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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 EMC® 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 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.

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<tr>
<th>Revision</th>
<th>Date</th>
<th>Description</th>
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<tr>
<td>04</td>
<td>March 1, 2017</td>
<td>Clarified for traditional enabler-based licensing that one NDMP Client Connection license is required to protect each NAS system.</td>
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<tr>
<td>03</td>
<td>January 31, 2017</td>
<td>Added more details to the section &quot;Important information for new and upgraded installations of NetWorker.&quot;</td>
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<tr>
<td>02</td>
<td>January 5, 2017</td>
<td>Updates to 45-day evaluation enabler codes for traditional licensing.</td>
</tr>
<tr>
<td>01</td>
<td>December 22, 2016</td>
<td>First release of this document for EMC NetWorker 9.1.</td>
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Related documentation
The NetWorker documentation set includes the following publications, available on EMC Online Support:
EMC NetWorker Online Software Compatibility Matrix
Provides a list of client, server, and storage node operating systems supported by
the EMC information protection software versions. You can access the matrix at

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, plan for, and perform a step-by-step NetWorker disaster
recovery.

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 Security Configuration Guide
Provides an overview of security configuration settings available in NetWorker,
secure deployment, and physical security controls needed to ensure the secure
operation of the product.

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 9.1 with EMC CloudBoost 2.1 Integration Guide**
  Describes the integration of NetWorker with CloudBoost.

- **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**
  Describes how to use the NetWorker User program, which is the Windows client interface, to 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:

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<td><strong>Italic</strong></td>
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<td><strong>Monospace</strong></td>
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<tr>
<td><strong>Monospace italic</strong></td>
</tr>
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<td><strong>Monospace bold</strong></td>
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<td></td>
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<td>{}</td>
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</tbody>
</table>
**Table 2** Style conventions (continued)

... Ellipses indicate non-essential information that is omitted from the example

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**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](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](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:

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- Important information for new and upgraded installations of NetWorker........10
- Determining license model options by version......................................12
- Support obsolescence....................................................................15
About this guide

This guide describes the licensing options available in NetWorker 9.1 that you can use to permanently license the NetWorker software. It is downloadable from https://support.emc.com. NetWorker 9.1 has extended the license-free trial period without requiring a license to 90 days.

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.

NetWorker License Manager

The NetWorker License Manager (legacy) on page 83 chapter provides information about the NetWorker License Manager software that is used for traditional licensing, including information that outlines 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 with capacity entitlement, do not install the NetWorker License Manager software during the NetWorker installation.

Important information for new and upgraded installations of NetWorker

The EMC Licensing Solution, available in NetWorker 9.0 and later, allows new customers to use Capacity Entitlement, which means that capacity can be shared among NetWorker Servers. If you are an existing customer, you can use the EMC Licensing Solution with capacity entitlement, or when you install or upgrade to the NetWorker 9.1 server by applying an Update Entitlement to the EMC License Server, you can continue to use the traditional enabler-based licensing from your previous NetWorker version.

Also, you can use traditional enabler-based licensing when you have unused enablers or want to move enablers from an old NetWorker Server to a new NetWorker Server that is running NetWorker 9.1.

Note

EMC is working on a Conversion tool that simplifies the conversion from traditional enabler-based licensing to the EMC Licensing Solution with Capacity Entitlement. This guide will be updated with this information when the tool is available. Customers who require conversion from traditional NetWorker 8.x capacity-based enabler licensing to the NetWorker 9.1 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 EMC Licensing can issue the correct capacity entitlement. The request must also include the IP address and hostname of the License Server.
New installation of NetWorker 9.1 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 9.1 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 9.1 server and the EMC License Server.
2. Apply the unused or new enablers to the NetWorker 9.1 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.

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 9.1 without upgrading the existing NetWorker 8.x.x server, perform the following.

1. If not already installed, install the NetWorker 9.1 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 9.1 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 9.1 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.

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 9.1 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
      9.1 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 9.1, you must use the EMC Licensing Solution with
capacity entitlement. When you upgrade to NetWorker 9.1 from a previous release,
you can continue to use your previous model (for example, traditional enabler-based
licensing), or you can use the EMC Licensing Solution with capacity entitlement.
Review the following tables to determine which NetWorker licensing model to use.
The tables compare licensing options between NetWorker versions and available
licensing models, as well as the tools that are used to manage licensing.

**Table 3 Licensing between NetWorker versions and licensing models**

<table>
<thead>
<tr>
<th></th>
<th>Licensing artifact</th>
<th>Base license for new installation</th>
<th>Post upgrade state</th>
<th>Entitlement to upgrade from previous version</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional</td>
<td></td>
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</tr>
<tr>
<td>(enabler-based)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>licensing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NetWorker 7.5</td>
<td>Enablers and</td>
<td>Base Enabler</td>
<td>Upgrade Enabler</td>
<td>Must be validated by EMC Licensing within 90 days</td>
</tr>
<tr>
<td>and previous</td>
<td>authorization codes</td>
<td></td>
<td>auto applied, call</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>EMC Licensing for</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>authorization code</td>
<td></td>
</tr>
</tbody>
</table>

Licensing metric = Components, modules, features, and device capacities
### Table 3 Licensing between NetWorker versions and licensing models (continued)

<table>
<thead>
<tr>
<th>Licensing artifact</th>
<th>Base license for new installation</th>
<th>Post upgrade state</th>
<th>Entitlement to upgrade from previous version</th>
</tr>
</thead>
<tbody>
<tr>
<td>NetWorker 7.6 through 8.2</td>
<td>Enablers and authorization codes</td>
<td>Base Enabler</td>
<td>Upgrade Enabler auto applied, call EMC Licensing for authorization code</td>
</tr>
<tr>
<td>NetWorker 9.0 and later</td>
<td>Enablers and authorization codes</td>
<td>Base Enabler</td>
<td>In Evaluation mode, call EMC Licensing for update entitlement</td>
</tr>
</tbody>
</table>

**Capacity licensing**

<table>
<thead>
<tr>
<th>Licensing metric = Components, modules, features, and device capacities</th>
</tr>
</thead>
<tbody>
<tr>
<td>NetWorker 7.5 and previous</td>
</tr>
<tr>
<td>NetWorker 7.6 through 8.2</td>
</tr>
<tr>
<td>NetWorker 9.0 and later</td>
</tr>
</tbody>
</table>

### Table 4 Tools to manage licensing

<table>
<thead>
<tr>
<th>Tool used to manage NetWorker licensing</th>
<th>Alternative name</th>
<th>Intended use</th>
<th>Cannot be used with</th>
</tr>
</thead>
<tbody>
<tr>
<td>NetWorker License Manager</td>
<td>LLM, Legato License Manager, lgtolmd</td>
<td>Centralized management of bulk enablers with NetWorker traditional licensing</td>
<td>EMC Licensing Solution with capacity entitlement. Not recommended in NetWorker 9.0 and later</td>
</tr>
<tr>
<td>nsrclic</td>
<td>Command line interface</td>
<td>Generates reports about all license information currently active on a NetWorker server</td>
<td>n/a</td>
</tr>
<tr>
<td>NetWorker Management Console</td>
<td>NMC, Registrations page</td>
<td>Manual entry of enablers and authorization codes,</td>
<td>n/a</td>
</tr>
</tbody>
</table>
Table 4 Tools to manage licensing (continued)

<table>
<thead>
<tr>
<th>Tool used to manage NetWorker licensing</th>
<th>Alternative name</th>
<th>Intended use</th>
<th>Cannot be used with</th>
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<tbody>
<tr>
<td></td>
<td>-</td>
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<td>license file</td>
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<tr>
<td></td>
<td>-</td>
<td></td>
<td>configuration</td>
</tr>
<tr>
<td>EMC License Management (LMTOOLS on Windows, lmgrd on Linux)</td>
<td>EMC License Server</td>
<td>Managing license files with NetWorker 9.0</td>
<td>Any NetWorker version previous to 9.0</td>
</tr>
</tbody>
</table>

Traditional enabler-based licensing model (legacy)

New installations of NetWorker 9.1 use the EMC Licensing Solution with a capacity entitlement. If you upgrade to NetWorker 9.1 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 you can continue to use the traditional enabler-based licensing model.

If you plan to continue using traditional enabler-based licensing, you must perform the following steps:

1. Install the License server.
2. Obtain a license file from EMC Licensing that contains an update entitlement called NETWORKER_UPDATE.
3. Set up the license file on the License Server. On the License Server host, copy the license file to the /opt/emc/licenses file.
4. On the NetWorker server, launch the NMC Administration window, right-click the server, and then select Properties from the list. In the Licensing tab of the Server Properties window, browse to and select the license file to populate the CLP license text field.

Important information for new and upgraded installations of NetWorker and Requirements for new and upgraded installations provide further information on these requirements.

Note

When you upgrade to NetWorker 9.1, after you enable 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 earlier than NetWorker 9.0 allows you to use 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 an earlier NetWorker release before upgrading to NetWorker 9.1, you can continue to use the legacy capacity licensing model, or you can use the EMC Licensing Solution with the capacity entitlement.
If you upgrade to the EMC Licensing Solution, you can apply an unused capacity that you purchased to the capacity purchase 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 have a total of 4 TB of source data you can protect.

If you plan to continue using the legacy capacity licensing model, you must perform the following steps:

- Install the License server.
- Obtain a license file from EMC Licensing that contains an update entitlement called NETWORKER_UPDATE.
- Set up the license file on the License Server. On the License Server host, copy the license file to /opt/emc/licenses.
- On the NetWorker server, launch the NMC Administration window, and then right-click the server and select Properties from the drop down. In the Licensing tab of the Server Properties window, browse to and select the license file to populate the CLP license text field.

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

**Support obsolescence**

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

To find this spreadsheet:

1. Select Support by Product.
2. In the Find a Product by Name field, type NetWorker, select NetWorker from the list, and then press Enter.
3. From the list of support topics, select Maintain, Upgrade your Software.
4. In the Service Life section, select Release and End of Life Dates.
5. Beside NetWorker Release and End of Service Life Notifications, click the .xls link. This link downloads an excel spreadsheet that summarizes end of support for versions and operating systems to the host.
CHAPTER 2

EMC Licensing Solution

This chapter includes the following topics:

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- Quick Start: Activate the EMC Licensing Solution ................................... 21
- Installing the EMC License Server ......................................................... 23
- Set up the license file .............................................................................. 25
- Managing the EMC License Server ....................................................... 27
- Modify NetWorker server properties in NMC Administration Window .......... 32
- Additions to the NSR RAP resource ....................................................... 33
About the EMC Licensing Solution

The EMC Licensing Solution, available in NetWorker 9.0 and later, is an EMC licensing standard that stores all licensing information for the environment in one license file, which is stored on both the NetWorker server and the EMC License Server. All installations of NetWorker 9.0 and later use the EMC Licensing Solution.

Various components are required to set up the EMC Licensing Solution. These components include the following items:

- EMC License Server
- License file
- Management of the License Server through LMTOOLS (Windows) or lmgrd (Linux).

Licensing solution requirements for new and upgraded installations

New and upgraded installations of NetWorker 9.1 must fulfill the following requirements to use the EMC Licensing Solution.

New installation of NetWorker 9.1

All new NetWorker 9.1 installations use the EMC Licensing Solution with capacity entitlement, which requires the following setup:

1. Install the EMC License Server.
2. Obtain the license file, which contains the capacity entitlement called NETWORKER_CAPACITY.
3. Set up the license file on the License Server host:
   - On Linux, copy the file to the /opt/emc/licenses/ directory.
   - On Windows, copy the file to the C:\Program Files\EMC License Server\elms\licenses folder.
4. On the NetWorker server, launch the NMC Administration window, and then right-click the server and select Properties from the drop down. In the Licensing tab of the Server Properties window, browse to and select the license file to populate the CLP license text field.

Upgrading to NetWorker 9.1

When you upgrade to NetWorker 9.1 from a NetWorker 8.2.x release, you have the following two options:

- Use the EMC Licensing Solution with the capacity entitlement
- Continue to use the traditional enabler-based licensing model from your previous NetWorker version.

If you decide to use the EMC Licensing Solution with the capacity entitlement after you upgrade to NetWorker 9.1, you must take the following actions:

1. Install the EMC License Server. Without a connection to the EMC License Server, NetWorker 9.1 runs in evaluation mode for 90 days. Install the License Server before the end of the evaluation period.
2. Obtain the license file, which contains a capacity entitlement called NETWORKER_CAPACITY or an update entitlement called NETWORKER_UPDATE.
3. Set up the license file on the License Server host:
   - On Linux, copy the file to the `/opt/emc/licenses/` directory.
   - On Windows, copy the file to the `C:\Program Files\EMC License Server\elms\licenses` folder.

4. On the NetWorker server, launch the NMC Administration window, and then right-click the server and select Properties from the drop down. In the Licensing tab of the Server Properties window, browse to and select the license file to populate the CLP license text field.

**Note**

When you choose the capacity entitlement option, contact an EMC sales representative to perform the conversion from the traditional enabler-based licensing model to the EMC Licensing Solution with the capacity entitlement.

If you decide to continue using the traditional enabler-based licensing model, you must take the following actions before upgrading to NetWorker 9.1 requires the following:

1. Install the EMC License Server. Without a connection to the EMC License Server, NetWorker 9.1 runs in evaluation mode for 90 days. Install the License Server before the end of the evaluation period.

2. Obtain the license file, which should contain only an update entitlement called NETWORKER_UPDATE.

**Note**

When you apply an update entitlement, a notification that indicates that NETWORKER_CAPACITY entitlement is not present in the license file might display. If you are not using the NETWORKER_CAPACITY entitlement, you can ignore this message.

3. Set up the license file on the License Server host:
   - On Linux, copy the file to the `/opt/emc/licenses/` directory.
   - On Windows, copy the file to the `C:\Program Files\EMC License Server\elms\licenses` folder.

4. On the NetWorker server, launch the NMC Administration window, right-click the server, and then select Properties from the list. In the Licensing tab of the Server Properties window, browse to and select the license file to populate the CLP license text field.

**EMC License Server**

After you install NetWorker, if you have not already installed the License Server, install the Windows or Linux 64-bit License Server package. The License Server manages 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

<table>
<thead>
<tr>
<th>Platform</th>
<th>Versions</th>
</tr>
</thead>
</table>
Table 5 Supported License Server platforms (continued)

<table>
<thead>
<tr>
<th>Platform</th>
<th>Versions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linux</td>
<td>Red Hat Enterprise Linux 5.x, 6.x, 7.x; SuSE Linux Enterprise Server 11.x, 12.x</td>
</tr>
</tbody>
</table>

After you install the License Server, you must obtain the license file from EMC Licensing. This file contains the host and port information for the License Server. The License Server should use a default or specific TCP/IP port number. For NetWorker, the default port is 27000. If you specify a non-default port, 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 27000 to 27009 range. It is recommended that, at a minimum, you keep ports 27000 and 27001 open.

You can start the License Server with the LMTOOLS application on Windows or the lmgrd command-line utility on Linux.

Note

You can run the EMC License Server on the same server as the NetWorker Management Console; however, it is not recommend that you run the NetWorker Server and the License Server on the same host. If you run both servers on the same host, ensure that you start the NetWorker Server before you start the lmgrd process.

License file

The license file that you receive from EMC Licensing indicates the NetWorker features and capacity you purchased or the options that will be made available so you can evaluate NetWorker. The license file is an encrypted ASCII text file, which prevents tampering with or changing the content.

When you download and install NetWorker 9.1 and the EMC License Server software, you must also obtain the license file from EMC Licensing. This file must reside on a platform that runs the License Server and is accessible to NetWorker. Therefore, you must perform the following actions:

- Store a copy of the file in the License server folder:
  - On Linux, copy the file to the opt/emc/licenses/ directory.
  - On Windows, copy the file to the C:\Program Files\EMC License Server\elms\licenses folder.
- On the NetWorker server, launch the NMC Administration window, right-click the server, and then select Properties from the list. In the Licensing tab of the Server Properties window, browse to and select the license file to populate the CLP license text field.

The license file can contain two types of entitlements: an update entitlement, if you are updating from a previous NetWorker release, and a single capacity entitlement, which you can share across multiple datazones. All datazones can point to a single License Server to request capacity.
Management of the EMC License Server

After you install the License Server, the system places a management application on an accessible NetWorker server. Use the appropriate License Server management application to complete the setup and configuration of the EMC Licensing Solution.

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

The management application should run constantly to serve licenses to NetWorker. Therefore, the application requires a running EMCLM vendor daemon, which delivers license features to NetWorker and tracks counted features. The application automatically manages EMCLM by starting, stopping, and restarting the daemon as required. It also writes to the License Server's lmgrd.log troubleshooting file to report errors and license-feature activity. The lmgrd, EMCLM, license, and troubleshooting log file 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: Activate 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. For more details, see subsequent sections of the EMC NetWorker Licensing Guide and the EMC License Server Installation and Administration Guide.

Before you begin

Obtain the license file from EMC Licensing. For a new installation of NetWorker, this file contains a capacity entitlement. You can obtain the file after you provide EMC Licensing with the License Server host/IP information and the required capacity. If you cannot use the default 27000 port for communication between NetWorker and the License Server, you must also provide the port number. EMC requires this information to create the license file.

Procedure

1. Download the License Server package for the appropriate platform from the same location that you downloaded the NetWorker software from.

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. The following table provides the package name for each OS version.

<table>
<thead>
<tr>
<th>OS</th>
<th>Package name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows</td>
<td>EMC_LicenseServer_3.4.0_x64 installer.msi</td>
</tr>
<tr>
<td>RHEL 5 and SuSE 11</td>
<td>emclicenseserver-3.4.1-2.x86_64_lsb.rpm</td>
</tr>
<tr>
<td>RHEL 6, 7 and SuSE 12</td>
<td>emclicenseserver-3.5.0-1.x86_64_lsb.rpm</td>
</tr>
</tbody>
</table>

3. In the location that you installed the License Server:
   a. Create a directory.
b. Copy the license file to this directory.

**Note**

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 might be required to complete this step before you install the License Server package.

4. Complete the License Server configuration, 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 the **lmgrd** command-line utility.

5. On the NetWorker server, launch the NMC **Administration** window, right-click the server, and then select **Properties** from the list. The **Server Properties** window appears.

   a. Select the **Licensing** tab.

   b. In the **CLP license text** field, click **Browse**.

   c. Navigate to the location of the file, and select the license file.

   d. Click **Validate license**. The **Validate license** button will be disabled until the contents are validated. You can check the status by using the **nsrllic -C** command.

6. In the **Server Properties** window, on the **Licensing** tab, ensure that the following fields have the correct values, and then click **OK**.

   - CLP license server
   - CLP License Server Port
   - Solution ID
   - CLP SWID

**Note**

CLP refers to the EMC License Server.

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

After you install the NetWorker software, you must install the EMC License Server to enable 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 datazones that will require access to the License Server.

If you do not install the License Server during the NetWorker software installation, you can install this server later. If NetWorker does not detect the license and an nsrd check does not discover any licenses, NetWorker enters evaluation mode for 90 days. You can install the License Server at any time during the evaluation period to enable the EMC Licensing Solution.

Review this section for basic instructions about how 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 on a NetWorker Virtual Edition (NVE) appliance is not supported.

Install the License Server (Windows 64-bit platform)

After you complete the NetWorker 9.1 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

During the NetWorker installation, do not select the option to install the NetWorker License Manager software. 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 9.1, even if you plan on using traditional enabler-based licensing.

Procedure

1. Download the Windows 64-bit installation package from the same location that you downloaded the NetWorker software from.

2. Open the EMC_LicenseServer_3.4.0_x64 installer.msi file to start the 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 **\EMC License Server**.

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** and **LMTOOLS configuration on Windows**.

### Install the License Server (Linux 64-bit platform)

After you complete the NetWorker 9.1 installation, install the License Server from the 64-bit Linux package. The License Server package name on Linux for Red Hat Enterprise Linux version 5 and SuSE Linux Enterprise Server version 11 is `emclicenseserver-3.4.1-2.x86_64_lsb.rpm`. The package name for Red Hat Enterprise Linux version 6 and 7 and SuSE Linux Enterprise Server version 12 is `emclicenseserver-3.5.0-1.x86_64_lsb.rpm`. The License Server is required for new and upgraded installations of NetWorker 9.1, even if you plan on using the traditional enabler-based 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**

During the NetWorker 9.1 installation, do not install the NetWorker License Manage package, `lgtolicm`. The NetWorker License Manager is not required to use the EMC Licensing Solution.
Procedure

1. Download the Linux 64-bit installation package from the same location that you downloaded the NetWorker software from.
2. Log in to Linux as root or as a user with sudo privileges.
3. At the command prompt, type the following command to install the package, using the appropriate package version. For example:
   ```
   /opt/emc # rpm -v -i /tmp/emclicenseserver-3.5.0-1.x86_64_lsb.rpm
   ```
4. To confirm that the installation was successful perform the following steps:
   a. Type `ls /opt/emc/emclicenseserver/`
   b. In the directory listing output, 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 might appear: "-bash: ./lmgrd: No such file or directory". This error occurs because a library file is missing, typically the `ld-1sb-x86-64.so.3` library file. If the library file does not exist on your system or, the incorrect version is installed, you must install the correct package. To verify which package the library file belongs to, you can run an rpm query if rpm packages are on your system. For example, type `rpm -qf /lib64/ld-1sb-x86-64.so.3 lsb-4.0-22.3.1.x86_64`. After you install the package that contains the required library file, the License Server should start.

Set up the license file

The license file that you obtain from EMC Licensing contains information about the EMC License Server configuration. EMC Licensing populates the file with this information after you provide the details and requirements for the environment. It is recommended that you do not edit the license file. Doing so can corrupt the file, which makes it unusable by the EMC License Server.

Before you begin

It is recommended that you obtain the license file before you install the EMC License Server. If you install the License Server before obtaining the license file, record the server hostname/IP and port number because you must provide this information to EMC Licensing to populate the file with these details. If the default port 27000 is unavailable, select an open port that can be used for communication between the License Server and the NetWorker software. It is recommended that, at a minimum, you keep ports 27000 and 27001 open.

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 sample.

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-2AHGD62INFO INTERNET=10.31.225.161 27000
VENDOR EMCLM
USE_SERVER
INCREMENT NETWORKER_CAPACITY EMCLM 1.0 permanent 5 \ 
VENDOR_STRING=REV1SION=15;SWID=EMCLM749F8J0ZEC;PLC=NETWV \ dist_info="ACTIVATE TO CHEVRON" ISSUER=EMC ISSUED=10-Dec-2015 \ NOTICE="ACTIVATE TO License Site Number: P1A0NOV20151373569" \ SN=26050002 SIGN="00AF 20A9 22D8 184B B86E 404E 7FB2 C000 EA16 \ 15C2 BADC 0CBF 4197 A12E 3993"
```

2. Create a directory in the location where 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 you install the License Server package.

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

   **Note**
   If you use FTP on Linux, ensure that the file permissions do not change.

4. On the NetWorker server, launch the NMC Administration window.
5. Right-click the server, and then select Properties from the list. The NetWorker Server Properties window appears.
   a. Select the Licensing tab.
   b. In the CLP license text field, click the Browse icon to navigate to the location of the license file.
   c. Select the license file. Text from the license file populates the CLP license text field.
6. Click OK to save the changes, and then reopen the NetWorker Server Properties window.
7. Select the checkbox next to the CLP license text field to validate the license.
   The License Validation dialog opens and displays the status of the validation. When the validation completes without errors, the dialog indicates a status of SUCCESSFUL.
Managing the EMC License Server

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

Review this section for information about the 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.

Managing the License Server (Windows)

You can start and manage the License Server by using the LMTOOLS utility on Windows.

**Procedure**

1. Open the LMTOOLS icon on your desktop.
2. On 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 then 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 then select the license file.
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 **Flexlm Service 1** service is shown as **Running** in the **Windows Task Manager**.

To change the **Flexlm Service 1** Startup type to **Automatic**, in **Windows Task Manager**, click the **Services** tab, and then click **Services**.

**Manage the License Server (Linux)**

On Linux, you can manage and start the License Server with the **lmgrd** command.

**Before you begin**

Before you run the **lmgrd** command, ensure that you complete the following tasks:

- Create the /opt/emc/licenses for the license file and the /opt/emc/emclicenseserver/logs directory for the log files.
- Add the license file that you received from EMC Licensing to the /opt/emc/licenses directory.

**Procedure**

1. To start the License Server, at the command prompt, type **lmgrd**.
   
   ```
   # ./lmgrd -l /opt/emc/emclicenseserver/logs/lmgrd.log -c /opt/emc/licenses
   ```
2. To manage the License Server, type the `lmgrd` command with the following arguments:

```
```

The following table provides information about the arguments that you can use with the `lmgrd` command. The section Lmutil application provides more information on available arguments.

**Table 6 lmgrd arguments**

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>-c license_file_list</code></td>
<td>Directs use of the specified license files.</td>
</tr>
<tr>
<td><code>-l [+]debug_log_path</code></td>
<td>Writes debugging information to file <code>debug_log_path</code>. This option uses the letter <code>l</code>, not the numeral <code>1</code>. Prefixing <code>debug_log_path</code> with the <code>+</code> character appends logging entries. Use the <code>-l</code> option before other options to log all debugging information to <code>debug_log_path</code>.</td>
</tr>
<tr>
<td><code>-2 -p</code></td>
<td>Restricts use of the <code>lmdown</code>, <code>lmreread</code>, <code>lmremove</code>, <code>lmswitch</code>, <code>lmswitchr</code>, and <code>lmnewlog</code> utilities, to a license administrator who is, by default, root. If there is a UNIX group called <code>lmadmin</code>, use is restricted to members only of that group. If root is not a member of this group, root does not have permission to use any of the mentioned utilities. If <code>-2 -p</code> is used when starting <code>lmgrd</code>, no Windows user can shut down the License Server with <code>lmdown</code> or use the <code>lmswitch</code>, <code>lmswitchr</code>, and <code>lmnewlog</code> utilities.</td>
</tr>
<tr>
<td><code>-local</code></td>
<td>Restricts the <code>lmdown</code> and <code>lmreread</code> commands so they can run only from the same system where <code>lmgrd</code> is running.</td>
</tr>
<tr>
<td><code>-x lmdown</code></td>
<td>Disables the <code>lmdown</code> command so no user can run <code>lmdown</code>. If <code>lmdown</code> is disabled, stop <code>lmgrd</code> with the <code>kill pid</code> command, or stop the <code>lmgrd</code> and vendor daemon processes through the Windows Task Manager or Windows service. On Linux, ensure that the kill command does not have a <code>-9</code> argument.</td>
</tr>
<tr>
<td><code>-x lmremove</code></td>
<td>Disables the <code>lmremove</code> command (no user can run <code>lmremove</code>).</td>
</tr>
<tr>
<td><code>-z</code></td>
<td>Run in foreground. The default behavior is to run in the background. If you specify <code>-l debug_log_path</code>, no windows are used. If you do not specify the <code>-l</code> argument, separate windows are used for <code>lmgrd</code> and each vendor daemon.</td>
</tr>
<tr>
<td><code>-v</code></td>
<td>Displays the <code>lmgrd</code> version number and copyright, and then exits.</td>
</tr>
<tr>
<td><code>-help</code></td>
<td>Displays usage information, and then exits.</td>
</tr>
<tr>
<td><code>-reuseaddr</code></td>
<td>Allows the server to explicitly bind to a same port, which remains in TIME_WAIT state after the server restarts or crashes.</td>
</tr>
</tbody>
</table>
Start the License Server without a license file

If you have not obtained a license file, you can 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, from a command prompt, type the following command:
   
   ```
   ./.lmgrd -l
   /opt/emc/emclicenseserver/logs/lmgrd.log -c
   /opt/emc/licenses
   ```

2. To view the log file, type the following command:

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

3. To view what is running as the License Server, type the following command:

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

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

5. To reread the license file, type the following command:

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

Imutil application

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

Imutil application arguments

The following table provides a list of the valid arguments for most `lmutil` utilities.

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>-c</code></td>
<td>Most <code>lmutil</code> utilities need the path to the license file. This is specified with the <code>-c</code> <code>license_file_path</code> argument.</td>
</tr>
<tr>
<td><code>&lt;license_file_path&gt;</code></td>
<td></td>
</tr>
<tr>
<td><code>-help</code></td>
<td>Displays usage information and exits.</td>
</tr>
<tr>
<td><code>-v</code></td>
<td>Displays the version of the utility and exits.</td>
</tr>
<tr>
<td><code>-verbose</code></td>
<td>Displays a longer description for errors that are found.</td>
</tr>
</tbody>
</table>

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

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

The following table provides more information about the most common or useful commands that will help you when you need to troubleshoot License Server issues.

**Table 8 Useful lmutil commands**

<table>
<thead>
<tr>
<th>Command</th>
<th>Purpose</th>
</tr>
</thead>
</table>
| 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. For example: 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, a mistake might have been made when the system information was entered for license activation. |
<p>| lmutil lmreread | Forces the License Server to instruct the EMC vendor daemon to reread the license file for changes. Use this command if new or changed license files are made available. This command allows the License Server and the EMC vendor daemon to continue to run and to update the internal cache of the license features from newly updated license files. For example: lmutil lmreread -vendor EMCLM |
| lmutil lmstat   | Use the this command to determine the running status of the License Server lmgrd. For example: lmutil lmstat -a                                                                                                                                                                                                                     |
| lmutil lmdown   | When you provide the name of the license file that you used to start the License Server, this command gracefully shuts down the License Server and EMC vendor daemon. Specify the license file name to ensure that the proper processes are terminated. You might be asked to confirm the shutdown before proceeding. For example: |</p>
<table>
<thead>
<tr>
<th>Command</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>lmlmutil lmdown -c &lt;license_file_list&gt;</td>
<td>Modify NetWorker server properties in NMC Administration Window</td>
</tr>
</tbody>
</table>

Modify NetWorker server properties in NMC Administration Window

After you install and set up the License Server, you can modify specific fields in the NetWorker Management Console (NMC) so the NetWorker server can detect the applied license file.

Modify the CLP UOM and CLP refresh fields
Use the NMC Administration window to modify the following two fields. To access these attributes, right-click the server in the Administration window, and then select Properties.

- CLP UOM - allows you to allocate more capacity to a specific datazone. Initially, 1 TB is checked out. This amount can be changed if the request is greater than 0.
- CLP refresh - when the CLP refresh checkbox is selected, the NetWorker server prompts search for a new or updated license file. When you select the CLP refresh checkbox, the server requests a license file with capacity entitlement and, where applicable, an update entitlement.

Figure 4 CLP UOM and CLP refresh fields in the NetWorker Server Properties window
Additions to the NSR RAP resource

After you complete the License Server installation and setup, the NSR Resource Access Protocol (RAP) resource is populated with the License Server information. The following figure provides an example of the information.

**Figure 5 NSR RAP resource**

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 from queries of the License Server. These attributes are updated each time that you check out a license. Then Solution ID and CLP SWID are read from a license that is checked out from the License Server and not from the license file on the NetWorker server.
CHAPTER 3

NetWorker Traditional Licensing Model

This chapter includes the following topics:

- Upgrading to NetWorker 9.0 and later and using traditional enabler-based licensing ................................................................. 36
- About the traditional enabler-based licensing model .................................................................................................................. 36
- The evaluation process .................................................................................................................................................................. 38
- Delete an enabler code ................................................................................................................................................................. 40
- License process flow .................................................................................................................................................................... 40
- Permanently license the NetWorker software .............................................................................................................................. 42
- Product licenses ............................................................................................................................................................................. 48
- EMC NetWorker 45-Day evaluation enabler codes ....................................................................................................................... 58
Upgrading to NetWorker 9.0 and later and using traditional enabler-based licensing

When you upgrade to NetWorker 9.0 and later, 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 the traditional enabler-based licensing.

When you upgrade to NetWorker 9.0 and later, 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 the traditional enabler-based licensing.

If you want to continue using traditional enabler-based licensing, you must still install the EMC License Server and apply the update entitlement, which is provided in the license file. Important information for new and upgraded installations of NetWorker and Requirements for new and upgraded installations provide more information.

The evaluation period provides 90 days during which to determine whether you want to use the EMC Licensing Solution or continue using traditional enabler-based licensing. It is recommended that you upgrade to the EMC Licensing Solution because this model provides the most effective management of all NetWorker features and available capacity.

About the traditional enabler-based 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 90 days without an enabler code or license. The evaluation process on page 38 provides information.

To permanently use the NetWorker software with the traditional enabler-based licensing model, you must license the software on the EMC Licensing website and apply the supplied licensing key to the NetWorker server. The license key includes permanent enabler codes and corresponding authorization (auth) codes. Permanently license the NetWorker software on page 42 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 server enabler, called a base enabler. This enabler activates the software and validates the use of a particular bundle of features, such as a specified number of clients and devices. All license keys are entered 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 broad scope of additional features.
You cannot delete the base enabler. You can use the `nsrccap` command-line utility to upgrade or downgrade the base enabler. However, after you upgrade or downgrade a base enabler, you cannot restore 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 to Work Edition, the original 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 entered, the evaluation mode ends. A function that was available during a 90-day evaluation mode must be specifically enabled with either an evaluation or permanent enabler.
- When entering a group of enablers, always type the base enabler last to avoid disabling features that require a license that is separate from the base enabler.

**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](#) provides more information.

**Update enabler**

An update enabler is necessary to move from an existing major NetWorker release to a newer major NetWorker release.

Updating within a minor release, for example, from NetWorker 8.2 SP1 to NetWorker 8.2 SP2, does not require an update enabler.

If an update enabler is required, the NetWorker software automatically adds the required update enabler code to its configuration. The update enabler expires after 90 days. You must contact EMC Licensing within 90 days to permanently authorize the update enabler.

---

**NOTICE**

If the authorization (auth) code for the update enabler code is not applied within 90 days, the NetWorker server software is disabled. Entering an auth code enables the software even if the update enabler code has expired.

---

**View the 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**.
At the command prompt, type `nsrwatch`.

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 expires.

Before the end of the evaluation period, contact Licensing at emc.com, your authorized reseller, or the EMC sales team to 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. Permanently license the NetWorker software on page 42 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
- Evaluating features of an existing NetWorker installation

By the end of the evaluation period, you must permanently license the NetWorker software to continue using modules or features that you have evaluated. Permanently license the NetWorker software on page 42 provides information.

Evaluate 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 90 days without entering any enabler codes or licenses. Obtain evaluation enabler extensions on page 38 provides information about extending the evaluation period for an additional 15 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. Apply an evaluation enabler code on page 39 provides information.

Obtain evaluation enabler extensions

Evaluation enablers are free and must be applied on the NetWorker server. A grace period allows you to extend the evaluation period for an additional 15 days. The grace period cannot be extended or permanently enabled. After the evaluation period and the grace period, the enabler 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.

**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, from the **Enterprise** list, select the name of a NetWorker server.
   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**.

**View the 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**.

The following 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.
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 `nsrccap` command-line utility to upgrade or downgrade the base enabler. However, after you have upgraded or downgraded a base enabler, 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 to Work Edition, the original 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 name of the license that you want to delete, and 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 NetWorker software editions, and for the individual modules and features.

The following figure illustrates the licensing process flow.
During the NetWorker licensing process:

1. EMC verifies the customer purchase order. The SysAdmin downloads the NetWorker software from the EMC Online Support Site.
2. EMC generates a License Authorization Code (LAC) letter and emails it to the customer. SysAdmin installs the NetWorker software in evaluation mode.
3. The SysAdmin receives an email with the LAC and obtains the host ID of the NetWorker server.
4. The SysAdmin applies the host ID and LAC to activate certificates.
5. EMC Licensing generates the certificates and allows you to save a copy of the certificate or sends it as an email to the address of your choice.
6. The SysAdmin receives an email that includes the enablers and authorization codes.
7. The 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 gives you access to your permanent entitlements online. You can also have the certificate sent to an email address of your choice or print and save the certificate in a PDF. The product license activation letter contains the license key (permanent enabler codes and auth codes).

4. Apply the license key on the NetWorker server.

Permanently license the NetWorker software

To license the NetWorker software, perform the following tasks.

Install the NetWorker software for evaluation, if required

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 90 days.

Send the purchase order

Send the NetWorker product customer purchase order list 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 License Authorization Code (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 information:

- A LAC that you use to activate the product license keys. A license key consists of permanent enabler codes and authorization (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 purchased NetWorker products, along with their SKU and revision numbers.
- The end user site name and address, which was specified when the purchase order was entered.
- Contacts for licensing and support information.
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 is installed.

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

The customer, preferably a NetWorker system administrator, should perform the following steps.

**Procedure**

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

**Activate the software license certificate**

The customer, preferably a NetWorker system administrator, should perform the following steps.

If you have the License Authorization Codes (LAC) letter, use the hyperlink in the letter to open the license activation landing page, which automatically populates the LAC number. You can then move directly 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 at:
   
   [http://support.EMC.com](http://support.EMC.com)

   This site requires that you have a registered account. 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 Purchase Order (PO) Number or Sales Order Number, and then click **Search Entitlements**.
6. Choose the entitlements/model numbers that you want to activate.

7. Click **Start Activation Process**.
   
The Activation page displays.

8. You can create a host, or search for an existing host:
   
a. If you are creating a host, in the **Machine Name** field, type the name of the host where you want to activate your licenses.
   
   Host names and locking IDs must be unique for each parent company.
   
b. If you use an existing host or activate an add-on product on an existing host, select an existing host 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 the **Obtain the host ID of the NetWorker server** task.

11. Click **Finish**.

**Product license activation letter**

After the software license certificate is activated in EMC Licensing, EMC emails the product license activation letter by email to the registered user.

The letter contains the following information:

- List of the purchased products, their part numbers, quantities, and version levels.
- Site information
- Parent company information
- The License Authorization Code (LAC)
- NetWorker host ID
- License key, which consists of permanent enablers and authentication (auth) codes.
   
   After you apply the enabler and matching auth code 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](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 License Authorization Code (LAC) number has not yet been entered, activated, and associated with the host ID, before you proceed to the next step, follow the instructions in the email received from EMC Licensing.

4. On the EMC Licensing page, select Download Enabler codes. The Search for Downloading Enabler Codes page appears.

5. In the %HostID field, type the NetWorker server host ID number that you obtained in the Obtain the host ID of the NetWorker server task.

6. Click Search. The Search for Downloading Enabler Codes page appears, which displays the list of hosts that match the search 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 so you can 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, they will be included in future downloads.

Delete all the evaluation enabler codes, if required
If your evaluation requirements extend beyond 30 days, you might have installed some evaluation enablers.

Before the license key is applied on the NetWorker server to permanently license the software, you should delete all the evaluation enablers except the base enabler. The evaluation enabler cannot be permanently authorized.

Procedure
1. Use the nsradmin command to save all of your old enabler codes in a text file.
   For example, from a command prompt, type the following command:
   ```bash
   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 that you want to delete, and then select **Delete**.
   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 and can only be upgraded or downgraded. **Upgrade or downgrade the base enabler, if required** on page 46 provides details.

### Upgrade or downgrade the base enabler, if required

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

While you cannot uninstall the base enabler, you can upgrade or downgrade it.

**Procedure**

1. On the NetWorker server, open a command prompt.
2. At the command prompt, type the following at the command:
   ```shell
   nsr.cap -u base_enabler_code -a authorization_code
   ```

### Apply the license key on the NetWorker server

Apply the license key on the NetWorker server to complete the licensing process. The product license activation email provides license keys, which consists of permanent enablers and authorization codes.

**NOTICE**

If you installed evaluation enablers that are not yet expired, to license the NetWorker software permanently you must apply the license key.

The recommended way to install NetWorker license keys is to automatically import and install them from the license key file, which is provided by EMC Licensing.

If you cannot automatically import and install the license keys, you can manually install them.

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

**Procedure**

1. Log in to the NetWorker server with a user that has administrator access for Windows hosts, or root access for LINUX hosts.
2. Download the license key files.
3. Ensure that no NetWorker backups are running.
4. Run the following `nsradmin` commands from a command prompt, in the directory where the license key 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 license_key_file > output_file
     ```
   - To install the NetWorker license keys on a remote NetWorker server, type:
     ```
     nsradmin -i license_key_file -s server_name > output_file
     ```
   - To install the NetWorker license keys on a NetWorker License Manager system, type:
     ```
     nsradmin -i license_key_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:

   - **Successful entry message:**
     If the first attempt to load a license was successful, an entry similar to the following one 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:**
     ```
     This entry in the output file indicates that the license already exists in NetWorker and you can ignore the message:
     C:\PROGRA~1\Legato\nsr\bin\std>nsradmin -i infile create failed: A license enabler already exists with enabler code xxxxxx-xxxxxx-xxxxxx Current query set updated resource id 25.0.0.20.96.108.23.72.137.69.168.135(3)
     ```

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

     ```
     This entry in the output file indicates that the NetWorker server processes are not running on the system:
     C:\PROGRA~1\Legato\nsr \bin\std>nsradmin -i infile pasb-tomp 39078:nsradmin: RPC error: Program not registered (severity 4, number 15)
     ```

     To work around this issue, start the NetWorker processes on the NetWorker server.
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 90 days without an enabler code or license. A grace period allows you to extend the evaluation period for an additional 10 days for each added feature.

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.

Calculate the required number of licenses

A predetermined methodology can help you calculate the number of required licenses for a given configuration.

**Note**

Some licenses include other licenses, for example, a base license includes a specific number of client licenses, so you must adjust the calculation for these instances.

**Procedure**

1. Start with the NetWorker server (the base license).
2. Determine the NetWorker Server Edition that you want.
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 yet apply to the current NetWorker release.

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

Archive licensing requirements

You must purchase and license the archive feature separately from other NetWorker software components.

Before you license and use the NetWorker archive feature, ensure that you have a device, either a stand-alone device or a device 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 license requirements

Every computer that is 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 than the base enabler supports, their licenses must be purchased separately. A Network Data Management Protocol (NDMP) data server requires a special type of client connection license. Contact your EMC Sales 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 requirements

This section discusses NetWorker cluster licensing requirements.

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 are still honored. Each physical node of the cluster requires a client license. Virtual clients of a cluster do not require their own license.

License requirements for a 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 locally configured storage node, 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 Cluster Integration 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, after a client connection license is allocated, any virtual clients that are running on that physical node can be backed up.

Requirements for 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. Client connection licenses are required for both of the physical nodes.

Scenario Two

For active-passive clusters (a cluster in which one host is active and the other host is used for failover) that are made up of physical hosts, one module license is required per virtual hostname.

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

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.

DDS licensing requirements

To enable Dynamic Drive Sharing (DDS), one license is required for each drive that is to be shared. After 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 requirements

NetWorker clients that use the Network Data Management Protocol (NDMP) interface are licensed differently than standard client connections.

The following requirements apply to NDMP licensing:

- One NDMP Client Connection license is required to protect each NAS system that uses NDMP, EMC Celerra, Network Appliance, and so on.
- Network-attached storage (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.
- A file type device, which can also be used as a bootstrap device is supported for NDMP operations. A DiskBackup license is required for the file type device.

NetWorker cloud licensing

Depending upon the NetWorker edition that was licensed, with a NetWorker cloud backup option license, you can add an unlimited number of cloud backup devices.

NetWorker Data Domain device licensing requirements

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 Storage Capacity Entitlement license. No restriction, other than the overall device limits for the datazone, is placed on the number of NetWorker Data Domain Device resources that can be created. However, you must have sufficient Data Domain Storage Capacity Entitlement licenses for the amount of Data Domain storage that is 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 following command from the Data Domain console:

```
# license show
```

**Note**

For versions 5.2.x and later, the output should read OPENSTORAGE.

If you plan to use clone-controlled replication, add the Replicator license key that Data Domain supplied, by typing the following command from the Data Domain console:

```
# license add license_key
```

### NetWorker module licensing requirements

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 does not apply to the NetWorker capacity licensing model because the NMM software is included in the NetWorker capacity licensing model.

### NMM licensing requirements

The NMM software is also a licensed module. This means that when you use the traditional NetWorker licensing model, the NMM software requires an enabler code and the authorization to enable permanent licensing.

Existing NMM enablers, that is, enablers that previous releases of NMM use, are valid in an NMM environment, which means that new applications, such as Microsoft Exchange 2012 and Microsoft SharePoint 2013 are supported for existing users. Users must upgrade and configure the NMM software. After it is installed, the NMM software supports the backup and recovery of both, the new and older Microsoft server applications.
Additional licensing requirements for NetWorker Module for Microsoft Applications

Additional licensing is required in the following circumstances:

- **Using Data Domain Boost with NMM** — When you use a Data Domain Boost device 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 8.2.x or later software
  - Data Domain Device Type licensing. This licensing 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 on the Data Domain system

- **Using NMM as dedicated storage node** — NMM supports dedicated storage nodes (DSNs). The DSN license is required for any NMM client that is 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 you use the NMM software in a virtual environment, you need one NMM license for each 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, the following NMM licenses will be required:
  - 1 license covers the SQL virtual machines
  - 1 license covers the Exchange virtual machine
  - 1 license covers the SharePoint virtual machines
    This is regardless of the application environment that is being used.

- **Using NMM in a cluster environment** — For cluster environments, you require one NMM license for each active node. There are exceptions this requirement that 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 stand-alone server setup and a cluster setup for both active-passive and active-active clusters.

There are differences between physical and virtual environments.
Table 9 NMM licensing examples

<table>
<thead>
<tr>
<th>Application configuration</th>
<th>Virtual or physical</th>
<th>Number of required NMM licenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stand-alone</td>
<td>Physical</td>
<td>1 license per physical host</td>
</tr>
<tr>
<td></td>
<td>Virtual</td>
<td>1 license per application per physical host</td>
</tr>
<tr>
<td>Active-passive cluster</td>
<td>Physical</td>
<td>1 license per virtual cluster name (default) or 1 license per physical host (can be configured)</td>
</tr>
<tr>
<td></td>
<td>Virtual</td>
<td>1 license per application per physical host</td>
</tr>
<tr>
<td>Active-active application cluster</td>
<td>Physical</td>
<td>1 license per cluster</td>
</tr>
<tr>
<td></td>
<td>Virtual</td>
<td>1 license per application per physical host</td>
</tr>
</tbody>
</table>

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 10 Exchange and SharePoint licensing examples

<table>
<thead>
<tr>
<th>Application configuration</th>
<th>Virtual or physical</th>
<th>Number of required NMM licenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exchange stand-alone</td>
<td>Physical</td>
<td>1 license per physical host</td>
</tr>
<tr>
<td></td>
<td>Virtual</td>
<td>1 license per application per physical host</td>
</tr>
<tr>
<td>Exchange server 2007 CCR</td>
<td>Physical</td>
<td>1 license per Exchange CCR server where backup will take place</td>
</tr>
<tr>
<td></td>
<td>Virtual</td>
<td>1 license per application per physical host</td>
</tr>
<tr>
<td>Exchange server 2010 DAG</td>
<td>Physical</td>
<td>1 license per Exchange server in the DAG where the backup will take place. A user can 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, but the data can originate from other systems in the environment.</td>
</tr>
</tbody>
</table>
Table 10 Exchange and SharePoint licensing examples (continued)

<table>
<thead>
<tr>
<th>Application configuration</th>
<th>Virtual or physical</th>
<th>Number of required NMM licenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Virtual</td>
<td>1 license per application per physical host</td>
<td></td>
</tr>
<tr>
<td>SharePoint</td>
<td>Physical</td>
<td>1 license per server in the SharePoint farm where the backup will take place. For the SharePoint application, different data types reside on and are owned by different servers that make up the farm. To back up 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. You do not need to backup each web front end in the environment. Protect only one web front end to capture a consistent farm backup. For example, if the SharePoint farm has one configuration database server, two content database servers, the search index server and one web front end, the user would require five NMM licenses (one for each of these distinct entities).</td>
</tr>
<tr>
<td>Virtual</td>
<td>1 license per application per physical host</td>
<td></td>
</tr>
</tbody>
</table>

NetWorker storage node licensing requirements

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, on which you can only back up local data is licensed separately as a dedicated storage node.
- Devices, such as files or jukeboxes, regardless of whether they are on the server, storage node, or dedicated storage node, require device enablers.
NOTICE

If the NetWorker storage node software is disabled (if the NetWorker server is disabled or the storage node enabler is expired), you will be unable to recover backed-up data by using the storage node. To recover that data, you must move the remote volume to a local drive that is connected to the server, and perform the recovery from there.

Virtual environments simplified licensing

NetWorker includes a simplified licensing model for virtualized environments. The EMC NetWorker Online Software Compatibility Matrix provides a detailed list of supported server virtualization environments.

Two attribute fields have been added to the General tab of the client resource to identify the client as a virtual client:

- Virtual client — If the client is a virtual client, select Virtual Client.
- Physical host — If the client is a virtual client, in the Physical host field, type the hostname of the primary or initial physical host that is hosting the virtual client.

Virtual Edition Client Connection license

The Virtual Edition Client Connection works with all server virtualization environments that the NetWorker software supports.

The physical host that specify in the Client resource’s Physical host attribute consumes 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 that share 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, you must remove all references to the physical host, by performing one of the following actions:

- Change the virtual client or physical hostname attribute in the Client resources for all virtual clients that reference the physical host.
- Delete 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, SharePoint, Oracle, and SAP) that is 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 you can 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 is consumed per physical host, regardless of the number of virtual clients that are associated with that physical host. The physical host itself requires 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 you upgrade 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 standard client license, select the Virtual client attribute for this client resource, and then 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 that do not use VADP or NetWorker VMware Protection with vProxy appliance (NVP), and that have the NetWorker client installed on each physical host that is 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 is needed per application type, per physical host for VADP-based backups and NVP-based backups.
- One client connection license is needed per physical host for non-VADP-based backups and non-NVP-based backups.
- When using VMotion, each ESX server that hosts the source Virtual Machine or destination Virtual Machine requires a NetWorker Virtual Edition Client license and the appropriate application module license.
- For ESX servers that use VMware Distributed Resource Scheduler (DRS) and VMware HA, a NetWorker Virtual Edition Client license is required for each ESX
server in the ESX cluster farm. The appropriate number of module licenses depends upon the applications running in the farm.

For example, an environment has 60 VMs on 5 ESX servers. Of the 60 VMs, six host SQL Server, one hosts Exchange, and one hosts SharePoint. DRS and VMotion are used and the entire farm needs to be protected. The following licenses are needed:

- Five NetWorker Virtual Edition Client licenses (one for each ESX server in the farm)
- Seven NMM licenses
  - For SQL, a minimum of $(6, 5) = 5$
  - For SharePoint, a minimum of $(1, 5) = 1$
  - For Exchange, a minimum of $(1, 5) = 1$
- 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 you can 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 Exchange servers requires only a single NMM license. An ESX server hosting three 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 that uses a traditional license and a VMware Backup appliance or a proxy appliance requires a disk backup enabler because this solution uses a single AFTD for NetWorker registration with the VMware Backup appliance.

### 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 that are configured to perform backups by using the proxy backup host.

**Using existing licenses to support VADP after upgrade**

When you upgrade to NetWorker 8.1 and later from a release previous to NetWorker 7.6 SP2, the VADP proxy is used instead of VCB. The existing license that the VCB proxy used will automatically migrate 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

The following table 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 the following points:

- These enabler codes 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>
<thead>
<tr>
<th>Product</th>
<th>Model code</th>
<th>Description</th>
<th>Usage</th>
<th>Temporary enabler</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atmos</td>
<td>456-101-709</td>
<td>EMC Atmos on Premise Option 1 TB</td>
<td>Enables backup to an onsite Atmos cloud device up to 1 TB.</td>
<td>ce7650-922a17-bcfb94</td>
</tr>
<tr>
<td></td>
<td>456-101-710</td>
<td>EMC Atmos on Premise Option 5 TB</td>
<td>Enables backup to an onsite Atmos cloud device up to 5 TB.</td>
<td>d16b53-902d12-bff49b</td>
</tr>
<tr>
<td></td>
<td>456-101-711</td>
<td>EMC Atmos on Premise Option 10 TB</td>
<td>Enables backup to an onsite Atmos cloud device up to 10 TB.</td>
<td>59e3db-19a59a-374d23</td>
</tr>
<tr>
<td></td>
<td>456-101-712</td>
<td>EMC Atmos on Premise Option 25 TB</td>
<td>Enables backup to an onsite Atmos cloud device up to 25 TB.</td>
<td>60d8e2-259ca1-0e4c2a</td>
</tr>
<tr>
<td></td>
<td>456-101-713</td>
<td>EMC Atmos on Premise Option 50 TB</td>
<td>Enables backup to an onsite Atmos cloud device up to 50 TB.</td>
<td>e8506a-ac1429-86c5b2</td>
</tr>
<tr>
<td></td>
<td>456-101-714</td>
<td>EMC Atmos on Premise Option Tier 6</td>
<td>Enables backup to an onsite Atmos cloud device up to 100 TB.</td>
<td>f9437b-b4053f-9d8043</td>
</tr>
<tr>
<td>Archive</td>
<td>456-005-006</td>
<td>NetWorker Archive Module Windows</td>
<td>Enables file-level archiving on supported Windows platforms in the datazone. Available for Network and Power Editions.</td>
<td>3b26bd-fcc784-9ca901 Licensed one per backup server.</td>
</tr>
<tr>
<td></td>
<td>456-004-622</td>
<td>NetWorker Archive Module UNIX</td>
<td>Enables file-level archiving on supported UNIX platforms in the datazone.</td>
<td>9c991e-5d58e1-2207e6 Licensed one per backup server.</td>
</tr>
<tr>
<td>Product</td>
<td>Model code</td>
<td>Description</td>
<td>Usage</td>
<td>Temporary enabler</td>
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</tr>
<tr>
<td></td>
<td>456-004-960</td>
<td>NetWorker Archive Module NetWare</td>
<td>Enables file-level archiving on supported NetWare platforms in the datazone. Available for Network and Power Editions.</td>
<td>160698-dbe25e-cfe75c Licensed one per backup server.</td>
</tr>
<tr>
<td></td>
<td>456-005-476</td>
<td>NetWorker Archive Module Linux</td>
<td>Enables file-level archiving on supported Linux platforms in the datazone. Available for Network and Power Editions.</td>
<td>9c991e-5d58f0-0ee4e6 Licensed one per backup server.</td>
</tr>
<tr>
<td>Data Deduplication with Avamar</td>
<td>456-101-595</td>
<td>NetWorker Client for Data Deduplication Quantity 25</td>
<td>Enables deduplication backups of physical clients.</td>
<td>db5f5d-872721-95e9a1</td>
</tr>
<tr>
<td></td>
<td>456-101-596</td>
<td>NetWorker Client for Data Deduplication Quantity 100</td>
<td>Enables deduplication backups of physical clients.</td>
<td>382aba-9fc479-80cd02</td>
</tr>
<tr>
<td></td>
<td>456-101-597</td>
<td>NetWorker Virtual Edition Client for Data Deduplication</td>
<td>Enables deduplication backups of virtual clients. Licenses one client per ESX server.</td>
<td>9da81f-6159e0-decbe7</td>
</tr>
<tr>
<td></td>
<td>456-100-484</td>
<td>NetWorker Agent for Data Deduplication</td>
<td>Enables a deduplication metadata backup to an advanced file type device.</td>
<td>a29324-605ee7-c7d1e8</td>
</tr>
<tr>
<td>Data Deduplication with Data Domain</td>
<td>456-102-513</td>
<td>NetWorker Data Domain Device Type</td>
<td>Enables the NetWorker Data Domain Device Type that features DD Boost. Capacity enablement is not required for evaluation.</td>
<td>2126a3-6add66-a1eb6b</td>
</tr>
<tr>
<td>DiskBackup Option</td>
<td>456-100-697</td>
<td>NetWorker DiskBackup Option Tier 1 1 TB</td>
<td>Enables up to 1 TB of backup data to be written by a storage node to a disk file within a file system.</td>
<td>8abb0c-4c76d0-52e6d0</td>
</tr>
<tr>
<td></td>
<td>456-100-698</td>
<td>NetWorker DiskBackup Option Tier 2 5 TB</td>
<td>Enables up to 5 TB of backup data to be written by a storage node to a disk file within a file system.</td>
<td>c27344-873c07-488988</td>
</tr>
<tr>
<td></td>
<td>456-100-699</td>
<td>NetWorker DiskBackup Option Tier 3 10 TB</td>
<td>Enables up to 10 TB of backup data to be written by a storage node to a disk file within a file system.</td>
<td>ca7b4c-8e340f-509190</td>
</tr>
<tr>
<td></td>
<td>456-100-700</td>
<td>NetWorker DiskBackup Option Tier 4 25 TB</td>
<td>Enables up to 25 TB of backup data to be written</td>
<td>f24374-b10c37-78b9b8</td>
</tr>
<tr>
<td>Product</td>
<td>Model code</td>
<td>Description</td>
<td>Usage</td>
<td>Temporary enabler</td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>by a storage node to a disk file within a file system.</td>
<td>fa4b7c-b8043f-80c140</td>
</tr>
<tr>
<td>456-100-701</td>
<td>NetWorker DiskBackup Option Tier 5 50 TB</td>
<td>Enables up to 50 TB of backup data to be written by a storage node to a disk file within a file system.</td>
<td>da5123-622613-815da0</td>
<td></td>
</tr>
<tr>
<td>Virtual Tape Library (VTL)</td>
<td>450-000-598</td>
<td>NetWorker 3rd party VTL 10 TB Capacity</td>
<td>For non-EMC VTLs.</td>
<td>838e7a-b9717f-2790c9</td>
</tr>
<tr>
<td>450-000-599</td>
<td>NetWorker Bundle for Data Domain 10 TB Capacity</td>
<td>Enables the configuration of Data Domain storage as a VTL.</td>
<td>Note</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Do not use this enabler when you configure the Data Domain appliance by using CIFS/NFS.</td>
<td></td>
</tr>
<tr>
<td>456-100-704</td>
<td>NetWorker Virtual Tape Library 5 TB Capacity Add-on</td>
<td>Increases 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.</td>
<td>e05462-a61e25-66a7aa</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Note</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Use this license only to add incremental capacity above the 10 TB capacity that is included in 457-100-038 and 457-100-013.</td>
<td></td>
</tr>
<tr>
<td>456-100-042</td>
<td>NetWorker Virtual Tape Library 10 TB Capacity Add-on</td>
<td>Increases 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.</td>
<td>88bc0a-4176cd-0e4fd2</td>
<td></td>
</tr>
<tr>
<td>Product</td>
<td>Model code</td>
<td>Description</td>
<td>Usage</td>
<td>Temporary enabler</td>
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<td>Note</td>
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<td></td>
<td></td>
<td>Use this license only to add incremental capacity above the 10 TB capacity that is included in 457-100-038 and 457-100-013.</td>
</tr>
<tr>
<td></td>
<td>456-100-043</td>
<td>NetWorker Virtual Tape Library 25 TB Capacity Add-on</td>
<td>Increases NetWorker VTL capacity by 25 TB. Adding this license to the base NetWorker EMC Disk Library 10 TB Capacity Frame license increases support for VTL capacity up to 35 TB.</td>
<td>013783-ddff46-87c84b</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Note</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Use this license only to add incremental capacity above the 10 TB capacity that is included in 457-100-038 and 457-100-013.</td>
</tr>
<tr>
<td></td>
<td>456-100-705</td>
<td>NetWorker Virtual Tape Library 50 TB Capacity Add-on</td>
<td>Increases NetWorker VTL capacity by 50 TB. Adding this license to the base NetWorker EMC Disk Library 10 TB Capacity Frame license increases support for VTL capacity up to 60 TB.</td>
<td>4efad0-23a893-d41514</td>
</tr>
<tr>
<td>EMC Disk Library (EDL)</td>
<td>The EDL appliance is no longer available.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Documentum</td>
<td>The NetWorker Module for Documentum (NMD) software is no longer available.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dynamic Drive Sharing (DDS)</td>
<td>456-004-678</td>
<td>DDS for Windows, UNIX, and Linux (Universal)</td>
<td>Enables the NetWorker software to recognize shared drives. DDS enables the NetWorker software to ignore shared drives that are in use and to route</td>
<td>50d5d2-38ac8a-ebc31a</td>
</tr>
<tr>
<td>Product</td>
<td>Model code</td>
<td>Description</td>
<td>Usage</td>
<td>Temporary enabler</td>
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</tr>
<tr>
<td>NetWorker Modules</td>
<td>456-100-595</td>
<td>NetWorker Module for Microsoft SQL Server Windows Client</td>
<td>Enables protection of Microsoft SQL Server databases on supported Windows platforms.</td>
<td>203ba2-eadc6b-11516a</td>
</tr>
<tr>
<td></td>
<td>456-004-725</td>
<td>NetWorker Module for SAP on Oracle UNIX Client</td>
<td>Enables protection of SAP on Oracle databases on supported UNIX platforms.</td>
<td>79feb-3385a4-050bc3</td>
</tr>
<tr>
<td></td>
<td>456-004-726</td>
<td>NetWorker Module for SAP on Oracle Linux Client</td>
<td>Enables protection of SAP on Oracle databases on supported Linux platforms.</td>
<td>d25754-9a2e0a-74ba98</td>
</tr>
<tr>
<td></td>
<td>456-005-031</td>
<td>NetWorker Module for SAP on Oracle Windows Client</td>
<td>Enables protection of SAP on Oracle databases on supported Windows platforms.</td>
<td>9e8520-6e5aec-55a6e4</td>
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<td>456-101-780</td>
<td>NetWorker Module for Databases and Applications UNIX Client</td>
<td>Enables backups of Oracle, DB2, Informix, or Lotus Notes applications on UNIX operating systems.</td>
<td>5edbe0-aa9aa7-03f924</td>
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<td>456-101-779</td>
<td>NetWorker Module for Databases and Applications Windows, Linux Client</td>
<td>Enables backups of Oracle, DB2, Informix, or Lotus Notes applications on Windows and Linux operating systems.</td>
<td>4ed5d0-9aaa97-33f014</td>
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<td>456-100-633</td>
<td>NetWorker Module for Microsoft Applications (NMM)</td>
<td>Enables VSS backups of SQL, Exchange, SharePoint, Hyper-V, or DPM applications.</td>
<td>63fee5-099faa-6a9c29</td>
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<td>456-100-632</td>
<td>NetWorker Module for Meditech License</td>
<td>Enables Meditech backups with EMC CLARiiion and EMC Symmetrix storage systems.</td>
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<td>NetWorker Modules</td>
<td>456-100-595</td>
<td>NetWorker Module for Microsoft SQL Server Windows Client</td>
<td>Enables backups of MS SQL databases on supported Windows platforms.</td>
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<td>456-004-563</td>
<td>NetWorker Module for Oracle on OpenVMS Alpha Client Tier 1</td>
<td>Enables backups of Oracle on a supported OpenVMS Alpha Workgroup Server.</td>
<td>7f8401-617bc1-566bc5</td>
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<td>456-004-564</td>
<td>NetWorker Module for Oracle on OpenVMS Alpha Client Tier 2</td>
<td>Enables backups of Oracle on a supported OpenVMS Alpha Departmental Server.</td>
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<td>NetWorker Module for Oracle on OpenVMS Alpha Client Tier 3</td>
<td>456-004-565</td>
<td>Enables backups of Oracle on a supported OpenVMS Alpha Enterprise Server.</td>
<td>79fefb-1f85bb-ac61c3</td>
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<td>NetWorker Module for Oracle on OpenVMS Integrity Server SGL Client</td>
<td>456-010-506</td>
<td>Enables backups of Oracle databases on supported OpenVMS Integrity platforms.</td>
<td>1c199e-fcd864-f18b66</td>
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<td>NetWorker Module for SNMP</td>
<td>456-004-617</td>
<td>Enables backups of SNMP on supported UNIX and Windows clients.</td>
<td>3fc4c1-01bb87-95b405</td>
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<tr>
<td>NetWorker Virtual Tape Library 10 TB Capacity Add-on</td>
<td>456-100-042</td>
<td>Enables the increase of NetWorker VTL Capacity by 10 TB in both 457-100-038 and 457-100-013.</td>
<td>Temporary enablers are not required. Contact EMC Licensing to purchase appropriate entitlement licenses.</td>
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<tr>
<td>NetWorker OpenVMS Client for Alpha Tier 1 Quantity 5</td>
<td>456-004-537</td>
<td>Enables NetWorker client functionality on five supported OpenVMS Alpha Workgroup Servers.</td>
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<td>NetWorker OpenVMS Client for Alpha Tier 2 Quantity 1</td>
<td>456-004-539</td>
<td>Enables NetWorker client functionality on one supported OpenVMS Alpha Departmental Server.</td>
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<td>NetWorker OpenVMS Client for Alpha Tier 3 Quantity 1</td>
<td>456-004-542</td>
<td>Enables NetWorker client functionality on one supported OpenVMS Alpha Enterprise Server.</td>
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<tr>
<td>NetWorker Client for OpenVMS on Integrity Server Single Pro</td>
<td>456-010-504</td>
<td>Enables NetWorker client functionality on a supported OpenVMS HP Integrity (Itanium) Server. Order one license for each CPU in the Integrity Server. One license per CPU/socket; not per core.</td>
<td>6dedef-3189b7-a00d37</td>
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<td>NetWorker OpenVMS Client for VAX Tier 1</td>
<td>457-000-128</td>
<td>Enables NetWorker client functionality on one supported OpenVMS VAX Workgroup Server.</td>
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<td>457-000-131</td>
<td>NetWorker OpenVMS Client for VAX Tier 2</td>
<td>Enables NetWorker client functionality on one supported OpenVMS VAX Departmental Server.</td>
<td>NA</td>
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<td>457-000-134</td>
<td>NetWorker OpenVMS Client for VAX Tier 3</td>
<td>Enables NetWorker client functionality on one supported OpenVMS VAX Enterprise Server.</td>
<td>NA</td>
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</table>
| 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. It is compatible with Network and Power Editions. It provides full storage node functionality. Dedicated storage node functionality unavailable. | 121794-c0ee52-cbec58 |
|         | 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. | 838005-537fcd-5a1cc9 |

**Note**  
This license supports only Alpha hardware.
<table>
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<tr>
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</table>
| 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  
- 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 unavailable. | Note  
This license supports only Alpha hardware. | 828704-507ec2-5b1dc8 |
| 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: | Note  
This license supports only Alpha hardware. | 010683-d1fd43-d49b4b |
<table>
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<tr>
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<th>Description</th>
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<tr>
<td>NetWorker Snapshot Management</td>
<td>456-105-048</td>
<td>NetWorker Snapshot Management 1TB</td>
<td>Enables snapshot backups of up to 1 TB.</td>
<td>6ef5f0-788ab3-f1cf34</td>
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<td>456-105-049</td>
<td>NetWorker Snapshot Management 2TB</td>
<td>Enables snapshot backups of up to 2 TB.</td>
<td>160d98-93e25b-99275c</td>
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<td>456-105-050</td>
<td>NetWorker Snapshot Management 5TB</td>
<td>Enables snapshot backups of up to 5 TB.</td>
<td>1e05a0-aada63-a11f64</td>
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<td>456-105-051</td>
<td>NetWorker Snapshot Management 10TB</td>
<td>Enables snapshot backups of up to 10TB.</td>
<td>061d88-85f24b-89374c</td>
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<td>456-105-052</td>
<td>NetWorker Snapshot Management 25TB</td>
<td>Enables snapshot backups of up to 25 TB.</td>
<td>0e1590-9cea53-912f54</td>
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<tr>
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<td>456-105-053</td>
<td>NetWorker Snapshot Management 50TB</td>
<td>Enables snapshot backups of up to 50 TB.</td>
<td>362db8-b7c27b-b9077c</td>
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<td>456-105-054</td>
<td>NetWorker Snapshot Management 100TB</td>
<td>Enables snapshot backups of up to 100 TB.</td>
<td>3e25c0-4eba83-c1ff04</td>
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<tr>
<td>SnapImage Module</td>
<td>457-000-173</td>
<td>NetWorker SnapImage for Windows and Solaris</td>
<td>Enables high speed backups of large quantities of smaller files on supported Microsoft Windows and Solaris operating systems. The SnapImage bundle consists of:</td>
<td>Contact EMC Sales</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• 1 NDMP Client Connection Tier 1 license</td>
<td></td>
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**Note**
This item supports Integrity hardware only.
<table>
<thead>
<tr>
<th>Product</th>
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<tr>
<td></td>
<td></td>
<td></td>
<td>- SnapImage Module Client license</td>
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<td></td>
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<td><strong>Note</strong></td>
<td>In NetWorker 8.1 on Windows, the block based backup feature provides more functionality than the SnapImage Module product.</td>
</tr>
<tr>
<td></td>
<td>456-004-617</td>
<td>NetWorker SNMP Module</td>
<td>Enables SNMP traps and system management framework on Windows and UNIX NetWorker servers. This module is:</td>
<td>a7ac29-6953ef-7c6ced</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Available for Network and Power Editions.</td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Licensed one per backup server.</td>
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<td>456-005-474</td>
<td>NetWorker Network Edition Storage Node for Linux</td>
<td>Enables a storage node for an environment with NetWorker Server Network Edition, which will be installed on a Linux host.</td>
<td>bdba3f-95391f-6f9d87 bdba3f-95391f-6f9d87</td>
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<td>456-010-511</td>
<td>NetWorker Network Edition Storage Node for Solaris</td>
<td>Enables a storage node for an environment with NetWorker Server Network Edition, which will be installed on a Solaris host.</td>
<td>1d1a9f-f5d97a-e8ee67</td>
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<td>456-004-659</td>
<td>NetWorker Network Edition Storage Node for UNIX</td>
<td>Enables a storage node for an environment with NetWorker Server Network Edition, which will be installed on a UNIX host.</td>
<td>9c991e-4a58f9-696ae6</td>
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<td>456-001-665</td>
<td>NetWorker Network Edition Storage Node for UNIX Quantity 5</td>
<td>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.</td>
<td>9d9af-7559fa-686fe7</td>
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<tr>
<td>Product</td>
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<td>Storage Node</td>
<td>456-004-660</td>
<td>NetWorker Network Edition</td>
<td>Enables a storage node for an environment with</td>
<td>6aefec-389618-ddbd30</td>
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<td>Storage Node for Windows</td>
<td>NetWorker Server Network Edition, which will be installed on a Windows host.</td>
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<td>456-005-475</td>
<td>NetWorker Power Edition</td>
<td>Enables a storage node for an environment with</td>
<td>a0a522-765cf8-0a78ea</td>
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<td>Storage Node for Linux</td>
<td>NetWorker Server Power Edition, which will be installed on a Linux host.</td>
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<td>456-010-512</td>
<td>NetWorker Power Edition</td>
<td>Enables a storage node for an environment with</td>
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<td>Storage Node for UNIX</td>
<td>NetWorker Server Power Edition, which will be installed on a UNIX host.</td>
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<td>456-005-123</td>
<td>NetWorker Power Edition</td>
<td>Enables a storage node for an environment with</td>
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<td>Storage Node for UNIX</td>
<td>NetWorker Server Power Edition, which will be installed on a UNIX host.</td>
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<td>456-005-124</td>
<td>NetWorker Power Edition</td>
<td>Enables a storage node for an environment with</td>
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<td>Storage Node for Windows</td>
<td>NetWorker Server Power Edition, which will be installed on a Windows host.</td>
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<td>456-101-768</td>
<td>NetWorker Network Edition</td>
<td>Enables a NetWorker Network Edition Storage Node for UNIX.</td>
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<td>Storage Node for UNIX</td>
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<td>456-101-767</td>
<td>NetWorker Network Edition</td>
<td>Enables a NetWorker Network Edition Storage Node for Linux or UNIX.</td>
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<td>Storage Node for Windows/</td>
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<td>Storage Node for UNIX</td>
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<td>Autochanger Modules</td>
<td>456-004-603</td>
<td>NetWorker Autochanger</td>
<td>Enables an autochanger that has 9 slots or fewer.</td>
<td>78f3fa-3284a0-12d6c2</td>
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<td></td>
<td>Software Module 1-9 slots</td>
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<td></td>
<td>456-004-606</td>
<td>NetWorker Autochanger</td>
<td>Enables an autochanger that has 16 slots or fewer.</td>
<td>0f0691-c2eb59-b89e55</td>
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<td>Software Module 1-16 slots</td>
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<td>456-001-624</td>
<td>NetWorker Autochanger</td>
<td>Enables an autochanger that has 20 slots or fewer.</td>
<td>7bf6fd-2a87de-3318c1</td>
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<td>Software Module 1-20 slots</td>
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<td>456-004-602</td>
<td>NetWorker Autochanger</td>
<td>Enables an autochanger that has 32 slots or fewer.</td>
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<td>Software Module 1-32 slots</td>
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<td>456-001-633</td>
<td>NetWorker Autochanger</td>
<td>Enables an autochanger that has 40 slots or fewer.</td>
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<td>Software Module 1-40 slots</td>
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<td>NetWorker Autochanger Software Module 1-64 slots</td>
<td>Enables an autochanger that has 64 slots or fewer.</td>
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<td>456-004-635</td>
<td>NetWorker Autochanger Software Module 1-128 slots</td>
<td>Enables an autochanger that has 128 slots or fewer.</td>
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<td>456-004-636</td>
<td>NetWorker Autochanger Software Module 1-256 slots</td>
<td>Enables an autochanger that has 256 slots or fewer.</td>
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<td>456-004-762</td>
<td>NetWorker Autochanger Software Module 1-400 slots</td>
<td>Enables an autochanger that has 400 slots or fewer.</td>
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<td>456-004-763</td>
<td>NetWorker Autochanger Software Module 1-512 slots</td>
<td>Enables an autochanger that has 512 slots or fewer.</td>
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<tr>
<td>Autochanger Modules</td>
<td>456-004-764</td>
<td>NetWorker Autochanger Software Module 1-700 slots</td>
<td>Enables an autochanger that has 700 slots or fewer.</td>
<td>1d14e0-1fd965-193167</td>
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<td>456-004-638</td>
<td>NetWorker Autochanger Software Module Unlimited slots</td>
<td>Enables an autochanger that has any number of slots.</td>
<td>da5123-622613-815da0</td>
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<tr>
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<td>456-001-624</td>
<td>NetWorker Workgroup Edition Autochanger Software Module 1-20 slots</td>
<td>Enables an autochanger that has 20 slots or fewer.</td>
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<td>456-004-602</td>
<td>NetWorker Workgroup Edition Autochanger Software Module 1-32 slots</td>
<td>Enables an autochanger that has 32 slots or fewer.</td>
<td>1a0d9c-fde653-f87960</td>
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<tr>
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<td>456-004-603</td>
<td>NetWorker Workgroup Edition Autochanger Software Module 1-9 slots</td>
<td>Enables an autochanger that has 9 slots or fewer.</td>
<td>78f3fa-3284a0-10d6c2</td>
</tr>
<tr>
<td></td>
<td>456-004-606</td>
<td>NetWorker Workgroup Edition Autochanger Software Module 1-16 slots</td>
<td>Enables an autochanger that has 16 slots or fewer.</td>
<td>0f0691-c2eb59-b89e55</td>
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<tr>
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<td>457-100-004</td>
<td>NetWorker Autochanger Slot Upgrade from 1-9 to 1-16 slots</td>
<td>Upgrades an existing 1-9 slot autochanger license to support 16 slots.</td>
<td>8e8510-416ad6-4acad4</td>
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<td>457-100-005</td>
<td>NetWorker Autochanger Slot Upgrade from 1-16 to 1-20 slots</td>
<td>Upgrades an existing 1-16 slot autochanger license to support 20 slots.</td>
<td>6de4ef-2489b7-adaa37</td>
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<td>457-100-006</td>
<td>NetWorker Autochanger Slot Upgrade from 1-20 to 1-32 slots</td>
<td>Upgrades an existing 1-20 slot autochanger license to support 32 slots.</td>
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<tr>
<td>Product</td>
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<td>Description</td>
<td>Usage</td>
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<td>457-100-007</td>
<td>NetWorker Autochanger Slot Upgrade from 1-32 to 1-40 slots</td>
<td>Upgrades an existing 1-32 slot autochanger license to support 40 slots.</td>
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<td>457-100-008</td>
<td>NetWorker Autochanger Slot Upgrade from 1-40 to 1-64 slots</td>
<td>Upgrades an existing 1-40 slot autochanger license to support 64 slots.</td>
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<td>457-100-009</td>
<td>NetWorker Autochanger Slot Upgrade from 1-64 to 1-128 slots</td>
<td>Upgrades an existing 1-64 slot autochanger license to support 128 slots.</td>
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<td>457-100-010</td>
<td>NetWorker Autochanger Slot Upgrade from 1-128 to 1-256 slots</td>
<td>Upgrades an existing 1-128 slot autochanger license to support 256 slots.</td>
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<td>457-100-075</td>
<td>Autochanger Slot Upgrade from 1-256 to 1-400 slots</td>
<td>Upgrades an existing 1-256 slot autochanger license to support 400 slots.</td>
<td>020985-55fe42-d65148</td>
</tr>
<tr>
<td></td>
<td>457-100-076</td>
<td>Autochanger Slot Upgrade from 1-400 to 1-512 slots</td>
<td>Upgrades an existing 1-400 slot autochanger license to support 512 slots.</td>
<td>090089-ccf54b-d14753</td>
</tr>
<tr>
<td></td>
<td>456-004-638</td>
<td>NetWorker Autochanger Software Module Unlimited slots</td>
<td>Enables the configuration of Data Domain storage as a VTL.</td>
<td>da5123-622613-815da0</td>
</tr>
<tr>
<td>Note</td>
<td>Do not use this enabler when the Data Domain appliance is configured using CIFS/NFS.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>456-100-676</td>
<td>NetWorker Virtual Edition Client Connection</td>
<td>Enables the backup of all virtual clients of a physical host with the NetWorker software.</td>
<td>8bba0d-4f77d0-1109d1</td>
</tr>
<tr>
<td>Note</td>
<td>Supported on all operating systems.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>456-100-691</td>
<td>NetWorker Client Quantity 5</td>
<td>Enables the backup of 5 hosts with the NetWorker software.</td>
<td>979b19-5f93d3-a0119f</td>
</tr>
<tr>
<td>Note</td>
<td>Supported on all operating systems.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Product</td>
<td>Model code</td>
<td>Description</td>
<td>Usage</td>
<td>Temporary enabler</td>
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<tr>
<td>456-100-692</td>
<td>NetWorker Client Quantity 25</td>
<td>Enables the backup of 25 hosts with the NetWorker software. Note: Supported on all operating systems.</td>
<td>db5f5d-872721-95e9a1</td>
<td></td>
</tr>
<tr>
<td>456-100-693</td>
<td>NetWorker Client Quantity 100</td>
<td>Enables the backup of 100 hosts with the NetWorker software. Note: Supported on all operating systems.</td>
<td>382aba-9fc479-80cd02</td>
<td></td>
</tr>
<tr>
<td>NetWorker NDMP Client Connection</td>
<td>456-004-689</td>
<td>NetWorker NDMP Client Connection Tier 1</td>
<td>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.</td>
<td>81ac03-457dd9-45f5cb</td>
</tr>
<tr>
<td>456-004-690</td>
<td>NetWorker NDMP Client Connection Tier 2</td>
<td>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.</td>
<td>56f9d8-18a2a95b6c1c</td>
<td></td>
</tr>
<tr>
<td>456-004-691</td>
<td>NetWorker NDMP Client Connection Tier 3</td>
<td>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.</td>
<td>d07f52-922c27-d1e39a</td>
<td></td>
</tr>
<tr>
<td>456-004-692</td>
<td>NetWorker NDMP Client Connection Tier 4</td>
<td>Enables the backup of a Tier 4 EMC Celerra or non-EMC</td>
<td>50ffd2-12aca7-51621a</td>
<td></td>
</tr>
<tr>
<td>Product</td>
<td>Model code</td>
<td>Description</td>
<td>Usage</td>
<td>Temporary enabler</td>
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</tr>
<tr>
<td>NetWorker Dedicated Storage Node</td>
<td>456-010-513</td>
<td>NetWorker Network Edition Dedicated Storage Node for Solaris Quantity 7</td>
<td>Enables a dedicated storage node for an environment with NetWorker Server Network Edition, which will be installed on a Solaris host.</td>
<td>46c3c8-1cb296-d87a0c</td>
</tr>
<tr>
<td></td>
<td>456-004-826</td>
<td>NetWorker Network Edition Dedicated Storage Node for UNIX Quantity 7</td>
<td>Enables a dedicated storage node for an environment with NetWorker Server with Network Edition, which will be installed on a UNIX host.</td>
<td>c54247-9d3117-5ff88f 888d0a-6574e2-1ab0d2 080d8a-e5f462-9a2a52</td>
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<tr>
<td></td>
<td>456-004-824</td>
<td>NetWorker Network Edition Dedicated Storage Node for Windows Quantity 7</td>
<td>Enables a dedicated storage node for an environment with NetWorker Server with Network Edition, which will be installed on a Windows host.</td>
<td>ec776e-ba082c-66d9b6 4ad1cc-23b6a0-c4f110 cb564d-a0373f-457391</td>
</tr>
<tr>
<td>NetWorker Dedicated Storage Node</td>
<td>456-010-514</td>
<td>NetWorker Power Edition Dedicated Storage Node for Solaris Quantity 7</td>
<td>Enables a dedicated storage node for an environment with NetWorker Server with Power Edition, which will be installed on a Solaris host.</td>
<td>c844da-9e3410-5af592</td>
</tr>
<tr>
<td></td>
<td>456-004-827</td>
<td>NetWorker Power Edition Dedicated Storage Node for UNIX Quantity 7</td>
<td>Enables a dedicated storage node for an environment with NetWorker Server with Power Edition, which will be installed on a UNIX host.</td>
<td>c74c49-9f3311-5ff68d 898e0b-6275e1-1bb6d3 090e8b-e2f561-9b3753</td>
</tr>
<tr>
<td></td>
<td>456-004-825</td>
<td>NetWorker Power Edition Dedicated Storage Node for Windows Quantity 7</td>
<td>Enables a dedicated storage node for an environment with NetWorker Server with Power Edition, which will be installed on a Windows host.</td>
<td>e8736a-be1430-7addb2 4bd6cd-20b7bf-c5f011 d4af56-b92036-4e789e</td>
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<tr>
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<td>456-004-828</td>
<td>NetWorker Network Edition Dedicated Storage Node for Linux Quantity 7</td>
<td>Enables a dedicated storage node for an environment with NetWorker Server with Network Edition, which will be installed on a Linux host.</td>
<td>51c8d3-3aad89-95c31b 8a8f0c-6376e0-04b9d0 0a0f8c-e3f660-8438506</td>
</tr>
<tr>
<td>Product</td>
<td>Model code</td>
<td>Description</td>
<td>Usage</td>
<td>Temporary enabler</td>
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<td>----------------------------------------------------------------------</td>
<td>----------------------------------------</td>
</tr>
<tr>
<td>NetWorker Power Edition</td>
<td>456-004-829</td>
<td>NetWorker Power Edition Dedicated Storage Node for Linux Quantity 7</td>
<td>Enables a dedicated storage node for an environment with NetWorker Server with Power Edition, which will be installed on a Linux host.</td>
<td>171c99-f4e343-df0e5d8b880d-60777f-05b8d10b088d-e0f77f-8539515</td>
</tr>
<tr>
<td>NetWorker Server</td>
<td>456-005-471</td>
<td>NetWorker Server Workgroup Edition Linux Edition</td>
<td>Enables a NetWorker Server with Workgroup Edition, which will be installed on a Linux host.</td>
<td>969518-5162c6-2dfddc</td>
</tr>
<tr>
<td>NetWorker Server</td>
<td>456-004-987</td>
<td>NetWorker Server Workgroup Edition Windows Edition</td>
<td>Enables a NetWorker Server with Workgroup Edition, which will be installed on a Windows host.</td>
<td>51bd3d-10ad99-cfcb1b</td>
</tr>
<tr>
<td>NetWorker Server</td>
<td>456-101-240</td>
<td>NetWorker Server Workgroup Edition Linux Edition</td>
<td>Enables a NetWorker Server with Workgroup Edition, which will be installed on a Linux host.</td>
<td>9c9f1e-5558fc-0e73e6</td>
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<tr>
<td>Product</td>
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<td>Description</td>
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<tr>
<td></td>
<td>456-005-473</td>
<td>NetWorker Server Power Edition Linux Edition</td>
<td>Enables a NetWorker Server with Power Edition, which will be installed on a Linux host.</td>
<td>cb544d-84370d-7d8791</td>
</tr>
<tr>
<td></td>
<td>456-005-139</td>
<td>NetWorker Server Power Edition Windows Edition</td>
<td>Enables a NetWorker Server with Power Edition, which will be installed on a Windows host.</td>
<td>f16073-be0d24-a640bb</td>
</tr>
</tbody>
</table>
  - Support for cluster technology  
  - Support for more devices  
  - Twice the number of streams compared to the Network Edition | f16073-be0d24-a640bb                |
<p>| <strong>NetWorker VMware Protection</strong>      | 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 VMware 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 VMware 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 VMware Protection Tier 4, qty 1             | Enables VMware protection capabilities for 1 ESX server physical CPU. Tier 4 for 26-50 CPUs. | 4cd3ce-0ba891-d7e916                |</p>
<table>
<thead>
<tr>
<th>Product</th>
<th>Model code</th>
<th>Description</th>
<th>Usage</th>
<th>Temporary enabler</th>
</tr>
</thead>
<tbody>
<tr>
<td>456-105-042</td>
<td></td>
<td>NetWorker WMware Protection Tier 5, qty 1</td>
<td>Enables VMware protection capabilities for 1 ESX server physical CPU. Tier 5 for 50+ CPUs.</td>
<td>74ebf6-3280b9-ffc13e</td>
</tr>
<tr>
<td>456-105-043</td>
<td></td>
<td>NetWorker WMware Protection Tier 1, qty 5</td>
<td>Enables VMware protection capabilities for 1 ESX server physical CPU. Tier 1 for 1-5 CPUs.</td>
<td>JTBLCNCY-TCETMT7NY-CAC5RNX</td>
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<td></td>
<td>W4M3BB78-5RPB1V9J-656FACVC</td>
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<td></td>
<td></td>
<td>WCN37BPA-61QB5VRL-6W7EFFC4</td>
</tr>
<tr>
<td>456-105-044</td>
<td></td>
<td>NetWorker WMware Protection Tier 2, qty 5</td>
<td>Enables VMware protection capabilities for 1 ESX server physical CPU. Tier 2 for 6-10 CPUs.</td>
<td>JPB4JN4V-T8CMR7EX-BNCA3RXR</td>
</tr>
<tr>
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<td>W8MK5BFB-5WRB3VHK-6R6YCC L3</td>
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<td></td>
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</tr>
<tr>
<td>456-105-045</td>
<td></td>
<td>NetWorker WMware Protection Tier 3, qty 5</td>
<td>Enables VMware protection capabilities for 1 ESX server physical CPU. Tier 3 for 11-25 CPUs.</td>
<td>JkalGmwv-WT4CMP76W-BJKS1R6Q</td>
</tr>
<tr>
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<td>W4M3BB78-5RN B1V9J-656FACVA</td>
</tr>
<tr>
<td>456-105-046</td>
<td></td>
<td>NetWorker WMware Protection Tier 4, qty 5</td>
<td>Enables VMware protection capabilities for 1 ESX server physical CPU. Tier 4 for 26-50 CPUs.</td>
<td>JFA4NMLJ-T0EMM6XY-BXK9YRET</td>
</tr>
<tr>
<td></td>
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<td>WGNK1BYM-65TB7W1M-6H7YGF41</td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
<td>WQPJWCFP-6DQBBW HP-790YLF1</td>
</tr>
<tr>
<td>456-105-047</td>
<td></td>
<td>NetWorker WMware Protection Tier 5, qty 5</td>
<td>Enables VMware protection capabilities for 1 ESX server physical CPU. Tier 5 for 50+ CPUs.</td>
<td>JB9LLMCK-SVEMK6NT-BSJRWNNS</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>WLP33C7L-69TB9W9N-6M0FJFV0</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>WVQ2YCPN-6HGBDW RGQ-7D1FNEC0</td>
</tr>
</tbody>
</table>
NetWorker Traditional Licensing Model
This chapter includes the following topics:

- Knowledge base articles................................................................. 78
- Obtain NetWorker license information........................................... 78
- License Conformance Summary..................................................... 79
- How to contact EMC Licensing or provide feedback...................... 81
Knowledge base articles

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

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

Obtain NetWorker license information

To obtain license information from a NetWorker server, use the nsrllic command or check the License Conformance Summary in the NetWorker Management Console (NMC).

You can use the nsrllic command arguments for the following operations:

<table>
<thead>
<tr>
<th>nsrllic argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>-C</td>
<td>Checks the /nsr/lic/dpa.lic and /nsr/lic/licspec.properties files for syntax. It also attempts to contact the EMC License Management (ELM) Server that is specified in the dpa.lic file and checks the availability of a NETWORKER_CAPACITY or NETWORKER_UPDATE entitlement. The command then prints the amounts for each entitlement, or it returns an error if no entitlements are found.</td>
</tr>
<tr>
<td>-L licensefilename</td>
<td>Checks the syntax of the provided license file. It does not contact the ELM server.</td>
</tr>
<tr>
<td>-P licspecpropertiesfilename</td>
<td>Performs the same checks as nsrllic -C, but it uses the provided licspec.properties file and its associated license file, which is specified in the license properties license.path option.</td>
</tr>
<tr>
<td>-s networker_server</td>
<td>Specifies the hostname of the NetWorker server that you want to query.</td>
</tr>
<tr>
<td>-v</td>
<td>Provides verbose license information.</td>
</tr>
</tbody>
</table>

The following sources provide more information:
- nsrllic man page on UNIX
- nsrllic man page information in the EMC NetWorker Command Reference Guide
- EMC NetWorker Administration Guide

Querying a server

Use the following procedure to query a NetWorker server.

To query a specific server, type the -s server option at the command prompt:
- On Linux and UNIX: /usr/sbin/nsrllic -s bacoor
On Windows: `networker_install_dir\bin\nsrllic -s bacoor`

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

A report is produced that indicates various quantities and servers. 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` argument at the command prompt:

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

where `-v` is for a verbose query for a NetWorker server named bacoor.

This query may be helpful in troubleshooting license issues because it produces verbose report that indicates various quantities.

License Conformance Summary

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

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 the licenses have been used and how many are still available
- How many additional licenses might be needed
- Whether the number of licenses conforms to the number of licenses in use

From the Console, you can request a License Conformance Summary report that shows relevant information about the NetWorker-related product licenses that have been purchased or are being evaluated.

In NetWorker 9.0, capacity entitlement is manually assigned. The License Conformance report will show only 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 to close conformance gaps.

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

Displaying the License Conformance Summary

Follow this procedure to display the License Conformance Summary and review licensing information.

**Procedure**

1. In the main Console window, on the taskbar, click **Enterprise**.
2. In the navigation tree, highlight a host and in the right pane, right-click **NetWorker**, and then select **Launch Application**.

The **NetWorker Administration** window appears.
3. On the taskbar, click the Configuration.
4. On the toolbar, select Configuration > License Conformance Summary.
   The License Conformance Summary appears.
5. Click OK or Cancel to exit the summary.
6. You can also display the License Conformance Summary in the server’s
   navigation tree. Right-click Registrations and select 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)

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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.

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
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.