

# Technical Notes

## EMC<sup>®</sup> NetWorker<sup>®</sup> SharePoint BLOB Backup and Recovery by using NetWorker Module for Microsoft and Metalogix StoragePoint

Release number 9.0

### TECHNICAL NOTES

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These technical notes contain supplemental information about backup and recovery of SharePoint Binary Large Objects (BLOB) by using EMC NetWorker Module for Microsoft (NMM) and Metalogix StoragePoint.

- [Revision history](#)..... 2
- [Introduction](#)..... 2
- [Key benefits of externalizing BLOBS](#)..... 3
- [Overview of using NMM for SharePoint RBS externalized by StoragePoint Metalogix software](#)..... 3
- [Installing StoragePoint 4.2 on SharePoint Server 2013 nodes](#)..... 4
- [Externalizing the BLOBs -content database](#)..... 5
- [Best practices and recommendations for SharePoint RBS tiered storage](#)..... 14
- [RBS deployed SharePoint full farm protection by using NetWorker and NetWorker Module for Microsoft](#)..... 15
- [Performing SharePoint GLR with Metalogix RBS deployed and configured for externalizing BLOB store by using third party Kroll Ontrack](#)..... 17
- [Restoring SharePoint content database and RBS Metalogix BLOB store](#)..... 23
- [Recovering a SharePoint farm with RBS Metalogix deployed and externalized BLOB store](#)..... 28
- [Troubleshooting tips](#)..... 29

## Revision history

The following table presents the revision history of this document.

Revision	Date	Description
02	November, 2015	Removed figures that are not relevant for NMM 9.0.
01	September, 2015	First release of these technical notes for EMC NetWorker Module for Microsoft release 9.0.

### Note

This document was accurate at publication time. Go to EMC Online Support (<https://support.emc.com>) to ensure that you are using the latest version of this document.

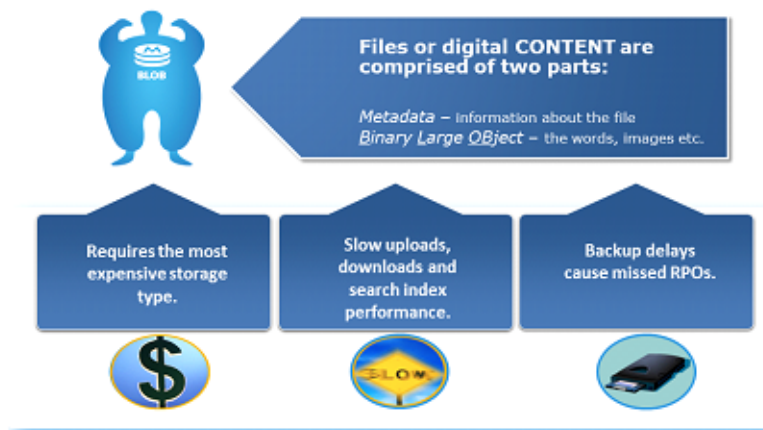
## Introduction

Microsoft SharePoint enables you to manage a wide range of content. In most SharePoint deployments, the file content is stored in the underlying Microsoft SQL Server database, typically on a storage area network (SAN) infrastructure. The file data in SharePoint consists of:

- Metadata, which typically amounts to approximately 5% of the total data volume.
- Binary Large Objects (BLOBs), which typically amount to approximately 95% of the total data volume.

**Figure 1** SQL Server database for a SharePoint environment

### Challenges with storing large BLOBs in SharePoint's SQL Database



Because SQL Server is rather designed for structured data than unstructured BLOB data, organizations with large and growing SharePoint environments often encounter significant performance challenges.

BLOBs are unstructured contents, with which we work everyday, such as, Microsoft Office documents and PDFs. BLOBs typically consume 80 to 95 percentage of the SharePoint storage space. The rest is metadata that describes the content such as, SharePoint lists and document attribute data.

Standardizing SQL-based storage has created the following challenges in storing large SharePoint databases:

- The disks to store database files are more expensive than other storage methods. Despite the storage costs are constantly changing, it is a reasonable assumption that the database storage costs more than regular file system storage because database storage requires extremely high I/O performance per unit of storage. Microsoft specifically recommends performance of at least two I/O operations per second per gigabyte of content. Database storage best practices also require RAID 5 or 6 protection, which adds additional redundancy and cost.
- Performance is affected because you must access the content from the database instead of the file system. The file system stores files in contiguous chunks and minimizes fragmentation, whereas, BLOBs stored in databases are increasingly fragmented.
- Poor performance handling of large content can often result in missed Recover Time and Recover Point Objectives, particularly if you use built-in SharePoint and SQL Server backup tools.

## Key benefits of externalizing BLOBS

Reducing the size of the database makes SQL Server more nimble and manageable. By externalizing content with Metalogix StoragePoint for SharePoint Storage, you can bypass SQL for BLOB I/O operations. Intercepting and fulfilling the requests at the Web Front End (WFE) also increases SharePoint performance.

BLOB externalization can reduce a 1 TB content SQL database that typically contains a mixture of content and associated metadata to 50 GB. The reduction can be more than 80%. You can virtually store the actual content BLOBs on any combination of external storage according to the priorities for performance and cost for a given category of content.

Data protection for SharePoint Remote BLOB Storage (RBS) enabled environments is often a challenge. EMC® NetWorker® Module for Microsoft (NMM) provides a solution that provides seamless farm, content database, and granular recovery for these deployments. Users can implement a SharePoint tiered storage solution while implementing a comprehensive SharePoint data protection solution.

## Overview of using NMM for SharePoint RBS externalized by StoragePoint Metalogix software

NMM supports SharePoint granular recovery for sites and items by using Kroll Ontrack PowerControls for SharePoint. Kroll Ontrack PowerControls is now SharePoint RBS Aware, and supports recovery of SharePoint site collections, sites, and items that have BLOB content and have been externalized to tiered file system storage via SharePoint RBS.

These technical notes describe the procedure for backing up and restoring by using NMM for SharePoint RBS externalized by StoragePoint Metalogix software. A SharePoint farm stores both the configuration data and the content data in the SQL database. Use the RBS Metalogix software solution to externalize the BLOB store to a file system share. The RBS Metalogix software solution reduces the size of the content database that participates in the externalization process in the SQL database.

You can additionally use NMM SQL VSS writer, SharePoint VSS writer, and NetWorker File System technologies to provide a recovery solution for SharePoint web applications, site collections, list items, and external BLOB stores.

NMM generally supports backup and restore of SharePoint by using VSS writers only. You can extend the NetWorker File System technology to SharePoint with a few manual and additional steps. BLOB externalization reduces the size of a content database by 90-95 percentage.

**NOTICE**

The *EMC NetWorker Module for Microsoft for SQL and SharePoint VSS User Guide* supplements the procedures that these technical notes describe. You can download this guide from EMC Online Support (<https://support.emc.com>).

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## Installing StoragePoint 4.2 on SharePoint Server 2013 nodes

### Procedure

1. Start the StoragePoint installer on the SharePoint 2013 application server, and click **Install**.  
A system check takes place.
2. On the **System Check** page, click **Next**.
3. On the **License Agreement** page, select **ACCEPT** and click **Next**.
4. On the **Active License** page:
  - In the **License Key** field, type the software license key.
  - In the **Web Front End Servers in Farm** field, type the number of nodes.
  - Type the user name and password for the local administrator.
  - Select **Activate Offline (obtain a license file on another machine and upload here)**.
  - Click **Next**.
5. On the **Offline Activation** page:
  - a. Copy the text in the **Activation Data** field.
  - b. Click <http://www.metalogix.com/OfflineActivation>, and paste the copied text in the page.
  - c. Click **Activate**.  
The license key file is downloaded to the host.
  - d. In the **Load License Key File** field, browse and specify the downloaded license key file.
  - e. Click **Next**.
6. On the **Database Creation Login Credentials** page:
  - In the **Database Server** field, type the database server name along with the relevant instance name.
  - The database name automatically appears in the **Database Name** field.
  - The **Windows authentication** option is selected by default.
  - Click **Test Connection** to test the connection between the SharePoint node and the SQL Server.
  - If the connection is successful, click **OK**. Otherwise, check for errors and click **Next**.
7. On the **Database Access Credentials** page:

- The **Windows authentication using SharePoint app pool account (recommended)** option is selected by default. This is the recommended selection.
- Click **Test Connection** to test the connection for the provided credentials.
- If the connection is successful, click **OK**. Otherwise, check for errors and click **Next**.

The StoragePoint installation progresses. After the installation of StoragePoint on all the SharePoint Server 2013 WFE nodes succeeds, you are prompted to restart IIS and SharePoint Timer Service on all WFE nodes in the farm.

8. Click **OK**.

9. Click **Next**.

The StoragePoint installation is completed.

10. Open the command prompt on each SharePoint Server farm node, and restart IIS and SharePoint Timer Service.

11. Open the SQL Server Management Studio (SSMS) on the SQL server, connect to the relevant instance, and verify whether the StoragePoint databases are created.

12. In the Central Administration Server of SharePoint, select **Application Management** and then click the **StoragePoint** hyperlink to view the **License Management** page. The Metalogix StoragePoint license is valid for 180 days.

## Externalizing the BLOBs -content database

Externalizing the BLOBs requires the following configuration settings. Ensure that you properly plan to externalize the BLOBs depending on SharePoint content databases, sites, and so on in the SharePoint farm.

### Procedure

1. Create storage endpoints for the BLOBs.

Create the storage locations (endpoints) to which the content is externalized. You can define one or more endpoints for a storage profile. You can create the endpoints by using the Storage and backup endpoints link in either Metalogix StoragePoint's Central Administration section or the Storage Profile user interface.

2. Create one or more storage profiles that describe how the BLOBs are externalized.

You can create profiles by using web application, content database, or site collection.

3. Create storage profile timer jobs. Run an externalize job for each configured storage profile.

This step assumes that you have a content database, and want to externalize the existing BLOBs.

4. Configure the unused BLOB cleanup job for the storage profile.

This step sets up the timer job that removes orphaned (deleted) BLOBs from the file store. This job requires considerable time to run. So, you must consider the run time when you schedule the job.

## Sample procedure to externalize SharePoint Server 2013 BLOB

This sample procedure assumes the following SharePoint Server farm configuration:

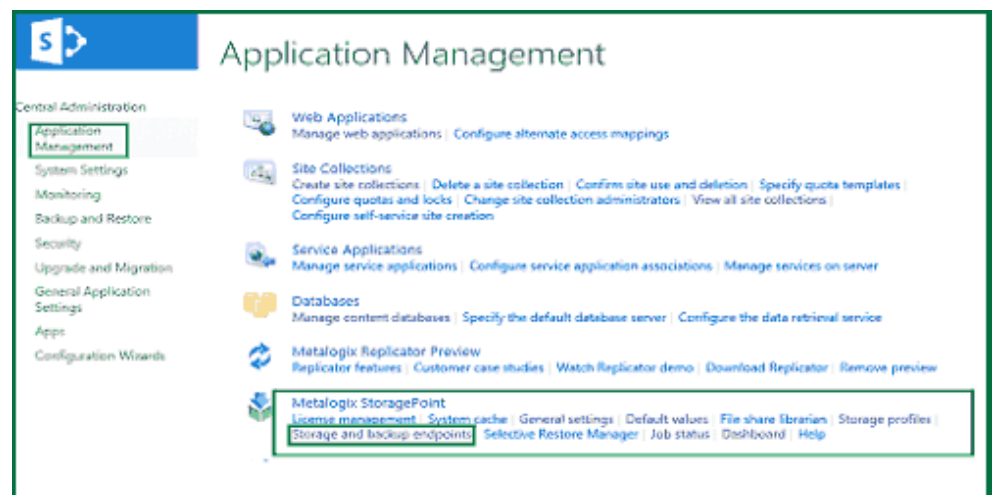
- Two or three servers with SharePoint Central Administration (CA)
- One SharePoint pure WFE
- One SQL 2014 standalone database server
- StoragePoint Metalogix is installed on the SharePoint farm nodes
- Content database with RBS enabled. In the example, the content database CD\_100 is of size 105 GB and contains SharePoint data.
- One file system share that is available for the BLOB to be externalized, and used as a BLOB store.

### Creating storage endpoints

#### Procedure

1. Open the **Metalogix StoragePoint's Application Management** page.

**Figure 2** Application Management page



2. Click the **Storage and backup endpoints** link. This link is also available in the **New Storage Profile** user interface.

**Figure 3** Edit storage endpoint

The screenshot shows the 'Edit Storage Endpoint' page in the SharePoint administration center. The page has a left-hand navigation pane with links to Application Management, System Settings, Monitoring, Backup and Restore, Security, Upgrade and Migration, General Application Settings, Apps, Configuration Wizards, and Site Contents. The main content area is divided into two sections: 'Endpoint Information' and 'Storage Settings'. The 'Endpoint Information' section contains a 'Name' field with the value 'Endpoint1', a 'Type' dropdown set to 'Primary', and a 'Status' dropdown set to 'Online'. The 'Storage Settings' section contains an 'Adapter' dropdown set to 'FileSystem', a 'Path' field with the value '\\log14division\exBLOBStore', and an 'Advanced Adapter Settings' link. Below these fields, there are checkboxes for 'Is WORM Device' (set to 'No'), 'Folder Content in BLOB Store' (set to 'Yes'), and a 'Folder Scheme' dropdown set to 'YYYY/MM/DD/HH/MM'.

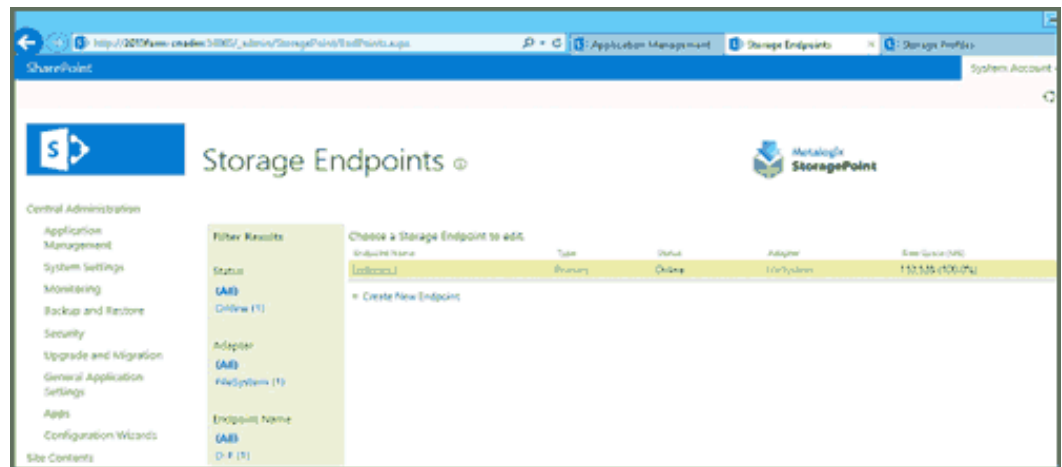
3. In the **Path** field, type the file share path. Use Universal Naming Convention (UNC) paths, such as \\server\share\filepath, for the location.
4. Test the storage settings.

**Figure 4** Testing storage settings

The screenshot shows the 'Edit Storage Endpoint' page in the SharePoint administration center, displaying a success message: 'Success: Test Successful'. The page layout is identical to Figure 3, with the same navigation pane and main content area. The 'Endpoint Information' section shows 'Name' as 'Endpoint1', 'Type' as 'Primary', and 'Status' as 'Online'. The 'Storage Settings' section shows 'Adapter' as 'FileSystem', 'Path' as '\\log14division\exBLOBStore', and 'Advanced Adapter Settings' as 'Show'. The 'Is WORM Device' checkbox is 'No', 'Folder Content in BLOB Store' is 'Yes', and the 'Folder Scheme' is 'YYYY/MM/DD/HH/MM'.

A new storage endpoint Endpoint1 is created.

**Figure 5** Storage endpoints

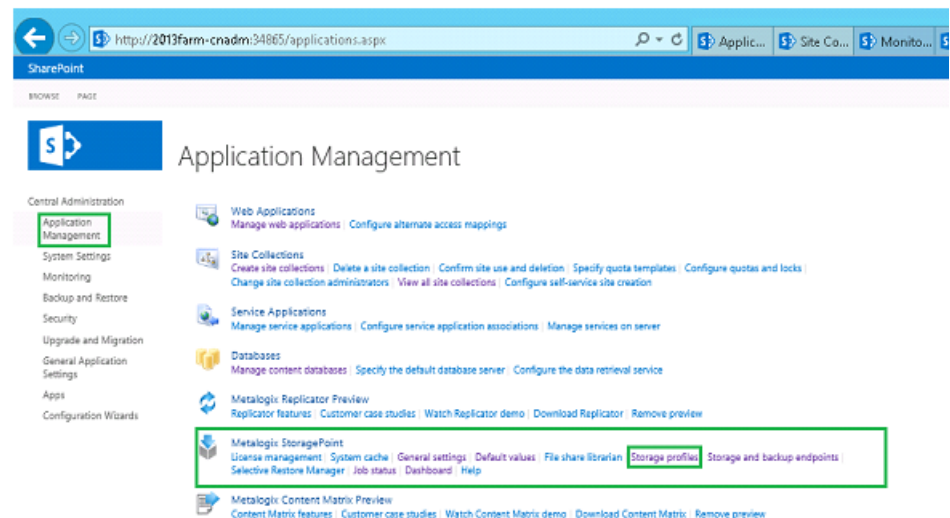


## Creating storage profiles

### Procedure

1. Open the **Metalogix StoragePoint's Application Management** page.

**Figure 6** Application management page



2. Click the **Storage profile** link. This link is also available in the **New Storage Profile** user interface.
3. In the **Select Content Database** dialog box, select the content database **CD1\_100**, and click **OK**.
4. In the **New Profile Endpoint** dialog box, from the **Endpoint** list, select the created endpoint **Endpoint1** and click **OK**.



**Figure 7** Selecting profile endpoint

**New Profile Endpoint**

**Storage Endpoint**  
Select the Storage Endpoint, the Endpoint Start Folder and the Endpoint Write Mode. The **StartFolder** is a top level folder on the endpoint to write this profile's content to. The **Endpoint Write Mode** can be Synchronous or Asynchronous.

**Endpoint**  
Select **Endpoint1 (FileSystem)** [Edit](#) [New](#)

**Endpoint Start Folder**  
[Empty text box]

**Endpoint Write Mode**  
[Synchronous] [Configure System Cache](#)  
**You cannot configure an Asynchronous Endpoint Type without first configuring the System Cache.**

**Storage Rule**  
Define the rule that will determine whether or not content is externalized.

**Online?**  
[Yes]

**Additional Filters (check all that apply)**  
☐ File size is [0] KB

[OK](#) [Cancel](#)

5. Select the **Configure System Cache** option to configure the system cache with the same file path that you specified when creating the storage endpoint. and click **OK**. You must first configure the system cache to configure an asynchronous endpoint.

**Figure 8** Selecting configure system cache option

**SharePoint**

**Profile Name**  
StorageProfile\_ConD6105

**Profile Scope**  
Choose Content Database and then select a Content Database to create, update, or delete a Content Database-specific storage profile.

**Storage Endpoints**  
The Endpoint Selection Mode option determines if Endpoint selection is made immediately (Synchronous) or first happens after the SharePoint list item has been created (Asynchronous). Making this operation asynchronous allows you to select additional filters on the Profile Endpoint configuration dialog. This setting should not be confused with the Endpoint Write Mode option on the Profile Endpoint dialog, which dictates how the BLOB write is performed once the target endpoint has been selected. You cannot set this option to Asynchronous if the System Cache has not been configured.

Select the endpoint(s) that this profile will write its content to in this section.

**Unused BLOB Retention Policy**  
Provide unused BLOB retention policy settings in this section. These settings will dictate how long SharePoint will retain unused BLOB files after SharePoint is finished with them.

**Single Instancing**  
Enable Single Instancing

**Endpoint Selection Mode**  
[Synchronous] [Configure System Cache](#)  
**You cannot configure Endpoint selection to be an asynchronous operation without first configuring the System Cache.**

#	Endpoint	Write Mode	Online?	Filter
1	Endpoint1 (FileSystem)	Synchronous	Yes	None

[Add Endpoint](#)

**Retain Unused Blobs For**  
30 Days

6. Specify the necessary fields and click **OK**.

**Figure 9** Configuring system cache

**New System Cache Endpoint**

**Endpoint Information**  
Provide basic information about the endpoint in this section.

The Name identifies the endpoint on the StoragePoint configuration pages. Type can be Primary for general use endpoints and Backup for endpoints used only for Backup and Restore. Status can be Online to allow reads and writes to the endpoint or Offline to allow only reads of content (i.e. no new content allowed).

**Storage Settings**  
Provide storage device settings in this section.

Name: SYSTEM.CACHE

Status: Online

Adapter: FileSystem

Adapter Settings: ☐ Show Connection String

Path: \\SQL14VDISONA\\ExtBLOBStore

**Advanced Adapter Settings** (Show)

Folder Content in BLOB Store: Yes

OK Cancel

7. Test the storage settings for the system cache configuration. Click **OK** if the test succeeds.

**Figure 10** Testing system cache configuration

**New System Cache Endpoint**

**Success Test Successful.**

**Endpoint Information**  
Provide basic information about the endpoint in this section.

The Name identifies the endpoint on the StoragePoint configuration pages. Type can be Primary for general use endpoints and Backup for endpoints used only for Backup and Restore. Status can be Online to allow reads and writes to the endpoint or Offline to allow only reads of content (i.e. no new content allowed).

**Storage Settings**  
Provide storage device settings in this section.

Name: SYSTEM.CACHE

Status: Online

Adapter: FileSystem

Adapter Settings: ☐ Show Connection String

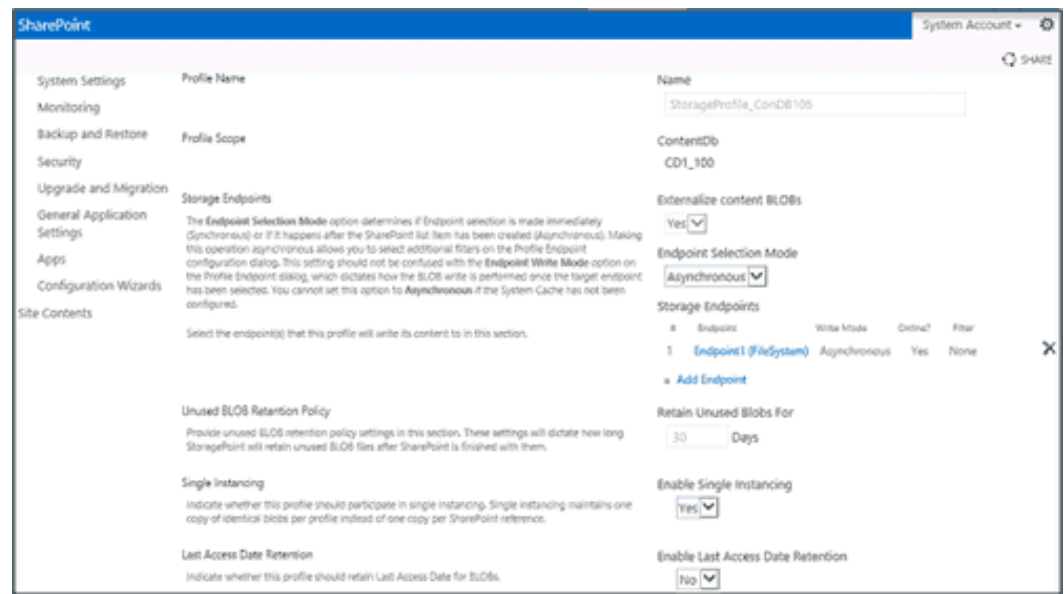
Path: \\SQL14VDISONA\\ExtBLOBStore

**Advanced Adapter Settings** (Show)

Folder Content in BLOB Store: Yes

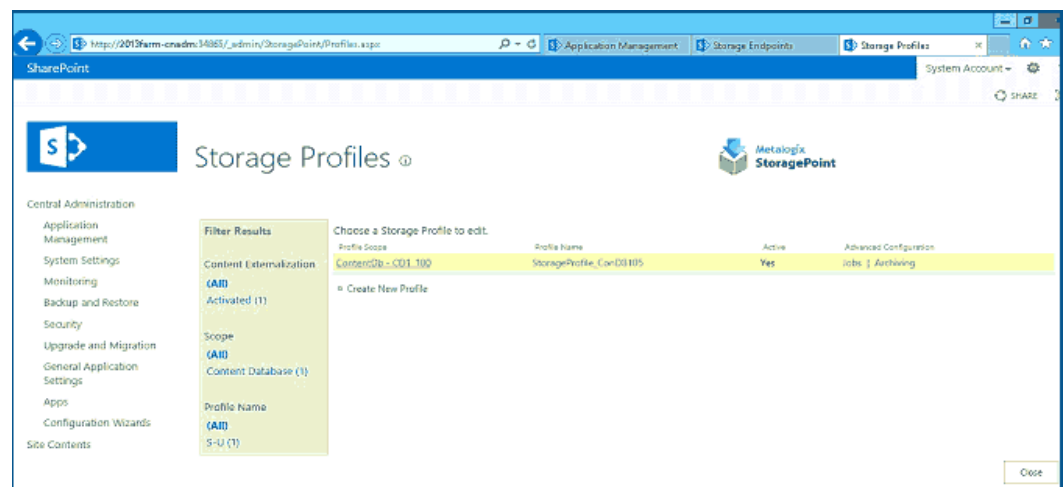
OK Cancel

8. Verify the storage profile settings and click **Save**.

**Figure 11** Verifying storage profile settings

You are prompted to reset ISS and restart the SharePoint Timer service.

9. Select OK to create the Storage Profile.

**Figure 12** Viewing storage profiles

10. Open the command prompt on each SharePoint Server farm node, and restart IIS and SharePoint Timer Service.

11. Enable RBS on the content database CD1\_100 by using the following example commands at the Power Shell prompt:

```
PS C:\Users\administrator.user> $cdb = Get-SPContentDatabase <relevant content database>
```

```
PS C:\Users\administrator.user> $rbss = $cdb.RemoteBlobStorageSettings
```

```
PS C:\Users\administrator.user> $rbss.Installed()
```

```
PS C:\Users\administrator.user> $rbss.Enable()
```

```
PS C:\Users\administrator.user>
```

```
$rbss.SetActiveProviderName($rbss.GetProviderNames()[0])
```

PS C:\Users\administrator.user> \$rbss

Figure 13 Enabling RBS by using CLI

```

Administrator: SharePoint 2013 Management Shell
PS C:\Users\administrator.SENGUPTA> $cdb = Get-SPContentDatabase CD1_100
PS C:\Users\administrator.SENGUPTA> $rbss = $cdb.RemoteBlobStorageSettings
PS C:\Users\administrator.SENGUPTA> $rbss.Installed<>
True
PS C:\Users\administrator.SENGUPTA> $rbss.Enable<>
PS C:\Users\administrator.SENGUPTA> $rbss.SetActiveProviderName($rbss.GetProvide
rNames<>[0])
PS C:\Users\administrator.SENGUPTA> $rbss

Enabled ActiveProviderName MinimumBlobStorageS UpgradedPersistedPr
ize operties
-----
True StoragePointRBS 0 <>

PS C:\Users\administrator.SENGUPTA> _

```

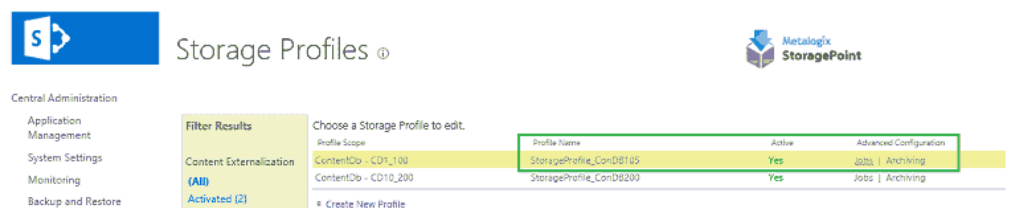
## Externalizing storage or schedule timer job

The information in this section is relevant to existing content databases only. After Metalogix StoragePoint is installed and configured, new and updated content is externalized in real-time.

### Procedure

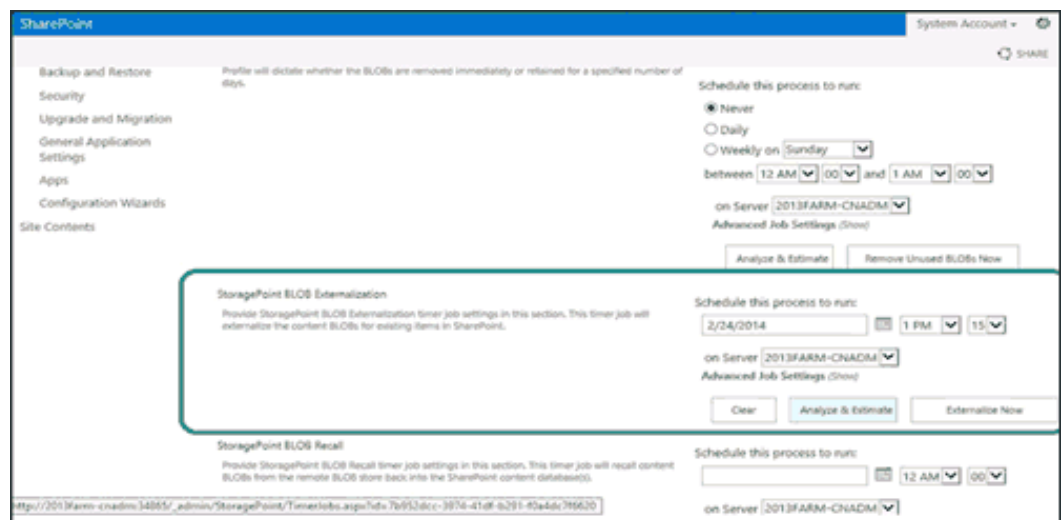
1. On the **Storage Profiles** page, click **Jobs** of a profile to externalize.

Figure 14 Clicking jobs to externalize a storage profile

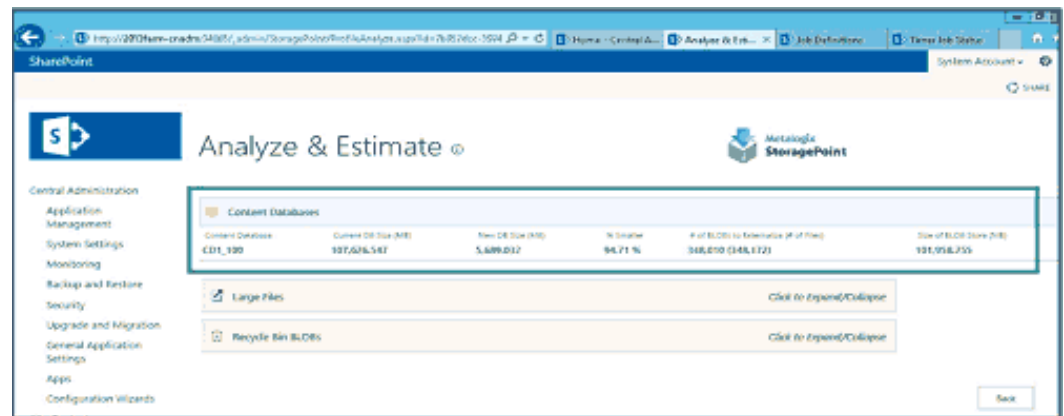


2. In the **StoragePoint BLOB Externalization** section, specify a schedule on the relevant server and then click **Analyze & Estimate**.

Figure 15 Specifying a schedule for externalization



The Analyze and Estimate page appears. Information about the shrink percentage, the size of the database in MB, and the size of the new content database are available.

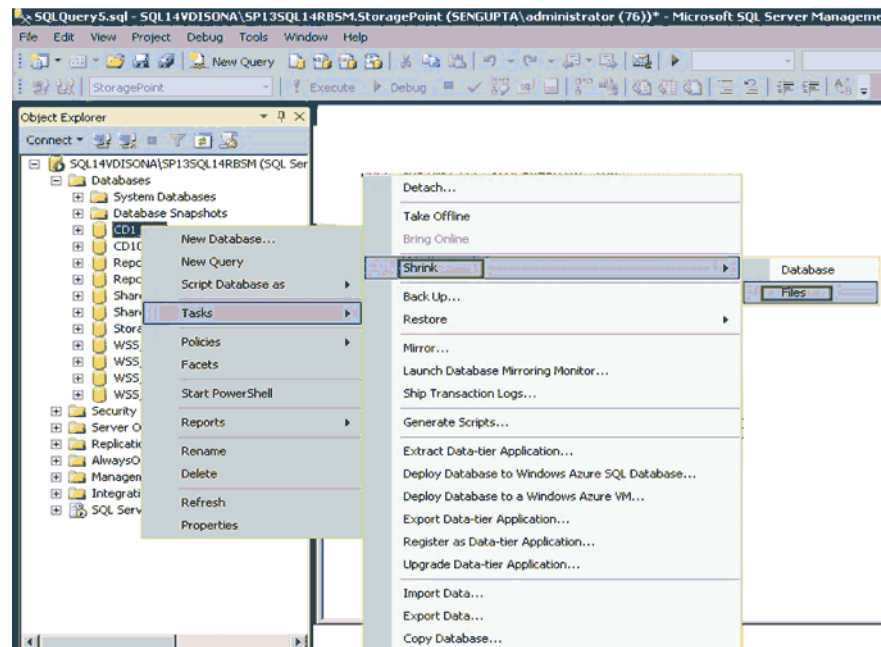
**Figure 16** Viewing analysis and estimation for externalization

3. Select **Back** to go back to the **Edit Storage Profile** page, and then click **Save**.
4. Click **Monitoring > Timer Jobs > Check Job Status** to check the progress of BLOB externalization.

After the BLOB externalization, the data size is 90.9 GB in the file share in the SQL Server.

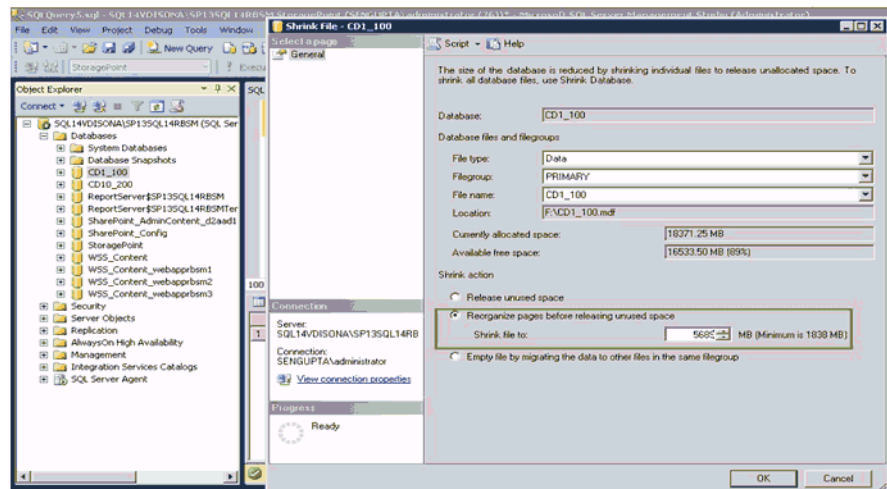
Because the data size is reduced by just 10%, you must shrink a content database to further reduce the data size. Manually perform this step if Metalogix is installed on content databases.

5. Open SSMS on the SQL Server.
6. Right click the content database CD1\_100 and select **Tasks > Shrink > Files**.

**Figure 17** Selecting content database and shrink files option

7. On the **Shrink File - <content database>** page:
  - a. Select **Reorganize pages** before releasing unused space.

- b. In the **Shrink file to** field, either type or select **5689**.
- c. Click **OK**.



The content database size is reduced to 5689 MB (5.55 GB).

## Best practices and recommendations for SharePoint RBS tiered storage

The following table lists the best practices and recommendations for SharePoint RBS tiered storage:

**Table 1** Best practices for SharePoint RBS tiered storage

Requirements	Recommendations
BLOB store location	Use UNC paths, such as \\server\share\filepath to refer to the BLOB store location.
Storage profile granularity	Ensure that you align the granularity of the storage profiles with the granularity of the content databases. Aligning the granularity simplifies the backup and recovery processes, and the disaster recovery processes by partitioning the externalized BLOBs into discreet stores that you can easily back up along with their associated content databases. For example, if the SharePoint implementation uses one content database for one web application and all the site collections under that web application share the same content database, you must create a web application-scoped profile in Metalogix StoragePoint to map all of the content BLOBs to one external file store location. If different site collections use different content databases, you must create individual site collection-scoped profiles for each site collection and point the profiles at distinct external file store locations.
BLOB store and SQL backup sequence	Always back up the BLOB store after you back up the related content database. This ensures that there is no orphaned list item (missing BLOB). In some cases, there could be a few orphaned BLOBs, which are harmless and easily purged from BLOB store. Back up BLOB store by using NetWorker file system. You must back up the content database and the relevant web application by using SQL and SharePoint VSS Writer technologies with NMM.

**Table 1** Best practices for SharePoint RBS tiered storage (continued)

Requirements	Recommendations
Metalogix StoragePoint database	You must back up the Metalogix StoragePoint database by using the NMM VSS technology. Manually configure NMM client resources. Do not use the NMM Client Backup Configuration wizard.
Post externalization job	After externalizing each database, run the dbcc_shrinkdb command to fully reclaim the unused space. You require this option for content databases that existed before MetaLogix StoragePoint was installed. Newly created content databases free up the space in real time.
Unused BLOB retention setting	Unused BLOB retention setting on each profile specifies the number of days a BLOB file must be retained after being orphaned. So instead of immediately deleting the BLOB after being orphaned, the Unused BLOB Cleanup Job retains the BLOB for a specified number of days. The Unused BLOB retention setting also enables you to perform an item-level recovery by using third party tools.  In this case, you must set the BLOB retention to the maximum number of days from which the deleted items must be restored. For example, if the retention is set to 180 days, then SharePoint documents or list items deleted in the last 180 days must be safely restored.
RBS farm restore	You must first restore a BLOB store, then content database, and then sync up by using the NMM.

## RBS deployed SharePoint full farm protection by using NetWorker and NetWorker Module for Microsoft

The sample setup that the procedure uses in this section consists of a distributed SharePoint farm environment with the following configuration:

- SharePoint Central Administration, named 2013farm-cnadm.abc.com.
- WFE, named 2013farm-wfe.abc.com
- SQL Server, named sql14vdisona.abc.com

### Configuring client resources

#### Procedure

1. Open the NMC.
2. Configure client resources for the SharePoint farm.
3. Configure two save groups. One for the SharePoint Server farm and the StoragePoint content database on the SQL Server, and the other to back up the BLOB store and run after a client backup completes.
4. Manually configure the SharePoint and SQL client resources:

#### NOTICE

Ensure that you do not use the NMM Client Backup Configuration wizard to configure resources for RBS.

- For the SharePoint Central Administration (2013farm-cnadm.abc.com), use the following information when configuring the NMM backups:
    - Save set: APPLICATIONS:\Microsoft Office SharePoint Services
    - Backup Command: **nsrnmmsv.exe**
    - Application Information: NSR\_SNAP\_TYPE=vss
  - For SQL Server 2014 standalone (sql14vdisona.abc.com), use the following information when configuring the NMM backups for both the SharePoint content database and the Metalogix StoragePoint database:
    - Save set:  
 APPLICATIONS:\SqlServerWriter\SQL14VDISONA%5CSP13SQL14RBSM  
 APPLICATIONS:\SqlServerWriter\SQL14VDISONA%5CSP13SQL14RBSM\master  
 APPLICATIONS:\SqlServerWriter\SQL14VDISONA%5CSP13SQL14RBSM\model  
 APPLICATIONS:\SqlServerWriter\SQL14VDISONA%5CSP13SQL14RBSM\msdb  
 APPLICATIONS:\SqlServerWriter\SQL14VDISONA%5CSP13SQL14RBSM  
 \ReportServer\$SP13SQL14RBSM  
 APPLICATIONS:\SqlServerWriter\SQL14VDISONA%5CSP13SQL14RBSM  
 \ReportServer\$SP13SQL14RBSMTempDB  
 APPLICATIONS:\SqlServerWriter\SQL14VDISONA%5CSP13SQL14RBSM  
 \SharePoint\_Config  
 APPLICATIONS:\SqlServerWriter\SQL14VDISONA%5CSP13SQL14RBSM  
 \SharePoint\_AdminContent\_d2aad117-7e68-46ac-92a1-47765a1488d2  
 APPLICATIONS:\SqlServerWriter\SQL14VDISONA%5CSP13SQL14RBSM  
 \WSS\_Content\_webapprbsm1  
 APPLICATIONS:\SqlServerWriter\SQL14VDISONA%5CSP13SQL14RBSM  
 \WSS\_Content\_webapprbsm2  
 APPLICATIONS:\SqlServerWriter\SQL14VDISONA%5CSP13SQL14RBSM  
 \StoragePoint  
 APPLICATIONS:\SqlServerWriter\SQL14VDISONA%5CSP13SQL14RBSM  
 \WSS\_Content\_webapprbsm3  
 APPLICATIONS:\SqlServerWriter\SQL14VDISONA%5CSP13SQL14RBSM  
 \CD1\_100  
 APPLICATIONS:\SqlServerWriter\SQL14VDISONA%5CSP13SQL14RBSM  
 \WSS\_Content
    - Backup Command: **nsrsnap\_vss\_save**
    - Application Information: NSR\_SNAP\_TYPE=vss
  - For SharePoint pure WFE (2013farm-wfe.abc.com), use the following information when configuring the NMM backups:
    - Save set: APPLICATIONS:\Microsoft Office SharePoint Services
    - Backup Command: **nsrnmmsv.exe**
    - Application Information: NSR\_SNAP\_TYPE=vss
5. For each client resource that is created, configure NetWorker traditional save backups:
- For SQL Server 2014 standalone (sql14vdisona.abc.com) external BLOB store, use the save set G:\ExtBLOBStore.
  - For SQL Server 2014 standalone (sql14vdisona.abc.com) disaster recovery backup, use the save set DISASTER\_RECOVERY:\.



- For SharePoint Central Administration (2013farm-cnadm.abc.com) disaster recovery backup, use the save set DISASTER\_RECOVERY:\.
- For SharePoint pure WFE (2013farm-wfe.abc.com) disaster recovery backup, use the save set DISASTER\_RECOVERY:\.

## Performing backups

Perform backups after you create client resources:

### Procedure

1. Perform a full backup of SharePoint and SQL Writers. The SharePoint Writer includes the SharePoint Configuration Data, and the SQL Writer includes the SQL, SharePoint content and StoragePoint databases for the relevant SQL Server instance.
2. Configure a file system backup of the external BLOB store by using the file system configuration wizard.
3. Configure file system backup of the file system save sets and DISASTER\_RECOVERY:\ save set on SharePoint Central Administration, SharePoint pure WFE, and SQL Server.

## Using externalized BLOB storage to improve backup performance

Use the externalized BLOB storage to reduce backup time and improve performance.

You notice the following sample results:

- Before externalizing BLOB and shrinking content database, the backup time for the sample SharePoint farm was 1 hour 13 minutes 53 seconds.
- After externalizing BLOB and shrinking content database, the same backup time of the sample SharePoint farm is 18 minutes 7seconds.
- The backup time of the SQL Writer for the relevant SQL instance that contains the StoragePoint database is 46 minutes 58 seconds.

## Performing SharePoint GLR with Metalogix RBS deployed and configured for externalizing BLOB store by using third party Kroll Ontrack

This section describes the procedure to perform a granular level recovery (GLR) of a RBS enabled content database. Ensure that you installed Kroll 7.0.2.5 on the SharePoint Central Administration.

NMM and Kroll Ontrack provide a complete solution for RBS enabled content database GLR. The *EMC NetWorker Module for Microsoft for SQL and SharePoint VSS User Guide* supplement the procedure that this section describes.

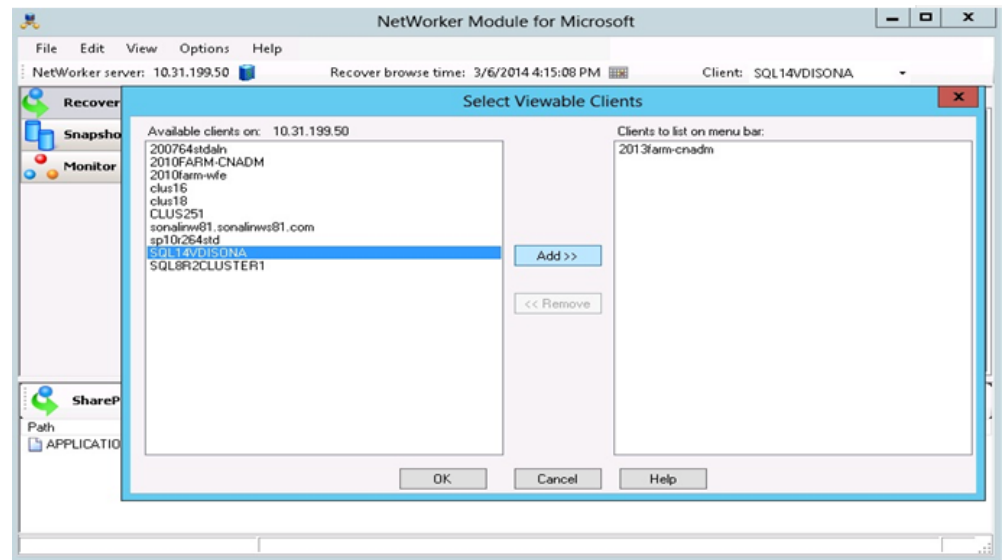
### Procedure

1. Open the NetWorker User for Microsoft GUI on the host on which you perform SharePoint GLR.

In this example, you start the NetWorker User for Microsoft GUI from the SharePoint Central Administration.

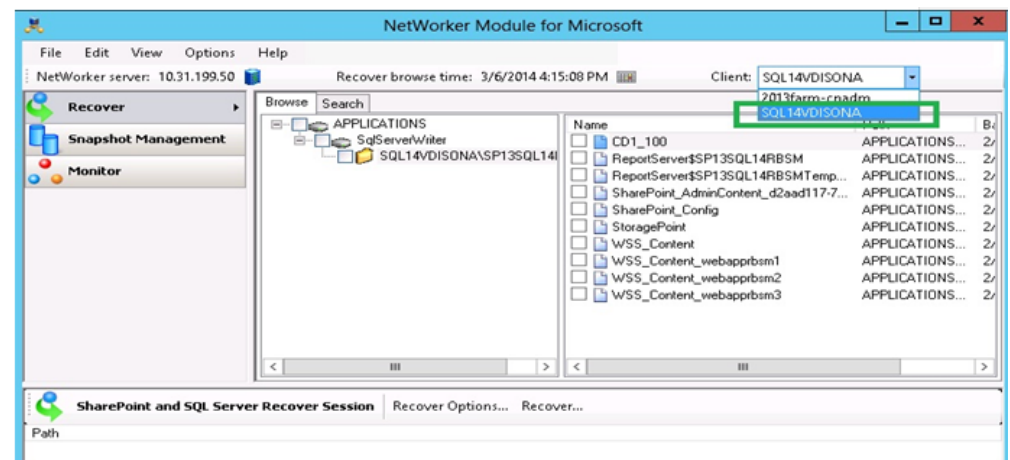
2. Select the relevant options to open the **Select Viewable Clients** page and add the available SQL hostname to the **Clients to list on menu bar** list to browse the SQL save sets on the destination host.

**Figure 18** Selecting clients



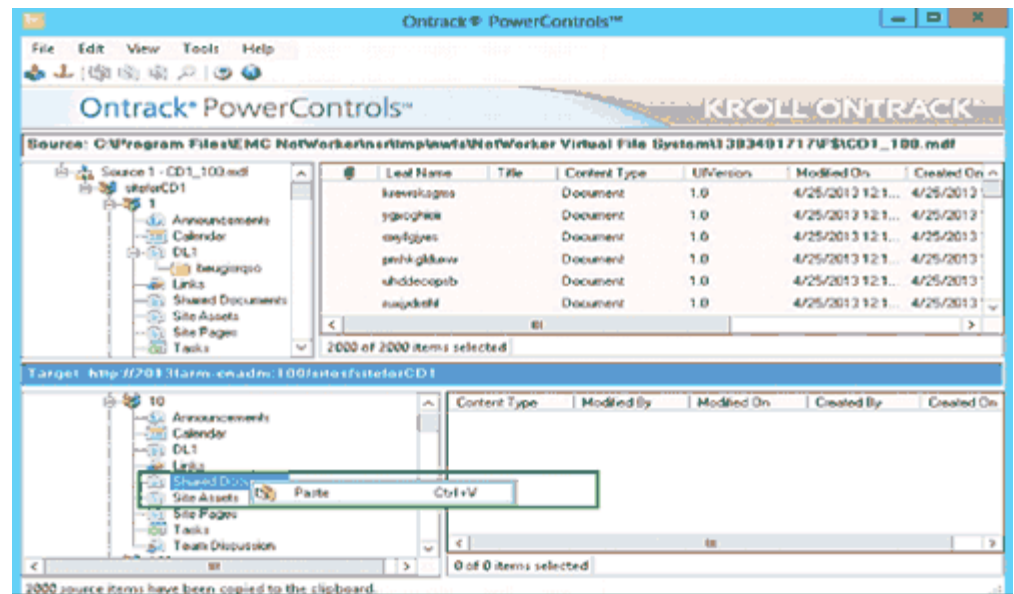
3. Connect to either SQL Server or an instance by using the NetWorker User for Microsoft GUI on SharePoint application server.

**Figure 19** Connecting to SQL Server

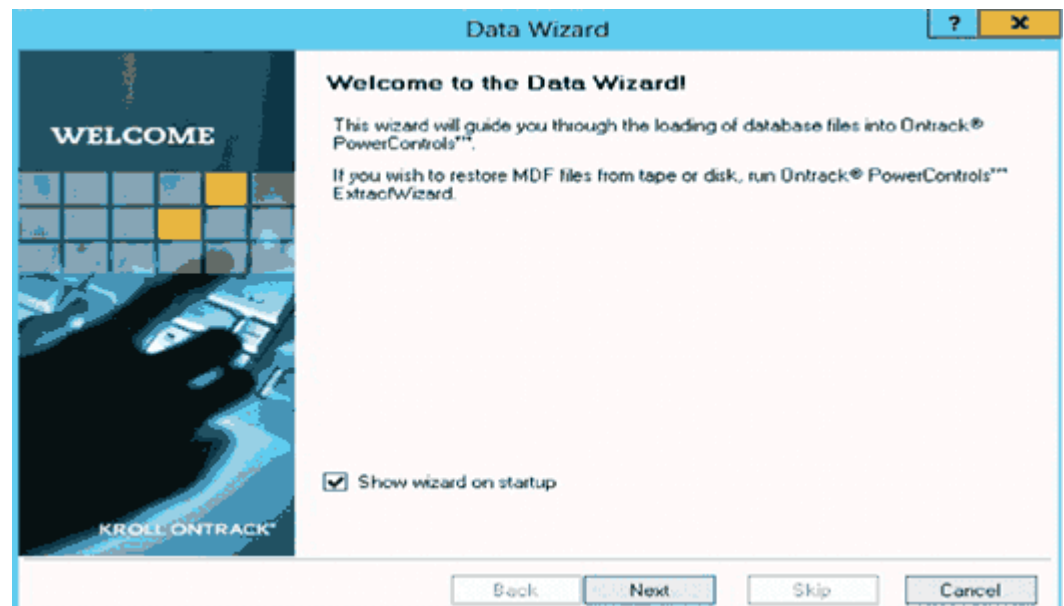


4. Right click the content database CD1\_100, which is RBS enabled and has been added to the storage profile and select **Mount SharePoint backup for Granular Level Recovery**.

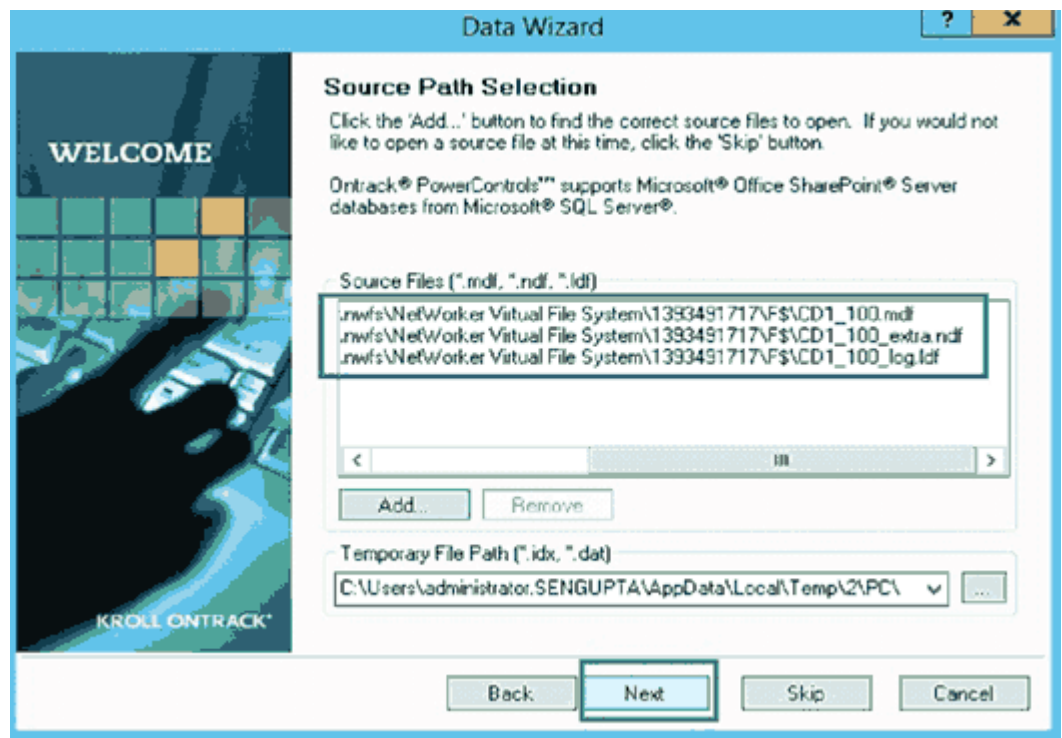
You can select the virtual mount location from the recovery options.

**Figure 20** Mounting SharePoint backup for GLR

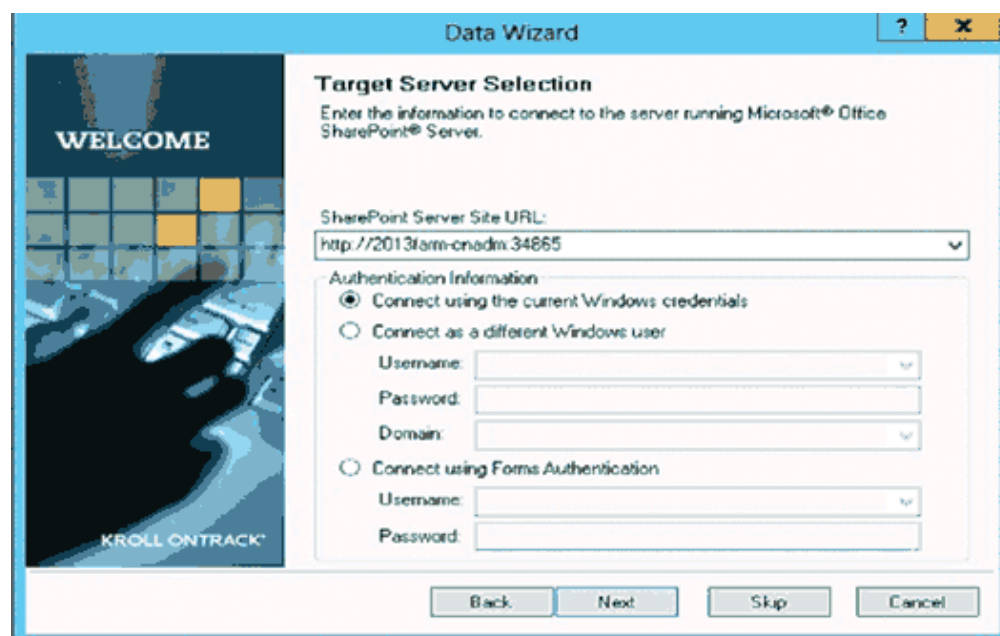
5. Start Kroll Ontrack PowerControls.
6. On the **Welcome to the Data Wizard** page, Click **Next**.

**Figure 21** Data wizard

7. On the **Source Path Selection** page, add the source mdf, ldf, and ndf files and click **Next**.

**Figure 22** Selecting source path

8. On the **Target Server Selection** page:
  - a. From the **SharePoint Server Site URL** list, select the URL of the SharePoint Server site.
  - b. Select **Connect using the current Windows credentials**.
  - c. Click **Next**.

**Figure 23** Selecting target SharePoint server

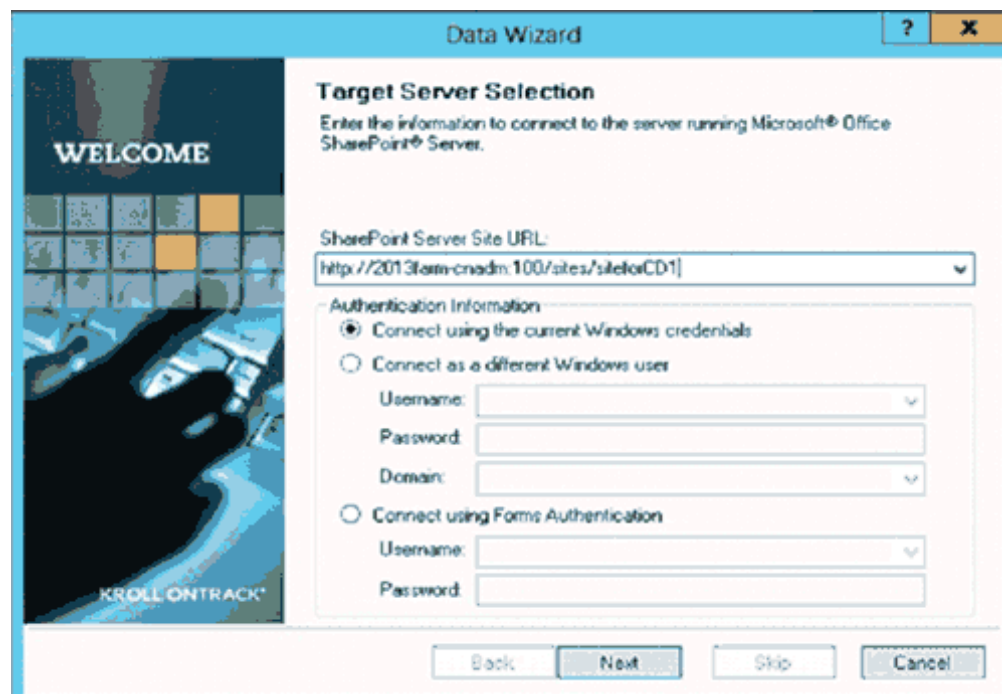
9. On the **Remote Blob Store Configuration** page:
  - a. From the **Metalogix StoragePoint server URL** list, select the URL of the Metalogix StoragePoint Server.
  - b. Select **Connect using Windows credentials**.
  - c. Click **Next**.

**Figure 24** Configuring remote BLOB store

If the Metalogix StoragePoint Server URL is correct, the Ontrack PowerControls GUI appears.

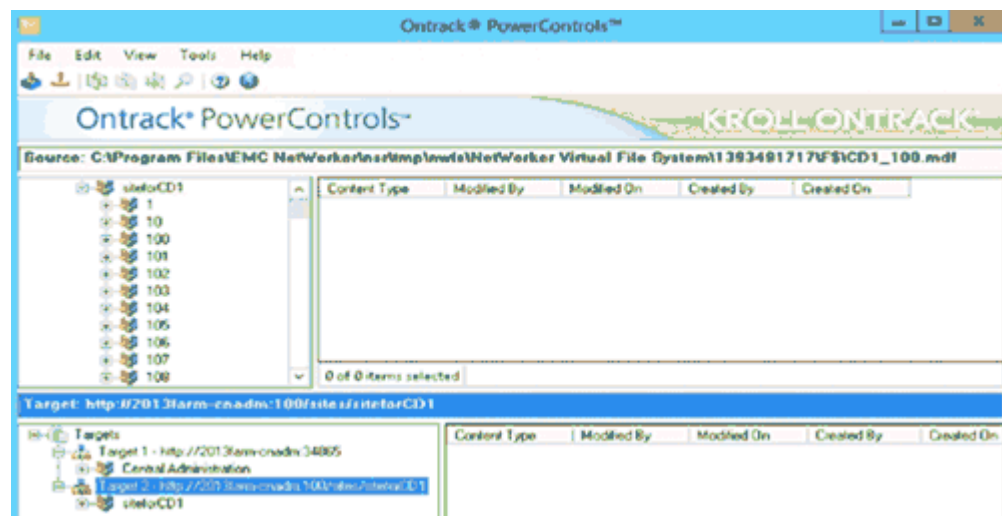
10. In the Ontrack PowerControls GUI, click **File > Open Target**.
11. On the **Target Server Selection** page:
  - a. From the **SharePoint Server Site URL** list, select the URL of the Metalogix StoragePoint Site Collection to use as the target.
  - a. Select **Connect using the current Windows credentials**.
  - b. Click **Next**.

**Figure 25** Selecting target Metalogix StoragePoint server

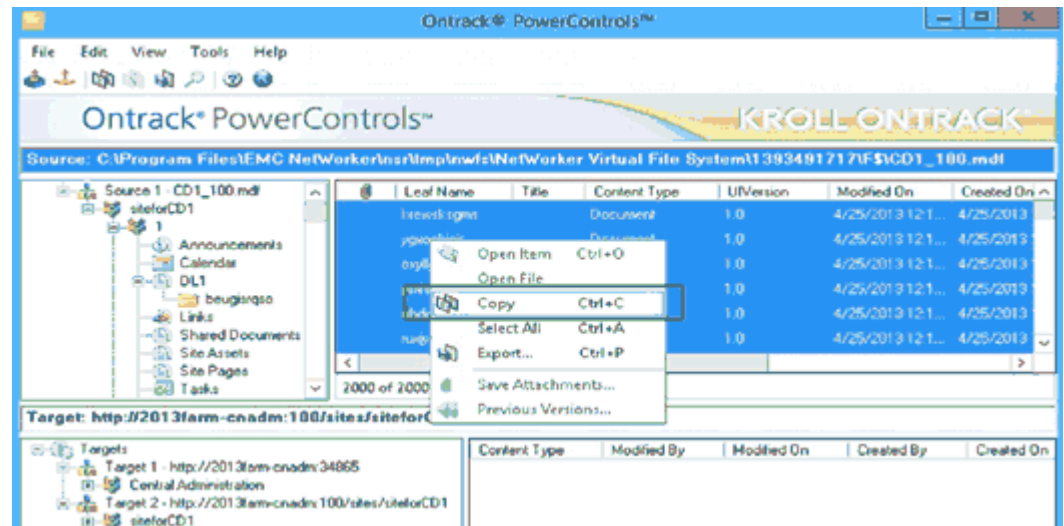


The target appears in the Target panel of the main window.

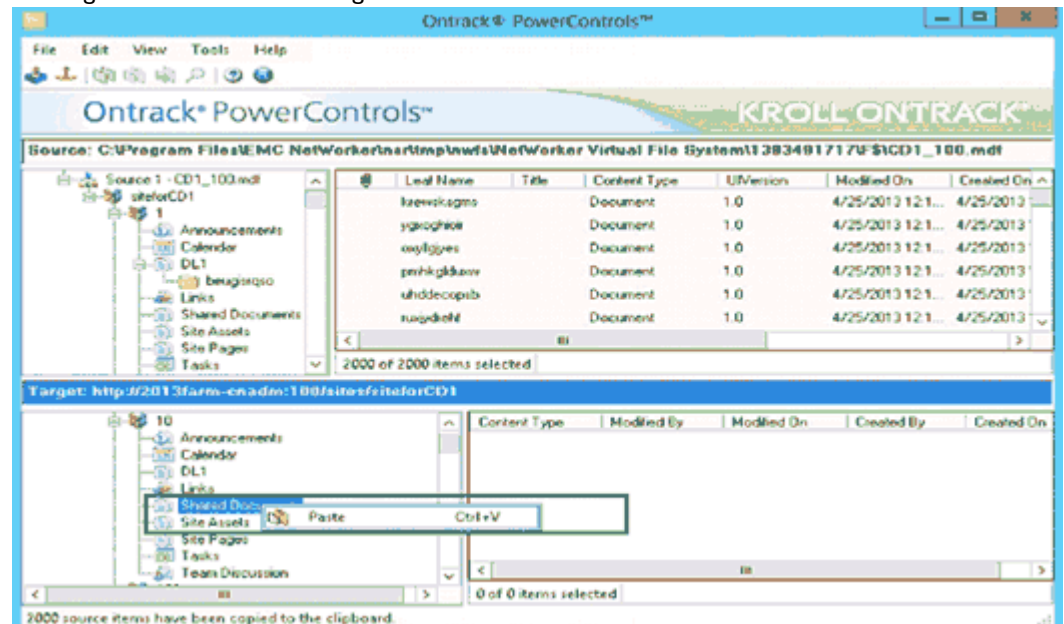
**Figure 26** Viewing target



12.Copy the items from the source to a location on the target.

**Figure 27** Copying the items from the source

Pasting the items on to the target



The Copy progress window appears.

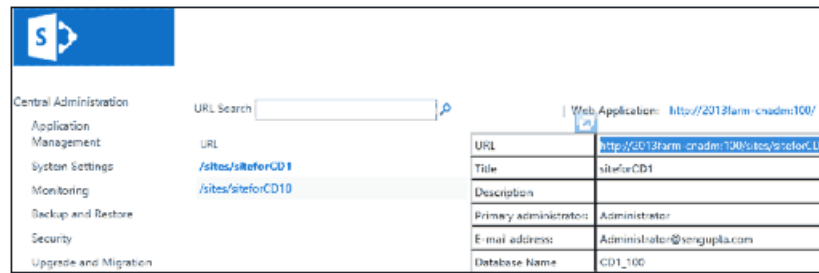
13. After the selected number of items are successfully copied, you can close, save, or print the report.

## Restoring SharePoint content database and RBS Metalogix BLOB store

Perform the following steps to restore a SharePoint farm by using NMM and NetWorker file system.

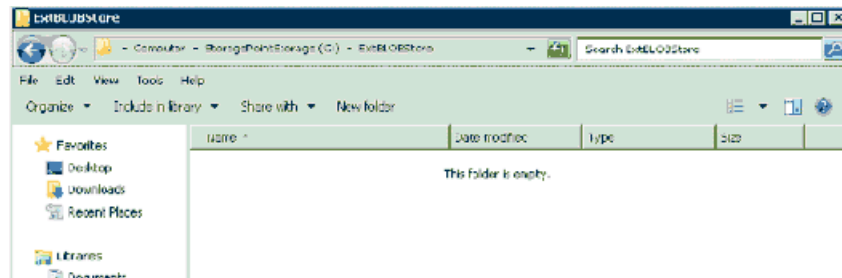
1. Delete the documents from the site collection that contains the content database CD1\_100.

**Figure 28** Deleting documents from site collection



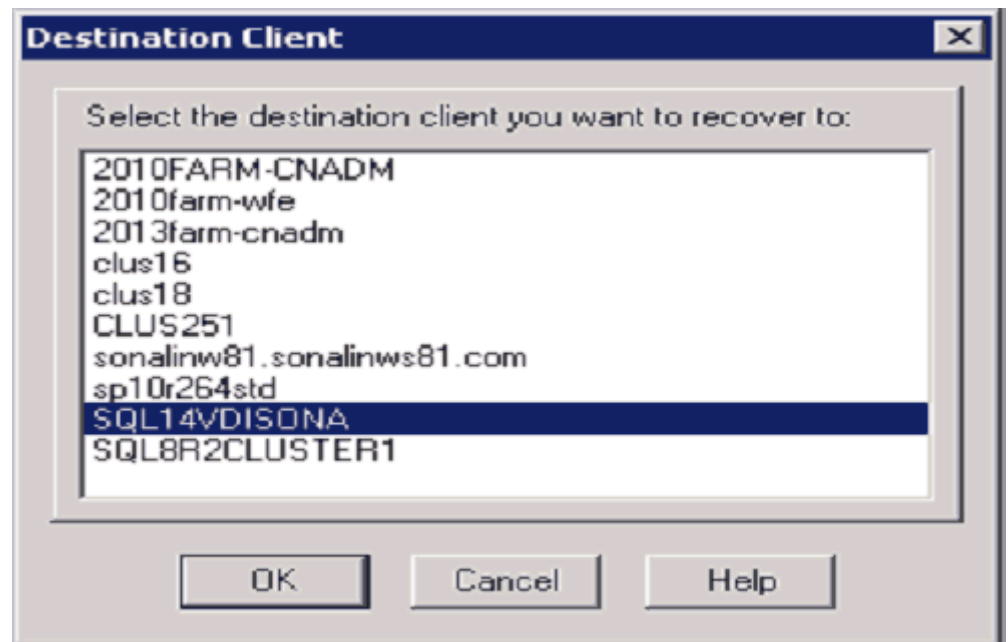
2. Delete the BLOB store from the share location.

**Figure 29** Deleting BLOB store from share location



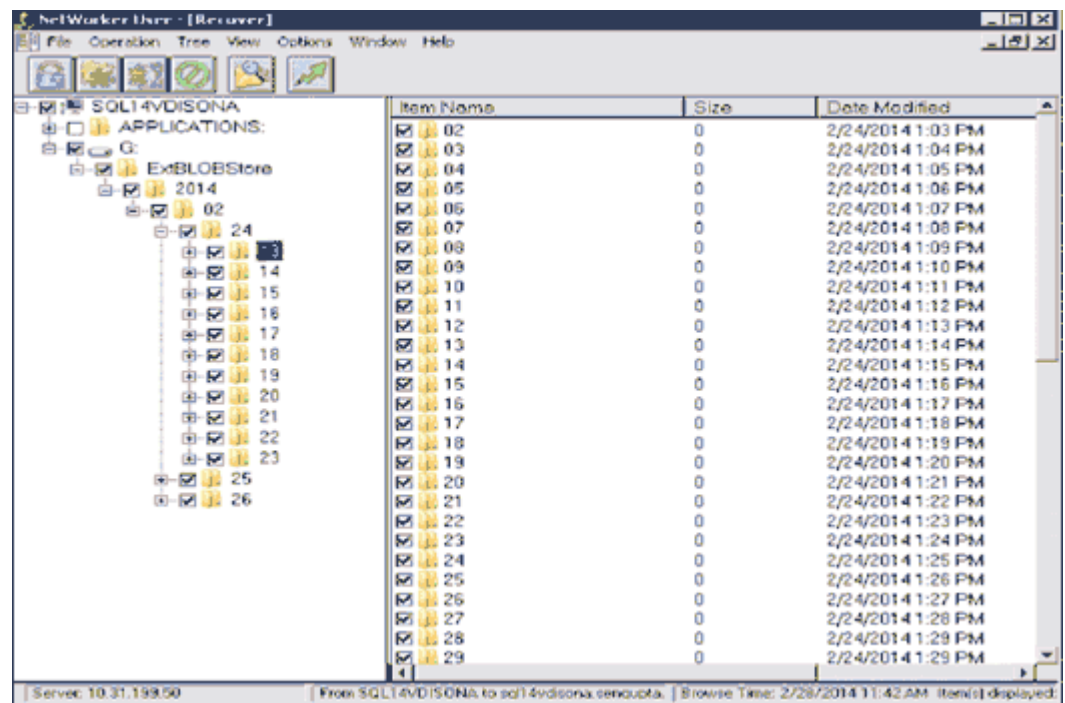
3. Use NMM and NetWorker file system to restore a SharePoint farm.
4. Open the NetWorker User GUI and connect to the client that contains the file share.

**Figure 30** Connecting to the destination client

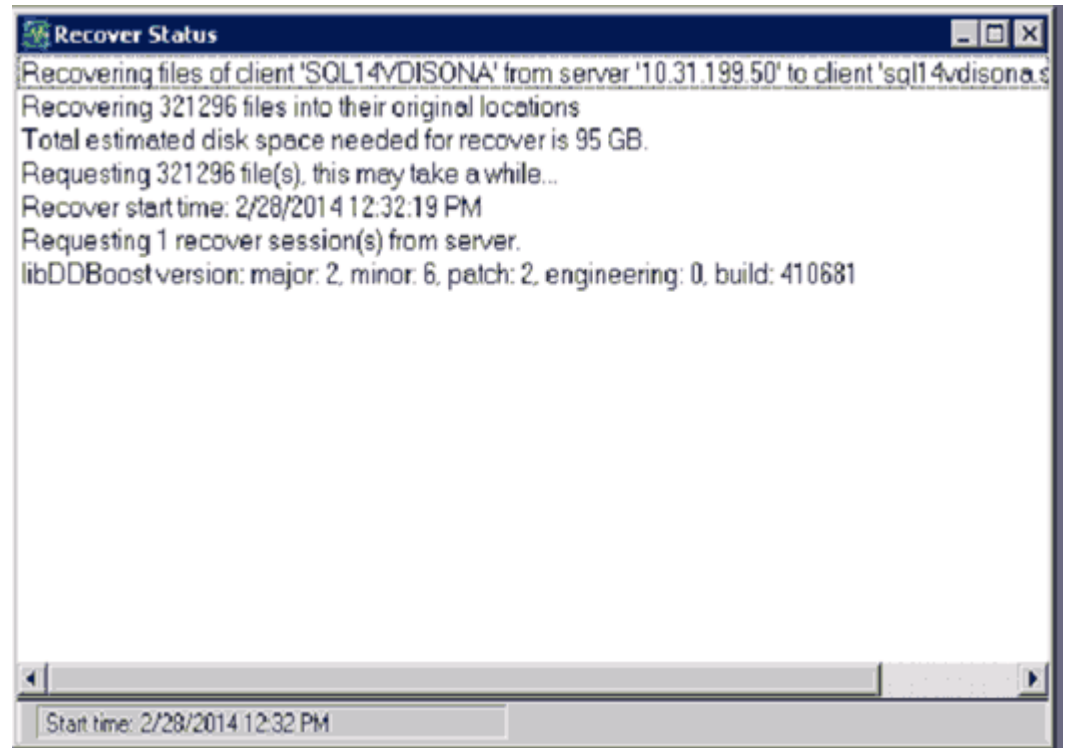


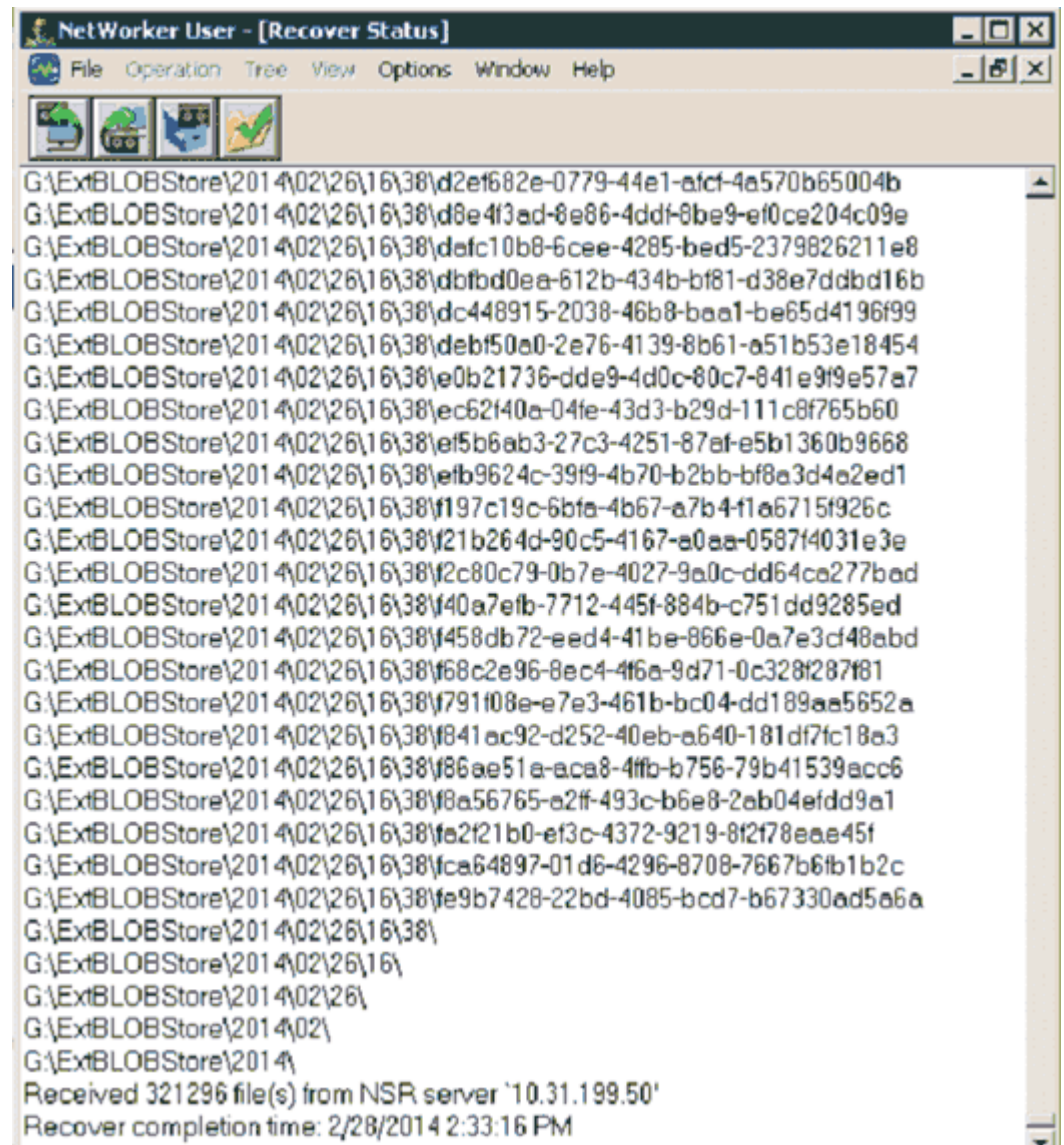
5. In the NetWorker User GUI, select the BLOB store.



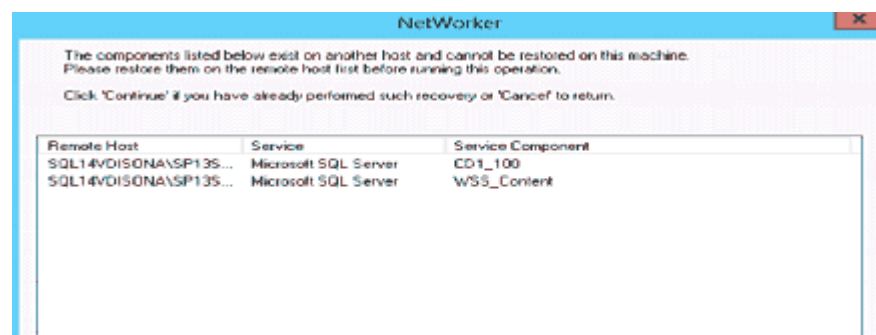
**Figure 31** Selecting the BLOB store

- Recover the selected BLOB store.

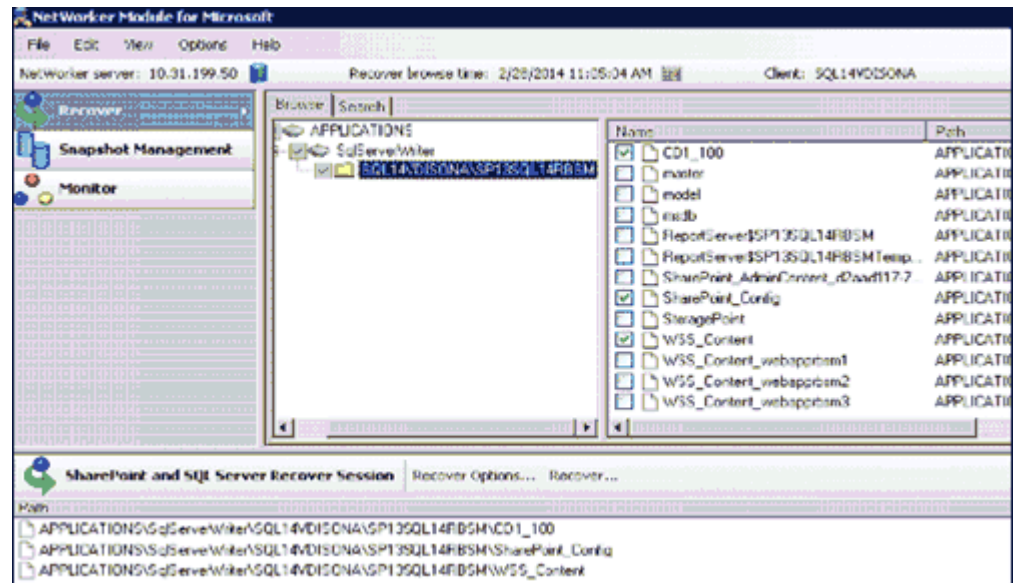
**Figure 32** Recovering the BLOB store

**Figure 33** Successful BLOB store recovery

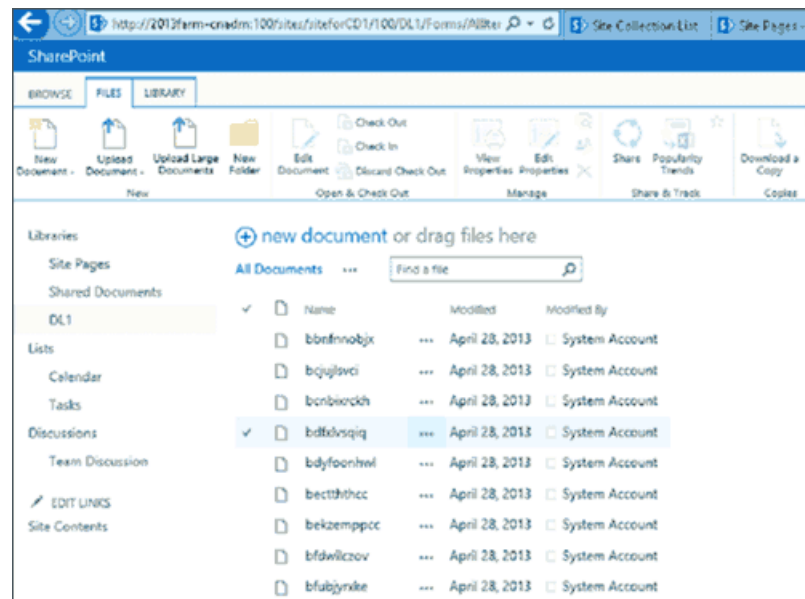
7. Restore the relevant content database by using the NetWorker User for Microsoft GUI on the SharePoint node. In the dependency dialog box that appears, select the relevant SQL database (CD1\_100) and click **Continue**.

**Figure 34** Restoring SQL database

8. On the SQL Server, restore the relevant RBS enabled content database.

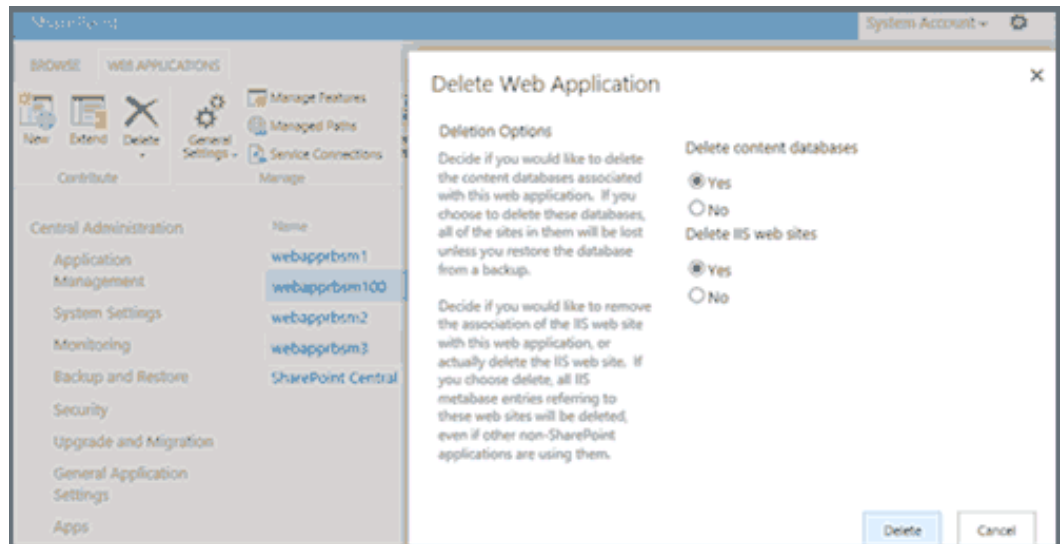
**Figure 35** Restoring the RBS enabled content database

9. In the NetWorker User for Microsoft GUI on the SharePoint node, click **Continue** to recover the relevant site collection that the web application under test is associated to.
10. Verify whether all the documents are restored, the site collection is started, and the data is online.

**Figure 36** Verifying documents, site collection, and data after restore

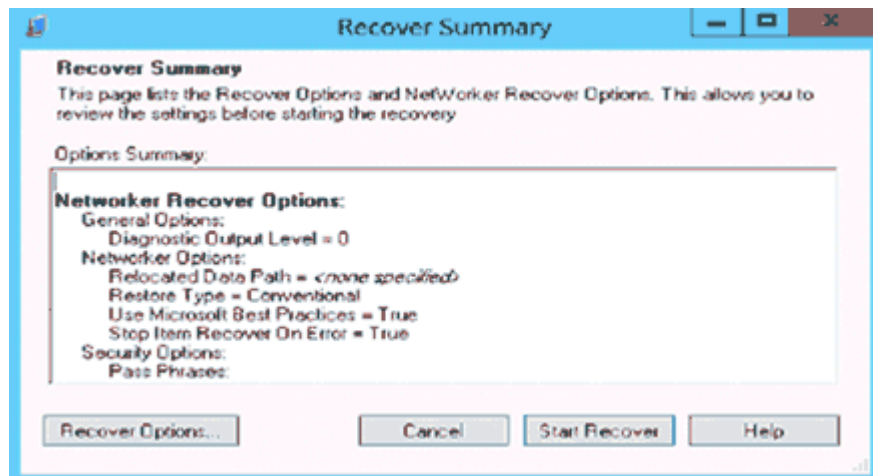
# Recovering a SharePoint farm with RBS Metalogix deployed and externalized BLOB store

1. Delete the web application that the content database CD1\_100 associates to. Delete all entries and references.

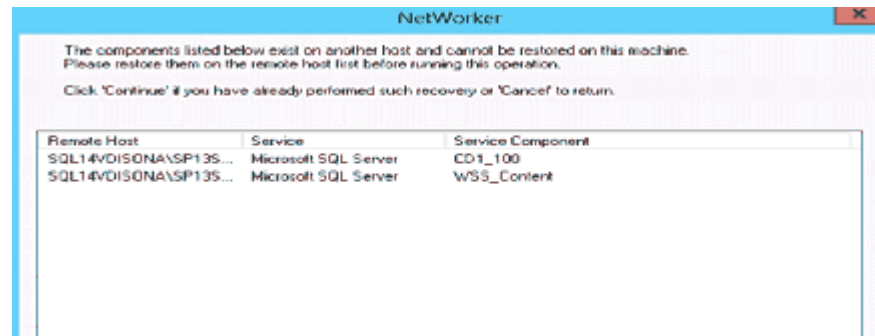


2. Delete the BLOB store from the share location G:\ExtBlobStore.
3. Open the NetWorker User GUI and connect to the client that contains the file share.
4. In the NetWorker User GUI, select the BLOB store and restore it.
5. Recover the SharePoint configuration data by using the NetWorker User for Microsoft GUI on the SharePoint node.

**Figure 37** Restoring SharePoint configuration data



6. After the recovery, restart the host.
7. Recover the relevant web application by using the NetWorker User for Microsoft GUI on the SharePoint. In the dependency dialog box that appears, select the relevant SQL database (CD1\_100) and click **Continue**.

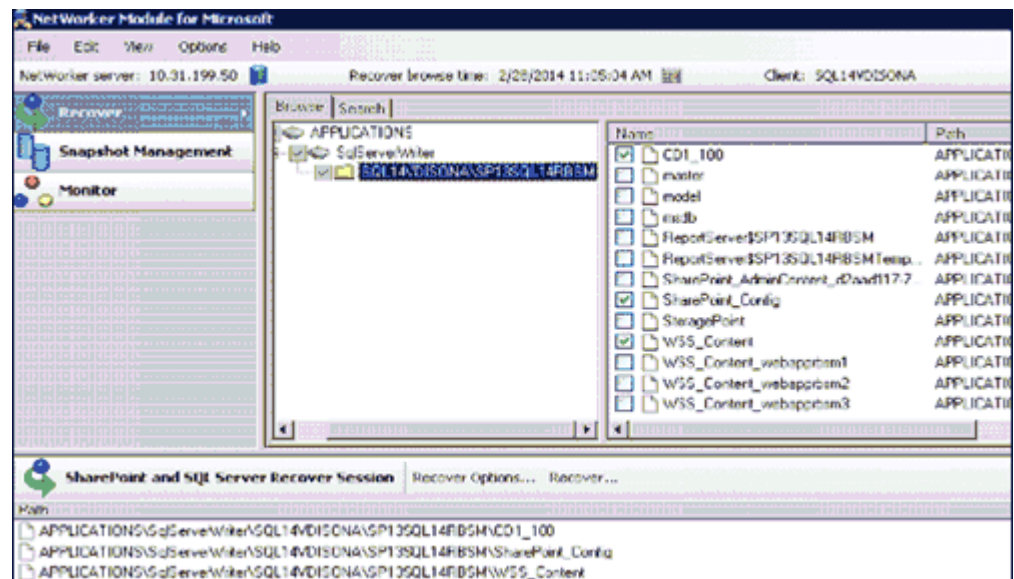
**Figure 38** Restoring SQL database

- On the SQL Server, restore the relevant content database, the web application, and the SharePoint\_Config database for the web application.

#### Note

In case of a complete disaster, if Metalogix data is lost, restore the Metalogix Storage Point database also.

- In the NetWorker User for Microsoft GUI on the SharePoint node, click **Continue** to recover the relevant web application.
- Recover the relevant web application that contains the CD1\_100 database.

**Figure 39** Selecting the web application to recover

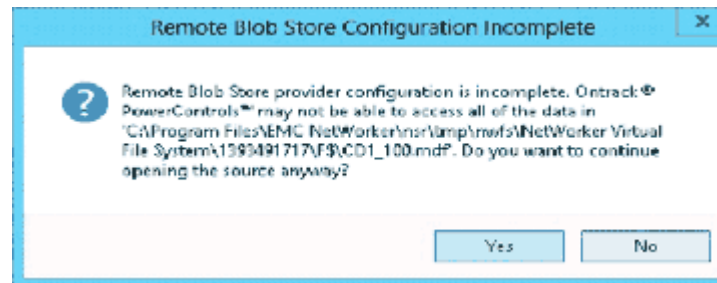
## Troubleshooting tips

This section lists the common issues with backing up and recovering SharePoint BLOB by using NMM and Metalogix StoragePoint, and provides workarounds for these issues.

- An error can occur after you have selected the target server during a granular restore configuration by using Ontrack PowerControls.



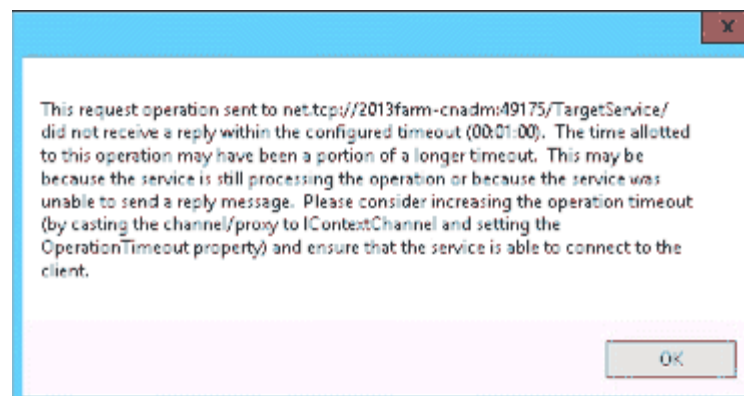
**Figure 40** Error during a granular restore configuration



Workaround: Provide the correct Metalogix StoragePoint server URL on the Remote BLOB store configuration page, as described in Performing SharePoint GLR with Metalogix RBS deployed and configured for externalizing BLOB store by using third party Kroll Ontrack.

- When you have started the copy operation from a source to a target, the operation can be timed out.

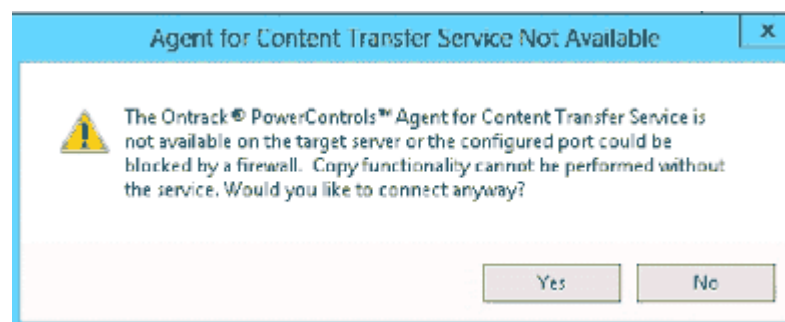
**Figure 41** Copy operation time out



Workaround: Click OK in the message box and start the copy operation.

- When you have started the Ontrack PowerControls wizard for a copy operation, the following error can appear.

**Figure 42** Ontrack PowerControls error message



Workaround: Ensure that the Ontrack PowerControls Agent for Content Transfer Service is running.

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