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CommServe Recovery Using Disaster Recovery (DR) Backups

In the event of a disaster, when the production CommServe host becomes unusable or inaccessible, or if the CommServe host is moved to a new hardware, the latest Disaster Recovery (DR) backups can be used to rebuild the CommServe host. Once the database is restored, additional CommCell related tasks must be performed to resume the CommCell operations from the new CommServe host.

Important: Once restored, the database reflects the state of the production CommCell group when the DR backup was performed. Based on the frequency of the DR backup, you may lose some data such as information about backup operations, entity creation or configuration changes, when you move the CommCell operations to the standby CommServe host.

Procedure

1. Stop services on the production CommServe host, if the production CommServe host is available. For more information on stopping services, see Stopping a Service.
2. Install the CommServe software on the new host. For more information on installing the CommServe software, see CommServe Installation.

   Note:
   - If possible, make sure that the computer name of the new host is same as that of the old CommServe host. For more information on how to change the computer host name on a Windows Server, see Microsoft documentation.
   - Also make sure that all the latest software updates installed on the production CommServe host are installed on the new CommServe host.
3. A copy of the latest full and the latest differential DR backup is needed to build the standby CommServe host.

   If the latest copy of the DR backup metadata does not exist in the export location, you must retrieve the metadata from the backup media. For more information on retrieving DR backups from media, See Retrieving Disaster Recovery (DR) Backups from Media.
4. Use the **CommServe Recovery Assistant Tool** to restore the most recent Disaster Recovery (DR) backup from the production CommServe database to a standby or new CommServe host to resume the CommCell operations. For more information on recovering the CommServe database, see Recovering the CommServe Database Using the Recovery Assistant Tool.

   Important: Once restored, the database reflects the state of the production CommCell group when the DR backup was performed. Based on the frequency of the DR backup, you may lose some data such as information about backup and other operations performed after the DR backup was performed, entity creation or configuration changes, when you move the CommCell operations to the standby CommServe host.
5. Start CommCell services on the standby CommServe host. For more information on starting services, see Restarting a Service.
6. If the new CommServe host has the same name as the old CommServe host, configure the name to point to the new IP address using DNS or a similar networking service.

Important: Verify that all client computers point to the host name of the old CommServe computer, and not to the IP address. For instructions on changing the CommServe host name on clients, see Changing the Client Computer Name.

Alternatively, if the new CommServe host has a different name, the clients must be informed to use the new standby CommServe host. For more information on changing the CommServe host name on clients, see Changing the CommServe Name for Clients After Restoring the Database.

In large CommCell environments, renaming the CommServe host name on all the clients is a time consuming task. In such cases, you can avoid renaming the CommServe host name by using a dedicated proxy for disaster recovery. The proxy is used to route requests and responses between the CommServe host and the proxy-enabled clients. For instructions on configuring a proxy for disaster recovery, see CommServe LiveSync For High Availability Disaster Recovery.

7. Resynchronize the Deduplication Databases (DDB).

   After restoring the CommServe database, any DDBs that are inconsistent with the CommServe database are put into maintenance mode automatically. Therefore, you must synchronize the inconsistent DDBs to a reusable state. For information on synchronizing the DDB, see Resynchronizing the Deduplication Database.

8. If you have a Silo Archive job running, use the **Kill** option to commit the Silo job. For more information on committing the Silo job, See Committing Silo Backup Jobs by Using the Kill Option.

9. Schedule DR backups on the new CommServe host. For more information on performing DR backups, see Performing Disaster Recovery (DR) Backups.

Note: In a CommCell group with File Archiver agents, if the archived file was stubbed or deleted before the last backup was included in the DR backup, then recalls that use the stub may fail after the DR restore. However, for OnePass clients, stubbing is delayed by default to ensure that the last backup is included in the DR backup.

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Retrieval of Disaster Recovery (DR) Backups From Storage

If an export copy of the Disaster Recovery (DR) backup metadata does not exist, you must retrieve the metadata from the backup. Depending on where the DR backup is located, you can retrieve the DR backup using one of the following methods:

- If the DR backup is on a tape or disk media, you can use the Media Explorer tool to catalog and restore the data.
  See Retrieving Disaster Recovery (DR) Backups Using Media Explorer for more information.
- If the DR backup is on a tape media, you can use Tape Catalog feature to catalog and restore the data.
  See Retrieving Disaster Recovery (DR) Backups Using Tape Catalog for more information.
- If the DR backup is in cloud storage, you can use the Cloud Test Tool to restore the data.
  See Retrieving Disaster Recovery (DR) Backups Using Cloud Test Tool for more information.

Once the DR backup is retrieved, you can rebuild a new CommServe host, using one of the following methods:

- Install the CommServe in the standby CommServe by selecting the **Use Existing Database** option during the CommServe installation. For more information see Installing the CommServe Server.
- Restore the CommServe databases from the DR backup to the new CommServe host. For instructions, see Recovering the CommServe Database.

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Retrieving Disaster Recovery (DR) Backups From Tape or Disk Storage Using Media Explorer

Media Explorer enables you to recover the Disaster Recovery (DR) data from tape or disk storage if the latest export copy of the DR backup metadata is not accessible from the export location.

Support

Supported Recovery

DR backups (which secures all data protection related metadata) performed on any supported tape or disk media

Unsupported Recovery

All agent backup

Procedure

1. Download the **Media Explorer** tool. For more information on downloading the tool, see Downloading Media Explorer.
2. Catalog the media containing the latest DR Backups. For more information on cataloging media, see Cataloging the Media Using Media Explorer.

   > Note: A copy of the latest full and the latest differential DR backup is needed to build the standby CommServe host.

3. If the data was stored on disk volumes using a Unix or Linux MediaAgent, the **bMERestoreAsFS** additional setting must be configured. For more information on configuring this additional setting, see Restoring Data Written by Linux/Unix MediaAgent Using Media Explorer.

   Skip this step if the data was stored on disk volumes using a Windows MediaAgent

4. Recover the CommServe database files using Media Explorer. For more information on recovering the database files, see Recovering the CommServe Database Files Using Media Explorer.

Result

The database files are now available for recovery.

What To Do Next

Restore the CommServe database on the new CommServe host using the **CommServe Recovery Assistant** tool. For more information on restoring the CommServe database, see Recovering the CommServe Database Using the Recovery Assistant Tool.

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Downloading the Media Explorer

The latest copy of the **Media Explorer** tool should be downloaded before using the tool before recovering Disaster Recovery (DR) data from tape or disk storage.

Before You Begin

- Verify that the computer in which you want to use the software satisfies the minimum requirements specified in Media Explorer: System Requirements.
- You must have an user account on the Cloud Services website. To create an user account, register your CommServe computer. For more information on registering your CommServe, see Register Your Product.

Procedure

1. Open a Web browser, and go to https://cloud.commvault.com/webconsole/applications.
2. Click **MEMBER LOGIN**.
3. Enter your user name and password, and then click **Login**.

   You will be redirected to the **My Applications** page.
4. Click **Download Center**.
5. Under **Category**, click **Tools**.
6. Click **Media Explorer**.
7. Choose the appropriate bit version of the tool (Windows-x64 or Windows-x86) and click **Download**.
8. If prompted, save the file to the download location on your local computer.
9. Once the download completes **Run** the program.

   Or navigate to the '***Downloads***' folder on your local computer and double-click **CVToolMediaExplorer WinX64.exe** (or **CVToolMediaExplorerWin 32.exe**) to run it.
10. Click **Extract**.

    Note: Make sure to note down the **Destination Folder** before clicking the **Extract** button.
11. Navigate to the **Destination Folder** that was noted down and then open the **Base** folder.
12. Double-click **MediaExplorer.exe** to open the application.

What To Do Next

Cataloging the Media Using Media Explorer

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Cataloging the Media Using Media Explorer

Media Explorer tool uses the cataloging process to obtain information about the Disaster Recovery (DR) backup files stored on tape media or disk volumes.

Note: Data from deleted subclients or storage policies cannot be recovered. Catalog operations are not supported for this type of data.

Before You Begin

- Physically locate the proper media needed to recover the data.

  If the data resides in a cloud library, convert the data to a regular disk library format and then provide the location of the converted data. For more information, see Recovering the Data on a Cloud Library Using Media Explorer.
- Download the Media Explorer tool. For more information on downloading Media Explorer, see Downloading Media Explorer.
- Make sure no other applications or services are attempting to access the library.
- Have your encryption pass-phrases available if applicable.
- Have your **Media Prediction Report** and **CommCell Configuration Report** at hand to help you identify and locate media archive files.

  For more information on these reports, see Media Prediction Report - Overview and CommCell Configuration Report - Overview.

  Note: Regularly running the above reports prior to the need for a disaster recovery will help you identify and locate the media archive files.

  If you do not have any reports saved, you will have to manually determine the required media. This involves finding the correct (latest) archive file(s) for backups you want to restore.

Procedure

1. Run **MediaExplorer.exe**.

   The **Current database file path** is created and defaults to the **DrCatalog** as indicated in the **Media Explorer** window.

   Note: It is possible to perform a recovery using only the default archive database. However, when recovering large numbers of archive files or many types of archive files, locating the files becomes cumbersome. Hence, where needed, you can create additional database file paths using the **New** button.

   The **New** and **Open** buttons can be used to start cataloging to a new catalog or to open an existing catalog database. This is useful in situations where you would like to use Media Explorer over multiple sessions and not overwrite previous catalog operations.

2. Selecting either the **Tape** or **Disk Media** option to detect the media.

   For a Locally-Attached Tape Drive or Library:

   a. Manually load the media into the drive.

   b. Select the **Tape** option.

   c. Click **Drive Detect** to populate the tape mount paths in this field (i.e., tape0, tape1, tape2, etc., depending on

your SCSI settings). The drive shown matches the SCSI ID setting for the device.

d. Select the drive on which it is loaded

e. Select the appropriate **Media Type** from the list.

> Note: A full DLT 7000 tape will take approximately two hours to catalog. Be certain you have enough disk space on your local computer to accommodate the files.

Repeat this step to catalog multiple tapes, if multiple tapes are needed for performing the restore.

For a Disk Volume:

a. Select the **Disk** option

b. Browse to or type the drive path for the disk volume path. (For example, F:\, if F is the drive letter that holds the disk volume.)

c. **Optional:** To add multiple mount paths, click **Add Mount Paths.**

d. Directly beneath CV_magnetic folder, select the volume folder (V_nnn) in which the archive files reside, and click **OK** to continue.

You can specify the entire mount path to enumerate multiple volumes and later catalog volumes one by one for the catalog operation.

- The CV_MAGNETIC folder structure represents the top level of the disk mount path.
- The V_nnn folder represents a volume that is equivalent to a storage policy copy.
- The AF_nnn folders represent the individual archive files within a volume. Each backup creates one or more archive files, depending on the *i*DataAgent.

3. Click **Catalog Jobs**.

The catalog operation reads the media for archive file information and displays this information in the window.

> Note:
>
> - You may be asked to provide a media password. Type the password and click **OK**. If you do not know the media password, contact Commvault Support for assistance.
> - If data was encrypted using a pass-phrase, you will be prompted to enter the pass-phrase used at the time of the data protection operation.

The status bar will reflect the cataloging process as it occurs. A message appears when cataloging process is completed.

Result

- Check for details in the **MediaExplorer.log** located in the local Media Explorer folder.

> Note: An archive file will sometimes span across several tapes during the course of normal backups. In this case, when a catalog operation is run on the first media, the information on the second media may not appear to have been cataloged. However, when you perform a recovery from the first tape, Media Explorer asks you to load the second tape manually to continue the recovery.

- If after cataloging a media you see an archive file for which the **Catalog** column does not display **Found All** and the **Catalog State** column displays **Partial**, it indicates that the archive file has spanned to another media. In this case, you need to locate that other media and catalog it as well. Once the last media that contains the spanned archive has been reached, you will be prompted to reinsert all the media (starting with the first) necessary to finish the cataloging process for the spanned job.

  Once all media has been successfully cataloged, the **Catalog** column should display **Found All** and the **Catalog**

State column should display **Complete**, and the recovery may take place like any other recovery. During the recovery of this archive file, you will be prompted to insert the media as required to complete the recovery.

Note: Media Explorer stores cataloged media information in its database on your local hard drive for future reference. Once your files have been cataloged, you can go back and obtain this information without running the catalog operation again. To have the information available on another computer, however, you would need to run a catalog on that computer.

- You can click **View Chunks** from the **File** menu to display the Chunk Details window. This window provides Media Explorer database details that may be helpful to locate them.

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Recovering the CommServe Database Using the Media Explorer

Once the media is cataloged the CommServe database files can be recovered from the media.

Before You Begin

- Catalog the media. For more information on cataloging media, see Cataloging the Media Using Media Explorer.
- Make sure no other applications or services are attempting to access the library.
- If the data was stored on disk volumes using a Unix or Linux MediaAgent, the **bMERestoreAsFS** additional setting must be configured. For more information on configuring this additional setting, see Restoring Data Written by Linux/Unix MediaAgent Using Media Explorer.

Procedure

1. From the **Media Explorer** window, select **Express Recovery** option from the **Display data corresponding to** list.

   This filters the data in the catalog pane to show only the desired archive files.

   > Note: Disaster recovery (DR) backups may be backed up as File System backups in some cases. Therefore, if you select **Express Recovery** and the DR backup is not displayed, then select **File System** instead from the drop-down list. To view and restore data written using Unix/ Linux MediaAgent, select **All Data** from the drop-down list.

2. Select the appropriate *archive file* entry associated with the latest DR backup from the **Catalog Database** pane.

   Use the following tips to identify the correct archive file in the **Catalog Database** pane:

   a. Use **File Name** to determine the entry type.

   b. Use the **Level** information to determine backup types.

   c. Use the **JOBID** and **Backup Time** information to determine chronology.

   d. Scroll right to use the **App ID** column to determine subclient identity.

3. From the **File** menu, click **Recover Data.**

4. By default, the **Restore Data** check box and **Restore out of place** option are selected.

   Type or browse the path to which you want to recover. You need write privileges for the destination folder for a remote computer.

   Click **OK** to continue.

   Note that DR backup recovery must be always performed using out-of-place restores.

   > Note:
   > - If data was encrypted using a pass-phrase, you are prompted to enter the pass-phrase used at the time of the data protection operation.
   > - You may be prompted to type the media password. Enter the password and click **OK**.
   > - If you do not know the media password, contact Commvault Support for assistance.

5. While the data recovery operation is in progress, if the data crosses to a new tape, you may see the message:

   Insert volume with BarCode number and then click OK to continue.

   The archive file entry you selected, is recovered to the designated location.

6. When the data recovery is done, click **OK** to the **Restore succeeded** message.

> Note: A file space shortage may cause the data recovery operation to fail. For information on the failure, you can go to the **MediaExplorer.log** file which is located in the local folder containing the **MediaExplorer.exe.** After fixing your space problem, you can simply start over. You do not have to clear the environment.

Result

The database files are now available for restores.

What To Do Next

Using the CommServe Recovery Assistant tool, restore the CommServe Database on the CommServe host.

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Enabling Restore Operations for Data That Was Backed Up by a Linux or UNIX MediaAgent

To restore data stored on disk volumes using a Unix/ Linux MediaAgent, configure bMERestoreAsFS key using the following steps.

Procedure

1. From the Start menu, type **Run**.
2. Type **Regedit** in the **Run** dialog box.
3. Navigate to HKEY_LOCAL_MACHINE\SOFTWARE\Commvault Systems\Galaxy**Instance001**
4. Right-click **New | Key**
5. Type the name, **Base**
6. Right-click, and then click **New | DWORD**.
7. Type the name, bMERestoreAsFS.

Result

Data written by Linux/Unix MediaAgent can be restored using the **Media Explorer** tool, which is run on the Windows operating system.

Note: To disable restores of data stored on disk volumes using a Unix/ Linux MediaAgent, delete the bMERestoreAsFS key.

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Retrieving Disaster Recovery (DR) Backups From Tape Storage Using Tape Catalog

If the DR backup is on tape media, you can use the Tape Catalog feature to catalog and restore the data. Tape catalog is useful to read metadata directly from tapes containing jobs unknown to the CommServe database. For example, you can use the Tape Catalog feature to catalog backup operations that were performed after the most recent Disaster Recovery (DR) backup job.

Procedure

1. Catalog the tapes. For more information on cataloging tapes, see Cataloging a Tape.
2. Merge contents from a cataloged tape to populate the CommServe database with the jobs in the cataloged tape. For more information on merging cataloged contents, see Merging Content from Cataloged tapes.
3. Enable browse and restore of the merged DR Backup jobs. For more information on enabling browse and restore, see Enabling Browse and Restore of Aged Data.
4. Restore the merged DR Backup jobs. For more information on restoring DR Backup jobs, see Restoring Merged Backup Data.
5. Recover the CommServe database files using Media Explorer. For more information on recovering the database files, see Recovering the CommServe Database Files Using Media Explorer.

Result

The database files are now available for recovery.

What To Do Next

Restore the CommServe database on the new CommServe host using the **CommServe Recovery Assistant** tool. For more information on restoring the CommServe database, see Recovering the CommServe Database Using the Recovery Assistant Tool.

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Retrieving Disaster Recovery (DR) Backups From Cloud Storage Using Cloud Test Tool

If the Disaster Recovery (DR) backup is located in cloud storage, you can use the **Cloud Test Tool** and **Media Explorer** to restore the metadata.

Note: You cannot use the tool when the backup data contains deduplicated data. Contact the appropriate software vendor for help.

Procedure

1. Start the Cloud Test Tool. For more information on starting the cloud test tool, see Starting the Cloud Test Tool.
2. Download the metadata from cloud storage. For more information on downloading the data, see Downloading Archived Data with the Cloud Test Tool.
3. Once the DR backup is retrieved, you can rebuild a new CommServe host, using one of the following methods:
   - Install the CommServe in the standby CommServe by selecting the **Use Existing Database** option during the CommServe installation. For more information see Installing the CommServe Server.
   - Retrieve DR Backups Using Media Explorer. For more information on retrieving data using Media Explorer, see Retrieving Disaster Recovery (DR) Backups Using Media Explorer.

     Recover the CommServe database files using Media Explorer. For more information on recovering the database files, see Recovering the CommServe Database Files Using Media Explorer.

Result

The database files are now available for recovery.

What To Do Next

Restore the CommServe database on the new CommServe host using the **CommServe Recovery Assistant** tool. For more information on restoring the CommServe database, see Recovering the CommServe Database Using the Recovery Assistant Tool.

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Retrieving Disaster Recovery (DR) Backups From Commvault Cloud Services Portal

Use the following steps to retrieve DR backups from Commvault Cloud.

Procedure

1. Access the DR Backups as described in Access Disaster Recovery (DR) Backups From Commvault Cloud.
2. Select the DR Backup folder that you wish to download.

   Tip: To recover the most recent copy of the CommServe database, make sure to select the folders associated with both the most recent Full and Differential backups.
3. Click the **Download** button.
4. Once the download completes, navigate to the **Downloads** folder and unzip the downloaded files.

   Note: If you downloaded multiple DR Backup folders that included both the Full and Differential backups, make sure to unzip and copy the files into the same folder.
5. Recover the CommServe Database using the Recovery Assistant Tool. See Recovery Using the Recovery Assistant Tool for more information.

Related Topics

- For information about configuring DR backups on the Commvault Cloud Services portal, see, Configuring Automatic Uploads to Commvault Cloud Services Portal
- For information about accessing DR backups on the Commvault Cloud Services portal, see Access Disaster Recovery (DR) Backups From Commvault Cloud.
- For detailed information about how DR Backups are stored and managed in the cloud, see Uploading DR Backups to Commvault Cloud Services Portal.

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Recovering the CommServe Database Using the Recovery Assistant Tool

You can recover your CommServe database from a disaster recovery (DR) backup to the same or a different CommServe host using the CommServe Recovery Assistant tool. The tool is primarily used in the following scenarios:

- To rebuild a CommServe host in the event of a disaster
- To upgrade or move the CommServe database to a new hardware

Note:

- If you are migrating the database in a clustered environment, see Recovery Using the Recovery Assistant Tool - Clustered Environment.
- If you are using the tool to stage the CommServe database for troubleshooting purposes, see Staging the CommServe Database.

Before You Begin

- Review CommServe Recovery Using DR Backups.
- Make sure that the destination CommServe host has the same service pack, or a higher service pack, as the database available in the DR backup that you plan to restore.

  Note: If the Service Pack is not the same (or higher), services may not restart after the restore.
- Make sure that you have the latest version of the DR backup (SET_XXX folder) in the destination CommServe host.
  - If you have the DR backup files in the network location, copy the files to the local disk on the CommServe host.
  - If the latest copy of the DR backup metadata does not exist in the export location, you must retrieve the metadata from the backup media. For more information on retrieving DR backups from media, See Retrieving Disaster Recovery (DR) Backups from Media.
- Before restoring the databases on the CommServe, manually stop the IIS service on remote Web Servers using the `IISreset` command. IIS service can be restarted after successfully restoring the database on the CommServe.

Procedure

1. If possible, run a full backup of the CommServe databases to ensure that no current activity is lost.

   For more information on performing DR backups, see Performing Disaster Recovery (DR) Backups.

   For more information on performing a backup without losing current activity, see Performing a No Loss Recovery of the CommServe Host.

2. Stop services on the original production CommServe host, if it is active. For more information on stopping services, see Stopping a Service.

3. On the destination CommServe computer, go to the <*software installation path*>**\Base** folder and then double-click **CSRecoveryAssistant.exe**.

   The **CommServe Recovery Assistant** dialog box is displayed.

4. Click **Recovery** and then click **Next**.

5. If you have already restored the CommServe database on this computer, select the **Database already restored on this computer** check box and click **Next**.

6. In the **Enter the path to the database dump folder** box, enter or browse the name of the Disaster Recovery folder where the dump files are located, and then click **Next**.

   Make sure that the dump files are available on the local disk of the CommServe host.

7. In the **Enter the path to extract the database files** box, type the destination path where you want to restore the CommServe database files and then click **Next**.

   Alternatively, click **Browse** and select the restore path.

   By default, all the database files are restored to the CommServe database path located on the destination CommServe host.

   The **Summary** screen is displayed.

8. Review the summary and then click **Start Recovery**.

   The tool now performs the following operations on the CommServe system:

   - Stops the services.
   - Restores the database to the specified restore path.
   - Verifies and upgrades the database if required.

     The tool can upgrade the database from a previous version or service pack. For example, if the database available in the DR backup that you plan to restore, has an older service pack and the destination CommServe host has the most recent service pack, then the database is upgraded to the service pack available in the destination CommServe host. Hence it is important to make sure that the destination CommServe host has the same service pack, or a higher service pack, as the database available in the DR backup as stated in the **Before You Begin** section.

   - Synchronizes the CommServe system with the restored database.
   - Runs post operations on the CommServe computer.

9. When all the operations are complete, click **Next**.

   The host name and client name of the destination CommServe host and the restored database are displayed. If the names are different, the tool updates the CommServe host with the client name of the restored database and host name of the destination CommServe host.

10. If you are migrating the database from a non-clustered to a clustered environment, complete the following steps:

    a. Select the **Convert to cluster** check box.

    b. In the **Physical Node** text boxes type the names of the physical CommServe nodes as they appear in the Microsoft Failover Cluster Manager.

       Do not copy and paste the physical node name from the registry, or add the characters "_node" to the node name. The characters "_node" are automatically added to the physical node name during the database restore operation.

    c. Send the update status to the CommServe database by configuring the bSendUpdateStatusToCS additional setting.

       On the CommServe computer, add the bSendUpdateStatusToCS additional setting with value1. For instructions on adding the additional setting from the CommCell Console, see Adding or Modifying Additional Settings from the CommCell Console.

       Refer to the following table for applicable values:

Property	Value

Name	bSendUpdateStatusToCS
Category	UpdateFlags
Type	Integer
Value	Select one of the following values: **1** - to send the update status information to the CommServe database during client service restarts **0** - to disable the update status sync

11. If you are migrating the database from a clustered to a non-clustered environment, select the **Convert to non-cluster** check box and click **Next**.

    A completion message is displayed.

12. Click **Finish**.

Result

After the DR restore, you will notice a considerable increase in the job ID for new jobs. This increase is added to avoid conflicts with job IDs referenced in the deduplication databases (DDBs) when the DDBs are resynchronized.

What To Do Next

- Restart the IIS service on remote Web Servers.
- Start all services on the destination CommServe host. For more information on starting services, see, Starting a Service.
- Complete the steps described in CommServe Recovery Using DR Backups.

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Recovering the CommServe Database Using the Recovery Assistant Tool in a Clustered Environment

You can move the CommServe database from a cluster to another cluster, using the CommServe Recovery Assistant tool.

Before You Begin

- Review CommServe Recovery Using DR Backups.
- Make sure that the destination CommServe host has the same service pack, or a higher service pack, as the database available in the DR backup that you plan to restore.

  Note: If the Service Pack is not the same (or higher), services may not restart after the restore.
- Make sure that you have the latest version of the DR backup (SET_XXX folder) in the destination CommServe host.
  - If you have the DR backup files in the network location, copy the files to the local disk on the CommServe host.
  - If the latest copy of the DR backup metadata does not exist in the export location, you must retrieve the metadata from the backup media. For more information on retrieving DR backups from media, See Retrieving Disaster Recovery (DR) Backups from Media.
- Before restoring the databases on the CommServe, manually stop the IIS service on remote Web Servers using the `IISreset` command. IIS service can be restarted after successfully restoring the database on the CommServe.
- Run a full backup of the CommServe databases on the destination CommServe host to ensure that no current activity is lost.

  For more information on performing DR Backups, see Performing Disaster Recovery (DR) Backups.

  For more information on performing a backup without losing current activity, see Performing a No Loss Recovery of the CommServe Host.
- Stop services on the original production CommServe host, if it is active. For more information on stopping services, see Stopping a Service.

Procedure

Step 1: Convert the CommServe Database from Cluster to Non-Cluster mode

1. Login to the active node's physical machine in the new cluster and modify the following registry key:
   - **HKEY_LOCAL_MACHINE\SOFTWARE\CommVault Systems\Galaxy\Instance001\Machines\ <*Cluster_Machine_Name*>**
   - Set value of DWORD registry key **bVIRTUALMACHINE** to **0**.

2. On the destination CommServe computer, go to the <*software installation path*>**\Base** folder and then double-click **CSRecoveryAssistant.exe**.

   The **CommServe Recovery Assistant** dialog box is displayed.

3. Click **Recovery**, and then click **Next**.

4. In the **Enter the path to the database dump folder** box, enter or browse the name of the Disaster Recovery folder where the dump files are located, and then click **Next**.

Make sure that the dump files are available on the local disk of the CommServe host.

5. In the **Enter the path to extract the database files** box, type the destination path where you want to restore the CommServe database files and then click **Next**.

   Alternatively, click **Browse** and select the restore path.

   By default, all the database files are restored to the CommServe database path located on the destination CommServe host.

   The **Summary** screen is displayed.

6. Review the summary and then click **Start Recovery**.

   The tool now performs the following operations on the CommServe system:

   - Stops the services.
   - Restores the database to the specified restore path.
   - Verifies and upgrades the database if required.

     The tool can upgrade the database from a previous version or service pack. For example, if the database available in the DR backup that you plan to restore, has an older service pack and the destination CommServe host has the most recent service pack, then the database is upgraded to the service pack available in the destination CommServe host. Hence it is important to make sure that the destination CommServe host has the same service pack, or a higher service pack, as the database available in the DR backup as stated in the **Before You Begin** section.
   - Synchronizes the CommServe system with the restored database.
   - Runs post operations on the CommServe computer.

7. When all the operations are complete, click **Next**.

   The host name and client name of the destination CommServe host and the restored database are displayed. If the names are different, the tool updates the CommServe host with the client name of the restored database and host name of the destination CommServe host.

8. Select the **Convert to non-Cluster** check box.

   This will remove the cluster related information from the database.

   A completion message is displayed.

9. Click **Finish**.

   The database will be restored and will be converted to a non-cluster mode.

Step 2: Convert the CommServe Database back to Cluster mode

1. Login to the active node's physical machine in the new cluster and modify the following registry key:
   - **HKEY_LOCAL_MACHINE\SOFTWARE\CommVault Systems\Galaxy\Instance001\Machines\ <*Cluster_Machine_Name*>**
   - Set value of DWORD registry key **bVIRTUALMACHINE** to **1**.

2. On the destination CommServe computer, go to the <*software installation path*>**\Base** folder and then double-click **CSRecoveryAssistant.exe**.

   The **CommServe Recovery Assistant** dialog box is displayed.

3. Click **Recovery**, and then click **Next**.

4. Select the **Database already restored on this computer** check box and click **Next**.

   The **Summary** screen is displayed.

5. Review the summary and then click **Start Recovery**.

6. Select the **Convert to cluster** check box.

7. In the **Physical Node** text boxes type the names of the physical CommServe nodes as they appear in the Microsoft Failover Cluster Manager.

   Do not copy and paste the physical node name from the registry, or add the characters "_node" to the node name. The characters "_node" are automatically added to the physical node name during the database restore operation.

   A completion message is displayed.

8. Click **Finish**.

   The database will be converted to the cluster mode.

Step 3: Configure an Additional Setting to Send Update Status to the CommServe

1. To the CommServe computer, add the additional settings as shown in the following table.

   For instructions about adding additional settings from the CommCell Console, see Add or Modify an Additional Setting.

Additional Setting	Category	Type	Value
nAutoRegister *For Service Pack 9 and later	CommServe	INTEGER	Create the nAutoRegister additional setting with value 5 to send service pack and update status information from the client to the CommServe during client service restarts.
bSendUpdateStatusToCS *For Service Pack 8 and earlier	CommServe	INTEGER	Create the bSendUpdateStatusToCS additional setting with value 1 to send service pack and update status information from the client to the CommServe during client service restarts.

2. Restart the CommCell services using the **Process Manager**. For more information on restarting services, see Restarting a Service.

Result

After the DR restore, you will notice a considerable increase in the job ID for new jobs. This increase is added to avoid conflicts with job IDs referenced in the deduplication databases (DDBs) when the DDBs are resynchronized.

What To Do Next

- Restart the IIS service on remote Web Servers.
- Start all services on the destination CommServe host. For more information on starting services, see, Starting a Service.
- Complete the steps described in CommServe Recovery Using DR Backups.

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Recovering the CommServe Database Using the Command Line Interface

The CommServe Recovery Assistant tool can be run using the command line interface to recover the CommServe databases from a disaster recovery (DR) backup.

Before You Begin

- Review CommServe Recovery Using DR Backups.
- Make sure that the destination CommServe host has the same service pack, or a higher service pack, as the database available in the DR backup that you plan to restore.

  Note: If the Service Pack is not the same (or higher), services may not restart after the restore.
- Make sure that you have the latest version of the DR backup (SET_XXX folder) in the destination CommServe host.
  - If you have the DR backup files in the network location, copy the files to the local disk on the CommServe host.
  - If the latest copy of the DR backup metadata does not exist in the export location, you must retrieve the metadata from the backup media. For more information on retrieving DR backups from media, See Retrieving Disaster Recovery (DR) Backups from Media.
- Before restoring the databases on the CommServe, manually stop the IIS service on remote Web Servers using the `IISreset` command. IIS service can be restarted after successfully restoring the database on the CommServe.
- Run a full backup of the CommServe databases on the destination CommServe host to ensure that no current activity is lost. For more information on performing a DR backups, see Performing Disaster Recovery (DR) Backups.
- If you are using this procedure to recover the CommServe database from a disaster or for hardware refresh or to test DR recovery in maintenance mode, stop services on the original production CommServe host. For more information on stopping services, see Stopping a Service.

Procedure

1. From the command line, navigate to *Software_Installation_Directory***Base** and type the following command after substituting the appropriate parameter values.

   ```
   CSRecoveryAssistant.exe -operation operation mode -skipdump -dbdumplocation db dump location [-dbfilelocation 'path to extract the database files'] [-groupName 'test failover group name'] [-license 'path to new license file'] [-tononcluster] [-tocluster 'physical node1,physical node2']
   ```

   Note: The parameters marked within [ ] are optional.

   For more information on the supported parameters, see Command Line Parameters for CommServe Recovery Assistant Tool.

Examples

- To recover the databases to the same CommServe host:

  ```
  CSRecoveryAssistant.exe -operation Recovery -dbdumplocation "c:\dr\set_xxx"
  ```

- To recover the databases to a different CommServe host:

  ```
  CSRecoveryAssistant.exe operation Recovery -dbdumplocation "c:\dr\set_xxx" -license "c:\license\xxxxx.xml"
  ```

- Alternatively, If the database is already restored apply the license file as follows:

```
CSRecoveryAssistant.exe -operation Recovery -skipdump -license "c:\license\xxxxx.xml"
```

- To stage the CommServe databases for troubleshooting purposes in the default location:

```
CSRecoveryAssistant.exe -operation Staging -dbdumplocation "c:\dr\set_xxx"
```

- To stage the CommServe databases for troubleshooting purposes in a different location:

Note: Make sure to pre-create the folder before executing the command.

```
CSRecoveryAssistant.exe -operation Staging -dbdumplocation "c:\dr\set_xxx" -dbfilelocation "c:\Program Files\Commvault\ContentStore1\testdr" -dblogfilelocation "c:\Program Files\Commvault\ContentStore1\testdr"
```

- Alternatively to restore the CommServe databases to a different location:

Note: Make sure to pre-create the folder before executing the command.

```
CSRecoveryAssistant.exe -operation Recovery -dbdumplocation "c:\dr\set_xxx" -dbfilelocation "c:\Program Files\Commvault\ContentStore1\testdr" -dblogfilelocation "c:\Program Files\Commvault\ContentStore1\testdr"
```

- To perform the following:
  - Disable all clients except the clients present in a client group
  - Disable Schedules
  - Disable Workflows
  - Suspend all jobs
  - Suspend all activities except Data Recovery which will be enabled.

```
CSRecoveryAssistant.exe -operation Maintenance -skipdump -groupName "Test_Failover_Group"
```

- To disable all activities, schedules and suspend jobs:

```
CSRecoveryAssistant.exe -operation Recovery -dbdumplocation "c:\dr\set_xxx" -disableddbactivity -disableallschedules -suspendalljobs
```

- To enable all activities, schedules and resume jobs:

```
CSRecoveryAssistant.exe -operation Recovery -dbdumplocation "c:\dr\set_xxx" -enableddbactivity -enableallschedules -resumealljobs
```

Result

After the DR restore, you will notice a considerable increase in the job ID for new jobs. This increase is added to avoid conflicts with job IDs referenced in the deduplication databases (DDBs) when the DDBs are resynchronized.

What To Do Next

- Restart the IIS service on remote Web Servers.
- Start all services on the destination CommServe host. For more information on starting services, see, Starting a Service.
- Complete the steps described in CommServe Recovery Using DR Backups.

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Command Line Parameters for the CommServe Recovery Assistant Tool

The following table lists the supported parameters for the CommServe Recovery Assistant Tool.

Parameter	Description of Parameter Values
dbdumplocation	Location of the source CommServe database dump files. Skip this parameter if you have already restored the CommServe database.
dbfilelocation	Location where you want to restore the CommServe database files on the destination CommServe host.
dblogfilelocation	Location where you want to restore the CommServe database log files on the destination CommServe host.
disableddbactivity enableddbactivity	Option to disable / enable DDB (Deduplication Database) activity in the CommCell. See List of CommCell Activities for a list of CommCell activities.
disableallschedules enableallschedules	Option to disable / enable all schedules in the CommCell. See Scheduling - Support for a list operations that can be scheduled.
groupName	Name of the 'Test' Client Computer Group. (Option should be used only for Testing CommServe Failover Using Disaster Recovery (DR) Backups.)
license	Path to the new IP address change license file that you want to apply on the destination CommServe host.
operation	Option to select the operation mode. Valid values are: • **Staging** - use this mode for staging or troubleshooting purposes. • **Recovery** - use this mode for CommServe recovery during a disaster or to upgrade the hardware of the CommServe host. • **Maintenance** - use this mode to test CommServe recovery on a DR CommServe host.
restoreonly	Option to restore only the database dump.
skipdump	Option to skip database dump recovery. Use this parameter if you have already restored the CommServe database to the destination CommServe host.
suspendalljobs resumealljobs	Option to suspend / resume all jobs in the CommCell.
tononcluster	Option to migrate from a cluster setup to a non-cluster environment.
tocluster	Option to migrate from a non-cluster setup to a cluster environment. Specify the physical node names separated by comma (,).
?	Displays all the command line parameters available with the CommServe Recovery Assistant tool.

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Trademark Acknowledgment

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