Dell EMC NetWorker Module for MEDITECH

Version 18.1

Installation and Administration Guide

302-004-261

REV 03

DELLEMC

CONTENTS

TABLES

TABLES

FIGURES

FIGURES

Preface

As part of an effort to improve product lines, periodic revisions of software and hardware are released. Therefore, all versions of the software or hardware currently in use might not support some functions that are described in this document. The product release notes provide the most up-to-date information on product features.

If a product does not function correctly or does not function as described in this document, contact a technical support professional.

Note

This document was accurate at publication time. To ensure that you are using the latest version of this document, go to the Support website at https://support.emc.com.

Purpose

This document describes installation, configuration, backup, and recovery processes for NetWorker Module for MEDITECH.

Audience

This guide is part of the NetWorker Module for MEDITECH documentation set. It is intended for use by system administrators during installation and setup of the product. Operators, who schedule and monitor backups also can find this guide helpful.

Readers of this guide must be familiar with the following topics:

- NetWorker 18.1 client and extended client
- VNX
- Symmetrix VMAX
- Unity
- RecoverPoint
- RecoverPoint for virtual machines
- VPLEX
- XtremIO
- Dell Storage SC Series
- vCenter Server

Revision history

The following table presents the revision history of this document.

Table 1 Revision history

Revision	Date	Description
03	September 26, 2018	Updated the following sections: • Snapshot and reassign workflow requirements on page 41 • Proxy on a virtual machine on page 42

Table 1 Revision history (continued)

Revision	Date	Description
		• Recovering IDR In-Frame data when you use XtremIO on page 84
02	August 03, 2018	Updated Unity configuration requirements on page 36.
01	July 07, 2018	First release of this document for the NetWorker Module for MEDITECH 18.1 release.

Related documentation
The NetWorker Module for MEDITECH documentation set includes the following publications:

- *NetWorker Module for MEDITECH Installation and Administration Guide*
- *NetWorker Module for MEDITECH Release Notes*

Special notice conventions that are used in this document
The following conventions are used 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
The following type style conventions are used in this document:

Table 2 Style conventions

Bold	Used for interface elements that a user specifically selects or clicks, for example, names of buttons, fields, tab names, and menu paths. Also used for the name of a dialog box, page, pane, screen area with title, table label, and window.
Italic	Used for full titles of publications that are referenced in text.
Monospace	Used for: • System code • System output, such as an error message or script • Pathnames, file names, file name extensions, prompts, and syntax • Commands and options
Monospace italic	Used for variables.
Monospace bold	Used for user input.
[ ]	Square brackets enclose optional values.

Table 2 Style conventions (continued)

|		Vertical line indicates alternate selections. The vertical line means or for the alternate selections.
{ }		Braces enclose content that the user must specify, such as x, y, or z.
...		Ellipses indicate non-essential information that is omitted from the example.

You can use the following resources to find more information about this product, obtain support, and provide feedback.

Where to find product documentation

- https://support.emc.com
- https://community.emc.com

Where to get support

The Support website at https://support.emc.com provides access to licensing information, product documentation, advisories, and downloads, as well as how-to and troubleshooting information. This information may enable you to resolve a product issue before you contact Support.

To access a product specific Support page:

1. Go to https://support.emc.com/products.
2. In the **Find a Product by Name** box, type a product name, and then select the product from the list that appears.
3. Click .
4. (Optional) To add the product to **My Saved Products**, in the product specific page, click **Add to My Saved Products**.

Knowledgebase

The Knowledgebase contains applicable solutions that you can search for by solution number, for example, 123456, or by keyword.

To search the Knowledgebase:

1. Go to https://support.emc.com.
2. Click **Advanced Search**.
   The screen refreshes and filter options appear.
3. In the **Search Support or Find Service Request by Number** box, type a solution number or keywords.
4. (Optional) To limit the search to specific products, type a product name in the **Scope by product** box, and then select the product from the list that appears.
5. In the **Scope by resource** list box, select **Knowledgebase**.
   The **Knowledgebase Advanced Search** panel appears.
6. (Optional) Specify other filters or advanced options.
7. Click .

Live chat

To participate in a live interactive chat with a support agent:

1. Go to https://support.emc.com.
2. Click **Chat with Support**.

Service requests

To obtain in-depth help from Licensing, submit a service request. To submit a service request:

1. Go to https://support.emc.com.

2. Click **Create a Service Request**.

Note

To create a service request, you must have a valid support agreement. Contact a sales representative for details about obtaining a valid support agreement or with questions about an account. If you know the service request number, then directly enter the service request number in the `Service Request` field to get the valid details.

To review an open service request:

1. Go to https://support.emc.com.

2. Click **Manage service requests**.

Online communities

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

How to provide feedback

Feedback helps to improve the accuracy, organization, and overall quality of publications. You can send feedback to DPAD.Doc.Feedback@emc.com.

CHAPTER 1

Overview

This chapter includes the following sections:

Introduction to the NetWorker Module for MEDITECH

The NetWorker Module for MEDITECH 18.1 enables you to perform the following tasks:

- Schedule and manage backups and recoveries of MEDITECH volumes when the volumes are present on the VNX, Unity, Symmetrix VMAX, Dell Storage SC Series, and XtremIO storage systems.

- Schedule and manage backups and recoveries of the MEDITECH volumes when the volumes are present on the VNX with RecoverPoint, Unity with RecoverPoint, Symmetrix VMAX with RecoverPoint, VPLEX with RecoverPoint, XtremIO with RecoverPoint, and vCenter Server with RecoverPoint for virtual machine storage systems.

- Integrate NetWorker with the MEDITECH application to perform the scheduled backups, and create disaster recovery point-in-time snapshots of the data with minimal interruption to the application.

- Integrate the product with MEDITECH Backup Facility (MBF) to take hardware or array point-in-time snapshots to back up the MEDITECH data to the NetWorker devices.

- Perform Integrated Serverless Backups (ISBs) of the LUNs that VNX, Unity, Symmetrix VMAX, Dell Storage SC Series, XtremIO, RecoverPoint, and RecoverPoint for virtual machine (vCenter Server) support to a NetWorker device, such as tape, Data Domain (DDBoost and DDBoost over FC), and disk.

- Perform ISBs of the LUNs that VNX, Unity, Symmetrix VMAX, and XtremIO (only snapshot and reassign workflow) support to a NetWorker device, such as tape, Data Domain (DDBoost and DDBoost over FC), and disk, by using the NetWorker Module for MEDITECH distributed proxy host feature.

- Perform Integrated Disaster Recovery (IDR) backups to create bookmarks at regular intervals according to the user-defined schedule on a RecoverPoint appliance or a RecoverPoint for virtual machine (vCenter Server), and then validate the bookmarks in the NetWorker Module for MEDITECH GUI.

- Perform in-frame point-in-time IDR backups by using the VNX's VNX-SNAP, Unity's VNXe-SNAP, Symmetrix VMAX's VPSNAP and SNAPVX, Dell Storage SC Series, and XtremIO snapshot features.

- Perform backups and recoveries in a quick and predictable timeframe

- View the backup and recovery information

- Perform redirected recoveries of ISB data

> **NOTICE**
>
> Review the following notes:
>
> - The NetWorker Module for MEDITECH is supported only on the English (United States), that is, en-US locale.
>
> - In this guide, the term *XtremIO* if not succeeded by the term *with RecoverPoint*, indicates a native XtremIO array. This guide contains the terms *XtremIO* and *XtermIO with RecoverPoint* according to the context.
>
> - In this guide, any backup and recovery operation that uses the distributed proxy host feature explicitly mentions the feature name.

The NetWorker Module for MEDITECH architecture

The NetWorker Module for MEDITECH with the NetWorker client on the proxy host communicates with the MEDITECH Backup Intermediary (MBI) servers and the VNX, Unity, Symmetrix VMAX, XtremIO, Dell Storage SC Series, RecoverPoint, and vCenter Server with RecoverPoint storage systems to perform backups.

The following figures illustrate the general, ISB, ISB in a distributed proxy host environment, IDR, and IDR In-Frame architectures of the NetWorker Module for MEDITECH respectively.

Figure 1 The NetWorker Module for MEDITECH general architecture
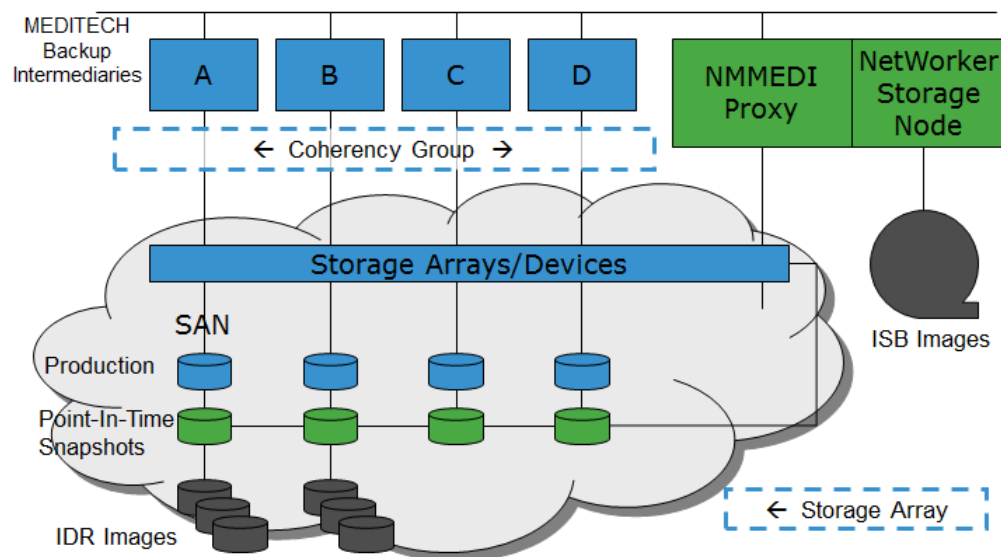
Figure 2 The NetWorker Module for MEDITECH ISB architecture
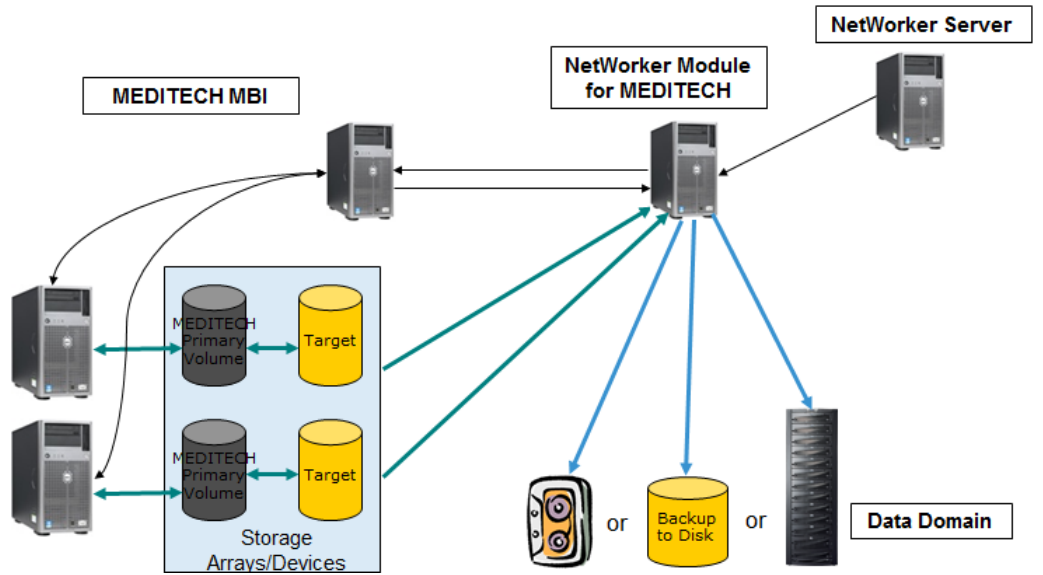
Figure 3 The NetWorker Module for MEDITECH ISB architecture in a distributed proxy host environment
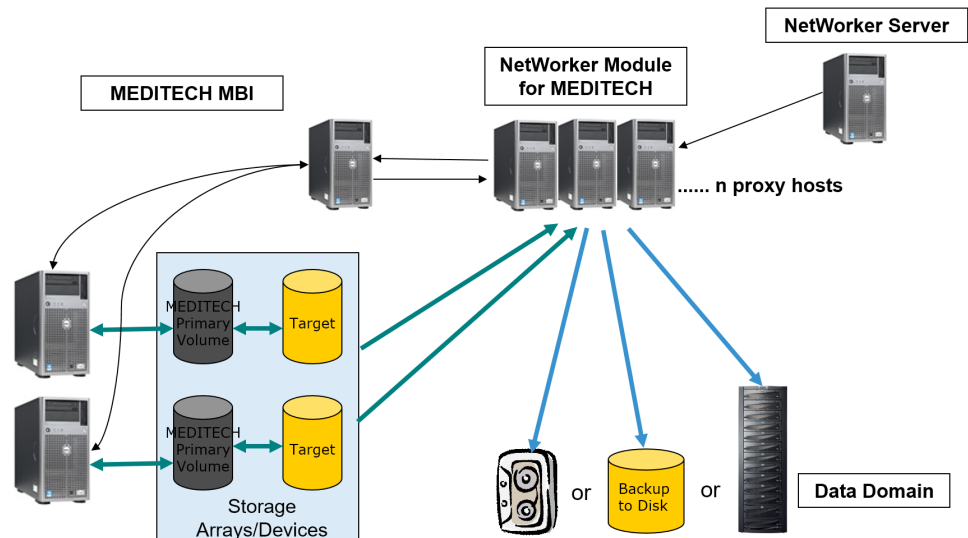
Figure 4 The NetWorker Module for MEDITECH IDR - local replication architecture
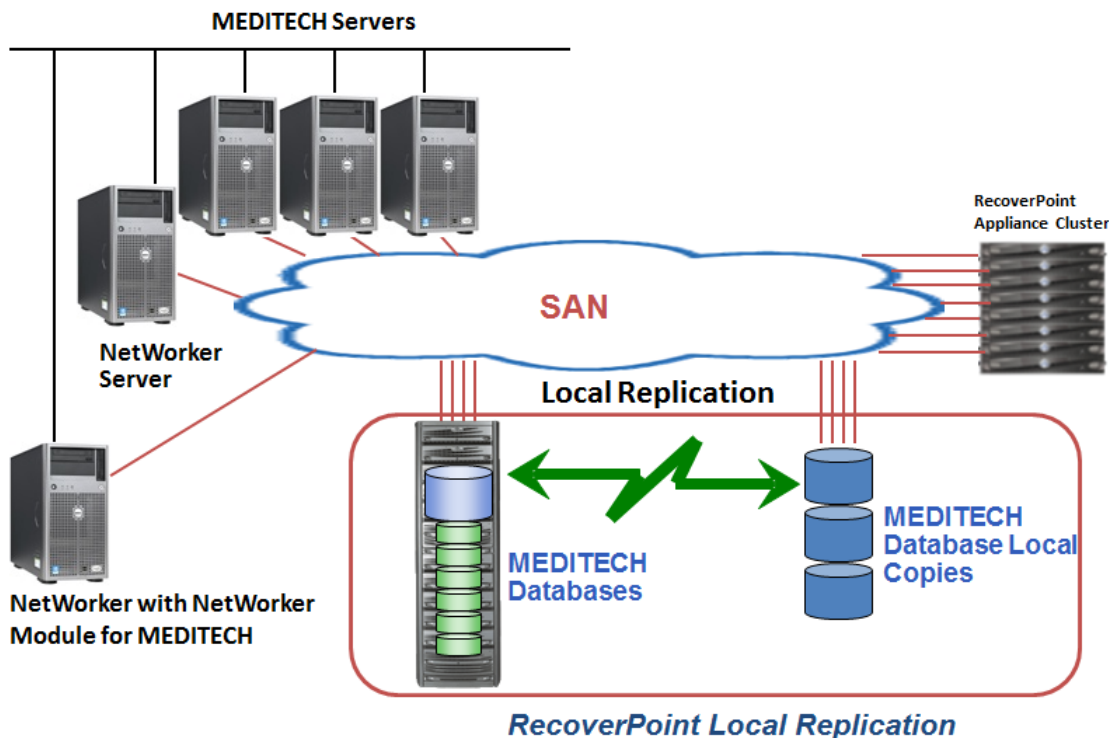
Figure 5 The NetWorker Module for MEDITECH IDR - remote replication architecture
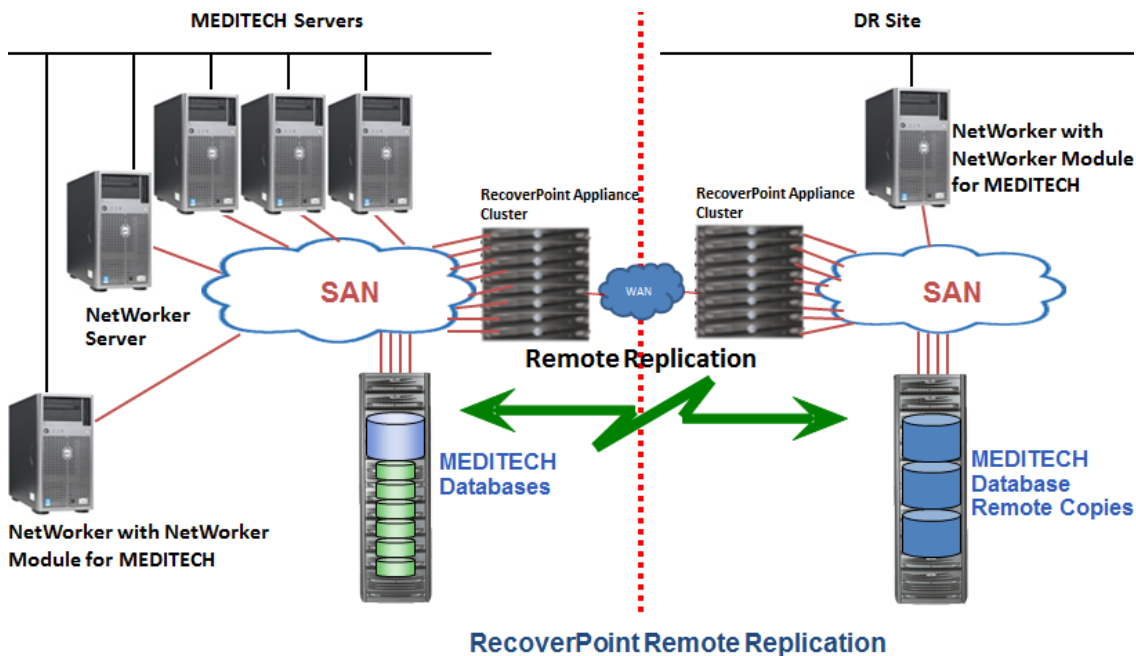
Figure 6 The NetWorker Module for MEDITECH IDR In-Fame architecture

Figure 7 The NetWorker Module for MEDITECH - RecoverPoint for virtual machine architecture
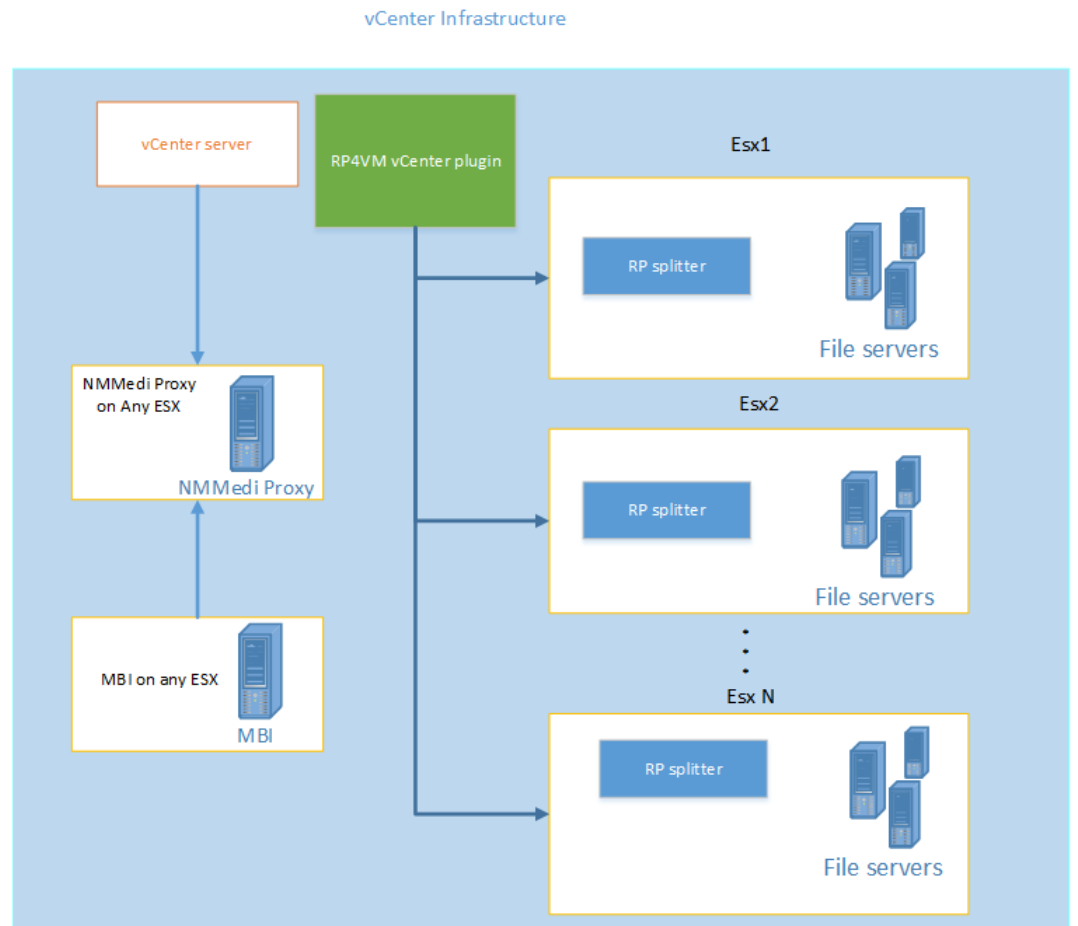
CHAPTER 2

Installation and Upgrade

This chapter includes the following sections:

Installation prerequisites

Only either Dell-EMC professional services team or implementation partners, who are certified MEDITECH hardware integrators, must install the NetWorker Module for MEDITECH. The installation includes new hardware installations and changes. Contact your sales representative to arrange for either the professional services team or the implementation partners to help you to install the NetWorker Module for MEDITECH and the supported software.

You can find the list of certified MEDITECH hardware integrators in the following location:

https://home.meditech.com/en/d/newmeditech/pages/collaborativesolutions.htm#hint

You can find the list of certified implementation partners in the following location:

http://www.emc.com/partners/partner-finder/search.htm#/

Ensure that the professional services team or the implementation partners meet the following requirements before they install the NetWorker Module for MEDITECH:

* The professional services team or the implementation partners contacted your sales representative to arrange the professional services team to help you to install the NetWorker Module for MEDITECH and the supported software.

* The professional services team or the implementation partners installed and configured the MEDITECH Backup Facility (MBF) on the MEDITECH servers. Contact your MEDITECH representative for directions and support to install and configure the MBF utility.

* The professional services team or the implementation partners created the `C:\Program Files\Meditech` folder on the NetWorker Module for MEDITECH proxy host and copied the `MBF64.exe` file that you obtained from MEDITECH to this folder.

* The professional services team or the implementation partners installed and configured NetWorker 8.2.x, 9.0.x, 9.1.x, 9.2.x or 18.1 server. Each version's installation and administration guides provide information.
  The latest *NetWorker Online Software Compatibility Matrix* that is available at http://compatibilityguide.emc.com:8080/CompGuideApp/ lists the most up-to-date information about the supported NetWorker server versions.

* The professional services team or the implementation partners installed and configured NetWorker 18.1 client and NetWorker 18.1 extended client on the NetWorker Module for MEDITECH proxy host. The *NetWorker Installation Guide* and the *NetWorker Administration Guide* provide information.

* The professional services team or the implementation partners installed and configured the software that you need on the proxy host, and configured the storage systems that you need. Host requirements on page 20 provides information about the required software. The corresponding software or hardware product documentation provides more information.

Host requirements

The following sections describe host requirements.

Licensing requirements

The *NetWorker Licensing Guide* provides detailed information about NetWorker licensing.

MEDITECH requirements

The *NetWorker Online Software Compatibility Matrix*, which is available at http://compatibilityguide.emc.com:8080/CompGuideApp/, provides the most up-to-date information about supported MEDITECH versions and configurations.

Operating system requirements

The *NetWorker Online Software Compatibility Matrix*, which is available at http://compatibilityguide.emc.com:8080/CompGuideApp/, provides the most up-to-date information about supported operating systems and versions.

Array hardware requirements

The *NetWorker Online Software Compatibility Matrix*, which is available at http://compatibilityguide.emc.com:8080/CompGuideApp/, provides the most up-to-date information about supported array versions.

The following table lists the array snapshot and clone methods that the NetWorker Module for MEDITECH supports:

Table 3 Supported snapshot and clone methods

ISB				IDR and IDR In-Frame			
	Local array supported	Remote array supported	Proxy on a virtual machine supported		Local array supported	Remote array supported	Proxy on a virtual machine supported
VNX				**VNX**			
CLONE	Yes	No	Yes	SanCopy	No	No	No
VNX-SNAP	Yes	No	No	VNX-SNAP	Yes	No	Yes
RecoverPoint	Yes	Yes	Yes	RecoverPoint	Yes	Yes	Yes
Unity				**Unity**			
VNXe-SNAP	Yes	No	Yes	VNXe-SNAP	Yes	No	Yes
RecoverPoint	Yes	Yes	Yes	RecoverPoint	Yes	Yes	Yes
Symmetrix VMAX				**Symmetrix VMAX**			
CLONE	Yes	No	Yes	RDF/CLONE	No	No	No
VPSNAP	Yes	No	Yes	VPSNAP	Yes	No	Yes
SNAPVX	Yes	No	Yes	SNAPVX	Yes	No	Yes
RecoverPoint	Yes	Yes	Yes	RecoverPoint	Yes	Yes	Yes
Dell Storage SC Series				**Dell Storage SC Series**			

Table 3 Supported snapshot and clone methods (continued)

ISB				IDR and IDR In-Frame			
	Local array supported	**Remote array supported**	**Proxy on a virtual machine supported**		**Local array supported**	**Remote array supported**	**Proxy on a virtual machine supported**
Snapshot	Yes	N/A	No	Snapshot	Yes	N/A	Yes
RecoverPoint	No	No	No	RecoverPoint	No	No	No
VPLEX				**VPLEX**			
RecoverPoint	Yes	Yes	Yes	RecoverPoint	Yes	Yes	Yes
XtremIO				**XtremIO**			
Snapshot	Yes	N/A	Yes	Snapshot	Yes	N/A	Yes
RecoverPoint	Yes	Yes	Yes	RecoverPoint	Yes	Yes	Yes
Array that MEDITECH and VMware supports				**Array that MEDITECH and VMware supports**			
RecoverPoint for virtual machine	Yes	Yes	Yes	RecoverPoint for virtual machine	Yes	Yes	Yes
Note RecoverPoint for virtual machine does not support proxy on a physical host.				**Note** RecoverPoint for virtual machine does not support proxy on a physical host.			

NOTICE

When you use a virtual machine:

1. Zone or mask the LUNs to the ESXi server, on which the proxy virtual machine is present.

2. Create a Raw Device Mapping (RDM) of the LUNs to the proxy virtual machine.

The following table lists the arrays and the corresponding snapshot technologies that the NetWorker Module for MEDITECH supports in a distributed proxy server environment:

Table 4 Supported arrays and snapshot technologies in a distributed proxy server environment

Array	Supported snapshot technology on a physical host	Supported snapshot technology on a virtual machine
VNX	CLONE VNX-SNAP	CLONE
Unity	VNXe-SNAP	VNXe-SNAP
Symmetrix VMAX	CLONE VPSNAP	CLONE VPSNAP

Table 4 Supported arrays and snapshot technologies in a distributed proxy server environment (continued)

Array	Supported snapshot technology on a physical host	Supported snapshot technology on a virtual machine
	SNAPVX	SNAPVX
XtremIO	Snapshot	Snapshot

Note

The NetWorker Module for MEDITECH supports only the snapshot and reassign workflow when you use XtremIO.

VNX requirements

For the NetWorker Module for MEDITECH to support VNX, install the following software:

- Solutions Enabler 8.4
- Unisphere Host Agent
- Navisphere CLI
- SnapCLI
- Unisphere admsnap
- Windows .NET Framework 4.0

Unity requirements

For the NetWorker Module for MEDITECH to support Unity, install the following software:

- Solutions Enabler 8.4
- Unisphere CLI
- Windows .NET Framework 4.0

Symmetrix VMAX requirements

For the NetWorker Module for MEDITECH to support Symmetrix VMAX, install the following software:

- HBA Adapter and storport Miniport Driver that support Symmetrix VMAX
- Solutions Enabler 8.4
- Windows .NET Framework 4.0

Dell Storage SC Series requirements

For the NetWorker Module for MEDITECH to support Dell Storage SC Series, install the following software:

- Solutions Enabler 8.4

- Windows .NET Framework 4.0

XtremIO requirements

For the NetWorker Module for MEDITECH to support XtremIO, install the following software:

- Solutions Enabler 8.4
- Windows .NET Framework 4.0

RecoverPoint and RecoverPoint for virtual machine requirements

For the NetWorker Module for MEDITECH to support RecoverPoint and RecoverPoint for virtual machine, install the following software:

- Solutions Enabler 8.4
- Windows .NET Framework 4.0

Installing the NetWorker Module for MEDITECH

You must install the NetWorker client, NetWorker extended client, and NetWorker Module for MEDITECH software on the proxy host. It is recommended that the NetWorker server software reside on a separate host. After you install the NetWorker Module for MEDITECH software, you must configure the NetWorker Module for MEDITECH proxy host as a client on the NetWorker server.

Procedure

1. Log in as an administrator to the proxy host, on which you want to install the NetWorker Module for MEDITECH.
2. Verify whether the host meets all the requirements that the Host requirements on page 20 section lists.
3. Download the NetWorker Module for MEDITECH 18.1 software package from https://support.emc.com to a folder on the host.
4. Open the folder that contains the NetWorker Module for MEDITECH 18.1 software package.
5. In the `...\nmmedi181_win_x64\nmmedi` folder, double-click the `NWM MEDITECH.exe` file.
6. On the **Welcome Wizard** page, select **I agree to the license term and agreements** and click **Install**.
7. On the **Complete the Setup** page, click **Finish**.

Uninstalling the NetWorker Module for MEDITECH

Uninstalling the NetWorker Module for MEDITECH software does not remove the configuration file. You can uninstall and reinstall the NetWorker Module for MEDITECH software without re-creating the configuration file.

Procedure

1. On the Windows desktop, select **Start** > **Control Panel** > **Programs** > **Uninstall a program**.
2. In the **Uninstall or change a program** window, perform one of the following steps:

- Select **EMC NetWorker Module for MEDITECH**, and then click **Uninstall**.

- Double-click **EMC NetWorker Module for MEDITECH**.

3. On the **Install Modification** page, select **Remove** and click **Remove**.

4. On the **Complete the Setup** page, click **Finish**.

Upgrading the NetWorker Module for MEDITECH

Upgrading the NetWorker Module for MEDITECH includes one of the following tasks:

- Upgrading from 8.2.x, 9.0.x, 9.1.x, or 9.2.x to 18.1

- Upgrading from 3.0 to 18.1

Upgrading from 8.2.x or later to 18.1

Procedure

1. Log in as an administrator to the proxy host, on which you want to upgrade the NetWorker Module for MEDITECH.

2. Verify whether the host meets all the requirements that the Host requirements on page 20 section lists.

3. Backup the `nsr\res\mediconfig.xml` file.

4. Upgrade the NetWorker client to 18.1, and install the NetWorker extended client 18.1.

5. Download the NetWorker Module for MEDITECH 18.1 software package from https://support.emc.com to a folder on the host.

6. Open the folder that contains the NetWorker Module for MEDITECH 18.1 software package.

7. In the `...\nmmedi181_win_x64\nmmedi` folder, double-click the `NWM MEDITECH.exe` file.

8. On the **Welcome Wizard** page, select **I agree to the license term and agreements** and click **Upgrade**.

9. On the **Complete the Setup** page, click **Finish**.

After you finish

When you use Unity, ensure that you respecify the Windows registry setting for the UEMCLI system path. Unity configuration requirements on page 36 provides information.

Upgrading from 3.0 to 18.1

Procedure

1. Back up the `nsr\res\mediconfig.xml` file.

   You can use the backed up `mediconfig.xml` file if you revert to the current NetWorker Module for MEDITECH version from 18.1.

2. Either delete or rename the `nsr\res\mediconfig.xml` file.

3. Uninstall the previous version of the NetWorker Module for MEDITECH.

4. Uninstall the NetWorker client.

5. Install the NetWorker 18.1 client and NetWorker 18.1 extended client.

   The *NetWorker Administration Guide* provides information.

6. Install the NetWorker Module for MEDITECH 18.1.

   Installing the NetWorker Module for MEDITECH on page 24 provides information.

7. Set up coherency groups, storage devices, and storage arrays in the NetWorker Module for MEDITECH Graphical User Interface (GUI).

   Configuration tasks on page 47 provides information.

Reverting to the previous version of the NetWorker Module for MEDITECH

Procedure

1. Back up the `nsr\res\mediconfig.xml` file.

   Note

   You can use the backed up `mediconfig.xml` file if you upgrade the NetWorker Module for MEDITECH to the current version.

   ---

2. Uninstall the current version of the NetWorker Module for MEDITECH.

3. Install the previous version of the NetWorker Module for MEDITECH.

After you finish

If the NetWorker client does not support the previous version of the NetWorker Module for MEDITECH, you must uninstall the NetWorker client and the NetWorker extended client, and then install the relevant previous version of the NetWorker client.

If you revert to a version earlier than 8.2 of the NetWorker Module for MEDITECH, you must use the ISB servers instead of the MBI servers to perform backups and recoveries.

CHAPTER 3

Interface Overview

This chapter includes the following section:

The NetWorker Module for MEDITECH interface overview

The NetWorker Module for MEDITECH user interface contains three views: Configure, Recover, and Monitor.

Note

When you start the NetWorker Module for MEDITECH for the first time, if the configuration file `mediconfig.xml` does not exist, a message that states that you have not yet created the configuration information appears. To create the configuration file, and continue to use the NetWorker Module for MEDITECH, click **OK** in the message box.

The Recover and Monitor views rely on the selection of a NetWorker server. The following sections provide you an overview of the views and the tasks that you can perform:

- Configure view
- Recover view
- Monitor view
- Log files

Configure view

Use the Configure view to specify the following features and hardware:

- Coherency groups of the MEDITECH MBI servers to back up
- VNX, Unity, Symmetrix VMAX, and Dell Storage SC Series arrays that the hosts use to store data
- XMS devices, which are management systems of XtremIO arrays, to enable the NetWorker Module for MEDITECH to communicate with the XtremIO arrays to perform backups
- RecoverPoint appliances that the hosts use to store data
- vCenter Servers to protect source file server virtual machines and replica virtual machines that are present on them

Figure 8 Configure view
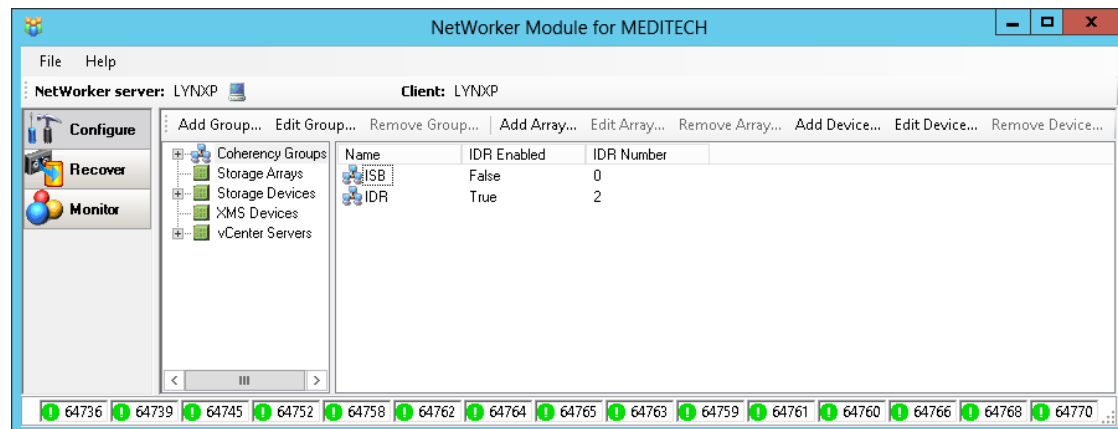
Use the Configure view to perform the following tasks:

- Creating (adding) coherency groups for MEDITECH hosts
- Editing coherency groups
- Removing coherency groups
- Adding storage arrays
- Editing storage arrays
- Removing storage arrays
- Adding storage devices
- Editing storage devices
- Removing storage devices
- Adding XMS devices
- Editing XMS devices
- Removing XMS devices
- Adding vCenter Servers
- Editing vCenter Servers
- Removing vCenter Servers

Configuration tasks on page 47 provides information about how to perform the tasks.

Selecting a NetWorker server

Select a NetWorker server to perform recoveries, and view the backup and recover jobs in the Monitor view.

Procedure

1. Click the **NetWorker server** icon in the NetWorker Module for MEDITECH GUI.

   The **Change NetWorker Server** dialog box appears.

   Figure 9 Select the NetWorker server
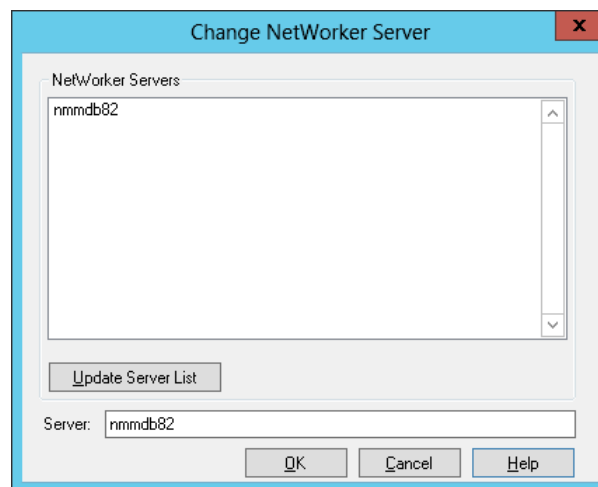
2. Perform one of the following tasks to specify the NetWorker server:

   - Specify the NetWorker server in the **Server** field.
   - Click **Update Server List**.

     The process takes a few minutes to update the **NetWorker Servers** list.

Select the relevant server from the **NetWorker Servers** list.

3. Click **OK**.

After you finish

You can view the NetWorker Module for MEDITECH backup jobs, which you or another user scheduled on the selected NetWorker server, in the Monitor view. Monitor view on page 30 provides more information.

You can view the segments that the selected NetWorker server backed up in the Recover view. Recover view on page 30 provides more information.

Recover view

Use the Recover view to perform the following tasks:

- Defining a time range to browse the backup segments.

- Selecting a version of the backup segment that you want to recover.

- Selecting a target destination to recover the selected segment.

- Performing the ISB data recovery.

> **Note**
>
> You must manually recover the IDR data. Recovering IDR data on page 75 provides information about how to recover the IDR data.

Figure 10 Recover view
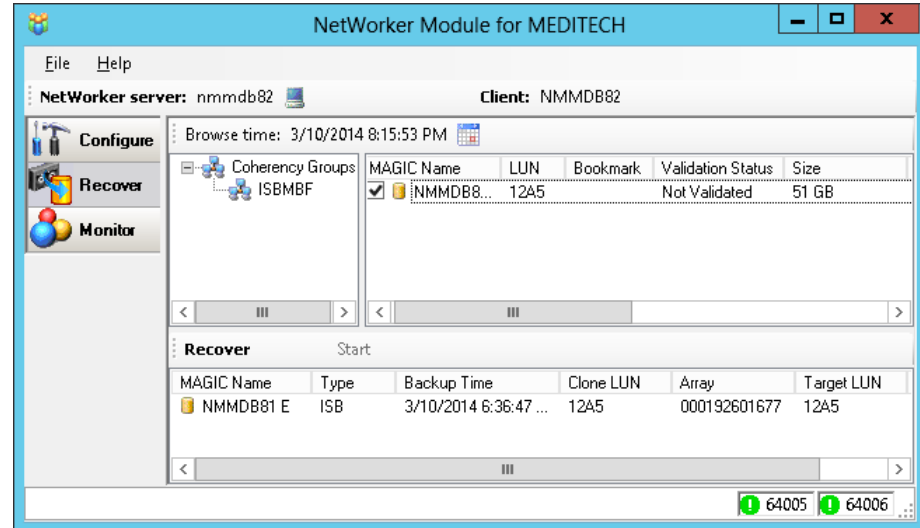
You can view the segments that the selected NetWorker server backed up. You can change the server, also to which you or another user backed up the segments. Selecting a NetWorker server on page 29 provides information about how to change the server.

Monitor view

Use the Monitor view to view the progress of backup and recover jobs.

The job summary includes the unique backup or recover ID, MEDITECH segment names, hostnames, and the start and end times of a job. The "Job Details" section

provides attributes and values of each job. The **Monitor** page updates the job summary every 30 seconds.

Figure 11 Monitor view
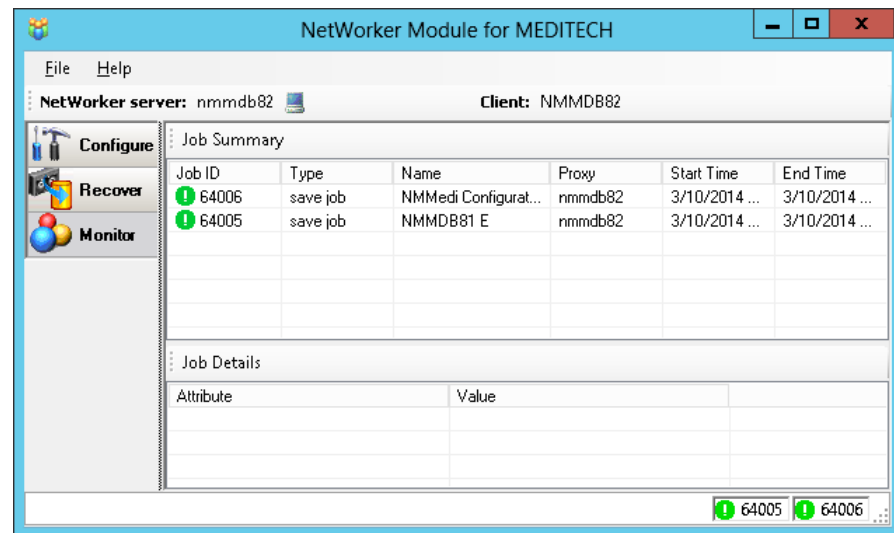
You can view the NetWorker Module for MEDITECH backup and recover jobs that were performed on the selected NetWorker server. You can change the server to monitor the corresponding NetWorker Module for MEDITECH backup and recover jobs. Selecting a NetWorker server on page 29 provides information about how to change the server.

The job status icon shows you the status of the job. The job status icons appear to the left of the job IDs and at the bottom of the window.

Log files

The NetWorker Module for MEDITECH logs the interface actions and the error messages in the following files:

- `nsrmedisv.raw`
  This log file enables you to review the backup information. The default location of the `nsrmedisv.raw` log file is `C:\Program Files\EMC NetWorker\nsr \applogs`.

  The NetWorker Module for MEDITECH retains the latest five log files only.

  If you want the NetWorker Module for MEDITECH to retain more than five log files, create the *NSR_MAXLOGVERS* environment variable with a necessary value. If you specify a value n, the total number of log files in the `C:\Program Files \EMC NetWorker\nsr\applogs` folder is n+1. The default value for the *NSR_MAXLOGVERS* variable is 4. You must restart the host for the change to be effective from the next backup.

  If you want the NetWorker Module for MEDITECH to retain multiple logs in a single file, create the *NSR_MAXLOGSIZE* environment variable with a necessary value in terms of megabytes. The default value is 1 MB. After the size of the log file exceeds the limit that you have set, the subsequent backup creates another log file. However, you can reset the *NSR_MAXLOGSIZE* environment variable

before performing backups. You must restart the host for the change to be effective from the next backup.

In the case of a distributed proxy host environment, the `nsrmedisv.raw` file on the primary proxy host provides consolidated and complete summary of the primary and secondary proxy hosts. The `nsrmedisv.raw` file on a secondary proxy host provides information about only the segment failures that relate to the save jobs of the secondary proxy host.

- `nsrmedirc.raw`
  This log file enables you to review the recovery information. The default location of the `nsrmedirc.raw` log file is `C:\Program Files\EMC NetWorker\nsr\applogs`.

- `nwmedi.log`
  This log file enables you to review the NetWorker Module for MEDITECH GUI events. The default location of the `nwmedi.log` file is `C:\Program Files\EMC NetWorker\nsr\applogs`.

  There is no limitation on the size of the file. You can delete the file if the file does not contain unresolved error messages.

  You can set the log level by specifying the following command in the **Backup command** field of the **NetWorker Client Properties** dialog box:

  `nsrmedisv -D <log_level>`

  You can set the value of *<log_level>* to `0` through `10` depending on the amount of logging that you need and the type of the storage system that you use.

  The default value is `0`.

CHAPTER 4

Configuration

This chapter includes the following sections:

Configuration prerequisites

Configure third-party software according to your requirements. Refer to each product's documentation for information about how to configure the software.

Ensure that you meet the requirements in the following sections before you configure the NetWorker Module for MEDITECH backups and recoveries.

General requirements

Ensure that you meet the following general requirements to perform backups:

- You configured the NetWorker Module for MEDITECH proxy host as a client on the NetWorker server.
- As a system user of the NetWorker Module for MEDITECH proxy host, you are in the NSR Application Administrators group on the NetWorker server.
- In the NMC, set the following privileges for the system user on the specified host:
    - Back up local data
    - Monitor NetWorker
    - Operate devices and jukeboxes
    - Operate NetWorker
    - Recover local data

  The Application Administrators group typically has these privileges. So, you can add the system users to the Application Administrators group.

  Note

  You can add administrator users to the Application Administrators group if you want to manually perform the operations. Also, you can create an NSR lockbox for the NetWorker Module for MEDITECH proxy host by using the NetWorker Administration GUI to ensure that the backups and recoveries succeed regardless of the user type—system or administrator. The *NetWorker Administration Guide* provides information about how to create a lockbox.

- When you specify application information variables in the **Application information** field in the **Client Properties** dialog box of NMC, consider the following steps:
    - Include the = symbol between an application information variable name and the value of the variable.
    - Specify each variable on a separate line.
    - Specify the application information variable in uppercase. Otherwise, the backups fail.

VNX configuration requirements

Ensure that you meet the following VNX requirements to perform backups.

VNX general requirements
You created the security file on the proxy host as the Windows SYSTEM user to perform backups by using the NMC:

1. Create a user account, for example, backup or nmmedi on VNX to perform backups.

2. Download the `PSEXEC.exe` file from the Microsoft website.

3. In the path environment variable, specify the path to the `PSEXEC.exe` file.

4. Run the following command from the command prompt:

   `PSEXEC  -i  -s -d CMD`

   The command starts the `SYSTEM` command prompt.

   Note

   If the `PSEXEC` command does not start the `SYSTEM` command prompt, run the `PSEXEC` command from Windows **Start** > **Run...**.

   ---

5. Run the following command to verify whether the command prompt belongs to the SYSTEM user account:

   `WHOAMI/USER`

6. Run the following command in the `SYSTEM` command prompt to set the global account for all users on the system:

   `naviseccli -User <username> -Password <password> -Scope 0 -Addusersecurity`

   Use the username and the password of the account that you created on VNX in step 1.

   The command creates the security file.

   To set credentials for a specific VNX storage array, run the following command:

   `naviseccli -User <username> -Password <password> -Scope 0 -Addusersecurity -Address <VNX_IP_address>`

7. Run the following command to verify whether you created the security file:

   `naviseccli -Address <VNX_IP_address> getagent`

   The VNX information appears which indicates that the procedure has created the security file.

Note

You must create the security file as the administrator user to perform backups by using the CLI.

VNX CLONE requirements

- You created a storage group for the NetWorker Module for MEDITECH proxy host.

- You created a clone group for each MEDITECH source LUN (segment) and added at least one clone LUN to it.

- You exposed the target LUN to the proxy host.

- [Optional] You specified the following application information variables in the **Application information** field in the **Client Properties** dialog box of the NMC:

  - **`EMCCLAR_MAX_CLONE=<Number>`**

    where, <Number> is a value 32 through 64 depending on the model of VNX. The default value is 32.

    If you specify a value that is less than 32, the value defaults to 32.

    If you specify a value that is greater than 64, the value defaults to 64.

The EMCCLAR_MAX_CLONE variable enables you to limit the number of LUNs that you can include in a snapshot.

- **`FRAME_IP=<VNX_IP_address>`**

  If you configured multiple VNX arrays in the NetWorker Module for MEDITECH GUI, set the FRAME_IP application information variable with the VNX IP address that points to the correct VNX array for successful backups.

VNX-SNAP requirements

- You copied the `snapcli.exe` file from `C:\Program Files (x86)\EMC \Unisphere Snapcli` to `C:\Program Files (x86)\EMC\Navisphere CLI`.

- You created one consistency group for all MEDITECH source LUNs.

- You manually created only one Snapshot Mount Point (SMP) for each MEDITECH segment or source LUN, assigned the SMP to the proxy storage group, and rebooted the host.

- You enabled in-band commands from the proxy host to attach snapshots to the mount host.

- [Optional] You made the SMP visible and accessible from the proxy host.

- [Optional] You specified the following application information variables in the **Application information** field in the **Client Properties** dialog box of the NMC:

  - **`EMCCLAR_SNAP_SUBTYPE=VNX-SNAP`**

    The EMCCLAR_SNAP_SUBTYPE variable indicates the type of the snapshot that you use to perform backups.

    ___

    Note

    To perform ISBs by using the VNX-SNAP technology, you must specify this application information variable.

    ___

  - **`FRAME_IP=<VNX_IP_address>`**

    If you configured multiple VNX arrays in the NetWorker Module for MEDITECH GUI, set the FRAME_IP application information variable with the VNX IP address that points to the correct VNX array for successful backups.

Unity configuration requirements

Ensure that you meet the following Unity requirements to perform backups:

- You set the NetWorker Module for MEDITECH proxy host as the snapshot access host for all source LUNs, and ensure that all the source LUNs have only one snapshot access.
  The Unity GUI provides an option to create a snapshot for a LUN and associate the NetWorker Module for MEDITECH proxy host to it.

  If the Unity GUI does not provide the option, run the following command:

  ```
  uemcli -d <Unity_IP_address> -u <Username> -p <Password> /stor/
  prov/luns/lun -id <Source_LUN_ID> set -snapHosts
  <NetWorker_Module_for_MEDITECH_Proxy_Host_ID>
  ```

- You configured Unisphere CLI:
  In the **Configure Optional Settings** panel of UEMCLI:

  1. Select the **Unisphere CLI in the Environment path** option.

By default, the option is selected.

2. Select the **Low (The certificate will not be verified)** option to avoid runtime backup errors.

- You created the security file on the proxy host as the Windows SYSTEM user to perform backups by using the NMC:

  1. Create a user account, for example, backup or nmmedi on Unity to perform backups.

  2. Download the PSEXEC.exe file from the Microsoft website.

  3. In the path environment variable, specify the path to the PSEXEC.exe file.

  4. Run the following command from the command prompt:

     PSEXEC -i -s -d CMD

     The command starts the SYSTEM command prompt.

     Note

     If the PSEXEC command does not start the SYSTEM command prompt, run the PSEXEC command from Windows **Start** > **Run...**.

  5. Run the following command to verify whether the command prompt belongs to the SYSTEM user account:

     WHOAMI/USER

  6. In the SYSTEM command prompt, run the following command:

     uemcli -d <Unity_IP_Address> -u <Unity_Username> -p <Unity_Password> -saveUser

     Use the username and the password of the account that you created on Unity in step 1.

     The command creates the security file.

  7. Run the following command to verify whether you created the security file:

     uemcli -d <Unity_IP_Address> /prot/snap show

     The Unity information appears which indicates that the procedure has created the security file. If an error appears, UEMCLI is not correctly set up.

  Note

  You must create the security file as the administrator user to perform backups by using the CLI.

- You specified the Windows registry setting for the UEMCLI system path.
  To ensure that you have a valid path to the Unisphere installation location, manually add a registry entry for NetWorker:

  1. From the command prompt or the Windows shell prompt, type **regedit**.

  2. Go to the *HKEY_LOCAL_MACHINE\SOFTWARE\Legato\NetWorker* folder.

  3. Right-click and select **New** > **String Value**.

  4. Type **UEMCLI_directory** as the value, and press **Enter** on the keyboard.

  5. Right-click UEMCLI_directory, and select **Modify**.

6. In the **Value data** field, type the full path to the Unisphere CLI installation location.

Symmetrix VMAX configuration requirements

Ensure that you meet the following Symmetrix VMAX requirements to perform backups:

- You have at least one CLONE, VPSNAP, or SNAPVX LUN per MEDITECH segment.

- You masked the CLONE, the VPSNAP, or the SNAPVX LUNs on the NetWorker Module for MEDITECH proxy host.

- When you use the CLONE, the VPSNAP, or the SNAPVX technology, you performed one of the following steps:

  - You created separate `<name>.res` files (files with device pairing information), typically in the `C:\Program Files\EMC NetWorker\nsr\res\` folder for ISB and IDR backups and specified the following application information variable in the **Application information** field in the **Client Properties** dialog box of the NMC:
    `SYMM_SNAP_POOL=<Path_to_the_Corresponding_<name>.res_File>`

    This is the recommended step.

  - You created the `C:\Program Files\EMC NetWorker\nsr\res\<name>.res` file.
    The file must contain the source and target devices from Symmetrix VMAX in the `Symmetrix ID:<Source_Device_ID><Target_Device_ID>` format, where the target device is either a clone or a vpsnap. For example, 000192601677:0B79 0B78.

    For the IDR In-Frame backups, ensure that the number of target thin devices in the `<name>.res` file is equal to IDR number + 1. The ISB backups use the extra LUN. The ISB backups fail if you used all the thin devices in the `<name>.res` for the IDR In-Frame backups.

  > **NOTICE**
  >
  > In a distributed proxy host environment, when you use the SNAPVX technology, you must create the `<name>.res` file. When you use a single proxy host and the SNAPVX technology, it is optional to create the `<name>.res` file.

- When you use the SNAPVX technology, you performed the following steps:

  1. You created the NsrSnspSG storage group on the Symmetrix VMAX array by running the following command:
     `symsg -sid <Symmetrix_ID> create NsrSnapSG`

     symsg -sid 638 create NsrSnapSG

  2. You added the target LUNs to the **NsrSnapSG** storage group by running the following command:
     `symsg -sid <Symmetrix_ID> -sg NsrSnapSG add dev <device_ID>`

     symsg -sid 638 -sg NsrSnapSG add dev 031EA

- You specified one of the following application information variables in the **Application information** field in the **Client Properties** dialog box of the NMC:

  - **`SYMM_SNAP_TECH=CLONE`** for clone

- ■ `SYMM_SNAP_TECH=VPSNAP` for VPSNAP
- ■ `SYMM_SNAP_TECH=SNAPVX` for SNAPVX

Note

To perform the IDR In-Frame backups, you must specify the `SYMM_SNAP_TECH=VPSNAP` or `SNAPVX` application information variable.

The SYMM_SNAP_TECH variable indicates the type of the snapshot that you use to perform backups.

Dell Storage SC Series configuration requirements

Ensure that you meet the following Dell Storage SC Series requirements to perform backups:

- You zoned or masked the physical proxy server to the Dell Storage SC Series array by using an HBA card.

- You created a server for the NetWorker Module for MEDITECH proxy host, and then selected the HBA card by using the Dell Storage Manager (DSM) GUI in the storage center.
  In the case of multiple storage centers, you created a server for each storage center with the same name, and zoned or masked it to the physical proxy server.

- You configured a snapshot profile by using the DSM GUI:

  1. Open DSM, and then select a storage center.
  2. Create a snapshot profile.
  3. Add all source volumes to the snapshot profile.
  4. Select **Consistent** as the snapshot creation method.
  5. Add a rule, where schedule is once and date is far in the future, for example, 2030.

Note

If source volumes are present in multiple storage centers, you must create multiple snapshot profiles.

- You specified the following application information variables in the **Application information** field in the **Client Properties** dialog box of the NMC:
  `NSR_COMPELLENT=<DSM/`
  `DC>;<Storage_Center>:<Snapshot_Profile>,<Storage_Center>:<Snapshot_`
  `Profile>,[...]`

  For example,
  NSR_COMPELLENT=10.204.63.196;CMPL1:backup1,CMPL2:backup2

Note

In DSM, proxy server names and snapshot profile names are case-sensitive, and must be unique.

- (Optional) You configured SSL peer-verification:

  1. Add root CA certificate to trusted root certificate.

The root certificate can be self-signed.

2. Import the certificate:

   a. Open a web browser.

   b. In the address bar of the web browser, type the following URL, and then press **Enter** on the keyboard.
      `https://<DSM_IP_address:Port_number>`

      For example, https://10.204.63.196:3033

   c. Click **Certificate**, which is beside the address bar.

   d. In the dialog box that appears, click **View certificate**.

   e. In the **Certificate** dialog box, on the **Details** tab page, click **Copy to File**.

   f. On the **Welcome to the Certificate Export Wizard** page, click **Next**.

   g. On the **Export to the File Format** page, select **Base-64 encoded X. 509(.CER)**, and then click **Next**.

   h. On the **File to Export** page, click **Browse**, and then go to `C:\Program Files\EMC NetWorker|nsr\res\`.

   i. In the **File name** field, type `cert`, and then click **Save**.

   j. On the **File to Export** page, click **Next**.

   k. On the **Completing the Certificate Export Wizard** page, click **Finish**.

   l. In the message box that appears, click **OK**.

RecoverPoint configuration requirements

Ensure that you meet the following RecoverPoint requirements to perform backups:

- You have the **integration** role privileges on RecoverPoint 4.1, 4.1.1, or 4.1.2.

- You have the **admin** role privileges on RecoverPoint 4.4, 4.4.1, or 5.0.

- You created a coherency group that consists of all the LUNs that you want to back up.

- You use one consistency group per RecoverPoint appliance and add all the LUNs to this consistency group for optimal performance of backups.

- You updated the Windows `hosts` file with Recover Point IP address.

- [Optional] You specified the following application information variables in the **Application information** field in the **Client Properties** dialog box of the NMC if either backups failed or enable image access took a lot of time:

  - `NSR_NMMEDI_RP_ENABLE_IMAGE_ACCESS_RETRY_COUNT=<value>`
    This application information variable indicates the number of times the NetWorker Module for MEDITECH must try to check whether the RecoverPoint image is enabled.

    The default value is 5.

  - `NSR_NMMEDI_RP_ENABLE_IMAGE_ACCESS_RETRY_GAP=<value in seconds>`
    This application information variable indicates the time interval that the NetWorker Module for MEDITECH must maintain between two retries to check whether the Recoverpoint image is enabled.

    The default value is 1.

  - `NSR_NMMEDI_RP_RETRIES=<value>`
    This application information variable indicates the number of times the NetWorker Module for MEDITECH must try to check whether the

RecoverPoint image is present on the copy, from where rollover is performed during an ISB.

This application information variable is useful in case of the XtremIO with RecoverPoint workflow because shipping a bookmark can take time that depends on the snap replication interval.

The default value is 50.

- For RecoverPoint consistency groups in a Snap-Based Replication (SBR) configuration, to ensure better performance of a backup, the shipping time of a snapshot must be less.
  On the **Link Policy** tab of the Unisphere for RecoverPoint GUI, you can set the shipping time.

- The image access (consistency group) is not enabled.
  If the image access is manually enabled, performing an ISB aborts any operation that is in progress.

The NetWorker Module for MEDITECH supports the following RecoverPoint configurations:

- Continuous Data Protection (CDP)

- Continuous Remote Replication (CRR)

- Concurrent Local and Remote (CLR) data protection

- Snap-Based Replication (SBR) in case of XtremIO with RecoverPoint

> **NOTICE**

To configure VNX, Symmetrix VMAX, Unity, VPLEX, or XtremIO to use with RecoverPoint to perform the NetWorker Module for MEDITECH backups and recoveries, refer to the relevant product documentation.

XtremIO configuration requirements

Ensure that you meet the following XtremIO requirements to perform backups:

Proxy on a physical host

Proxy on a physical host supports the following workflows:

- Traditional or conventional

- Snapshot and reassign

Traditional workflow requirements

If you installed the NetWorker Module for MEDITECH proxy on a physical host, for the traditional workflow, you configured one initiator per initiator group for the proxy host.

This configuration enables the NetWorker Module for MEDITECH to map target LUNs during ISBs. The *XtremIO administration guide* provides information about how to configure an initiator group for a physical proxy host.

Snapshot and reassign workflow requirements

If you installed the NetWorker Module for MEDITECH proxy on a physical host, for the snapshot and reassign workflow, you performed the following steps:

Procedure

1. Identify the source volumes on the XMS device.

2. Create one or multiple consistency groups according to your requirement.

3. Add the source volumes to the consistency group.

4. Take a snapshot of the consistency group, and specify a snapshot set tag for the snapshot.

   You can use the snapshot set tag as the target.

5. Configure one initiator per initiator group for the proxy host.

6. Map the snapshot volumes to the initiator group.

7. Specify the cluster, consistency group, and snapshot information as an application information variable in the following format:

   ```
   SNAPSHOT_REASSIGN=<XMS_IP_address>:<Cluster_Name_1>:<Consistency
   _Group_Name_1>:<Target_Snapshot_Set_Tag_1>,
   <XMS_IP_address>:<Cluster_Name_2>:<Consistency_Group_Name_2>:<Ta
   rget_Snapshot_Set_Tag_2>, [...]
   ```

   For example,
   ```
   SNAPSHOT_REASSIGN=10.63.28.51:XIO_CLUST1:NPR_SEGS_CG:NMMEDI_Tag
   ```

   Note

   You can get the snapshot set tag value from the **CONFIGURATION** > **Snapshot Sets** > **Tags** column in the XtremIO GUI.
   Ensure that the user-defined cluster names, consistency group names, and snapshot set tags do not contain a colon (:) within the names.

Proxy on a virtual machine

Proxy on a virtual machine supports only the snapshot and reassign workflow.
If you installed the NetWorker Module for MEDITECH proxy on a virtual machine, for the snapshot and reassign workflow, you performed the following steps:

Procedure

1. Identify the source volumes on the XMS device.

2. Create one or multiple consistency groups according to your requirement.

3. Add the source volumes to the consistency group.

4. Take a snapshot of the consistency group, and specify a snapshot set tag for the snapshot.

   You can use the snapshot set tag as the target.

5. Configure one initiator per initiator group on the ESXi server, on which the proxy virtual machine is present.

6. Map the snapshot volumes to the initiator group.

7. Create an RDM of the snapshot volumes to the proxy virtual machine.

8. Specify the cluster, consistency group, and snapshot information as an application information variable in the following format:

   ```
   SNAPSHOT_REASSIGN=<XMS_IP_address>:<Cluster_Name_1>:<Consistency
   _Group_Name_1>:<Target_Snapshot_Set_Tag_1>,
   <XMS_IP_address>:<Cluster_Name_2>:<Consistency_Group_Name_2>:<Ta
   rget_Snapshot_Set_Tag_2>, [...]
   ```

For example,
`SNAPSHOT_REASSIGN=10.63.28.51:XIO_CLUST1:NPR_SEGS_CG:NMMEDI_Tag`

Note

You can get the snapshot set tag value from the **CONFIGURATION** > **Snapshot Sets** > **Tags** column in the XtremIO GUI.
Ensure that the user-defined cluster names, consistency group names, and snapshot set tags do not contain a colon (:) within the names.

RecoverPoint for virtual machine configuration requirements

Ensure that you meet the following RecoverPoint for virtual machine requirements to perform backups:

- You have the **admin** role privileges on RecoverPoint 5.0 or 5.0.1.

- You updated the Windows `hosts` file with Recover Point IP address.

- You added all file servers to RecoverPoint for virtual machine consistency group.

- The names of virtual machines in the consistency group do not contain either ".shadow" or "RP".

- You created an RDM of production LUNs to file server virtual machines.

- The source data is present on the RDM disk on the source virtual machine, and the disk is not in the shared mode.

- You installed the NetWorker Module for MEDITECH on the proxy virtual machine.

- The proxy virtual machine is on the vCenter Server that contains replica virtual machine disks of consistency groups.

- The proxy virtual machine name is unique across all vCenter Servers in the configuration.

- You created a new vCenter Server user with admin privileges.

- You added SCSI controllers 1, 2, and 3 to the proxy virtual machine:

  1. Log in to vCenter Server.

  2. Identify the proxy virtual machine.

  3. Add an SCSI controller to the proxy virtual machine by adding a hard disk.

     Note

     The SCSI controller must be unused. The SCSI controller 0 is already present on the proxy virtual machine.

  4. Repeat step 3 till four SCSI controllers are present on the proxy virtual machine.

  5. If the proxy virtual machine is shut down, start it.

  6. Remove the hard disks that you added in step 3 and 4.

  Each SCSI controller can service up to 15 LUNs for a rollover.

- You specified the following application information variables in the **Application information** field in the **Client Properties** dialog box of the NMC:

  - `NSR_RP4VM_NMMEDI_PROXYVM_NAME=<Proxy_virtual_machine_name>`

> This application information variable indicates the name of the proxy server on the vCenter Server. Use this application information variable to attach and detach the target LUNs, and perform rollver.
>
> - **NSR_RP4VM_COPY=<ROLE_LOCALCOPY | ROLE_REMOTECOPY>**
>   This application information variable indicates either the local copy or the remote copy that you want to back up. You must specify this variable when you use a CLR setup.
>
> - (Optional) You specified the following application information variables in the **Application information** field in the **Client Properties** dialog box of the NMC if either backups failed or enable image access took a lot of time:
>
>   - **NSR_NMMEDI_RP_ENABLE_IMAGE_ACCESS_RETRY_COUNT=<Minutes>**
>   This application information variable indicates minutes that the NetWorker Module for MEDITECH must wait to check whether the RecoverPoint image is enabled. The default value is 30.
>
>   - **NSR_RP4VM_NMMEDI_WAIT_TIME_SECONDS=<Seconds>**
>   This application information variable indicates seconds that the NetWorker Module for MEDITECH must wait for RecoverPoint or vCenter Server to respond. Use this variable only when you notice issues with the default value.
>
>   - **NSR_RP4VM_NMMEDI_WAIT_COUNT=<Number_of_retries_before_failing>**
>   This application information variable indicates the number of times the NetWorker Module for MEDITECH must try to wait for RecoverPoint or vCenter Server to respond. Use this variable only when you notice issues with the default value.
>
> - You disabled the auto-mount feature.
>
> - You included maximum 50 LUNs in a backup.
>
> The NetWorker Module for MEDITECH supports the following RecoverPoint for virtual machine configurations:
>
> - Continuous Data Protection (CDP)
>
> - Continuous Remote Replication (CRR)
>
> - Concurrent Local and Remote (CLR) data protection

RecoverPoint for virtual machine limitations

> RecoverPoint for virtual machine has the following limitations:
>
> - NetWorker Module for MEDITECH support for RecoverPoint for virtual machine does not support a VMDK disk on the source virtual machine.
>
> - NetWorker Module for MEDITECH support for RecoverPoint for virtual machine does not support virtual RDM.
>
> - In the RecoverPoint for virtual machine setup, if you use pre-created copy virtual machines to replicate file server virtual machines, the names of the pre-created virtual machines must not contain a colon (:).

Configuration prerequisites for a distributed proxy host environment

> Before you configure the NetWorker Module for MEDITECH backups and recoveries in a distributed proxy host environment, ensure that you meet the following requirements:

- You installed the NetWorker client and extended client, and the NetWorker Module for MEDITECH on all the proxy hosts.

  Note

  It is recommended that you use maximum 10 proxy hosts.

- You equally distributed the target LUNs to the required proxy hosts when you use VNX, Unity, XtremIO, and Symmetrix VMAX.

- You configured only one initiator per initiator group for each proxy host when you use XtremIO.
  The *XtremIO administration guide* provides information about how to configure an initiator group for a physical proxy host.

- When you use virtual machines as proxy hosts, you provided sufficient CPU, memory, and network resources for maximum performance of backups and recoveries.

- You configured every proxy host in a distributed proxy host environment by using NMC, and you added only the primary proxy host to the group.
  The *NetWorker Administration Guide* provides more information about configuring client resources.

- To perform backups on secondary proxy hosts, you configured remote users on the primary proxy host, that is, provided remote access to users of secondary proxy hosts according to your requirement.
  To provide remote access to users:

  1. Open the NetWorker Administration GUI.

  2. Open the **Client Properties** dialog box of the primary proxy host.

  3. On the **Globals (2 of 2)** tab, in the **Remote access** field, type the usernames and the secondary proxy hostnames, to which you want to provide remote access, each in a line in the following format:
     SYSTEM@<secondary_proxy_hostname>

  The *NetWorker Administration Guide* provides more information about configuring client resources by using the **Client Properties** dialog box.

- You set the values of the server parallelism, the client parallelism, and the action parallelism in the NMC to maximum.

- You specified the following application information variables in the **Application information** field in the **Client Properties** dialog box of the NMC:
  `NSR_NMMEDI_PROXY_LIST=<secondary_proxy_host_1>,`
  `<secondary_proxy_host_2>, ...<secondary_proxy_host_n>.`

The other general and array-specific configuration settings in a distributed proxy host environment are the same as the general and array-specific configuration settings that Configuration prerequisites on page 34 describes.

Configuring backups and recoveries

Before you configure the NetWorker Module for MEDITECH, install and configure the MEDITECH host and the storage arrays and devices. The following sections describe the configuration tasks.

Configuration roadmap

Define the MEDITECH MBI server and the MEDITECH file servers that you want to back up, and identify the storage systems that you want to use to back up the MEDITECH MBI servers.

The NetWorker Module for MEDITECH saves the configuration information of storage arrays, storage devices, and coherency groups in the `<product_installation_folder>\nsr\res\mediconfig.xml` file on the NetWorker Module for MEDITECH proxy host. Performing a backup backs up the `mediconfig.xml` configuration file. If the configuration file is deleted, and you need it, you can recover the backed up configuration file. Backing up the configuration file on page 68 and Recovering the configuration file on page 87 provide information about how to back up and recover the configuration file.

Note

To edit the `mediconfig.xml` file, you must use only the NetWorker Module for MEDITECH GUI.

Coherency groups

Coherency groups are logical groupings of the MEDITECH hosts that you back up at the same time. NetWorker uses the coherency groups for the scheduled backups.

Coherency groups enable you to back up multiple segments of multiple MEDITECH hosts at the same time. For example, if you want to back up all administrative data at the same time, you must create a coherency group that contains all the MEDITECH MBI servers that manage the MEDITECH file servers, which contain the administrative data.

The NetWorker Module for MEDITECH creates point-in-time snapshots for all the MEDITECH segments in a coherency group, and backs up the snapshots to a secondary device such as, a tape, in case of an ISB.

Storage arrays

You must configure the storage arrays to enable the NetWorker Module for MEDITECH to take snapshots of the array LUNs. The supported storage arrays are VNX, Unity, Symmetrix VMAX, and Dell Storage SC Series.

Storage devices

You must configure the storage device, which is a RecoverPoint appliance, to enable the NetWorker Module for MEDITECH to communicate with it to perform backups.

XMS devices

You must configure the XMS device, which is a management system of an XtremIO array, to enable the NetWorker Module for MEDITECH to communicate with the XtremIO array to perform backups.

vCenter Servers

You must configure the vCenter Server to enable the NetWorker Module for MEDITECH to communicate with it to perform backups.

Configuration tasks

Configuring the NetWorker Module for MEDITECH to perform backups and recoveries includes the following tasks:

- Creating a coherency group to identify the MEDITECH hosts that participate in the scheduled backups
- Identifying and configuring the VNX, Unity, Symmetrix VMAX, XtremIO, or Dell Storage SC Series storage arrays that the MEDITECH hosts use to store the source data
- Identifying and configuring the RecoverPoint appliance storage devices that the MEDITECH hosts use to store the source data

Adding coherency groups

Procedure

1. Open the **NetWorker Module for MEDITECH** GUI.
2. In the left panel, click **Configure**.
3. In the middle panel, right-click **Coherency Groups**, and then select **Add Group**.

   The **Add Coherency Group** dialog box appears.
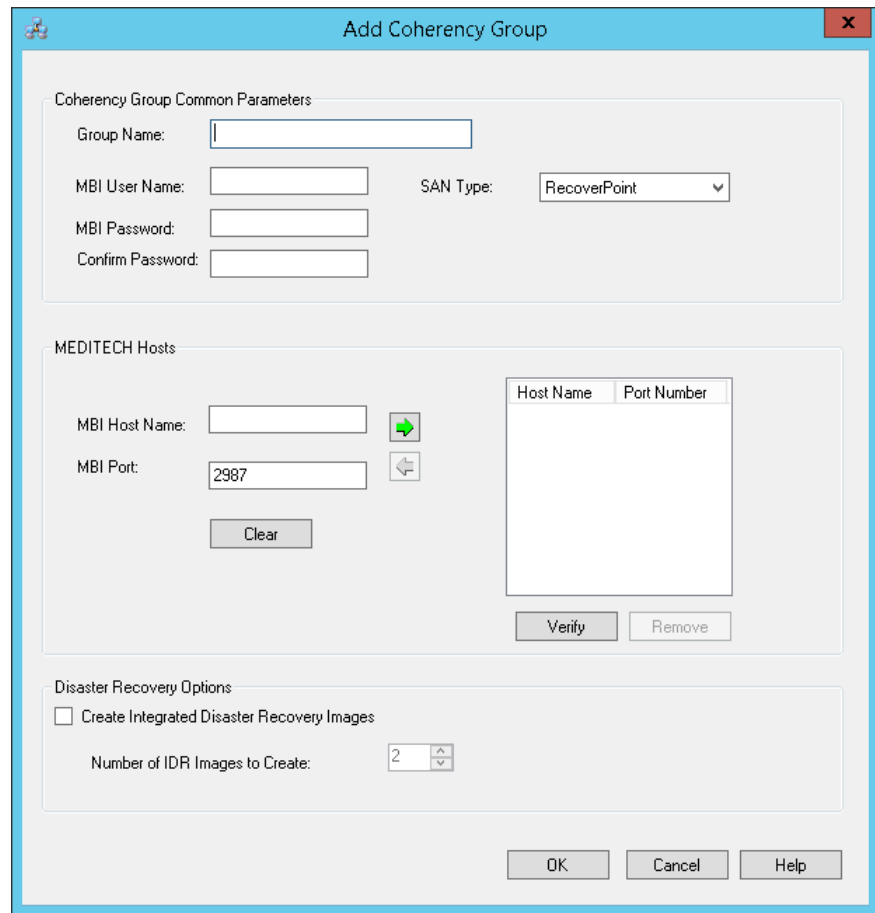
4. Under **Coherency Group common parameters**, specify the following fields:

   • **Group Name**: Type a name for the group of MEDITECH hosts that you want to back up. The group name can contain up to 64 alphanumeric characters, spaces, underscores (_), and hyphens (-).

   • **MBI User Name**: Type the username of the MBI server.

   • **MBI Password**: Type the password of the MBI server.

   • **Confirm password**: Re-type the password of the MBI server.

   • **SAN Type**: Select the storage array or device to use for the backup.

     The default value is **RecoverPoint**.

   Note

   All the hosts in the coherency group must have the same MBI server account username and password, and LUNs from same type of storage array because SAN type is a common selection for the whole coherency group.

5. Perform and repeat the following steps to add the MEDITECH hosts (MBI servers) to the coherency group:

   a. Specify the following fields under **MEDITECH Hosts**:

      • **MBI Host Name**: Type the name of the MBI server.
        To retype the host name, click **Clear** to clear the host name.

- **MBI Port**: Type the port number that you use to communicate with the MBI server.
  The default port number is **2987**.

b. Click the right arrow to add the host to the coherency group.

The hostname and the port number appear in the table.

c. To modify the information of a host:

   a. Select the hostname in the table and click the left arrow.

   b. Edit the hostname and the port number in the **MBI Host Name** and the **MBI Port** fields.

   c. Click the right arrow to add the host to the coherency group.

   The hostname and the port number appear in the table.

d. Click **Verify**.

The NetWorker Module for MEDITECH performs the following tasks:

   a. Validates the user credentials.

   b. Checks whether the MBI server works for all the MEDITECH file servers.

   c. Writes the information to the `nsr\applogs\nwmedi.log` file.

   d. Displays a validation message that states whether the specified user credentials are correct.

   e. Displays the status of the hosts.

   Click **OK**.

e. Click **Remove** below the table to remove a host from the coherency group.

6. Under **Disaster Recovery Options**:

   a. Select **Create Integrated Disaster Recovery Images** to back up the IDR images.

   b. In the **Number of IDR images to create** field, specify the number of IDR images to be created for the SAN type that you have selected.

   - VNX: Specify a value 2 through 48. The default value is 2.

   - Unity: Specify a value 2 through 48. The default value is 2.

   - VMAX: Specify a value 2 through 32. The default value is 2.

   - XtremIO: Specify a value 2 through 120. The default value is 2.

   - Dell Storage SC Series: Specify a value 2 through 120. The default value is 2.

   - RecoverPoint and RP4VM: The field does not apply. It is disabled.

     Note

     You must configure RecoverPoint CDP, CRR, CLR, and SBR by using either the Unisphere for RecoverPoint GUI or the RecoverPoint CLI before you perform backups.

7. Click **OK**.

Editing coherency groups

Procedure

1. Open the **NetWorker Module for MEDITECH** GUI.

2. In the left panel, click **Configure**.

3. In the middle panel, expand **Coherency Groups**, right-click the coherency group that you want to edit, and then select **Edit Group**.

   The **Edit Coherency Group** dialog box appears.

   Figure 13 Edit coherency group

4. Select a host (MBI server) from the table and click the left arrow.

   The information about the selected host appears in the **MBI Host Name** and **MBI Port** fields.

5. Edit the values in the fields, as necessary.

6. Click the right arrow to add the modified host to the coherency group.

   The hostname and the port number appear in the table.

7. Repeat step 3 through step 5 to modify the other hosts in the table.

8. Click **Verify**.

   The NetWorker Module for MEDITECH performs the following tasks:

   a. Validates the user credentials.

b. Checks whether the MBI server works for all the MEDITECH file servers.

c. Writes the information to the `nsr\applogs\nwmedi.log` file.

d. Displays a validation message that states whether the specified user credentials are correct.

e. Displays the status of the hosts.

Click **OK**.

9. Click **OK**.

Removing coherency groups

Procedure

1. Open the **NetWorker Module for MEDITECH** GUI.

2. In the left panel, click **Configure**.

3. In the middle panel, expand **Coherency Groups**, right-click the coherency group that you want to remove, and then select **Remove Group**.

4. In the **Remove Coherency Group** dialog box, click **OK**.

Adding storage arrays

The storage arrays include VNX, Unity, Symmetrix VMAX, and Dell Storage SC Series, with which the NetWorker Module for MEDITECH communicates to store the MEDITECH data.

Procedure

1. Open the **NetWorker Module for MEDITECH** GUI.

2. In the left panel, click **Configure**.

3. In the middle panel, right-click **Storage Arrays**, and then select **Add Array**.

   The **Add Storage Array** dialog box appears.

   Figure 14 Add VNX/Unity storage array
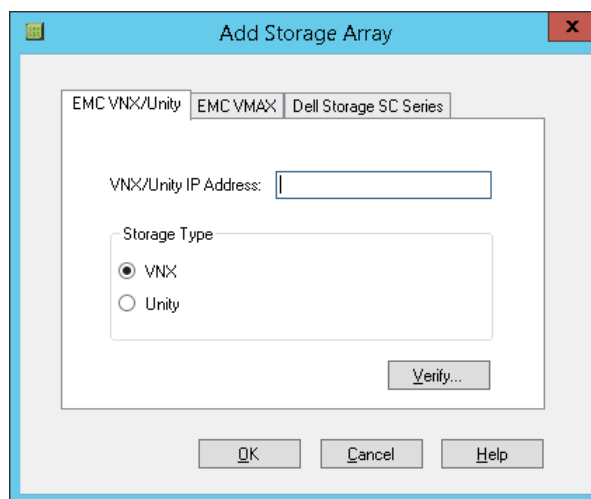
4. To add VNX and Unity arrays, perform the following steps:

Note

Ensure that you have specified the NetWorker server in the **NetWorker Module for MEDITECH** window. Selecting a NetWorker server on page 29 provides information.

---

   a. In **Add Storage Array** dialog box, click the **EMC VNX/Unity** tab.

   b. To add a VNX array:

      a. Under **Storage Type**, select **VNX**.

      b. In the **VNX/Unity IP Address** field, type the IP address of the VNX array.

      c. Click **Verify** to validate the IP address and the user credentials.

   c. To add an Unity array:

      a. Under **Storage Type**, select **Unity**.

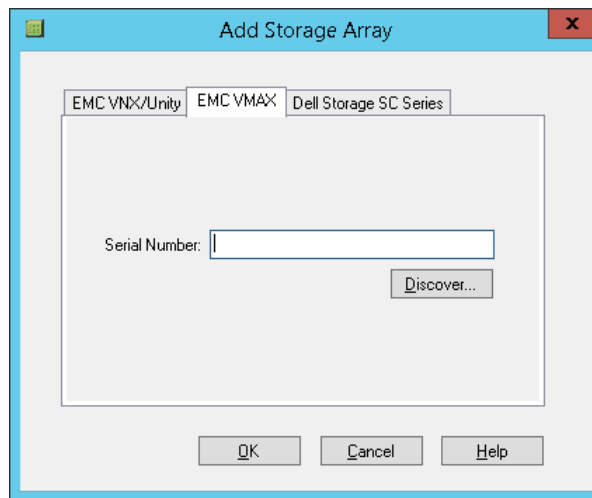   b. In the **VNX/Unity IP Address** field, type the IP address of the Unity array.

      c. Click **Verify** to validate the IP address and the user credentials.

   d. Click **OK**.

5. To add a Symmetrix VMAX array, perform the following steps:

   a. In **Add Storage Array** dialog box, click the **EMC VMAX** tab.

     Figure 15 Add Symmetrix VMAX storage array

   b. Perform one of the following tasks:

     • In the **Serial Number** field, type the ID of the Symmetrix VMAX array.

     • Click **Discover** to select the required Symmetrix VMAX array.

      The process requires a few minutes to complete.

   c. Click **OK**.

6. To add a Dell Storage SC Series array, perform the following steps:

   a. In **Add Storage Array** dialog box, click the **Dell Storage SC Series** tab.

Figure 16 Add Dell Storage SC Series storage array

b. Specify the following fields:

- **DSM/DC Server**: Type the host name or IP address of the DSM/DC server. If you use an SSL certificate, type the host name or IP address of the DSM/DC server that is specified in the SSL certificate.

- **Port**: Type the port number of the DSM/DC server. The default port number is 3033.

- **Username**: Type the username of the DSM/DC server.

- **Password**: Type the password of the DSM/DC server.

- **Server**: Type the name of the proxy server that was created by using the DSM GUI. The server name is case-sensitive. When you perform ISBs, the volumes in snapshots are mapped to the proxy server.

- **Verify host's SSL certificate**: Select this option to peer-verify the SSL certificate.

c. Click **Verify** to validate the specified values in the fields.

d. Click **OK**.

Editing storage arrays

Procedure

1. Open the **NetWorker Module for MEDITECH** GUI.

2. In the left panel, click **Configure**.

3. In the middle panel, expand **Storage Arrays**, right-click the array that you want to edit, and then select **Edit Array**.

   The **Edit Storage Array** dialog box appears.

4. To edit the VNX and Unity arrays, perform the following steps:

   a. In the **Edit Storage Array** dialog box, click the **EMC VNX/Unity** tab.

Figure 17 Edit VNX/Unity storage array

b. Edit the values in the fields.

c. Click **Verify** to validate the values.

d. Click **OK**.

5. To edit the Symmetrix VMAX array, perform the following steps:

a. In the **Edit Storage Array** dialog box, click the **EMC VMAX** tab.

Figure 18 Edit Symmetrix VMAX storage array
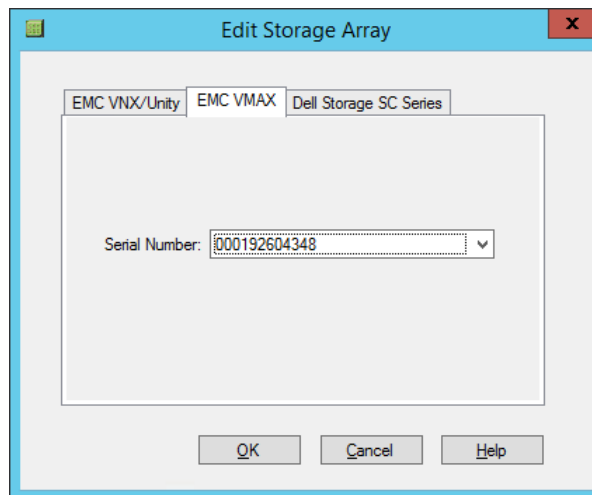
b. From the **Serial Number** list, select the serial number of the array that you want to use, and click **OK**.

6. To edit the Dell Storage SC Series array, perform the following steps:

a. In the **Edit Storage Array** dialog box, click the **Dell Storage SC Series** tab.

Figure 19 Edit Dell Storage SC Series storage array

b. Edit the values in the fields.

c. Click **Verify** to validate the values.

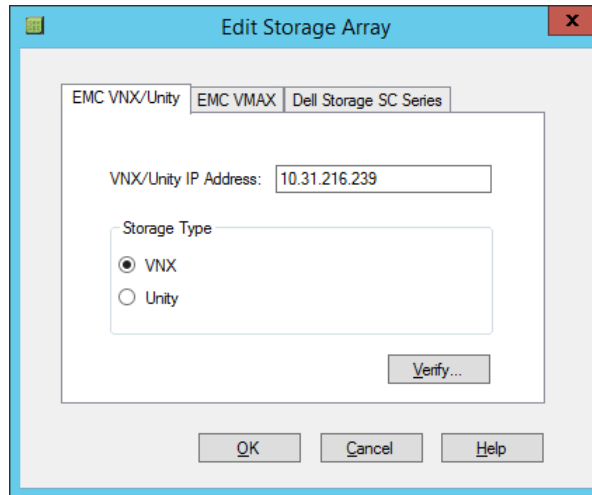d. Click **OK**.

Removing storage arrays

Procedure

1. Open the **NetWorker Module for MEDITECH** GUI.

2. In the left panel, click **Configure**.

3. In the middle panel, expand **Storage Arrays**, right-click the storage array that you want to remove, and then select **Remove Array**.

4. In the **Remove Storage Array** dialog box, click **OK**.

Adding storage devices
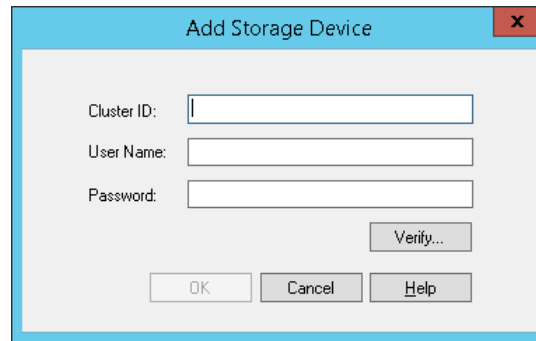
The storage device includes a RecoverPoint appliance with which the NetWorker Module for MEDITECH communicates to store the MEDITECH data.

Procedure

1. Open the **NetWorker Module for MEDITECH** GUI.

2. In the left panel, click **Configure**.

3. In the middle panel, right-click **Storage Devices**, and then select **Add Device**.

   The **Add Storage Device** dialog box appears.

Figure 20 Add storage device

4. Specify the following fields:

   • **Cluster ID**: Type either the name or the IP address of the RecoverPoint appliance.

   • **User Name**: Type the username to access the device.

   • **Password**: Type the password to access the device.

5. Click **Verify** to validate the values in the fields.

6. Click **OK**.

Editing storage devices

Procedure

1. Open the **NetWorker Module for MEDITECH** GUI.

2. In the left panel, click **Configure**.

3. In the middle panel, expand **Storage Devices**, right-click the device that you want to edit, and then select **Edit Device**.

   The **Edit Storage Device** dialog box appears.

   Figure 21 Edit storage device

4. Edit the values in the fields, as necessary.

5. Click **Verify** to validate the values.

6. Click **OK**.

Removing storage devices

Procedure

1. Open the **NetWorker Module for MEDITECH** GUI.

2. In the left panel, click **Configure**.

3. In the middle panel, expand **Storage Devices**, right-click the storage device that you want to remove, and then select **Remove Device**.

4. In the **Remove Storage Device** dialog box, click **OK**.

Adding XMS devices

The XMS device, which is a management system of an XtremIO array, enables the NetWorker Module for MEDITECH to communicate with the XtremIO array to perform backups.

Procedure

1. Open the **NetWorker Module for MEDITECH** GUI.

2. In the left panel, click **Configure**.

3. In the middle panel, right-click **XMS Devices**, and then select **Add XMS**.

   The **Add XMS Device** dialog box appears.

   Figure 22 Add XMS device

4. Specify the following fields:

   • **IP Address**: Type the IP address of the XMS device.

   • **Username**: Type the username that has the administrator role on the XMS device.

   • **Password**: Type the password of the XMS device.

5. Click **Get Initiator Groups** to validate the XMS credentials and list the initiator groups.

6. From the **Select Initiator Group** list, select the relevant cluster name and initiator group that you configured on the proxy host.

Note

The NetWorker Module for MEDITECH supports only one initiator per initiator group for the proxy host.
In a distributed proxy host environment, select all the relevant cluster names and initiator groups that you configured for the proxy hosts.
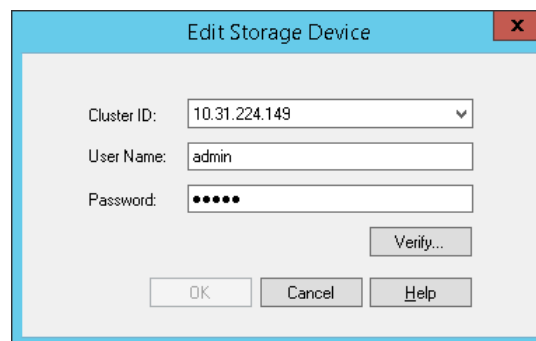
---

7. Click **OK.**

Editing XMS devices

Procedure

1. Open the **NetWorker Module for MEDITECH** GUI.

2. In the left panel, click **Configure**.

3. In the middle panel, expand **XMS Devices**, right-click the device that you want to edit, and then select **Edit XMS**.

   The **Edit XMS Device** dialog box appears.

   Figure 23 Edit XMS device

4. Edit the XMS credentials.

5. Click **Get Initiator Groups** to validate the XMS credentials and list the initiator groups.

6. From the **Select Initiator Group** list, select the relevant cluster name and initiator group, to which the XtremIO array belongs.

Note

The NetWorker Module for MEDITECH supports only one initiator per initiator group for the proxy host.
In a distributed proxy host environment, select all the relevant cluster names and initiator groups that you configured for the proxy hosts.

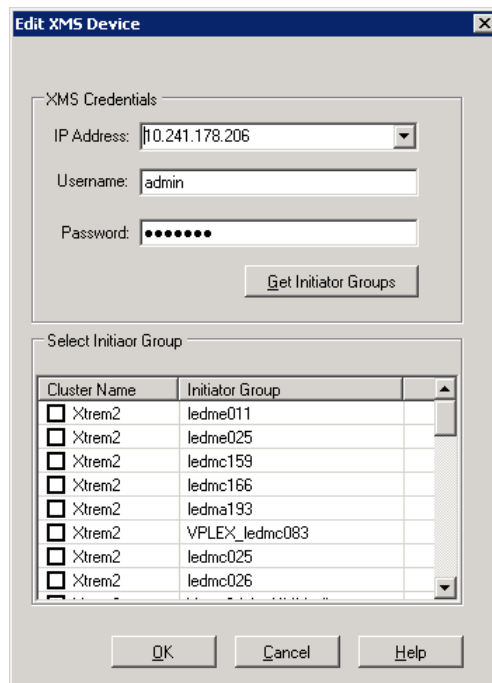
7. Click **OK**.

Removing XMS devices

Procedure

1. Open the **NetWorker Module for MEDITECH** GUI.

2. In the left panel, click **Configure**.

3. In the middle panel, expand **XMS Devices**, right-click the device that you want to remove, and then select **Remove XMS**.

4. In the **Remove XMS Device** dialog box, click **OK**.

Adding vCenter Servers

The NetWorker Module for MEDITECH communicates with vCenter Servers to store the MEDITECH data.

Before you begin

Ensure that you added the storage device, that is, the RecoverPoint appliance that contains the vCenter Server that you want to add.

Procedure

1. Open the **NetWorker Module for MEDITECH** GUI.

2. In the left panel, click **Configure**.

3. In the middle panel, right-click **vCenter Servers**, and then select **Add vCenter Server**.

   The **Add vCenter Server** dialog box appears.

   Figure 24 Add vCenter Server

4. Specify the following fields:

   - **Cluster ID**: From the list, select the cluster ID, that is either the name or the IP address of the RecoverPoint appliance that contains the vCenter Server that you want to add.

- **Hostname**: Type the hostname of the vCenter Server.
- **User Name**: Type the username to access the vCenter server.
- **Password**: Type the password to access the vCenter server.

5. Click **Verify** to validate the values in the fields.

6. Click **OK**.

Editing vCenter Servers

Procedure

1. Open the **NetWorker Module for MEDITECH** GUI.

2. In the left panel, click **Configure**.

3. In the middle panel, expand **vCenter Servers**, right-click the vCenter Server that you want to edit, and then select **Edit vCenter Server**.

   The **Edit vCenter Server** dialog box appears.

   Figure 25 Edit vCenter Server

4. Edit the values in the fields, as necessary.

5. Click **Verify** to validate the values.

6. Click **OK**.

Removing vCenter Servers

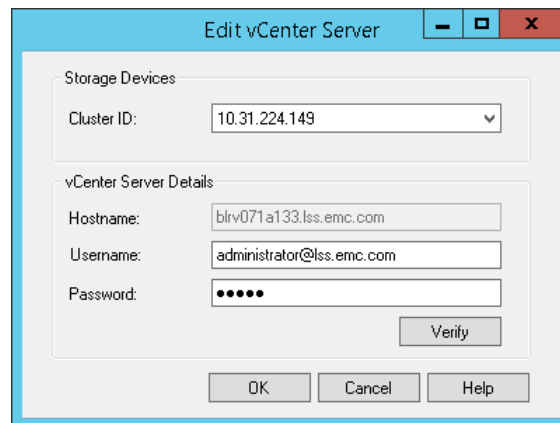### Procedure

1. Open the **NetWorker Module for MEDITECH** GUI.

2. In the left panel, click **Configure**.

3. In the middle panel, expand **vCenter Servers**, right-click the vCenter Server that you want to remove, and then select **Remove vCenter Server**.

4. In the **Remove vCenter Server** dialog box, click **OK**.

CHAPTER 5

Backups

This chapter includes the following sections:

Scheduling backups

The NetWorker Module for MEDITECH software enables you to perform regular backups of MEDITECH segments. Use the NMC to configure and schedule backups.

The most reliable way to protect the MEDITECH data is to schedule backups of the MEDITECH hosts at regular intervals. You can configure scheduled backups to run at any time.

Scheduled backups save the following items from the NetWorker server:

- Data
- Client indexes

Scheduling the NetWorker Module for MEDITECH backups is similar to scheduling the NetWorker file system backups. You must define groups, clients, policies, and schedules for the MEDITECH hosts. Always perform a full backup.

Use the following methods to back up the MEDITECH data:

- ISB: The NetWorker Module for MEDITECH backs up the data to the NetWorker devices such as tapes, Data Domain, and disks.
- IDR: The NetWorker Module for MEDITECH retains the point-in-time snapshot on the storage array while indexing the snapshot details in the NetWorker database. You can use the snapshot information when you perform IDR recoveries.

ISB

Each backup of MEDITECH is a full backup of a MEDITECH data LUN. The ISB process saves the point-in-time images of MEDITECH data to a NetWorker device that is configured on a NetWorker storage node. According to the workflow and the array that you use, the ISB process resynchronizes the clone with the primary LUN or deletes the snapshots. The source and target LUNs must exist on the same type of array.

The NetWorker Module for MEDITECH supports ISBs by using the VNX, Unity, Symmetrix VMAX, Dell Storage SC Series, XtremIO, RecoverPoint, and RecoverPoint for virtual machine storage systems.

When you use RecoverPoint for virtual machine, the NetWorker Module for MEDITECH supports MEDITECH data also on arrays of other companies if MBF supports the arrays.

The NetWorker Module for MEDITECH uses the MEDITECH MBF utility to obtain a list of the source LUNs, and quiesce and unquiesce the MEDITECH databases. You can see the status of the operations in the NetWorker Module for MEDITECH logs. If the quiesce operation fails, you must run the MBF reset command before you perform the next backup.

RecoverPoint creates bookmarks in the `NMMedi_yyyymmddhhMMss_<GUID>` format and stores the bookmarks at the CDP, CRR, CLR, and SBR sites. You can sort bookmarks by name (timestamp). NMMedi_20151228035612_186c8db1-0000000e-0000103c-5681235c-00020c00-651df529 is an example for a bookmark. The NetWorker Module for MEDITECH communicates with RecoverPoint to get the bookmarked data and backs up the data to a NetWorker device.

Note

Multiple independent backups that involve the same MBI host fail when you concurrently perform the backups. However, this limitation does not apply to XtremIO.

You can view the successfully backed up MEDITECH segments in the NetWorker Module for MEDITECH GUI, and recover these MEDITECH segments.

IDR

The IDR backup enables you to register bookmarks by using RecoverPoint. The backup does not save data to a NetWorker device.

RecoverPoint creates bookmarks in the `NMMedi_yyyymmddhhMMss_<GUID>` format and stores the bookmarks at the CDP, CRR, CLR, and SBR sites. You can sort bookmarks by name (timestamp). NMMedi_20151228035612_186c8db1-0000000e-0000103c-5681235c-00020c00-651 df529 is an example for a bookmark.

The cataloged bookmarks along with the MEDITECH hostname associations appear in the NetWorker Module for MEDITECH GUI, which provides an option to validate the bookmarks.

The NetWorker Module for MEDITECH supports IDR backups by using the RecoverPoint, RecoverPoint for virtual machines, VPLEX with RecoverPoint, VNX with RecoverPoint, Unity with RecoverPoint, Symmetrix VMAX with RecoverPoint, and XtremIO with RecoverPoint storage systems.

IDR In-Frame

An IDR In-Frame backup is a point-in-time snapshot of the MEDITECH segments that exist on an array. For the backups to succeed, both the source and target LUNs must exist on the same array. The NetWorker Module for MEDITECH supports IDR In-Frame backups by using the VNX, Unity, Symmetrix VMAX, Dell Storage SC Series, and XtremIO arrays.

NOTICE

The NetWorker Module for MEDITECH does not support overlap of ISB and IDR In-Frame backups. However, this limitation does not apply to the backups that use XtremIO.

Configuring scheduled backups

Use NMC to configure the MEDITECH data backups and perform the backups. If you want to perform a file system backup of the proxy host, you must create a client resource for the host and schedule the backup at a different time.

Note

Ensure that the ISB and IDR backups do not overlap. If both the backups use the same MBI server, one of the backups fails. However, this limitation does not apply to the backups that use XtremIO and RecoverPoint.

Scheduling backups

Ensure that you configured the backup devices before scheduling a backup.

The *NetWorker Administration Guide* provides information.

Perform the following steps to schedule a backup:

1. In the NMC, select **Enterprise** and add NetWorker servers.

2. Right-click a server and select **Launch Application**.

3. In the **NetWorker Administration** window, select **Protection**.

4. Define groups, clients, policies, workflows, and actions specifically for the MEDITECH hosts:

   a. Create a group that includes the NetWorker Module for MEDITECH proxy host information. If you perform both the ISB and IDR backups, create a group for each backup.

   b. Create a client for the proxy server and specify **nsrmedisv.exe** in the **Backup command** field on the **Apps & Modules** tab in the **Client Properties** dialog box.

   c. According to your requirements, update the application information variables in the **Application information** field.

   d. Create a separate coherency group for each type of backup on the proxy host.

   e. Create a save set to identify each coherency group for the MEDITECH hosts that you created in the NetWorker Module for MEDITECH GUI.
   The syntax of the save set is `MEDI:<Coherency_Group>`.

   Use the following save set to perform a single host backup:

   `<Coherency_Group>/<MBI_Host>`

   For example, medi1/feni4

   Use the following save set to perform a single segment backup:

   `<Coherency_Group>/<MBI_Host>/<Segment>`

   For example, medi1/feni4/feni1 E

   Assume that you have the following setup:

   - A client/server setup with MBISERVER as the MEDITECH host.

   - Three file servers FS01, FS02, and FS03.

   - Each file server has two segments each on E and G Drives.

   With the specified setup, you can use the save set to perform the following tasks:

   - Back up all the file servers with all the segments.

     `MEDI:<Coherency_Group> or MEDI:<Coherency_Group>/MBISERVER`

   - Back up only one file server and both the segments.

     `MEDI:<Coherency_Group>/MBISERVER/FILESERVER*`

     For example, `MEDI:<Coherency_Group>/MBISERVER/FS01*`

   - Back up only one file server and a specific segment.

     `MEDI:<Coherency_Group>/MBISERVER/FILESERVER DRIVE`

     For example, `MEDI:<Coherency_Group>/MBISERVER/FS02 G`

   - Back up multiple file servers and multiple segments:

     `MEDI:<Coherency_Group>/MBISERVER/FILESERVER DRIVE,FILESERVER DRIVE`

For example, `MEDI:<Coherency_Group>/MBISERVER/FS01*,FS02 E,FS03 G`

 f. Ensure that you specify `0` in the **Retries** field on the **Advanced Options** page in the **Policy Action Wizard**.

 g. Schedule the backup.

> **NOTICE**

If you selected the **Concurrent** cloning option in the **Policy Action Wizard** in the **NetWorker Administration** GUI, the concurrent or immediate cloning starts only after all the MEDITECH segments of the selected save set are backed up. The concurrent or immediate cloning applies only to the ISB backups.

To view more information about backups, set the debug level to 5 by using one of the following methods:

- In case of a scheduled backup, specify `nsrmedisv -D5` in the **Backup command** field in **Client Properties** dialog box of NMC.

- In case of a manual backup, run the following command:
  `nsrmedisv -s <server_name> -g <save_group> -m <proxy_server_name> -N MEDI:<Coherency_Group> -D5`

To back up data to a specific pool by using CLI, run the following command:

`nsrmedisv -s <server_name> -g <save_group> -m <proxy_server_name> -b <media_pool_name> -N <save_set_name>`

Checking the backups status

After you start a backup in the NMC, you can check the status of the backup by using the following methods:

- In the **NetWorker Module for MEDITECH** window, use the **Monitor** view.

- On the proxy host, check whether the status of the `nsrmedisv.exe` job is **Running** in the **Windows Task Manager** window.

- On the proxy host, open the `nsrmedisv.raw` file to review the information about the backup job. The default location of the log file is `C:\Program Files\EMC NetWorker\nsr\applogs`.

> **Note**
>
> Use the `nsr_render_log.exe` utility to render the log messages for the `nsrmedisv.raw` file. The Support team provides more information about this utility.

- On the NetWorker server, review the logs in either `nsr\tmp\policy\<policy_name>` or `nsr\logs\policy\<policy_name>`

After the ISBs complete, the NetWorker Module for MEDITECH resynchronizes the clone and production LUNs regardless of the status of the backups.

Viewing the backups status and reports

Use one of the following methods to view the status of the backups:

- View the status of the NetWorker group in the **Policies** panel in the **NetWorker Administration** window.
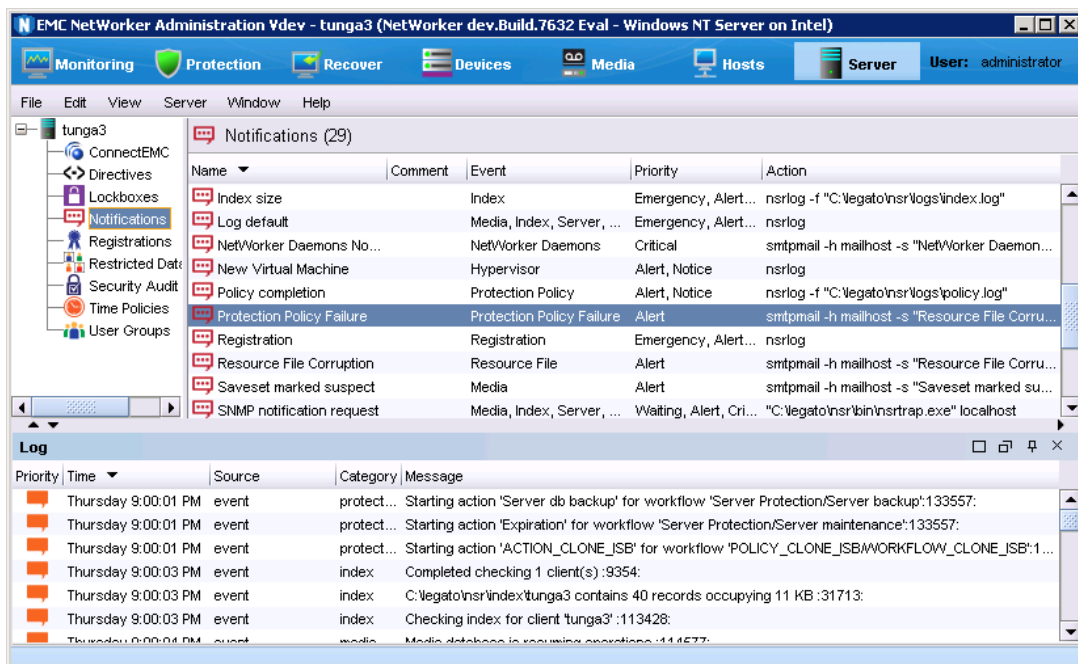
Figure 26 Status of the backups
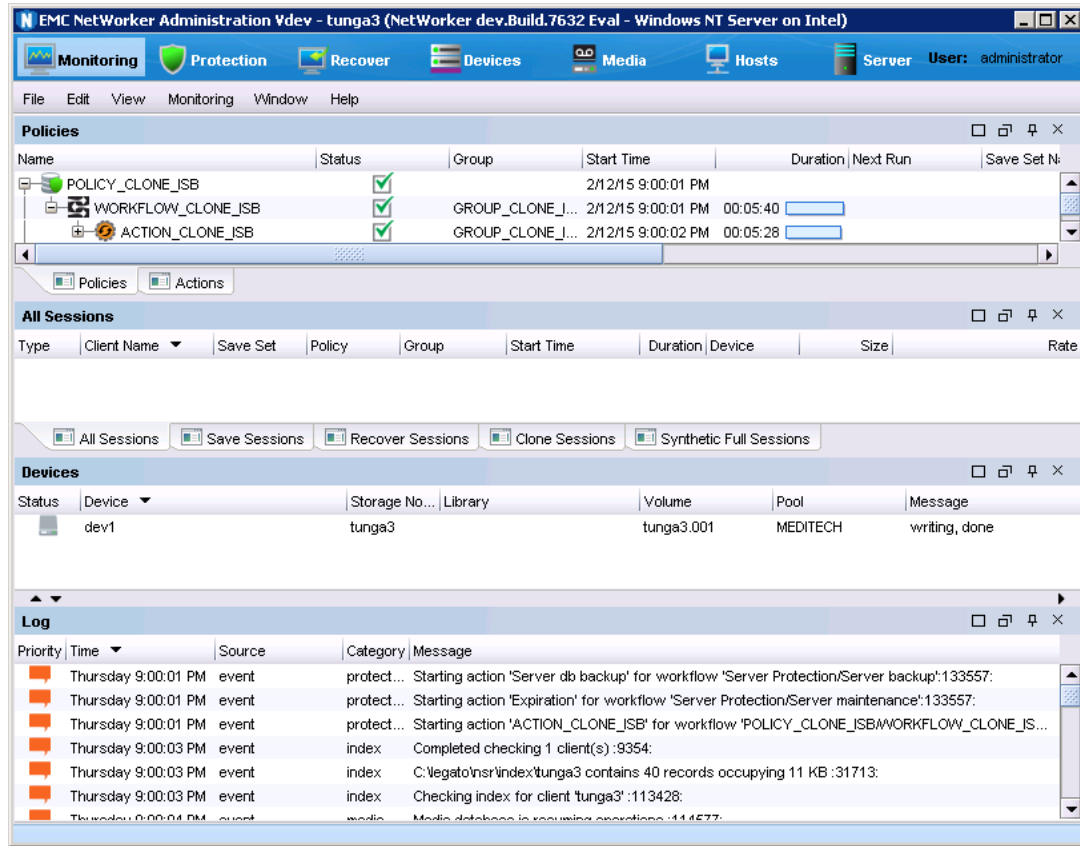
- Configure NetWorker to email a notification about the status of each completed backup to the administrators.

Note

It is recommended that you configure NetWorker to email a notification only when a backup fails.


Figure 27 email notification

Use one of the following methods to configure NetWorker to email the notification:

- Use the default notification:

  1. In the **NetWorker Administration** window, click **Server**.

  2. In the left panel, select **Notifications**.

  3. In the **Notifications** panel, right-click **Protection Policy Failure** and select **Properties**.

  4. In the **Notification Properties** dialog box, perform the following steps:

     a. On the **General** tab, in the **Action** field, type `smtpmail -h mailhost -s <"message"> <user>`.

     b. Click **OK**.

- Create a custom notification:

  1. In the **NetWorker Administration** window, click **Server**.

  2. In the left panel, right-click **Notifications** and select **New**.

  3. In the **Notification Properties** dialog box, perform the following steps:

     a. On the **General** tab, specify the following fields:

        - **Name**: Type a name for the notification.

        - **Comments**: Type comments that pertain to notification.

        - **Event**: Select the events for the notification.

        - **Priority**: Specify the priority of the notification.

        - **Action**: Type `smtpmail -h mailhost -s <"message"> <user>`

     b. Click **OK**.

Use the NMC to view the MEDITECH groups, clients, and servers reports.

1. In the NMC, click **Reports**.

2. In the left panel, expand the **Policy Statistics** folder and select an option to view the statistics.

3. In the right panel, on the **Configure** tab, configure the parameters to include in the report.

Figure 28 Configure reports
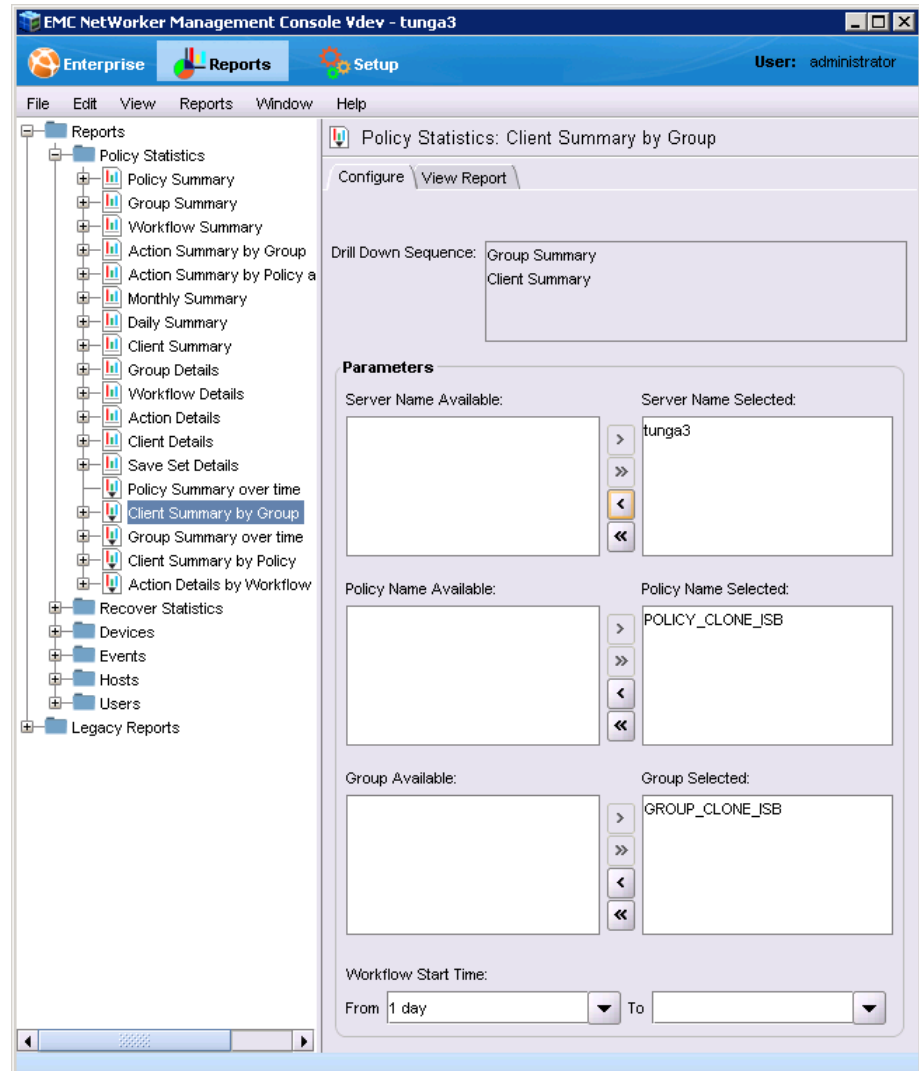
4. Click **View Report**.

Backing up the configuration file

Each NetWorker Module for MEDITECH backup backs up the `mediconfig.xml` configuration file. You can also back up the configuration file by using the NetWorker User program.

Procedure

1. On the proxy host, select **Start** > **All Programs** > **EMC NetWorker** > **NetWorker User**.

2. Connect to the NetWorker server that you use to perform scheduled backups.

3. Click the **Backup** icon.

4. In the left panel, navigate to the folder that contains the configuration file and select the file.

5. Click **Start**.

Backups

CHAPTER 6

Recoveries

This chapter includes the following sections:

Recovering ISB data

You can perform only ISB data recoveries by using the NetWorker Module for MEDITECH GUI. Always contact your MEDITECH HCIS coordinator or the MEDITECH Systems Support Group if you have a problem that necessitates a data recovery. You must involve MEDITECH professionals to perform recoveries.

Before you begin

Ensure that you meet the following requirements:

- The LUN is a raw disk, that is, the LUN does not have a file system, but is online (accessible and is in the ready state).
- The target LUN size is more than or the same as the source LUN size.
- To recover data to the target LUN:
  - The target LUN is not in a **Read Only** state.
  - The target LUN is a raw disk, that is, the LUN does not have a file system.

Note

To recover data to the original target LUN instead of another disk, break the relationship between the source and target LUNs. However, this requirement does not apply to the backups that used VNX-SNAP, Unity, XtremIO, or Dell Storage SC Series. When you use RecoverPoint for virtual machine, the target can be a VMDK.

- When you use VNX-SNAP, Unity, XtremIO, or Dell Storage SC Series, you must use a new LUN to perform the recovery.
- When you use RecoverPoint for virtual machine, target can be either a LUN or a VMware disk.

Procedure

1. In the **NetWorker Module for MEDITECH** window, click **Recover**.
2. Select the NetWorker server that you used to back up data.

   Selecting a NetWorker server on page 29 provides information.

3. Click the **Browse time** icon.

   The **Change Time** dialog box appears.
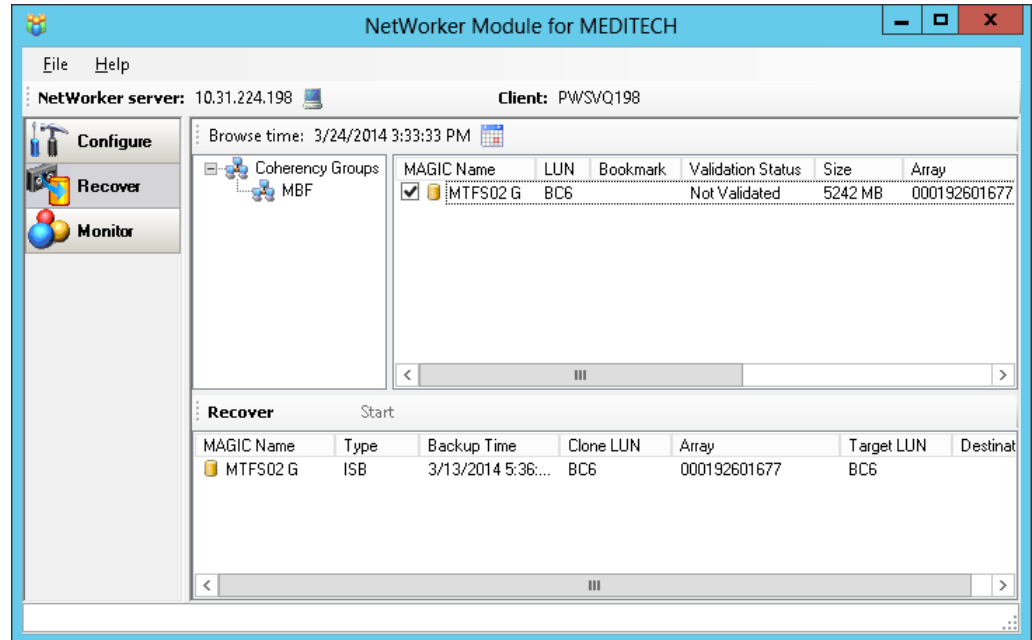
   Figure 29 Change time
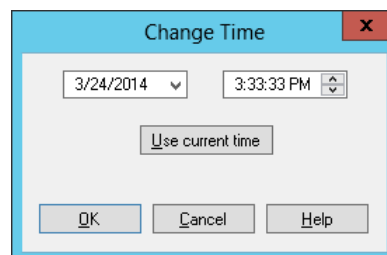
   The default values are the current date and the current time.

4. Select the date and time either on or before which you performed the latest backup and click **OK**.

5. On the **Recover** page, select the coherency group that has the required backed up segments to recover.

   The backed up segments appear in the right panel.

   Figure 30 ISB backed up segments

   You can perform the following optional steps:

   - To view the properties of a segment, right-click the segment and select **Properties**.

     In the **LUN Properties** dialog box, review the information and click **OK**.

   - To select the specific versions of a segment to recover, right-click the segment and select **Versions**.

     In the **Versions** dialog box, select the versions of the required backed up segments to recover and click **OK**.

   - To retrieve information about the NetWorker volume that contains the backed up MEDITECH segments, right-click the segment and select **Required Volumes**.

     In the **Required NetWorker Volumes** dialog box, review the details and click **OK**.

6. Select the segments to recover.

   The selected segments appear in the **Recover** panel.

7. Right-click the segment in the **Recover** panel and select **Target Destination** to select the destination for the recovery data.

   The **Select Target LUN** dialog box appears.

Figure 31 Select target LUN
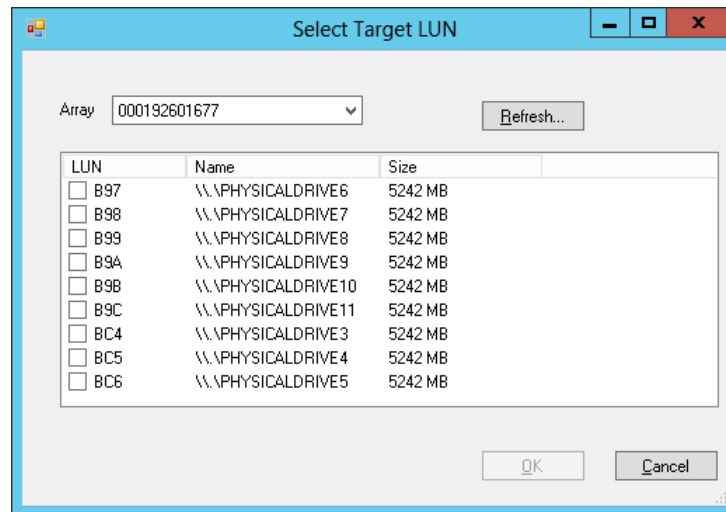
8. Perform the following steps in the dialog box:

   a. From the **Array** list, select the array that contains the target LUNs to recover the selected segment.

   b. Click **Refresh** to update the list of LUNs for the selected array.

   c. Select the LUNs.

   d. Click **OK**.

9. Repeat step 7 and step 8 for all the segments in the **Recover** panel.

10. Click **Start**.

After you finish

• Restart the proxy host.

• Use one of the following methods to view the status of the recoveries:

   ▪ In the **NetWorker Module for MEDITECH** window, use the **Monitor** view.

   ▪ On the proxy host, open the `nsrmedirc.raw` file to review the information about the recovery job. The default location of the log file is `C:\Program Files\EMC NetWorker\nsr\applogs`.

• If the target LUN is not mounted with the recovered data, perform one of the following tasks:

   ▪ Restart the proxy host.

   ▪ Check for stale volume GUIDs by using the `mountvol /p` command, and then restart the proxy host.

   ▪ If a drive letter is not automatically assigned, manually assign it. Do not format the disk.

   ▪ Recover the data to the same LUN.

Recovering IDR data

This IDR process also applies to the VNX with RecoverPoint, Unity with RecoverPoint, Symmetrix VMAX with RecoverPoint, VPLEX with RecoverPoint, XtremIO with RecoverPoint, and RecoverPoint for virtual machine configurations.

The NetWorker Module for MEDITECH provides the administrative information that recovering the IDR data requires. To recover IDR data, you must contact the MEDITECH Systems Support Group for assistance. Always contact your MEDITECH HCIS coordinator or the MEDITECH Systems Support Group if you have a problem that necessitates a data recovery. You must involve MEDITECH professionals to perform recoveries.

For IDR data recoveries, the NetWorker Module for MEDITECH GUI enables you to only view the backed up segments and the associated bookmarks.

To view the backed up information by using the CLI, run the following command on the NetWorker server:
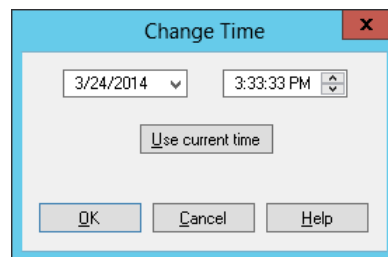
```
nsrmedirc -s <NetWorker_server> -x
```

The recovery saves a `.csv` file with the backup information in the `C:\Program Files\EMC NetWorker\nsr\applogs` folder.

Procedure

1. In the **NetWorker Module for MEDITECH** window, click **Recover**.

2. Select the NetWorker server that you used to back up data.

3. Click the **Browse time** icon.

   The **Change Time** dialog box appears.

   Figure 32 Change time

   The default values are the current date and the current time.

4. Select the date and time either on or before which you performed the backups that you want to view and click **OK**.

5. On the **Recover** page, select the coherency group that has the required backed up segments to recover.

   The backed up segments appear in the right panel.

Figure 33 IDR backed up segments
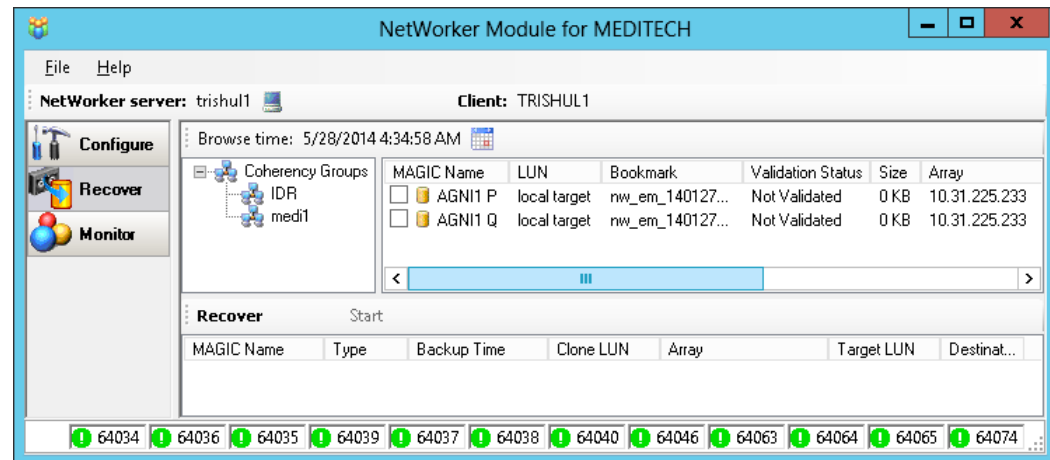
6. [Optional] You can perform the following steps:

    • To view the properties of a segment, right-click the segment and select **Properties**.

       In the **LUN Properties** dialog box, review the information and click **OK**.

    • To select the specific versions of a segment to recover, right-click the segment and select **Versions**.

       In the **Versions** dialog box, select the versions of the required backed up segments to recover and click **OK**.

7. Note the segment that you want to restore, right-click the segment, and then select **Validate Bookmarks**.

8. Start the Unisphere for RecoverPoint GUI.

9. Click **Recovery** > **Test a Copy and Recover Production**.

10. On the **Select a Copy** page:

    a. Select the consistency group, to which the segment that you want to restore belongs.

    b. From either the non-production copy list or the diagram, select the non-production copy.

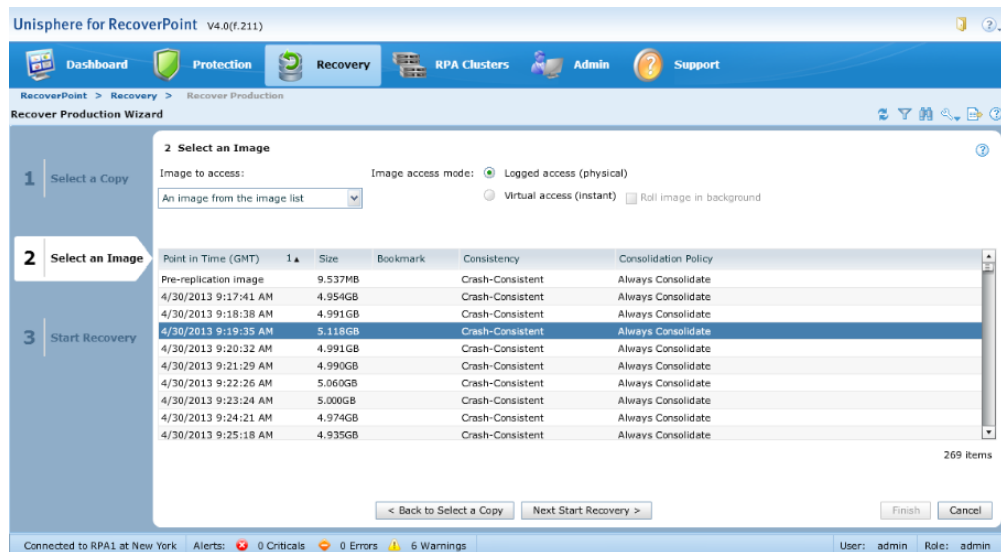**Figure 34** Unisphere for RecoverPoint - Select a copy
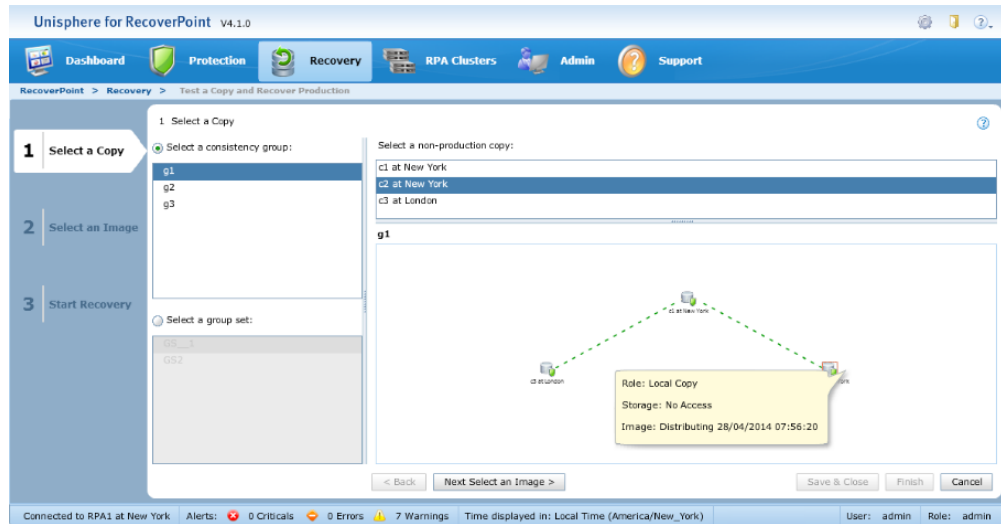
   c. Click **Next Select an Image**.

11. On the **Select an Image** page:

   a. From the **Image to access** list, select the source, from which you want to access the image.

   b. To access the image, select the mode, such as the **Logged access (physical)**, or the **Virtual access (instant)**.

Figure 35 Unisphere for RecoverPoint - Select an Image
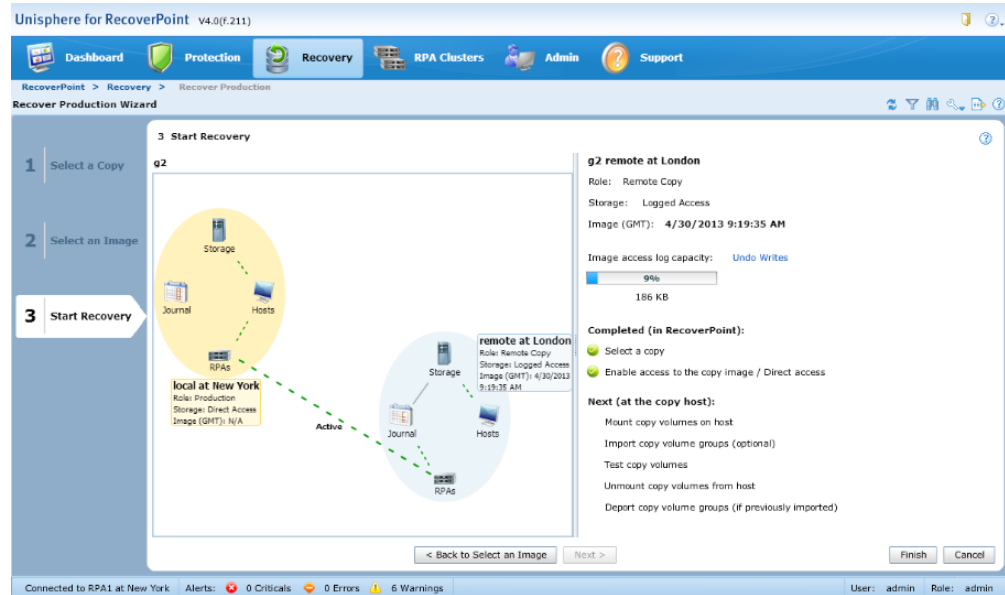

   c. Mount the copy volumes that you want to access, and then import volume groups.

   d. Click **Next Start Recovery**.

   RecoverPoint starts enabling access to the selected image.

12. On the **Start Recovery** page:

a. Click **Next**.

Figure 36 Unisphere for RecoverPoint - Start Recovery

b. Wait for the image access to be enabled.

Note the status of the **Image access log capacity** progress bar. It indicates the remaining amount of time to access the image before the writes to the copy are blocked. You can add journal volumes, undo writes, enable direct access, or disable image access.

c. Test the copy image to ensure that it suits your requirement.

Note the status of the **Image access log capacity** progress bar. It indicates the remaining amount of time to access the image before the writes to the copy are blocked. You can add journal volumes, undo writes, enable direct access, or disable image access.

While testing the copy image, you can perform the following tasks:

- To undo all writes to the copy volumes without disabling the image access, click **Undo Writes**.

  Note

  Before you click **Undo Writes**, shut down all applications that access the copy volumes on the host, unmount all copy volumes, and then deport volume groups. After the writes are undone, mount the copy volumes, and then import volume groups to continue testing.

- To disable the image access, click **Cancel**.

- To exit the wizard without disabling the image access, click **Save & Close**.

d. (Optional) To remove writes to the production copy before recovering it, click **Undo Writes**, and then on the copy host, unmount the copy volumes, and then deport volume groups.

e. Click **Finish**.

Recovering IDR In-Frame data

Before you begin

To view the backed up information by using the CLI, run the following command on the NetWorker server:

```
nsrmedirc -s <NetWorker_server> -x
```

The recovery saves a `.csv` file with the backup information in the `C:\Program Files\EMC NetWorker\nsr\applogs` folder.
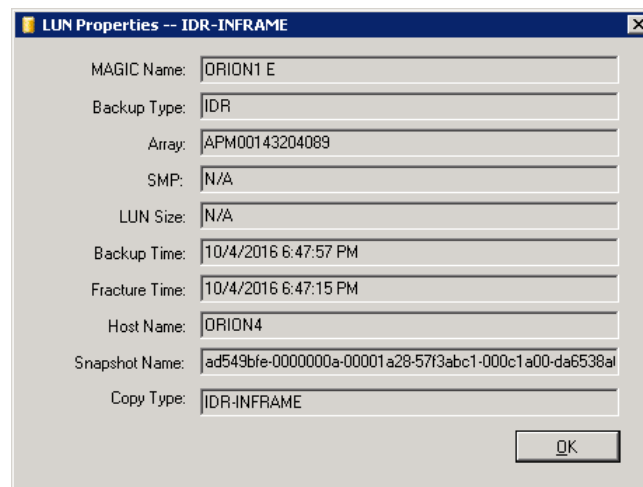
Recovering IDR In-Frame data when you use VNX

Procedure

1. Perform steps 1 through 5 that the Recovering IDR data on page 75 section describes.

2. Right-click the segment to restore and select **Properties**.

   The **LUN Properties - IDR In-Frame** dialog box appears.

   Figure 37 VNX LUN properties

3. From the **Snapshot Name** field, note the value.

4. Start EMC Unisphere GUI.

5. Click **Data Protection** > **Snapshots**.

6. On the Snapshots tab:

   a. Under **Source/Snapshot**, expand the LUN that contains the snapshot name that you noted in step 3.

Note

Ensure that you stopped input and output to the source LUN, flushed the cached data from the host operating system, and then unmounted the source LUN from the host.

---

b. Right-click the snapshot, and then select **Restore**.

Figure 38 Unisphere for VNX
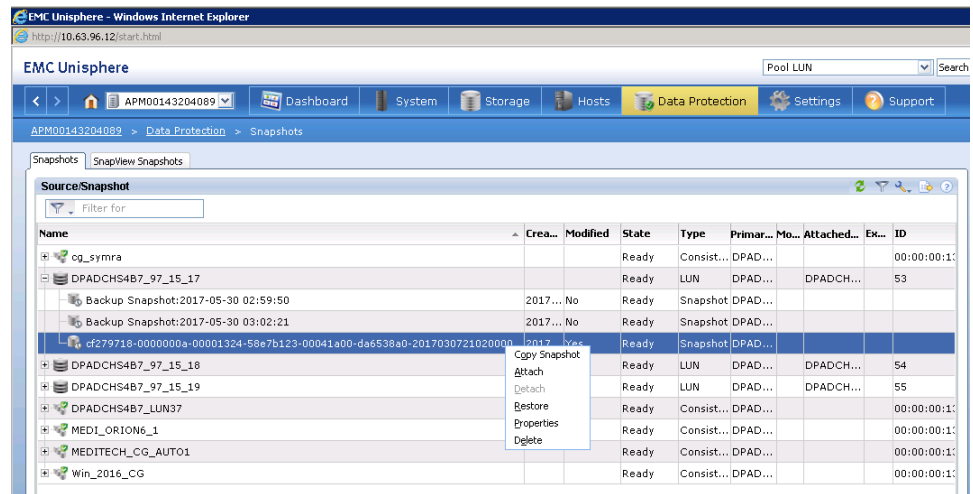
7. In the confirmation dialog box, click **Yes**.

8. In the **Replace LUN Data with Snapshot Data** dialog box, select the snapshot from the list, and then click **OK**.

Recovering IDR In-Frame data when you use Symmetrix VMAX

You can recover IDR In-Frame data according to the Symmetrix VMAX's snapshot technology that you use. The NetWorker Module for MEDITECH supports the Symmetrix VMAX's VPSNAP and SNAPVX snapshot technologies.

Recovering IDR In-Frame data when you use the VPSNAP snapshot technology

Procedure

1. On the proxy host, identify a Symmetrix VMAX LUN as the target, and then note the name or value of it.

2. Perform steps 1 through 5 that the Recovering IDR data on page 75 section describes.

3. Right-click the segment to restore and select **Properties**.

   The **LUN Properties - IDR In-Frame** dialog box appears.

Symmetrix VMAX VPSNAP - LUN properties

LUN Properties -- INFRAME

MAGIC Name:	ANDROMEDA1 H
Backup Type:	IDR
Array:	000196700638
Clone LUN:	01BA5
LUN Size:	5243 MB
Backup Time:	10/4/2016 4:02:54 AM
Fracture Time:	10/4/2016 4:02:20 AM
Host Name:	andromeda4
Copy Type:	IDR-INFRAME

OK

4. From the **Clone LUN** field, note the value.

5. Create a device file, which is a .txt file that must contain the source and target LUN IDs that are separated by a space.

   For the source LUN ID, specify the Clone LUN value that you noted in step 4.

   For the target LUN ID, specify the value that you noted in step 1.

6. To perform the recovery, run the following Symcli command:

   ```
   symclone –sid <Symmetrix_ID> –f <device_filename> restore
   ```

   For example, symclone -sid 638 -f device.txt restore.

   The Symmetrix VMAX documents provide more information about the Symcli commands.

Recovering IDR In-Frame data when you use the SNAPVX snapshot technology

Procedure

1. Perform steps 1 through 5 that the Recovering IDR data on page 75 section describes.

2. Right-click the segment to restore and select **Properties**.

   The **LUN Properties - IDR In-Frame** dialog box appears.

Figure 40 Symmetrix VMAX SNAPVX - LUN properties

3. From the **Clone LUN** field, note the value.

4. To perform the recovery, run the following Symcli command:

   ```
   symsnapvx -sid <Symmetrix_ID> -dev <device_ID> -snapshot_name
   <snapshot_name> restore
   ```

   For <snapshot_name>, specify the Clone LUN value that you noted in step 3.

   For example, symsnapvx -sid 638 -dev 031EA -snapshot_name
   NMMedi_1504871195 restore.

   The Symmetrix VMAX documents provide more information about the Symcli
   commands.

Recovering IDR In-Frame data when you use Unity

Procedure

1. Perform steps 1 through 5 that the Recovering IDR data on page 75 section
   describes.

2. Right-click the segment to restore and select **Properties**.

   The **LUN Properties - IDR In-Frame** dialog box appears.

Figure 41 Unity LUN properties

3. From the **Snapshot Name** field, note the value.

4. By using the snapshot value that you have noted, use one of the following methods to recover the image:

   • Unisphere GUI:

      a. In the EMC² Unisphere GUI, in the left panel, select **Block**.

      b. In the right panel, on the **Consistency Groups** tab, double-click the consistency group that contains the LUNs to recover.
      The **<Consistency_Group> Properties** dialog box appears.

      Figure 42 Unisphere - Consistency Group properties

   c. On the **Snapshots** tab:

      a. Select the snapshot to recover.

b. From the **More Actions** list, select **Restore**.

- Unisphere CLI:
  Run the following command:

  ```
  uemcli -d <Unity_IP_Address> -u <Unity_Username> -p
  <Unity_Password> /prot/snap -name <Snapshot_Name> restore
  ```

Recovering IDR In-Frame data when you use XtremIO

Procedure

1. Perform steps 1 through 5 that the Recovering IDR data on page 75 section describes.

2. Right-click the segment to restore and select **Properties**.

   The **LUN Properties - IDR In-Frame** dialog box appears.

   Figure 43 XtremIO LUN properties

3. From the **Snapshot Name** field, copy the value, and note the cluster name that is present in the value.

   The value in this field is in the following format:

   NMMEDI_snapshot_<cluster_name>_<timestamp_in_ISO_format>

4. Log in to the XMS device and start **XtremIO Storage Management Application**.

Figure 44 XtremIO Storage Management Application
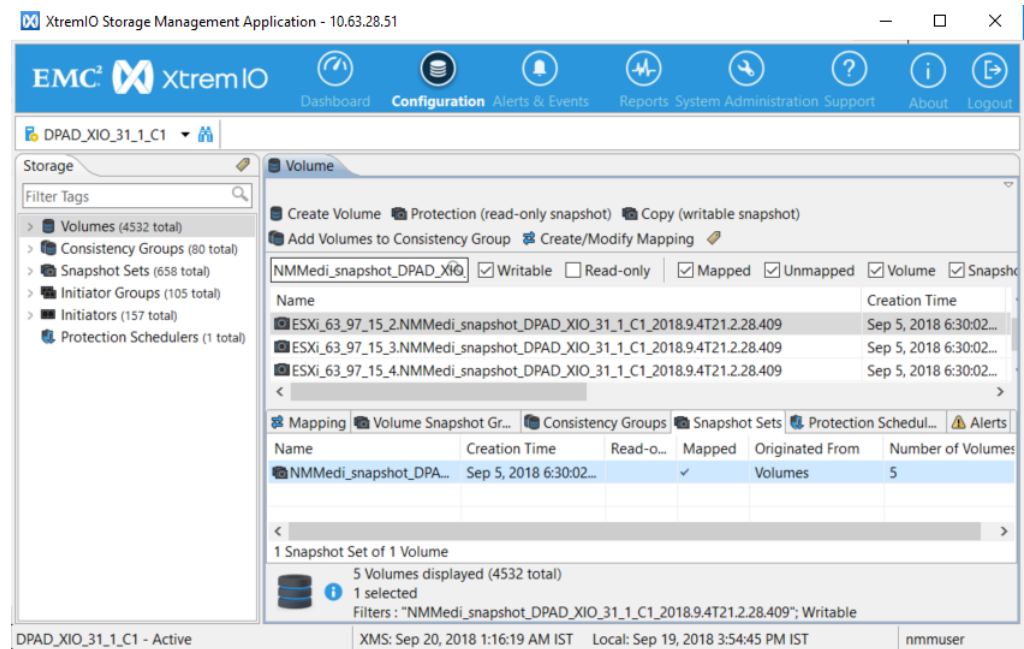
Note

This XtremIO Storage Management Application GUI pertains to XtremIO 4.0.1. The GUI can vary in different versions.

5. Click the **Configuration** tab.

6. From the list, select the cluster name that you have noted in step 3.

7. In the left panel, select **Volumes**.

8. In the right panel, in the text box, paste the value that you have copied in step 3, and then click the search icon.

   The IDR In-Frame snapshots of the volumes at the specific point-in-time appear in the table.

9. In the table, right-click the relevant snapshot, and then select **Protections \Copies** > **Refresh this Volume**.

10. In the message box that appears, click **Yes**.

   The **Refresh from writable Snapshot copy** dialog box appears.

11. On the **Select Snapshot** page, from the list of snapshots, select the snapshot to recover.

12. Click **Finish**.

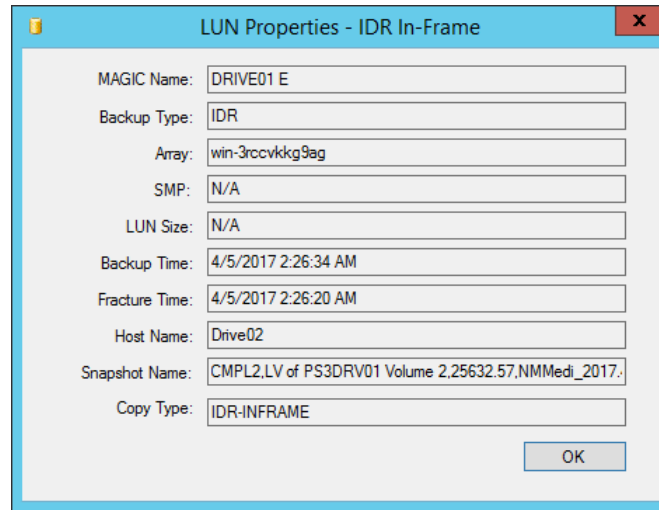# Recovering IDR In-Frame data when you use Dell Storage SC Series

Procedure

1. Perform steps 1 through 5 that the section describes.

2. Right-click the segment to restore and select **Properties**.

   The **LUN Properties - IDR In-Frame** dialog box appears.

3. From the **Snapshot Name** field, note the value.

    The value in this field is in the following format:

    <storage_controller_name>,<volume_name>,<volume_instance_ID>,<snapshot_description>

4. Log in to Dell Storage Manager.

Figure 46 Dell Storage Manager
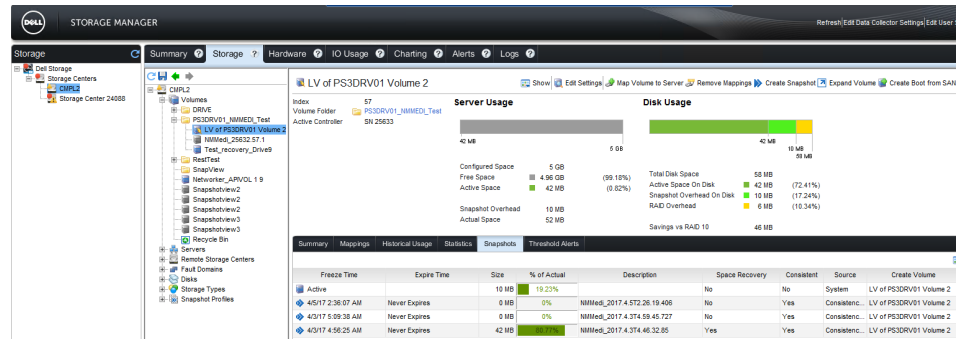
5. In the **Storage** panel, expand **Dell Storage**, **Storage Centers**, and then select the Dell Storage SC Series array by using the storage controller name from the value that you have noted in step 3.

6. In the right panel, click the **Storage** tab, and then perform the following steps:

    a. In the left panel, expand the selected <Dell Storage SC Series> array, **Volumes**, and then select the volume by using the volume name from the value that you have noted in step 3.

    b. In the right panel, click the **Snapshots** tab, and then identify the snapshot by using the snapshot description from the value that you have noted in step 3.

    c. Right-click the snapshot, and then select **Create Volume from Snapshot**.

    d. In the **Create Volume from Snapshot** dialog box, in the **Name** field, type the name for the snapshot, and then click **OK**.

e. On the **Storage** tab, in the left panel, under **Volumes**, right-click the volume that you have created, and then select **Map Volume to Server**.

f. In the **Map Volume to Server** dialog box, perform the following steps:

  a. Click **Next**.

  b. On the next page, click **Finish**.

7. Rescan the server for new devices.

8. Identify the mapped volume by using the World Wide Name (WWN), and then mount it.

   You can see the backed up data.

Performing redirected recoveries

You can perform redirected recoveries of only the ISB data. The following procedure describes how to recover the **old_client** (example client name) data to the **new_client** (example client name).

Procedure

1. On the **new_client**, update the etc\hosts file by using the details of the **old_client**.

2. On **old_server**, the server on which **old_client** is configured, configure **new_client**.

3. On **old_server**, add **new_client** to the **Remote Access** list on the **Globals (2 of 2)** tab in the **Client Properties** dialog box of **old_client**.

4. On **new_client**, start the NetWorker Module for MEDITECH by running the following command:

   nwmedi -s old_server -c old_client

5. Perform the steps that Recovering ISB data on page 72 describes.

Recovering the configuration file

If you lose the actual configuration file, you can recover the backed up configuration file, and then use it.

Note

Recovering the backed up mediconfig.xml configuration file results in the NetWorker Module for MEDITECH configuration settings that are specific to the configuration file that you recover.

Procedure

1. On the proxy host, select **Start** > **All Programs** > **EMC NetWorker** > **NetWorker User**.

2. Connect to the NetWorker server that you use to perform the scheduled backups.

3. Click the **Recover** icon to browse the files that you or another user backed up.

4. In the left panel, navigate to the folder that contains the configuration file and select the file.

5. Click **Start**.

CHAPTER 7

Troubleshooting

This chapter includes the following section:

Troubleshooting the NetWorker Module for MEDITECH issues

This section lists the common issues with the NetWorker Module for MEDITECH and provides workarounds for these issues:

- After you install the NetWorker Module for MEDITECH and start the GUI, an error screen appears if you have not installed Solutions Enabler.

  Workaround:

  Install EMC Solutions Enabler 8.4.

- Unable to find the physical drive information on VNX.

  Workaround:

  - Check whether the clone LUN is surfaced on the proxy host.

  - Check whether the location of the Solutions Enabler bin is in the system path.

  - For a detailed error information, review the following Solutions Enabler log file. `\Program Files\EMC\SYMAPI\log\symapi-<current_date>.log`

- During ISBs, physical drives are not rescanned even after a minute.
  Workaround:

  Increase the rescan waiting period to ideally 120 seconds by specifying the following application information variable in the **Application information** field in the **Client Properties** dialog box of the NMC:

  `NSR_NMMEDI_DEVICE_REFRESH_WAIT_SECS_VAR=120`

- The IDR In-Frame backups sometimes fail and report the `Error creating media database entries` error in the log file.
  Workaround:

  Ignore the error message because though the IDR In-Frame point-in-time snapshots do not appear in the NetWorker Module for MEDITECH GUI, they appear in the array.

- Taking snapshots on an XtremIO array fails and displays the following error:

  ```
  "ERROR: Snapshot of the cluster <cluster_name> has failed.
  Snapshot threshold has reached the maximum value. Delete unwanted
  snapshots to take a successful snapshot."
  ```

  Workaround:

  1. By using either the `show-clusters` command on the XMS device or REST API `get clusters` command, check the total number of volumes (snapshots) and internal volumes (snapshots) that are created by using RecoverPoint. The internal volumes are invisible unless you use one of these commands.

  2. Delete the unwanted snapshots.

- Sometimes ISBs and IDR backups fail, and the `nsrmedisv.log` file contains the following message:

  ```
  Path to uemcli executable not found. Windows Registry entry
  "UEMCLI_directory" not set.
  ```

  Workaround:

Specify the Windows registry setting for the UEMCLI system path as Unity configuration requirements on page 36 describes.

- While adding a Unity array by using the **Add Storage Array** dialog box, when you click **Verify** to validate the IP address and the user credentials, sometimes the following message appears:

```
You do not have access to perform the requested operation. (Error
Code:0x6000001)
```

Workaround:

Create the user account with necessary privileges as Unity configuration requirements on page 36 describes.

- When you use RecoverPoint for virtual machine to perform an ISB, sometimes RecoverPoint consistency group-related errors, such as access denied, appear.
Workaround:

Ignore the errors because the backup operation resumes after some time.

- When you use RecoverPoint for virtual machine to perform ISBs and other operations, sometimes target LUNs remain attached to the NetWorker Module for MEDITECH proxy virtual machine, and consistency group remains in the "Enable Image Access" state.
Workaround:

Manually detach the target LUNs from the NetWorker Module for MEDITECH proxy virtual machine, and then perform the "Disable Image Access" operation on the consistency group.

Note

When LUNs are not present, and consistency group remains in the "Enable Image Access" state, perform the "Disable Image Access" operation on the consistency group.

- In a distributed proxy host environment, if a backup operation crashes after starting secondary proxy host jobs, the secondary proxies continue to roll over LUNs. The backup proceeds, but it is not indexed. So, when you want to recover this backup, the NetWorker Module for MEDITECH GUI does not display it.
Workaround:

Manually recover the backups by using their SIDs.

Note

If a backup operation crashes before starting secondary proxy host jobs, the backup does not proceed.

APPENDIX A

The NetWorker Module for MEDITECH Commands

This appendix includes the following sections:

Overview of the NetWorker Module for MEDITECH commands

NetWorker Module for MEDITECH commands perform the following functions:

- `nsrmedisv` backs up the specified MEDITECH data. nsrmedisv on page 94 provides information.

- `nsrmedirc` recovers the specified NetWorker Module for MEDITECH data objects. nsrmedirc on page 97 provides information.

- `nwmedi` starts the NetWorker Module for MEDITECH GUI. nwmedi on page 98 provides information.

The `nsrmedisv` and `nsrmedirc` commands generate the application logs and save the logs in the `nsr\applogs` folder on the proxy server host. The logs are cumulative. The commands append the logs whenever you run the commands.

Review the following list before you run the commands:

- Command options can be either lowercase or uppercase. Many commands include options with both cases.

- Brackets ([ ]) denote optional options and the corresponding values of a command. Do not include brackets when you type the command to perform a backup or a recovery.

- Data items must follow other command options and parameters in the CLI.

nsrmedisv

The `nsrmedisv` command backs up the MEDITECH data.

Specify **nsrmedisv** and the command options in either the **Backup command** field in the **Client Properties** dialog box of NMC, or the CLI depending on the method that you use to perform the backup.

Perform the following steps to specify **nsrmedisv** in the **Backup command** field:

1. In the **NetWorker Administration** window, click **Configuration**.

2. In the left panel, click **Clients**.

3. In the right panel, right-click the client for the backup and select **Properties**.

4. In the **Client Properties** dialog box, perform the following steps:

   a. On the **General** tab, specify the **Save set** field.

   b. On the **Apps & Modules** tab, specify **nsrmedisv** and the necessary command options in the **Backup command** field.

   c. Click **OK**.

Command syntax

The `nsrmedisv` command has the following syntax:

```
nsrmedisv -s server [-qv ] [-b pool] [-c client] [-e date] [-g
save_group] [-m proxy_server_name] [-E pre_processing_script]
[-N save_set_name] [-P post_processing_script] [-R
backup_completion_report_file] [-y date]
```

To run the preprocessing and postprocessing scripts, you must be either one or all of the following users. The security permission for the preprocessing and postprocessing scripts must be any of the following users:

- Backup Operators Group

- Administrators Group

- SYSTEM

Note

The backup succeeds even if the preprocessing script fails.

The `-b` and `-e` command options are valid only for manual backups that you perform by using the Windows command prompt on a client host. Do not use options when you perform a scheduled backup by using the **NetWorker Administration** window.

The `-e` option specifies an expiration date of a save set. If you set the expiration date, the save set is browsable and non-recyclable till the expiration date.

The `-e` option supports the following types of dates:

- Absolute Date: The format of this date is *mm/dd/yy hour:min:sec AM/PM*. The default time is 12:00:00 AM.

- Relative Date: The format of this date is *[number] unit*.
  where *unit* is decade, year, quarter, month, fortnight, week, day, hour, minute, or second.

You must render the `nsrmedisv.raw` file by using the `nsr_render_log` utility.

If you set parallelism to 1, the backup does not start regardless of the priority you set.

You must create the security file as an administrator user if you want to perform backups to VNX by using the CLI. VNX configuration requirements on page 34 provides information about how to create the security file.

Use the `nsrmedisv` command with the preprocessing and postprocessing script options to perform the following tasks:

- Run the batch files, for example, `C:\pre_batch.bat` and `C:\post_batch.bat`.
  `nsrmedisv -s server -g group -m masquerade -b pool -E C:\pre_batch.bat -N save_set_name -P C:\post_batch.bat`

- Run the VB scripts as part of the batch file.
  `nsrmedisv -s server -g group -m masquerade -b pool -E C:\pre_vbscript.bat -N save_set_name -P C:\post_vbscript.bat`

  where the `pre_vbscript.bat` and `post_vbscript.bat` files include the `cscript <vb_script_name>.vbs` entry.

- Run the perl files as part of the batch file.
  `nsrmedisv -s server -g group -m masquerade -b pool -E C:\pre_perlfile.bat -N save_set_name -P C:\post_perlfile.bat`

  where the `pre_perlfile.bat` and `post_perlfile.bat` include the `<path_to_perl_interpreter> perl <perl_script_name>.pl` entry.

Command options

The following table lists the `nsrmedisv` command options:

Table 5 `nsrmedisv` command options

Command options	Descriptions
-s	Specifies the NetWorker server to use to perform the backup.
-q	Displays `nsrmedisv` messages in quiet mode. Only summary information and error messages appear.
-v	Displays `nsrmedisv` messages in verbose mode. Verbose mode provides detailed information about the progress of the backup.
-b	Specifies the device pool.
-c	Specifies the NetWorker client to use to perform the backup.
-e	Specifies the expiration date of the save set. **Note** Do not use the −e option with the −y option. Otherwise, the backup fails.
-E	Specifies the custom script to run before the backup starts.
-g	Specifies the savegroup. The NetWorker server and the `savegrp` command use the group parameter to select the media pool.
-m	Specifies the NetWorker Module for MEDITECH proxy server.
-N	Specifies the NetWorker save set name. Use the following similar value with the -N option: **MEDI:medi1/feni4/feni1 E,feni1 F** where: • medi1 is the name of the group • feni4 is the name of the MBI server • feni1 E is the name of the first segment • feni1 F is the name of the second segment
-P	Specifies the custom script that the command must run after the backup completes.
-R	Generates the backup completion report.

Command options	Descriptions
-y	Specifies the retention policy of a backup.
	Note
	Do not use the −y option with the −e option. Otherwise, the backup fails.

nsrmedirc

The nsrmedirc command recovers the specified MEDITECH data from the NetWorker host. Specify **nsrmedirc** and the necessary command options in the CLI to perform the recovery.

Command syntax

The nsrmedirc command has the following syntax.

```
nsrmedirc [-nqVvxz] [-i {nNyYrR}] [-d destination_directory] [-
C storage_array_controller] [-L logical_unit_number] [-S
save_set_ID or clone_ID] [-s server] [-c client] [-t date] [-y
count] MAGICNAME
```

Command options

The following table lists the nsrmedirc command options:

Table 6 nsrmedirc command options

Command options	Description
-n	Disables the recovery to either write or create any files and directories.
-q	Specifies quiet mode for logging messages about the progress of the recovery. Only minimal information, including error messages, is written to the log.
-V	Specifies the version number of the NetWorker Module for MEDITECH.
-v	Displays nsrmedirc messages in verbose mode. Verbose mode provides detailed information about the progress of the recovery.
-x	Generates a .csv file in the nsr\applogs folder of the NetWorker Module for MEDITECH IDR save sets. You can import the information in the file to a spreadsheet.
-z	Prints a list of the NetWorker Module for MEDITECH save sets. This list is similar to the output of the NetWorker nsrinfo command.
-i {nNyYrR}	Overwrites a response.
-d	Specifies a Windows Server physical drive to use as an alternate recovery location. The format is **-d \\.\\<physical_drive_name>**.

`nsrmedirc` command options (continued)

Command options	Description
-C	Specifies the storage array name of an alternate recovery destination. You must use this option along with the `-L` option.
-L	Specifies the drive number of an alternate recovery destination. You must use this option along with the `-C` option. If you do not specify any destination options, the command recovers the original data segment. If you use the `-d` option along with the `-C` and `-L` options, `nsrmedirc` ensures that the destinations agree.
-S	Specifies the save set ID (SSID) or the clone ID (CLONEID). You cannot use SSID along with the `-C` and `-L` options.
-s	Specifies the NetWorker server that was used to perform the backup.
-c	Specifies the proxy server client name to use to recover the data.
-t	Recovers data according to the specified date. The specified date must be greater than or equal to the backup date. Use the `nsr_getdate` command syntax guidelines when you format the date.
-y	Specifies the number of save sets that the `nsrmedirc -x -z` command output lists.
MAGICNAME	Specifies the name of the MAGIC save set in the following format: `MEDI:/<coherency_group>/<logical_object>` where, the logical objects are the save sets that the `nsrmedirc -z` command output lists.

nwmedi

The `nwmedi` command starts the NetWorker Module for MEDITECH GUI.

Command syntax

The `nwmedi` command has the following syntaxes:

- **`nwmedi [-s NetWorker_server]`** in case of a general recovery, where a client name is automatically detected

- **`nwmedi [-s NetWorker_server] [-c NetWorker_client]`** in case of a redirected recovery

Command options

The following table lists the `nwmedi` command options:

Table 7 `nwmedi` command options

Command options	Description
-s	Specifies the NetWorker server.
-c	Specifies the NetWorker client.