Creating a Wipe and Load (Non-destructive) WSA Deployment Application

Who can do this?	**What is it for?**	**Before you start**
Shopping administrators with the privileges to create WSA applications in Shopping.	To enable users to self-service their OS deployments using the Windows Servicing Assistant.	You must create the deployment task sequence in Configuration Manager – you'll need this for the General Details screen.

A Wipe and Load (Non-destructive) Deployment should be used when the task sequence does not include steps to partition or format the disk. In this scenario, although the majority of the disk content is deleted, the Task Sequence working folder (_SMSTaskSequence) is preserved throughout the entire deployment. Content can be downloaded to the local Nomad cache in preparation, then saved to this folder when the task sequence executes before the disk is wiped. User data can also be stored here also using the hard links feature of the User State Migration Tool (UMST).

On this page:

- Preparation
- Creating the Wipe and Load Non-destructive WSA Deployment Application
- Configuring the Wipe and Load (Non-destructive) WSA Deployment
- Masterclass video

Preparation

Before creating a Wipe and Load (Non-destructive) Windows Servicing Assistant Deployment Application in Shopping, ensure you have completed the following in Configuration Manager

1. Create a Task Sequence following the guidelines for Creating a WSA Wipe and Load Non-destructive Task Sequence.
2. Create an empty Collection that will be targeted with a deployment of the WSA Wipe and Load Non-destructive Task Sequence
3. Deploy the WSA Wipe and Load Non-destructive Task Sequence created in step 1 to the empty Collection created in step 2. The deployment should be configured as **Available** (not Required), and scheduled to become available **10 years in the future** as indicated below. This prevents the deployment from appearing in Software Center until the available date, thereby preventing the user from executing the task
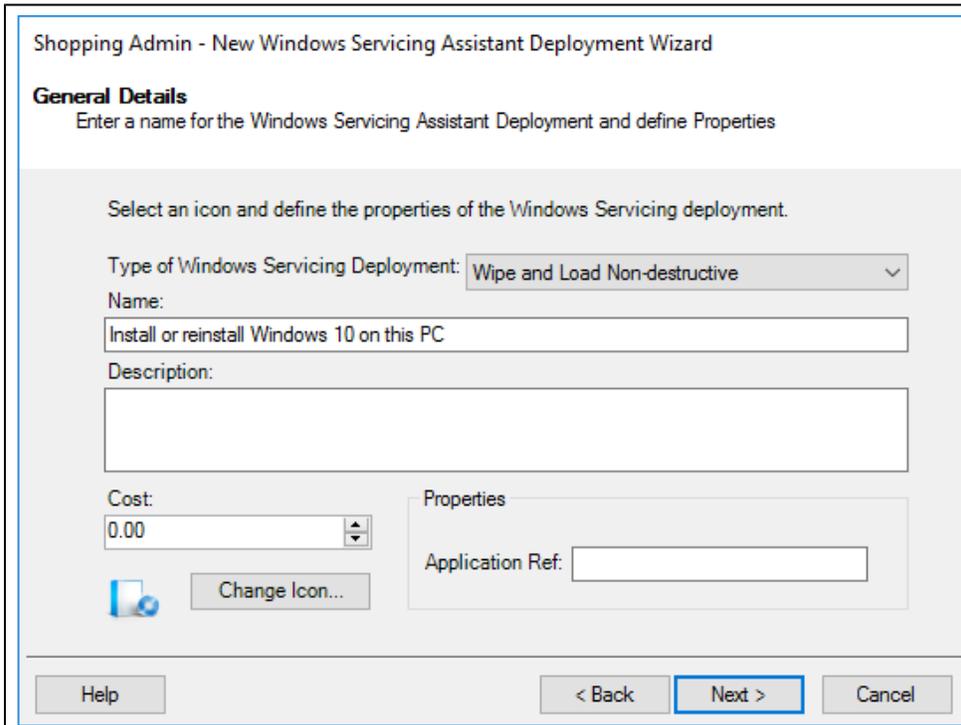
sequence outside the Windows Servicing Assistant.
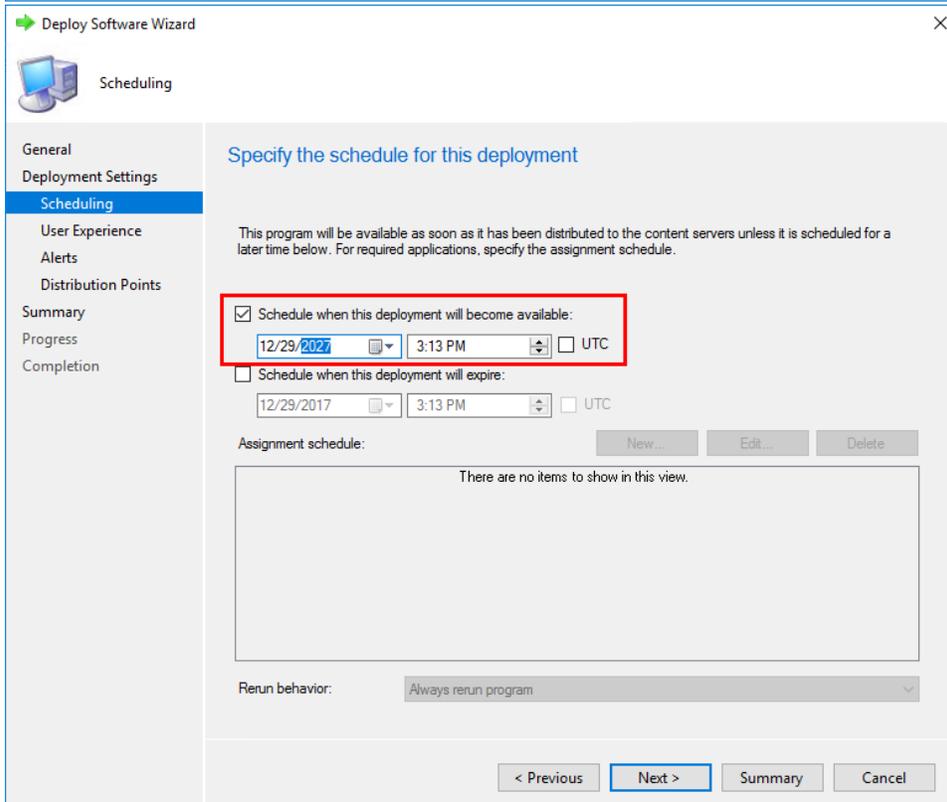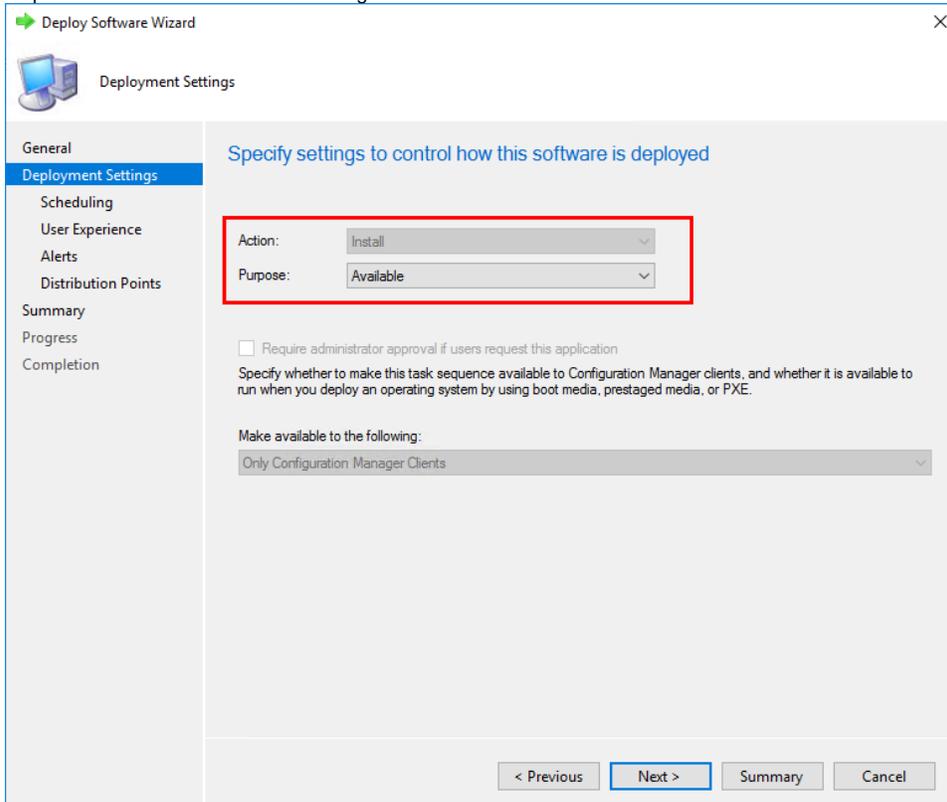
Creating the Wipe and Load Non-destructive WSA Deployment Application

1. In the **Shopping Admin Console**, right-click the **Applications** node and from its context menu, choose **New Windows Servicing Assistant Deployment**.
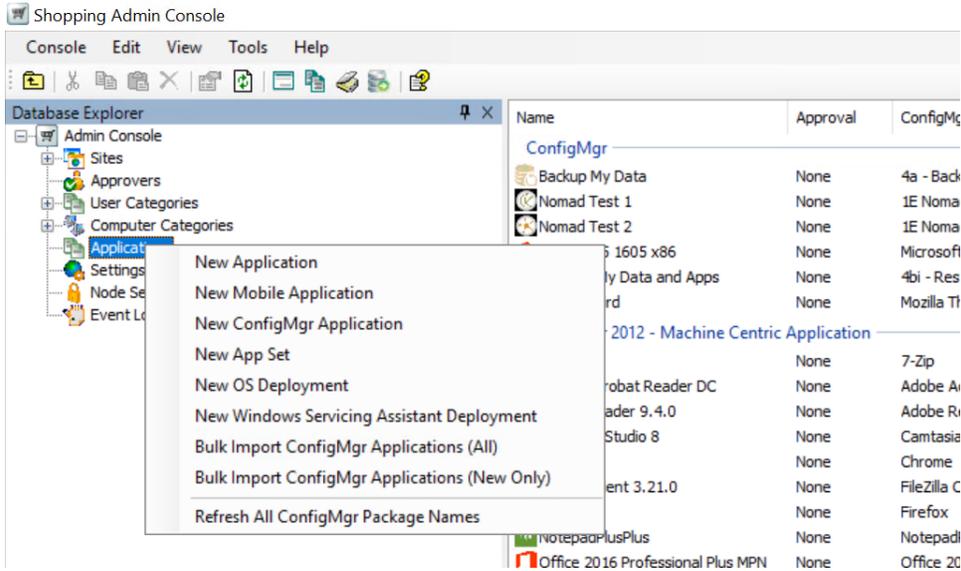

2. On the **Welcome** screen, click **Next**.
3. On the **General Details** screen:

   a. Select **Wipe and Load Non-destructive** from the Type of Windows Servicing Deployment drop-down.
   b. In the Name field, enter the name of this application as you want it to appear to the end user in the wizard.
   c. Optionally, enter a brief description in the Description field (note that the description, cost and icon are never displayed to the end user for WSA Deployment Applications).
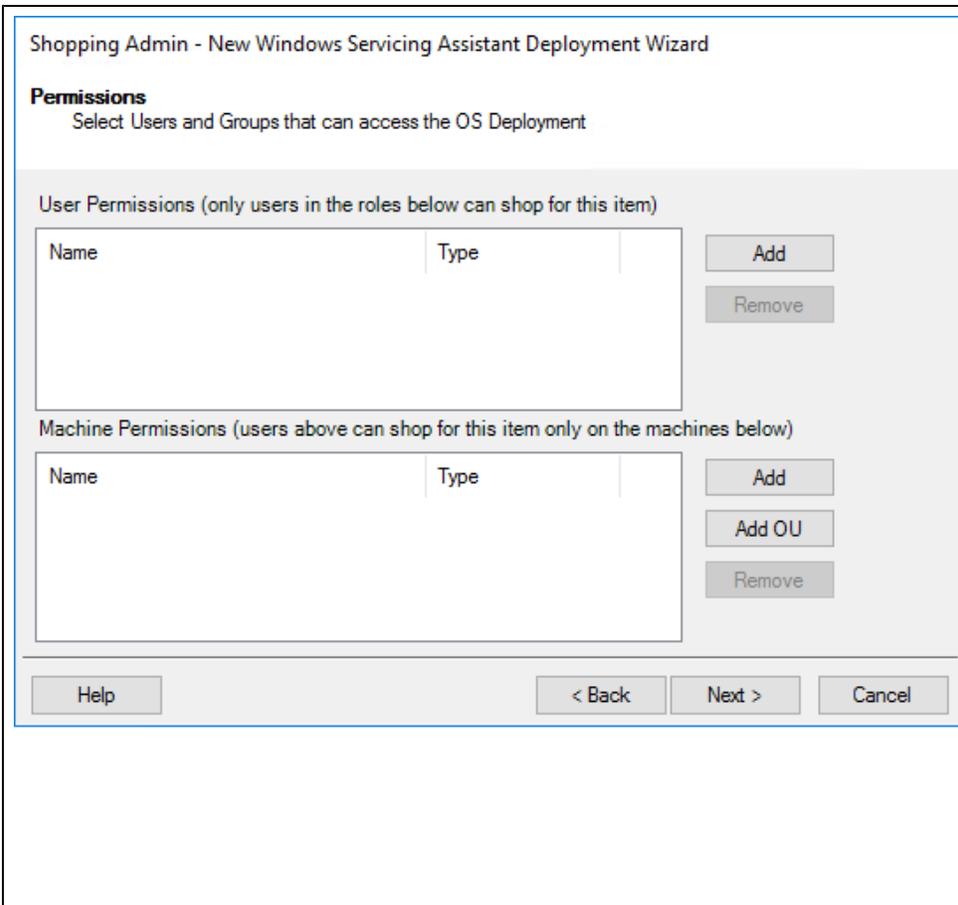   d. Click **Next**.

4. On the **SMS/Config Mgr collection** screen:
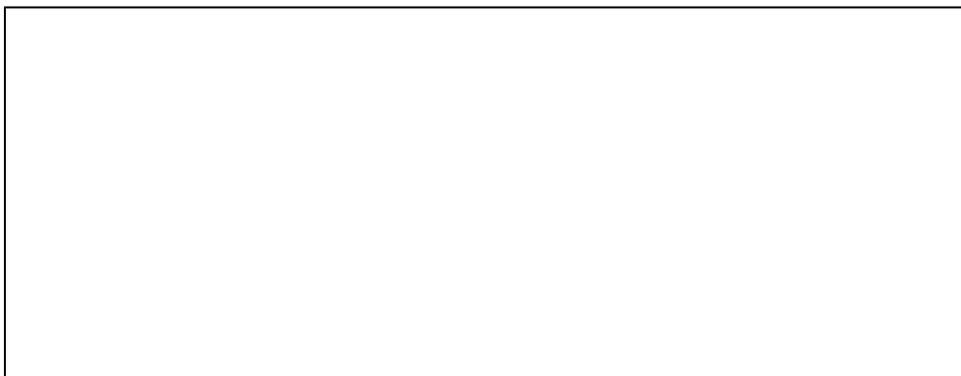
   a. Select the Collection that the Wipe and Load Task Sequence was deployed to (see P reparation above).
   b. From the Deployment drop-down, select the deployment that was created to deploy the Wipe and Load Task Sequence to the Collection selected previously.
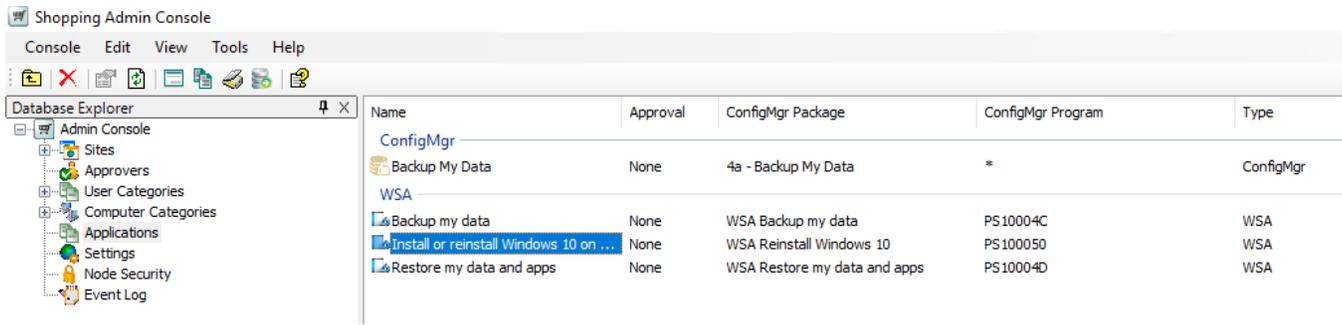   c. Click **Next**.
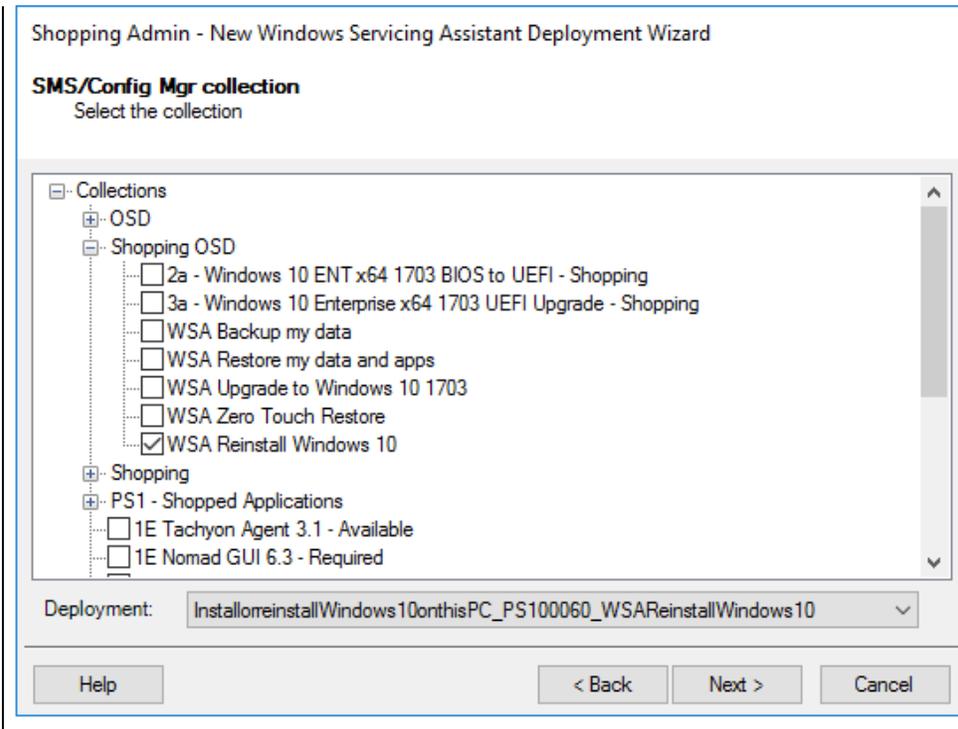
5. On the **Permissions** screen:

- If you want this **Wipe and Load Deployment** to be available to everyone, click **Next** (i.e. do not restrict the deployment to any users or computers).
- If you want to restrict this **Wipe and Load Deployment** to specific users, click **Add** (to the right of the User Permissions list) and add the user or group that you want to restrict access to. Repeat to add multiple users or groups.
- If you want to restrict this **Wipe and Load Deployment** to specific computers, click **Add** (to the right of the Machine Permissions list) and add the computer or group that you want to restrict access to. Alternatively, click **Add OU** to add an OU that contains the computers that you want to restrict access to. Repeat as appropriate to add multiple computers, groups or OUs.

6. On the **Completing the Windows Servicing Assistant Deployment Wizard** screen, click **Finish**.

Configuring the Wipe and Load (Non-destructive) WSA Deployment

Console   Edit   View   Tools   Help

Name	Approval	ConfigMgr Package	ConfigMgr Program	Type
ConfigMgr				
Backup My Data	None	4a - Backup My Data	*	ConfigMgr
WSA				
Backup my data	None	WSA Backup my data	PS10004C	WSA
Install or reinstall Windows 10 on …	None	WSA Reinstall Windows 10	PS100050	WSA
Restore my data and apps	None	WSA Restore my data and apps	PS10004D	WSA

Database Explorer ⊓ ×
- Admin Console
  - Sites
  - Approvers
  - User Categories
  - Computer Categories
  - Applications
  - Settings
  - Node Security
  - Event Log

Wipe and Load (Non-destructive) WSA Deployment has been created, it may be necessary to configure additional properties that are applicable specifically to Wipe and Load (Destructive) deployments.

In the **Shopping Admin Console**, select the **Applications** node and double-click the **Wipe and Load (Non-destructive) WSA** application you just created (it will be listed under WSA as shown below – use the search feature if necessary) to open the Properties dialog.

We are going to walk you through each of the tabs in the **Properties** dialog for the **Wipe and Load (Non-destructive) Deployment** and show you what the respective settings do and how they impact the behavior of the deployment in terms of the user experience. There is a masterclass on how to create the deployment at the end of this section.

The General tab

The General tab	The Start screen
	The **General** tab is populated with the settings defined when the application was created. It controls what is displayed on the **Start** screen. You can change the name of the deployment (changing the description, cost and icon has no effect as these are never displayed to the end-user). However, Type cannot be changed.

For example, if you change the name of the deployment from Install or reinstall Windows on this PC to Reinstall Windows on My PC, users see this when they click Launch from the Upgrade to Windows 10 banner in the Shopping Web.

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Install or reinstall Windows 10 on this PC - Windows Servicing Assistant De... ✕

| Data Capture | Readiness Checks | | Connection | Location |
| General | ConfigMgr Collection | Permissions | Applications | Storage |

Type: Wipe and Load Non-destructive

Name: Inatall or reinstall Windows 10 on this PC

Description:

Icon: [icon] Change Icon...

Cost: 0.00

Application Ref:

OK   Cancel   Apply

The ConfigMgr Collection tab

The **ConfigMgr Collection** tab is populated with the selections made when the application was created. These can be modified if necesasry, but not recommended unless it is to correct an error. If you do modify these, ensure you select a deployment of a **Wipe and Load (Non-destructive) Task Sequence**.

Install or reinstall Windows 10 on this PC - Windows Servicing Assistant De... ✕

Data Capture	Readiness Checks	Connection	Location

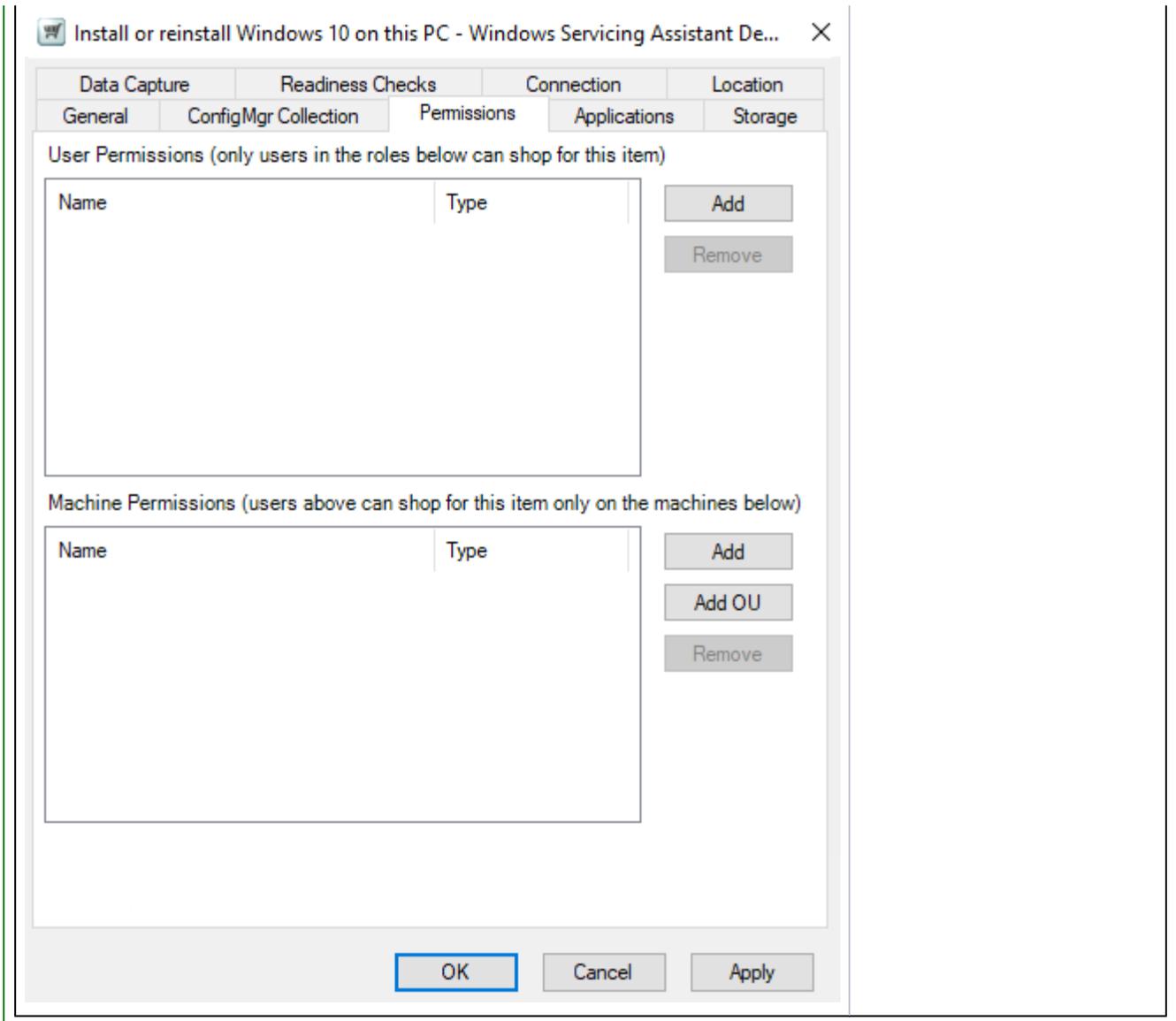| General	ConfigMgr Collection	Permissions	Applications	Storage

⊟ Shopping OSD
  ☐ 2a - Windows 10 ENT x64 1703 BIOS to UEFI - Shopping
  ☐ 3a - Windows 10 Enterprise x64 1703 UEFI Upgrade - Shopping
  ☐ WSA Backup my data
  ☐ WSA Restore my data and apps
  ☐ WSA Upgrade to Windows 10 1703
  ☐ WSA Zero Touch Restore
  ☑ WSA Reinstall Windows 10
⊞ Shopping

Deployment: InstallorreinstallWindows10onthisPC_PS100060_WSARein ⌄

[OK]   [Cancel]   [Apply]

The **Permissions** tab is populated with the selections made when the application was created. You can modify the permissions from this tab to restrict access to specific users and /or computers.

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| Data Capture | | Readiness Checks | | Connection | | Location |
| General | ConfigMgr Collection | | Permissions | | Applications | | Storage |

User Permissions (only users in the roles below can shop for this item)

Name	Type	
		Add
		Remove

Machine Permissions (users above can shop for this item only on the machines below)

Name	Type	
		Add
		Add OU
		Remove

OK   Cancel   Apply

The Applications tab

The **Applications** tab controls what users see on the **Applications** screen. The list of applications you add to the Applications in OS Image list is displayed on the left of the **Applications** screen.

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- If there are standard applications that are included in the OS image or installed by the task sequence, you can let the user know which applications are included by adding them to the Applications in OS Image list.

  This is simply a list of free text strings entered by the administrator. The user is shown the list as it appears in this dialog.

- If 1E Application Migration is being used (specifically, if the Wipe and Load Task Sequence includes the 1E Application Migration steps):
  1. Check the Migrate Applications option.
  2. Optionally, check the Display Application Migration list to WSA User option. When this option is selected, the user will see the applications that will be migrated on the Applications screen of the Windows Servicing Assistant.

  ⚠ If Migrate Applications is unchecked, when the task sequence runs the WSA Initialize step will set the `1EWSA_AppMigrationEnabled` Task Sequence variable to `False`.

  This variable should therefore be used in a condition on the Migrate Applications group in the task sequence so the group does not execute it if `1EWSA_AppMigrationEnabled=False`. If this condition is not applied to the Migrate Applications group in the task sequence, Application Migration steps will be executed even though the Migrate applications option was unchecked in the WSA Deployment properties.
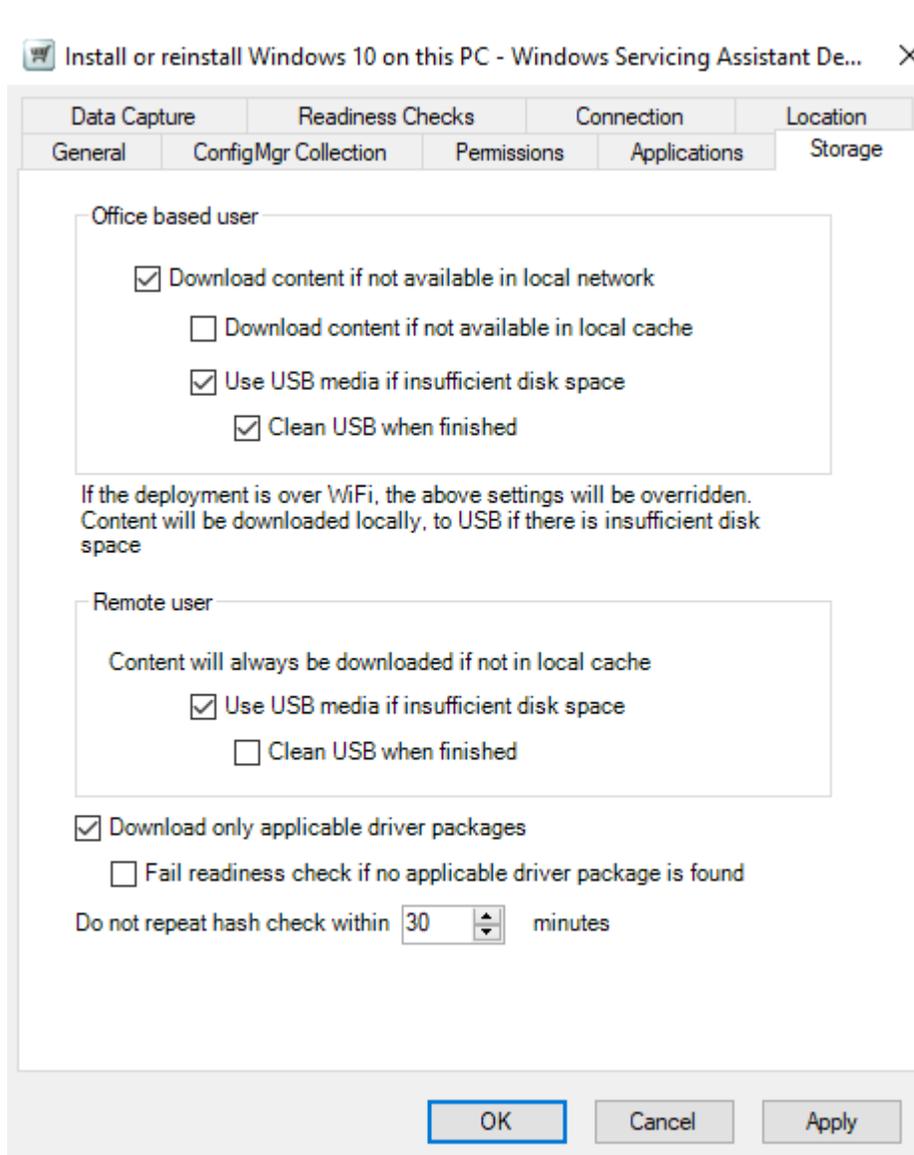
The Storage tab

The **Storage** tab controls what options ar[...]
peers).
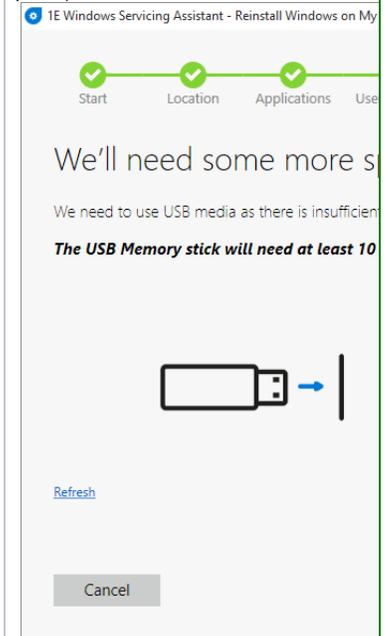
For Office based users:

- Check the **Download content if not available in local network** option (default) to ensure the WSA downloads any any reference content for th[...]
Nomad cache or from any peers on the local network.

> ⚠ If the Allow deployments over WiFi option is enabled in the Connection tab, **Download content if not available in local network** and **Do**[...]

- Check the **Download content if not available in local cache** option to ensure the WSA downloads all reference content for the task sequ[...]
but will speed up the actual deployment once the task sequence is executed.
  - Check the **Use USB media if insufficient disk space** option (default) if you want to enable users to use USB media to store content[...]
will need to uncheck this option, in which case the WSA wizard will prevent the user from executing the task sequence if there is insuf[...]

    > ⚠ The WSA requires NTFS formatted USB media to store content. When prompted to insert/select USB media, the user will not b[...]

  - Check the **Clean USB when finished** option (only enabled if **Use USB media if insufficient disk space** is checked) to have the WS[...]

For remote users:

Content will always be downloaded to the local Nomad cache as the assumption is there will be no local peers:

- The **Use USB Media if insufficient disk space** option is checked by default. Uncheck this if users are not allowed to use USB disks. If this opt[...]
prevent the user from executing the deployment.

- Check the **Clean USB when finished** option to have the WSA remove any content it added to the USB media when the task sequence ha

Driver Packages:

- Check the **Download only applicable driver packages** if the task sequence includes any Install Driver Package or Download Driver Package
  packages referenced in the task sequence. By enabling this option, the WSA will parse the task sequence and only download drivers that meet
  download all referenced driver packages and may therefore require more time and disk space.

  ⚠ WSA is only able to evaluate single WMI conditions in the Install Driver Package steps. If multiple conditions are defined, only the first will

- Check the **Fail readiness check if no applicable driver package is found option** to fail the readiness checks if the Task Sequence does not

  ⚠ Typically, virtual machines will not have any applicable drivers, so ensure the **Fail readiness check if no applicable driver package is f**

Hash checking:

WSA will perform a content hash check on all downloaded content as part of the readiness checks. As the readiness checks may be run a second tir
period defined in the **Do not repeat hash check within** option. The value is defined in minutes between 0 and 480 minutes (8 hours) - 0 will result in

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The **Data Capture** tab controls the options available to the user on the **User Backup** screen.

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| General | ConfigMgr Collection | Permissions | Applications | Storage |
| Data Capture | Readiness Checks | Connection | Location |

☐ Do not capture user files and settings

The following message will be displayed to users

Select the folders and files you want backed up

☑ Allow user to backup folders

Enter excluded folder path (below folders will be excluded by default)

%ONEDRIVE%|%PROGRAMFILES%|%PROGRAMFILES(X86)%|
%PROGRAMW6432%|%PUBLIC%|%SYSTEMROOT%|

OK   Cancel   Apply

- Check **Do not capture user files and settings** if the users do not have local files or settings that must be preserved. If this option is checked the other options are disabled and the following points do not apply.

  > ⚠ When you select this option, WSA will not attempt to calculate space required for user data. When the WSA Actions - Initialize step runs in the task sequence, a variable named 1ESkipUserStateCapture will be created and set to true. If the task sequence includes steps to capture data, these should be conditioned to only execute if 1ESkipUserStateCapture is not true.

- The message displayed to the user on the Data Capture screen (the default is Select the folders and files you want backed up) can be customized by modifying it in the text in the box.

  > If you are not allowing users to select folders to be backed up (see Allow user to backup folders below), you will need to modify this message as the user will not be prompted to select folders and the wizard screen will be blank other than this message. It may also be useful to warn the user in this message that when they click Next, the wizard will calculate space required, which could take several minutes.

- Check the **Allow user to backup folders** option to allow users to select which folders they want to be included in the capture. To prevent users selecting certain folders, enter them in the text box using the pipe character to separate them.

  The greyed-out text box lists the global folder exclusions defined in the WSA System Folder Exclusions setting in Shopping. These can be modified in the Shopping Admin Console as indicated below.
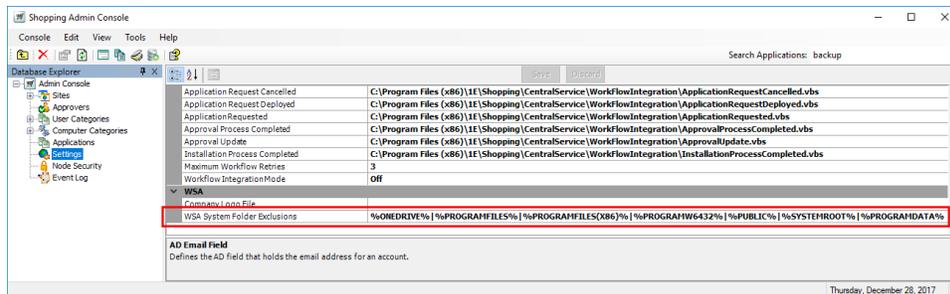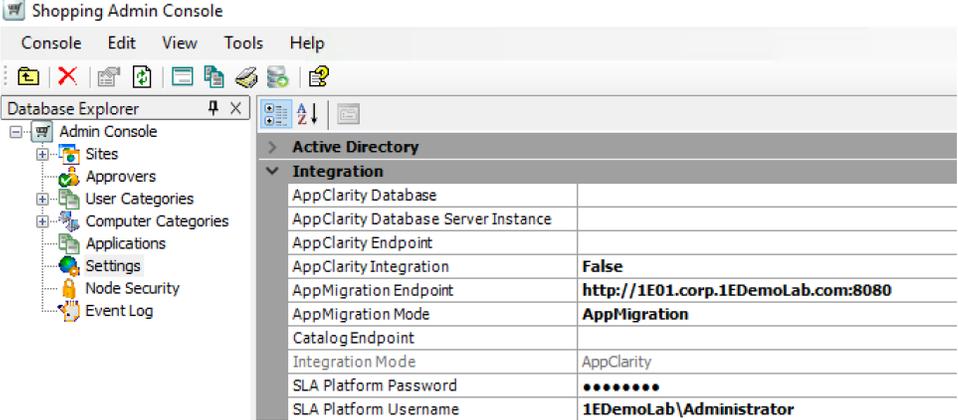

  > For a Non-destructive Wipe and Load Data Capture will use hard links, therefore the options to use Nomad Peer Backup Assistant or USB are not present on this tab as they are with other deployment types.

User Backup exceptions and how to fix them

These must be resolved before the deployment can continue:

- We've found something that prevents us from continuing at this time. Please retry later, or contact your administrator if the issue continues to occur.

Error code	Likely causes	Remedial action
0x00001001	Communication error – failure to send a size estimation message to the Tachyon service.	Ensure the Tachyon service is up and running.
0x00001002	Timeout duration exceeded – the Tachyon service was not able to send a	

	size estimation message for over the 1 minute timeout duration.	
-1	Task is cancelled.	
0x0100	Failure to get task sequence references from the Shopping API	1. Ensure that the Shopping Web is up and running. 2. In Configuration Manager, ensure that the Shopping AppPool user is granted the Read-only Analyst role.
0x0101	1. Source machine does not exist in SLA platform. 2. Missing or invalid SLA platform credentials under **Settings** in **Shopping Admin Console**.	1. Ensure that the source machine exists in the SLA platform. If it does not, run a sync to refresh the data. 2. Ensure that the SLA platform credentials are correct under **Settings** in **Shopping Admin Console**.
0x0102	Unable to get USMT Capture step configuration.	Ensure that the task sequence contains a Capture step.
0x0103	Unable to get the task sequence XML as: 1. The Shopping server is unavailable.	1. Ensure that the Shopping Web is up and running. 2. In Configuration Manager, ensure that the Shopping AppPool user is granted the Read-only Analyst role.

	2. The Shopping App Pool user has not been granted the Read-only Analyst role in Configuration Manager.	
0x0204	Missing details in the WSA order.	Contact 1E Support for assistance.
0x0300	Unable to fetch Nomad cache size details.	Ensure that the Nomad service is running and get the user to retry.
0x0301	Unable to get content location.	Ensure that Nomad service is running and the client machine is present in the required boundary groups and get the
0x0302	Unable to find PBA host.	Ensure that the PBA hosts are responsive by running a ping, check the PBA configuration and get the user to retry.
0x0400	Unable to locate applicable driver package in the task sequence for this machine.	Ensure that the task sequence contains driver package valid for that machine. Otherwise, modify the WSA applicatio Admin console such that it does not fail when drivers are not available.
0x0406	Unable to locate USMT Package in the task sequence references.	Ensure that the USMT package is referenced in the task sequence.
0x0602	ScanState.exe unable to estimate user state data size.	Ensure that the Tachyon service is up and running. If it is running, check scanstate.log (its location is found in Tachy
0x0603	Unable to locate	Ensure that you have Nomad 6.3.200 or later installed.

	a compatibl e version of Nomad.

![Install or reinstall Windows 10 on this PC - Windows Servicing Assistant De...]

Install or reinstall Windows 10 on this PC - Windows Servicing Assistant De... ✕

| General | ConfigMgr Collection | Permissions | Applications | Storage |
| Data Capture | Readiness Checks | | Connection | Location |

A final set of readiness checks can be performed just before the TS is launched. For those checks enabled, failure will result in the TS launch being aborted and the user being notified via the WSA taskbar. Users will be given the opportunity to fix any issue and retry the TS launch

☐ Do not start the task sequence if this device is storing data captured from another device

☐ Do not start the task sequence if this device is currently serving a boot image to another device

☐ Do not start the task sequence if this device is currently running on battery

OK   Cancel   Apply

The **Readiness Checks** tab lets you choo

1E Windows Servicing Assistant - Reinstall Windows on My P

Start   Location   Applications   User

Preparation completed!

What would you like to d

◉ I'm done. Go ahead and Reinstall Windows o

○ I want to continue working. I'll come back w
To return to this page later, double-click the ⚙ icon i

Cancel

- Check **Do not start the task sequence if this device is currently storing data captured from another device** if you want the WSA to p the local machine is currently storing user data from one or more peers.
- Check **Do not start the task sequence if this device is currently serving a boot image to another device** if you want the WSA to prev currently serving a boot image to a peer.
- Check **Do not start the task sequence if this device is currently running on battery** if you want the WSA to prevent the task sequence

The **Connection** tab controls whether or connection and whether they are prompte

- Check **Require user enter VPN credentials** if the task sequence includes a step to establish a VPN connection that requires user credentials.

  ⚠ If this option is enabled, when the WSA runs, if the user selects remote location (i.e. not in the office) they will be required to enter their VP Initialize step, these credentials are stored in the `1EWSA_VpnUserName` and `1EWSA_VpnPassword` Task Sequence Variables.

- Check **Allow deployments over WiFi** if you want users to be able to execute the deployment on a wireless connection.

  ⚠ Enabling this option in a Non-destructive Wipe and Load Deployment will modify the settings on the Storage tab for office based users. Sp **ownload content if not available in local network** and **Download content if not available in local cache**.

- The **Require user enter SSID and password** option is only enabled if Allow deployments over WiFi is checked. Check this option if the task se requires the SSID and password to be provided.

  ⚠ If this option is enabled, when the WSA runs it will prompt the user to select a WiFi SSID (from those currently available) and enter the pa step, these credentials are stored in the `1EWSA_WifiSsid` and `1EWSA_WifiPassword` Task Sequence variables.

The Location tab

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| General | ConfigMgr Collection | Permissions | Applications | Storage |
| Data Capture | | Readiness Checks | Connection | Location |

☑ Hide Location Page

Use below location when Location Page is hidden

◉ Office   ○ Remote

[OK] [Cancel] [Apply]

The **Location tab** controls is displayed f
choose to hide the Location page you mu

◉ 1E Windows Servicing Assistant - Upgrade to Windows 1703

✓ Start ────── ② Location ────── ③ Applicati

Where are you?

I am in

*Telling us your location type will allow us to
the shortest possible time. A remo*

[Cancel]

Why can't I see the Locatio

You will not see this screen if:

- You asked for data to be moved fror
  and Apps to a New PC option on the
- The Location page has been set to I
  Remote.

Other operational errors

Exceptions on Completion screen and how to fix them

Error code	Likely causes	Remedial action
0xA0070700	The task sequence failed to start.	This is not likely to happen happen unless the Windows Management Instrumentation (WMI) is corrupted. If this happens, get the user to rerun the deployment. Error is displayed on the **Completion** screen as follows: • Something went wrong with the deployment. Please contact your local administrator.
0xA0070701	SCCM execution history is missing.	Check the status messages in Configuration Manager for the task sequence deployment as well as the ExitCode in the WSA execution history for the Task Sequence package id (`HKEY_LOCAL_MACHINE\SOFTWARE\1E\WSA\TSExecutionHistory\TSPkgID`) Error is displayed on the **Completion** screen as follows:

		• Something went wrong with the deployment. Please contact your local administrator.
0xA0070702	WSA execution history is missing – most likely cause is that the task sequence failed in WinPE.	Check the status messages in Configuration Manager. Error displayed on the **Completion** screen as follows: • Something went wrong with the deployment. Please contact your local administrator.
0xA0070703	Unable to establish a WIFI connection.	Get the user to run the deployment again with the emphasis on providing their correct connection credentials – on the Connection screen, click Reveal to check the accuracy of the password they entered. Error displayed on the **Completion** screen: There was a problem connecting to the WiFi network. Please rerun the Assistant and ensure that the WiFi connection details are entered correctly
0xA0070704	Unable to establish a VPN connection.	Get the user to run the deployment again with the emphasis on providing their correct connection credentials – on the **Connection** screen, click **Reveal** to check the accuracy of the password they entered. Error displayed on the **Completion** screen: There was a problem connecting to the VPN. Please rerun the Assistant and ensure that the VPN connection details are entered correctly
0xA0070705	WSA execution history is invalid.	Contact 1E Support for assistance for assistance. Error displayed on the **Completion** screen as follows: • Something went wrong with the deployment. Please contact your local administrator.

Masterclass video

A masterclass in creating a Wipe and Load (Non-destructive) WSA Deployment Application