Technical Notes

EMC® NetWorker® Module for Microsoft: Performing Exchange Server Granular Level Recovery (GLR) by using EMC NetWorker Module for Microsoft with Ontrack® PowerControls™

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These technical notes contain supplemental information about using EMC NetWorker Module for Microsoft with Ontrack PowerControls to perform Granular Level Recovery (GLR) of deleted Microsoft Exchange Server mailboxes, public folders, and public folder mailboxes.

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Revision history

The following table presents the revision history of this document.

Table 1 Revision history

Revision	Date	Description
01	September, 2015	First release of these technical notes for EMC NetWorker Module for Microsoft release 9.0.

Introduction

These technical notes are for use by a technically trained person who must use EMC® NetWorker® Module for Microsoft (NMM) with Ontrack PowerControls to perform Granular Level Recovery (GLR) of deleted Microsoft Exchange Server 2010, and 2013 items including mailboxes, public folders, and public folder mailboxes. You can also use PowerControls to recover Exchange Server items that have not been deleted.

The *NetWorker Module for Microsoft Administration Guide* provides information about all NMM features. The *NetWorker Module for Microsoft for Exchange Server VSS User Guide* provides information about using NMM to back up and recover Exchange Server. The PowerControls documentation provides information about PowerControls functionality.

Recovering deleted Exchange Server items

Use NMM with PowerControls to recover deleted Exchange Server items.

Procedure

1. Use NMM to back up the entire Exchange Server or a single database.

   You can use NMM to recover deleted Exchange Server 2010 and 2013 items. The recovery process is the same for all supported versions of Exchange Server, although the application information and save sets vary depending on the version of Exchange Server you use. The steps in these procedures use an Exchange 2010 database availability group (DAG) as an example.

2. Use NMM to recover the Exchange Server mailbox database without using the Microsoft VSS writer.

3. Use PowerControls to perform a GLR to recover the Exchange Server files to a local disk or network share.

   You can use other third-party tools to perform this task. The exact steps of this task vary, depending on which tool you use. The steps in these procedures use PowerControls as an example.

Solution overview

NMM is an enterprise backup and recovery product, which uses the Microsoft VSS infrastructure to perform backup and recovery of Exchange application data.

NMM allows you to perform backups at the writer level or database level. You can recover entire databases or individual items such as emails, folders, calendars, notes, tasks, and

contacts directly to your production system. This powerful software also protects the Exchange organization from disaster situations.

NMM supports backup and recovery for standalone and DAG Exchange Server configurations.

NMM provides the following backup and recovery features to protect Exchange Server mailboxes:

- Mailbox, public folder, public mailbox database level backups

- Writer level backups

- FULL and incremental backups

- Database level recovery

- GLR

- Disaster Recoveries

The *NetWorker Module for Microsoft for Exchange Server VSS User Guide* provides information about supported configurations and features.

PowerControls for Exchange

PowerControls for Exchange enables you to extract and recover mailbox components (such as Inbox, Calendar, Tasks, and Notes) or entire mailboxes directly to your production Exchange server.

PowerControls for Exchange extract Exchange mailbox database files. You can select individual items and recover them directly to Exchange production user mailboxes. The following figure shows a typical PowerControls configuration.

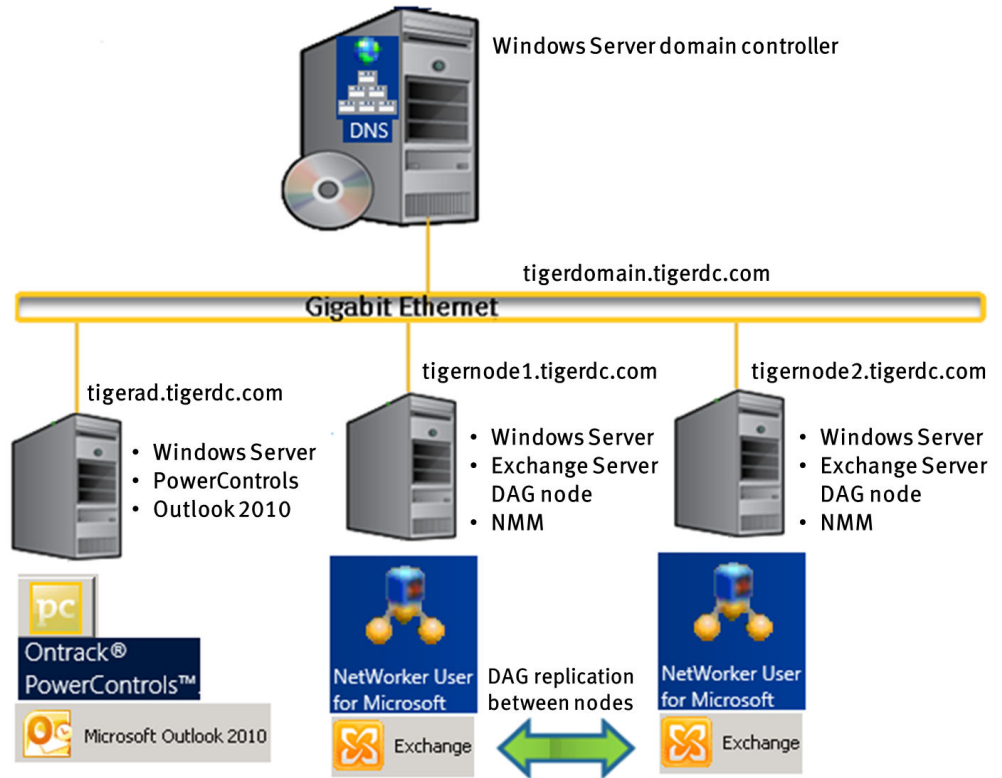**Figure 1** PowerControls configuration
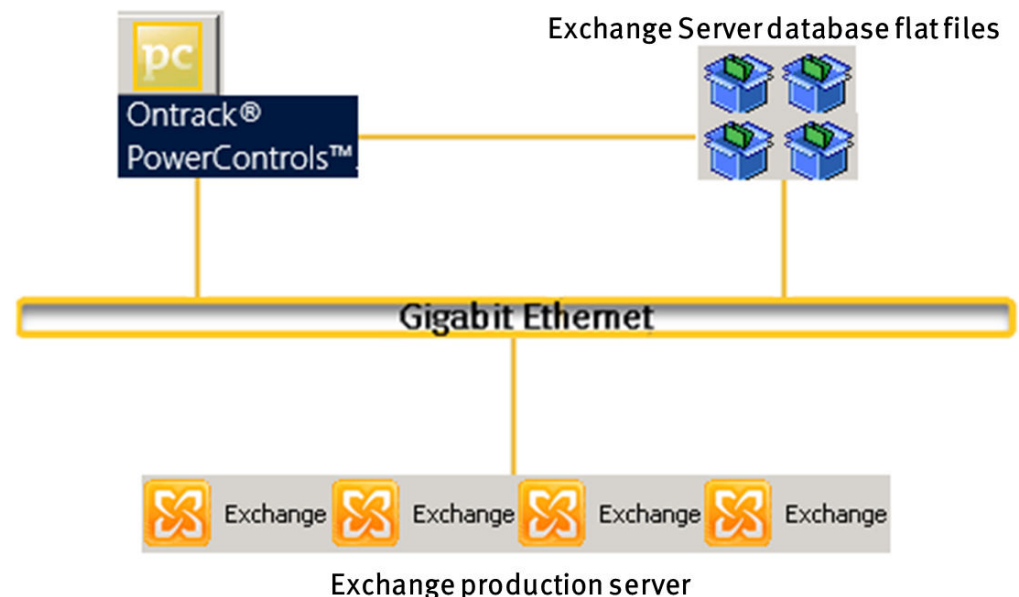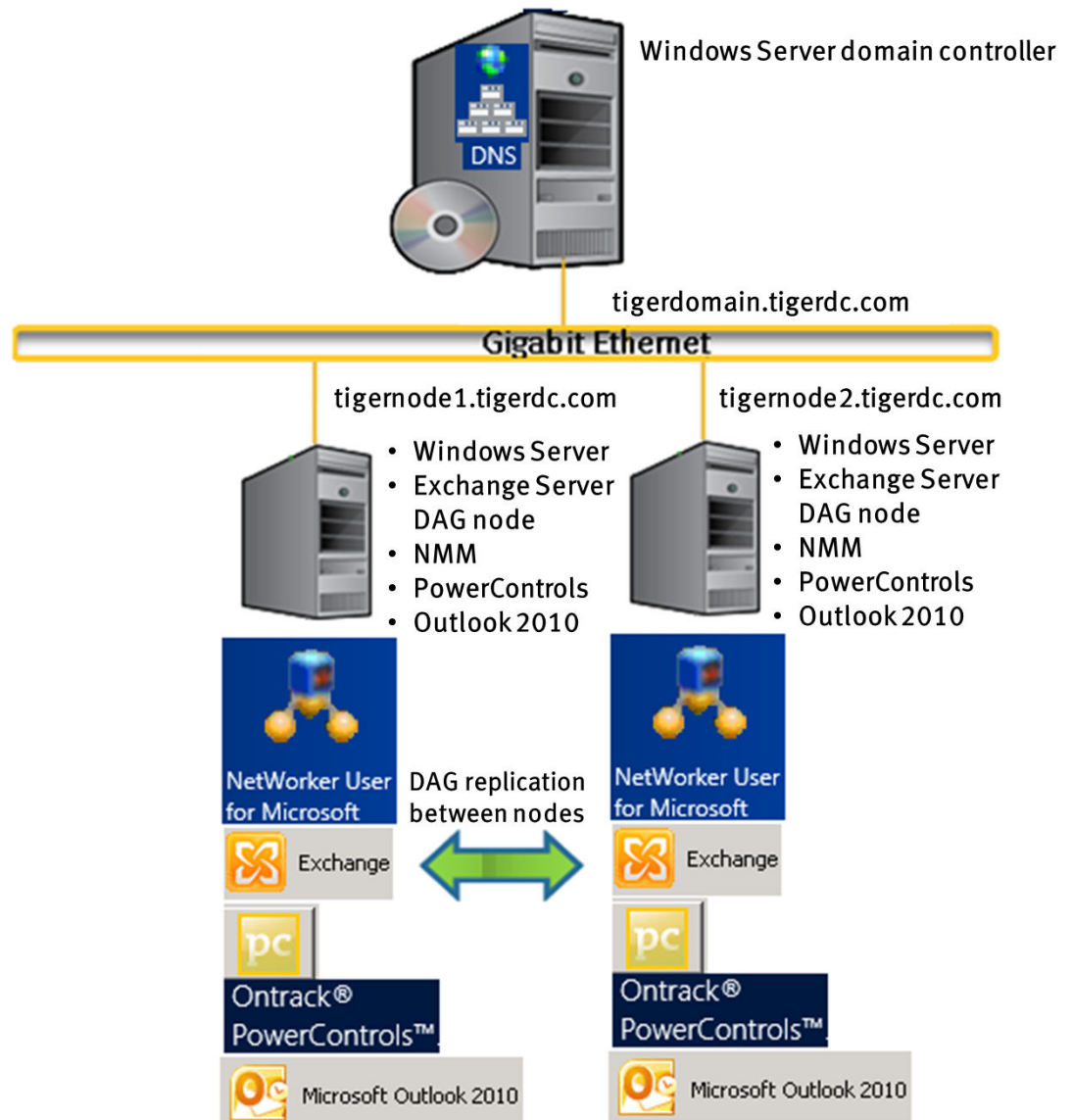

Exchange configuration

You can use PowerControls to recover Exchange items in either of two configurations.

Configuration 1 — Recover Exchange items to a host on which you installed PowerControls but not Exchange Server. Use PowerControls to recover the mail items to a production Exchange Server mailbox. The following figure illustrates this configuration.

Figure 2 Configuration 1: PowerControls running on an Exchange server

Configuration 2 — Recover Exchange items to a host on which you installed both PowerControls and Exchange Server. In this configuration, install PowerControls on any node in the DAG. Use PowerControls to recover Exchange Server items on any DAG node where you have performed a backup. The following figure illustrates this configuration.

Figure 3 Configuration 2: PowerControls running on a an Exchange server

These technical notes use Configuration 1 to demonstrate how to use PowerControls to recover Exchange Server items.

The example setup is an Exchange Server 2010 DAG with the following details:

- The Exchange 2010 DAG system is configured with two mailbox servers with the following configuration:

  - The first host name is **tigernode1.tigerdc.com**.

  - The second host name is **tigernode2.tigerdc.com**.

  - NMM is installed on both DAG nodes.

- PowerControls is installed on a third host with the following configuration:

  - The host name is **tigerad.tigerdc.com**.

  - Exchange Server is not installed.

Figure 3 Configuration 2: PowerControls running on a an Exchange server (continued)

  ■ Outlook 2010 is installed and configured with one or more user mailbox that has sent and received at least one message.

Prerequisite tasks

To perform GLR by using NMM and PowerControls, first complete the NMM and PowerControls prerequisite tasks.

Performing NMM prerequisite tasks

Create and configure NMM client resources to use NMM to perform a FULL or Incremental backup of the Exchange Server DAG.

Procedure

1. In the NetWorker Management Console, create a client resource for the DAG client and each DAG node.

2. For the DAG client resource tigernode1.tigerdc.com, add the following database save sets:

   • APPLICATIONS:\Microsoft Exchange 2010\Kroll1

   • APPLICATIONS:\Microsoft Exchange 2010\Kroll-public

   In the above save set examples, Kroll1 is a mailbox database and Kroll-Public is a public folder database.

3. For the DAG client resource tigernode1.tigerdc.com, add the following client resource properties:

   a. In the **Backup command** field, type the following command:

   ```
   nsrnmmsv.exe
   ```

   b. In the **Application Information** field, type the following variables:

   ```
   CIRCULAR_PROMOTION_POLICY=Promote
   NSR_EXCH_BACKUP=all
   NSR_EXCH_DAG=tigerdag.tigerdc.com
   ```

   c. In the **Group** field, select **Test**.

4. Back up the database.

5. After the backup succeeds, identify the database that you recover.

   You can recover Exchange items regardless of whether the database is deleted from the Exchange organization.

6. Verify that the target file system has enough free disk space to recover the Exchange database.

Results

For Exchange database file recoveries, the target file system must have at least the same amount of available space as the recovery file system at the time of the backup.

You can use NMM to recover Exchange files to a remote host by mapping a network drive on the NMM client host.

The *NetWorker Module for Microsoft for Exchange Server VSS User Guide* provides information about how to configure clients, perform Exchange backups, and recover Exchange items.

Performing PowerControls prerequisite tasks

Ensure that you meet the following requirements to use PowerControls to perform a GLR of Exchange items.

- You installed PowerControls. You can install PowerControls on either an Exchange server or a non-Exchange server.

- If you installed PowerControls on the Exchange Server, ensure that you uninstalled the MAPI/CDO software. You cannot install Outlook and MAPI/CDO software on the same host.

- You installed the Outlook 2010 software (32-bit) and the user mailboxes are connected in Outlook.

- The PowerControls license is valid. The PowerControls documentation provides information.

Recovering Exchange database files by using NMM

Use NMM to recover the Exchange mailbox, public folder, or public mailbox database files. This section describes how to recover Exchange Server 2010 DAG mailbox database files by using NMM.

Procedure

1. Log in to the DAG node.

   For example: tigernode1.tigerdc.com.

2. Start a recovery session:

   a. Open the NMM client user interface.

   b. On the main toolbar, select the **Client** drop-down menu, and then select the DAG name.

      For example: tigerdag.

   c. Click **View** and then click **Refresh**.

   d. Click **Recover** › **Exchange 2010 Recover Session** › **Database Recover**.

      The NMM user interface shows the mailbox databases that are available for recovery.

3. Select the mailbox database to recover and click **Recover Options**.

   For example: Kroll1.

4. On the **Exchange** tab, click **Select Destination**.

5. Browse to the mapped network drive.

   For example: C:\alter.

6. In the **Deleted Database Target Selection** dialog box:

   a. Select **Restore Deleted Database**.

   b. Browse to the target location for the recoverd mailbox database files.

   c. Click **OK**.

7. Start the flat file recovery of the database:

   a. Select the mailbox, public folder, or public folder mailbox database you want to recover.

   b. From the **Exchange Recover** toolbar, click **Recover**.

8. After the flat file recovery completes, verify whether the logs and .edb files are recovered as expected on the mapped network drive.

Results

For example: C:\alter.

The *NetWorker Module for Microsoft for Exchange Server VSS User Guide* provides information about how to recover Exchange Server database items to a local host or a remote host.

Performing a Granular Level Recovery on Exchange Server database files

To perform a Granular Level Recovery on an Exchange Server mailbox, public folder, or public folder mailbox database files, log in to the host on which you installed PowerControls. For example, tigerad.tigerdc.com.

In Recovering Exchange database files by using NMM on page 7, you recovered the Exchange Server database files on tigernode1.tigerdc.com. However, PowerControls is installed on tigerad.tigerdc.com, which does not have Exchange Server installed. Because PowerControls is installed on a host that does not have Exchange Server installed, you must copy the recovered Exchange Server files to the PowerControls host.

To copy the recovered files to the PowerControls host, perform one of the following steps:

- Copy all the recovered files from tigernode1.tigerdc.com to C:\Kroll1 on tigerad.tigerdc.com. Provide this location as the source for PowerControls to perform the Granular Level Recovery.

- Map a network drive to C:\alter on tigerad.tigerdc.com. Provide this location as the source for PowerControls to perform the Granular Level Recovery.

- Recover the files to a remote host, as described in the *NetWorker Module for Microsoft for Exchange Server VSS User Guide*.
  For this example, copy the recovered files from tigernode1.tigerdc.com to tigerad.tigerdc.com.

Recovering Exchange Server 2010 database files

Procedure

1. Verify whether the recovered files are available in the alternate path that you specified.

   For example:

   C:\Kroll1 on tigerad.tigerdc.com.

2. On the Kroll workstation, start the **Data Wizard** by selecting **Start** › **Program** › **Kroll Ontrack** › **Ontrack PowerControls**.

3. Select **File** › **Open Source**.

4. In the **Select Source Files** dialog box:

   a. In the **Source File** field, browse to the folder that contains the .edb files.

   For example:

   C:\Kroll1\DB\Kroll1.edb.

   b. In the **Log File Path** field, browse to the folder that contains the log files.

   For example:

   C:\Kroll1\Logs

   c. In the **Temporary File Path** field, accept the default location for the .idx and .dat files.

   For example:
   c:\Users\ADMINI~1\AppData\Local\Temp\2\PC

   If the files require more hard drive space, specify a new location by clicking Browse. These files might require hard drive space equal to the size of the .log files.

5. Click **OK**.

6. In the **Sources** area of the PowerControls user interface, expand the mailboxes and folders and then select the items to recover.

7. Select **File** › **Open/Create Target** › **Open Exchange Target Server** to open the mailbox for the recovered mailbox items.

8. In the **Data Wizard**:

   a. Under **Target Path & Type**, select **Connect to Microsoft Exchange Server (Single Mailbox)**.

   b. In the **E-mail Address** field, type the email address of the user mailbox that receives the recovered files.

   For example:

   administrator@tigerdc.com

   c. In the **Server Name** field, type the Exchange server name.

   For example:

   tigernode1.tigerdc.com

   d. Click **Next**.

9. To perform the item level recovery, right-click items in the **Source** area and select **Copy**.

10. Select the **Target** user mailbox, right-click the **Target** folder and select **Paste**.

11. After the copy process completes, click **Close**.

12. Verify whether you can browse the recovered mailbox items:

   a. In the PowerControls user interface, click the **Target user mailbox** and then click **target folder** to view the recovered mailbox items.

  b. Open the target user's mailbox and verify whether you can open the recovered
      items.

Recovering Exchange Server 2013 database files

Procedure

1. Verify whether the .edb and log files are recovered to separate folders in the alternate
    path that you specified.

    For example:

    C:\Kroll1 on tigerad.tigerdc.com contains DB and Logs.

2. Open the PowerControls application.

3. Click **Edit** › **Preferences**.

4. In the **Preferences** dialog box, on the **Target Options** tab:

    a. Select the following options:

        •   Use Autodiscover to detect Microsoft Exchange server connection settings

        •   Use Outlook Anywhere to connect to Microsoft Exchange server

    b. Verify whether the following options are selected:

        •   Create new PST folders when PST message/folder limits are reached

        •   Allow mailbox creation during copy

    c. Click **OK**.

5. Click **File** › **User Wizard**.

6. Click **Next**.

7. In the **Source Path Selection** dialog box:

    a. In the **Source File** field, browse to the folder that contains the .edb files.

        For example:

        C:\Alter1\DB\DB1.edb

    b. In the **Log File Path** field, browse to the folder that contains the log files.

        For example:

        C:\Alter\Logs

8. Click **Next**.

9. In the **Target Type & Path Selection** dialog box:

    a. Select **Connect to Microsoft Exchange Server (Single Mailbox)**.

    b. In the **Mailbox Name** field, type the email address of the user mailbox that receives
        the recovered files.

        For example:

        administrator@tigerdc.com

    c. In the **Server Name** field, type the Exchange server name.

        For example:

        tigernode1.tigerdc.com

      d. Verify that the following options are selected:

- Connect to Public Folders
- Connect using Autodiscover

      e. Click **Next.**

10. When the processes complete, click **Finish.**

11. To perform the item level recovery, right-click items in the **Source** area and select **Copy.**

12. Select the **Target** user mailbox, right-click the **Target** folder and select **Paste.**

13. After the copy process completes, click **Close.**

14. Verify whether you can browse the recovered mailbox item:

      a. In the PowerControls user interface, click the **Target user mailbox** and then click **target folder** to view the recovered mailbox items.

      b. Open the target user's mailbox and verify whether you can open the recovered items.