



NetVanta Unified Communications Technical Note

NetVanta Unified Communications Server Backup and Restore Procedures

1 Introduction

1.1 Overview

This document provides backup and restore procedures to protect UC Server data. The key objectives are to minimize downtime and provide the quickest possible data recovery in the event of a database corruption, system crash, or other forms of data loss.

Protecting the UC Server databases requires careful thought and planning to meet the availability needs of the Service Level Agreements (SLAs) in your company and its budget.

Regarding data protection, the higher the requirement for availability, the higher the cost to achieve data protection. Availability solutions rely on data protection, and choosing a reliable backup product must be thought out carefully.

Below are some basic backup and restore procedures using the built in backup utilities that come with Microsoft Windows Server 2003, Microsoft Windows Server 2008 and the included scripts. If you are currently using or planning to use different backup software, make sure that it supports Microsoft Volume Shadow Copy Services (VSS) to back up open files and is capable of backing up the databases live.

It is also important to note that the Windows Server 2003 backup procedure in this document demonstrates how to back up and restore UC Server data only. You must have a full backup and restore plan in the event of a server failure. In the case of complete data loss on a server, you can reinstall UC Server on another server and restore the latest available UC Server data, as mentioned in the restoration procedures below.

Regardless of your established backup and restore plan for failure recovery, it should be thoroughly tested and documented in a simulated environment using production backups. Testing helps to ensure that you have the required backups to recover from various failures, and that your procedures can be executed smoothly and quickly if a real failure occurs.

1.2 Backups using Other Applications

If you are planning to use another application to back up UC Server data, make sure that the backup software supports the following features:

- Ability to back up open files and/or support Microsoft VSS (Volume Shadow Copy Services)

- Ability to back up file permissions, service account permissions, and system state information
- Ability to back up the database live

Below are the specific UC Server data components and related items to back up in addition to your regular scheduled backups:

- Folders
 - C:\Program Files\ADTRAN\NetVanta UC Server\Data
- Database
 - All databases on the %computername%\NetVanta SQL Server instance.

Note: If your backup procedures involve stopping the SQL Server (NetVanta) service, the following services are dependent on it, and will be stopped as well.

- NetVanta UC Server SIP Service Manager
- NetVanta UC Server SIP Management Server
- NetVanta UC Server SIP Back-to-Back User Agent
- NetVanta UC Server SIP Media Relay
- NetVanta UC Server SIP Call Router
- NetVanta UC Server Database Access

These services are required for proper operation of the NetVanta Enterprise Communications Server, and will need to be started after the procedure in addition to SQL Server (NETVANTA) in order for UC Server to function properly.

2 Backup Procedures

1. Locate and open “x:\Release\Docs\TechnicalNotes\TN066-Backup and Restore Procedures.zip” (where x is the drive where the UC Server installation disk is located).
2. Create the folder “C:\Backup\” if it does not already exist on the the UC server machine.
3. Extract the contents of the “Backup” folder from the zip file into “C:\Backup\”.

The following sections describe how to perform a full the UC Server backup for the various supported Windows operating systems. Follow the steps in the section that corresponds to the operating system for the the UC server machine.

2.1 Windows Server 2003

2.1.1 Backing up UC Server Files

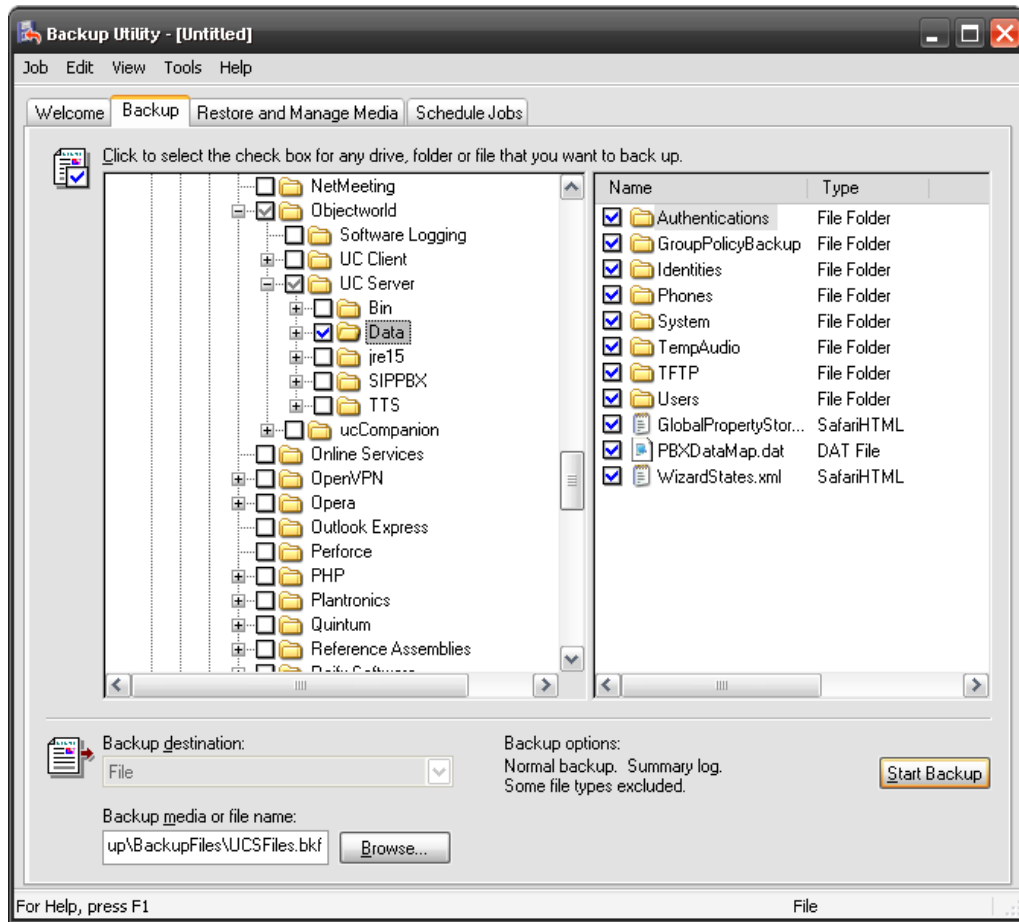
All versions of Microsoft Windows Server 2003 and Microsoft Windows XP Professional include a backup utility called *ntbackup* that you can use to back up your the UC server.

To launch the backup program:

1. Click the **Start** menu and select **Programs > Accessories > Systems Tools and Backup**. If this is the first time you are running the Backup utility, the backup wizard automatically launches.



2. Click **Advanced Mode**, and then select the **Backup** tab. Depending on your company backup policy and SLA agreement, you may want to perform a full backup of the UC server weekly in addition to a daily incremental backup.



3. Select the folders

- **C:\inetpub\ftproot**
- **C:\Program Files\ADTRAN\NetVanta UC Server\Data**

Note: If you installed UC Server to a different directory other than the default location, select the appropriate directory.

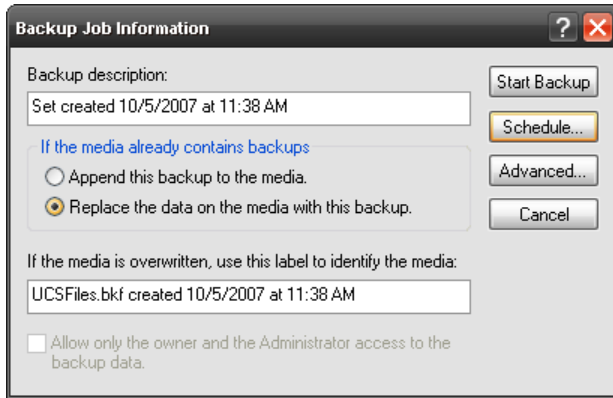
4. Click the **Browse** button to select the location where you want to save the backup file.

5. Enter the name of the backup file and click **Save**.

6. Click **Start Backup**.

NOTE: The UC Server files should be written to reliable online storage on another server or removable media on the the UC Server platform that is removed after each backup.

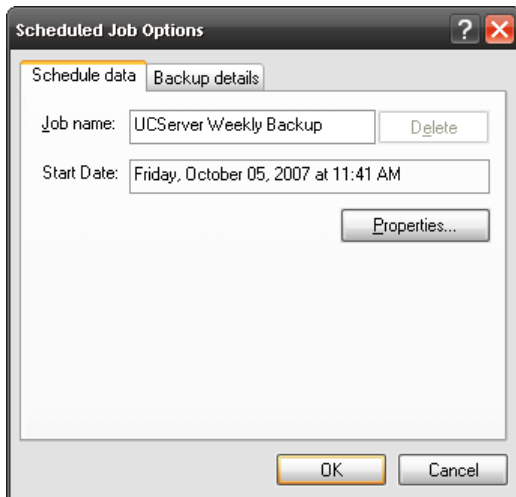
NOTE: The Microsoft Backup tool does not support backing up directly to a CD/DVD burner. To back up to a CD/DVD drive, you must first back up to another location and write the file to a CD/DVD using the software that came with the drive. For instructions about how to write to a CD/DVD drive, refer to the user's guide that came with your drive.



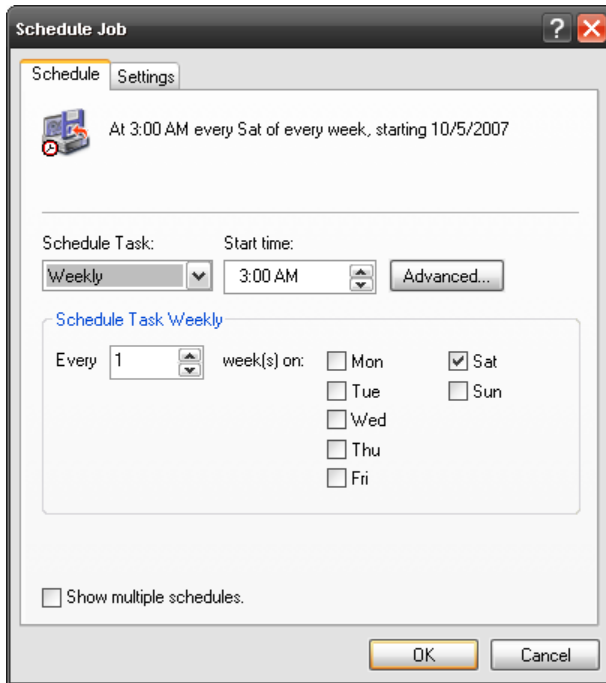
7. Decide whether you want *ntbackup* to append the backup to an existing file, or to replace the previous backup and click **Schedule...**

NOTE: If you want to use a backup type other than “Normal”, click **Advanced** and select another type of backup.

8. When *ntbackup* prompts you to save your current selections, click **yes**. Name and save the file. When prompted for account information, insert the user name and password of an account with appropriate permissions to read and write the files to the backup location. Enter a job name, and then click **Properties...**



9. Set up the schedule to meet your backup needs, and then click **OK**.



NOTE: A weekly schedule provides a low level of protection, and any changes made after the backup are lost if the backup is used. Daily backups provide more protection, but require more space if multiple backups are kept. To reduce the space required, a weekly “Normal” backup and daily “incremental” backups can be used. The level of protection needed varies greatly between companies, so it is best to follow your company’s backup policy.

10. In the “Scheduled Job Options” window, click **OK**. The job is now scheduled and can be viewed and tested from the “Scheduled Tasks” folder, which can be accessed from the Control Panel. To test the job, right-click it and select **Run**. This produces a backup file immediately so you do not have to wait for the first occurrence of the schedule.

2.1.2 Backing up the UC Server Database

1. From the Windows **Start Menu**, open the **Control Panel**.
2. Open the **Scheduled Tasks** folder.
3. Right click, select **New > Scheduled Task** and name the new task.
4. Double-click the new scheduled task.
5. In the **Run** box, enter:
`cmd /C Backup_NetVanta_Database.bat "C:\Backup\BackupFiles\"`
 Where “C:\Backup\BackupFiles\” is the location where the database backup files are to be stored.
Tip: It is recommended that the files be written to reliable online storage in another server or removable media on the UC server platform that is removed after each backup.
6. In the **Start in** box, enter:
`"C:\Backup\"`

Where "C:\Backup\" is the location where **Backup_NetVanta_Database.bat** and **BackupNetVantaDatabase.sql** are.

7. Select the **Schedule** tab.
8. Configure the schedule to match that of the file backup.
9. Click **OK**.
10. Enter a user name and password that have appropriate permissions to run the backup batch file and sqlcmd command, and then click **OK**.
11. In the Scheduled Tasks folder right-click the task you have just created and select run. The database backup files will be created.

2.2 Windows Server 2008

The backup utility included with Windows Server 2008 is significantly different from the NTbackup utility used with previous versions. It no longer has the ability to backup specific files and folders, only entire volumes. Because of this, the backup destination must be a second hard drive, either internal or external, or a network location with enough storage space. To prevent potential capacity problems, the hard drive used should be dedicated to storing the backup.

1. If the backup utility has not yet been installed, follow the lettered steps.
If it has been installed, proceed to step 2.
 - a. Open a command prompt.
 - b. Type "servermanagercmd.exe -install Backup-Features"
 - c. Click **OK** then wait until it is finished.
2. Open a text editor.
 - a. To store the backup on a network share type:

```
wbadmin start Backup -  
backupTarget:\\remotestorageserver\Backup\ -include:c: -  
vssFull -quiet
```
 - b. To store the backup to a internal hard, external hard or DVD drive, type:

```
wbadmin start Backup -backupTarget:e: -include:c: -vssFull  
-quiet
```

CAUTION: If you save a backup to a remote shared folder, that backup will be overwritten if you use the same folder to back up the same computer again. In addition, if the backup operation fails, you may end up with no backup because the older backup will be overwritten, but the newer backup will not be usable. To avoid this, you can copy the backup files to another location such as a DVD or a different network location.

NOTE: Backups on DVDs can only be used for complete volume restoration.

NOTE: If you are using any other backup solution in addition to this, remove "-vssFull" as it can interfere with other backup solutions.

NOTE: Replace “c:” with the volume containing the UC server.

TIP: It is recommended that the backup not be written to an internal hard drive. A removable hard drive or a network share is a more reliable solution.

3. Save the file as a batch file named “backup<Volume being backed up>to<destination>.bat; make a note of where you saved it.
Example: BackupCtoE.bat
4. Open **Start** menu > **Administrative Tools** > **Task Scheduler**.
5. Click **Create Basic Task...**
6. Create a name and description and then click **Next**.
7. Select the type of schedule that meets your backup needs and then click **Next**.
8. Configure the schedule to meet you backup needs and then click **Next**.
Note: It is best to schedule it to run when the system is unlikely to be used, such as the early morning hours as the backup process consumes enough system resources to reduce service quality, depending on the server configuration.
9. Select **Start a program** and then click **Next**.
10. Click **Browse...**, navigate to the location of the batch file, select it, click **Open**, and then click **Next**.
11. Click **Finish**.

3 Restoration Procedures

The following sections describe how to perform a full UC Server restoration for the various supported Windows operating systems. Follow the steps in the section that corresponds to the operating system for the UC Server machine.

3.1 Windows Server 2003

The following procedures assume that your UC Server data is corrupted; however, if there is a complete data loss or corruption in UC Server, you must perform one of the following steps before proceeding to restore UC Server data in section [3.1.1 Restoring UC Server Files](#) and then [3.1.2 Restoring the UC Server Database](#).

NOTE: If you are restoring on a new server, it is required that the new server have the same version of Windows as the old server.

Note that to restore to different server hardware, you must contact ADTRAN Technical Support to obtain a new license key for your new installation.

- A) Restore the server operating system and UC Server application from your backup tapes. After restoring the server, go to 3.1 to restore the most recent UC Server data.
or

- B) Install the server operating system and the same version and build of UC Server that was previously installed, including the presence components if they were installed previously. After installing the server, follow the Configuration wizard. Add just one user, and finish the wizard. Go to step 3.1 to restore the most recent UC Server data.

To restore the UC Server data, locate and unzip “x:\Release\Docs\TechnicalNotes\TN066-Backup and Restore Procedures.zip” where x is the drive where the UC Server disk is located. The scripts for the restore procedures are in the Restore folder.

3.1.1 Restoring UC Server Files

1. Click Windows **Start** and select **Programs > Accessories > Systems Tools and Backup** to launch the Backup utility from Microsoft.
2. Click **Next**.
3. Select **Restore Files and Settings**, and click **Next**.
4. A list of backup histories displays. If the backup file is not listed, click **Browse** and find the backup file. Select the desired backup data to restore and click **Next**.



5. If **Existing files:** says, “Do not replace”, click **Advanced...** and then **Next**, and then select the “**Replace existing files**” radio button. Click **Next**. **Existing files:** now says, “Always replace”. Click **Finish**.



6. Contact ADTRAN Technical Support to obtain a new license key if you are restoring to different server hardware than the existing server. Refer to UC Server Configuration documentation to install your new license key.

3.1.2 Restoring the UC Server Database

1. From the **Start** menu, select **Run**.
2. Enter “cmd” and click **OK**.
3. Navigate to where **RestoreDatabases.bat** is located.
4. Enter
RestoreDatabases.bat “C:\Backup\BackupFiles\
Where “C:\Backup\BackupFiles\” is the folder where the database backup files are located.

3.2 Windows Server 2008

3.2.1 File or Database Corruption

If announcements, services, dial plans, identities, users, and so on are corrupted, accidentally deleted or modified, then you can restore UC server and its database to its previous condition by following these steps.

1. Ensure the media the backup data is stored on is accessible by the server.
2. Open the **Start Menu**, select **Run** and type “C:\Program files\ADTRAN\NetVanta UC Server\StopAllUCServerServices.bat”.
Note: If UC Server is on a different drive, change C: accordingly.
3. Open **Start menu > Administrative Tools > Server Manager**.

4. Select **Windows Server Backup**, under **Storage** on the left.
5. Select **Recover...** on the right.
6. Select **This server(servername)** and click **Next**.
7. Select the backup date and time to restore the data from and click **Next**.
8. Select **Files and folders** and click **Next**.
9. Navigate to and select the Program files folder in the section on the left.
10. In the section on the right, click the **Microsoft SQL Server** folder, then hold **ctrl** and click the **NetVanta** folder.
11. Click **Next**.
12. Select **Original location, Overwrite existing files with recovered files, Restore security settings**, and click **Next**.
13. Click **Recover**.
14. Once it is finished, click **Close**.
15. Open the **Start** menu, select **Run** and type “C:\Program files\ADTRAN\NetVanta UC Server\StartAllUCServerServices.bat”.

3.2.2 Total Server Reconstruction

If the computer UC Server resides upon has ceased to work completely, such as a drive failure, a serious operating system error, or theft, these steps will restore UC Server as well as the operating system. If you are restoring to a new drive, it must be at least as large as the capacity of the media the backup is stored upon. For example, if 45GB of backup data was on an 80GB portable hard drive, the new hard drive must be at least 80GB in size or larger.

NOTE: To restore to different server hardware, you must contact ADTRAN Technical Support to obtain a new license key for your new installation. Also, if a different MAC address is being used, change the settings in the DHCP server to ensure the new server has the same IP address as the old server.

1. Place the Windows Server 2008 startup disk into the CD or DVD drive and boot the computer.
2. Select the appropriate language settings and click **Next**.
3. Click **Repair your computer** in the bottom left of the window.
4. If you are restoring to the original drive, it will be displayed here. Click **Next**.
Note: You may need to click **Load Drivers** to load the appropriate drivers depending on the server’s configuration.
Note: If you are restoring to a new drive, click **Next**.
5. Select **Windows Complete PC Restore**.
6. To restore from a backup stored on a:
 - a. Internal or external hard drive

- Select **Use the latest available backup** and click **Next** or
Select **Restore a different backup**, click **Next**, and follow the prompts until
asked to **Choose how to restore the backup**.
- b. Network store
1. Select **Restore a different backup** and click **Next**.
 2. Click **Advanced**.
 3. Click **Search for a backup on the network**.
 4. Enter the complete path to the folder holding the backup files and click **OK**.
Example: \\StorageServer\BackupFiles\20080924\
 5. Enter your login information and click **OK**.
 6. Select the location that has appeared in the list and click **Next**.
 7. Select the backup to restore and click **Next**.
7. If there are any disks that you do not want to have reformatted, click **Exclude disks**, select the drive to exclude and click **OK**.
 8. Check that everything is correct. If it is not, click **Back** until you reach the right page to correct it.
 9. When it is correct, navigate forward to the final page, and click **Finish**.
 10. Confirm the actions and click **OK**.
 11. If the restoration was performed on different server hardware, you will need to provide the new license key obtained from ADTRAN Technical Support to UC Server.
 - a. Open UC Client using credentials with access to the Admin account.
 - b. Click on the Help menu, and select license Information.
 - c. Click Modify License, enter the new license and click OK.
 - d. Close UC Client.
 - e. Open the **Start** menu, select **Run**, type "c:\Program Files\ADTRAN\NetVanta UC Server\RestartAllUCServerServices.bat", and click **OK**.