



EMC® NetWorker®
Module for MEDITECH
Release 2.0

Administration Guide
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EMC Corporation
Corporate Headquarters:
Hopkinton, MA 01748-9103
1-508-435-1000
www.EMC.com

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Glossary

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As part of an effort to improve and enhance the performance and capabilities of its product line, EMC from time to time releases revisions of its hardware and software. Therefore, some functions described in this document may not be supported by all releases of the software or hardware currently in use. For the most up-to-date information on product features, refer to your product release notes.

If a product does not function properly or does not function as described in this document, please contact your EMC representative.

Audience This guide is part of the EMC 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 may also find this guide helpful.

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

- ◆ EMC NetWorker client software, release 7.3.3 or later
- ◆ MEDITECH MAGIC OSAL platform
- ◆ MEDITECH Client/Server (CS) platform
- ◆ EMC CLARiiON and CLARiiON management software
- ◆ EMC Symmetrix and Symmetrix, management software

Related documentation

Related documents include:

- ◆ *EMC NetWorker Module for MEDITECH Release 2.0 Installation Guide*
- ◆ *EMC NetWorker Module for MEDITECH Release 2.0 Release Notes*
- ◆ EMC NetWorker administration guide
- ◆ EMC NetWorker installation guide
- ◆ EMC CLARiiON product documentation
- ◆ EMC Symmetrix product documentation
- ◆ MEDITECH product documentation

Conventions used in this guide

EMC uses the following conventions for notes and caution notices.

Note: A note presents information that is important, but not hazard-related.



CAUTION

A caution contains information essential to avoid data loss or damage to the system or equipment. The caution may apply to hardware or software.

Typographical conventions

Typographical conventions

EMC uses the following type style conventions in this document:

Normal

Used in running (nonprocedural) text for:

- Names of interface elements (such as names of windows, dialog boxes, buttons, fields, and menus)
- Names of resources, attributes, pools, Boolean expressions, buttons, DQL statements, keywords, clauses, environment variables, functions, utilities
- URLs, pathnames, filenames, directory names, computer names, filenames, links, groups, service keys, file systems, notifications

Bold

Used in running (nonprocedural) text for:

- Names of commands, daemons, options, programs, processes, services, applications, utilities, kernels, notifications, system calls, man pages

	Used in procedures for:
	<ul style="list-style-type: none"> Names of interface elements (such as names of windows, dialog boxes, buttons, fields, and menus) What user specifically selects, clicks, presses, or types
<i>Italic</i>	Used in all text (including procedures) for:
	<ul style="list-style-type: none"> Full titles of publications referenced in text Emphasis (for example a new term) Variables
Courier	Used for:
	<ul style="list-style-type: none"> System output, such as an error message or script URLs, complete paths, filenames, prompts, and syntax when shown outside of running text
Courier bold	Used for:
	<ul style="list-style-type: none"> Specific user input (such as commands)
<i>Courier italic</i>	Used in procedures for:
	<ul style="list-style-type: none"> Variables on command line User input variables
< >	Angle brackets enclose parameter or variable values supplied by the user
[]	Square brackets enclose optional values
	Vertical bar indicates alternate selections - the bar means “or”
{ }	Braces indicate content that you must specify (that is, x or y or z)
...	Ellipses indicate nonessential information omitted from the example

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Your comments Comments and suggestions about our product documentation are always welcome.

To provide feedback:

1. Go to:

<http://Powerlink.EMC.com>

2. Click the **Feedback** link.

NetWorker Module Overview

This chapter provides information about how the NetWorker Module for MEDITECH software backs up and restores MEDITECH application data. It includes the following sections:

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About NetWorker Module for MEDITECH

EMC® NetWorker® Module for MEDITECH is used in conjunction with NetWorker to schedule, create, and manage either local or remote replicas of MEDITECH data segments. NetWorker can be fully integrated with the MEDITECH application to enable the system administrator to perform normal scheduled NetWorker save set backups and also to create disaster recovery replicas of the data without interrupting the application. With this module, you can:

- ◆ Create local or remote replicas
- ◆ View backup and restore process information
- ◆ Recover to the main host from any generation of the data

The NetWorker Module for MEDITECH supports MEDITECH installations with EMC CLARiiON® and EMC Symmetrix® storage systems. Because the backup and mirroring processes have been moved to the backup server and the SAN, the resource demands of full database copying, complete resynchronizations, and multiple sequential writes have been lifted from the MEDITECH servers.

Integrated Serverless Backup (ISB) overview

The NetWorker Module for MEDITECH incorporates Integrated Serverless Backup (ISB) into the NetWorker information protection strategy. MEDITECH ISB provides a system backup process to support local logical unit number (LUN) replication technologies for CLARiiON and Symmetrix systems. ISB provides a mechanism to request replication of the databases, which enables the NetWorker Module for MEDITECH to request a freeze and split of MEDITECH segments for MEDITECH hosts.

When a backup is requested, NetWorker Module for MEDITECH calls the MEDITECH ISB APIs to prepare the backup list. MEDITECH prepares the backup list once it receives the request from NetWorker Module for MEDITECH.

- If MEDITECH databases reside on EMC CLARiiON, then MEDITECH sends a fracture command to EMC CLARiiON to fracture the source and clone LUNs.
- If MEDITECH databases are residing on EMC Symmetrix, then MEDITECH sends split command to EMC Symmetrix to split the STD and BCV relationship.

Once the operation is complete, MEDITECH sends the backup list to NetWorker Module for MEDITECH for backup.

Integrated Disaster Recovery (IDR) overview

MEDITECH Integrated Disaster Recovery (IDR) enables the NetWorker Module for MEDITECH to use SAN Copy™ or SRDF® replicas to create remote copies for disaster recovery purposes. IDR becomes increasingly important to health care providers attempting to comply with Health Insurance Portability and Accountability Act (HIPAA) requirements. HIPAA requires national standards for electronic health care transactions and national identifiers for providers, health plans, and employers, and also addresses the security and privacy of health data.

NetWorker Module for MEDITECH uses the CLARiiON (SAN Copy) and Symmetrix (SRDF) storage array capability to facilitate disaster recovery. IDR backup uses MEDITECH ISB APIs to create a database split, and then uses replication technologies to move images to a disaster recovery site.

Configure IDR backup with Symmetrix (SRDF) for single segment or multiple segments

R1 is local Symmetrix array where Proxy host is configured and R2 is a remote array deployed for Disaster Recovery purpose. Perform the following steps to configure Symmetrix for a single segment or multiple segments:

Note: R1-BCV paired with a STD device on the MEDITECH host should be masked on the NMMEDI Proxy host.

1. Establish a SRDF link between R1-BCV(s) and R2-STD device(s) of the same size.
2. Pair the BCV device(s) on the R2 array with R2-STD device(s).

Note: Number of BCV devices paired with R2-STD should be greater than or equal to the IDR images selected in NMMEDI UI and as per EMC Symmetrix limitations.

3. Ensure the R1 array has the R2 array link. Check with following command:

```
symdev show -sid <r2 array id> <r2 array device name>
```

This will display the R2 device info. Check the R1 and R2 array link, if the r2 device info is not displayed.

4. Check the RDF information for R1-BCV with the following command:

```
symdev show -sid <r1 array id> <r1 bcv device name>
```

This will display the R2-STD device name and R2 array name in the RDF information section.

Note: Masking the R2 device on Proxy host is not required.

5. Create a device group of type RDF1.


```
symdmg create <device group name> -type rdf1
```
6. Add the R1-BCV device residing on the NMMEDI proxy host to the newly created device group.
7. Repeat steps 1-5 for R1-BCV devices in case of multiple segments on the MEDITECH host.

[Figure 1 on page 13](#) explains the configuration for a single segment on Symmetrix.

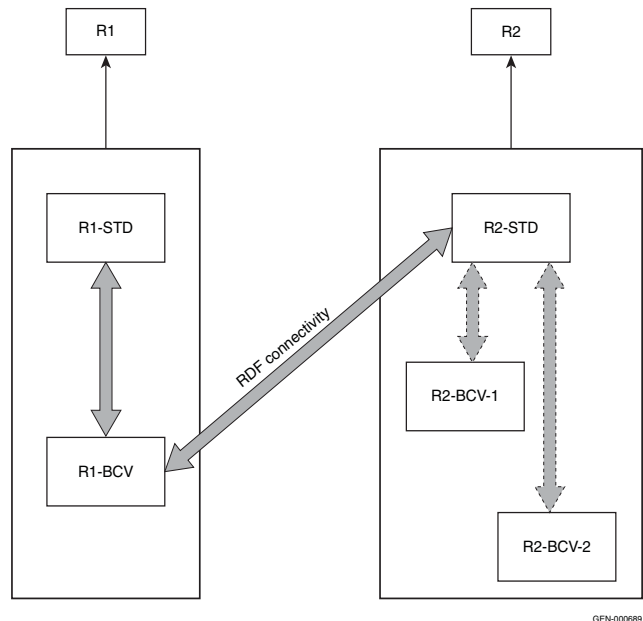
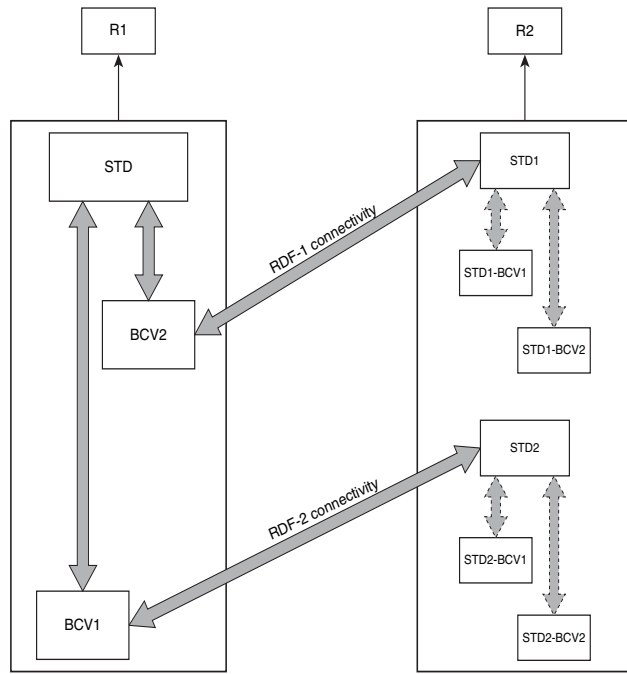


Figure 1 Configuration on Symmetrix for a single segment

Figure 2 on page 14 explains the configuration for multiple segments on Symmetrix.



GEN-00690

Figure 2 Configuration on Symmetrix for multiple segments

System components

The NetWorker Module for MEDITECH, in conjunction with a NetWorker 7.3.3 or later client, operates from a Windows 2003 proxy server to communicate with MEDITECH hosts, and CLARiiON, and Symmetrix systems. [Figure 3 on page 15](#) illustrates a typical backup scenario.

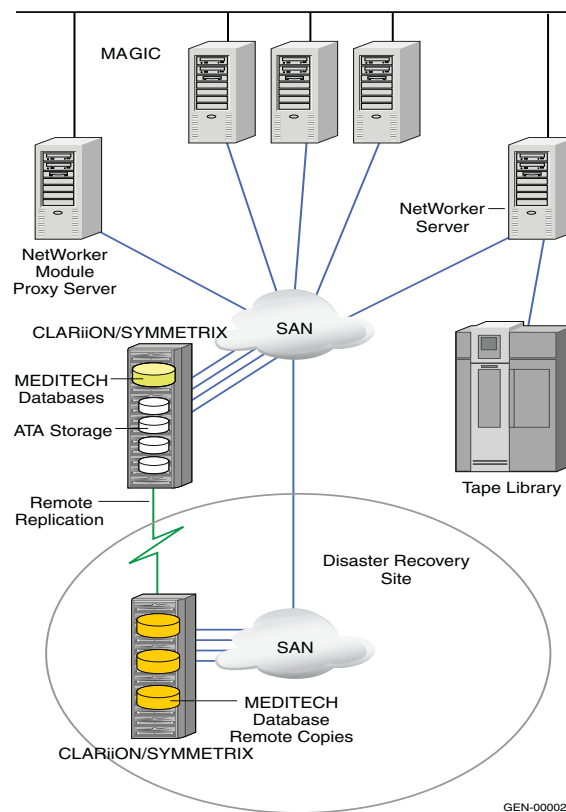


Figure 3 MEDITECH host environment with CLARiiON or Symmetrix storage

The NetWorker Module for MEDITECH is installed on a proxy host. During a backup or recovery, the proxy host communicates with the MEDITECH hosts across the SAN to split the production and target. Backups are stored to either tape or a device for ISB or a CLARiiON SAN Copy or Symmetrix SRDF storage array for IDR.

The backup process

Each backup of MEDITECH is a full backup of a MEDITECH data LUN (MAGIC segment). All backups must be configured and scheduled through the NetWorker Management Console interface. The process for MEDITECH data backup includes the following:

- ◆ When a backup starts, the NetWorker module communicates with one or more MEDITECH hosts to initiate a fracture of its production and clone LUNs residing on EMC CLARiiON or EMC Symmetrix.
- ◆ In an ISB backup, the clone image is saved to either a disk or tape device.
- ◆ In an IDR backup, the module uses the CLARiiON SAN Copy or Symmetrix SRDF storage array capability to back up data to a disaster recovery site. SAN Copy for CLARiiON can be performed on a local CLARiiON, but Symmetrix SRDF should be performed on a remote array.
- ◆ After the backup is complete, the NetWorker module notifies the MEDITECH server and the clone is resynchronized with the primary LUN.
- ◆ The backup images can be viewed from the NetWorker Module for MEDITECH interface and selected for restore.

Figure 4 on page 17 illustrates the Backup process with EMC CLARiiON or EMC Symmetrix configuration.

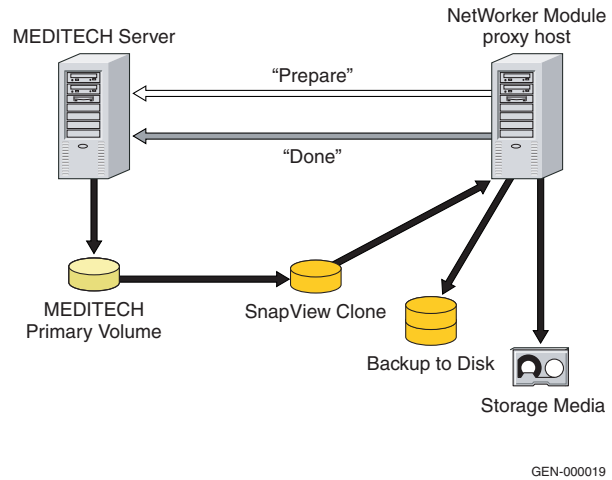


Figure 4 Backup process with EMC CLARiiON or EMC Symmetrix configuration

The restore process

The NetWorker Module for MEDITECH restores ISB data and provides administrative details needed to perform IDR recoveries. The process for MEDITECH data backup includes the following:

- ◆ The MEDITECH host to be recovered is shut down through the MAGIC Console interface. OSAL remains running.
- ◆ The clone and production LUNs are fractured from OSAL.
- ◆ During an ISB recover, the NetWorker Module for MEDITECH interface is used to select and restore the recover image from a NetWorker server.
- ◆ The clone and production LUNs are restored from OSAL.
- ◆ The MEDITECH host is restarted with the recovered data.

Figure 5 on page 19 illustrates the restore process with EMC CLARiiON or EMC Symmetrix configuration.

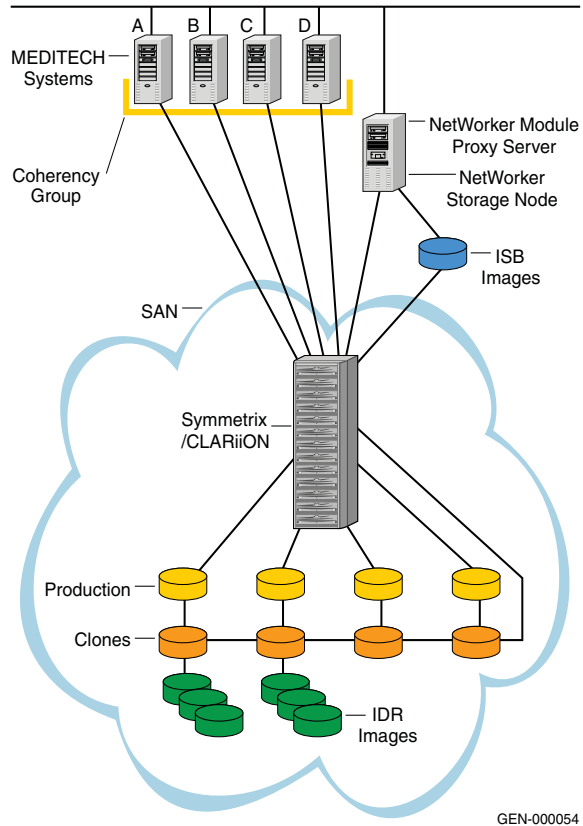


Figure 5 Restore process with EMC CLARiiON or EMC Symmetrix configuration

Recovering the configuration file

If a problem occurs on the NetWorker Module for MEDITECH proxy host and the configuration file is corrupted or lost, it can be recovered from the NetWorker User interface. This interface is installed with the NetWorker client.

To recover the configuration information:

1. On the proxy host, click **Start > All Programs > EMC NetWorker > NetWorker User** to open the client interface.
2. Connect to the NetWorker server that you use for scheduled backups.
3. Click the **Recover** icon to browse files that have been backed up. The files for the proxy host are displayed.

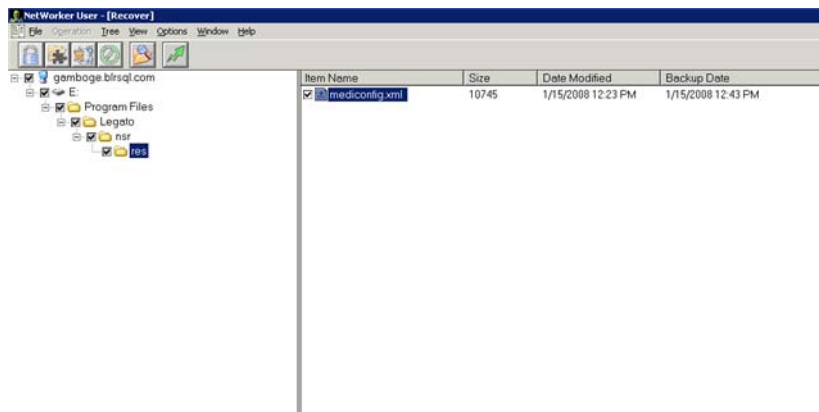


Figure 6 Restoring mediconfig.xml from the NetWorker User interface

4. Select **mediconfig.xml** in the **nsr\res** directory.
5. Click **Start** to recover the file.

Module interface overview

The NetWorker Module for MEDITECH user interface is organized into three views: Configure, Monitor, and Recover. The Monitor and Recover views rely on the selection of a NetWorker server. The following is an overview of each view and the tasks that you can perform.

Configure view

Use the Configure view to define the groups of MEDITECH hosts that you want to back up at one time and the CLARiiON or Symmetrix arrays that those hosts rely on for data storage. From this section of the interface you can:

- ◆ Create Coherency Groups for MEDITECH hosts
- ◆ Edit Coherency Group properties
- ◆ Remove Coherency Groups
- ◆ Create storage arrays
- ◆ Edit storage arrays
- ◆ Remove storage array

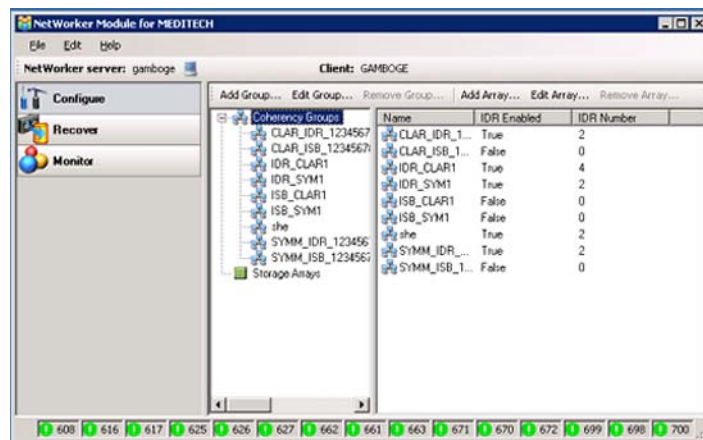


Figure 7 Configure view

Selecting a NetWorker server

Select a NetWorker server to determine the backup and recover processes that can be viewed from the Monitor and Recover pages.

To select a NetWorker server:

1. Click **NetWorker server** in the main toolbar in the NetWorker Module for MEDITECH interface. The **Change NetWorker Server** dialog box appears.

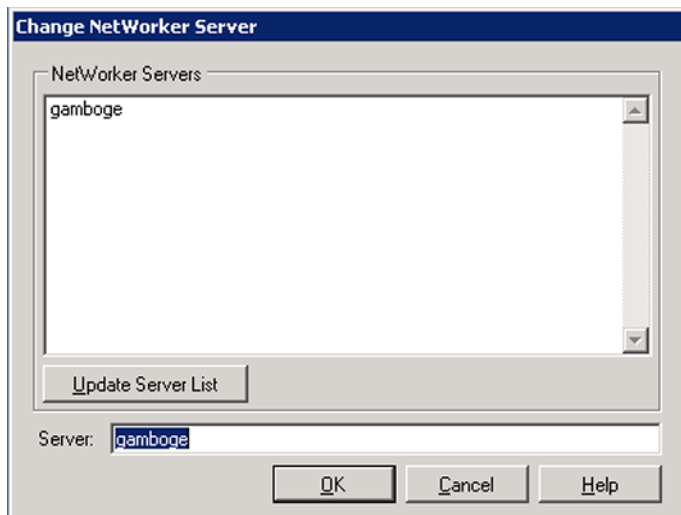


Figure 8 Change NetWorker Server dialog box

2. Click **Update Server List** to browse for NetWorker 7.3.3 or later servers. The discovery process may take a few minutes.
3. Select the server after the list is updated. Your selection appears in the **Server** text box.

You can also type a name in the **Server** text box.

4. Click **OK** when finished,.

After you select a server, the backup jobs that are scheduled from that server can be viewed in the Monitor view. [“Monitor view” on page 23](#) provides more information.

Any recover images that have been saved by this NetWorker server are available in the **Recover** view. [“Recover view” on page 24](#) provides more information.

Monitor view

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

The job summary information includes the unique backup or recover ID, MAGIC names, hostnames, and the start and end time of the job. The job details section provides attributes and values for each job. This information is updated every 30 seconds.

This view displays backup and recover jobs that were performed with the selected NetWorker server. You can monitor jobs from a different NetWorker server. See [“Selecting a NetWorker server” on page 22](#) for information about changing the server.

Colored icons to the left of the job ID indicate job status, success, or failure. These icons are also displayed at the bottom of the main window.

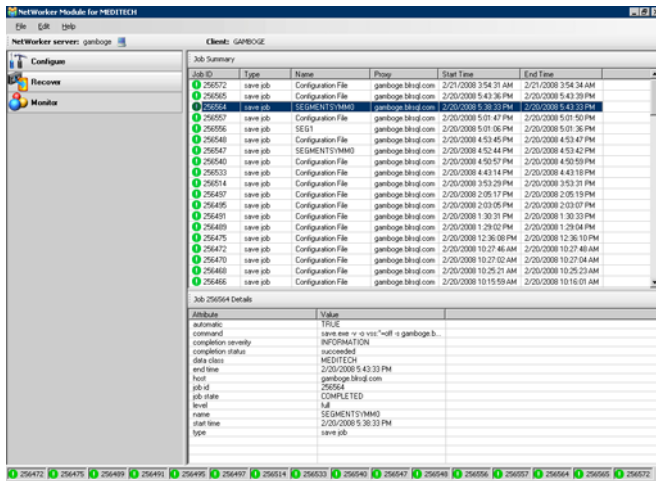


Figure 9 Monitor view

Recover view

Use the Recover view to browse for and select the recover images that you want to use to restore MEDITECH data. ISB data can be restored from this section of the interface. IDR data must be recovered manually. From this section of the interface you can:

- ◆ Define a time range for browsing recover images
- ◆ Select a old version of recover images for restore
- ◆ Run an ISB data recovery

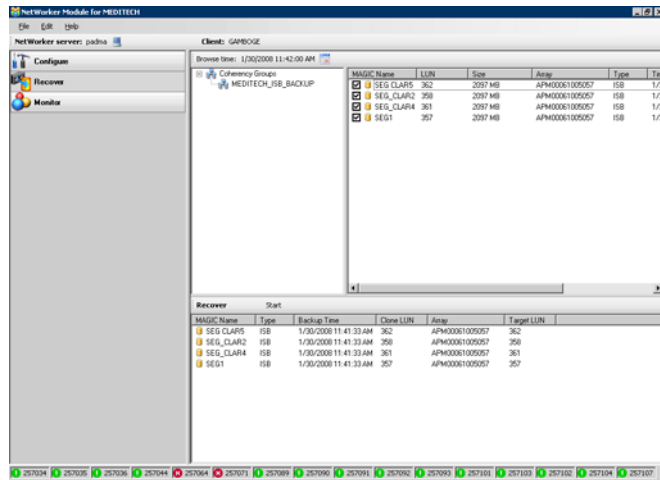


Figure 10 Recover view

This view displays recover images from the selected NetWorker server. You can change the server to view recover images from a different NetWorker server. See [“Selecting a NetWorker server” on page 22](#) for information about changing the server.

Error Log

Interface actions and error messages are logged in the **nwmedi.log** file in **nsr\applogs**. The file has no size limit and can be deleted if there are no unresolved error messages.

Backup Configuration

There are several necessary configuration tasks that you must perform to facilitate the NetWorker Module for MEDITECH backup and recovery process. The following procedures assume that your MEDITECH host and CLARiiON or Symmetrix systems are already installed and configured:

- ◆ [Configuration roadmap](#) 26
- ◆ [Configuration tasks.....](#) 27

Configuration roadmap

Configuration for the NetWorker Module for MEDITECH includes defining MEDITECH hosts to be backed up and identifying the CLARiiON or Symmetrix systems that contain that information. The NetWorker Module saves configuration information for storage arrays and Coherency Groups in a file stored locally on the proxy host. Each time a backup is performed, the configuration file is also backed up. This enables the configuration to be recovered if the file is deleted. See [“Recovering the configuration file” on page 20](#) for information about recovering this file.

Coherency Groups

The NetWorker Module for MEDITECH uses the concept of Coherency Groups to enable you to back up one or more MEDITECH hosts at the same time. The Coherency Group ensures that the fracture of the CLARiiON or Symmetrix clone and production LUNs for a logical group of hosts is done simultaneously. For example, if you want to back up all administrative data at one time, you should create a Coherency Group that contains all of the MEDITECH hosts that produce that data.

Storage arrays

Storage arrays are configured to enable the module to connect to CLARiiON or Symmetrix systems. This information is used to fracture and resynchronize the clone and production LUNs before and after a backup.

Configuration information for CLARiiON or Symmetrix storage arrays and MEDITECH Coherency Groups is defined in the Configure section of the NetWorker Module for MEDITECH client.

Note: The first time you open the module interface, a message appears stating that configuration information has not yet been created. Click OK to continue.

Configuration tasks

It is necessary to configure components of the NetWorker Module for MEDITECH before performing a backup. Configuration includes:

- ◆ Creating a Coherency Group to identify which MEDITECH hosts will participate in scheduled backups
- ◆ Identifying CLARiiON or Symmetrix storage arrays used by the MEDITECH hosts

Adding a Coherency Group

Coherency Groups are logical groupings used for MEDITECH hosts that will be backed up at the same time. These groups are used by NetWorker to perform scheduled backups.

Your settings for Coherency Groups should consider the parallelism settings that you define in the NetWorker Management Console. All of the clone and production data segments for each host in the Coherency Group will be split at the same time. The NetWorker Module for MEDITECH will back up as many hosts at one time as the parallel setting allows.

For example, if you define eight MEDITECH hosts for backup in a Coherency Group, the data segment split for all eight hosts happens at the same time. If your NetWorker server parallelism setting is four, the module will process four backups at a time until all eight are finished.

See the *EMC NetWorker Administration Guide* for information about sequential backup settings.

To add a Coherency Group:

1. In the NetWorker Module for MEDITECH interface, open the **Configure** view and click **Add Group**. The **Add Group** dialog box appears.

The screenshot shows the 'Add Coherency Group' dialog box with the following fields and options:

- Group Name:** ISB_CG
- Host Name:** 10.31.79.103
- User Name:** NETWORKER
- Password:** [masked]
- Confirm password:** [masked]
- Port:** 2988
- MEDITECH Config Type:** OSAL, CS
- Type of CS Host:** EMR, BJP
- Disaster Recovery Options:**
 - Create Integrated Disaster Recovery Images
 - Number of IDR images to create: 2

Buttons: Remove, Clear, OK, Cancel, Help.

Figure 11 Add a Coherency Group dialog box

2. Type a name for this group in the **Group Name** field. The group name can contain up to 64 alphanumeric characters, spaces, underscores (_), and hyphens (-). Names can also be typed as an IPv4 address.
3. Define the hosts that you want to add to this group in the **MEDITECH Hosts** section. Repeat the following steps for each host that you want to add to the group:
 - a. Enter the name of the host in the **Host Name** field.
 - b. Enter the backup account username and password for the MEDITECH host in the **User Name** and **Password** fields.

Note: These are the username and password values defined for ISB in the MAGIC Console. Access the Serverless Backup Options menu from the MEDITECH Operator's Menu in the MAGIC Console for values.

- c. If necessary, enter the port to use when communicating with this host in the **Port** field. The default is 2988.
 - d. Click the right arrow to add the host to the Coherency Group.
 - e. To modify information for an existing host, select the hostname from the table and click the left arrow. Edit the information and click the right arrow to save the changes.
 - f. To remove a host from the Coherency Group, select it and click **Remove**.
4. In the MEDITECH Config Type field, select the host system **OSAL** or **CS**.

If you select CS, select if the machine is an Electronic Medical Record (EMR) or Background Job Processor (BJP) server.
 5. To back up IDR images using the SAN Copy or SRDF function from this group, select **Create Integrated Disaster Recovery Images** and select the number of images that you want to create.

Note: SAN Copy sessions are created in the Navisphere[®] Console and SRDF sessions are created using SYMCLIs prior to a backup.

6. When finished adding hosts to the group, click **OK**. The group is added to the **Configure** page.

Editing a Coherency Group

To change a Coherency Group:

1. Select an existing group in the **Configure** view and click **Change Coherency Group**. The **Edit Coherency Group** dialog box appears.

The screenshot shows the 'Edit Coherency Group' dialog box with the following details:

- Group Name:** ISB_CG
- Host Name:** 10.31.79.103
- User Name:** NETWORKER
- Password:** [Redacted]
- Confirm password:** [Redacted]
- Port:** 2988
- MEDITECH Config Type:** OSAL, CS
- Type of CS Host:** EMR, BJP
- Disaster Recovery Options:**
 - Create Integrated Disaster Recovery Images
 - Number of IDR images to create: 2
- Table:**

Host Name	Port Number	User Name
10.31.79.103	2988	NETWOR...

Figure 12 Edit Coherency Group dialog box

2. Select a host from the table to the right and click the left arrow to populate the host fields.
3. Edit any necessary information.

Note: The group name cannot be changed.

4. When finished, click **OK**.

Adding a storage array

NetWorker Module for MEDITECH storage arrays enable the module to communicate with the CLARiiON and Symmetrix systems that store MEDITECH data.

To add a storage array:

In the NetWorker Module for MEDITECH interface, open the **Configure** view and click **Add Array**. The **Add Storage Array** dialog box appears.

To add an EMC CLARiiON array

1. Click **EMC CLARiiON**.

Enter the serial number for the EMC CLARiiON system in the **Serial Number** field.

You can click **Discover** to identify CLARiiON storage systems on the network. Discovery may take 60 seconds or more.

2. CLARiiON has two network connections for failover. Define the storage processor IP addresses in the **Storage Processor A IP Address** and **Storage Processor B IP Address** fields.

These fields specify the two addresses that enable network access to the CLARiiON system.

3. Enter the user credentials for the NetWorker Module to use when accessing the CLARiiON system in the **Username** and **Password** fields.
4. Click **Verify** to perform validation of the array name, IP addresses, and user credentials.
5. When finished, click **OK**.

Figure 13 Add Storage Array dialog box for CLARiiON
To add an EMC Symmetrix array

1. Click **EMC Symmetrix**.

Figure 14 Add Storage Array dialog box for Symmetrix

Enter the serial number for the EMC Symmetrix system in the **Serial Number** field.

You can click **Discover** to identify Symmetrix storage systems on the network. Discovery may take 60 seconds or more.

Editing a storage array

To edit a storage array:

1. In the **Configure** view, select an existing array and click **Edit Array**. The **Edit Storage Array** dialog box appears.

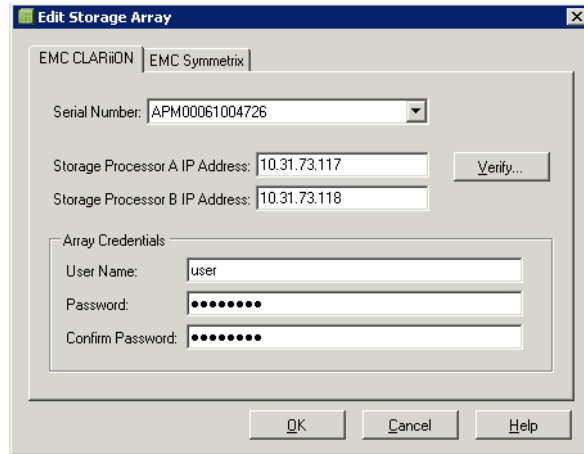


Figure 15 Edit Storage Array dialog box

2. Select the serial number of the array that you want to edit from the **Serial Number** menu. The rest of the fields are populated with information specific to that system.
3. Edit any of the related system information.
4. Click **Verify** to ensure that the system information is correct.
5. When finished, click **OK**.

Scheduled Backups

The NetWorker Module for MEDITECH software enables you to perform regular backups. Backups are configured and scheduled through the NetWorker Console interface. This chapter describes the following:

- ◆ [About scheduled backups](#) 36
- ◆ [Configuring a scheduled backup](#)..... 38
- ◆ [Checking backup status](#) 42

About scheduled backups

The most reliable way to protect MEDITECH data is to schedule backups of the MEDITECH hosts to run at regular intervals. Scheduled backups ensure that all data is automatically saved. The NetWorker server's client indexes and bootstrap file, which reside on the NetWorker server, are backed up at the conclusion of a scheduled back up. The client indexes and bootstrap file are vital for restoring data to the MEDITECH host and the NetWorker server in the event of a disaster.

Scheduling backups for the NetWorker Module is similar to scheduling NetWorker file system backups. On the NetWorker server, appropriate attribute values must be set for various resources, such as Policy, Group, and Client resources. This is done by a NetWorker administrator through the NetWorker Console interface. Scheduled backups can be configured to run at any time and always use backup level full for each transaction.

MEDITECH data is backed up in two ways: using the ISB process or using the IDR process.

Set proper privileges in NMC before starting the ISB or IDR backups.

For the user "system" on the specified host, set the following privileges in NMC :

- ◆ Backup local data
- ◆ Monitor NetWorker
- ◆ Operate devices and jukeboxes
- ◆ Operate NetWorker
- ◆ Recover local data

Do not add *@* under users, instead add only "system" and "administrator" as users in the same window.

ISB backup process

ISB backup images are typically saved to tape or disk. A job to back up data is started by the NetWorker server. The NetWorker Module proxy server prompts the MEDITECH host to break its production and clone data segment. Data from the clone is copied and stored as RAW data to a specified device. Because data is RAW, it requires a full backup each time. After the backup image is saved, the

NetWorker Module for MEDITECH prompts the MEDITECH host to resynchronize its production and clone data connections.

IDR backup process

IDR backup images are SAN Copy or SRDF sessions. A job to back up data is started by the NetWorker server. The NetWorker Module proxy then initiates a call to the MEDITECH host to break the production and clone mirror. NetWorker Module for MEDITECH then directs the CLARiiON or Symmetrix system to synchronize with the target SAN Copy or SRDF on the same system or on a different CLARiiON or Symmetrix system. After the backup is complete, the MEDITECH host is directed to resynchronize the production and clone connection. CLARiiON SAN Copy sessions can reside on the same CLARiiON array, but SRDF will have two Symmetrix configurations, where the term R2 always represents the second Symmetrix.

IDR backups require NetWorker administrator privileges to add, modify or delete any media database entries(mmdb).

The account used to perform IDR backups must be the administrator account for the NetWorker Server. Without administrative privileges, IDR backups will fail after the SAN Copy session slots are full.

Configuring a scheduled backup

Backups of MEDITECH data are configured and performed through the NetWorker Console interface. Scheduled backups of the MEDITECH hosts are different from those of the NetWorker Module for MEDITECH proxy host. To perform a file system backup of the proxy host, you should create a standard client resource for it and schedule its backup at a different time.

Scheduled backup task example

Health care company XYZ wants to ensure that all of the computers in the Records department are backed up according to the requirements listed in [Table 1 on page 38](#). This table also maps each requirement to specific NetWorker features in the NetWorker Console interface. The *EMC NetWorker Administrator's Guide* provides information on tasks and procedures.

Table 1 Records department backup requirements

Requirement	NetWorker feature	Task to perform
Backups occur at the same time.	Backup Schedule Backup Group	Set up a schedule for backups Set up a Group for each client entry
Record system backups for the past 3 months are available immediately.	Browse Policy	Set up Policies for quick access and long-term storage
Record system backups for the past 7 years are available, though not necessarily immediately.	Retention Policy	Set up Policies for quick access and long-term storage
Backups are routed to volumes.	Pools	Set up a Pool to sort backup data
A set of MEDITECH hosts, defined in a Coherency group, is backed up at the same time.	Client resource	Create a Backup Client resource for each Coherency group that you created in the NetWorker Module for MEDITECH interface.
Non-Record system data need be recoverable for 1 year.	Browse Policy Retention Policy Client resource	Set up Policies for quick access and long-term storage Create a Backup Client Resource

After these tasks are completed, you can run scheduled backups for MEDITECH data. You should also schedule a separate backup of your proxy host.

When backing up IDR data, it is often helpful to create NetWorker schedules so that ISB backups are also run occasionally. ISB backups are inherently durable and transportable. If you are performing both types of backups, create separate Coherency Groups for each on the proxy host, and separate schedules for each Coherency Group on the NetWorker server. See the *EMC NetWorker Administration Guide* for complete tasks and procedures.

For example, you might schedule backups every 4 hours, where a backup at midnight is an ISB backup job, and the others are IDR backups.



CAUTION

ISB and IDR backups should be scheduled so that they do not collide. If one starts while the other is active, they will both fail to run successfully.

Scheduling a backup

Follow these general steps to schedule backups from the NetWorker Console interface:

Note: Ensure that you have your backup devices configured before scheduling a backup. See the *EMC NetWorker Administration Guide* for complete tasks and procedures.

1. Select **Enterprise** on the taskbar and add NetWorker servers.
2. Highlight a server; right-click and select **Launch Application**.
3. Select **Configuration** on the taskbar.
4. Define schedules, groups, and clients specifically for MEDITECH hosts:
 - Create a group that includes the NetWorker Module for MEDITECH proxy host connection information. If you are performing both IDR and ISB backups, create a group for each.
 - Create a client for the proxy server that uses the backup command **nsrmedisv.exe**.

Note: Ensure that the Retry option is set to zero.

- Create a save set to identify each Coherency group that you created in the NetWorker Module client for the MEDITECH hosts. The syntax is **MEDI:/<coherency group>**.
- Schedule the backup.
- ◆ To perform a Single Segment backup, the save set syntax is:
<Coherency Group>/<Host>/<Segment>
Example: ISB_CG/10.31.79.111/SEGMENT-A-CLAR
- ◆ To perform a Single Host backup, the save set syntax is:
<Coherency Group>/<Host>
Example: ISB_CG/10.31.79.111

If you have a Client Server Setup with BJP host as <BJPSERVER> and File Servers as FS01, FS02, FS03 and each of the file servers having two segments each on E and G Drives, NMMEDI provides the following flexibility.

1. To backup all the File Servers with All the Segments : Specify the save set as
MEDI : <COHERENCY GROUP> or MEDI : <COHERENCY GROUP>/BJPSERVER
2. To backup only one File Server, but both the segments
MEDI : <COHERENCY GROUP>/BJPSERVER/FILESERVER*
Example : MEDI : <COHERENCY GROUP>/BJPSERVER/FS01*
3. To backup only one File Server with a specific segment
MEDI : <COHERENCY GROUP>/BJPSERVER/FILESERVER DRIVE
Example : To backup the segment on Drive G of File Server FS02,
MEDI : <COHERENCY GROUP>/BJPSERVER/FS02 G
4. To backup Multiple File Servers/Multiple Segments
MEDI : <COHERENCY GROUP>/BJPSERVER/FILESERVER DRIVE,FILESERVER DRIVE
Example: MEDI : <COHERENCY GROUP>/BJPSERVER/FS01*,FS02 E,FS03 G

Use the environment variable `NSR_DATA_VOLUME_POOL` for backups targeted to a specific media pool. Add the environment variable to the system environment and assign the media pool name.

Example: `NSR_DATA_VOLUME_POOL = meditechpool`

If running backup through a command line and you want to target the data to a specific pool then use `-b <media pool name>` on the command line.

Example: `Nsrmedisv.exe -s <server name> -b <pool name> -N <save set name>`

To get more information on backups, set the maximum debug level to 5.

- ◆ For manual backup:

```
nsrmedisv -s <server name> -N MEDI:<Coherency Group>
-D5
```

- ◆ For scheduled backup, set the backup command as:

```
nsrmedisv -D5
```

The *EMC NetWorker Module for MEDITECH 2.0 Release Notes* provides information on the unsupported NetWorker functionality for the MEDITECH module.

Checking backup status

After a backup process is started from the NetWorker Management Console, you can check its status from the following locations:

- ◆ From the NetWorker Module for MEDITECH interface, you can view job status from the Monitor view.
- ◆ On the proxy host, you can check that the `nsrmedisv.exe` job process is running in the Windows Task Manager.
- ◆ On the proxy host, open the `nsrmedisv.raw` file for details about the backup job. The default location for the log file is `C:\Program Files\Legato\nsr\applogs`.

Note: If you are using NetWorker 7.3.3 or later, `nsr_render_log.exe` is required to render the log messages for `nsrmedisv.raw`. Contact EMC Support to get the binary.

If the backup is not successful, or if the CLARiiON or Symmetrix LUN connection information was not correct, the module will attempt to resynchronize the clone and production LUNs.

If a backup job process fails to complete, and a new backup is started, the following actions occur:

- ◆ The first backup process is aborted.
- ◆ The clone and production LUNs are resynchronized.
- ◆ NetWorker restarts the backup after a two-minute interval.

While configuring NetWorker Module for MEDITECH backups, change the settings in User Groups if NetWorker Module for MEDITECH proxy host is different from the NetWorker server.

This chapter describes the recovery process for MEDITECH data. It includes the following sections:

◆ Selecting a recover image.....	44
◆ Viewing backup image properties.....	46
◆ Viewing and selecting backup versions.....	47
◆ Viewing required volumes	48
◆ Recovery process for IDR data.....	49
◆ Recovery process for ISB data	50
◆ Restoring data to an alternate device.....	52
◆ Checking restore status	53

Note: Always contact your MEDITECH HCIS Coordinator or the MEDITECH Systems Support Group if you believe you have a problem that necessitates a data recovery. MEDITECH must be involved in the restore at each step.

Selecting a recover image

Browse for and view recover images for both ISB and IDR restores in the Recover view of the NetWorker Module for MEDITECH interface. Before you perform a restore, you can view the properties of each backup including backup time, fracture time, and LUN and array information. For an ISB recover image, you can view the required NetWorker volumes and the backup version.

Note: Only an ISB restore can be performed through the NetWorker Module.

Browse for recover images

To browse for recover images:

1. In the NetWorker Module for MEDITECH interface, select the NetWorker server that you used to back up data. See [“Selecting a NetWorker server” on page 22](#).
2. Click **Recover** to open the **Recover** view.
3. Click **Browse** to select the point in time from which you want to view backup images. The default is the current time.

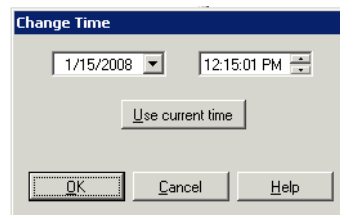


Figure 16 Change Time dialog box

4. Select the date and time for the images that you want to view from the list boxes. The search displays images from the specified date and before.

View recover image data

To view recover image data:

1. In the NetWorker Module for MEDITECH interface, click **Recover** to open the **Recover** view.
2. Select a NetWorker server and browse time to view a list of backup images. See [“Selecting a NetWorker server” on page 22](#), and [“Browse for recover images” on page 44](#).
3. Select the Coherency Group from which you want to view images. The available images for the specified time are listed.

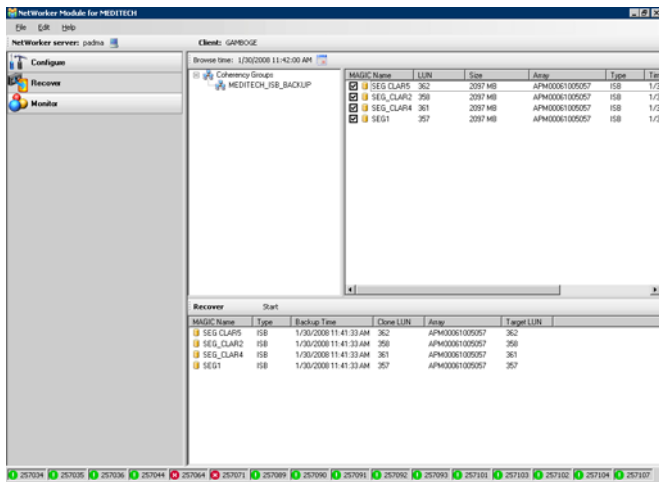


Figure 17 Available recover images

4. ISB backups can be added to the recover job list by selecting the checkbox in the list. Right-click a recover image to view additional information.

For both ISB and IDR images, you can view backup property information.

For ISB images, you can view version and volume information for each recover image.

Viewing backup image properties

- View properties information for the recover image by right-clicking on it and selecting **Properties**. The **Properties** window appears.

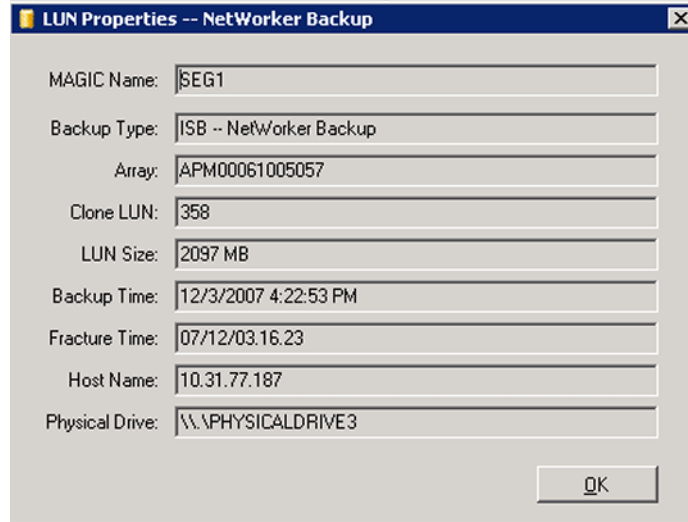


Figure 18 LUN Properties window

An IDR recover image lists the SAN Copy or SRDF session name in the Properties window. You will need this name to recover the image through the Navisphere Console or CLI. See [“Recovery process for IDR data” on page 49](#) for the IDR recover process.

Viewing and selecting backup versions

- View the version information for a recover image by right-clicking on it and selecting Versions.

The **Versions** dialog box appears.

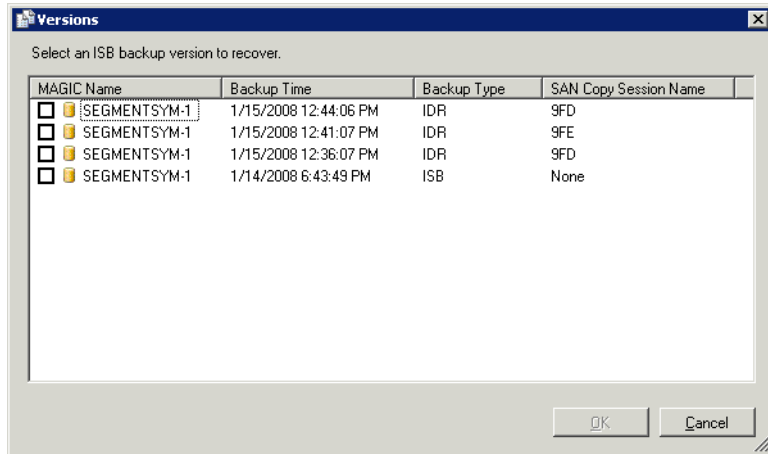


Figure 19 Versions dialog box

Select the version of the ISB image that you want to recover and click **OK**. The image is added to the **Recover** job list.

Viewing required volumes

- View the required NetWorker volumes for an ISB image by right-clicking on it and selecting **Required Volumes**. This is necessary only if you need to know which tapes are required. The **Required NetWorker Volumes** window is displayed.

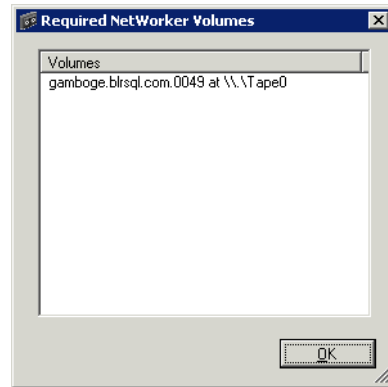


Figure 20 Required NetWorker Volumes window

Recovery process for IDR data

The NetWorker Module for MEDITECH module does not recover IDR data. Customers should contact the MEDITECH Systems Support Group for assistance when recovering IDR data.

The recommended process for restoring an IDR image includes the following steps:

1. Ensure that MAGIC is not running on the target MEDITECH host. OSAL or CS should still be running.
2. From an OSAL command prompt, run the **backupprep** command to fracture the clone and production data segments.
3. You can browse for the SAN Copy or SRDF restore image from the **Recover** view in the NetWorker Module for MEDITECH interface. You will need the name of the SAN Copy or SRDF session, which is listed for each recover image in the **Properties** window. See [“Selecting a recover image” on page 44](#).
4. Recover the SAN Copy image from the Navisphere Console interface or Navisphere CLI. If the SAN Copy is on the local machine, you can create and restore from a SnapView™ clone.

Restore R2 BCV > R2 STD > R1 BCV from the symcli for Symmetrix SRDF.
5. After the restore is complete, return to the OSAL command prompt and run the **restore** command to resynchronize the clone and production data segments.
6. Run the **boot** command to start MAGIC.

Recovery process for ISB data

NetWorker Module for MEDITECH can be used to restore a MAGIC segment image from an ISB backup on an OSAL or CS machine attached to a SAN or SRDF through EMC's CLARiiON or EMC's Symmetrix storage system.

To recover MEDITECH data:

1. Ensure that MAGIC is not running on the target MEDITECH host. OSAL or CS should still be running.
2. From an OSAL or CS command prompt, run the **backupprep** command to fracture the clone and production data segments.
3. In the NetWorker Module for MEDITECH interface, click **Recover**.
4. Select the NetWorker server and browse time for recover images. See [“Selecting a recover image”](#) on page 44.
5. Select the Coherency Group from which you want to view restore images. The available images for the specified server and time are listed.

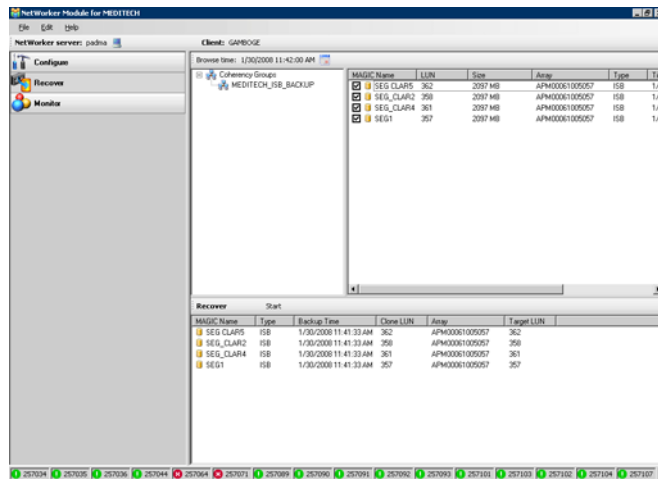


Figure 21 Available recover images

6. Select one or more MAGIC LUNs to recover. As you select them, they are moved to the **Recover** job list.

7. To select a LUN for this recover that is not the original LUN specified for backup, right-click an item in the **Recover** job list and select **Target LUN**. The **Select Target LUN** dialog box appears.

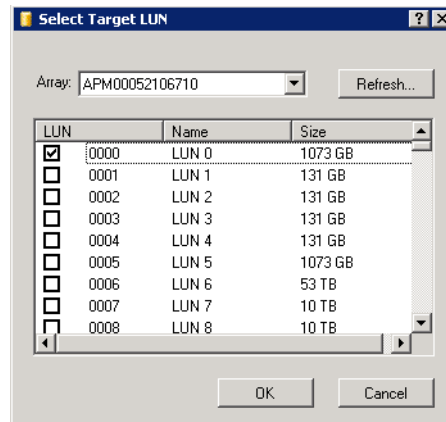


Figure 22 Select Target LUN dialog box

8. Select the array that you want to view from the **Array** list. You can click **Refresh** to update the list of LUNs for the selected array.
9. Select one or more LUNs to recover and click **OK**.
10. After you have selected the recover images and defined the LUN to recover in the **Recover** jobs list, click **Start**.
11. When the restore is complete, return to the OSAL command prompt and run the **restore** command to resynchronize the clone and production data segments.
12. Run the **boot** command to start MAGIC.

The physical disk numbers may change from the time of the backup to the needed restore. NetWorker Module for MEDITECH validates the disk numbers and restores to one of the following:

- ◆ The LUN where the disk is located
- ◆ A different LUN on another CLARiON or Symmetrix system
- ◆ A temporary LUN

Restoring data to an alternate device

A MAGIC segment image can be restored to an online drive for the purpose of enabling a temporary segment and extracting data that was lost from a live segment. An extra, online disk is required as the target drive for the restore. The drive does not need to be allocated to the machine where the live segment resides. The target drive must be large enough to accommodate the restore image, and it must be configured to a machine that has the same block size as the machine where the live segment resides. The online drive must have an associated backup drive and the serverless backup must be in an enabled state.

The process of restoring a segment to an online drive begins with the creation of a MAGIC disk set. The associated backup drive is then fractured and the restore from tape is performed. The targeted disk is then accessed by the NetWorker Module proxy server and NetWorker Module for MEDITECH application and restored from tape. After a successful restore from tape, the disk is removed from the proxy server and made accessible to the MAGIC machine. A boot command is then run from the MAGIC OSAL or MAGIC CS console, specifying the target disk as the source of the MAGIC OSAL or MAGIC CS image. The MAGIC machine can then be restored.

After the data is recovered the temporary segment is disabled and the MAGIC set can be deleted.

Checking restore status

For an ISB recovery, you can view recover status from the Monitor view. You can also view details in the **nsrmedirc.raw** file in the NetWorker installation applogs directory.

For an IDR recovery, you can view backup information before you perform a restore. Run the following command from the NetWorker server to view details:

```
nsrmedirc -s <networker_server> -x
```

A .csv file with this information is also saved to the NetWorker installation applogs directory.

NetWorker Module for MEDITECH Commands

This appendix provides syntax, notation, and related information for NetWorker Module for MEDITECH commands and command options. Command line examples are provided.

Note: The command line syntax examples provided in the following sections are shown in a multiple-line format in order to improve the readability. When actually entering a command at the command prompt, the command, command options, and specified data must all be entered on a single line.

This appendix includes the following sections:

- ◆ [Overview of the NetWorker Module for MEDITECH commands..](#)
56
- ◆ [Using the nsrmedisv command](#) 57
- ◆ [Using the nsrmedirc command.....](#) 59
- ◆ [Using the nwmedi command](#) 61
- ◆ [Troubleshooting.....](#) 62

Overview of the NetWorker Module for MEDITECH commands

NetWorker Module for MEDITECH commands perform the following functions:

- ◆ **nsrmedisv** backs up the specified MEDITECH data. “Using the **nsrmedisv** command” on page 57 provides more information.
- ◆ **nsrmedirc** restores the specified NetWorker Module for MEDITECH data objects. “Using the **nsrmedirc** command” on page 59 provides more information.
- ◆ **nwmedi** invokes NetWorker Module for MEDITECH graphical user interface. “Using the **nwmedi** command” on page 61 provides more information.

Descriptions, command options, and usage scenarios for each command are defined in the following sections. However, when initiating the commands, keep in mind these notes regarding syntax:

- ◆ Case is very important when specifying command line flags. Each command option is either lowercase or uppercase and, frequently, both the cases of a letter are included in the set of command options.
- ◆ Brackets ([]) are used to denote the optional portions of a command (for example, command options and corresponding arguments, if any). When initiating an actual backup or restore operation, do not include brackets.
- ◆ Data items must follow:
 - All other command options
 - Parameters on the command line

An application log is generated for both **nsrmedisv.exe** and **nsrmedirc.exe** programs. The logs are written into the `nsr\applogs` folder on the proxy server host. The logs are cumulative and are appended each time the **nsrmedisv.exe** or **nsrmedirc.exe** program runs.

Using the nsrmedisv command

The **nsrmedisv** command is used to back up MEDITECH data.

To initiate a backup operation, specify **nsrmedisv** and its command options for the Backup Command attribute in the Client resource in NMC or from a command prompt if you are running backup from a command prompt.

To modify the Backup Command attribute:

1. From the **Administration** window, click **Configuration**.
2. In the expanded left pane, click **Clients**.
3. In the right-side pane, right-click the client you want, and select **Properties**.
4. Specify the saveset in NMC for the client.
5. In the **Apps & Modules** tab of the **Properties** dialog box, enter **nsrmedisv** and any needed command options in the **Backup Command** field .
6. Click **OK**.

Note: The **-b** and **-l** command options are valid only for manual backups initiated from a Windows command prompt on a client host. Do not use either of these options when initiating a scheduled save in the NetWorker Administrator program.

Command syntax for nsrmedisv

The **nsrmedisv** command syntax is:

```
nsrmedisv [-nqVv] -s server_name [-e date]
          [-g group ] [-m masquerade] -N saveset_name
```

Note: **nsrmedisv.raw** should be rendered using the **nsr_render_log** bundled with NetWorker pre-7.4 or later. If you use NetWorker 7.3.x or later, contact the EMC Support to obtain it.

Command options for nsrmedisv

Command options are as follows:

Table 2 Command options for nsrmedisv

Command options	Descriptions
-e	Specifies the expiration date of the save set.
-g	Specifies the save group. 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
-n	Specifies that the save should not write data.
-q	Displays nsrmedisv messages in quiet mode; only summary information and error messages are displayed.
-s	Specifies the NetWorker server to use for the backup operation.
-V	Specifies the version number of the NetWorker Module for MEDITECH.
-v	Displays nsrmedisv messages in verbose mode, providing detailed information about the progress of the backup operation.

Using the nsrmedirc command

The **nsrmedirc** command restores specified MEDITECH data from the NetWorker system. To initiate a restore operation, specify **nsrmedirc** and any of its command options at a Windows command prompt.

Command syntax for nsrmedirc

The **nsrmedirc** command syntax is as follows:

```
nsrmedirc [-nqVvxz] [-i {nNyYrR}]
[-d destination] [-C storage_array -L drive_number]
[-s server] [-c client] [-t date] [-y count]
MAGICNAME
```

Command options for nsrmedirc

The command options are as follows.

Table 3 Command options for nsrmedirc (page 1 of 2)

Command options	Description
-c	Specifies the proxy server client name from which data is to be restored.
-C	Specifies the storage array name of an alternate recovery destination. This option must be used with the -L option.
-d	Specifies a Windows Server physical drive to be used for an alternate recovery location. The format is -d \\.\ <i>PhysicalDriveName</i>
-i {nNyYrR}	Overwrites a response.
-L	Specifies the drive number of an alternate recovery destination. This option must be used with the -C option. If no destination options are specified, the original data segment is restored. If the -d option is used with the -C and -L options, nsrmedirc ensures that the destinations agree.
MAGICNAME	Specifies the name of the MAGIC saveset using the following format: MEDI: /<Coherency_Group>/<Logical_Object> where the logical objects are those listed with the nsrmedirc -z command.
-n	Passes data to tyrecov , which inhibits the writing of recovery data.

Table 3 Command options for nsrmedirc (continued) (page 2 of 2)

Command options	Description
-q	Specifies quiet mode for logging messages, which provides minimal information about the progress of the restore operation, including error messages.
-s	Specifies the NetWorker server to use for the backup operation.
-t	Restores data as of the specified date. When the date of a backup version occurs before or is equivalent to the date, the backup version is restored. Follow the nsr_getdate command syntax guidelines when formatting the date.
-v	Displays nsrmedirc messages in verbose mode, providing detailed information about the progress of the backup operation.
-V	Specifies the version number of the NetWorker Module for MEDITECH.
-x	Generates a .csv file in the nsr\applogs directory of NetWorker Module for MEDITECH IDR save sets. This information can be imported into a spread sheet.
-y	Specifies the number of save sets that are listed with -x and -z output.
-z	Prints a list of NetWorker Module for MEDITECH save sets, similar in output to the NetWorker nsrinfo command.

Using the nwmedi command

The **nwmedi** command invokes the NetWorker Module for MEDITECH User program, which is the client graphical user interface.

To run the NetWorker Module for MEDITECH User program from the Windows Start menu, select Programs>EMC NetWorker>NetWorker User for MEDITECH.

Command options for nwmedi

The **nwmedi** command options are as follows:

```
nwmedi [-s NetWorker_server] [-c NetWorker_client]
```

Table A-1 **Command options for nwmedi**

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

Troubleshooting

- ◆ Once you install NetWorker Module for MEDITECH and invoke the GUI, a error screen is displayed if Solution Enabler is not installed.
Workaround:
Install Solution Enabler 6.4.2 or higher and the error is resolved.
- ◆ MEDITECH host communication error.
Workaround:
Check the Network settings for the Proxy host to communicate with MEDITECH hosts.
- ◆ MEDITECH “Hello” request fails.
Workaround:
Check if the MEDITECH host communication information is correct (Username, Password, Port number, Machine name).
- ◆ MEDITECH “Initiate” (Fracture Clone/BCV) error.
Workaround:
 - Check if the disks are in synchronized state at the MEDITECH host level, CLARiON level or Symmetrix level.
 - Check if the production volume and Clone/BCV volume are not in use.
 - Check if the MEDITECH users working on Backup options are under the MAGIC console.
 - Change the number of retries for clone fracture using NSR_NMMEDI_NUM_RETRIES environment variable.
- ◆ Unable to find the physical drive info error in EMC CLARiON.
Workaround:
 - Check if the clone LUN is surfaced on the Proxy host.
 - Check if JAVA Run time is in the system path.
 - Check if the Solutions Enabler bin location is in the system path.
 - For details error information, see Solutions Enabler log file:

```
\Program  
Files\EMC\SYMAPI\log\sympi-<today's  
date>.log
```

- ◆ Unable to start SAN Copy sessions in EMC CLARiiON.

Workaround:

Check if the CLARiiON has a minimum number of SAN Copy sessions configured for the clone LUN defined in the Configuration resource file.

This glossary contains terms used in this manual.

A

administrator Person who installs, configures, and maintains the NetWorker software.

B

backup Operation that saves data to a volume.

backup cycle The period of time from one level full backup to the next level full backup.

backup volume A volume used to store backup data.

C

client A computer, workstation, or file server whose data can be backed up or recovered.

clone A reliable copy of backed up data. Unlike volumes created with a simple copy command, clone volumes can be used in exactly the same way as the original backup volume. Single save sets or entire volumes can be cloned.

coherency group A user-defined grouping of MEDITECH hosts that will be backed up at the same time. Coherency groups are defined within the

NetWorker Module for MEDITECH interface and are referenced when creating a NetWorker “[saveset](#)”.

Console server NetWorker servers and clients are managed from the NetWorker Console server. The Console server also provides reporting and monitoring capabilities for all NetWorker processes.

D

data segment A unit of data that can be backed up and recovered. For CLARiiON or Symmetrix systems, this is called a LUN. [See also “Logical Unit \(LUN\).”](#)

device

1. A storage unit that reads from and writes to backup volumes. A storage unit can be a tape device, optical drive, autochanger, or file connected to the NetWorker server or storage node.
2. When dynamic drive sharing (DDS) is enabled, refers to the access path to the physical drive.

F

fracture The operation of severing the connection between a production and clone data segment.

full backup [See “level.”](#)

G

group A client or group of clients configured to back up files to the NetWorker server at a designated time of day.

H

host ID A serial number that uniquely identifies a computer.

I

I/O device An addressable input/output unit, such as a disk device.

L

label A NetWorker assigned label that uniquely identifies a volume.

Templates can be used to define label parameters.

level A measurement that determines how much data is saved during a scheduled or manual backup.

A full (f) backup backs up all files, regardless of whether they have changed. Levels one through nine [1-9] back up files that have changed since the last lower numbered backup level. An incremental (incr) backup backs up only files that have changed since the last backup.

license enabler A code that is required to run a feature or product.

Logical Unit (LUN) A logical unit of storage on a CLARiiON or Symmetrix system.

M

manual backup A backup that a user requests from the client. The user specifies the files, file systems, and directories to backup.

media The physical storage medium, such as magnetic tape, optical disk, or file system to which backup data is written.

N

NetWorker administrator A user who can add to or change the configuration of the NetWorker server, media devices, and libraries. NetWorker administrators must have their usernames included in the NetWorker server Administrator list.

NetWorker Console server [See "Console server."](#)

NetWorker server The computer running the NetWorker server software, which contains the client configuration information and provides backup and recovery services to the clients on the same network.

NetWorker storage node [See "storage node."](#)

R

recover	To restore files from a backup volume to a client disk.
remote device	A storage device that is attached to a storage node.
remote procedure call (RPC)	The protocol that the NetWorker server uses to perform client requests over a network.
resource	A component that describes the NetWorker server or its clients. Clients, devices, schedules, groups, and policies are all NetWorker resources. Each resource has attributes that define its properties.
retry mechanism	The action NetWorker software performs when client operations fail. This situation might occur when the rate of transmission is either low or nonexistent.

S

SAN Copy	An EMC software feature that enables the copying of data from one location to another.
save	The command that backs up client files and makes entries in the online index.
saveset	A group of files or a file system that is backed up on storage media.
snapshot	A point-in-time copy of data created during an instant backup.
storage array	A configuration element in the NetWorker Module for MEDITECH interface that enables the proxy server to communicate with the CLARiON or Symmetrix systems that store MEDITECH data.
storage node	A storage device physically attached to another computer whose backup operations are controlled by the NetWorker server.

V**volume**

1. The physical storage medium, such as magnetic tape, optical disk, or file system to which backup data is written.
2. An identifiable unit of data storage that may reside on one or more computer disks.

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