SB2003 to SBS2011 Migration

Migration Guide and Checklist

Date	
Company	
Server Name	
Your name (Who is doing the job)	

Practice – Practice – Practice

Doing a migration without doing a **Dry Run / Test Run** first would be absolutely lunacy. The last thing you ever want when doing a migration is to run into problems – trust us, migration problems are the ultimate stress, the original STRESS !!

Migrations have a long-established tradition of throwing up problems if not major stumbling blocks. Therefore the smart thing to do is to test (dry run) the migration again and again and again on a duplicate server (this can be a virtualized copy of your Live server) until such time that you have perfected the entire process, written additional checklists to this one, and basically ironed out every single gremlin.

Only once you have reached that stage should you entertain doing the Live Migration.

<u>One other thing</u>: **SBS servers (Small Business Server) are rarely stored in places that are comfortable to work in for extended periods of time.** While companies with multiple full servers will normally have a computer room for those servers, and, usually, a desk to control those servers, SBS servers are mostly in smaller companies where space is at a premium and as a result end up stuck in a small corner with the monitor, keyboard, and mouse in awkward positions (because the support IT consultant usually connects remotely to the SBS server). If this is your case, temporarily move the existing server to a desk where you will be more comfortable : it's simple, the more comfortable you are doing this lonnnnnng migration, the less likely you are to make mistakes !

And one last thing : protect both the Source Server and the Destination Server (the Target Server) with UPSs (Uninterruptible Power Supplies) during your migration. Trust me, Murphy's Law states that if a problem can happen, *it will happen* ! A long time ago we were doing a weekend network upgrade on a server, and moved the server to a more comfortable desk, away from its regular UPS, and, right in the middle of the job, after 6 hours work, Bang, Power Cut for 10 minutes !!! Everything had to be re-done. We have never since done a job on a server without protecting it with a UPS !

What will happen during this migration ...

A lot of good things will happen during this migration but **only and only** if you follow this guide.

We have evolved this guide by taking Microsoft's best migration recommendations, many tips from the Microsoft Technet blogs, one or two tips from other sources, and our experience in doing this type of migration.

Follow this guide and you will save yourself a lot of aggravation and, above all, <u>a lot of</u> <u>extra work</u>. Ignore one step of this guide and you could be ending up having to deal with a whole load of problems you could have avoided.

Here is what will happen if you follow this guide :

- Provided you follow this guide (and not any of the Microsoft guides) you will flawlessly go through the <u>first phase</u> of the Migration process. That phase is the most critical phase, it is the stage at which there are endless possibilities for problems and deal-breaking issues. Once you are through that first phase, everything is downhill from thereon.
- At the end of the first phase your <u>Users and User Groups</u>, your <u>Group Policies</u>, your <u>login and logout scripts</u>, will have all been migrated automatically to the Destination Server (the new server). In a small 4-user office this is no big deal, but in a 25-user setup that is a lot of work all done for you. Remember, setting up users, setting up user groups, setting up login scripts and logout scripts is in itself not a lengthy task, but it is the testing that you have done it correctly, that you have spelt all users names correctly, that you have remembered to put them all in the correct permission groups, that you have remembered to replicate the mailbox permissions, delegates, etc..., that takes a long long time. The migration does all of this for you automatically.
- Exchange 2010 gets set up automatically on the Destination server using all the configuration defaults you had on the Source Server.
- Your two servers both manage Active Directory with the Source Server effectively being a backup domain controller.
- If you are unable to finish the migration over a weekend, it is not a problem as, provided you leave both servers turned ON, your users will be able to connect to the network, to access their emails, and to access their files wherever they are on the Source Server or the Destination Server. This is absolutely brilliant and, for once, well thought out by Microsoft. You can use this half-way setup for 21 days; after 21 days the Source Server shuts down.
- Once the first phase is complete **you will need to migrate the users' mailboxes** from the Source Server to the Destination Server. This is an unbelievably long process – a 75GB Exchange 2003 database can easily take 12 to 48 hours to migrate to Exchange 2010 during an SBS migration.

- You will need to install any Exchange related software you had on your Source server. For example, some companies use third-party products to pick up emails from POP boxes (e.g. *SmartPOP2Exchange*) or to virus scan emails and perform anti-spam filtering (e.g. *Exchange Toolbox*).
- You will need to migrate your files from the Source Server to the Destination Server. Until they are migrated your users will simply use the files on the Source Server. Once they have been migrated, you will simply modify the appropriate group policies to map the drive letters to the Destination Server rather than the Source Server and your users will not be any the wiser as to which server your files are actually on.
- You will need to share your printers via the Destination Server and, through group policies, remove the shares pointing to the Source Server, from all the PCs.
- You will need to install on the Destination Server any third-party software that used to be on the Source Server, e.g. client/server accounting software (e.g. SAGE), Goldmine, etc..
- You will need to get Outlook Web Access to work (if you had it set up before).
- You will need to get emails to cellphones to work.
- You will need to get your Intranet (SharePoint) to work (if you had it set up before).
- And, at the end of the process, **you will need to remove the Source Server from the setup**, leaving your Destination Server to manage the network on its own.

Preparing your old Small Business Server (the Source Server)

All server migrations are difficult, problematic, and, above all, stressful !

Migrating from Small Business Server 2003 to **Small Business Server 2011**, the last Small Business Server that will ever be produced by Microsoft, is no different.

There is one rule which applies to all migrations : ensuring that your old server is in tip top shape goes a long way towards the success of the migration – I would go as far as saying that <u>90%</u> of the success of any migration depends on how well you clean up and spruce up your old server before the migration !!!

Consider, therefore, the preparation of your old server as the most important section of your migration exercise.

- □ Upgrade the hardware on your old server if necessary !!! Many upgrades take forever to complete because the old server is 6 or 7 years old, a slow dual-core server with slow 3 to 4 years old hard disks. Save yourself some time (which you might be thankful to have at the back end of the migration) by upgrading the old server if its hard disks are older than 2 years and/or the processor is over 5 years old. Do this some time before your migration weekend !
- Install all the latest Windows Updates. Do not just install Security Updates, go and also install optional updates which are to do with the following and <u>only</u> the following : <u>Optional Security Updates</u>, <u>Windows Server Updates</u>, <u>SBS2003 Updates</u>, <u>NET Updates</u>, <u>Certificates Updates</u>.

Note also : your Small Business Server 2003 server should also have the following major updates installed :

- Group Policy Reference Client Side Extensions for Win Server 2003
- Windows SBS 2003 Service Pack 1
- Windows Server 2003 Service Pack 2
- Exchange Server 2003 Service Pack 2
- Windows SharePoint Services 2.0 Service Pack 3

Do all of this some time before your migration weekend !

Upgrade your network hubs to Gigabit. If your existing network is running through 100Mbit network switches (network hubs) then take this opportunity to upgrade to gigabit switches. If your old server has a lot of data, and a large Exchange database, this will make a massive difference to how long the upgrade takes to complete.

Delete temporary files.

C:\Documents and Settings\Administrator\Local Settings\Temp C:\Documents and Settings\<User>\Local Settings\Temp for any user who had Remote Desktop (Administration Mode) access to this server C:\Temp C:\Windows\Temp

Make sure you have spare room on the C: partition. The migration process will need spare space on the C: drive of the old server for its work files. Make sure you have at least 5GB of spare disk space in your C: drive, and hopefully a lot more (e.g. upwards of 10GB) – if you do not, then delete or move folders you might not need, to the D: drive or to a USB backup hard disk. Only do this with folders that you created (as distinct from folders created by SBS-2003) and in which you stored miscellaneous data that is not your normal "business data", such as installation programs for example.

■ Make sure you have spare room on your Exchange partition. Assuming that your Exchange database is stored in a different partition to the C: partition, then make sure you have spare room on that partition so that the migration process can store its migration files during the migration. You should aim to have at least 10GB of spare disk space.

- Update TUT (The Ultimate Troubleshooter).
- Make an image backup of your server. The purpose of this image backup is to *"save your Life"* if absolutely nothing goes according to plan and you end up having to revert back to your original server on the Monday morning. If you have RAID 1 mirroring in place, and there are no problems with the RAID system, this is easy – simply disconnect, label, and safely store away the second hard disk in your RAID-1 system.
- Using TUT or the Windows Services app, <u>permanently disable</u> your **backup software**. You do not want your server starting a backup in the middle of your migration !!
- Permanently disable any Mail Pickup software you may have, such as Smart POP2Exchange or Exchange Toolbox for example – you absolutely do not want Exchange picking up new emails during your migration !
- ☐ If emails are delivered directly into Exchange or your mail pickup software through direct SMTP mail delivery through Port 25, then turn off Port 25 on your router / firewall.
- Permanently disable any 3rd party software which runs at all times in the shape of services or Windows startups.
- Download the Microsoft SBS2003 Best Practices Analyzer (BPA). Download this tool from <u>http://www.microsoft.com/en-us/download/details.aspx?id=5334</u>, install it, and then run it.

One of the first options you will be presented with the first time you run it, is whether you want to check for updates to the BPA. You should check for updates as there is always an update on the first run !

Here are some sample screens :

🛃 Windows® Small Business Se	erver 20 A Best Practices Analyzer	X
Windows® Sma	all Business Server 2003 Best Practices Analyzer	Windows Small Business Server
Welcome Subct 3 Reif Parlons Subct 3 Reif Parlons Subct 3 Reif Parlons Subct 3 Reif Parlons To Advant for Reif Parlons Advant for Reif Parlons Jourgest 2 Parlon Jourgest	View Best Practices Report Zwg2012 2149 Seter Report Type: Ital Report Ital Report Ital Report Critical Issues Ital Report Ital Report Ital Report If Interest Exponention Ital Report Ital Report If Interest Ital Report Ital Report Ital Report Ital Report Ital Report Ital Report Ital Report	ndows SharePoint Services 2.0 or in later
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Deal with <u>all</u> issues except the following :

- Network Interface driver file is more than 1 year old (your server has been running fine till today – this is not the time to make device driver changes to your network card and potentially introduce problems).
- EDNS is enabled (old and irrelevant recommendation from Microsoft since the SBS 2003 Internet Connection wizard sets up DNS forwarders anyway!!).
- Help and Support Service is missing (if you did not install the "Help and Support Service" when you originally installed SBS2003, then now is not the time to do so since you are today migrating away from it !!).
- CEICW not completed successfully (in 2013 a Microsoft update broke the Firewall configuration component of the Small Business Server 2003 "Configure E-mail and Internet Connection Wizard" and many users who had always had the Firewall turned off, found that the wizard would from then on always error on the configuration of the Firewall but their SBS2003 server would still continue to work properly).
- Free disk space is very low (follow our recommendations on disk space earlier in this document).
- **RDP Port not at default value** (if you changed the RDP port value from its default of 3389 then you knew what you were doing leave it as it is currently set).
- DST The update for Daylight Savings Time is not installed (you could waste a lot of time looking for the Microsoft hotfix for this as it suggests you get it through Windows Updates, yet by the time you have reached this point in this document you will have installed all outstanding Windows Updates – Ignore).
- SBS Monitoring Agent service not set at default value (if you did not set up Monitoring before, then now that you are migrating away from this server is really not the time to start messing around setting it up !).
- Windows SBS Backup wizard has not run (now irrelevant in the circumstances).
- Windows SBS Monitoring wizard has not run (now irrelevant in the circumstances).

<u>Note 1</u>: if one of the issues you need to fix is *"The installed version of samsrv.dll is not current"*, then the page where you need to download the fix is the following page (as opposed to what is stated in the Best Practices Analyzer): <u>http://support.microsoft.com/default.aspx?scid=kb;EN-US;939820</u>.

Note 2 : if another issue that gets flagged up is the warning that various components are **not** using the **.NET Framework 1.1.4322**, and on checking you find that the version of the .NET Framework that is being used is version 2.0, then ignore the warning – the Best Practices Analyzer simply has not been updated to recognize the fact that those components can work with version 2.0 of the .NET Framework.

Companyweb is not using .Net Framework 1.1.4322
⚠️ The Windows SBS Backup site is not using .Net Framework 1.1.4322
⚠️ Windows SBS Monitoring is not using .Net Framework 1.1.4322

- Reboot the server.
- Re-run the **Best Practices Analyzer** to make sure you have dealt with all the issues that you should have dealt with.
- Download the Exchange 2003 Best Practices Analyzer (EBPA) from the following : <u>http://www.microsoft.com/en-us/download/details.aspx?id=22485</u>. Install it and run it. Download the latest updates to the EBPA and then run a Health Check (the other tests are not relevant for this exercise).
- Fix all **Critical Issues** reported by the **EBPA** and all **Warnings** relevant to the exercise you are currently undertaking.

Ignore the following :

- Paging file larger than physical memory (this is a bug in the EBPA instead, go to the System icon in the Control Panel, then the <u>Advanced tab</u>, then the <u>Performance Settings</u> button, then the <u>Advanced Tab</u>, then the <u>Virtual Memory</u> setting : if your current Page File size is set at the recommended value or larger, then everything is fine).
- Recipient update service appears to be stalled (this warning will appear if the recipient update service has not run in the last 6 hours in most cases this will be because you are in the middle of the migration where you might have had the server down for some time while you were imaging it, then running Windows Updates, then many reboots, etc...).
- Database backup warning (this warning will appear if your Exchange system has not had a full backup for some time – since you are in the process of migrating, you can ignore this warning).
- **IMAP4 fast message retrieval** (you are migrating away from SBS2003 so the fact that your IMPA4 service may not be configured in the most optimal manner is of no use to you).
- Now run the **Exchange 2007 Readiness Check.** If the "SuppressStateChanges' parameter gets flagged up ("Link state suppression *is not enabled*"), then set it as per this page : http://technet.microsoft.com/en-us/library/aa998746%28v=exchg.65%29.aspx.
- If and only if you run the Microsoft ISA Server on your SBS2003 server, then download the Microsoft Internet Security and Acceleration (ISA) Server Best Practices Analyzer tool from this page, and then run it : http://www.microsoft.com/en-us/download/details.aspx?id=811.
- Download the SQL 2005 Best Practices Analyzer (SQLBPA) from the following : <u>http://www.microsoft.com/en-us/download/details.aspx?id=23864</u>. Install it but do <u>not</u> run it at this stage.

- Download the SQL 2005 Management Studio Express with SP2 from this page : <u>http://www.microsoft.com/en-us/download/details.aspx?id=15366</u>. Install it.
- Synchronize the server with a time server on the Internet. The time on the Source Server (SBS2003) must be within five minutes of the time on the Destination Server (SBS2011), and the date and time zone must be the same on both servers. If the Source Server is running in a virtual machine, the date, time, and time zone on the host server must match that of the Source Server and the Destination Server. To help ensure that Windows SBS 2011 Standard is installed successfully, you must synchronize the Source Server time to the Network Time Protocol (NTP) server on the Internet.

User either of the following batch files to set up your server to synchronize its time with an external time source :

Sync with TIME.NIST.GOV

@echo off

REM - Sync this server's time with TIME.NIST.GOV

W32tm /config /syncfromflags:manual /manualpeerlist:"time.nist.gov" W32tm /config /reliable:yes W32tm /config /update Net stop w32time Ping -n 1 -w 3000 1.1.1.1 > nul Net start w32time

:END

It is best, however, to synchronize with time servers in your own country, as the smaller distance between you and your own country's time servers will ensure that the reply from those time servers is the quickest it can be. Most countries have four national time servers whose names are in the form **0.<country-code>.ntp.pool.org**, **1.<country-code>.net.pool.org**, etc... So, for example, the French time servers will be 0.fr.ntp.pool.org, the US time servers will be 0.us.ntp.pool.org, the German time servers will be 0.de.ntp.pool.org, and so on. Use the batch file below to sync your server with the UK time servers (note – the PING command simply introduces a 3-seconds delay between stopping the Windows Time Service and restarting it) :

Sync with the UK time servers @echo off

REM - Sync this server's time with the UK time servers

W32tm /config /syncfromflags:manual /manualpeerlist:"0.uk.pool.ntp.org, 1.uk.pool.ntp.org, 2.uk.pool.ntp.org, 3.uk.pool.ntp.org" W32tm /config /reliable:yes W32tm /config /update Net stop w32time Ping -n 1 -w 3000 1.1.1.1 > nul Net start w32time

:END

Once you have sync'ed the time to Internet time servers, on <u>SBS 2003</u> you can verify that it is set properly by checking that the following registry key contains the time servers that you set :

HKLM\System\CurrentControlSet\Services\W32Time\Parameters

On <u>SBS 2011</u> (and Windows 2008 / 2012) you can verify it in a much more user friendly manner by typing **w32tm /query /status** at a DOS prompt (Command Prompt) or, for more detailed information, **w32tm /query / configuration**.

- **<u>Reboot the server</u>** to ensure that the time settings take effect.
- Install and run the Windows 2003 Server Microsoft Support Tools. Download these from the following web page and install them : <u>http://www.microsoft.com/en-gb/download/details.aspx?id=15326</u>.
- Run the DCDIAG support tool. Run dcdiag in a DOS box and make sure all the checks show as "Passed".
- Correct all possible errors in your Exchange database. It is vital that your Exchange database is clean prior to the migration. Dismount both the "<u>Mailboxes</u>" and "<u>Public Folders</u>" databases. Then run the isinteg tool as follows : isinteg -s <your-server> -fix -test alltests. Do this test for both <u>Public Folders</u> and the <u>First Storage Group</u>.
- Re-mount the "Mailboxes" and "Public Folders" databases.

Give the ADMINISTRATORS group the right to logon as a batch job. This is needed so that the SBS2003 to SBS2011 Migration Tool has the ability to display/run an alert on the destination SBS2011 server without the need to logon. Do this as follows :

- Group Policies
- Edit the **Default Domain Policy**
- Navigate to Computer Configuration \ Windows Settings \ Security Settings \ Local Policies \ User Rights Assignment
- Edit the Logon as a batch job Property
- Add the **Administrators** group to it
- Perform housekeeping on your emails. For whatever reasons known only to Microsoft, the migration of mailboxes from the Source Server to the Destination Server is an unbelieeeeeevably slow process. A 75GB Exchange 2003 database on your SBS2003 Source Server could literally take <u>12 to 48 hours</u> to transfer to the Destination Server. For this reason it is imperative to do housekeeping on emails wherever possible at some stage before the migration weekend.

Note, however : this must be tempered by the fact that it is exactly at such times that, hurried into housekeeping by their IT department/consultant, that many users often permanently delete absolutely critical / vitally important emails in their rush to do *"some housekeeping"*. Thus, if you feel that the users concerned will never really have the time to do housekeeping in a relaxed and considered manner, <u>do not push for it</u> – <u>it is not worth the risk</u> especially since most emails have a legal implication these days (ie. they are an order, an agreement, a deal, architect drawings, agreeing a way to proceed, a warning, a statement of what will happen next, an invoice, a confirmation of payment, etc...).

- Take an image copy of your server before the next step !!! This is Mega Mega important. A big IT migration is a major success if you do not end up with a half-way mess; this means having the ability to go back to the original system if things do not go to plan despite your best preparations. If on that Sunday night at 3:00 in the morning you realise that the migration simply won't happen before 7:00 and yet your company has to be able to work on Monday morning, then at least all you need to do is put the old server back in place with the image copy you took in this step. We use a product called **Image for DOS** from Terabyte Unlimited for our image copies.
- Configure your source server with 1 network card only, on a Class C subnet (Subnet Mask of 255.255.255.0), and on a private network. While SBS 2003 would support the use of multiple network cards, SBS 2008 and SBS 2011 are designed to be installed with a single network adapter (if it detects multiple NICs then all but one will be disabled).

SBS 2008 and SBS 2011 support only the following **private (non-routeable) IP ranges :**

10.0.0.0	\rightarrow	10.255.255.255
172.16.0.0	\rightarrow	172.31.255.255
192.168.0.0	\rightarrow	192.168.255.255

with a subnet mask of 255.255.255.0 (ie. 254 possible IP addresses)

Given that SBS2003 by default would want two network cards, one for the LAN and one for the Internet, for most SBS2003 installation this means reconfiguring your server, through the Internet Connection Wizard, to use a single network card. Do it through the Internet Connection Wizard !!! And remember to choose a subnet mask of 255.255.255.0 for all the devices on your network. You need to choose the options called *"My server uses a single network connection for both Internet Access and the Local Network"* and *"Allow access to the entire website from the Internet"*.

Configure your Internet router with a **254** address on the same network as your server, e.g. 192.168.1.254 or 192.168.3.254, 10.20.30.254, etc... Test that you can access the Internet.

- **Disable all VPNs**.
- Restart the server.
- Disable the screensaver. From this point on the last thing you want to happen is for the screensaver to come in the way of things, including vital alerts, etc...
- In "Exchange System Manager" ensure that you only have pure email-address recipient policies. If you have "Mailbox Manager" policies, then delete them. If you have policies that are both "Email Address" and "Mailbox Manager" policies, then remove the Mailbox Manager portion of the policy by right-clicking on the policy and choosing "Change Property Pages".
- In "Exchange System Manager" ensure your Recipient Policies are clean and consistent. Check that you do not have historical invalid SMTP addresses, duplicate SMTP addresses, etc....
- Additional Active Directory Checks. In <u>Computer Management</u> make sure that the following folder shares exist : NETLOGON and SYSVOL. Also check that the **File Replication Service** is <u>not</u> in *"Journal Wrap"* – this will show as Event ID 13568, *"The File Replication Service has detected that the replica set is in JRNL_WRAP_ERROR"*.
- Check the Primary group of the account you will use to do the migration. Check that the account you will use to do the migration, typically "Administrator", has as its primary group all of the following groups : Domain Admins, Enterprise Admins, or Schema Admins. Next, and this is critical, make sure that none of those 3 groups are the primary group for "Administrator" (or whichever account you use for the migration) - you perform this check by looking at the properties of the user, homing in on the "Member Of" tab, and highlighting each of the above 3 groups in turn, each time checking whether the <u>Set Primary Group</u> button lights up or not. If the "Set Primary Group" lights up for all 3 groups, then everything is fine as that means none of them are the primary group for "Administrator".

- Download and run the Microsoft IT Environment Health Scanner. Download the Microsoft IT Environment Health Scanner from this web page : http://www.microsoft.com/en-us/download/details.aspx?id=10116. This will check further the configuration of your server and will highlight problems which might affect the migration. For example, if you had to change the configuration of the server from a two-network-cards configuration to a one-network-card configuration, then it is very likely that this health scanner will show up some errors. Resolve all relevant errors. Not all errors are relevant – for example, you may see warnings about your server allowing the Windows Time Service to make corrections to the server's time that are greater than 5 minutes, or that are greater than 172800 seconds, 48-hours; well, since you are migrating away from this server, who cares ??!!. Similarly, you may get a warning of an Event ID 29 in the System Log because the Windows Time Service, W32TIME, was not able to contact your configured time sources – as long as the error did not occur after your last reboot, then you can ignore it; it may have happened at the time when you were reconfiguring your server to operate from one NIC only and where, therefore, it was temporarily unable to access the Internet.
- Make sure the "Administrator" account has a STRONG password. This is mega mega important : your migration may fail simply because a password that is totally acceptable on your SBS 2003 box, is not strong enough for the SBS 2011 installation program. Therefore change your Administrator password to the SBS 2011 "strong password" rules (remember, you can always change it later at the end of the migration).

Here are the rules for STRONG passwords, SBS2011-style :

Passwords cannot contain the user's account name or parts of the user's full name that exceed two consecutive characters.

Passwords must be at least six characters in length.

Passwords must contain characters from three of the following four categories:

- o English uppercase characters (A through Z).
- o English lowercase characters (a through z).
- Base 10 digits (0 through 9).
 Non-alphabetic characters (for example, !, \$, #, %).
- If you have a user account or distribution list called POSTMASTER, rename it ! The SBS 2011 installation procedure tries to create a distribution list called Postmaster – if that account already exists on the Source Server it will cause the migration not to complete.
- Disable Windows Server Update Services (WSUS). If you have WSUS installed on your SBS2003 server, disable it.
- Disable anything that may install software on machines added to the <u>domain !</u> Check your Group Policies in particular the last thing you want is a group policy which automatically installs some software on any computer that is joined to the domain, and find that that install messes up your migration !

Make sure that the standard SBS Organizational Units are present. In Active Directory Users and Computers you should find the MyBusiness Organizational Unit with the following structure :



- Ensure you have Microsoft's .NET Framework 2.0 SP2 installed. That particular framework is required by the SBS2003 to SBS2011 migration tool. Go to this web page, <u>http://www.asoft.be/prod_netver.html</u>, and download the .NET Version Detector tool to verify which versions of .NET are installed on your Source Server. The tool shows you in white all the .NET Frameworks currently installed on your server, and provides green download buttons which link directly to the exact Microsoft Download Center pages for you to download the .NET Frameworks that you require.
- Check that you have Microsoft's Powershell v2 installed. To do this start a DOS Prompt (Command Prompt), type Powershell and press Enter to start Powershell, and at the "PS C:\>" prompt, type \$PSVersionTable and press Enter. This will give you the version of Powershell that your server is currently running. Once done, type Exit to exit out of Powershell :

Administrator: MS-DOS Prompt	the ALL ALL MADE WANTED BALL
C:∖>powershell Windows PowerShell Copyright (C) 2009 Microsoft C	orporation. All rights reserved.
PS C:\> \$psversiontable	
Name	Value
CLRUersion BuildUersion PSUersion WSManStackUersion ScompatibleUersions SerializationUersion PSRemotingProtocolUersion PS C:\> exit C:\>_	2.0.50727.5466 6.1.7601.17514 2.0 2.0 (1.0, 2.0) 1.1.0.1 2.1

Install the Microsoft Baseline Configuration Analyzer 2.0. This product is needed by the SBS2003 to SBS2011 migration. You can download it from this webpage : <u>http://www.microsoft.com/en-us/download/details.aspx?id=16475</u>.

Checking that the "Administrator" account is part of all the right groups. Make sure that Administrator is part of all the following user groups (it should already be but, just in case, let's check it) :

> Domain Admins Enterprise Admins Schema Admins

Do another Windows Update. Even though you picked up all the latest updates at the start of this process, the installation of various Microsoft tools in the pages above results in additional pieces of Microsoft software that need to be update through Windows Update.

Reboot the server to ensure the updates are fully installed.

Microsoft recommend to do the migration using a newly created account rather than the built-in **Administrator** account. Although Microsoft do not explain the reasons behind this recommendation, there are undoubtable benefits to using an account other than built-in *Administrator* account. One of the benefits is that you avoid complications caused by rules or group policies that you set up a long time ago and which specifically apply to the **Administrator** account, such as login scripts, specific restrictions, etc...

Create the new account as follows :

- Right-click on <u>Administrator</u> in Active Directory Users and Computers and choose Copy.
- Call the account **MIGRATOR**.
- Give it a STRONG password., e.g. !Paris789
- Check User cannot change password and Password never expires.
- Uncheck User must change password at next logon.
- Click Next.
- Uncheck <u>Create an Exchange mailbox</u>.
- Click Next.
- Click Finish.

Edit the Properties of your newly created **MIGRATOR** account and verify that it is a member of the following groups (it should be if you followed everything in this document up to now) :

Domain Admins Enterprise Admins Schema Admins

- Document your current DHCP configuration. As part of the migration the DHCP service is transferred from the Source Server to the Destination Server, and is reset to various defaults in the process. This is why you need to document your current DHCP settings so that you can reconfigure the DHCP server on the Destination Server at the end of the migration. <u>Note :</u> this entire document assumes that you have DHCP enabled on your Source Server if that is not the case and you have it enabled on your Internet router instead, then disable it on the router, and set it up on the Source Server.
- Backup the configuration of third-party add-ons to Microsoft Exchange. If you use third-party Exchange add-ons, such as POPBeamer, SmartPOP2Exchange, or Exchange Toolbox, then you need to backup their entire configuration to file, and put that configuration backup file onto a USB flash drive, or a BOX.COM / DropBox cloud account or similar, so that you can restore everything onto the Destination Server later.
- Permanently disable all Exchange add-ons on the Source Server. You have now reached the point where you are ready to start the migration proper. This means you should now permanently disable all Exchange add-ons on the Source Server so that they stop picking up new emails.
- Take an image of the server. We are now ready to start the migration proper. The Source server has been prepared thoroughly, and the next step is an irreversible process, so, in the spirit of what has been said earlier in this document, we need to give ourselves a way back to the old server if the migration fails. In short : we need to take an image of this server before we go on to the next step.

Running the Migration Preparation Tool on the Source Server

The Migration Preparation Tool (from the SBS2011 installation DVD) makes irreversible changes to your SBS 2003 server in order to facilitate the migration to SBS 2011.

Here is what Microsoft explains about this tool :

• It raises the domain and forest functional level of the source domain and forest. When Windows SBS 2003 is installed on a server, the functional level of the AD DS domain and forest is set to Microsoft Windows 2000. To finish the migration successfully, you must raise the level of the domain and forest to Windows Server 2003.

- It runs Adprep.exe, which extends the AD DS schema and updates permissions as necessary to prepare a forest and domain for a domain controller that is running Windows SBS 2011 Standard. The AD DS schema in Windows SBS 2011 Standard is not the same as the AD DS schema in Windows SBS 2003 or in Windows Server 2003. To successfully complete the migration process, you must update the AD DS schema on the Source Server if it is running Windows SBS 2003 or Windows Server 2003.
- It installs an update that extends the time limit for finishing the migration. Normally, only one server running Windows SBS 2011 Standard or Windows SBS 2003 is allowed to be a domain controller on your network, but there is a limited exception for a migration. The update extends the time limit for the exception to 21 days.
- It prepares the server to migrate from Exchange 2003 to Exchange 2010.

With this in mind, let's start the process of running this tool.

Put the SBS 2011 installation DVD into your SBS 2003 server (the Source Server).
If the DVD does not autorun, run Setup.exe on the DVD.
Choose Install the Migration Preparation Tool.
Run the Migration Preparation Tool.

- Choose to download all updates to the Migration Preparation Tool.
- Choose <u>I have a backup and am ready to proceed</u>.
- Proceed.

□ If you performed all the steps in this document prior to running the *Migration Preparation Tool* then there is a 99% likelihood that you will get the screen below once the Tool finishes its work :



Click Next.

☐ The *Migration Preparation Tool* now starts scanning your Source Server for problems. Once again, if you did everything in this document, without exceptions, up to this point, then there is a 99% chance that you will next get the following window :

💏 Windows Small Business Server 2011 Standard Migration Prep	paration Tool	_ 🗆 🗙
Scan the source server for problems		
The Migration Preparation Tool did not detect any problems. To continue, click Next.		
	<u>N</u> ext	Cancel

Click Next.

Click Create an answer file on the screen below :



- You now get the Windows Small Business Server 2011 Standard Answer File Tool screen. Set it up as follows :
 - Choose Migration from existing server (Join existing domain)
 - Uncheck <u>Get installation updates</u>. Since the departure of Bill Gates from Microsoft, Microsoft have a shocking record as regards Windows updates and, in particular, installation updates when you are installing a brand new server. Those updates alone can break everything you have worked so hard for read our blog on Windows 2012 Server Remote Desktop for a raw example of the nightmare you can find yourself in with installation updates.
 - Uncheck <u>Run unattended</u>.
 - Choose Manually set the clock and the time zone for the server
 - Enter your business address
 - Enter MIGRATOR for the Domain administrator account name.
 - Enter the password you created for the MIGRATOR account, e.g. !Paris789.
 - Enter your **Source Server Name**.
 - Enter your Source Server Domain. This has to be the fully qualified domain name (FQDN), e.g. MyCompany.local. In other words this is the FQDN which shows in <u>Active Directory Domains and Trusts</u> in Administrative Tools.
 - Enter the IP address of your Default Gateway this is the IP address of your Internet router.
 - Enter the IP address of your **Source Server.**
 - Check <u>DHCP is running on the Source Server</u>.
 - Enter the **Destination Server name.** Choose this carefully as this is the name that you will be giving to your new server ! <u>It must NOT be</u> the same name as your Source Server !!!!
 - Enter the **Destination Server IP address**, the IP address of your new server this needs to be on the same network as your Source server. For example, if your Source Server has an IP address of 192.168.10.1, then give your Destination Server the IP address 192.168.10.2.

<u>Note :</u> The domain administrator user name and password that you supply in the answer file (the **MIGRATOR** username and its corresponding password) are also set as the **Directory Services Restore Mode (DSRM) user name and password** <u>for the Destination Server</u>. Therefore, do <u>not</u> use the example "!Paris789" password we gave you above as you will not be able to change this DSRM password after the migration – make up your own password, and, crucially, <u>document it !!!</u> To repeat, therefore, if you ever need to log on to the Destination server by using DSRM, you must use the same user name (MIGRATOR) and password that you specified during migration and <u>that password will not change for the entire life of your new SBS2011 Destination Server</u>.

- Save the Migration Answer File keep the default name of **"SBSAnswerFile"**.
 - Check both <u>I reviewed the Migration Guide</u> and <u>My answer file is ready</u> and click **Finish**.

👘 Windows S	Small Business Server 2011 Standard Migration Preparation Tool	<u> </u>
Sourc You suc correspo	e Server prepared successfully cessfully prepared the source server for migration. Complete the following tasks and then select the nding check box.	
	Review the Migration Guide See the most current version of the Migration Guide at http://go.microsoft.com/fwink/?Linkld=188530 . If reviewed the Migration Guide.	
*	Create an answer file For Setup to enter migration mode, you must have an answer file. ☑ My answer file is ready.	
When yo instructio	ou are ready to begin the migration, boot to the Setup DVD on the destination server, and then follow th ns in the wizard.	ne
	Einish Cano	el

Copy the answer file to the root folder of a USB Flash drive, or to the root folder of a CD (the Source Server is **not** where you will need it – you will need it on the Destination Server).

- Restart the Source Server, as directed by the Migration Preparation Tool.
- Disable the **Realtime On-Access component of your** antivirus program on the Source Server.

Phase 1 – Install SBS 2011 in Migration Mode on the Destination Server

First and foremost Microsoft states that you can have only one server on your network that is running Windows Small Business Server, and that server must be the domain controller for the network.

When you install Windows SBS 2011 Standard in migration mode, the following tasks are accomplished (as stated in the Microsoft documentation) :

- Windows SBS 2011 Standard is installed and configured on the Destination Server.
- The Destination Server is joined to the existing domain. The Source Server and the Destination Server can be members of the Active Directory Domain until the migration process is finished. After the migration is finished, you must remove the Source Server from the network within 21 days.
- The operations master (also called flexible single master operations or FSMO) roles are transferred from the Source Server to the Destination Server. Operations master roles in AD DS are specialized domain-controller tasks, which are used when standard data-transfer and update methods are inadequate. When the Destination Server becomes a domain controller, it must hold the operations master roles.
- The Destination Server becomes a global catalog server. The global catalog server is a domain controller that manages a distributed data repository. It contains a searchable, partial representation of every object in every domain in the AD DS forest.
- The Destination Server becomes the site licensing server.
- The DHCP Server service is installed and configured on the Destination Server. Only one DHCP Server service can be active in the Windows SBS 2011 Standard network. The responsibility for managing the DHCP Server service is transferred from the Source Server to the Destination Server.

Let's now start the migration :

- Do a System State backup to hard disk on the Source Server. Just in case !
- Make sure the Destination Server is connected to the same gigabit network hub as the Source Server.
- Turn ON the Destination Server.

- □ If your server has more than 1 network card, then remove all network cards except the on you want to use, or disable the extraneous network cards in the BIOS. <u>Remember</u>: SBS2011 does not like two network cards and the installation will fail if 2 network cards are LIVE in the server during the installation of SB 2011.
- Put the SBS 2011 Installation DVD into the Destination Server and let it start.
- Choose your **Country** and **Regional Preference**.
- Click Next.
- At this point, and this is crucial, insert the Flash Drive onto which you saved the Migration Answer File.
- Now click **Install Now**. The setup will automatically detect the Flash Drive and look for the Migration Answer File in the root of that Flash Drive.
- Accept the Licence Terms.
- Choose Custom (advanced) installation.
- On the next screen choose **Drive options (advanced)** so that you can go and create a **C: drive** to your specifications.
- Choose at least 200GB for your C: drive partition (ie. 80GB more than the Microsoft recommended 120GB). Note : if you have 32GB of RAM in your server, then you must use a size of at least 300GB for your C: drive partition or you will get Event ID 2138 from the SharePoint Health Analyzer indicating that the amount of spare disk space on your C: drive is less than 5 times the amount of RAM.
- Click Next.
- The installation of SBS 2011 starts.
- The next screen you get tells you that you successfully completed the **First Phase** of the installation and asks you whether you are doing a <u>Clean</u> <u>Install</u> or a <u>Server Migration</u>. **Server Migration should already be pre-selected.**
- The next screen will ask you to verify the **Date and Time**, and **Regional Time Zone**.
- Click Next.

- The next screen is the Source and Destination Servers Networking Information screen, already populated with the information from your Migration Answer file. Simply click Next.
- The next screen shows the **Source and Destination Server Information**, again already populated with the information from your Migration Answer file. Simply click **Next.**
- The next screen is the **Get Important Updates** screen.
- Choose **Do not get the most recent installation updates**.

<u>KEEP YOUR NERVE</u> !!!! The wording of this screen strongly suggests that if you do not select installing updates, your installation is likely to fail ! There is nothing further from the truth. If you do select to install updates, given Microsoft's shocking quality checking aberrations in 2013, you are actually likely to break your migration and having to re-start from scratch ! DO NOT, DO NOT select to install the most recent installation updates.

- The next screen is the **Company Information** screen. Change the country to your country (for some reason it always defaults back to *"United States"* even if you set it to something else in the Migration Answer File). The rest of the information should be exactly as you set it in the Migration Answer File. Click **Next.**
- Setup continues. <u>Note</u>: If at some stage it looks like SETUP is not moving, move the installation screen down or sideways and you may find a prompt screen <u>behind</u> it waiting for you to click OK.
- After a number of restarts you eventually get presented with a screen saying "Installation finished – Run the Migration Wizard to continue migration to Windows SBS".
- If there were issues during installation, click **View installation issues** on the Installation finished page.
- Click Start the Migration Wizard.
- At this point the resolution of the screen will likely be 800x600 which will not display much without scrolling either left and right, and down and up. Change the resolution of the screen to 1280x1024.

With nerve-wrecking Phase 1 out of the way, a few precautions before Phase 2

As standard, at this point all your SBS 2003 <u>users</u>, <u>security groups</u>, <u>non-SBS</u> <u>self-created group policies</u>, and <u>distribution lists</u> have already been migrated to your new Destination SBS 2011 Server, and they are usable immediately. However, the migrated users, security groups, and distribution lists are not automatically displayed in the Windows SBS 2011 Standard Console.

Note : by default, the Windows SBS 2011 Standard password policy is configured to require strong passwords. If you removed the enforcement of strong passwords on the Source Server, then you are in luck, the migration will have preserved that removal for you in the group policies on the Destination Server.

Lastly, for security reasons you are not allowed to use the built-in **Administrator** domain account to launch the Migration Wizard. Instead you need to use a domain administrator account other than Administrator to log in. Fortunately we created just such an account, **MIGRATOR**, and at this point in the migration process you should find your Destination Server already logged in with the MIGRATOR account.

Let's continue the Migration - all work here is done on the Destination Server :

- Unplug from the Destination Server the USB flash drive which contained the Migration Answer File.
- Securely delete the Migration Answer File. Remember : that file contains the username and password that are now forever the Directory Services Restore Mode (DSRM) username and password for your new SBS 2011 server you do not want that file to fall into the wrong hands !
- Using the documentation from your old Source Server, or through the Console of your old Source Server, make a note of the various drive partitions you need to create. All the while, leave open on the screen the various windows open that were left open after the Migration setup.
- On the Destination Server recreate the various partitions that you used to have on the Source Server and which you may want to retain. This will ease the migration of data.
- Check the drivers for the **Destination Server's** network card. They are likely to be the Microsoft default drivers for that network card and probably date from 2011 or, often, much earlier. Download and install the latest drivers for your network card this is crucial as it could make a major difference on how long the transfer of settings, data, and emails, takes between the Source Server and this Destination Server.

- Do **NOT** disable IPv6 in the properties of the network card. As per Microsoft's own blog, doing this will cause you grief !!!
- In <u>Computer Management</u> \ <u>Network Card</u> \ <u>Power Management</u> tab, uncheck "Allow the computer to turn off this device to save power".
- Disable Automatic Updates. SBS2011 installs with a Group Policy for the server which enables automatic updates. At this stage you need to disable it. Open Group Policy Management and edit the <u>Update Services Server</u> Computers Policy group policy. In Computer Configuration \ Policies \ Administrative Templates \ Windows Components \ Windows Update, change the Configure Automatic Updates setting to 5 Allow local admin to choose setting. Then, open a DOS prompt, and type gpupdate /force to force an immediate update of this group policy. Next, go to the <u>Windows Updates</u> icon in the Control Panel and change Windows Updates to "Check for Updates but let me choose whether to download and install them".

Set up your server exactly the way you want it – if at any stage the server needs rebooting, reboot it <u>but</u> make sure, while you are doing your various configurations, that you leave the <u>Windows Small Business Server 2011</u> <u>Console</u> open, even if minimized. It does not matter how many times you reboot – you will not be interrupting anything in the background – configure everything under the **MIGRATOR** account and the **Administrator** account if you ever intend to use it :

- Make your Life easier by installing Classic Shell for Win7/Win8.
- Install the motherboard drivers.
- Install any other drivers you need to install (e.g. more up-to-date drivers for any RAID controllers you have installed inside the server; or more up-to-date tape drive drivers).
- Install your favourite Internet browsers (if you do not use IE) and configure them.
- Install Adobe Reader (in case you need to read a PDF to troubleshoot problems at a later stage) and Adobe Flash and Shockwave.
- Install your favourite image viewing programs.
- Install any other utilities you like to have on your servers (e.g. text editors, programming editors, etc..).
- Install your favourite office program (e.g. LibreOffice, OpenOffice, Kingsoft Office, or Microsoft Office if you have a copy licensed for your server).
- Install FileSearchEX as the file search facility in SBS2011 (a flavour of Win2008) is woeful !
- Do **<u>not</u>** install antivirus at this stage.

Note : because you are not installing your server antivirus just yet, make sure you do <u>not</u> browse the Internet – therefore have all the software you need to install, ready and downloaded from another PC that is protected by antivirus software.

Once you have configured your server the way you want, it is time to go back to continuing the migration. Switch to the *Small Business Server 2011 Console* which you had left minimized, and you should now be at a screen called **Getting Started Tasks.**

- Click Using the Windows Small Business Server 2011 [Standard/Premium] Console. You will see that it brings up Help pages which you can read at a later stage.
- Click <u>Migrate to Windows SBS</u>.

Phase 2 – The Manual Migration of your mailboxes, data, and thirdparty software

Configure some Settings

There are four sets of settings that you need to change, in the order listed on the screen :

- Change where to store the data on the Destination Server
- Configure the network
- Configure the Internet address
- Migrate network settings

Migrating your Exchange 2003 mailboxes to Exchange 2010

This is the most important task to complete after the configuration of the above settings.

Π Choose a location for your Exchange mailbox databases. By default SBS2011 will install its main Exchange database under the Exchange installation folder on your server's C: drive. This is the last place where you want your Exchange database(s) stored. All you need is for your Exchange databases to grow and grow, your C: drive to become full as a result, and your server to then crash with serious corruption ! No ! Instead, create a partition on your server's hard disk that will be dedicated to your Exchange mailbox databases. If you have more than 10 users, for added performance you may want to dedicate an entire hard drive to your Exchange mailbox databases. Note also : Exchange 2010 uses 60% more space for mail storage than Exchange 2003, so if your SBS2003 mailbox storage used 75GB, count on at least 120GB being used in SBS2011.

Splitting your users across multiple Exchange mailbox databases. Open the Exchange 2010 Management Console (EMC). and home in on Organization Configuration \ Mailbox \ Database Management, as in the screenshot below.



While in SBS2003 you are restricted to **1 Exchange Mailboxes database** and to 75GB for the size of that one database, in Exchange 2010 you can have up to **5 mailbox databases** with **no limit on the size of each mailbox database**.

The most important feature here is not so much the lack of limit on the size of your mailbox database(s), but the fact that you can split your users across multiple databases is key. The reason is that with most Exchange backup software programs, if you need to restore emails from backup, the backup software needs to restore the entire Exchange database before being able to restore individual emails from the mailboxes inside it. In the case of large Exchange database this can result in a restore taking up to 6 hours or so when restoring from the type of standard entry-level tape backup seen in Small Business environments. Even when restoring from NAS storage, the time it takes to restore can be significant. Therefore, the smaller the database to restore, the faster your email restore job will be. It is also the same rationale, for example, for overnight database compaction runs you may want to perform. This is where splitting your users across mailbox databases is the thing to do. As you can see in the above screenshot, we recommend creating 3 mailboxes databases for any company with more than 5 employees :

Mailboxes_A-H	For users whose name starts with letters A to H
Mailboxes_I-P	For users whose name starts with letters I to P
Mailboxes_Q-Z	For users whose name starts with letters A to H

Do not forget to create these databases, <u>and their log files</u>, in the partition you have dedicated for your Exchange mailboxes.

Move the Public Folder Database to your dedicated Exchange partition. By default SBS2011 installs the Public Folder database in a subfolder of the Microsoft Exchange 2010 installation directory on the C: drive. This is not a good place to leave it at, especially if you are an organisation which makes heavy use of Public Folders. Since, earlier in this migration, you created a partition dedicated to the Exchange databases, then you should move your Public Folders to that same Exchange partition. To do that, stay in the same section of the Exchange Management Console and right-click on Public Folders and choose Move database path... The rest is self-explanatory.

Move the default Mailbox database to your dedicated Exchange partition. As with Public Folders, the default Mailbox database (usually called "Mailbox Database <date-migration-was-started>") also gets created in a subdirectory of the Microsoft Exchange 2010 installation folder on the C: drive. As with Public Folders, right-click on it and choose Move database path... and move it to the Exchange partition.

Enable Circular Logging

Whenever a message is transferred in Exchange, whether internal or external (Internet email), a log of that message transfer is output to the Exchange logs for that database. Typically you would have made sure that the logs for each mailbox database are stored in the same folder as the database – it makes for easier referencing. Exchange 2010 log files are 1Mb in size (there is no setting to change the size) and are deleted only after a successful **full backup** of your Exchange databases. Thus, even if you have daily backups of your Exchange system you can end up with thousands of these files on a daily basis, all deleted by your overnight full Exchange backup. The point of these files is to aid the recovery of a corrupted Exchange database in the case of a server crash or disk corruption, etc..., where you want to recover your Exchange database exactly as it was at the point of the crash rather than revert it to the previous day or week's backup.

When **Circular Logging** is enabled, instead of continually creating new log files, Exchange 2010 limits the number of log files to between 20 and 30 and deletes the oldest log files as a new one needs to be created. This prevents the creation of hundreds or thousands of files, but the downside is that you have no means of fully recovering your Exchange database in the case of a disaster where you do not have an Exchange backup.

That said, **Circular Logging really comes into its own during an Exchange 2003 to Exchange 2010 migration.** The reason is that almost every message transferred between your source server and the destination server results in a log file. Thus, depending on the size of your Exchange 2003 database you can end up with **tens if not hundreds of thousands** of 1Mb logfiles in each of your Exchange 2010 database folders during this migration ! This is not only pointless but, also, the creation of those tens or hundreds of thousands of log files increases the migration time by 40% or more. The migration of Exchange is a long enough process without unnecessarily lengthening it further ! Enable Circular Logging on all the databases, including Public Folders – you can always disable it after the completed migration once your Destination Server is LIVE.

ailboxes_A-H Pr	operties				×
General Mainten	ance Limits C	lient Settinas İ			
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	apient:				
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Enable circu	ular logging				
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Enable circular logging

5

ОК

Cancel

Apply

Help

Set Public Folders Replication to "Always Run" and to 1 minute. The reason for this is straightforward – Public Folders are moved between Exchange 2003 and Exchange 2010 by first being replicated to Exchange 2010, and then they are deleted from Exchange 2003. The last thing you want is for the Replication to be set to Midnight or 1:00 in the morning as it normally is – you want immediate replication the moment you start the process :



Increase the mailbox size limits. SBS2011 installs with a default mailbox size limit of 2GB. In most cases this will break your mailbox migration exercise as the transfer from the Source Server to the Destination Server of any mailbox whose size is over 2GB, will fail ! Right-click on each of the mailbox databases you created above and ensure that they all have mailbox limits that will not cause the migration of your mailboxes to fail. In the screenshot below you will see that we have set that limit to 20GB for Mailboxes_AH :

Mailboxes_A-H Properties	×
General Maintenance Limits Client Settings	
Storage limits Issue waming at (MB): Prohibit send at (MB): Prohibit send and receive at (MB): Waming message interval:	18000 20000 20000
Run daily at 01:00	Customize
Deletion settings	
Keep deleted items for (days):	30
Keep deleted mailboxes for (days):	60
Don't permanently delete items until the database has been to be a second delete it	vacked up.
OK Cancel Apply	Help

While you are setting up limits you may also want to increase the retention settings for deleted emails and mailboxes (30 and 60 days), as shown in the screenshot above.

Increase the Public Folder Size limits. Repeat the exercise above for your Public Folders. Your **Public Folders** will typically be called something like *Public Folder Database <number>*, exactly as shown below :

Microsoft Exchange	🖶 Mailbox	
Microsoft Exchange On-Premises Microsoft Exchange On-Premises Microsoft Exchange On Premises Microsoft E	Retention Policy Tags Database Management	 Database
 Unified Messaging Server Configuration Recipient Configuration Toolbox 	Name A Mailbox Database 2013081820 Mailboxes_A-H Mailboxes_I-P Mailboxes_Q-Z Public Folder Database 1516488902	Mounted Mounted Mounted Mounted Mounted

Π

If your company was a heavy user of **Public Folders** on your SBS2003 Source Server, then ensure that the limit on the SBS2011 Destination Server is at least **120GB**:

Public Folder Database 1516488902 Properties	×
General Replication Limits Public Folder Referral	
Storage limits Issue warning at (MB): Image: Prohibit post at (MB): Image: Maximum item size (MB):	120000 120000 20
Warning message interval:	Customize
Peletion settings Keep deleted items for (days): I Don't permanently delete items until the database has been b	30 Jacked up.
Age limits	
Age limit for all folders in this public folder database (days):	60
OK Cancel Apply	Help

Disable anti-spam straight away. One of the main differences between SBS2003 and SBS2011 is that Exchange 2010 (SBS2011) has more advanced anti-spam features and they are **turned ON by default**., <u>and they will</u> **prevent most of your incoming emails from getting through !** Disable them straight away – you can configure them later, if at all. In EMC go to **Organization Configuration \ Hub Transport \ Anti-Spam tab :**



Π Migrate your Public Folders (this may be a VERY VERY LONG process). If your company makes heavy use of Public Folders, then be warned that this will be a long process. It can take up to 4 days for a Public Folders database that is only 25GB large. Larger Public Folder databases can take up to 1 week to migrate !!! If there is one thing that can really hold up a migration it is the migration of Public Folders. This is why most migrations which involve a large Public Folders database tend to happen over two weekends, with users using, without knowing it, a combination of the two servers (Source and Destination) in the week(s) between the two start and end weekends. With this in mind do not start the migration of your Public Folders if the servers will need to be turned off and moved back into their "normal place" on the Monday morning so that the users can do their work. Instead, turn off your servers, put them in the right physical place where they should be, turn them back ON, and only then start the migration of your Public Folders - your users can continue using the server while the Public Folders are being migrated in the background.

There are 3 ways of migrating the Public Folders :

- The Quick Way. If the permissions to your Public Folders are extremely simple (e.g. everyone has access to them with only a handful of folders having special permissions) and users almost never link to them (they just access them directly), then you could login to the Source Server with a user account which has full access to all the Public Folders, then export all the Public Folders to PST, and then import them onto the Destination Server (again using a user who has full access to the Public Folders) at the end of the migration when the two servers have been separated and the Destination Server is operating on its own. This is the quickest way to migrate Public Folders as the export of a 25GB Public Folders database will take you a maximum of 3 hours, and the import at the end of the migration will take around 4 hours. If you use Outlook 2003 or Outlook 2007 to do the export make sure you implement the registry fix to allow Outlook PST to use size of 20GB (http://support.microsoft.com/kb/832925) and split your export if your Public Folder database is larger than 20GB. If you are using Outlook 2010 then you are alright to do your Public Folders export in one pass as Outlook 2010 can handle PST sizes up to 50GB, but you still need to implement the MaxLargeFileSize registry setting in the aforementioned Microsoft Knowledgebase article.
- Long Way #1. If you do not want to have to recreate either complex or unknown Public Folders permissions, then the only way to migrate them to Exchange 2010 on your SBS2011 server is to do it the long way. One way to do it is from the Destination Server. To do this open the Microsoft Exchange 2010 \ Exchange Management Shell which opens a PowerShell window. In that window type CD "\Program Files\Microsoft\Exchange Server\V14\scripts" to position yourself in the right folder, then type

.\MoveAllReplicas.ps1 -Server <Source-server> -NewServer <Destination-server>

For example, if your old server is called **SBS2003-SERVER** and your new server is called **SBS2011-SERVER**, then the command should read :

.\MoveAllReplicas.ps1 -Server SBS2003-SERVER -NewServer SBS2011-SERVER

The command prompt comes back to you after about 5 minutes. Thereafter the migration of the Public Folders continues in the background

Long Way #2. On the Source Server open Exchange System <u>Manager</u> and drill down to your Administrative Groups, and, in particular, your First Administrative Group \ First Storage Group and no other item (the other items point to the Destination Server). <u>Note</u>: if you get an error drilling down to the required place, then check that all the Exchange Services that are set to start automatically are actually running, and if one or two are not, then start them manually.



Right-click on your **Public Folder Store** and choose <u>Move all</u> <u>Replicas</u>. You should get the following dialogue box which shows the Public Folder database that has been set up on your <u>Destination</u> <u>Server</u>, complete with that specific number at the end of the name :



The next prompt you will get will be this informational prompt below – click **OK** :



With either Long Way #1 or Long Way #2, once you start the process, the moving of the Public Folders to your **Destination Server** may take a very long time, from 4 days for a 25GB Public Folder database to 1 week for larger Public Folder databases. That said, you can speed up the process by opening the Properties sheet of any Public Folder and changing the replication to URGENT.





<u>Note</u>: If you have lots of Public Folders and subfolders, then you need a bulk method of setting the replication. For this use the **PFDAVadmin** tool using the method excellently outlined in Austin Tovey's blog here : http://austintovey.blogspot.co.uk/2011/11/changing-public-folder-replication.html.

You will know that all your Public Folders have migrated if, when you click on <u>Public Folder Instances</u>, as shown below, you find that the **right-pane** of Exchange System Manager is <u>completely empty</u>:



Migrate your Offline Address Book. On the Destination Server open EMC (Exchange Management Console) and drill down to Organization Configuration \ Mailbox. Then, in the right pane, choose the <u>Offline Address Book</u> tab. Right-click on the <u>Default Offline Address Book list</u> and choose Move. Make sure to choose the Destination Server in the dialogue which comes up, and then click Move. Click Finish.

Your Offline Address Book should now show as being associated with the Destination Server.

Right-click on it again and choose **Properties.** Then click the **Distribution** tab. Next, check **Enable Web-based Distribution** and add your **Destination Server** in the list of servers.

Migrate your user mailboxes (this is a VERY VERY LONG process). Click on Mailbox under <u>Recipient Configuration</u>, as shown below :



You will see a list of all the mailboxes marked as Legacy in the <u>Recipient</u> <u>Type Details</u> column. These mailboxes are currently all still on your Source Server and you will need to move them all to your Exchange 2010 <u>Destination Server</u>. To do this, do as follows :

- Highlight a number of legacy mailboxes. If you are short on time because your servers need to go back online to enable users to use them at the same time that you complete the migration, then highlight no more than 5 legacy mailboxes at a time.
- Right-click on the highlighted legacy mailboxes and choose <u>New Local</u> <u>Move Request</u>.
- Choose the appropriate destination mailbox database for that user's mailbox (e.g. Mailbox_Q-Z for "Quentin Tarantino"!).
- You will then get a screen asking you if you want the mailbox to be skipped if corrupted messages are found – choose to skip a maximum of 20 corrupted messages and to then skip the mailbox if more than 20 corrupted messages are found in the mailbox. Reason : you may be performing this migration with known hardware problems with the Source server, so a few corrupted messages might be expected. If you have more than 20 corrupted messages, however, then there are serious issues with the Source Server which you should attempt to fix as otherwise the migration is unlikely to ever complete. This is why we mentioned at the beginning of this migration that it is a very good idea to upgrade the Source Server before migration !
- Complete the move request. <u>Note</u>: if your move request fails, immediately check that all the Exchange services on the <u>Source</u> <u>Server</u> which are set to start automatically, are actually started; start any service which has not started.
- Next, click on Move Request in the <u>Recipient Configuration</u> section to monitor the progress of your move requests for the selected legacy mailboxes. The process of moving the mailboxes is excruciatingly slow. A 75GB Exchange database may take from 10 to 36 hours to move to your new server using this migration process. <u>Note :</u> EMC (the Exchange Management Console) does not auto-refresh the display, so, to see the progress of your move requests, you need to close it and re-open it to get an updated display ! Bonkers!

• Once move requests show as completed, simply right-click on them and choose **Clear Completed Move Request.**

Once all the legacy mailboxes have been migrated, your new server is no longer dependent on Exchange on the Source Server – everything to do with Exchange is now managed entirely from the **Destination Server**.

- **Test internal emails.** Login to the domain with an end-user PC and test that that user can see his/her emails. If the end-user PC has Outlook 2007 or Outlook 2010, it will automatically detects the change of configuration (ie. the change of Exchange server) and should automatically point to the Destination Server. Test sending internal emails.
- Install third-party Exchange Add-ons. If you use Exchange add-on programs such as SmartPOP2Exchange or Exchange Toolbox, you will need to install them now to replicate the setup you used to have on the Source Server.
- Permanently disable the Exchange add-ons you just installed. This is key and the reason is this : everything they do most probably points to the **Source Server** rather than the Destination Server. If you do not disable the add-on you have just installed, once you restore the configuration of the add-on from the configuration backup file you took earlier on in the migration, the add-on will attempt to deliver your emails to the old Source Server, the Source Server will in all likelihood accept the emails, but will then be unable to deliver them to the mailboxes because they will by now have been migrated to the Destination Server. **Result : irretrievably lost emails !**
- Restore the configuration of your Exchange add-ons. Restore from the configuration backups you took earlier in the migration, the configuration of your Exchange add-ons.
- Edit your Exchange add-ons' settings to point to the Destination Server. Edit all the settings of your Exchange add-ons which point to the Source Server and change them to the IP address, or NetBIOS name, of the Destination Server.
- Send test emails from the Exchange add-ons. Before fully enabling the Exchange add-ons, send test emails (if that feature exists), from within the add-on, to some of the users on your network. Resolve any problems that remain.
- Fully enable your Exchange add-ons and test. Fully enable your Exchange add-ons and test incoming Internet emails to make sure everything is working exactly as expected. If you blocked port 25 (SMTP) at the start of the migration (Page 5), then you need re-enable it here before doing your tests.
- Migrate the backed up emails. Last but not least, some Exchange add-ons, such as SmartPOP2Exchange and Exchange Toolbox, have a feature where all incoming Internet emails can be automatically backed up to a specific log directory. If that feature was turned ON on your Source Server, then make sure you copy over to the Destination the "Backed up emails log folder" and that you turn the feature ON on the Destination Server.

Remove the INTERNET connector from the Source Server. If you followed all the steps in this guide, then you will find that Phase 1 of the Migration automatically mirrored on the Destination Server an Internet Connector for the outgoing and incoming flow of Internet emails. As a result your Destination Server is instantly ready to send and receive Internet emails.

However, for as long as an Internet connector is still configured on the Source Server, then both the Source and Destination Servers are responsible for sending Internet emails.

Open the Exchange System Manager on the **Source Server** and drill down to your <u>Connectors</u> section, as shown below :



As you can see in the above screenshot, Phase 1 of the Migration automatically creates a connector to link your Source and Destination Servers – the connector is called <u>AC-UK-SERVER-ACUK-SERVER</u> in the above example, <u>Source-Server-Destination-Server</u>.

You can also see that the Internet Connector on your Source Server is still alive and well : **SmallBusiness SMTP connector.**

Document all the properties of that **SmallBusiness SMTP connector**, take screenshots of every tab, and every option button on every tab, and then switch over to the **Destination Server** and check that the <u>identically named</u> connector has exactly the same properties. <u>It should have already</u>.

Microsoft Exchange	Hub Transport	
Microsoft Exchange On-Premises	🖶 Hub Transport 2 obj	ects
Aailbox	Remote Domains Accepted Domains E-mail Address Policies Transport R	Rules
Hub Transport	Create Filter	spani (
 Server Configuration Mailbox Circt Access 	Name A Status	_
	Windows SBS Internet Send ACUK-SERVER Enabled	
Scripter Configuration And Mailbox		
Bistribution Group		
B Disconnected Mailbox		

Once you are satisfied that Phase 1 of the migration <u>did indeed correctly copy</u> the Internet connector from the Source Server to the Destination Server, <u>delete</u> <u>"SmallBusiness SMTP connector" on the Source Server first !!!!!</u>. Follow this to the letter – if you do <u>not</u>, you will NOT be able to delete it on the **Destination Server**, as the identically named connector on the Destination Server is purely a link to the same connector on the Source Server.

Next, delete **"SmallBusiness SMTP connector"** on the **Destination Server** so that all you are left with is the <u>default SBS2011 connector</u> called **"Windows SBS Internet Send <your-Destination-Server-Name>"**.



- Configure the SBS2011 Internet Send Connector on the Destination Server. As mentioned earlier in this guide, in Phase 1 the Migration automatically creates a default SBS 2011 Internet Send connector <u>so that</u> users are immediately able to send Internet emails. This will work for a while, but if you had a specific configuration in SBS 2003 to get around specific problems such as blacklisting, etc..., then you need to replicate that specific configuration to avoid those very problems inevitably coming back to haunt you. Edit the Send Connector shown in the picture above and replicate the settings you documented before deleting the SBS2003 connector earlier. Occasionally, the SBS2011 migration does not actually create an Internet send connection − if this happens to you, then simply create it yourself by right-clicking, choosing New Send Connector, choosing Internet for the intended use of the connector, SMTP + * + Include all subdomains, and then indicating whether you want emails sent via DNS or a smarthost.
- Test sending and receiving Internet emails. As you know by now, Testing is Everything, so test sending and receiving Internet emails to make sure everything is working as expected now that the Source Server is no longer involved in the transfer of Internet emails.
- Transfer over your POP3 connector settings. If you used the POP3 connector in SBS2003, document all its settings, and the users that you had set up under the POP3 connector, and then replicate all of this on the **Destination Server**. Once done, **delete** the POP3 connector on the Source Server, and then test that your POP3 connector is working well on the Destination Server.
- Click <u>Task Completed</u> in the Migration Wizard of the *Windows SBS Console* for the Migrate Exchange Mailboxes and Settings section.

Migrating your data

The process of migrating the data (your files) is relatively simple : in effect it is the process of copying the files from the Source Server to the Destination Server and then re-pointing all mappings to the Destination Server, as follows :

- Recreate on the Destination Server the same shares that you have on the Source Server.
- Set up the appropriate Security Permissions on your shares. Give those Destination Server shares the same <u>Security Permissions</u> and <u>Sharing Permissions</u> that were set on the Source Server.
- Move files one mapped drive at a time. Do not Cut and Paste between the Source Server and the Destination Server. Instead, simply Copy – in this way the Source Server still has the original files should something go wrong during the file copy.
- Re-point mapped drives. Once a mapped drive has been copied in its entirety to the Destination Server, modify the appropriate group policies so that the mapped drive now points to the Destination Server rather than the Source Server. Remember: in SBS2003, drive mapping needs to be done through the "NET USE" command in a batch file; in SBS2011 (Windows 2008 Server), drive mappings are done much more easily through a direct setting in group policies User Configuration \ Preferences \ Windows Settings \ Drive Maps.
- Ensure you have copied all data and all shares. Next, on the Source Server, go into Computer Management \ Shared Folders \ Shares and make sure you have replicated all the shares that should be replicated on the Destination Server, and copied the data accordingly (Note : these shares should only be the ones you created during the life of your SBS2003 server, not the ones that automatically created by SBS2003). For example : in Active Directory, on the Profile Tab \ Home Folder section for some users, you may have home folders set up for some users that you now need to copy over to the new server and replicate in their setup.
- Disable offline caching on all the shares you created. A truly irritating feature of SBS2011 (and, therefore, Windows 2008 Server), is that all shares are created with *"offline caching enabled"*.

Here is Microsoft's description of this feature : "The caching feature of Shared Folders ensures that users have access to shared files even when they are working offline without access to the network. When you create a shared folder, offline availability is enabled by default, which means that secure folders can be stored offline on potentially non secure computers. For increased security, do not allow users to store files offline." Well done Microsoft !!!! Enable a feature <u>by default</u> but hide in the Help that, really, you should not be using it. Unreal !

Open **Computer Management \ System Tools \ Shared Folders \ Shares** on the Destination Server, and for every share that you replicated earlier, edit the properties of the share, click <u>Offline Settings</u> on the **General** tab, and choose **No files or programs from the shared folder are available offline.** ■ Enable Access-based Enumeration. Access-based Enumeration is the feature whereby if a user does not have any permission to access specific folders, then those folders are totally invisible to them – they do not even realise that they exist ! For example, a folder called "Notes on the intended sacking of John Doe" would benefit greatly from Access-based Enumeration so that only the managers and directors who have access to it know that it is there !

Open Administrative Tools \ Share and Storage Management and then, for each share that you created, open its Properties, click <u>Advanced</u> on the Sharing tab, and enable <u>Access-based Enumeration</u>, as shown below :

Julian_Private_Files\$ Properties	×
Advanced	×
User Limits Caching	
You can limit the number of users that can access the share at the same time. This can be useful for managing the server load.	
User limit:	
• Maximum allowed	
C Allow this number of users:	
Access-based enumeration filters shared folders visible to a user based on the individual user's access rights, preventing the display of folders or other shared resources that the user does not have rights to access.	
Enable access-based enumeration	
	-
OK Cancel Apply	

Check your legacy Group Policies and the new SBS2011 Group Policies

One of the major differences between Windows 2003 Server and Windows 2008 Server, the two operating systems which underpin SBS2003 and SBS2011 respectively, is that almost everything that needed the writing of a DOS batch file script in Windows 2003 Server, can be done **more reliably** through a Group Policy setting in Windows 2008 Server.

In this phase, you need to examine all your legacy login/logout scripts, and group policies to see if you should replace them with more modern ways of doing things now that you are on an SBS 2011 Server.

Remove SBS LOGIN SCRIPT.bat from all user profiles. In SBS 2003, user profiles used to have, as default, the logon script SBS_LOGIN_SCRIPT.bat set on the Profile tab of ADUC (Active Directory Users and Computers), as per the screenshot below :

Christopher Ward Properti	es		? ×
Dial-in Environr	nent Sessio	ns Rem	ote control
General Address Accourt	Profile Persona t Profile Telephor	il Virtual Desktop nes Í Ornanization	COM+
User profile Profile path: Logon script: SBS_	LOGIN_SCRIPT.bat		
Home folder • Local path:			
C Connect:	▼ To:		
ок	Cancel	Apply	Help

Clear the **Logon Script** field (ie. make it blank) and save the changes. Do that for all users !

Delete all the SBS legacy Group Policies. The following group policies are policies that were installed by SBS 2003. Unless you modified them, in which case you should make a note of the settings you changed (so you can replicate them on your Destination Server), they are no longer used by SBS 2011 and should be deleted.

Delete all the following Group Policies from the <u>Destination Server</u> (contrary to Microsoft's recommendations which recommend doing this from the Source Server) :

- Small Business Server Auditing Policy
- Small Business Server Client Computer
- Small Business Server Domain Password Policy (in SBS2011, password policies are now in the Default Domain Policy)
- Small Business Server Internet Connection Firewall
- Small Business Server Lockout Policy
- Small Business Server Remote Assistance Policy
- Small Business Server Windows Firewall
- Small Business Server Windows Vista Policy
- Update Services Client Computers Policy
- Update Services Common Settings Policy
- Update Services Server Computers Policy

To delete a Group Policy, do as follows :

- Open Group Policy Management from Administrative Tools
- Drill down to Group Policy Objects
- Right-click on the group policy you want to delete
- Choose Delete



- Immediately register the group policies changes. Open a DOS window and type GPUPDATE /FORCE to force the server to register the group policies deletions straight away.
- Disable Windows Updates completely. Now that you have just deleted the "Update Services Server Computers Policy" group policy, you can finally completely disable Windows Updates in the Control Panel by choosing the setting which until this point had not been available : Never check for updates.
- Delete legacy WMI Filters. Staying on the Destination Server (as opposed to the Source Server as recommended by Microsoft), delete the legacy WMI Filters as follows :
 - Open Group Policy Management from Administrative Tools
 - Drill down to WMI Filters
 - Right-click on PostSP2 and delete it
 - Right-click on PreSP2 and delete it
- Wherever possible, get rid of DOS scripts and replace them with Group Policy settings. As explained earlier, almost all DOS scripting that was required in SBS2003 can now be done through Group Policy settings. Go ahead and convert all your DOS scripts, when possible, to group policy settings.

- Unshare your printers from the Source Server and re-share them from the <u>Destination Server</u>. This is self-explanatory. In SBS2003 you probably shared your printers via DOS scripting. Whether you did or not, you now need to unshare them, and then re-share them to the new server.
- Click <u>Task Completed</u> in the Migration Wizard of the *Windows SBS Console* for the **Remove legacy group policies and logon settings** section.
- Click <u>Task Completed</u> in the Migration Wizard of the *Windows SBS Console* for the Migrate Users' Shared Data section. You completed this step earlier in this migration.

Migrate the Internal Website

If you have an Internal Website, then follow the link shown on the **Migration Wizard** to get instructions on how to move it, otherwise click **Skip Task** on the Migration Wizard and then click **Next**.

Migrate Fax Data

If you are one of the few sites which still use **Fax** in 2013 and beyond, then click on the appropriate links in the **Migration Wizard**, otherwise click **Skip Task** and then **Next**.

Migrate Users and Groups (make them available in the SBS Console)

All Windows SBS 2003 users, security groups, and distribution lists are actually migrated during Phase 1 of the migration, and can be managed straight away through **Active Directory Users and Computers**, as we have already done in this guide.

However, the migrated users, security groups, and distribution lists are not automatically displayed in the **Windows SBS 2011 Standard Console** so as to enable less technical users to manage them through the Console.

Let's be clear about this : contrary to what you may read on the web, you can run SBS2011 without ever using the Windows SBS Console to manage your users. In fact that is the way we at AnswersThatWork always run it unless we manage a site where one of the client's employees needs to do some amount of user management themselves (rather than us at all times), in which case we then make the users available in the Console. One other minor advantage of using the SBS Console is when creating a new user – it will create the new user for you together with that user's Exchange mailbox, exactly as used to happen in Active Directory in SBS 2003, and you will be able to allow/prevent this user for Remote Access and Outlook Web Access directly from the Console. If you do not use the Console, on the other hand, you have to create the user in Active Directory, and then create the mailbox for that user in the Exchange Management Console.

Π

Note : If in SBS2003 you never used to manage your users and groups through *Server Manager* and did it instead through *Active Directory Users and Computers*, and if, above all, you created a special Organizational Unit for your users in SBS2003, then you will need to continue doing most of the management of your users through *Active Directory Users and Computers* in SBS2011.

Follow the procedures below to make users and groups manageable from the *Windows SBS 2011 Standard Console*.

- Migrate your User Groups and Distribution Lists to the Console. The following applies only if in SBS2003 you used the standard MyBusiness Organizational Unit provided for this purpose, otherwise skip to the next step. In Windows Explorer drill down to the following folder, "C:\Program Files\Windows Small Business Server\Bin" and find the GroupConverter.exe program. Run that program.
- ☐ Create one or more User Roles. You will not be able to import your users into the SBS Console until you have created a User Role for them. On installation SBS 2011 creates three standard user roles : <u>Standard User</u>, <u>Network Administrator</u>, and <u>Standard User with administration links</u>. You do not have to use those roles. In fact, it is actually better if you create roles which reflect the user groups which you used to have in SBS 2003. We will not go through all the details of how to create a role because if you have been using this checklist/guide, then you have the knowledge to know what to do. To create a User Role, click on **Users and Groups** in the Toolbar at the top of the Console screen, and then click on the **User Roles** tab.

Import Users into the User Roles you created. Once you have created your user roles, import your users as follows :

- Go to the **Users** tab.
- Choose **Change a User Role** in the right pane.
- Select one of the User Roles you created
- Select Add user permissions or settings.
- Click Next.
- On the next screen, check Display all user account in Active Directory
- The users defined in Active Directory Users and Computers will now display so that you can select them
- Add all the users you want in this User Role
- Click Change User Role
- Click Finish.
- At the end of this process your users will now show in the Console

You can manage these users interchangeably through Active Directory Users and Computers, or through the SBS Console.

Click <u>Task Completed</u> in the Migration Wizard of the *Windows SBS Console* for the Migrate Users and Groups section.

Finish the Migration

Click <u>Finish the Migration</u> in the Migration Wizard of the *Windows SBS Console* for the Finish the Migration section.

Phase 3 – Removing the Source Server (the OLD server)

We are now ready to go through the process of removing the old server. This is quite a lengthy phase. Most importantly, even though we are now on the home straight, it is still important to complete all the tasks in this phase or you will otherwise be left with latent problems which will surface at some stage later in the life of your new server and which may prevent you joining other servers to your domain, or upgrading your new server to newer operating systems in the future.

Check one last time that only the Destination Server is responsible for Exchange. On the Source Server open Exchange System Manager and dismount both your <u>Mailbox Store</u> and <u>Public Folder Store</u>. Then, check that users can still access their mailboxes, send and receive emails, and access the Public Folders, and that the Public Folders are all there, and that you can create new entries in your Public Folders.

Check all of this thoroughly - you will not get another chance !!!

It is even worth running your old Source Server with <u>dismounted</u> databases for 2 or 3 days to make absolutely sure that everything is working fine and all users are happy.

Delete the MAILBOX and PUBLIC FOLDERS stores on the Source <u>Server</u>. This is crunch time. On the <u>Source Server</u> start <u>ADSI Edit</u> by typing "adsiedit.msc" in a DOS box. We have to use "ADSI Edit" rather than <u>Exchange</u> System Manager because paranoid security in Exchange 2003 means that you cannot delete the Public Folders even though you have moved all the replicas to the new server.



Drill down to the First Storage Group as shown in the screenshot below :

Locate the **Public Folder Store** below the First Storage Group and make absolutely sure that you are looking at the old (Source) server, AC-UK-SERVER in the example above.

Open *Exchange System Manager* and you should see that both your <u>Public</u> <u>Folder Store</u> and <u>Mailbox Store</u> are gone forever !!!



While in *Exchange System Manager* right-click the **First Storage Group** and choose <u>Delete !!!!!!!!!!</u>

Exchange System Manager should now look like this, <u>with no Storage Group</u> <u>under the First Administrative Group</u>:



- Reboot the Source Server. Do NOT, do NOT, do NOT reboot the Source Server while users are in Outlook as they will get disconnected from Outlook. Reason : even though by this stage the Source Server no longer has responsibility for Exchange and all emails are managed by the Destination Server, Outlook still depends on Active Directory and, therefore, your Active Directory domain controllers. "Fine", you might say, but it is not quite so. At this juncture, until it gets demoted, the Source Server is still the primary domain controller, and the Destination Server, the primary domain controller, Active Directory stops working and your Outlook users get disconnected from their mailboxes !! Once the server has rebooted you will see an Event Viewer error about the Microsoft Exchange Information Store service having terminated this is normal as we just deleted the First Storage Group.
 - **Delete the Routing Group Connector that connects the two servers.** Open *Exchange System Manager* on the **Source Server** and drill down to the Routing Group Connector (called **AC-UK-SERVER-ACUK-SERVER** in the screenshot below) and delete it (right-click and choose <u>Delete</u>) :



Delete or Reconfigure Mailbox Manager Policies. Whilst still on the Source Server, and in *Exchange System Manager*, drill down to Recipient Policies, as shown below :

Exchange)	Recipient Policies	
🖻 🛄 Global Settings	Name	Driority
Internet Message Formats	Nonie Culie de une CDC Ferenii Addue en Delieur	- Phoney
	Windows 565 Email Address Policy	1
	APDefault Policy	Lowest
🖻 📴 Recipients		
🕀 🛅 Details Templates		
🕀 泣 Address Templates		
🕀 🔛 All Address Lists		
😟 🔟 All Global Address Lists		
🕀 泣 Offline Address Lists		
🕀 🛅 Recipient Update Services		
Recipient Policies		

Right-click on each policy shown in the right pane and choose **Change Property Pages.** You will get the screen box below :

New Policy				
Property pages:				
E-Mail Addresses				
🔲 🗖 Mailbox Manager Settin	igs			
		OK		Cancel
		UK.	I	Cancer

If a Recipient Policy is solely a <u>Mailbox Manager Settings</u> policy, then cancel the box above, right-click on that policy, and delete it.

If a Recipient Policy has both <u>E-Mail Addresses</u> and <u>Mailbox Manager</u> <u>Settings</u> selected, then **deselect** *"Mailbox Manager Settings"* and click **OK**.

If a Recipient Policy only has <u>E-Mail Addresses</u> selected, as per the above screenshot, then click **Cancel** to leave it alone.

Move the Public Folders Hierarchy (you must complete this step). In *Exchange System Manager* on the Source Server, right-click on the <u>Exchange 2010</u> Administrative Group and choose New Public Folders Container. This creates a container called Folders in the Exchange 2010 Administrative Group. Next, drag <u>Public Folders</u> from the same container in the Exchange 2003 Administrative Group, to the Exchange 2010 similarly named folder. See below :



You should end up with the result below :



Delete the Domain Recipient Update Services. On the Source Server, in Exchange System Manager drill down to the <u>Recipient Update Services</u> as shown in the screenshot below :

(Exchange)	Recipient Update Services			
E Global Settings	Name	Domain	Domain Controller	
Details Templates	Recipient Update Service (local	ac-uk-server.	
🗄 🧰 Address Templates	Recipient Update Service (Enterprise	local	ac-uk-server.	
🗄 🔛 All Address Lists				
All Global Address Lists				
Offline Address Lists				
Recipient Update Services Recipient Policies				

As you can see, those recipient update services all point to the **Source Server**, the server to be decommissioned.

Right-click on each *Recipient Update Service,* except for the **Enterprise** service, and choose **Delete**.

To delete the **Enterprise Recipient Update Service** start *ADSI Edit* (type **adsiedit.msc** in a DOS box) as you cannot delete it through *Exchange System Manager.*

Drill down to the key shown below - Recipient Update Services :



In the right pane, right click on the **Enterprise Recipient Update Service** and delete it.

Open Administrative Tools \ Services on the Destination Server and make sure that the Network Access Protection Agent service has a startup type of <u>Automatic</u> and that it is started.

Sort the Services in order of <u>Startup Type</u> and make sure that all the services with a startup type of **Automatic** or **Automatic** (**Delayed Start**) have actually started, with the exception of the *Microsoft .NET Framework* services. If any service has failed to start, modify their properties and either change the startup type to *Automatic* (*Delayed Start*) or set the **Restart service after** setting to **1 minute** on the <u>Recovery</u> tab of that service.

- On the **Destination Server** make sure that **IPv6** has not been accidentally disabled on your server's **sole** active network card.
- On the **Destination Server** open the **Event Viewer** and resolve all the errors and warnings in the <u>System</u> and <u>Application</u> event logs, in particular those which relate to configuration issues on your Destination Server.
- Reboot both your **Destination Server** and **Source Server**.
- Make sure that all the services that should have started automatically or (automatically delayed start) on the **Destination Server**, have actually started. If they have not then start them manually.
- Install Windows Updates on the Destination Server. Whilst we have avoided installing Windows Updates all the way up to this point, we now need to do a few rounds of Windows Updates on the **Destination Server** in order to ensure that the removal of the old server, the Source Server, goes as smoothly as possible.

<u>Note 1</u>: at the time of writing of this checklist, there are at least 170 updates on the first run, at least 12 on the second run, a Service Pack 1, endless reboots and count on the process taking **at least 8 hours on a Quad-Core** (4 x 3.7GHz server) !!!!!

Note 2 : do **not** try to install Service Pack 2 or 3 for Exchange 2010 as they will not install at this stage because of the references to the SBS2003 Server. Only do Windows Updates.

Note 3: also do **not** install any of the following updates as they have the potential to "kill" your Exchange system if anything goes wrong, again because of the remaining internal references to the Source SBS2003 server. It is better to leave them out, finish the migration, take an image of your new server, and then attempt installing them :

- Update Rollup 4 for Windows Small Business Server 2011
- Update Rollup 7 v2 for Exchange 2010 Service Pack 1
- Update Rollup 8 for Exchange 2010 Service Pack 1

<u>Note 4 :</u> Even if you are one of the millions who "hate" Internet Explorer, do install Internet Explorer 9, and then IE10 – updating Internet Explorer **definitely lessens** the potential problems with completing the migration. Do not under any circumstance install IE 11 – it breaks so many things, it would take an entire page to list all the programs that IE11 breaks or adversely affects.

Note 5 : With some builds of the SBS2011 DVD, the IE9 Windows Update is **not** unattended. As a result you can find yourself going away for a few hours thinking you will come back to a completed Windows Update, only to come back and find the Windows Update only half way through and a prompt asking you if you *really* want to install Internet Explorer 9! Very annoying !

- Take image copies of both the Destination Server and Source Server. Things can go wrong in the next step (uninstalling Exchange from the Source Server, and demoting the Source Server as a domain controller) with the worst problem being that you cannot boot your Destination Server !!!!!!!! It has happened to us, so take this warning seriously. In short, make sure you have a way back !
- Boot up both your **Destination Server** and **Source Server**.
- Make sure that all the services that should have started automatically or (automatically delayed start) on the **Destination Server**, have actually started. If they have not then start them manually.
- Point the DNS on the Destination Server to itself ! This is extremely extremely important as, otherwise, you may end up not being able to boot your Destination Server once the Source Server has been removed ! You must change all of the following settings :
 - Modify the TCP/IP settings on the network card so that the server points to itself for DNS (do not use a loopback address, eg., 127.0.0.1 – use the actual IP address of your new Destination Server).
 - Modify the DNS forwarders appropriately.
- Point DNS on the Source Server, to the Destination Server. You now need to make sure that your Source Server points to the Destination Server for its DNS.

In the first instance, this means modifying the DNS server on the network card of the Source Server to point to your <u>Destination Server</u>.

In the second instance, this also means changing the **DNS Forwarders** on the DNS Server of the **Source Server** to point to the <u>Destination Server</u> rather than to external DNS servers. The screenshots below guide you through the process.

🚊 dnsmgmt - [DNS	\AC-UK-SERVER]
🚊 Eile Action Vi	ew <u>W</u> indow <u>H</u> elp
$\leftarrow \rightarrow \mid \fbox{\blacksquare} \mid$	× 🗃 🖻 😫 😫 💷 🛢 🗐 📦
A DNS	AC-UK-SERVER
E AC-UK-SERVE	Configure a DNS Server
	Create Default Application Directory Partitions
	New Zone
	Set Aging/Scavenging for All Zones
	Scavenge Stale Resource Records
	Update Server Data Files
	Laursh adealaur
	All Tas <u>k</u> s
	<u>V</u> iew
	New Window from Here
	Delete
	Re <u>f</u> resh
	Export List
	Properties
	Help



Remove the Exchange Bridge Connector between the Destination Server and the Source Server. Open the *Exchange System Manager* on the Source Server and home in onto the **Exchange 2010** Administrative Group. Once there, delete the bridge connector as shown in the screenshot below :



Delete all shared printers from the Source Server. This is self-explanatory.

□ Login at least once on each client computer. Most organizations who run SBS tend to have one PC per user, with few users, if any, sharing PCs. If that is the setup in your organization, then login on each PC as the user of that PC to enable the Group Policy changes to be updated on the client PCs. <u>Note</u>: this is not an essential step, but it does save time further down the line.

- Uninstall Exchange from the Source Server. You must uninstall Exchange Server 2003 from the Source Server before you demote it. This removes all references in Active Directory to Exchange Server on the Source Server. To do this you will need your Windows Small Business Server 2003 installation media to remove Exchange Server 2003.
 - Go to Add/Remove Programs in the Control Panel of the Source Server.
 - Select Windows Small Business Server 2003.
 - Keep clicking **Next** until the <u>Components Selection</u> screen shows. Keep your nerve, even when you get the screen telling you that the next "installation" phase will take up to 30 minutes ! (it doesn't!) :

🍀 Microsoft Windows Small Business Server Setup	×
Component Selection You can modify which components to install to fit your business need	ds.
Components: 1) Highlight Exc 2) Bring down the	hange Server
Action Component Name - Server Tools - Intrapet	ove Required 5 MB 50 MB
Administration Client Deployment	2 MB 3 MB 2 MB
None (Installed) Reinstall Remove	5 MB 3 MB
Path:	Change <u>P</u> ath
	Disk Information
More Information	Current Version: 6.5
	gack. <u>N</u> ext > Cancel

 As shown above, expand Exchange Server and then choose Remove.:

You car	modify which components to install to fit your business needs.		
omponents	:		
Action	Component Name	Drive	Required
V	 Server Tools 		5 MB
V	Intranet		50 MB
V	Monitoring		10 MB
V	Networking		2 MB
1	Administration		3 MB
V	+ Client Deployment		2 MB
Remove	✓ Exchange Server	C:	6 MB
~	 Fax Services 		3 MB
ath:	C:\Program Files\Exchsrvr	Change	e <u>P</u> ath
rive C:	0 MB Requested 68344 MB Available	Disk Information	
<u>M</u> ore Info	imation	Cu	irrent Version: 6.5

- Click Next.
- You will now get a screen confirming that you are about to remove **Exchange Server.** Click **Next.**
- When prompted for CD #2 of your Windows Small Business Server 2003 CD set, put it in and follow the on-screen instructions. The uninstallation process can take up to 20 – 30 minutes, so have patience.
- If you had never set up the Fax services on your old Source server, then the next screen will be a Warning screen telling you that "Permissions could not be properly configured for the Fax Operators security group. Run Setup again and choose to reinstall the Administration component". You can ignore this warning and click Next.
- Click Finish.

Demote the Source Server. You are now ready to completely remove the Source Server from the network. Before you do this, you must first demote it. To do this, open a DOS prompt and type DCPROMO. The screenshots from thereon are straightforward :

Active Directory Installation	Wizard	X
	Welcome to the Active Directory Installation Wizard This computer is already an Active Directory domain controller. You can use this wizard to remove Active Directory services on this domain controller. If you remove Active Directory, this computer will become a standalone or domain member server.	
S	To continue, click Next.	
	< <u>B</u> ack <u>Next</u> > Cancel	
Active Directory Installation Wizard This domain controller is a Global (This domain controller is a Global (This domain controller is a Global (computer, Computer,	Catalog server. Global Catalogs are used to process user logons. You should make cessible to users of this domain before removing Active Directory from this	

On the screen below, <u>do NOT</u>, <u>do NOT</u> select *"This is the last domain controller in the domain"*. **Click NEXT.**

Active Directory Installation Wizard					
Remov Ind	ve Active Directory dicate whether this is the last domain controller in the	domain.	2		
Removing Active Directory converts this domain controller to a member server. Or, if this is the last domain controller in the domain, it will become a standalone server.					
This server is the last domain controller in the domain					
	After you remove Active Directory from the last domain controller in the domain, the domain no longer exists, which means that: Computers that belong to this domain cannot log onto the domain or access any				
	domain services.				
	All user accounts in this domain will be deleted.				
	be exported before continuing.				
	All encrypted data, such as EFS-encrypted files o before continuing or it will be permanently inacce	or e-mail, should be decrypted sssible.			
— Leave do <u>not</u>	e this checkbox empty. Do <u>not.</u> <u>t check it !!!!!!!!</u> < <u>B</u> ack	k <u>N</u> ext > Cancel			

On the next screen, enter what will become the new **local Administrator password** for the **Source Server** once its demotion is complete. **Click Next.**

Active Directory Installation Wizard					
Administrator Password Specify an Administrator password.	Se la companya de la				
Type the password to be assigned to the server Administrator account.					
New Administrator <u>P</u> assword:	•••••				
Confirm password:	•••••				
	< <u>B</u> ack <u>N</u> ext > Cancel				

On the screen below, **dcpromo** confirms that your Source Server will be demoted, and, after demotion, will become a member server of your domain. **Click Next.**

Active Directory Inst	allation Wizard			X
Summary Review and cor	ifirm the options you selecte	d.		A
You chose to:				
Remove Active	Directory from this computer		_	A
When the proce	ss is complete, this server w	vill be a member o	of the domain	
			_	
				v
To change an o	ption, click Back. To begin t	the operation, cli	ck Next.	
		< <u>B</u> ack	<u>N</u> ext >	Cancel

After you click **Next** it make taken up to another 20 minutes for the [Source] server to be demoted.

If you performed all the steps in this document, then you should not get the error below (*"Failed to configure the service NETLOGON as requested"*). However, if you do get it then **stop the NETLOGON service** on the **Source Server** and try **dcpromo** again.

Active	e Directory Installation Wizard
	The operation failed because:
•	Failed to configure the service NETLOGON as requested
	"The wait operation timed out."

On completion, you get the screen below :

Active Directory Installation Wizard		
	Completing the Active Directory Installation Wizard	
	To close this wizard, click Finish.	
	< <u>B</u> ack. Finish Canc	el

- Reboot the now demoted Source Server.
- Stop the demoted Source Server from being a Member Server. To do that simply make the Source Server a member of a workgroup <u>before</u> you disconnect from the network. Keep the Source Server for a week or two in case some necessary data was not migrated.

- Remove all references to the old Source Server from the Destination Server. On the Destination Server check all of the following places for references to the Source Server that you should delete :
 - DNS Manager console. Check both the <u>Forward Lookup</u> and <u>Reverse Lookup</u> zones.
 - Active Directory Users and Computers console. Expand MyBusiness \ Computers \ SBSComputers and delete the Source Server from there.
 - RDP Servers. If you have a Remote Desktop / Terminal Services server, then make sure its DNS points to the Destination Server and not the demoted Source Server.
 - Active Directory Sites and Services console. Expand Sites \ Default-First-Site-Name \ Servers and delete your old server. Be very very careful as to which server you are deleting !!!



- Give the "Administrators" group the right to logon as a batch job. On the Destination Server open Group Policy Management and edit the Default Domain Controllers Policy. Drill down to Computer Configuration \ Policies \ Windows Settings \ Security Settings \ Local Policies \ User Right Assignment and then edit the Log on as a batch job setting and add the "Administrators" group to it.
- Install an antivirus program on your Destination server. During all this time we purposefully did not install an antivirus program in order not to complicate the migration unnecessarily. However, now that your Destination server is LIVE and handling the whole World on its own, it is time to install a server-grade antivirus program.
- **Carefully configure your server-grade antivirus program.** You should never assume that a server-grade antivirus program will automatically configure itself onto your server in the most optimized manner. Far from it. Use this Microsoft document, <u>https://support.microsoft.com/kb/822158</u>, to configure the exclusions you should set up in the realtime component of your antivirus program.

- Configure your antivirus program for Exchange 2010. If you configured your SBS2011 server in the manner suggested in the early part of this document, then the first thing you must do is tell your antivirus program to exclude the partition you dedicated to the Exchange 2010 mailboxes and Public Folders. Even if you should do no other configuration this in itself will go a very long way towards ensuring that your antivirus program does not interfere with Exchange 2010. You will find here, http://technet.microsoft.com/en-us/library/bb332342.aspx, a more detailed Microsoft document on how to configure your server antivirus program with Exchange 2010.
- Install the remaining Windows Updates. First install this update on its own and reboot the server :
 - Update Rollup 4 for Windows Small Business Server 2011

Next, install this update and reboot your server even though the update does not insist on your server being rebooted :

- Update Rollup 7 v2 for Exchange 2010 Service Pack 1

Next, install **Exchange 2010 Service Pack 2**. This update will not come through Windows Updates, you will have to manually download it from the Microsoft Download Center. Whilst we recommend you run your new SBS2011 server for a few months before entertaining install Service Pack 3 for Exchange 2010 (and take an image of your server before you install SP3 – SP3 has proved "deadly" !!), we do recommend on the other hand that you install Service Pack 2 **straight away**. The reason for this is that it corrects a major bug in Exchange 2010 SP1. Exchange 2010 SP1 does not correctly handle "Send As" and "Full Access" permissions that are applied to a user's mailbox so that that mailbox can be accessed by other users :



In Exchange 2010 SP1, if you give *"Send As"* or *"Full Access"* permissions to an individual, it will work at all times. If, however, you use a **user group** rather than individual users, it will **not** work most of the time. **Exchange 2010 Service Pack 2** resolves this bug, although you still have to ensure the you modify the security tab of all your user groups to give **Read** rights to <u>Exchange Servers</u> (Exchange Enterprise Servers have "Read" rights by default, but not simple Exchange Servers). You can verify which version of Exchange 2010 you have installed and your Service Pack and Update Rollup levels at this excellent Microsoft page : <u>http://social.technet.microsoft.com/wiki/contents/articles/240.exchange-server-and-update-rollups-build-numbers.aspx</u>

Next, install :

- Update Rollup 8 for Exchange 2010 Service Pack 2 (KB2903903)
- Enable Function Discovery. Open the Services window in Administrative Tools and set the following two services to start <u>automatically</u> and then start them.
 - Function Discovery Provider Host
 - Function Discovery Resource Publication
 - <u>Close out by running the Windows SBS2011 Best Practices Analyzer</u>. You can download it from the following link <u>http://www.microsoft.com/en-us/download/details.aspx?id=15556</u>

Bravo – You're Done – You're Migrated !!!!!