Migration Roles In Windows Server 2012 R2

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Windows Server comes with a number of migration tools that allow you to move roles from one server to another. This video will look at what is involved and perform a demonstration of how to move DHCP from one Windows Server to another Windows Server.

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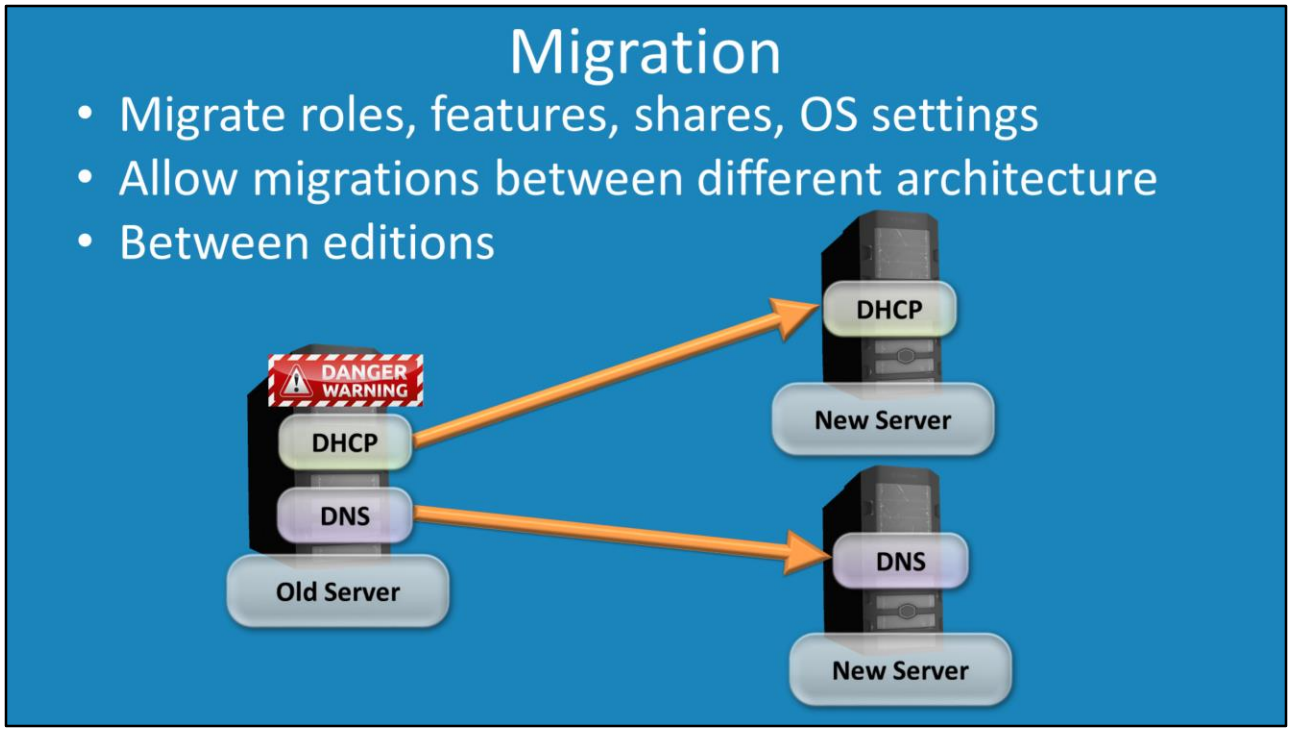

Migration is the process of moving settings and data between different systems. When you perform an upgrade, you are not able to choose which parts of the server you want to use on the new operating system. You must upgrade the whole server which includes any software on the server. It is not uncommon for problems to start occurring in Windows systems. Often reinstalling the operating system will fix these problems giving the administrator a fresh start. There are also a number of results that migrations can achieve that are not possible with upgrades, these include.
Upgrade only the one feature or split roles between different servers.
Allow migrations between architecture where an upgrade is not possible. For example, between 32bit and 64bit.
Upgrades also can be used in cases where a down grade would need to be performed. Microsoft does not support downgrades so the only choice that you have would be to perform a migration.

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Demonstration

- To enabled in PowerShell run
  - Add-PSSnapin Microsoft.Windows.ServerManager.Migration
- To create a software package to install on the source system
  - ./SmigDeploy.exe /Package /Architecture x86 /OS WS03 /Path c:\MigraitonTools
- Architecture options
  - X86 or AMD64
- OS options
  - Windows Server 2012 = WS12
  - Windows Server 2008 R2 = WS08R2
  - Windows Server 2008 = WS08
  - Windows Server 2003 = WS03

Demonstration

In the demonstration, DHCP will be migrated for a server running Windows Server 2003 to Windows Server 2012 R2, however the procedures are much the same regardless of which operating systems you are using. Some migrations work differently than others, so it a good idea to see if Microsoft has published a guide on the steps required. For more details on Migrations see http://technet.microsoft.com/en-us/library/jj134039.aspx

First of all, the feature "Windows Server Migration Tools" needs to be installed. This should be installed on the server that you are planning to migrate to. This can be done by running Server Manager and from the add role wizard select "Windows Server Migration Tools" from the select features screen.

From Server Manager, select the tools menu and then select the option "Windows Server Migration Tools" and the option under this "Windows Server Migration Tools". The option appears twice as it is possible to install additional tools under Windows Server Migration Tools.

Windows Powershell will open. The only difference between this and a normal PowerShell Window is that the command "Add-PSSnapin Microsoft.Windows.ServerManager.Migration" will be run automatically.

Change to the directory c:\Windows\System32\ServerMigrationTools using the command "cd .\ServerMigrationTools".

The software for the migration needs to install on the other Server that you are performing the migration on. To do this, run the command "./SmigDeploy.exe

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/Package /Architecture x86 /OS WS03" In this case 32bit has been used but AMD64 could be used. For OS WS03 has been used for Windows Server 2003. Other valid options are WS08 (Windows Server 2008), WS08R2 (Windows Server 2008 R2) and WS12 (Windows Server 2012).
Once the previous command has run and created the install files, this can be copied to a USB key.

Demonstration on Windows Server 2003
In this demonstration the settings for DHCP will be exported from a Server running Windows Server 2003 to be imported on a server running Windows Server 2012 R2.
On Windows Server 2003, to have a look at the settings already configured in DHCP, open DHCP from Administrative Tools under the start menu. On this particular server, a scope has been configured already with options in it.
Before starting the export, you should stop the DHCP service.
To ensure the settings are exported correctly, the latest migration tools should be installed on Windows Server 2003. To do this, the package created earlier and saved on the USB key should be used. The install is performed by running the file SmigDeploy.
When running SmigDeploy, this will install the required files on the system and also open a copy of PowerShell. If you want to open PowerShell manually to perform migrations, you can do this by going to the start menu->Administrative Tools->Windows Server Migration Tools->Windows Server Migration Tools.
The short cut in the start menu runs one additional command in PowerShell for the administrator. This is "Add-PSSnapin Microsoft.Windows.ServerManager.Migration" This command can be run manually by the administrator to get the same PowerShell functionality as running the shortcut "Windows Server Migration Tools".
If you want to see what roles are installed on the server run the command "Get-SmigServerFeature". This command will give you the ID for the role or feature that may be required by other commands.
To export the DHCP settings run the command "Export-SmigServerSetting –FeatureID DHCP -Path c:\temp\store -Verbose" making changes to the path as required. Once run the command may ask for a password.
Once the data is exported, you next need to copy this to a location that is accessible to the other server. For example a network share or a USB key that can be taken to that server.

Windows Server 2012 R2 Import Demonstration
Before you import settings for another role, it first needs to be installed. In this case the DHCP server role needs to be installed before the settings can be imported.
To install the DHCP role, open server manager and select "Add Roles and Features" under the manage menu. From the wizard, select the defaults making sure the role "DHCP Server" is ticked.

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Once the role is installed, there is some configuration that needs to be completed before the settings from the other server can be imported. To do this, on the last screen of the wizard select the option “Complete DHCP configuration”.
The DHCP post configuration wizard will only ask the one question. That is, for a username and password who can authorize the server in Active Directory. This will need to be a Domain Administrator.
Once DHCP has been installed and configured, the DHCP admin tool can be run by selecting DHCP under the tools menu in Server Manager.
To import the DHCP settings exported for the Windows Server 2003 server, open Windows Server Migration tools under the Tools\Windows Server Migration Tools in Server manager.
Before DHCP server settings can be imported the DHCP service needs to be stopped. This can be done with the command “Net Step “DHCP Server””
To import the DHCP settings use the command “Import-SmigServerSettings –FeatureID DHCP –Path c:\store\store”. The command will prompt you for the password used when the settings were exported. In the output of the command, you may have under the Success column the result of false. This means the command did not run. In this case, you may need to run the command adding –Force making the command “Import-SmigServerSettings –FeatureID DHCP –Path c:\store\store -Force”
Once the import has finished. The DHCP service can be started by using the command “Net Start “DHCP Server””

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References
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