

Instructions for recovering an Exchange 5.5 server with Backup Exec Online Backup

Important points to note first...

- A recovery server needs to be built to the same configuration as the one that is being recovered. This includes; operating system, domain role i.e. domain controller, member server, Exchange version (Standard or Enterprise), service packs, disk letters and sizes, server name, and finally, Exchange Organisation and Site names. You will also need to know the Exchange Service Account details. Hopefully, all of this information will have been documented already, and be readily available.
- The recovery server must have access to, or to use the same SAM database, ie domain, as the server that is being recovered. Unless the corrupt server can be taken offline, a BDC will need to be created in the live domain, which can then be taken offline, promoted to a PDC, and used with the recovery server in an offline network.

Steps for success

- Build a new BDC, or alternatively use an existing one if more than one exists, and if it can be taken offline. If a new BDC needs to be built (this is the preferred option, patch the device into the live network, install NT specifying that the server is to be a BDC, and join the domain.
- Set up an offline network ie obtain a hub or switch and patch the new BDC and recovery server into it.
- Promote the BDC to a PDC
- Run the server manufacturer's setup software ie IBM's ServerGuide or Compaq's Smartstart on the Exchange recovery server.

IBM

Select Custom Install

Configure the Array. Bear in mind that that the server that is being rebuilt could perhaps become the live server if the recovery process is completely successful, and the arrays should therefore be configured as for a production server i.e. Raid 1 for the operating system, RAID 1 for the Exchange logs and RAID 5 for the Exchange database files.

Create the system partition

Select Network Operating System and follow instructions

Compaq

Run System Erase if appropriate

Select either Assisted Install or Manual Install depending on preference. Note the assisted install will take a bit longer, but will install the Compaq applications and drivers, including the array controller driver, whereas a manual install with NT may require that the array controller driver be added manually (press F6!) during the install of NT (the file will need to be obtained and copied to floppy)

- Install NT or W2K
- Install OS Service Pack (whichever Service Pack was being used on the production server)
- Log on to the server using the Exchange Service Account
- Run Disk Administrator and create the same partitions as per the production server ie D, E, F etc. The partitions must be at least the same size as on the production server. The drive letter assigned to the CD drive may need to be changed first (to say Z) so that the other drive letters can be set to whatever they need to be

- Install Exchange from a command prompt – this is because it is important that the /R switch is used when running the setup, so for Exchange Enterprise, change to **z:\server\setup\i386** and run **srvmax /R** (if using a Select CD), and for Standard use **srvmin /R**. The /R switch installs Exchange in recovery mode without starting any Exchange services.
- Select **Create new site in existing Organisation**. The Site and Organisation names should then be entered. They must be exactly the same as on the production server, and are case sensitive, otherwise Backup Exec will not be able to restore the backup.
- Performance Optimiser will run during the install – the paths for the location of the logs, database files etc must be changed to the same as configured on the production server, ie if the Private Information Store (priv.edb) was on the 'F' drive on the production server, then this files must also be configured to use the same drive on the recovery server
- Make sure that the **move files automatically** box is ticked. Some errors will be displayed which will say that some files cannot be found – this is ok – click **ok** and move on.
- Finish the Exchange install
- Go into Control Panel and disable all Exchange services with the exception of the System Attendant.
- Install Exchange Service Pack 4 (or whatever service pack was installed on the live server). The service pack must also be installed using the /R switch and should be executed from the command line. Change to the appropriate Service Pack directory i.e. **z:\sp4\eng\server\setup\i386** and enter the command **update /R**
- Reboot the server
- An NT account now needs to be either created or an existing one configured for use with Backup Exec. (I used the existing Exchange Service account and would recommend that this be used as it will avoid any Backup Exec security problems with the restore). The account must be configured as follows;

Group Memberships

Member of the local Administrators and Backup Operators Group, and a member of Domain Admins

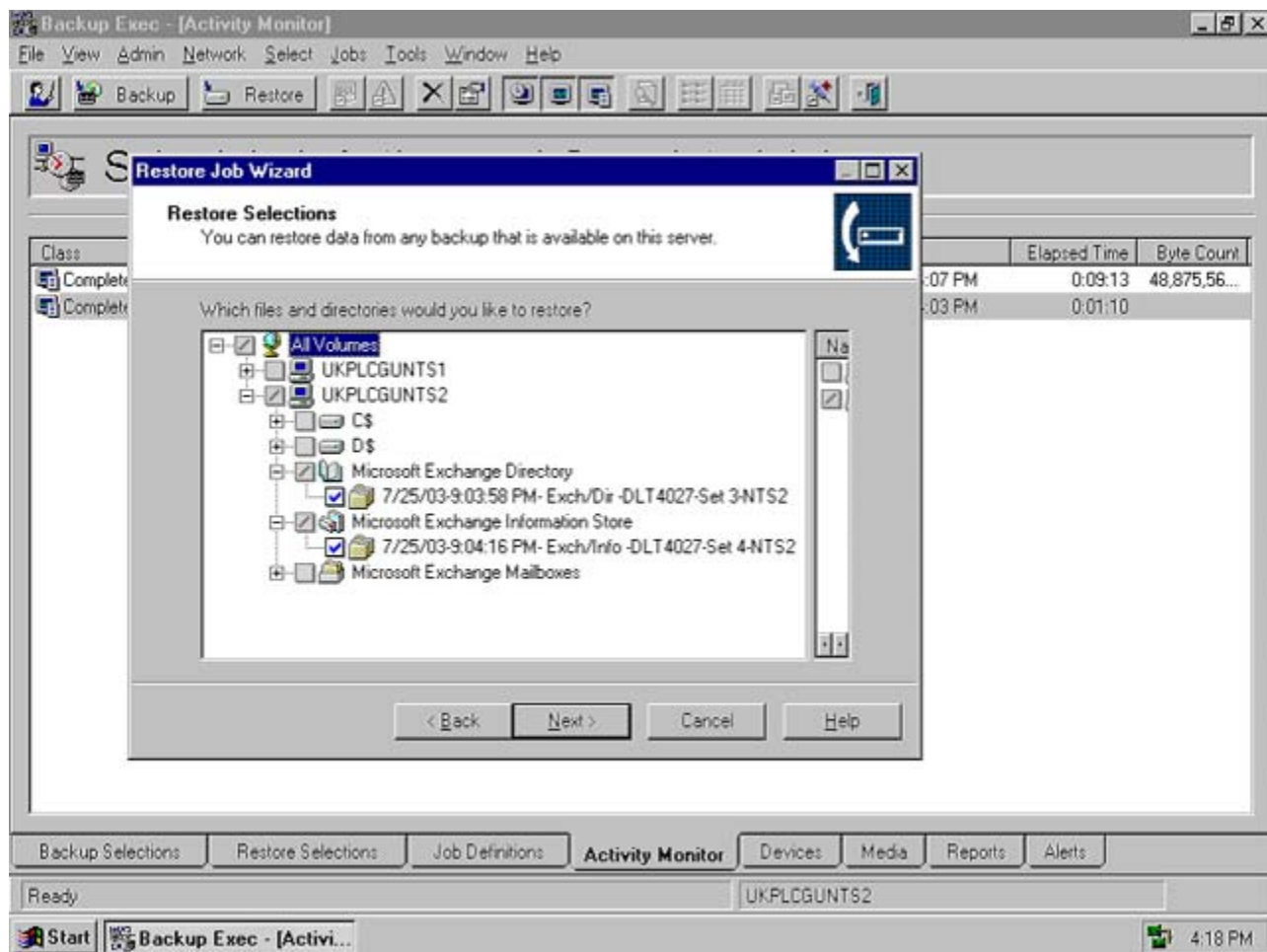
User Rights

Log on locally

Log on as a service

Act as part of the operating system

- Log on to server with this NT account
- Install and license Backup Exec – same version as used in production environment. Ensure that the license keys are entered for both the Server Edition and for the Exchange Agent. The key for Exchange may be detailed on screen after being entered, as being for an 'Exchange 2000 Agent' This will work fine with Exchange 5.5
- There will be a number of 'First Time Use' questions to be answered, such as;
Service Account to be used? - Enter the account to be used for the Backup Exec services
Drivers? - Use Veritas tape drivers for tape devices that do not already have drivers loaded
- Reboot the server
- Make sure that the Exchange System Attendant service has started after server has rebooted
- Put the backup tape that you want to use into the backup drive
- Catalog the tape – there are a number of ways of doing this – such as right clicking on the DLT drive and choose the catalog option. Enter a password for the tape if necessary
- On completion of the catalog process, start a restore job.
- Start the Restore job wizard - Expand the volume for the Exchange server and then expand and select Microsoft Exchange Directory and Microsoft Exchange Information Store.



- Give the job a name, select the device or device pool that is being used, specify the appropriate override settings and finally, the appropriate Exchange settings - uncheck **No loss restore** and make sure that **Restore public folder** and **Restore private mailboxes** are both checked and selected.
- Run the job now.
- Monitor the restore progress – If the restore is being performed with a locally attached DLT, the restore will take around 30 mins per 10GB of data. My 12GB restore took 33 minutes.

On completion of a successful restore...

- Check the Exchsrvr\Mdbdata folder for the existence of the Edb #####.log files.
- Confirm that an Edb.chk file is not present in any Mdbdata folder. If the Edb.chk file is present in this folder, move or delete the file
- If you are restoring the directory, check for the Dir.pat file in the Dsadata folder. (note – if for whatever reason the dir.edb file isn't on the backup tape that is being used, this file can be restore from an earlier backup)
- Set the Directory service to **Manual**, and then start the service.
- Set the Message Transfer Agent to **Manual**, and then start the service.
- Set the Information Store service to **Manual**, and then start the service.

If all has gone well, a successful restore will have been completed and the Information Store would have started and be accessible. To check the success of the restore operation...

- Review Mailboxes for Windows NT account association
- Test User Logon from Client Workstations – access some mailboxes, send test messages to other mailboxes on the same server
- Review event logs
- Run the Directory Service/Information Store Consistency Adjuster (in Exchange Admin select Server **Properties\Advanced**)– this will make sure that the Directory Service and Information Store are both synchronised
- Check integrity of restored database using `eseutil /g` – this checks the integrity of the database while assuming that the database is in a consistent state and will advise if found to be otherwise. Change to the `c:\winnt\system32` directory and run `eseutil /g x:\exchsrvr\mdbdata\priv.edb` (where x: = the location of your priv.edb) This should take about 40 mins per 10GB, unless problems are detected.

Problems

If the System Attendant service wasn't started before the restore commenced, BE will restore the Exchange Directory files, but the Information Store restore will fail. If this happens, delete all files within the DSADATA directories and start the restore again.

If the Directory Service refuses start post-restore, with the following errors;

Event ID 1196

Couldn't recover the restored Microsoft Exchange Server Database (EDB) Cannot continue.
Error c8000713

Event ID 1067

The process terminated unexpectedly. Could not start the Microsoft Exchange Directory Service.

delete all files within the DSADATA directories and restore the Directory again.

Information Sources

Microsoft's Exchange Disaster Recovery White Paper

<http://www.microsoft.com/exchange/techinfo/administration/55/BackupRestore.asp>

Q296229 How to Recover a Whole Exchange Server 5.5 Computer Using an Online Backup

<http://support.microsoft.com/default.aspx?scid=kb;en-us;296229>

Backup Exec Manual

http://ftp.support.veritas.com/pub/support/products/Backup_Exec_for_WindowsNT/BeAdmin86_240870.pdf (10MB .pdf!)

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