Technical documentation:

SPECOPS DEPLOY / OS 4.6 DOCUMENTATION

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1 Getting Started

This section will walk administrators through the setup of Specops Deploy / OS and help them deploy their first Operating System.

It is possible to install all of the components of Specops Deploy / OS on a single server, if a larger testing environment is unavailable or not needed. This server may be physical or virtual and must to be a member of an Active Directory Domain. For testing, a client system will be required which may also be physical or virtual and capable of PXE Booting.

1.1 Specops Deploy / OS Supported Configurations

Operating System	Image Server	Deployment Server
Windows Server 2003 Standard, Enterprise or Datacenter Edition	✗	✗
Windows Server 2003 R2 Standard or Enterprise Edition	✗	✓
32-bit editions of Windows Server 2008 Standard, Enterprise, or Datacenter Edition (SP1 or SP2)	✓	✓
64-bit editions of Windows Server 2008 Standard, Enterprise, or Datacenter Edition (SP1 or SP2)	✓	✓
64-bit editions of Windows Server 2008 R2 Standard, Enterprise, or Datacenter Edition	✓	✓
64-bit editions of Windows Server 2008 R2 SP1 Standard, Enterprise, or Datacenter Edition	✓	✓

✓ Supported ✗ Unsupported

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1.2 Specops Deploy and Active Directory

NOTE: Although Specops Deploy / OS integrate into Active Directory, *it does not edit or extend the Active Directory Schema*.

- The Forest functional level must be Windows Server 2003 or later to create the required AD attributes and objects. If running a Forest functional level of Windows Server 2003 it's possible to run the ADPrep.exe command with both the /forestprep and /domainprep from the support directory of the Server 2003 R2 or later source media to upgrade to "Server 2003" or later.

- Active Directory administrative rights are required to modify and apply Group Policy.

- A user account is required to join computers to the domain and authenticate clients with the Deployment Server during installation. When computers are Pre-staged using the Specops Deploy / OS admin tools, the correct permissions are set when the computer object is created, but to perform a reinstallation of an already existing computer.

2 Understanding Specops Deploy / OS

Specops Deploy / OS is a fully automated, Group Policy based solution that enables organizations to deploy Operating Systems to new computers (bare metal) and existing computers (reinstall or upgrades). Specops Deploy / OS is designed to leverage existing technologies such as Active Directory, Group Policy, Microsoft Deployment Toolkit (MDT) 2010 and Windows Deployment Server (WDS) in an automated way.

Specops Deploy / OS consists of two core infrastructure components that will be described in great detail throughout this documentation.

2.1 Specops Deploy / OS Image Server

The Image Server (IS) is a core component of the entire Specops Deploy / OS ecosystem. It is built on top of core dependencies such as MDT 2010 and Windows Automated Installation Kit (WAIK) and contains the master copy of everything needed to deploy and install Operating Systems.

2.2 Specops Deploy / OS Deployment Server

The Deployment Server (DS) is the actual deployment point from where all computers are installed. WDS is automatically installed and configured during the Deployment Server setup and is responsible for downloading files required to install Operating Systems.

The Deployment Server has a replica of all published files on the Image Server which allows for changes to be made on the image server without interrupting deployment already in progress throughout the environment. Multiple deployment servers can be deployed throughout an organization depending on customer requirements.

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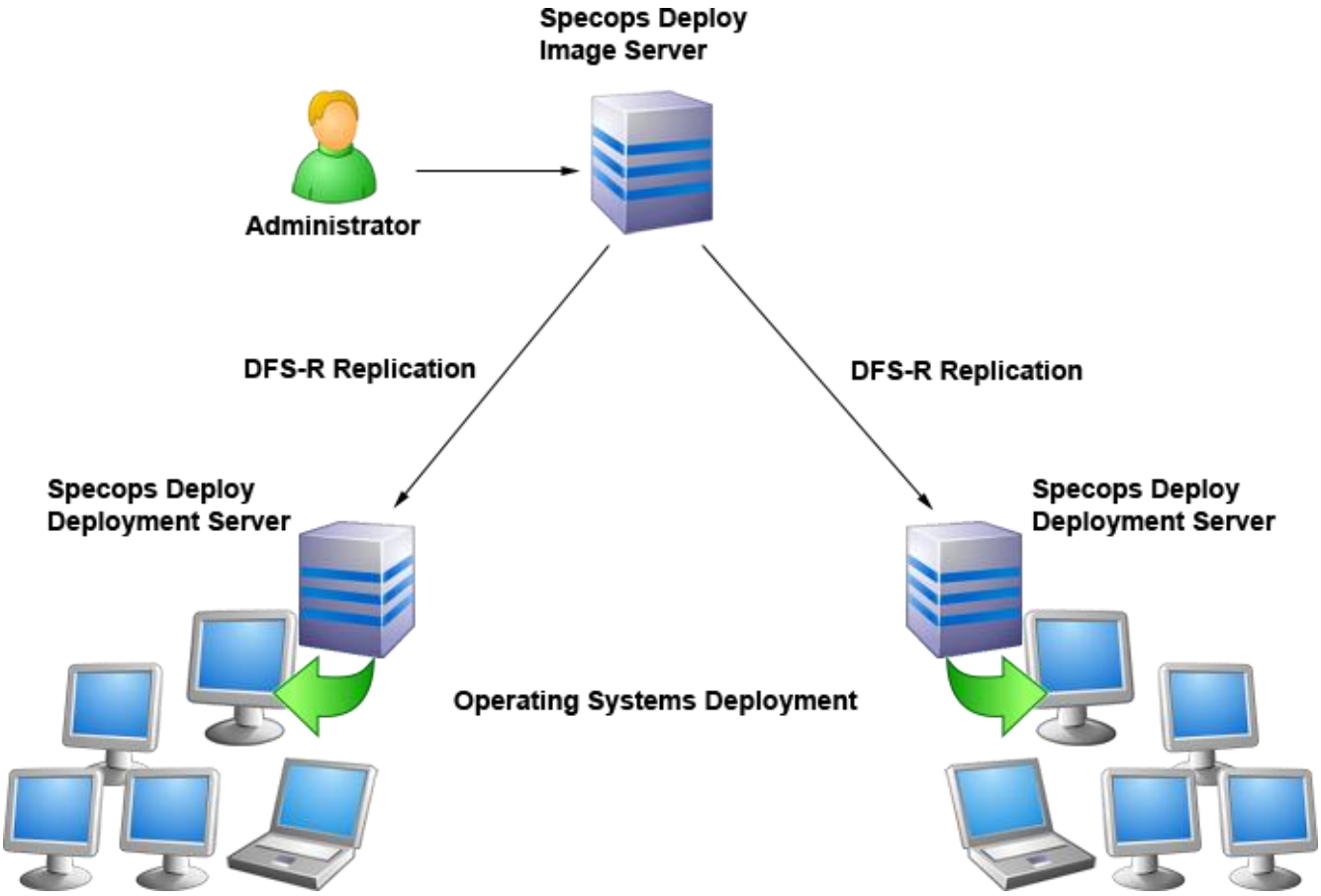

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3 Specops Deploy Prerequisite Components

3.1 Windows Server Operating System

The Specops Deploy / OS Image Server requires Windows Server 2008 or Windows Server 2008 R2 be installed to host the Specops Deploy / OS Image Server components. The Specops Deploy / OS Deployment Server must be Windows 2003 R2, Windows 2008 or Windows 2008 R2. The image server and deployment server can be located on the same server instance.

Any server being used in Specops Deploy / OS can be either a physical or a virtual server.

3.2 Microsoft .Net Framework 3.5 SP1

The Specops Deploy / OS Setup Assistant require that Microsoft .Net Framework 3.5 SP1 is installed on the server where the Setup Assistant is started.

3.3 Microsoft .Net Framework 4.0

Specops Log viewer requires that Microsoft .Net Framework 4.0 is installed on the server where Specops Deploy / OS logfiles will be viewed.

3.4 Windows PowerShell 2.0

Specops Deploy / OS require Windows PowerShell 2.0 to be installed. Windows Server 2008 R2 includes Windows PowerShell 2.0.

3.5 Microsoft Deployment Toolkit 2010 Update 1

Specops Deploy / OS relies on the Microsoft Deployment Toolkit 2010 Update 1 (MDT 2010)

3.6 Windows Automated Installation Kit 3.0

The Windows Automated Installation Kit (WAIK) for Windows 7 helps you to install, customize, and deploy the Microsoft Windows 7 operating systems and is a core component of Specops Deploy / OS.

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4 How to Install and Configure Specops Deploy / OS

Specops Deploy / OS ships as one self-extracting binary file. When extracted, it launches a program called the Specops Setup Assistant. This Setup Assistant will help an administrator install the Specops Deploy / OS components in an Active Directory environment.

The Setup Assistant should be run for the first time on the computer intended to be used for the Specops Deploy / OS image server. The Setup Assistant guides the administrator through the steps that need to be completed in order to setup and configure Specops Deploy / OS.

- **Image Server installation** – This will install the Specops Deploy / OS Image Server Service software on the local computer. There can only be one Image Server per AD domain. The Image Server component must be installed on Windows Server 2008 or on Windows Server 2008 R2.

- **Administration Tools installation** – Installs the Specops Deploy / OS Administrative Tools. This can be installed on the image server or any server or workstation used to administer Specops Deploy / OS.

- **Deployment Server installation** (on a single computer) – Once the Administration Tools have been installed, a Specops Deploy / OS Deployment Server can be installed via the Administration Tools on a local or remote computer. The Image Server can also be a Deployment Server.

4.1 Specops Deploy / OS Image Server Installation

1. Select the “Start Installation” link once the Specops Setup Assistant has been launched.

2. On the Specops Deploy / OS installation screen select “Image Server Setup”

3. Verify that the Operating System, Windows Automated Installation Kit, Microsoft Deployment Toolkit and PowerShell Prerequisites Pass.

4. On the “Select Active Directory Scope for OS Deployments” button and select the OU where permissions should be granted for Specops Deploy / OS. These permissions may also be granted at the root of Active Directory if required. This specifies where Specops Deploy / OS will have permissions to manage status during installation of Operating Systems.

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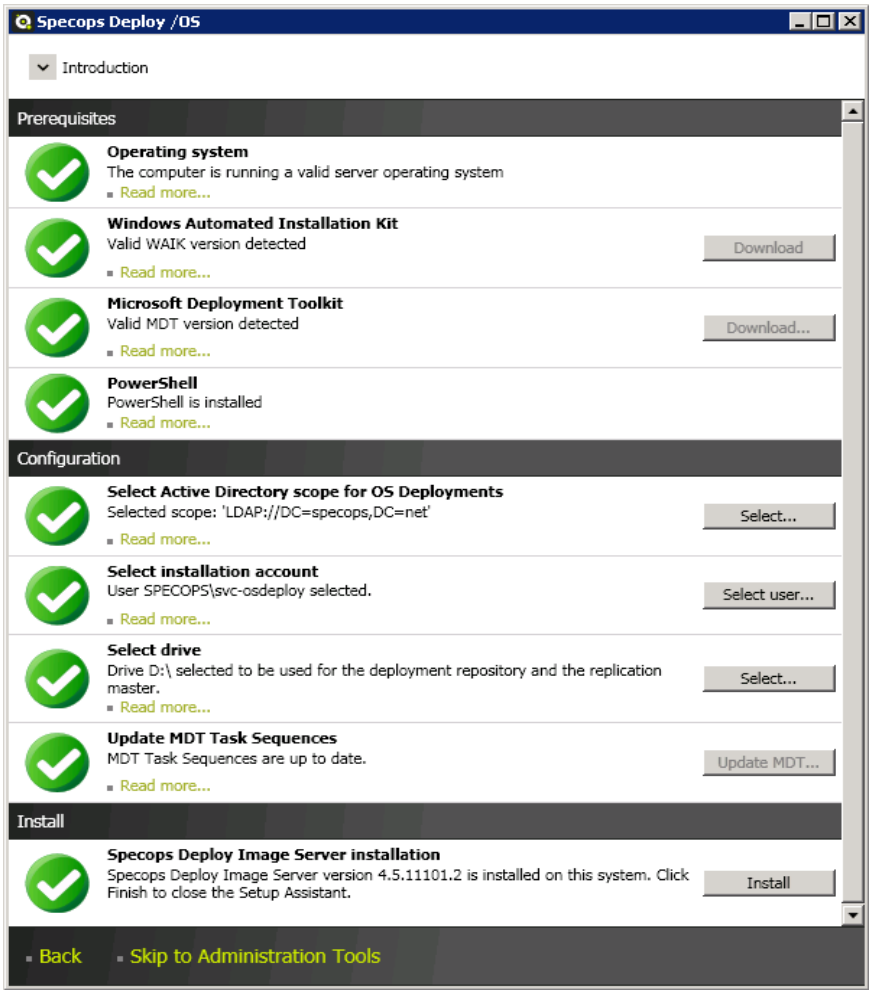
5. Enter the installation user account created as part of the Prerequisites step by selecting the “Select installation account” button. This account will be used to join computers to the domain and to connect to the deployment server and should have no other rights in the Domain than to join computers to the domain.

6. Select the drive to be used to store Image Server components such as Windows Images and Drivers. Choose a drive with plenty of free space as images will take quite a lot of space.

7. Install the Specops Deploy / OS Image Server by selecting the “Install” button.



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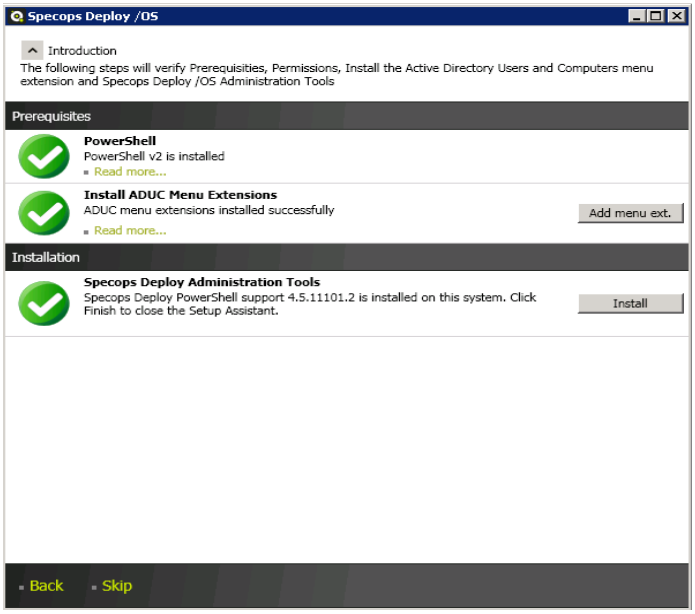
4.2 Administration Tools Installation

NOTE: *The Specops Deploy / OS Admin tools can be installed on any computer being used to administer Specops Deploy / OS.*

1. Select the Admin tools installation tab once the Specops Setup Assistant has been re-launched
2. Verify that PowerShell v2 and ADUC Menu Extensions Prerequisites Pass
3. Install the "Specops Deploy / OS Administrations Tools" by selecting the "Install" button



The Specops Deploy / OS setup assistant can now be closed.

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4.3 Specops Deploy / OS Deployment Server Installation

Once the Specops Image Server and Administration Tools have been installed a Specops Deployment Server must be installed.

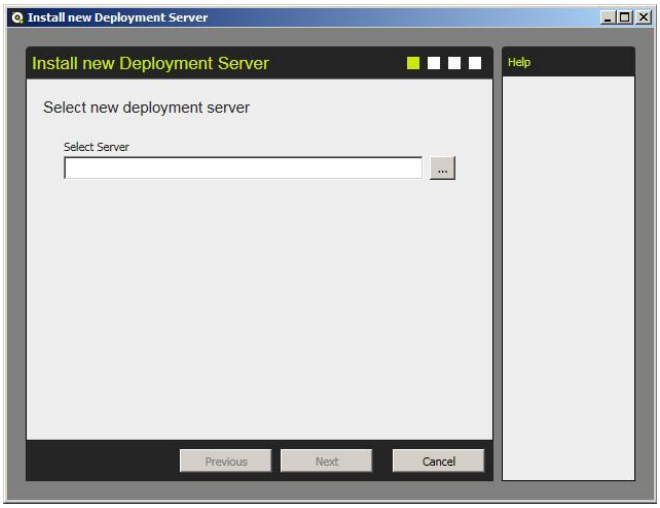
NOTE: Hovering over any fields of the Specops Deploy Console will display help on what information is required for those fields.

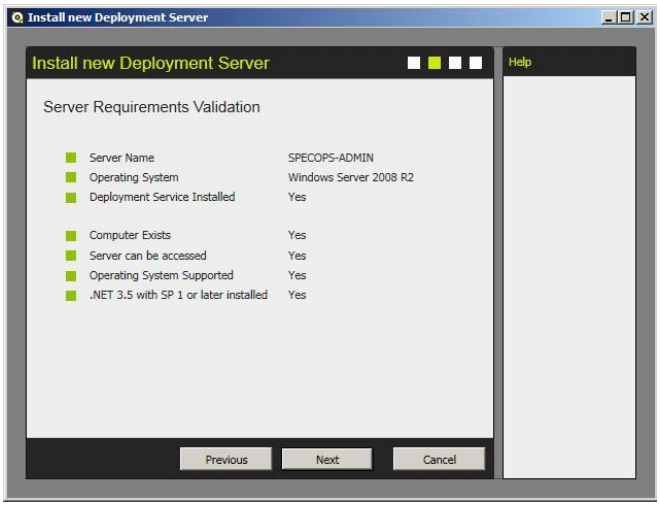
1. From the start menu navigate to All Programs>Specops Software> Specops Deploy>Specops Deploy OS Admin

2. Once opened, select the Server Configuration Tab and select Install New Deployment Server Enter the name of the new deployment server and select Next.
   NOTE: *The Specops Deploy / OS Image Server and the Specops Deploy / OS Deployment Server can exist on the same machine. Multiple deployment servers are used when administrators need to load balance client deployment across multiple locations.*

3. Verify that all prerequisites pass and that the new Deployment Server operating system is available.

4. Select "Next"
   NOTE: *The installation process will automatically install and configure Windows Deployment Services on the new deployment server.*





Once complete, the Deployment Server will appear in the Server Configuration Window showing a connection to the image server.

Replication through DFS-R will automatically be enabled between the central Image Server and the remote Deployment Servers to synchronize all Deployment Repository content with the Deployment Shares.

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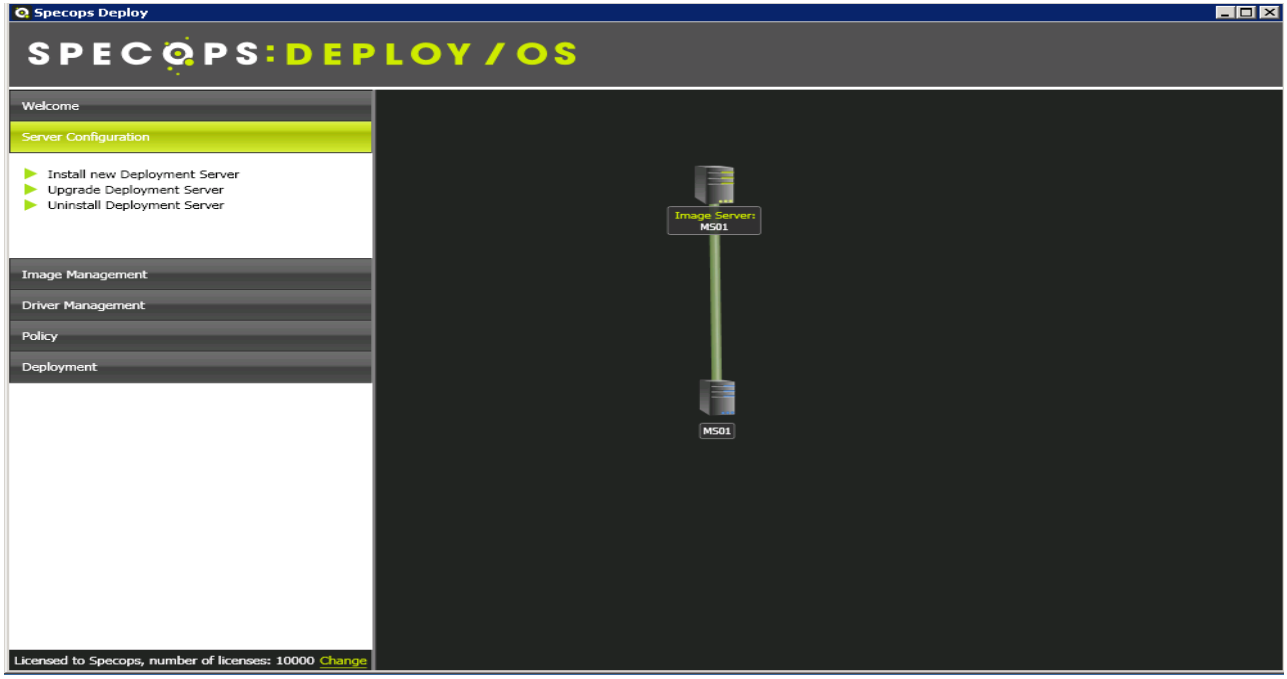
Additional Deployment Servers may now be installed if required. Once completed, a typical Specops Deploy / OS infrastructure may look as follows.

The Deployment Server will indicate a warning (yellow circle) and will not be active until an Operating System has been imported and replicated to the Deployment Server.



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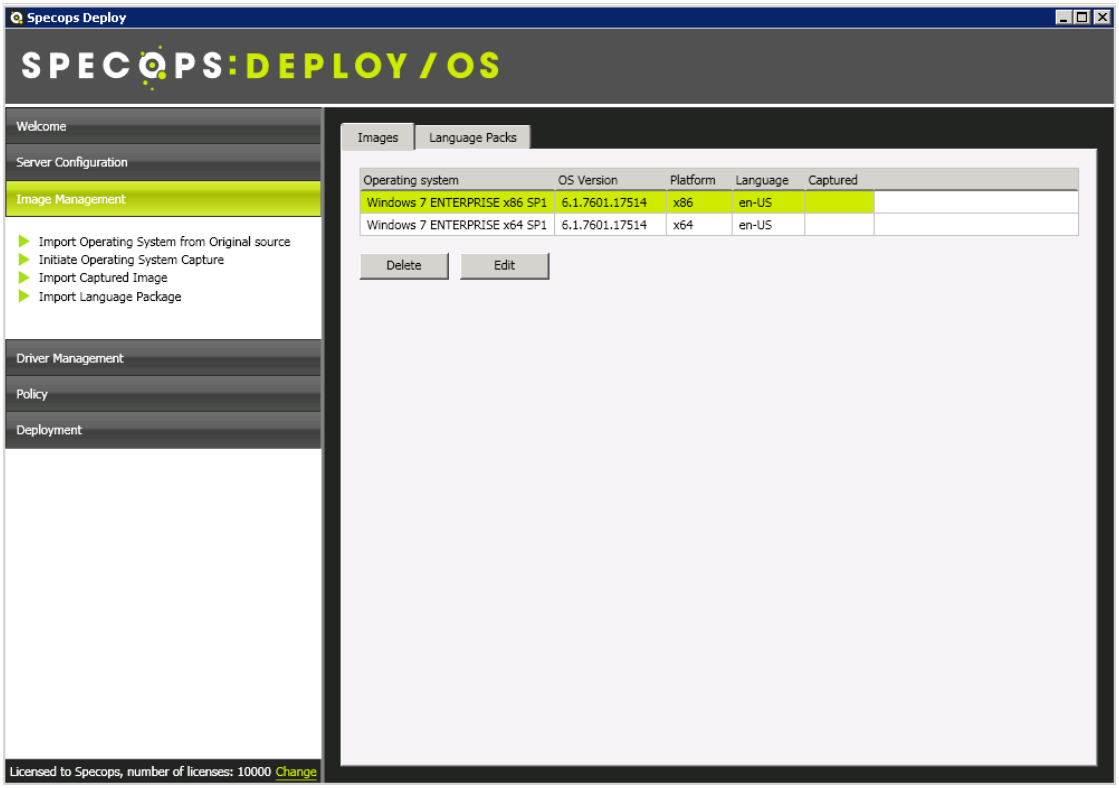
5 How to Manage Operating System Images using Specops Deploy / OS

1. From the start menu navigate to All Programs>Specops Software> Specops Deploy>Specops Deploy OS Admin.

2. Select the Image Management Tab.



In this Tab, Administrators can manage the Operating Systems available for deployment with Specops Deploy / OS. There are several options available such as;

- *Import Operating System from original source* – Allows administrators to import the contents of the Windows DVD or Windows CD.
- *Initiate Operating System Capture* – Allows administrators to perform a capture of an existing Windows system that exists in Active Directory.
- *Import Captured Image* – Allows administrators to import a capture that has already been performed.
- *Import Language Package* – Allows administrators to manage and import Language packs required for the organization.

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6 How to Import an Operating System from the Original Source

All functions described in this section assume that Windows 7 DVD is being used for the source image. A Windows XP CD may also be imported into Specops Deploy / OS.

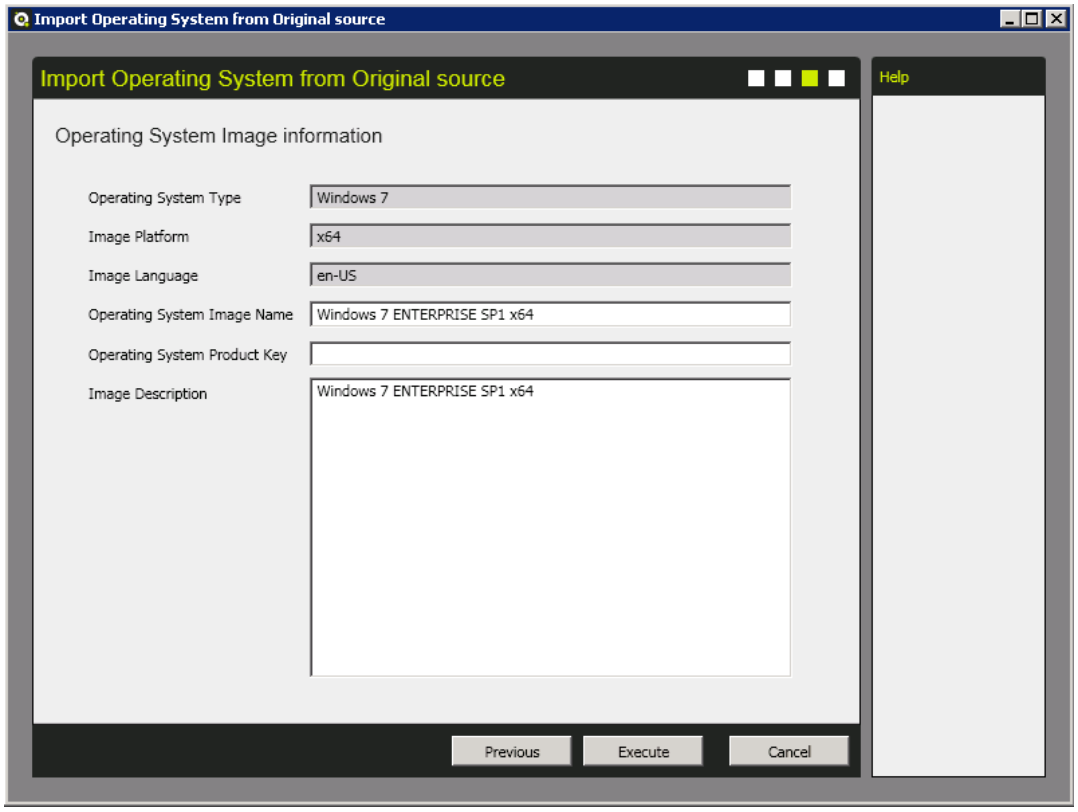
1. From the start menu, navigate to All Programs>Specops Software> Specops Deploy>Specops Deploy / OS Admin.

2. Select the Image Management Tab.

3. Select Import Operating System from Original Source, Navigate to the location of the Windows source files and select the source folder. At this time Specops Deploy / OS will display a list of Operating Systems available for import. Select the Operating System required and select next.

4. On the Operating System Image Information Page, enter the Operating System Image Name, Operating System Product Key and Image Description and select Execute.

5. The Windows Image File (WIM) file associated with the operating system will now be extracted and stored on the Specops Deploy / OS Image Server.



Once completed, the Operating System will be listed on the Images Tab of the Image Management Section and a message will be displayed stating that the “Deployment Repository has unpublished changes. Click here to publish the changes.

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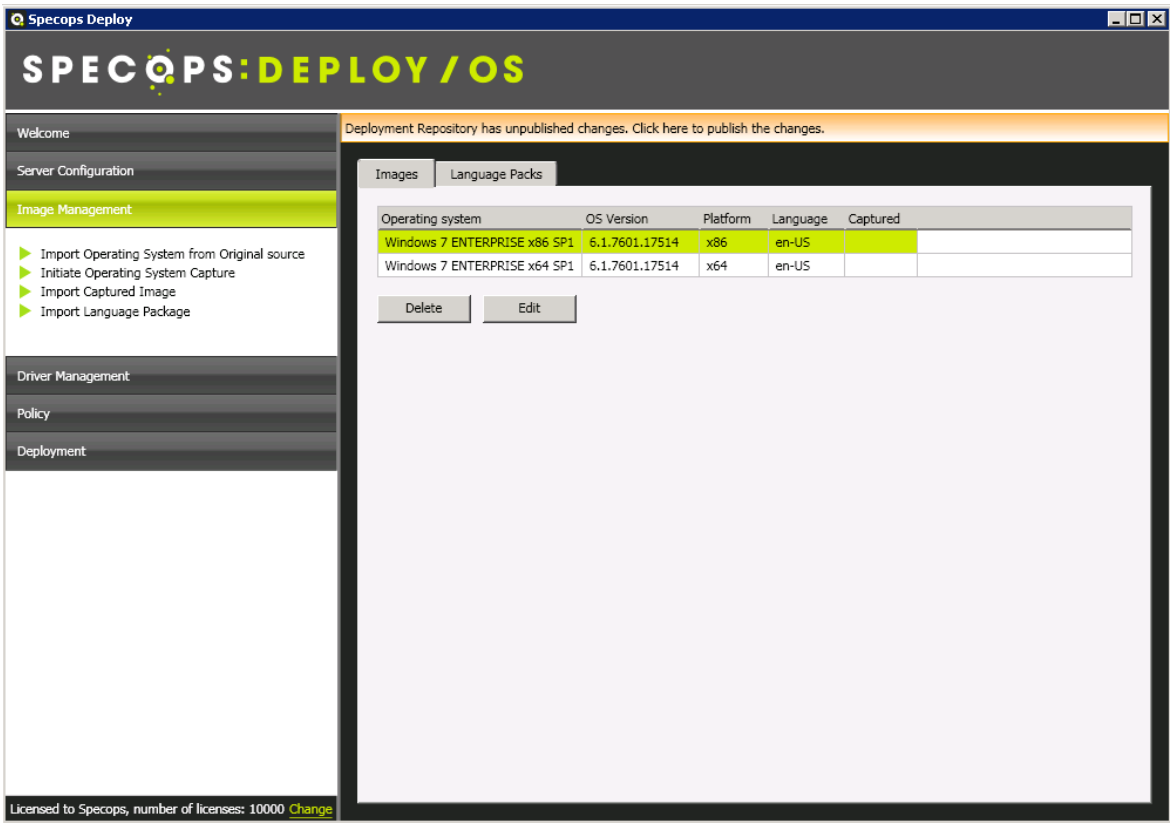
Clicking this message will cause the newly imported content to be replicated from the Image Server to the Deployment Servers.



7 How to Initiate an Operating System Capture

All functions described in this section assume that Windows 7 is being used for the image capture. Windows Vista and Windows XP machines may also be captured and used as a base image for deployment.

1. From the start menu navigate to All Programs>Specops Software> Specops Deploy>Specops Deploy OS Admin.

2. Select the Image Management Tab.

3. Select the Initiate Operating System Capture option.

4. On the Select computer to capture dialog enter the computer name to capture. ***NOTE:*** *The computer must be a member of Active Directory in order to perform the capture process.*

   NOTE: *You need to import the Source OS before you can do a capture, since files from the Source OS are used during the capture. Meaning, to make a capture of a Windows 7 computer, the corresponding Windows 7 source files have to be imported first or else "Valid Task Sequence: No" will be displayed.*

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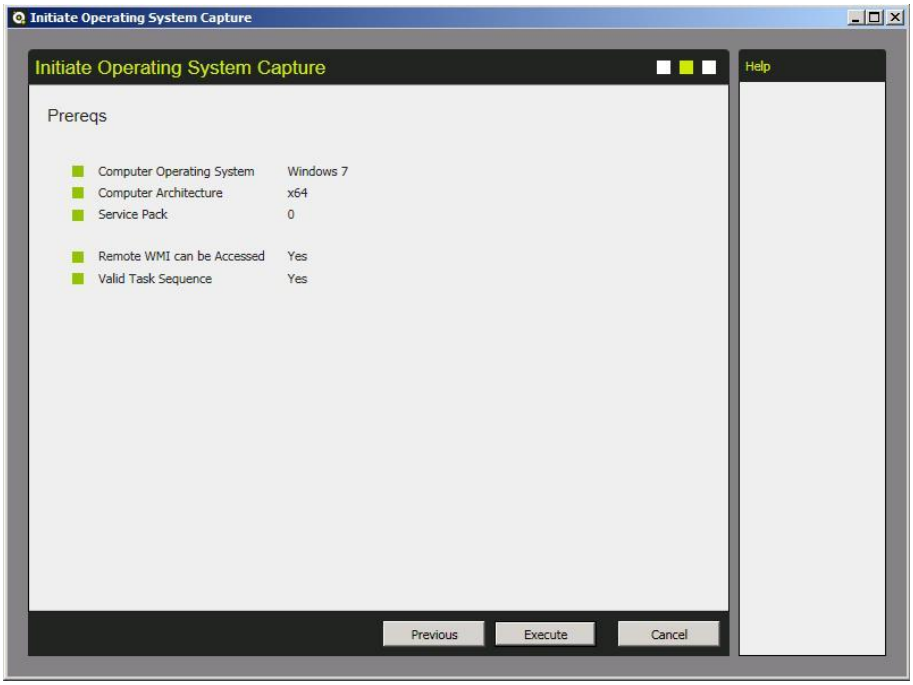
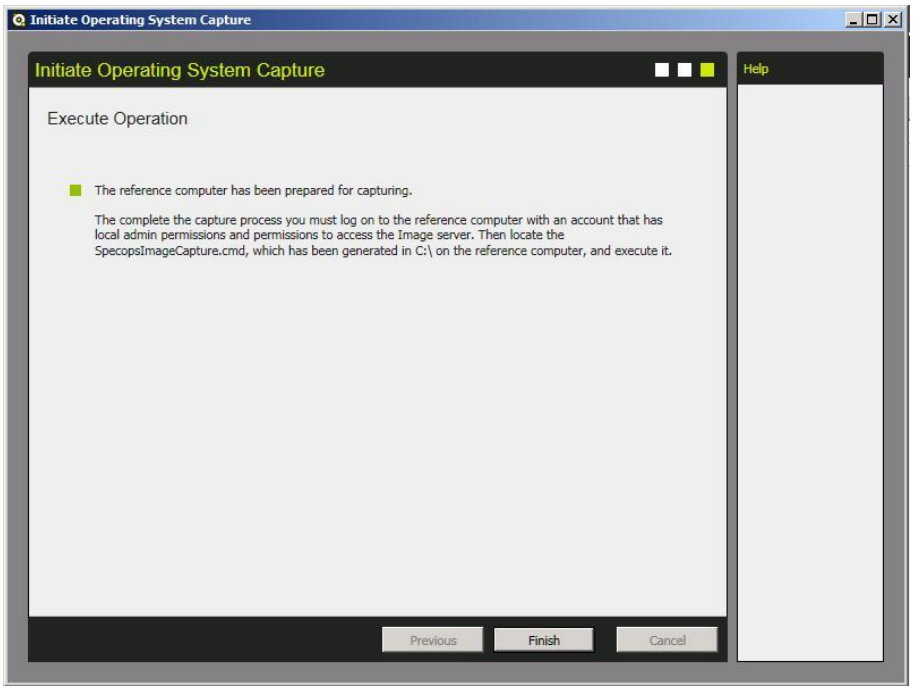
5. Verify that all Prerequisites pass and select Execute.





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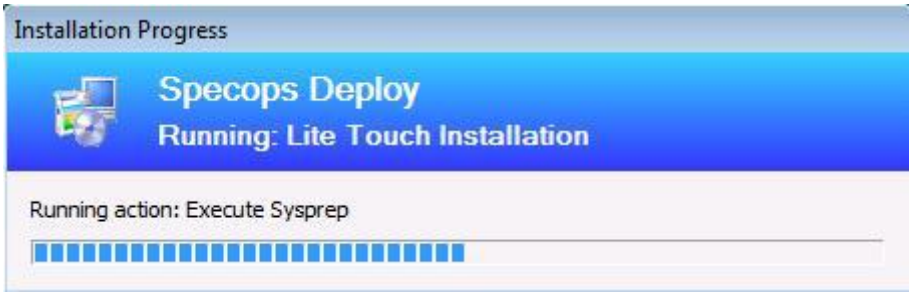
Logon to the computer that was targeted for capture and execute SpecopsImageCapture.cmd which is located in the root of the system drive.

The Specops Deploy Lite Touch Installation will execute automatically and begin capturing the Windows machine.

A sysprep will be carried out to remove all unique computer specific information, like SID, Computer Name etc.



Once complete, the machine will reboot and image preparation will be carried out.

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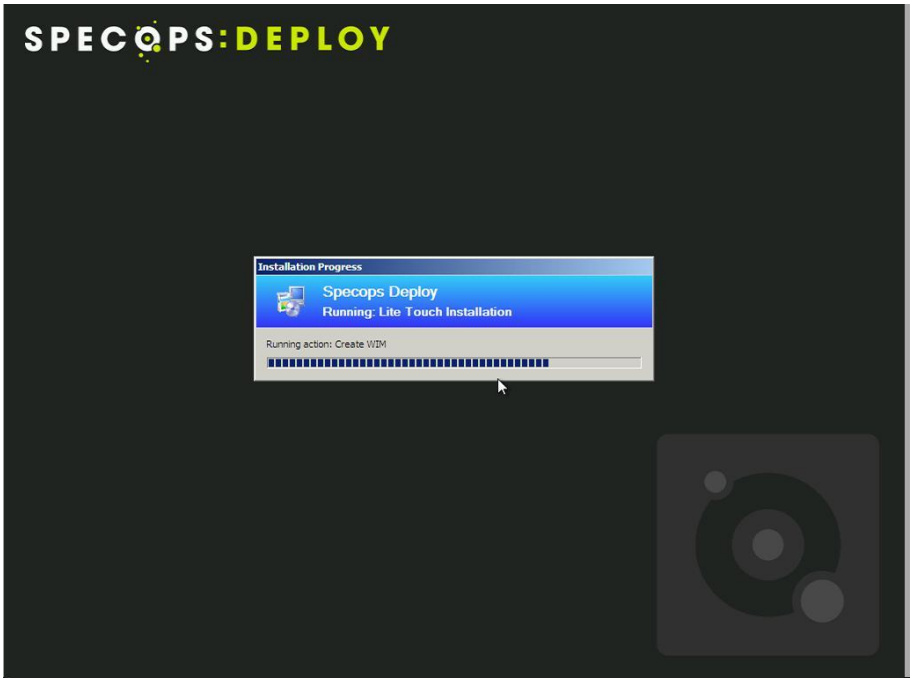

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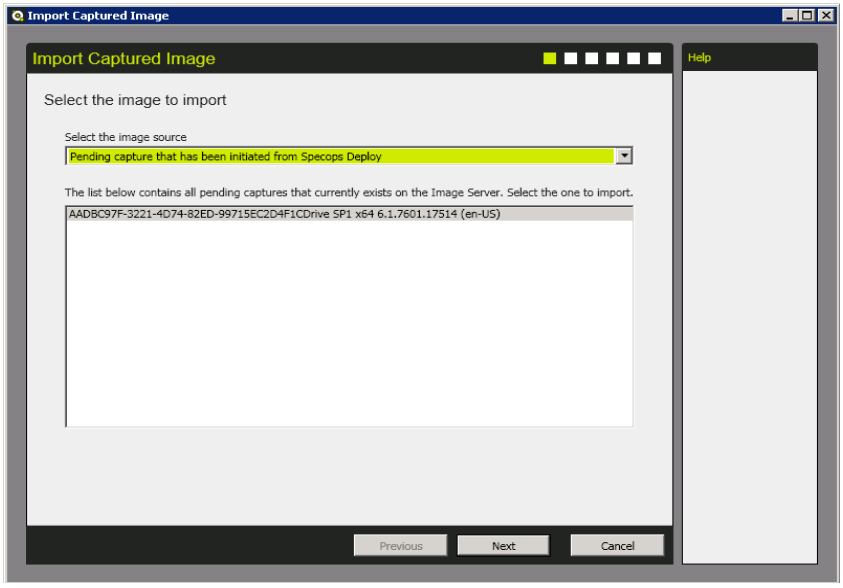
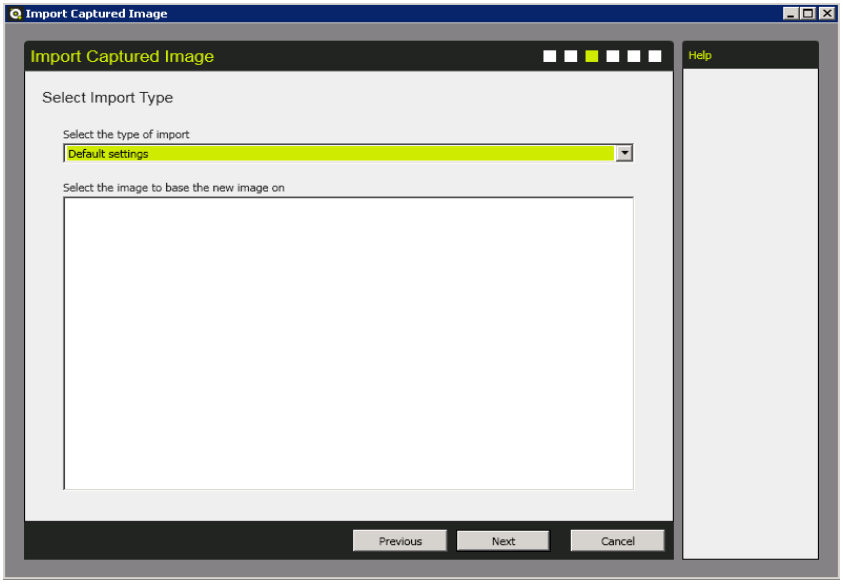
8 How to Import a Captured Operating System

1. From the start menu navigate to All Programs>Specops Software> Specops Deploy>Specops Deploy OS Admin.

2. Select the Image Management Tab and then select the Import Captured Image option. Select the image source option “Pending Capture that has been initiated from Specops Deploy” and the imported image from the list of available captures.



3. When importing the first captured image select the “Default Settings” on the type of image to import screen.



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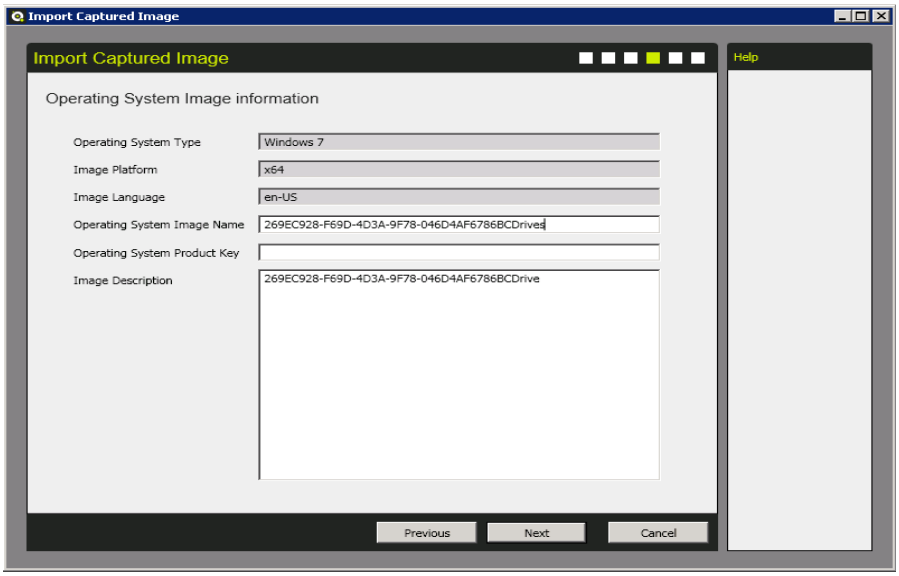
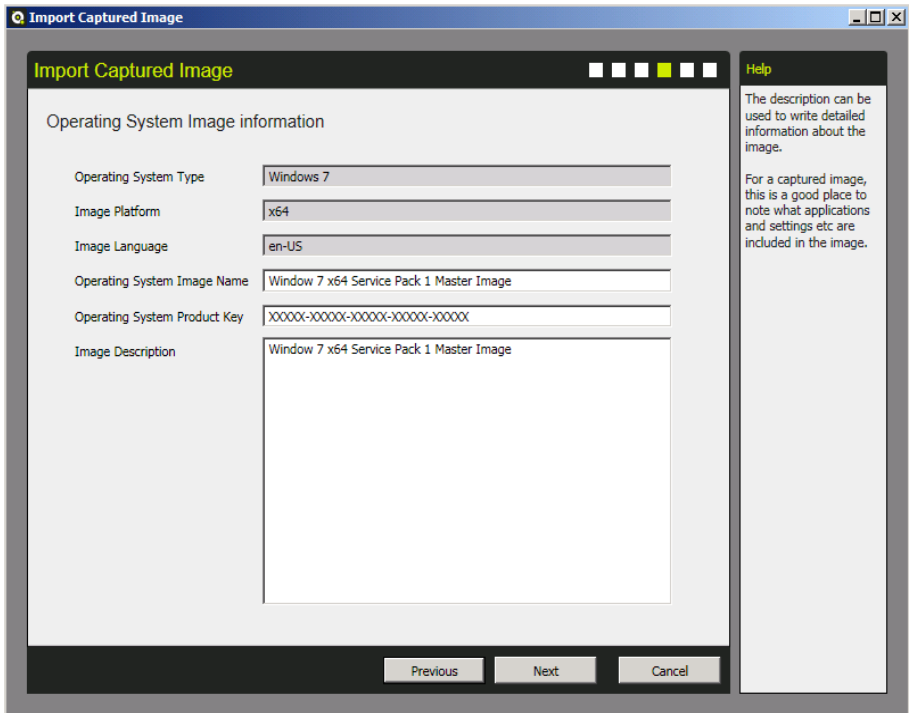
4. Enter a unique name for the captured image by modifying the “Operating System Image Name”



5. Enter a product key if needed. In an environment with a Key Management Service (KMS) server, this field should normally be left blank. This would be the case for most organizations deploying Windows 7.



6. Enter a unique description for the captured image by modifying the “Image Description”

7. Verify that there is a valid task sequence and click “Execute”

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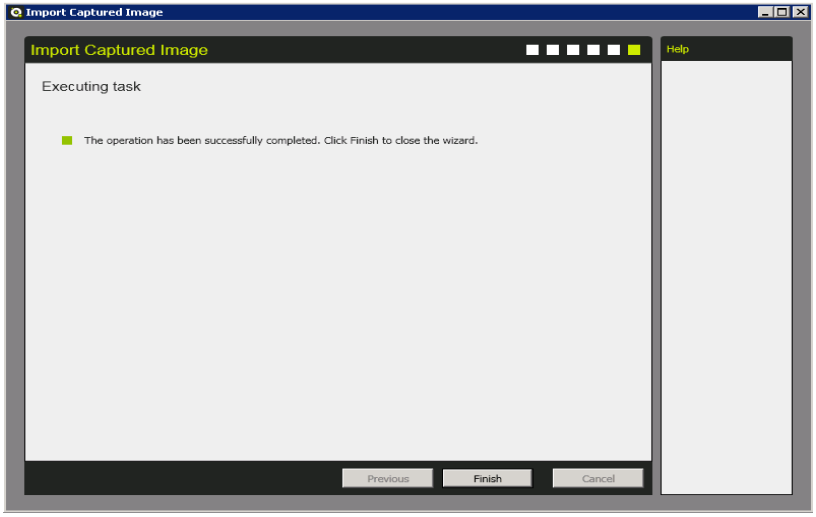
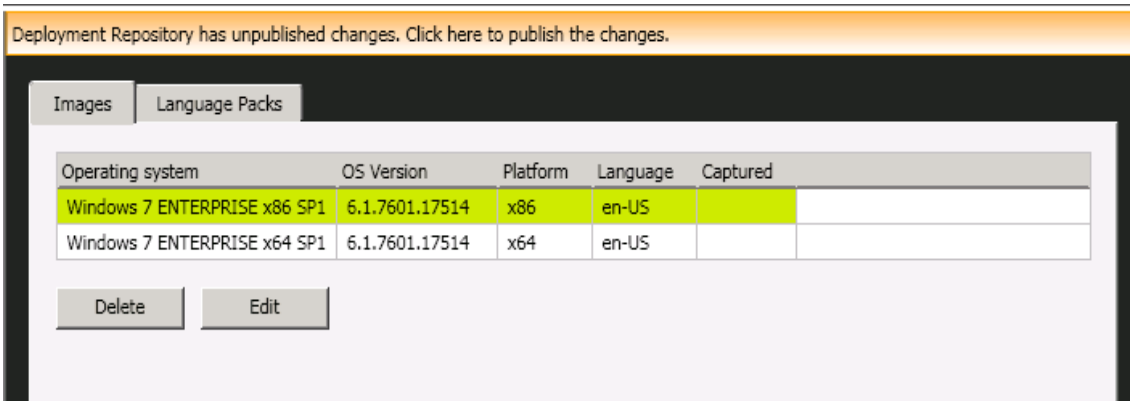
8. Select Finish once completed.



9. Once the newly imported captured content has been imported a message will appear stating that the content needs to be replicated from the Image Server to the Deployment Servers. Click the orange bar to replicate the content.



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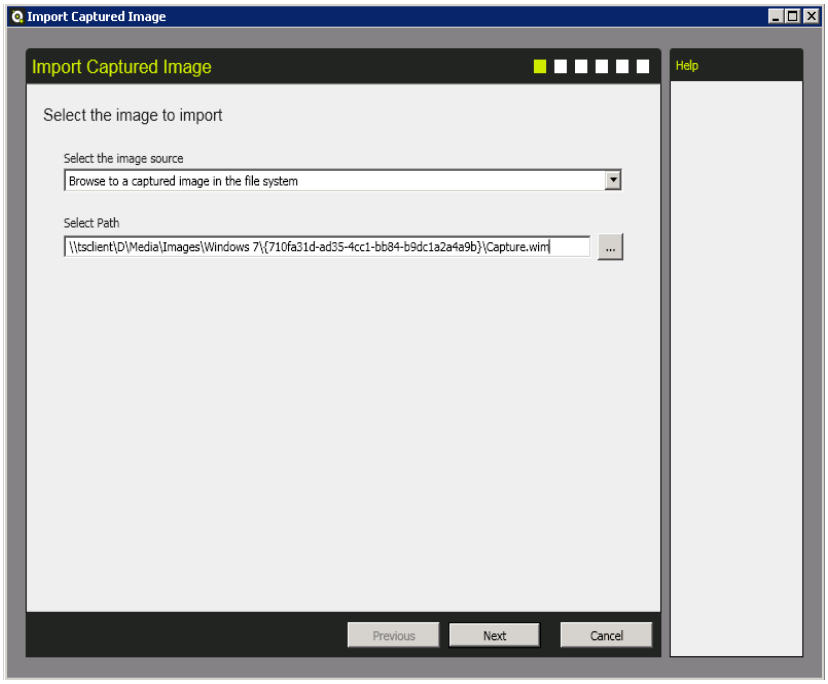
9 How to import existing WIM files into Specops Deploy / OS

In some cases IT administrators may have already created a WIM file for use throughout the enterprise and creating these from scratch again may be a time consuming process. Specops Deploy / OS has the ability to import existing WIM files created in MDT, WDS or another solutions.

1. From the start menu navigate to All Programs>Specops Software> Specops Deploy>Specops Deploy OS Admin.

2. Select the Image Management Tab and then select the Import Captured Image option and when "Browse to a captured image in the file system" Select the required WIM and click next.



3. If an image has not already been imported then select "Default Settings" and click next

NOTE: *Once an image as been imported, It is possible to copy setting from an existing image or upgrade an existing image that has already been imported.*

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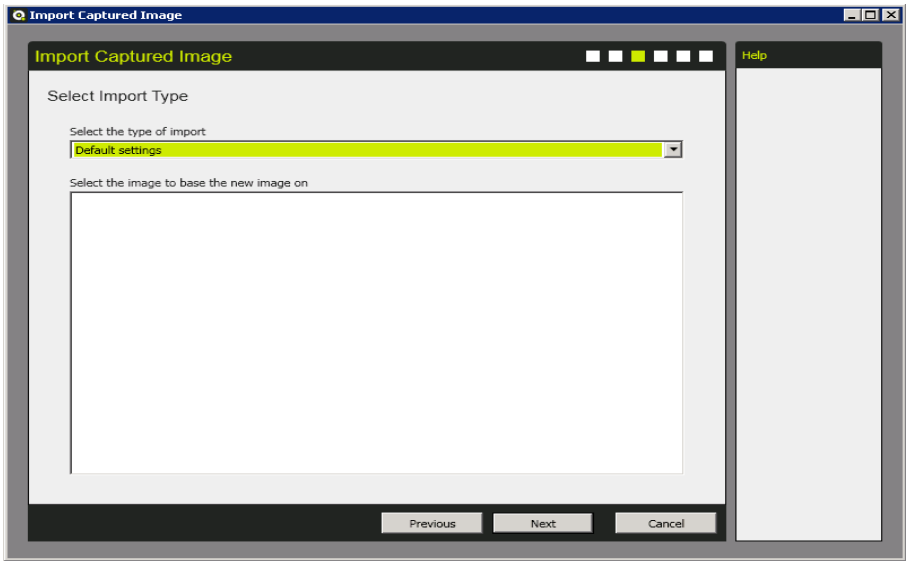
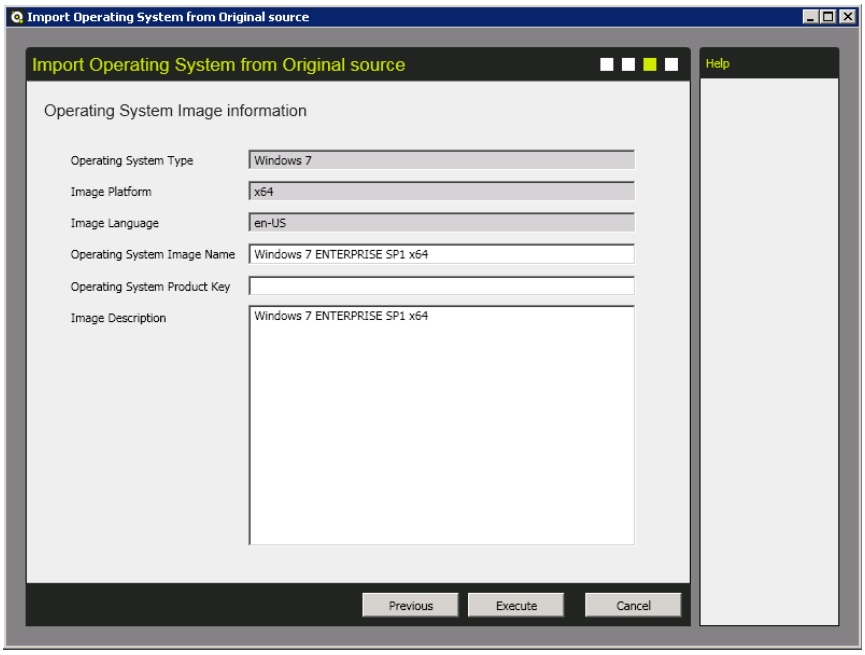


4. Enter a unique name for the Image.



5. Enter a product key if needed. In an environment with a Key Management Service (KMS) server, this field should normally be left blank. This would be the case for most organizations deploying Windows 7.

6. Enter a unique description for the captured image by modifying the “Image Description”

7. Verify that there is a valid task sequence and click “Execute”

8. Select Finish once completed.

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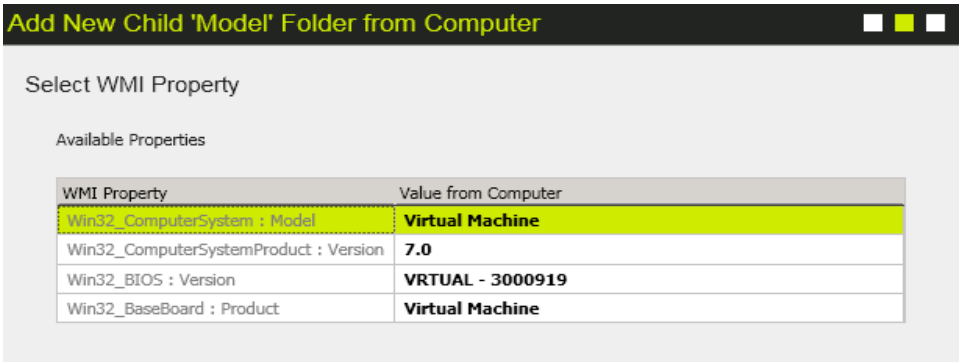
10 How to manage Drivers in Specops Deploy / OS

Windows 7 contains drivers required for most of today's certified hardware. However, in some cases specific drivers may need to be loaded to support specific hardware - in which case this can be performed via the Driver Management Tab.

1. From the start menu, navigate to All Programs>Specops Software> Specops Deploy>Specops Deploy OS Admin.

2. Select the Driver Management Tab. Right click on "Driver Folders" on the right-hand pane and select one of the following options.

    - Add New Child Folder – Uses Make, Model, OS or Custom to determine folder naming structure
    - Add New Child "Make" Folder from Computer – Uses WIM Win32_ComputerSystem: Manufacturer to determine the manufacturer of the computer.
    - Add New Child "Model" Folder from Computer - Uses WIM Win32_ComputerSystem: Model as the primary method to determine the model of the computer. However three additional properties can also be used such as.
        - Win32_ComputerSystemProduct: Version
        - Win32_BIOS: Version
        - Win32_BaseBoard: Product



1. Once the folder structures have be created, the drivers can be imported from a local folder where the drivers have already been downloaded to.

2. Once the drivers have been imported a message will appear stating that the content needs to be replicated from the Image Server to the Deployment Servers. Click the orange bar to replicate the content.

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10.1 How to use an alias to determine Make or Model in Specops Deploy / OS

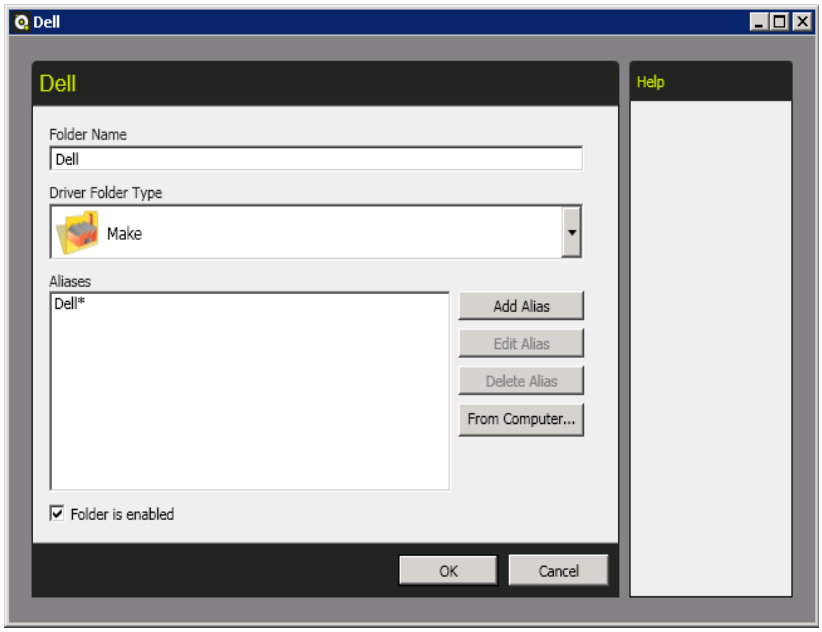
Computer System Manufacturers have different methods of identifying themselves and the computer systems they manufacture. For example Dell systems may identify as Dell or Dell Inc. Lenovo Systems use Lenovo (SerialNumber) to identify themselves. Rather than creating folder structures to cover all makes and models by a particular manufacturer it possible to create aliases to determine make and model

1. From the start menu, navigate to All Programs>Specops Software> Specops Deploy>Specops Deploy S Admin.

2. Select the Driver Management Tab. Right click on “Driver Folders” on the right-hand pane and select Properties

3. A list of aliases associated with the make or model will be displayed.

    - To determine all computers made by “Dell” and “Dell Inc”. Add a make alias called Dell*



    - To determine all computer models in the “Latitude”, “Precision” and “Inspiron” model range. Add a model alias called Latitude*, Precision* and Inspiron*

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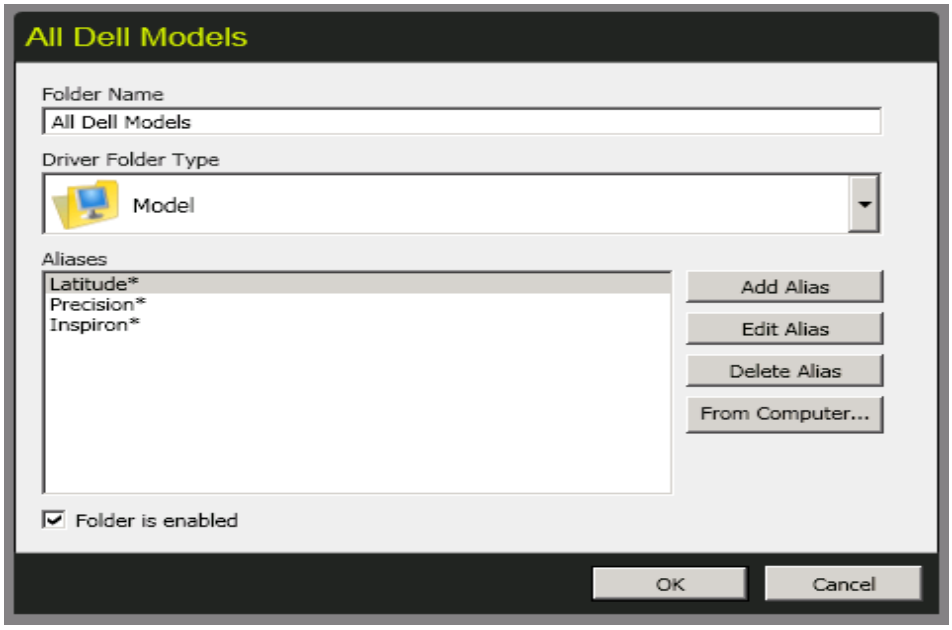

4. Once the folder structures and aliases and been assigned as required a message will appear stating that the changes need to be replicated from the Image Server to the Deployment Servers. Click the orange bar to replicate the changes.

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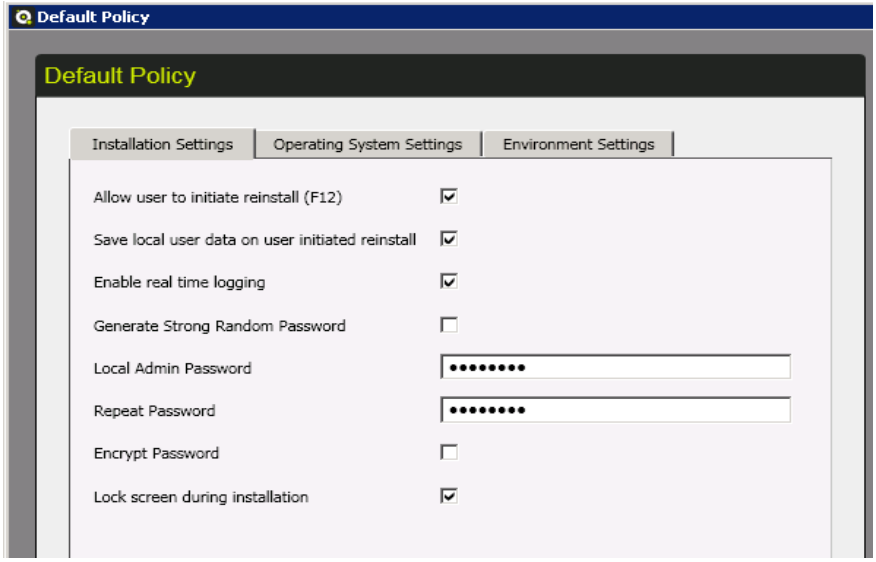
11 How to Define the Default Deployment Settings for Specops Deploy / OS

Specops Deploy / OS has the ability to configure Default Deployment Settings (DDS) to control how Operating Systems will be installed using Specops Deploy / OS. DDS controls the baseline settings for all installations that are **not** affected by a Group Policy with Deploy / OS settings.

1. Open the *Policy* tab and look at the Default Settings tab.

2. Click on the *Edit Policy* button in the bottom left part of the page.

3. The **Installation Settings** tab allows administrators to define default settings for how all Operating Systems will be installed such as Save User State, Setting the Local Administrator password of all workstations or locking the screen during installation to prevent end-users interfering with the build process.



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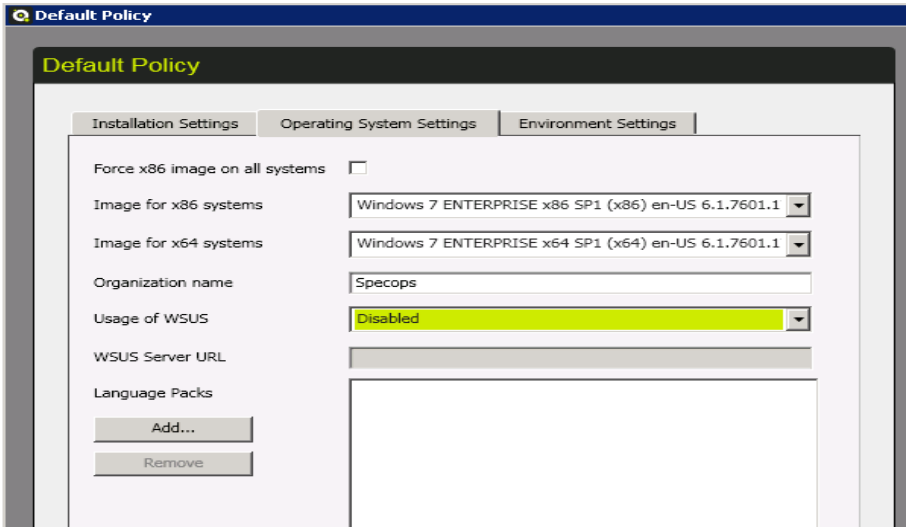
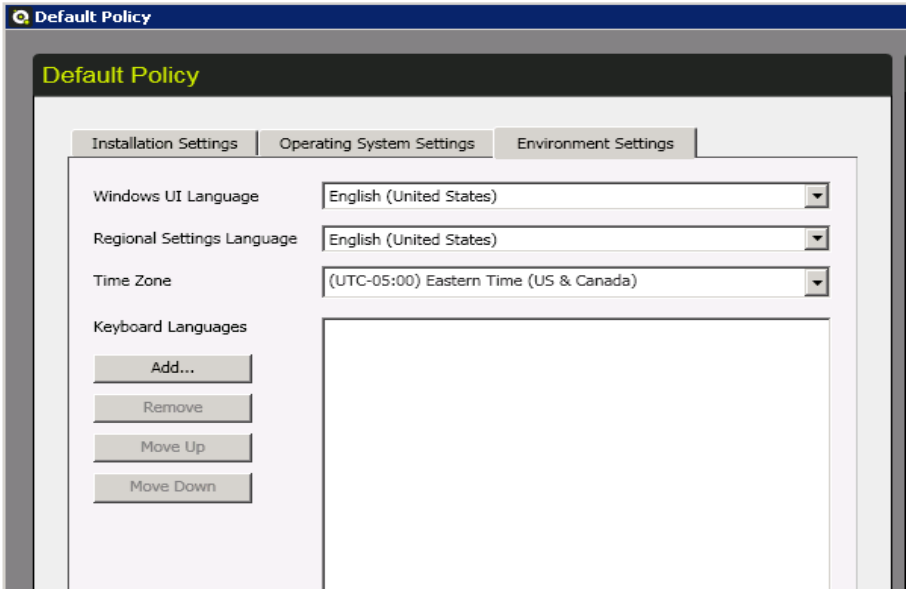
4. The **Operating System Settings** tab allows administrators to define default x86 and x64 Operating System Images to be installed on all workstations as well as Organization Name, WSUS Server Usage and Language Packs.

   NOTE: *Usage of WSUS can be set to Disabled, Microsoft Windows Update or Internal WSUS Server*



5. The **Environment Settings** tab allows administrators to define the Windows UI Language, Regional Settings Language, Time Zone and Keyboard Languages.



6. Once the Default Policy has been defined as required a message will appear stating that the changes need to be replicated from the Image Server to the Deployment Servers. Click the orange bar to replicate the changes.

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12 How to use Group Policy to control Operating System Settings for Specops Deploy / OS

Specops Deploy / OS policy settings can also be configured and controlled using Group Policy, thus it is possible to have, for example, one Organizational Unit (OU) in Active Directory that has specific settings such as Windows 7 Enterprise with the German language pack and another that has Windows 7 Ultimate with the French language pack. If a computer is added or reinstalled in one of those OUs all the correct settings will apply, over and over again.

It is also possible to have different computers in the same Organizational Unit (OU) receive different Operating Systems, Language packs or Settings based on security group by utilizing security filtering within group policy.

The Group Policy Management Console (GPMC) is used to manage Group Policy in an Active Directory environment. It can be started from the Administrative Tools folder on the Start menu. Once opened, individual group policies may be viewed or edited by selecting edit which will open the Group Policy Management Editor.

12.1 GPMC information

NOTE: *When a Group Policy for Specops Deploy / OS is edited using the Group Policy Management Editor, Specops Deploy / OS settings are viewed in the following location.*

Group Policy Name>Computer Configuration>Software Settings>Specops Deploy – Operating System

It is recommended that a new GPO be used for testing purposes which is targeted at a test OU containing computer accounts.

It is not recommended that administrators modify the default Domain Group Policy or target application at the root of a Domain unless extensive testing has been performed of the application prior to deployment.

12.2 Create and edit a new GPO for Specops Deploy

1. Open Group Policy Management and expand the tree Forest>Domains>Domain-Name.
2. Select the OU to be used for testing, right click and select Create a GPO in this domain and link it here
3. Enter a name for the new GPO for example Specops Deploy / OS with Group Policy
4. Click OK.
5. Right click on the Group Policy Specops Deploy / OS with Group Policy and select edit.
6. Navigate to Computer Configuration>Software Settings>Specops Deploy – Operating System and select edit.
7. Click on the *Edit Policy* button.

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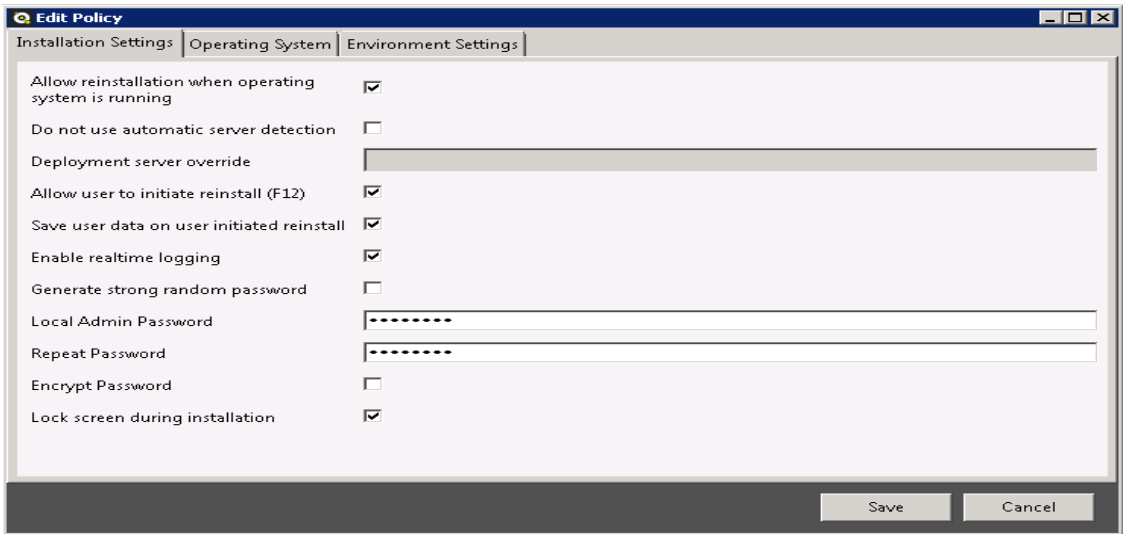
8. The **Installation Settings** tab allows administrators to define default settings for how all Operating Systems will be installed such as Save User State, Setting the Local Administrator password of all workstations or locking the screen during installation to prevent end-users interfering with the build process.

    - Allow reinstallation when operating system is running – Utilizes the Specops Deploy Client Side Extension (CSE) to initialize the Operating System reinstall.
    - Do not use automatic server detection – Allows Administrators to override the Deployment Server for a specific Group Policy. This setting should not be used during normal production usage.



9. The **Operating System Settings** tab allows administrators to define default x86 and x64 Operating System Images to be installed on all workstations as well as Organization Name, WSUS Server Usage and Language Packs.

    NOTE: *Usage of WSUS can be set to Disabled, Microsoft Windows Update or Internal WSUS Server*

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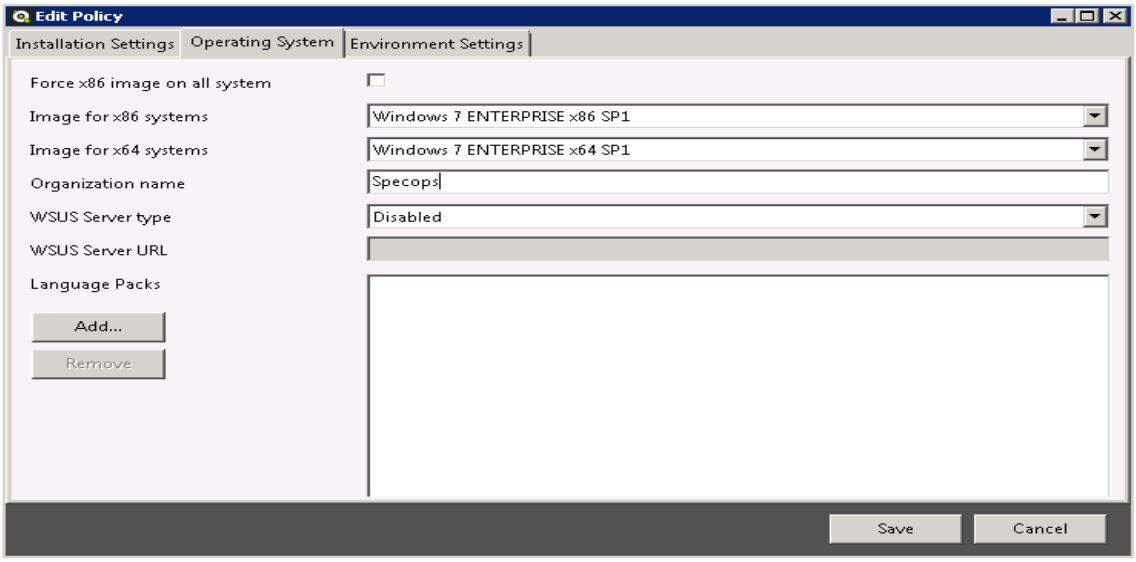
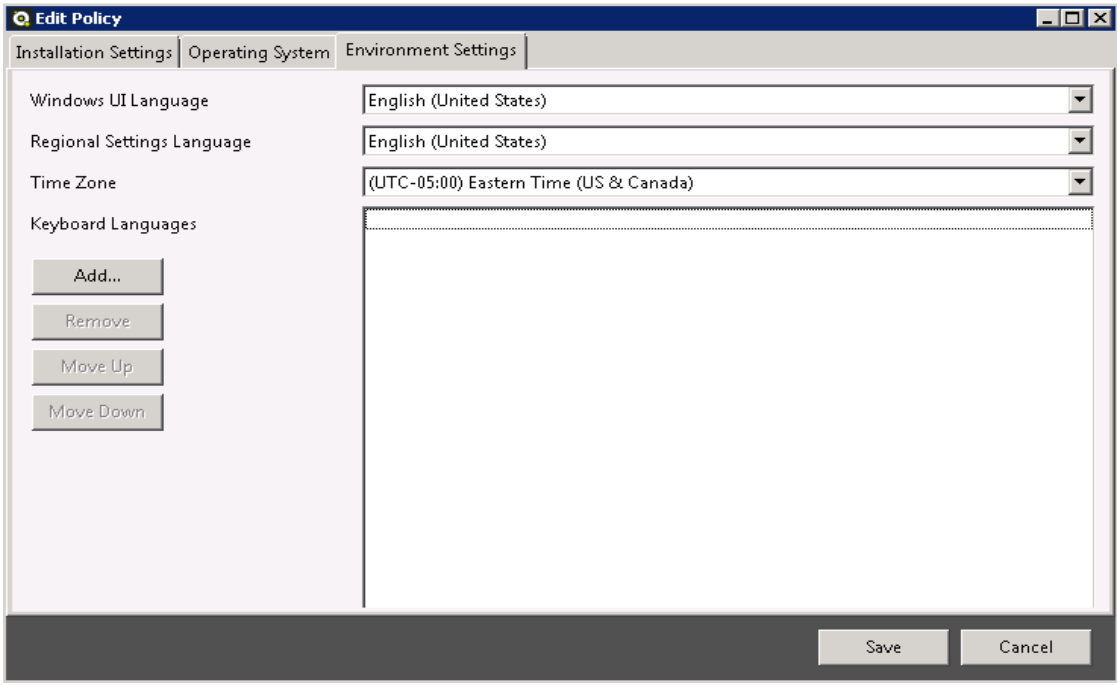


10. The **Environment Settings** tab allows administrators to define the Windows UI Language, Regional Settings Language, Time Zone and Keyboard Languages.



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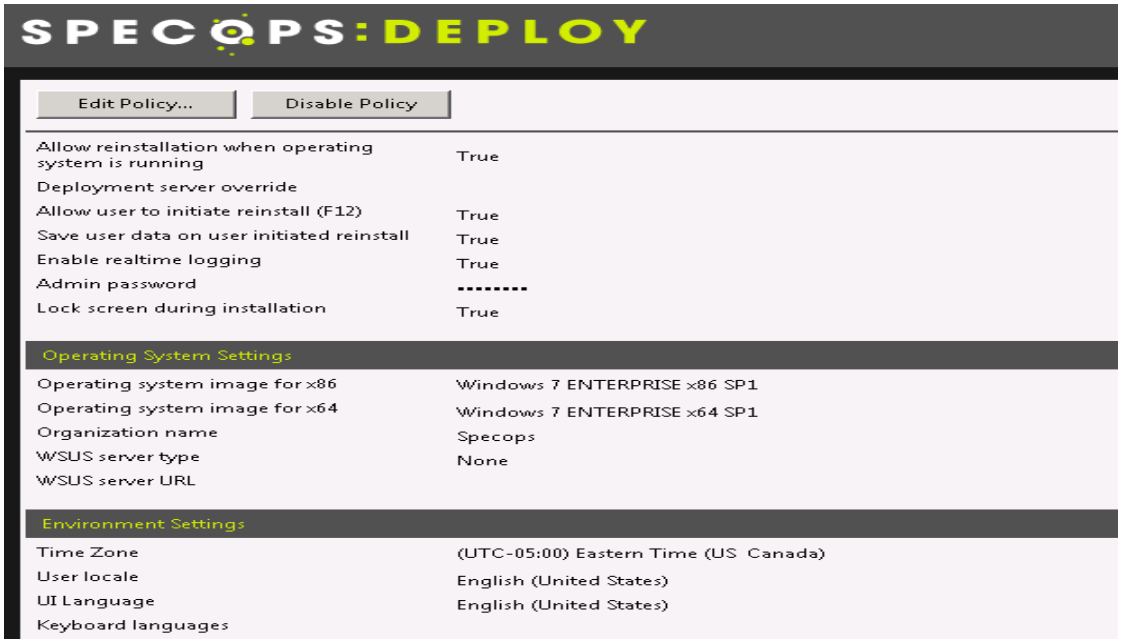
11. Once saved the policy settings can be reviewed under *Group Policy Name>Computer Configuration>Software Settings>Specops Deploy – Operating System*.



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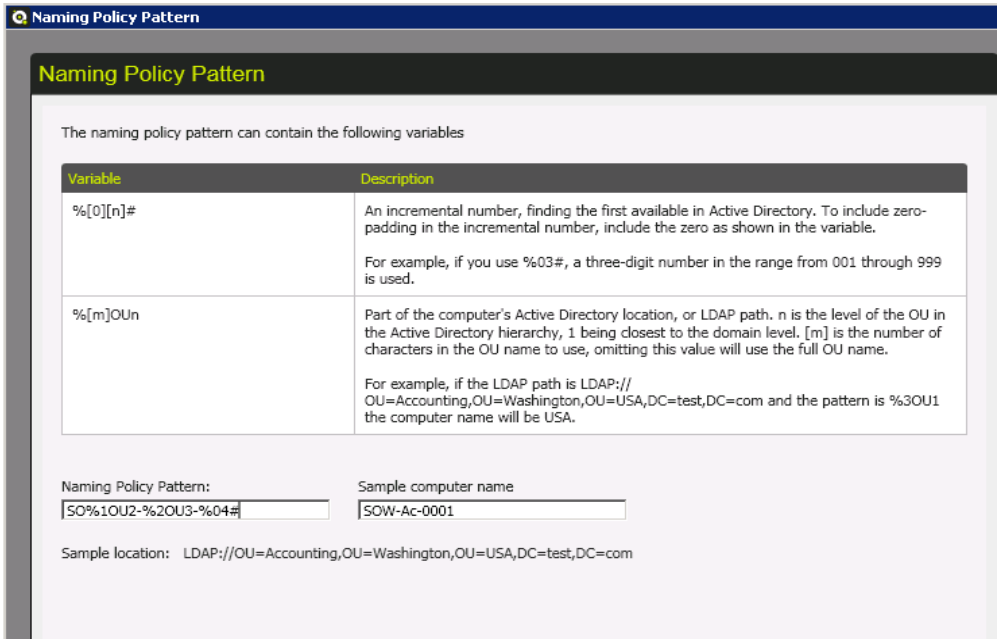
13 Create and edit a naming Policy Pattern for Specops Deploy / OS

Specops Deploy / OS can be used to control how computers are named within an organization by defining a naming policy with Specops Deploy / OS. This feature allows administrators to name computers based on a common naming pattern or based on where within a organizations OU structure the computer account resides.

1. Open the *Policy* tab and look at the Naming Policy Pattern Tab.
2. Click on the *Edit Naming Policy* button and define the Naming Policy Pattern as required.



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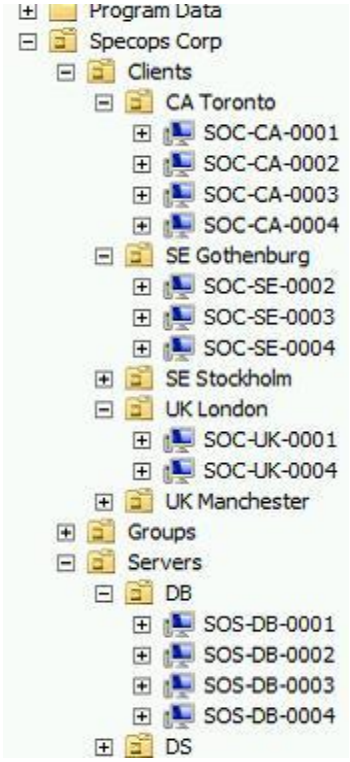

Breaking down the naming policy from the above example, could produce a naming standard like this:

Clients;

SO = SpecOps (Prefix)

%1OU2 = C - First Letter from the Second OU level

%2OU3 = CA / SE /UK – Two first letters from the Third OU level

%04# = 4 Digit incremental number.

Servers;

SO = SpecOps

%1OU2 = S - First Letter from the Second OU level

%2OU3 = DB – Two first letters from the Third OU level

%04# = 4 Digit incremental number.

A re-installed computer will always keep its current name. The naming policy is only used for new computers.

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14 How to Pre-Stage a Computer with Specops Deploy / OS

Pre-Staging a Computer allows administrators to automatically install an Operating System on a computer that is not already part of the Active Directory infrastructure such as a bare metal system. This is useful when administrators wish to install a corporate image on a newly purchased system.

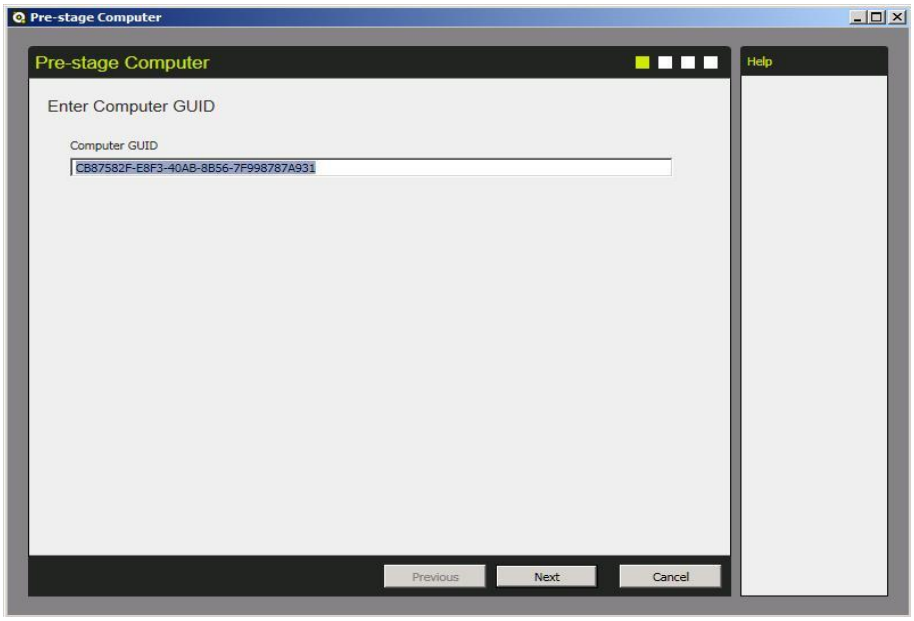
1. From the start menu navigate to All Programs>Specops Software> Specops Deploy>Specops Deploy / OS Admin.
2. Select the Deployment tab.
3. Select Pre-Stage Computer.
4. Enter the GUID or MAC address of the system to be pre-staged.

    - GUID address format (Preferred)
      XXXXXXXX-XXXX-XXXX-XXXX-XXXXXXXXXXXX
    - MAC Address format
      XX:XX:XX:XX:XX:XX

    NOTE: *Using the GUID to pre-stage a computer is the preferred method as Specops Deploy / OS sets this attribute on the computer object in Active Directory. This is a unique value on every computer.*

    If a system has multiple Network Cards and the administrator would rather use MAC address to pre-stage than the GUID, then the administrator will have to enter the correct MAC in order to successfully PXE boot.

    NOTE: *The GUID shown at the BIOS Boot screen is usually not shown in the correct format (the order of some numbers is reversed) and not the same as the computer actually reports when it's booting. Specops Deploy/OS automatically handles this scenario and there is no need to reformat the GUID.*



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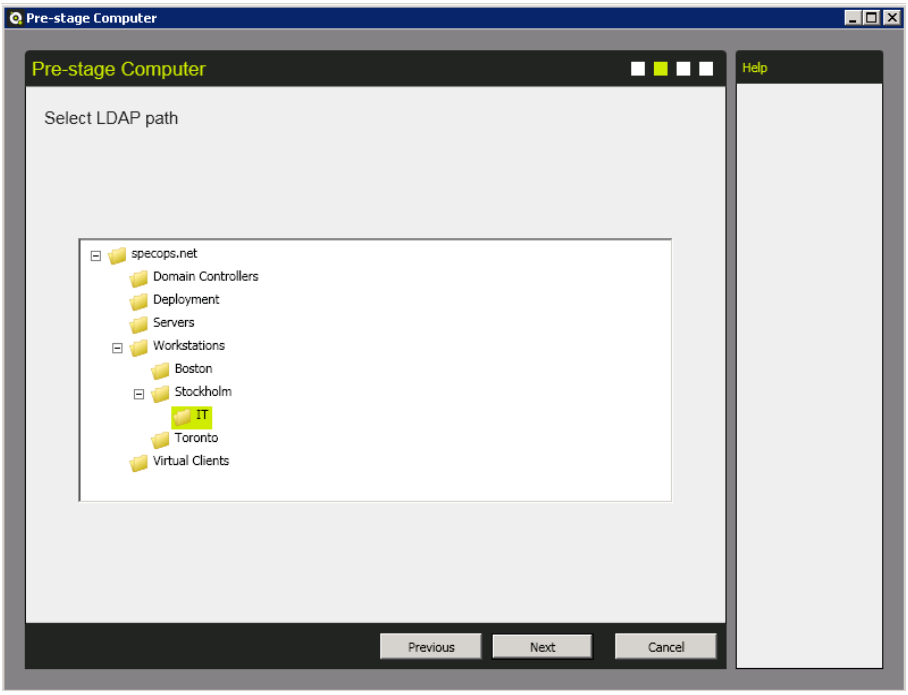
5. Click *Next*
6. Select the OU where the computer account should be created.



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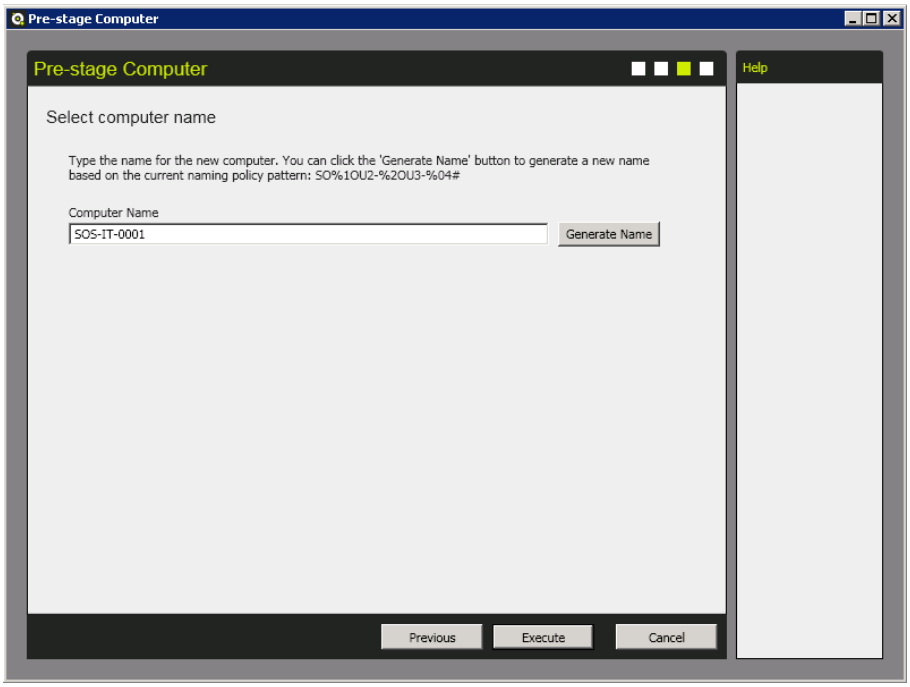
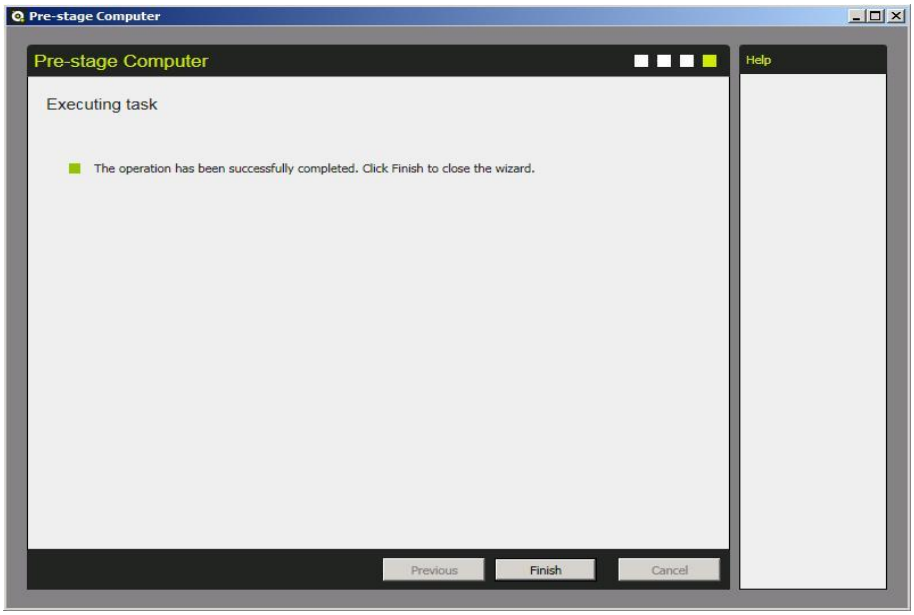
7. Enter the name of the new computer or select “Generate Name” to generate a name based on the naming policy.



8. The computer account will now be created and WDS is automatically configured to respond to a PXE request for a client with a matching GUID or MAC address. Select Finish to exit the wizard.



9. Boot the client in PXE mode. The client will now begin installing the new Operating System automatically.

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15 Client PXE Configuration

Most hardware manufacturers support PXE boot scenarios. In the event that a client does not PXE boot this may be because the boot order is set incorrectly in the BIOS. Ensure that PXE boot is listed prior to the hard disk in the boot order.

Specops Deploy / OS includes a command line tool called BiosConfig.exe which can be used to configure the BIOS settings of all existing computers to PXE boot without manually having to visit and configure BIOS. Normally computers can be purchased with PXE boot enabled from the factory.

Supported Manufacturers:

- DELL
- Hewlett Packard
- Fujitsu-Siemens

The tool is located in *%programfiles%\Specopssoft\Specops Deploy\Admin Tools OS\Bios Config Tools* and consists of one executable and one configuration file.

To configure the tool, modify and read references for the different manufacturers in BiosConfig.ini.

BiosConfig.exe has to be executed with Administrative privileges on the clients to modify BIOS PXE settings.

If users are part of the local administrators group, the script can be executed in a Logon Script.

Else, it's possible to use a Windows Startup Script (through GPO's) or deploy the script via Specops Deploy or any other Deployment solution.

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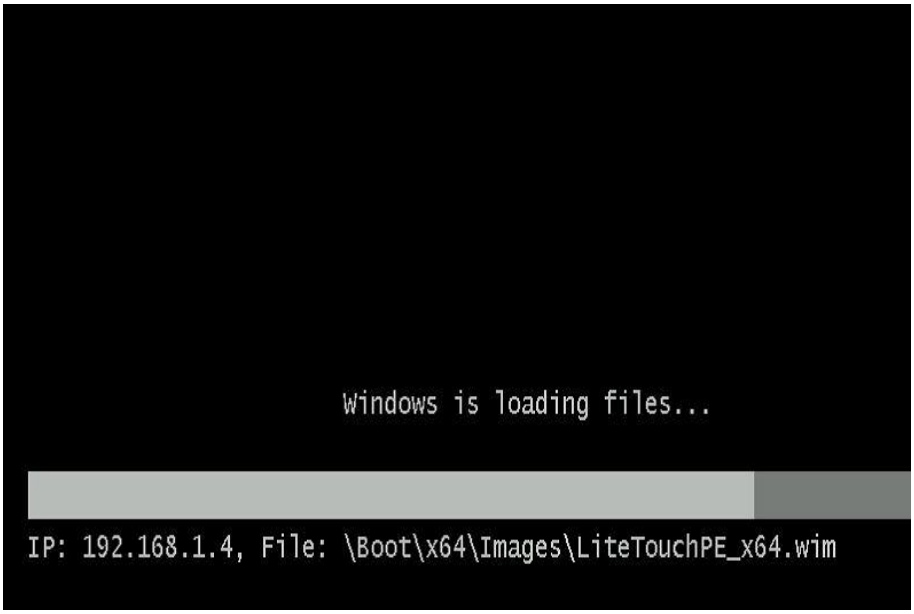
16 Starting the Operating System build with Specops Deploy / OS

Once the client has been pre-staged in Active Directory and the PXE boot order set it can be booted and should begin the PXE boot process.



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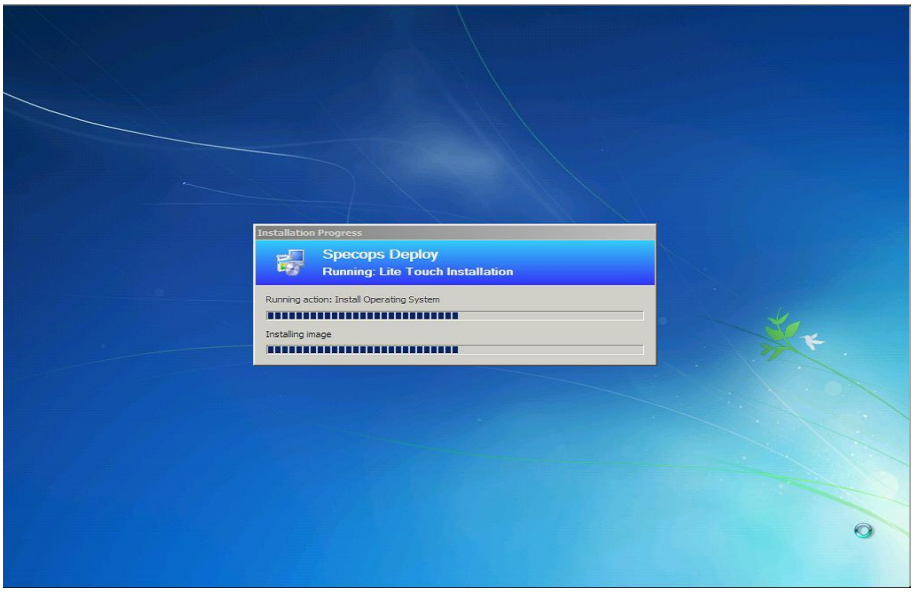

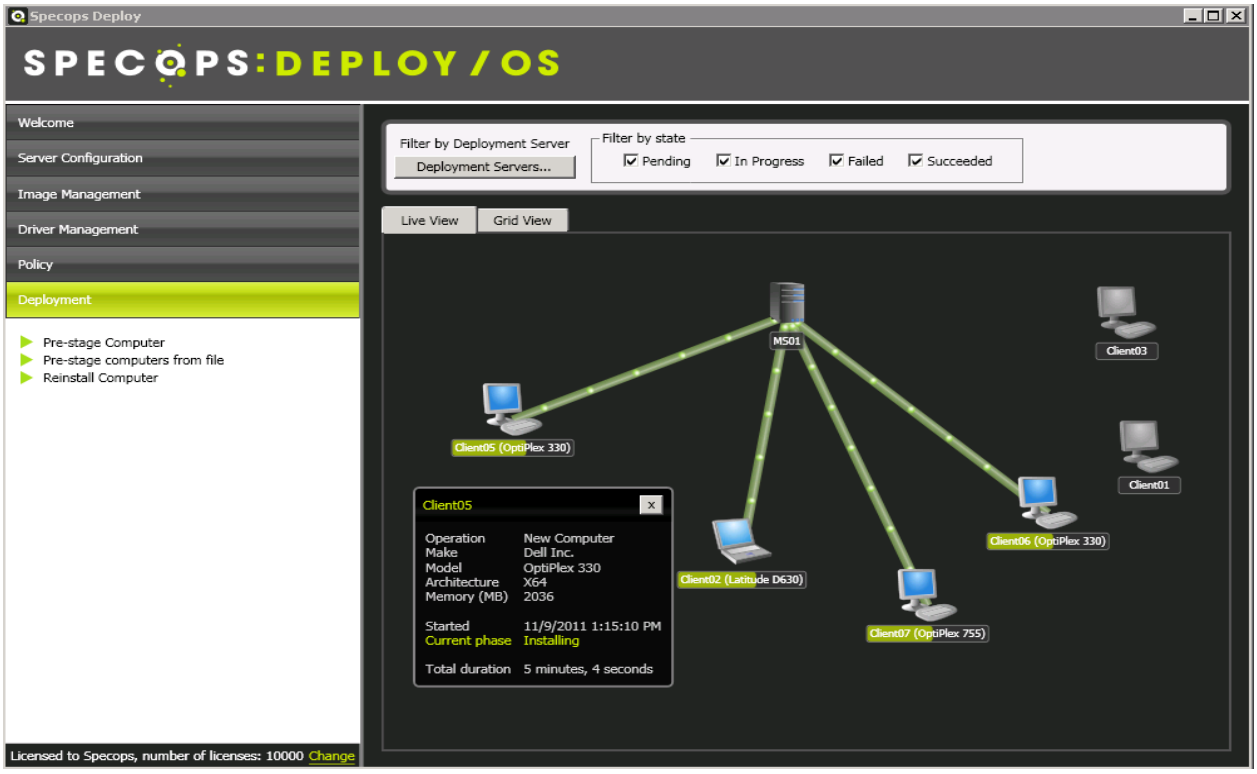

Administrators may view detailed information in relation to one client by right clicking on the computer icon and selecting Show Details. Real-time logging may also be viewed by selecting Open Install Log.

To make it easier to read the log file, you may want to install a log parser. For example Specops LogViewer which is included as part of the Specops Deploy setup.

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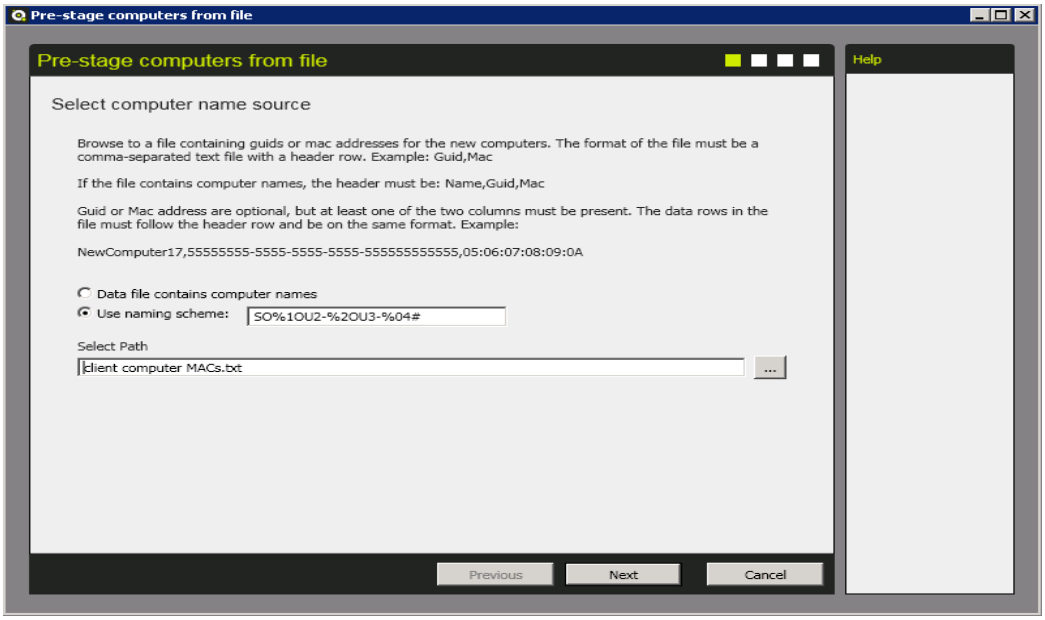
17 How to Pre-Stage Computers from a file with Specops Deploy / OS

Pre-Staging Computers from a file allows administrators to automatically install an Operating System to multiple computer systems that are not already part of the Active Directory infrastructure such as bare metal systems. This is useful when administrators wish to install a corporate image on newly purchased systems.

The file has to include either the GUID or MAC address (or both) of computers to be pre-staged, it may also contain the new computer names of those computers.

1. From the start menu navigate to All Programs>Specops Software> Specops Deploy>Specops Deploy / OS Admin.
2. Select the Deployment Tab.
3. Select Pre-Stage Computer from file.
4. Select an option depending on the structure of the file, either one with or without computer names.
5. If the file does not contain computer names, it's possible to use the naming policy defined in the Default Deployment Policy (DDP).
6. Enter to path to the file containing computer names and select Next.
7. Select in which OU you want to pre-stage the computers.
8. Select Execute to pre-stage the computers in Active Directory and WDS.

NOTE: *Deploy / OS will either use the next unused incremental computer name based on the Naming Policy or the manually defined computer names in the pre-stage textfile.*



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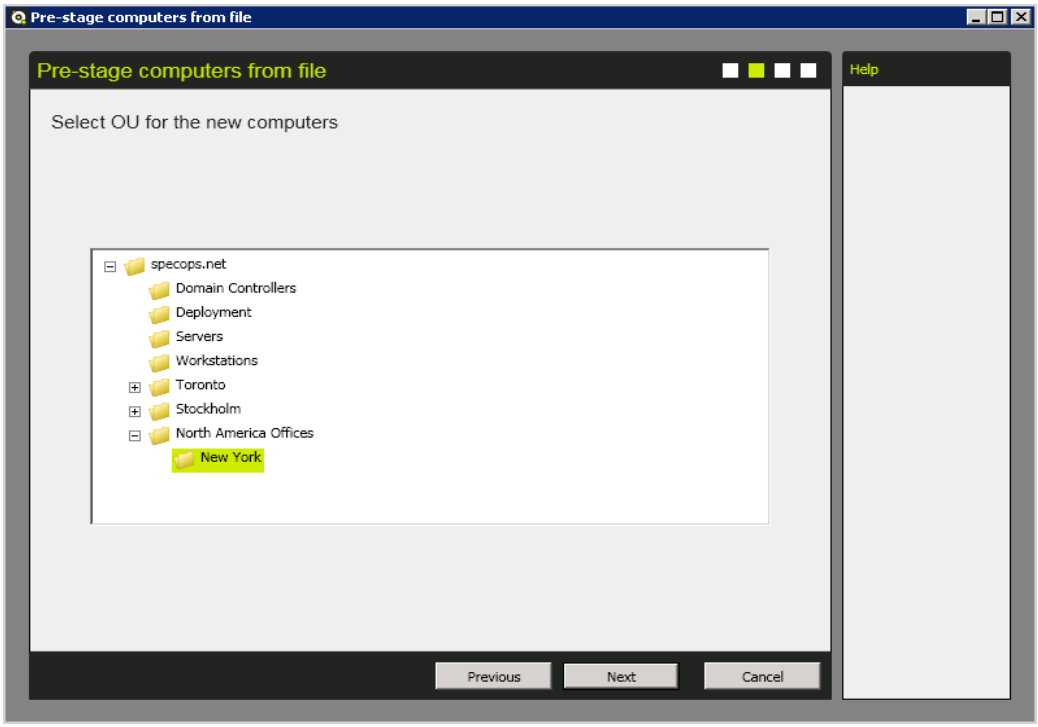

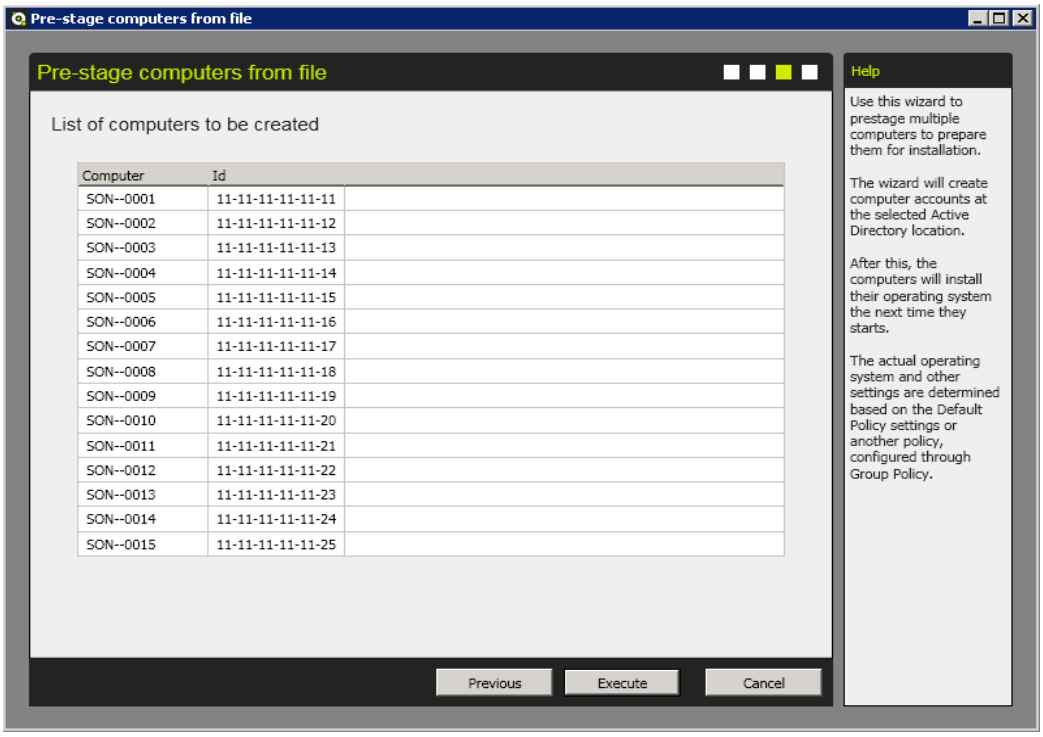

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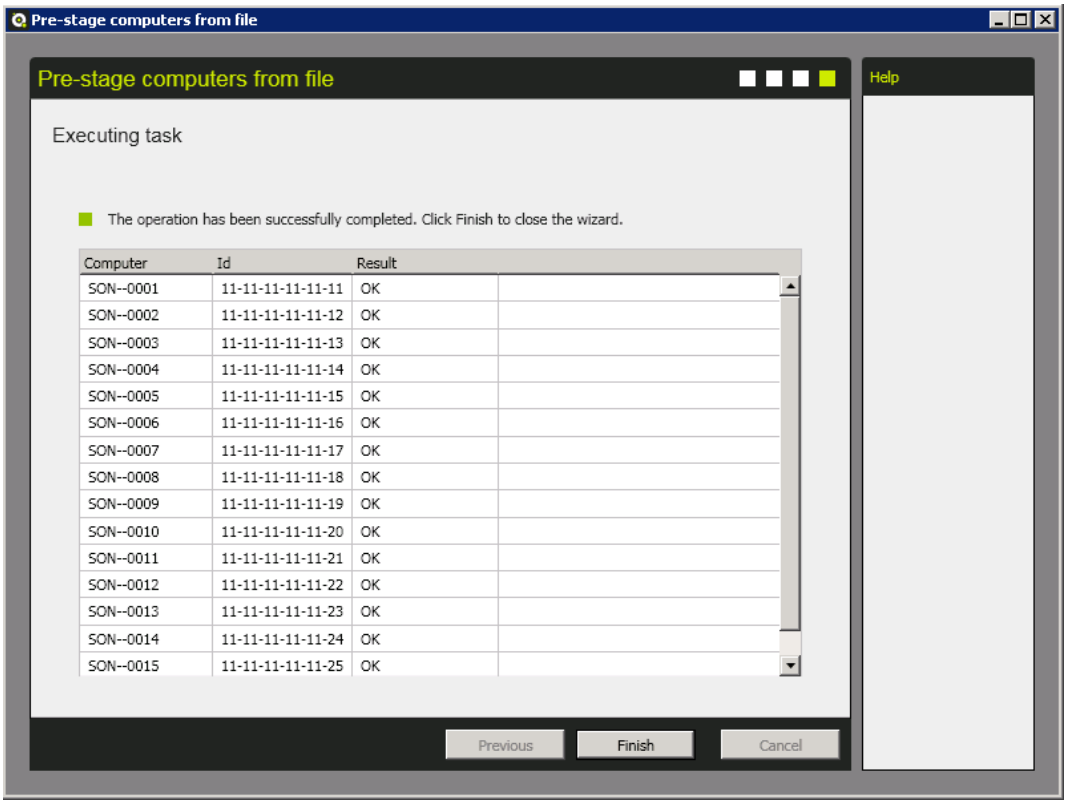

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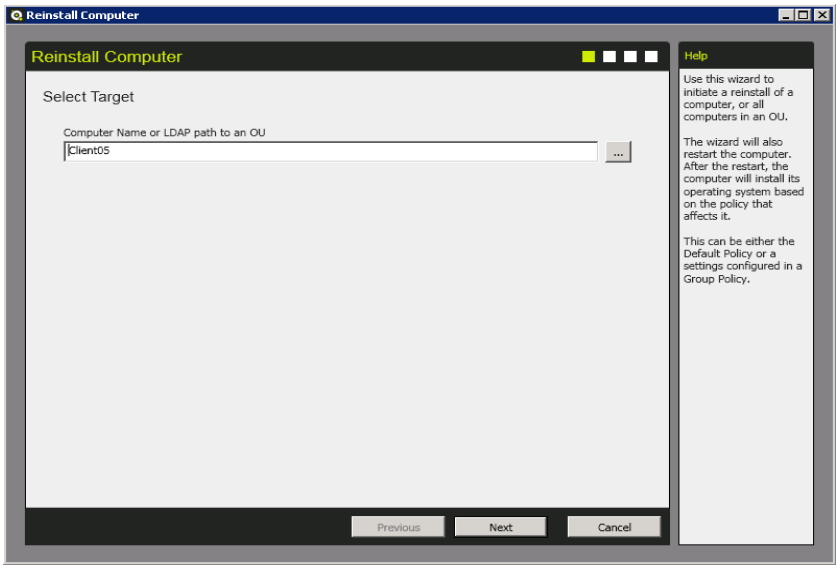
18 How to Re-install Computers with Specops Deploy / OS

Re-installing Computers allows administrators to automatically re-install an Operating System on a computer that is already part of the Active Directory infrastructure. This is useful when administrators need to repair or upgrade machines from one OS to another, in the corporate infrastructure without having to physically visit the machine in question. A Group Policy for Specops Deploy / OS must been linked to the OU where machines reside in order to utilize the Specops Deploy Client Side Extension (CSE) to perform the reinstall.

1. From the start menu navigate to All Programs>Specops Software> Specops Deploy>Specops Deploy / OS Admin. Select the Deployment Tab.

2. Select Re-install Computer and enter the computer name to re-install and Select Next.



3. Select the Reinstall Options required and the Restart Options

   - Default – This will attempt a reinstall of the computer from within the OS utilizing the Specops Deploy client side extension but will preserve the user data

   - Default, discard user data - This will attempt a reinstall of the computer from within the OS utilizing the Specops Deploy client side extension but will delete all user data

   - Reboot and Reformat – Reinstalls the operating system clean by performing a PXE boot of the machine, formatting the hard drive and installing a clean installation of the Operating System.

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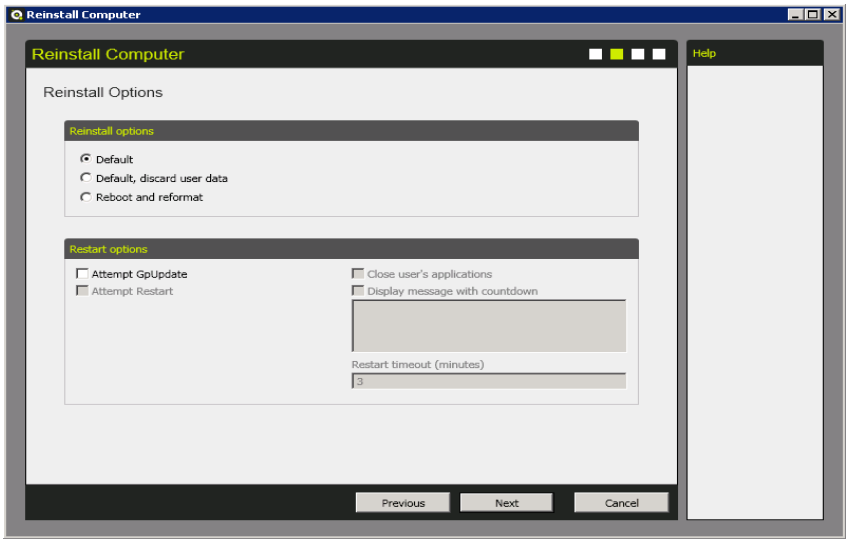
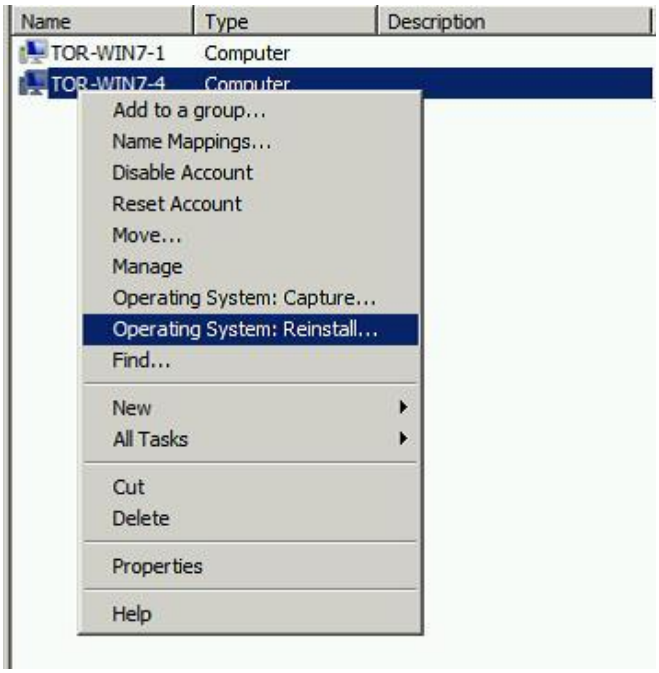
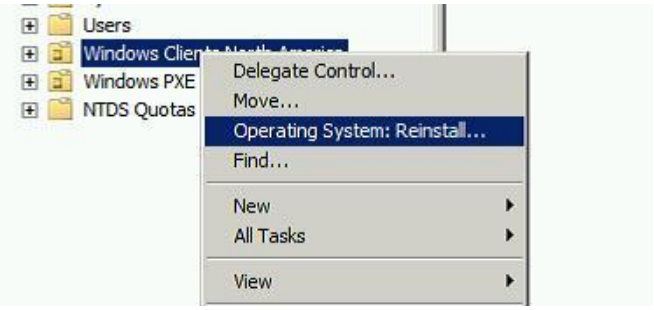


4. Select Execute, the computer will automatically reboot and install a clean Operating System or Image according to the policy defined for that system.

19 How Specops Deploy / OS Integrates with Active Directory Users and Computers

Specops Deploy / OS integrate with Active Directory Users and Computers to allow administrators to perform functions directly on an individual machine or Organizational Unit such as Operating System Reinstall or an Operating System Capture.





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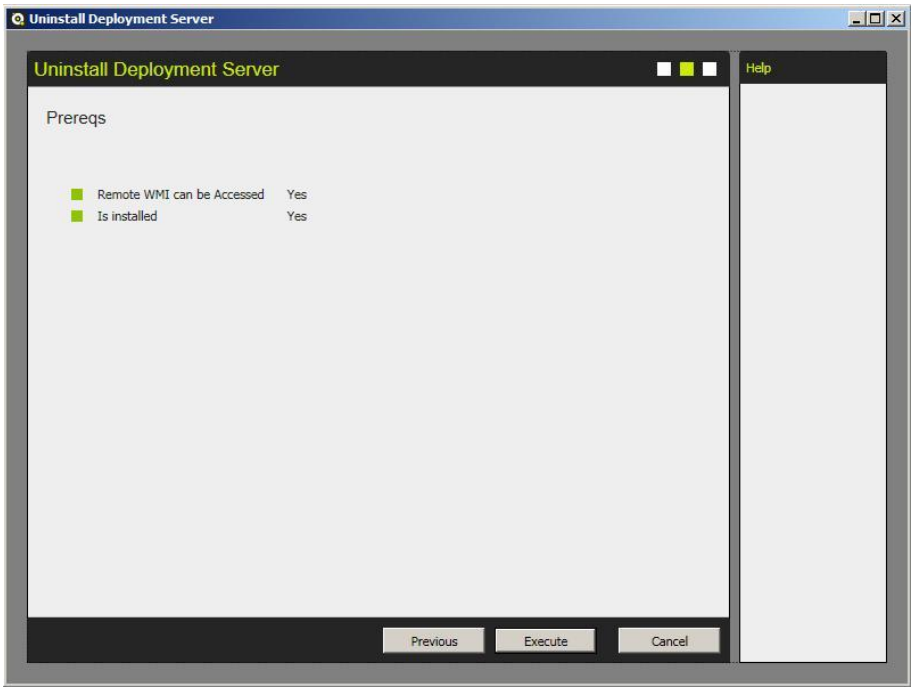
NOTE: *In the case of PXE installs, Specops Deploy / OS relies on information in Active Directory, such as GUID or MAC Address to identify a computer. When a re-install is triggered, Specops Deploy / OS will use WMI to contact and read the computers GUID or MAC address and then store it in Active Directory.*

If Specops Deploy / OS is unable to query that information, due to the computer being turned off, offline or blocked by a firewall, it will not be able to update the information in Active Directory and may not identify that computer correctly when it later boots and thus not start a reinstall or use settings from another Specops Deploy / OS Group Policy.

If two computer objects exist in Active Directory with the same GUID or MAC Address the deployment to fail and an event will be logged in Event Viewer on the Deployment Server, showing which computer accounts matched the PXE request. Regularly removing old, unused and test computer accounts from Active Directory using Specops Active Directory Janitor is recommended to avoid conflicts and deployment failures.

20 Specops Deploy / OS Deployment Server Un-Install

1. From the start menu navigate to All Programs>Specops Software> Specops Deploy>Specops Deploy / OS Admin
2. Once opened select the Server Configuration Tab and select Uninstall Deployment Server.
3. Enter the name of the remote server and Select Next.



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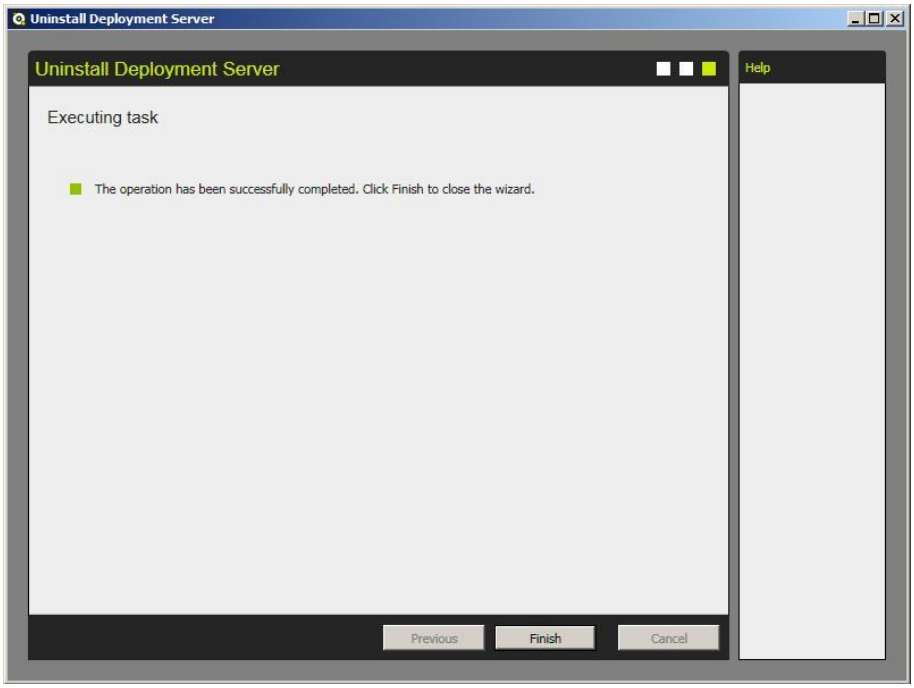

4. Select Finish to close the uninstall wizard.

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21 How to upgrade Specops Deploy / OS from an earlier version to Specops Deploy / OS 4.6

Specops Deploy / OS ships as one self-extracting binary file. When extracted, it launches a program called the Specops Setup Assistant. This Setup Assistant will help an administrator upgrade the previous version of Specops Deploy / OS.

The Setup Assistant should be run for the first time on the computer being used for the

Specops Deploy / OS Image Server. The Setup Assistant guides the administrator through the steps that need to be completed in order to upgrade to a new version of Specops Deploy / OS.

Upgrading Specops Deploy / OS is straight forward and very similar to the original installation.

1. Once the setup assistant has been launched select Start Installation on the Specops Deploy / OS splash screen.
2. Once the Specops Deploy / OS setup wizard has been launched select Image Server Setup.
3. The setup assistant verifies that perquisites MDT 2010 Update 1 is installed if not a download link will be displayed to allow administrators to download MDT 2010 Update 1.
4. Select the Active Directory scope and installation account to be used to Specops Deploy / OS.
5. The original drive letter should be preserved and it is recommended that this remain at the original setting.
6. Select Install on the Specops Deploy / OS section. The Image Server will be upgraded to the latest version.
7. Select Install on the Specops Deploy / OS Administration Tools section. The Administration Tools will be upgraded to the latest version.
8. From the start menu navigate to All Programs>Specops Software> Specops Deploy>Specops Deploy OS Admin.
9. Select the Server Configuration Tab. All Deployment Servers will have a yellow circle drawn on them and when the mouse is over a server, the text Upgrade required will be shown.
10. Right click on any Deployment Server and select the upgrade option and follow the wizard.
11. Once all servers are upgraded right click on the Image Server and select the publishing option to initiate a full rebuild of the Deployment Repository and replication of the result to all Deployment Servers.
12. When the replication completes the upgrade is finished.
13. If planning on reinstalling computers. Utilize Group Policy to deploy the new Specops Deploy Client Side Extension (CSE) to all client computers.

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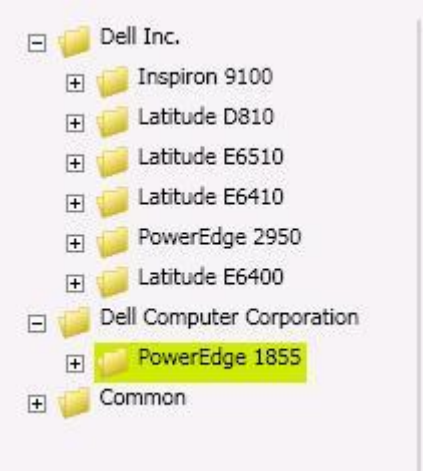
22 Restructuring driver folders in Specops Deploy / OS after upgrading to Specops Deploy / OS 4.6

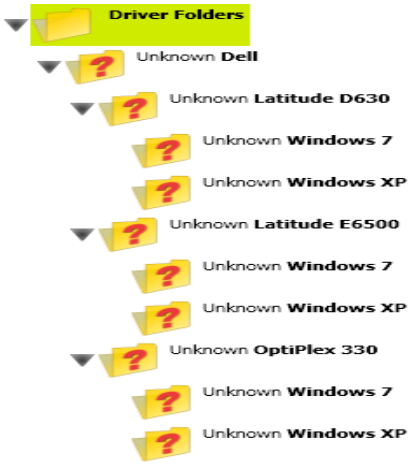
Windows 7 contains drivers required for most of today's certified hardware. However, in some cases specific drivers may need to be loaded to support specific hardware - in which case this can be performed via the Driver Management Tab.

Specops Deploy / OS can optimize the setup process by only testing the installation of the drivers that apply to specific hardware where the operating system is installed. To do this, certain criteria such as the make and model are evaluated.
When upgrading to Specops Deploy / OS 4.6 or later the existing driver tree folders will be changed to an unknown type. This is because Specops Deploy has no way of determining the legacy folder structures. The drivers that were previously imported however the folder structures will need to change in order to meet the requirements of the organization.

Before



After



1. From the start menu, navigate to All Programs>Specops Software> Specops Deploy>Specops Deploy OS Admin.
2. Select the Driver Management Tab. A listing of the unknown folder structures will be displayed on the right
3. Right Click on an unknown folder and select "Change folder type", Select Make, Model, OS or custom depending on requirements
    - Make – Used to evaluate the manufacturer of the device
    - Model – Used to evaluate the model of the device
    - OS – Used to evaluate the Operating System of the device

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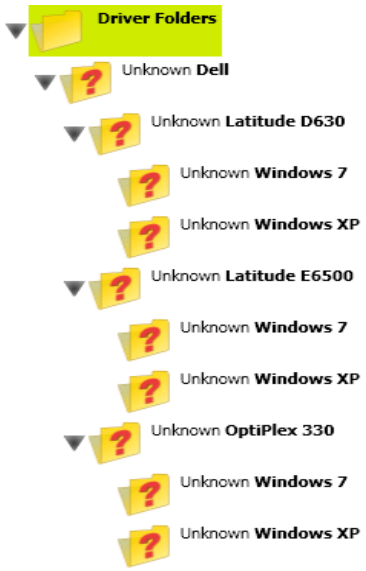
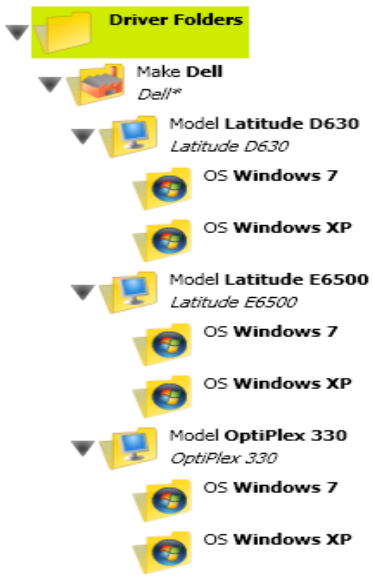
- Custom – Contain drivers associated with multiple platforms or vendors

4. Once the folder structures have been had the Aliases assigned correctly the structure will look as folders.

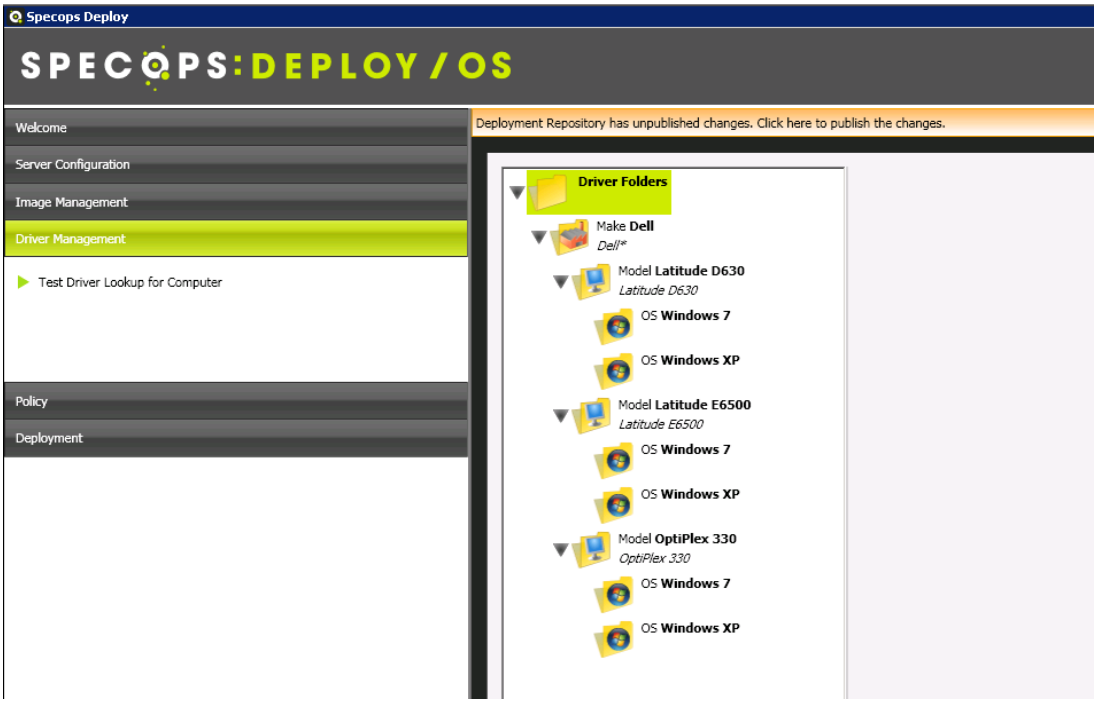
Before



After



5. Once the newly renamed folders have been completed a message will appear stating that the content needs to be replicated from the Image Server to the Deployment Servers. Click the orange bar to replicate the content.



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23 Support and Troubleshooting

Please visit the Specops Forum for support and help with troubleshooting at:

http://forum.specopssoft.com

For Tips and Tricks in Relation to Specops Deploy visit our blog at

http://blogs.specopssoft.com

For support and help with troubleshooting go to:

http://www.specopssoft.com/about-specops/contact

Urgent requests for support may be submitted to:

http://www.specopssoft.com/resources/support_1

Feedback on documentation can be sent to:

Specops-documentation@specopssoft.com

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