up to 2 TB.	160d98-93e25b-99275c

Table 10 EMC NetWorker 45-day evaluation enabler codes (continued)

Product	Model Code	Description	Usage	Temp Enabler
	456-105-050	NetWorker Snapshot Management 5TB	Enables snapshot backups of up to 5 TB.	1e05a0-aada63-a11f64
	456-105-051	NetWorker Snapshot Management 10TB	Enables snapshot backups of up to 10TB.	061d88-85f24b-89374c
	456-105-052	NetWorker Snapshot Management 25TB	Enables snapshot backups of up to 25 TB.	0e1590-9cea53-912f54
	456-105-053	NetWorker Snapshot Management 50TB	Enables snapshot backups of up to 50 TB.	362db8-b7c27b-b9077c
	456-105-054	NetWorker Snapshot Management 100TB	Enables snapshot backups of up to 100 TB.	3e25c0-4eba83-c1ff04
SnapImage Module	457-000-173	NetWorker SnapImage for Windows and Solaris	Enables high speed backups of large quantities of smaller files on supported Microsoft Windows and Solaris operating systems. The SnapImage bundle consists of: • 1 NDMP Client Connection Tier 1 license • SnapImage Module Client license **Note** In NetWorker 8.1 on Windows, the block based backup feature provides more functionality than SnapImage Module product.	Contact EMC Sales
	456-004-617	NetWorker SNMP Module	Enables SNMP traps and system management framework on Windows and UNIX NetWorker servers. This module is: • Available for Network and Power Editions. • Licensed one per backup server.	a7ac29-6953ef-7c6ced
Storage Nodes	456-101-769	NetWorker Power Edition Storage Node for Windows/ Linux	Enables 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	Enables a storage node for an environment with NetWorker Server Network	bdba3f-95391f-6f9d87 bdba3f-95391f-6f9d87

Table 10 EMC NetWorker 45-day evaluation enabler codes (continued)

Product	Model Code	Description	Usage	Temp Enabler
			Edition, which will be installed on a Linux host.	
	456-010-511	NetWorker Network Edition Storage Node for Solaris	Enables a storage node for an environment with NetWorker Server Network Edition, which will be installed on a Solaris host.	1d1a9f-f5d97a-e8ee67
	456-004-659	NetWorker Network Edition Storage Node for UNIX	Enables 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	Enables 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
Storage Node	456-004-660	NetWorker Network Edition Storage Node for Windows	Enables a storage node for an environment with NetWorker Server Network Edition, which will be installed on a Windows host.	6aefec-389618-ddbd30
	456-005-475	NetWorker Power Edition Storage Node for Linux	Enables 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	Enables 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	Enables 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	Enables a storage node for an environment with NetWorker Server Power Edition, which will be installed on a Windows host.	ee6b70-a40a84-5926b4

Table 10 EMC NetWorker 45-day evaluation enabler codes (continued)

Product	Model Code	Description	Usage	Temp Enabler
	456-101-768	NetWorker Network Edition Storage Node for UNIX	Enables 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	Enables 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	Enables 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	Enables an autochanger that has 9 slots or fewer.	78f3fa-3284a0-12d6c2
	456-004-606	NetWorker Autochanger Software Module 1-16 slots	Enables an autochanger that has16 slots or fewer.	0f0691-c2eb59-b89e55
	456-001-624	NetWorker Autochanger Software Module 1-20 slots	Enables an autochanger that has 20 slots or fewer.	7bf6fd-2a87de-3318c1
	456-004-602	NetWorker Autochanger Software Module 1-32 slots	Enables an autochanger that has 32 slots or fewer.	1a0d9c-fde653-f87960
	456-001-633	NetWorker Autochanger Software Module 1-40 slots	Enables an autochanger that has 40 slots or fewer.	878209-6273d2-3f11cd
	456-004-607	NetWorker Autochanger Software Module 1-64 slots	Enables an autochanger that has 64 slots or fewer.	b9b044-83c5fe-028b8a
	456-004-635	NetWorker Autochanger Software Module 1-128 slots	Enables an autochanger that has 128 slots or fewer.	000b82-43fcf2-abbe4a
	456-004-636	NetWorker Autochanger Software Module 1-256 slots	Enables an autochanger that has 256 slots or fewer.	44d1c7-07b085-014e0e
	456-004-762	NetWorker Autochanger Software Module 1-400 slots	Enables an autochanger that has 400 slots or fewer.	0209fb-3afef0-a61048
	456-004-763	NetWorker Autochanger Software Module 1-512 slots	Enables an autochanger that has 512 slots or fewer.	030efa-39ffff-a71149
Autochanger Modules	456-004-764	NetWorker Autochanger Software Module 1-700 slots	Enables an autochanger that has 700 slots or fewer.	1d14e0-1fd965-193167
	456-004-638	NetWorker Autochanger Software Module Unlimited slots	Enables an autochanger that has any number of slots.	da5123-622613-815da0
	456-001-624	NetWorker Workgroup Edition Autochanger Software Module 1-20 slots	Enables an autochanger that has 20 slots or fewer.	7bf6fd-2a87de-3318c1
	456-004-602	NetWorker Workgroup Edition Autochanger Software Module 1-32 slots	Enables an autochanger that has 32 slots or fewer.	1a0d9c-fde653-f87960

Table 10 EMC NetWorker 45-day evaluation enabler codes (continued)

Product	Model Code	Description	Usage	Temp Enabler
	456-004-603	NetWorker Workgroup Edition Autochanger Software Module 1-9 slots	Enables an autochanger that has 9 slots or fewer.	78f3fa-3284a0-12d6c2
	456-004-606	NetWorker Workgroup Edition Autochanger Software Module 1-16 slots	Enables an autochanger that has 16 slots or fewer.	0f0691-c2eb59-b89e55
	457-100-004	NetWorker Autochanger Slot Upgrade from 1-9 to 1-16 slots	Enables an upgrade to 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	Enables an upgrade to an existing 1-16 slot autochanger license to support 20 slots.	6de4ef-2489b7-adaa37
	457-100-006	NetWorker Autochanger Slot Upgrade from 1-20 to 1-32 slots	Enables an upgrade to 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	Enables an upgrade to 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	Enables an upgrade to 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	Enables an upgrade to 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	Enables an upgrade to 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	Enables an upgrade to 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	Enables an upgrade to an existing 1-400 slot autochanger license to support 512 slots.	090089-ccf54b-d14753

Table 10 EMC NetWorker 45-day evaluation enabler codes (continued)

Product	Model Code	Description	Usage	Temp Enabler
Autochanger Modules	456-004-638	NetWorker Autochanger Software Module Unlimited slots	Enables the configuration of Data Domain storage as a VTL. **Note** Do *not* 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	Enables the backup of all virtual clients of a physical host with the NetWorker software. **Note** Supported on all operating systems.	8bba0d-4f77d0-1109d1
Client Connections	456-100-692	NetWorker Client Quantity 25	Enables the backup of 25 hosts with the NetWorker software. **Note** Supported on all operating systems.	db5f5d-872721-95e9a1
	456-100-693	NetWorker Client Quantity 100	Enables the backup of 100 hosts with the NetWorker software. **Note** Supported on all operating systems.	382aba-9fc479-80cd02
	Requested from Product Manager	NetWorker Client	Enables the backup of 500 hosts with the NetWorker software. **Note** Supported on all operating systems.	CXLALAVY-MKNJVTWG-NF56DMP8
	Requested- from Product Manager	NetWorker Client	Enables the backup of 1000 hosts with the NetWorker software. **Note** Supported on all operating systems.	Y4W3HFQM-7RYV00A2-Q4X1TVGL

Table 10 EMC NetWorker 45-day evaluation enabler codes (continued)

Product	Model Code	Description	Usage	Temp Enabler
NetWorker NDMP Client Connection	456-004-689	NetWorker NDMP Client Connection Tier 1	Enables the backup of a Tier 1 EMC Celerra or non-EMC NAS system using the NDMP protocol. **Note** Each tier is defined in the *EMC Hardware Compatibility Guide*.	81ac03-457dd9-45f5cb
	456-004-690	NetWorker NDMP Client Connection Tier 2	Enables the backup of a Tier 2 EMC Celerra or non-EMC NAS system using the NDMP protocol. **Note** Each tier is defined in the *EMC Hardware Compatibility Guide*.	56f9d8-18a2a95b6c1c
	456-004-691	NetWorker NDMP Client Connection Tier 3	Enables the backup of a Tier 3 EMC Celerra or non-EMC NAS system using the NDMP protocol. **Note** Each tier is defined in the *EMC Hardware Compatibility Guide*.	d07f52-922c27-d1e39a
	456-004-691	NetWorker NDMP Client Connection Tier 3	Enables the backup of a Tier 3 EMC Celerra or non-EMC NAS system using the NDMP protocol. **Note** Each tier is defined in the *EMC Hardware Compatibility Guide*.	d07f52-922c27-d1e39a
	456-004-692	NetWorker NDMP Client Connection Tier 4	Enables the backup of a Tier 4EMC Celerra or non-EMC NAS system using the NDMP protocol. **Note** Each tier is defined in the *EMC Hardware Compatibility Guide*.	50ffd2-12aca7-51621a

Table 10 EMC NetWorker 45-day evaluation enabler codes (continued)

Product	Model Code	Description	Usage	Temp Enabler
NetWorker Dedicated Storage Node	456-010-513	NetWorker Network Edition Dedicated Storage Node for Solaris Quantity 7	Enables 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	Enables a dedicated storage node for an environment with NetWorker Server with Network Edition which will be installed on a UNIX host.	c54247-9d3117-5ff88f 888d0a-6574e2-1aabd2 080d8a-e5f462-9a2a52
	456-004-824	NetWorker Network Edition Dedicated Storage Node for Windows Quantity 7	Enables a dedicated storage node for an environment with NetWorker Server with Network Edition which will be installed on a Windows host.	ec776e-ba082c-66d9b6 4ad1cc-23b6a0-c4f110 cb564d-a0373f-457391
NetWorker Dedicated Storage Node	456-010-514	NetWorker Power Edition Dedicated Storage Node for Solaris Quantity 7	Enables 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	Enables a dedicated storage node for an environment with NetWorker Server with Power Edition which will be installed on a UNIX host.	c74c49-9f3311-59f68d 898e0b-6275e1-1bb6d3 090e8b-e2f561-9b3753
	456-004-825	NetWorker Power Edition Dedicated Storage Node for Windows Quantity 7	Enables a dedicated storage node for an environment with NetWorker Server with Power Edition which will be installed on a Windows host.	e8736a-be1430-7addb2 4bd6cd-20b7bf-c5f011 d44f56-b92036-4e789e
	456-004-828	NetWorker Network Edition Dedicated Storage Node for Linux Quantity 7	Enables a dedicated storage node for an environment with NetWorker Server with Network Edition which is installed on a Linux host.	51c8d3-3aad89-95c31b 8a8f0c-6376e0-04b9d0 0a0f8c-e3f660-8438506
	456-004-829	NetWorker Power Edition Dedicated Storage Node for Linux Quantity 7	Enables a dedicated storage node for an environment with NetWorker Server with Power Edition which will be installed on a Linux host.	171c99-f4e343-df0e5d 8b880d-6077ff-05b8d1 0b088d-e0f77f-8539515
	456-101-772	NetWorker Network Edition Dedicated Storage Node for UNIX Edition	Enables a NetWorker 7.6 or later Network Edition dedicated storage node for UNIX.	3431b6-d9c07c-e1f87e

Table 10 EMC NetWorker 45-day evaluation enabler codes (continued)

Product	Model Code	Description	Usage	Temp Enabler
	456-101-774	NetWorker Power Edition Dedicated Storage Node UNIX Edition	Enables a NetWorker 7.6 or later Power Edition dedicated storage node for UNIX.	3330b5-d8cf7d-e2fb79
NetWorker Server	456-101-238	NetWorker Server Release 7.5 of later Workgroup Edition UNIX Edition	Enables 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	Enables 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	Enables 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	Enables a NetWorker Server with Workgroup Edition for NetWorker 7.5 or later, which will be installed on a Windows host.	51dbd3-10ad99-cfcb1b
	456-010-507	NetWorker Server Workgroup Edition Solaris X64/X86 Edition	Enables a NetWorker Server with Workgroup Edition, which will be installed on a Solaris x86/x64 host. **Note** 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	Enables a NetWorker Server with Network Edition for NetWorker 7.5 or later, which will be installed on a Linux host.	
	456-101-240	NetWorker Server NetWorker 7.5 or later Workgroup Edition Linux Edition	Enables a NetWorker Server with Workgroup Edition for NetWorker 7.5 or later, which will be installed on a Linux host.	979a19-5263c1-2cfcdd
NetWorker Server	456-101-235	NetWorker Server NetWorker 7.5 or later Network Edition UNIX Edition	Enables a NetWorker Server with Network Edition for NetWorker 7.5 or later, which will be installed on a UNIX host.	bebd40-8b3a04-ff1484

Table 10 EMC NetWorker 45-day evaluation enabler codes (continued)

Product	Model Code	Description	Usage	Temp Enabler
	456-101-236	NetWorker Server NetWorker 7.5 or later Network Edition Windows Edition	Enables 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	Enables 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	Enables a NetWorker Server with Network Edition, which will be installed on a Solaris x86/x64 host. **Note** For Solaris on SPARC, order the UNIX version.	2522a7-e9d16a-ab2b6f
	456-004-676	NetWorker Server Network Edition UNIX Edition	Enables 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	Enables a NetWorker Server with Network Edition, which will be installed on a Windows host.	232da5-ecdf6f-10aa69
	456-101-243	NetWorker Server NetWorker 7.5 or later Power Edition Linux Edition	Enables 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	Enables 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	Enables 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	Enables a NetWorker Server with Power Edition, which will be installed on a Linux host.	cb544d-84370d-7d8791

Table 10 EMC NetWorker 45-day evaluation enabler codes (continued)

Product	Model Code	Description	Usage	Temp Enabler
	456-010-510	NetWorker Server Power Edition Solaris X64/X86 Edition	Enables a NetWorker Server with Power Edition, which will be installed on a Solaris x86/x64 host. **Note** For Solaris on SPARC, order the UNIX version.	ea736c-a7163b-f656b0
	456-005-126	NetWorker Server Power Edition UNIX Edition	Enables 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	Enables 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	Enables a NetWorker Server with Power Edition, which will be installed on a Windows host.	f16073-be0d24-a640bb
NetWorker Server	456-100-631	NetWorker Server Upgrade from Network to Power Edition Linux Edition	Enables an upgrade to an existing NetWorker Server with Network Edition to the Power Edition in a Linux environment. Power Edition provides additional functionality over the Network Edition, specifically: • Support for cluster technology. • The ability to support more devices. • Includes twice the number of streams compared to the Network Edition.	f16073-be0d24-a640bb
	456-100-630	NetWorker Server Upgrade from Network to Power Edition UNIX Edition	Enables an upgrade to an existing NetWorker Server with Network Edition to the Power Edition in a UNIX environment. Power Edition provides additional functionality over the Network Edition, specifically:	f16073-be0d24-a640bb

Table 10 EMC NetWorker 45-day evaluation enabler codes (continued)

Product	Model Code	Description	Usage	Temp Enabler
			• Support for cluster technology. • The ability to support more devices • Includes twice the number of streams compared to the Network Edition.	
NetWorker FastStart	457-100-086	NetWorker FastStart with Autochanger for Linux	Enables the NetWorker FastStart bundle for Linux environments.	6e96f0-258ab6-aed334
	457-100-085	NetWorker FastStart with Autochanger for Windows	Enables the NetWorker FastStart bundle for Windows environments.	6dd6ef-2489b7-a9d337
NetWorker VMware Protection	456-105-038	NetWorker VMware Protection Tier 1, qty 1	Enables VMware protection capabilities for 1 ESX server physical CPU. Tier 1 for 1-5 CPUs.	54cbd6-16a099-dfe11e
	456-105-039	NetWorker WMware Protection Tier 2, qty 1	Enables VMware protection capabilities for 1 ESX server physical CPU. Tier 2 for 6-10 CPUs.	5cc3de-1d98a1-e7d926
	456-105-040	NetWorker WMware Protection Tier 3, qty 1	Enables VMware protection capabilities for 1 ESX server physical CPU. Tier 3 for 11-25 CPUs.	5cc3de-1d98a1-e7d926
	456-105-041	NetWorker WMware Protection Tier 4, qty 1	Enables VMware protection capabilities for 1 ESX server physical CPU. Tier 4 for 26-50 CPUs.	4cd3ce-0ba891-d7e916
	456-105-042	NetWorker WMware Protection Tier 5, qty 1	Enables VMware protection capabilities for 1 ESX server physical CPU. Tier 5 for 50+ CPUs.	74ebf6-3280b9-ffc13e
	456-105-043	NetWorker WMware Protection Tier 1, qty 5	Enables VMware protection capabilities for 1 ESX server physical CPU. Tier 1 for 1-5 CPUs.	JTBLCNCY-TCEMT7NY-CACS5RNX W4M3BB78-5RPB1V9J-656FACVC WCN37BPA-61QB5VRL-6W7FEFC4
	456-105-044	NetWorker WMware Protection Tier 2, qty 5	Enables VMware protection capabilities for 1 ESX server physical CPU. Tier 2 for 6-10 CPUs.	JPB4JN4V-T8CMR7EX-BNCA3RXR W8MK5BFB-5WRB3VHK-6R6YCCL3

Table 10 EMC NetWorker 45-day evaluation enabler codes (continued)

Product	Model Code	Description	Usage	Temp Enabler
				W0LK9AY9-5MNAYV1H-615Y8C4B
	456-105-045	NetWorker WMware Protection Tier 3, qty 5	Enables VMware protection capabilities for 1 ESX server physical CPU. Tier 3 for 11-25 CPUs.	JKALGMVW-T4CMP76W-BJKS1R6Q WCN37BPA-61RB5VRL-6W7FEFC2 W4M3BB78-5RNB1V9J-656FACVA
	456-105-046	NetWorker WMware Protection Tier 4, qty 5	Enables VMware protection capabilities for 1 ESX server physical CPU. Tier 4 for 26-50 CPUs.	JFA4NMLJ-T0EMM6XV-BXK9YRET WGNK1BYM-65TB7W1M-6H7YGF41 WQPJWCFP-6DQBBWHP-790YLFL1
	456-105-047	NetWorker WMware Protection Tier 5, qty 5	Enables VMware protection capabilities for 1 ESX server physical CPU. Tier 5 for 50+ CPUs.	JB9LLMCK-SVEMK6NT-BSJRWNNS WLP33C7L-69TB9W9N-6M0FJFV0 WVQ2YCPN-6HQBDWRQ-7D1FNEC0

CHAPTER 4

Troubleshooting and Best Practices

This chapter includes the following topics:

- Knowledgebase Articles 78
- How to obtain NetWorker license information 78
- How to query a server 78
- License Conformance Summary 78
- How to contact EMC Licensing or provide feedback 81

Knowledgebase Articles

The EMC Online Support site provides access to knowledgebase articles to troubleshoot common licensing issues with NetWorker 9.0 and earlier releases.

You can access licensing-related knowledgebase articles directly at https://support.emc.com/kb/463810.

How to obtain NetWorker license information

To obtain license information from a NetWorker server, use the `nsrlic` command or check the License Conformance Summary in NMC.

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 query a server

Use the following procedure to query a NetWorker server.

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

- On Linux and 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.

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

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.

In NetWorker 9.0, capacity entitlement is manually assigned. The License Conformance report will only show the capacity entitlements that the administrator has assigned to the individual NetWorker server.

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

Follow this procedure to display the License Conformance Summary.

Procedure

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.
- 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.

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 contact EMC Licensing or provide feedback

Contact EMC Licensing at licensing@emc.com under the following circumstances.

- If error messages appear in the output file or you want to provide feedback.
- If you cannot determine the reason for a failure or experience problems with updating the NetWorker license, open a Service Request on support.emc.com.

To contact EMC Licensing to obtain the required upgrade entitlement, use the following contact information:

- **North America & Latin America Customers**
  7:00 AM to 5:00 PM Pacific Time, Monday - Friday (except US holidays)

  Licensing Hotline: 800-782-4362 option 4, option 2
- **EMEA Customers**
  8:30 to 17:00 GMT Monday - Thursday, 8:30 to 16:00 GMT Fridays Licensing Hotline: +353 (0)21 487 9862, option 2
- **Asia Pacific (including Australia/New Zealand) Customers**
  07:00 to 16:00 IST Monday - Friday Licensing Hotline: +91 80 67377070

CHAPTER 5

NetWorker License Manager (legacy)

Note

If you plan to use the EMC Licensing solution, you do not require the NetWorker License Manager and EMC recommends that you skip the NetWorker License Manager software installation during the NetWorker 9.0 install. When upgrading to NetWorker 9.0, you can back up the NetWorker License Manager by following the procedure outlined in Backing up the NetWorker License Manager on page 84.

This chapter includes the following topics:

- About the legacy NetWorker License Manager 84
- Using an enabler code 84
- Using an authorization code 84
- Backing up the NetWorker License Manager 84

About the legacy NetWorker License Manager

For the legacy traditional model of licensing, the NetWorker License Manager software provides centralized license management, which enables you to maintain all of an enterprise's NetWorker traditional 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 re-authorize 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

Use the following procedure to add an enabler code by using the License Manager software.

Procedure

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

Follow this procedure to type an authorization code by using the NetWorker License Manager software.

Procedure

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.

Backing up the NetWorker License Manager

This section provides instructions to back up the NetWorker License Manager if at some point you want to restore an earlier version of NetWorker that uses the NetWorker License Manager. Perform these steps before upgrading to NetWorker 9.0.

On the NetWorker License Manager server platform, two files that are related to the License Manager appear in the `/nsr/lic` directory:

- `/nsr/lic/res/lictype.res`
- `/nsr/lic/res/lgtolm.res`

The NetWorker License Manager database is a single file, `/nsr/lic/res/lgtolm.res`, and contains all the information for the install base licensing. Note that in most environments this file is typically stored on the platform where you installed the NetWorker License Manager and not the platform where the NetWorker server is installed.

To retain the `lgtolm.res` file, back up the NetWorker server and the `/nsr/lic` directory on the NetWorker License Manager platform before you upgrade to NetWorker 9.0. You can back up the NetWorker License Manager by using a standard NetWorker save command (for example, `savegrp`) where the NetWorker License Manager platform is created as a client and `/nsr/lic` is the save set.

Alternatively, you can use the following steps to create a client for the NetWorker License Manager platform and a group for the platform/save set and then perform the NetWorker License Manager backup. In this example, a NetWorker License Manager package is installed on the host **`yoyodyne.com`**:

1. Create a client for the NetWorker License Manager. For example, **`yoyodyne.com`**.
2. Create a group for the client. For example, **`yoyodyne_nlm`**.
3. Edit the client yoyodyne.com properties to only use the yoyodyne_nlm group and change the save set for the client to `/nsr/lic`.
4. Start a save for the client.
5. Back up the `/nsr` directory and its contents on the existing installation.