

Windows 10 Upgrade-Broad Deployment



Guide Description

The purpose of this guide is to lay out the steps for deployment the OS upgrade from the M365 skus across your network. This guide is assuming you have the **M365 Business, M365 E3, or M365 E5** License. After the you complete this guide you will have:

- Run an assessment for Windows 10 Upgrade Readiness for all the devices on your network
- Created Windows 10 Installation Media
- Downloaded and Configured MDT and WDS to deploy the Windows 10 Upgrade
- Tested the upgrade on 2 pilot devices
- Configured WDS and MDT for Light Touch Installation (LTI) to all users on your network

Disclaimer

This guide is meant to provide best practices for Windows 10 Upgrade readiness and broad deployment across your network. It is meant to be used as a template, but the settings configured will not be the same in all use cases. You must access all the devices in your network to decide how many different versions of the WIM file you need to create to match the compatibility of the workstation. As a best practice, test all configurations with a pilot group before moving to broad deployment across an entire organization



Checklist

Have Local Admin ID on all Workstations

Baseline System Requirements Access to Primary DC

Apps you want to deploy 2 Pilot Devices to Test

- a. Have Local Admin ID on all Workstations
 - i. We need this when running the Microsoft Assessment and Planning toolkit
 - ii. Workstations must be turned on for this tool to run an assessment on that device
- b. Baseline System Requirements on Sever:
 - i. Microsoft Deployment Toolkit:
 - 1. Supported Operating System
 - a. Windows 10, Windows 7, Windows 8, Windows 8.1, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, Windows Server 2016, Windows Server 2019
 - 2. Other Requirements
 - a. The Windows ADK for Windows 10, version 1809 or later, is required for all deployment scenarios.
 - b. Configuration Manager, version 1810 or later, is required for zero-touch installation (ZTI) and user-driven installation (UDI) scenarios.
- c. Access to Primary DC
 - i. This is where we will be spending most of our time during setup
 - ii. This is where we will run and install the following
 - 1. Microsoft Assessment and planning toolkit
 - 2. MDT
 - 3. WDS
- d. Apps you want to Deploy
 - i. Part of the configuration for MDT allows us to add applications to our deployment. I do not cover that in this guide but can be helpful if you want to push out any on-premise applications. I recommend using Intune for this feature.
- e. Choose 2 pilot devices you want to enroll into Intune
 - i. These devices we will be using to test our deployment share and configure our bootstrap.ini file so the broad audience has a LTI (Lite touch installation) experience



Phases:





Table of Contents Continued (Links to sections of Document):

Phase 1: Microsoft Assessment and Planning ToolkitPhase 2: Install the Windows 10 Installation MediaPhase 3: Install WDS and MDTPhase 4: Import Your OSPhase 5: Create a New Task SequencePhase 6: Create MDT Deployable ImagePhase 7: Add the Boot Images to WDSPhase 8: Deploy the Windows 10 ImagePhase 9: Navigate the End-User Experience



Install the Microsoft Assessment and Planning Toolkit

We want to perform an assessment on the computers in our network to make sure they are compatible for the Windows Upgrade. The Microsoft assessment and planning toolkit allows us to scan all the computers in our Active Directory or by scanning a certain IP range and tells us which devices are ready for the upgrade.

1. Go to the following link on your AD server and download the Microsoft Assessment and Planning Toolkit: <u>https://www.microsoft.com/en-us/download/details.aspx?id=7826</u>



2. Run through the wizard to install:





3. Go to start and open the program:



4. Click Desktop, then collect inventory data under Windows 10 Readiness





5. Choose Windows Computers and click next:

aloto							
lnventory and A	ssessment Wizard $ imes$						
Inventory Scenarios							
Inventory Scenarios	The MAP Toolkit helps you to collect information for several different inventory scenarios. The scenarios you						
Discovery Methods	choose determine the technologies used to collect						
Active Directory Credentials	Choose your scenario						
Active Directory Options	Windows computers						
All Computers Credentials	Linux/UNIX computers						
Credentials Order	Active Devices and Users						
Summary	Description This inventory scenario uses WMI to collect hardware, device, and software information about Windows-based computers in your environment, including Microsoft Office, SQL Server, Sha Collector Technologies: WMI						
	< Provious Next > Finish Cancel						

6. Choose you methods:

	Inventory and A	Inventory and Assessment Wizard X				
-	Discovery Methods					
12	Inventory Scenarios	Select which methods to use to discover computers.				
_	Discovery Methods	✓ Use Active Directory Domain Services (AD DS)				
١	Active Directory Credentials	Use Windows networking protocols				
S	Active Directory	Use System Center Configuration Manager (SCCM)				
W	Copilions	✓ Scan an IP address range				
.0	Range	Manually enter computer names and credentials				
	All Computers Credentials	Import computer names from a file				
	Credentials Order					
	Summary	~F				
		Select this checkbox to import computer				
		< Previous Next > Finish Cancel				



7. If using AD DS, enter necessary info:

	Inventory and Assessment Wizard X						
_	Active Directory Credentials						
а	Inventory Scenarios	Specify the logon inf Active Directory for	ormation used to connect to the				
_	Discovery Methods	(* Indicates required fie	eld				
١	Active Directory Credentials	<u>D</u> omain*:	wrajrecords.com				
50 N	Active Directory Options	Domain account*:	wrajrecords\nross				
c	Scan an IP Address Range		Examples: uomainuser or user@doma This account does not require administra				
	All Computers Credentials	P <u>a</u> ssword*:					
	Credentials Order						
	Summary						
			aviaus Next > Finish Concell				
		< <u>P</u> r	evious Next > Finish Cancel				

8. If using IPs, enter range:

Sinventory and As	ssessment Wizard		\times			
属 Scan an	IP Address Range	ATT	4			
Inventory Scenarios Specify the IP address ranges to scan for computers and devices.						
Scan an IP Address Range	Enter the IP address ranges below. Press Tab to insert a new row.					
All Computers Credentials	IP addresses between the starting and ending values will be included. A maximum of 100,000 addresses are allowed.					
Credentials Order	IP address ranges:					
Summary	Starting Address	Ending Address				
	< Previous	Next > Finish Cance	el			



9. Ensure you add an administrator account with local admin access to all computers

hese credentials will pecify accounts that can	be used to connect to the machines y collect information from the computers.	ou've specified.
Account idmin @domain.com	Applies to WML	
Create	Edit.	Remove

10. Finish the wizard till completion





	Clipboard	r _a	Font	Es.	Alignment	ra Nur	nber
A	ب ا	$\times \checkmark$	f_x Windo	ws 10 Assessment	Summary for Client Con	nputers	
4	A			в			
1	Windows 10	Assessn	nen: Summ	ary for Client	Computers		
2	client operating s	ystem.					
3							
4	Windows 10 Read	liness	Before Ha	rdware Upgrades	 After Hardware U 	pgrades 💌	
	Meets Minimum	System	70		232		
5	Requirements						
б	Not Ready for Wi	ndows 10	162		0		
	Insufficient Data	(Not	31		31		
7	Inventoried)						
8							
9					_lhn		
10					\odot		
11							
12							
12							

11. After the assessment runs, you will get an excel sheet with a summary:

- a. **Insufficient data** typically means that the computer was turned off or that there were not sufficient permissions on that device with the credentials provided
- b. Client Assessment tab shows a list of the devices in a more detailed view:

This we	orksheet provides operating system.	a summa	ry of Window	vs 10 readiness inform	mation for compu	ters that are
Windo	ws 10 Readiness	*	Before Hard	ware Upgrades	 After Hardware 	Upgrades
Meets	Minimum System ements		70		232	
Not Re	ady for Windows	10	162		0	
Insuffi Invent	cient Data (Not oried)		31		31	
					, lm	
					U	
				-		



c. AfterUpgrades shows what you need to do to upgrade:

Windows 10 Minimum	Ready Computers After H	ardware Upgrades	
This worksheet describes compu the minimum system requireme	ters that are not currently able to running for Windows 10.	n Windows 10 and the hardware u	upgrades requ
Computer Name	IP Address	СРИ	 Memory
Map-7- x64.map.test.CONTOSO.COM	10.217.74.28;fe80::4836:516c:1d5c: 36a5;2001:4898; 0:323d:4836:516c :1d5c:36a5	Intel(R) Xeon(R) CPU L5630 @ 2.13GHz, 64 bit	Upgrade to
Map-81- multi.map.test.CONTOSO.COM	172.16.0.218;fe80::3435:8373:4caa: c948 10.217.72.227;fe80::3409:ae00:9be :19bc;2001:4898:e0:323d:d85d:5f6 7:1593:a55b;2001:4898:e0:323d:79 c4:3acf:7e0d:3d22;2001:4898:e0:	Intel(R) Xeon(R) CPU L5630 @ 2.13GHz, 64 bit	Upgrade to
MAP-81- x64.map.test.CONTOSO.COM	10.217.72.236;fe80::e592:bb87:ea e2:ce08;2001:4898:e0:323d:f1a9:1 d7c:d1fd:ccd7;2001:4898:e0:323d: 9058:13cf:eb19:9821;2001:4898:e0	Intel(R) Xeon(R) CPU L5630 @ 2.13GHz, 64 bit	Upgrade to
Map-81-x64- cn.map.test.CONTOSO.COM	10.217.74.29;fe80::7012:ae67:b913 :4393;2001:4898:e0:323d:d0bd:8d0	Intel(R) Xeon(4) CPU L5630 @ 2.13GH 144 bit	Upgrade to

Install the Windows 10 Installation Media

1. Login to your admin center and scroll down to the Windows 10 Card on your Dashboard. Here you can click on a link to download the installation media. ****NOTE** you will want to install this on your AD server:**

	Microsoft 365 admin center			۲. ۲) 🐯	?	NR
> ح الا	 Device Management Get started Set up device enrollment Configure device profiles Create app policies 	 Azure Active Directory Customize sign in Enable password reset Add an application 	 G Support + New service request ₩ View service requests 				Î
₽ 0 0 0 0 0 0 0 0 0 0	 Device policies > + Add policy ✓ Edit policy i Delete policy 	 Device actions > Deploy Windows with AutoPilot Remove company data Factory reset Manage Office deployment 	 Windows 10 Upgrade ↓ Install upgrade ≅ Share the download link ↓ Create installation media ♀ Troubleshoot installation 	L3			
https://ge	Train yourself	🛱 Message center >		⑦ Need help?	⊊ Feedbac	k	*



https://www.microsoft.com/en-us/software-download/windows10

Download Windows 10	
Windows 10 October 2018 Update now available The Update Assistant can help you update to the latest version of Windows 10. To get started, click Update now . Update now Privacy	
Create Windows 10 installation media To get started, you will first need to have a license to install Windows 10. You can then download and run the media creation tool. For more information on how to use the tool, see the instructions below.	

2. Click on Download tool now to launch the Wizard. You will want to run this wizard for upgrades either on the existing computer or to create the ISO file to upgrade other computers. First Agree to the terms and conditions:





3. In this guide, we are going to create the installation media:



- 4. For the "Upgrade this PC Now" option, please watch this short video: https://www.microsoft.com/en-us/videoplayer/embed/RE201WL
- 5. Chose 32-bit or both:

i Windows 10 Setup			- 🗆	×
Select Please select from	language, architecture, n one of the available options to continue.	and ed	ition	
Language	English (United States)			
Edition	Windows 10 $$			
Architecture	64-bit (x64) ~ 32-bit (x66) 64-bit (x64) ~ Both			
		<u>B</u> ack	<u>N</u> ext	



6. Choose which media to use, we will be downloading the ISO file:



7. Select your destination to save the ISO:

🖆 Windows 10 Setup	- 6	×
📹 Select a path		×
← → → ↑ 📜 « Desktop > Windows 10 ISC	O ✓ Ū Search Windows 10 ISO	Q
Organize • New folder		?
 Pictures * Name BitTitan Migratio Camtasia Microsoft Teams OneDrive - PAX8 OneDrive - PAX8 	^ Date modified	Тур
 PAX8 Sales Engineers - 		
S This PC		>
File name: Windows 10 Pro ISO Save as type: ISO File (*.iso)		~
▲ Hide Folders	Save Cancel	
	Back Next	



8. Allow the download to complete, click Finish when done:



9. You will now have the ISO download to burn to a DVD:

📜 🛃 📜 = Windows 1	10 ISO					- 0	\times
File Home Share	View	\square					~ 🕐
← → × ↑ 🖡 > This	s PC » Desktop » Windows 10 ISO				~ U	Search Windows 10 ISO	Q
 Autor of the second s	s PC > Desktop > Windows 10 ISO Name Windows 10 Pro ISO	Date modified 2/7/2019 4:12 AM	Type Disc Image File	Size 4,050,240 KB	v U	Search Windows 10 ISO	٩
Network 1 item							



Install WDS and MDT

Windows Deployment Services enables you to deploy the Windows Operating system over your network. It can also listen for PXE boot request. The Microsoft Deployment toolkit (MDT) allows us to create custom WIM files in a deployment share. We will be putting WIM files that we create with MDT into the boot images section of WDS so that computers are immediately prompted to upgrade when the boot their device.

1. Install WDS

g

a. Add roles and features

Server N	∕lanager ∙ Da	shboarc	1	• 🕲	Mana Mana	g				
	WELCOME TO SE	ERVER MAN	AGER							
e Services ▷		1	Configure this lo	ocal se	rver	_				
			2 Add roles and fe	<u> </u>						
			3 Add other serve	rs to mar	nage					
	WHAT'S NEW		4 Create a server	group						
			5 Connect this ser	ver to clo	oud services					
	h Role Ba	sed ∆ssi	ignment							
	Add Roles and Featur	es Wizard	Builden					_		×
	Select install	lation ty	ype		2			DESTIN	IATION SERV MDTTesti	ER
	Before You Begin		Select the installation type machine, or on an offline v	. You can ins rirtual hard c	tall roles and fe lisk (VHD).	atures on a rur	nning	physical compu	ter or virtu	al
	Server Selection		Role-based or feature Configure a single serve	e-based inst er by adding	allation roles, role servi	ces, and featur	es.			
			 Remote Desktop Serv Install required role serv or session-based desktop 	vices installa vices for Virt	tion ual Desktop Infr ent.	astructure (VD	l) to c	reate a virtual m	nachine-ba	sed
					< Previous	Next >]	Install	Cance	



c. Choose what server I want to install on

d. Choose Windows Deployment Services

Active Directory Lightweight Directory Services	\sim
Active Directory Rights Management Services	
Device Health Attestation	
DHCP Server	
DNS Server	
Fax Server	
File and Storage Services (1 of 12 installed)	
Host Guardian Service	
Hyper-V	
MultiPoint Services	
Network Controller	
Network Policy and Access Services	
Print and Document Services	
Remote Access	
Remote Desktor Services	
Volume Activation Services	
Web Stover (IIS)	
Windows Deployment Services	
Windows Server Essentials Experience	
Windows Server Update Services	

- e. Click Add Features>Next>Next>Next>Install
- f. Wait for installation to complete:





2. Go to Tools>Windows Deployment Services

Server Manager				- 🗆 X
Server Ma	anager • WDS	• © M	Manage To	ols View Help
Dashboard Local Server All Servers File and Storage Services ▷ WDS	SERVERS All servers 1 total Filter P Server Name IPv4 Address Manageability MDTTesting 10.0.29.5 Online - Perfor UDTTesting 10.0.29.5 Online - Perfor EVENTS All events 0 total	(B) ▼ (R) ▼ Last Updat mance counters not started 4/4/2019 6	e Wir 48:13 PM 003	Component Services Computer Management Defragment and Optimize Drives Disk Cleanup Event Viewer ISCSI Initiator Local Security Policy Microsoft Azure Services ODBC Data Sources (32-bit) ODBC Data Sources (64-bit) Performance Monitor Print Management Resource Monitor Services System Configuration System Information Task Scheduler Windows Deployment Services Windows Deployment Services
				Windows Memory Diagnostic Windows PowerShell

3. Right click on Server>Configure Server







4. Integrate with AD

Services II Windows Deployment Services	
🝨 Windows Deployment Services Configuration Wizard	×
e: Install Options	
Select one of the following options:	(AD DS) domain, lently of Active
<i>↓</i> ₃	
< <u>B</u>	ack Next > Cancel

5. Configure the following:

ervices	Windows Deployment Services
🝨 Windo	ws Deployment Services Configuration Wizard $ imes$
PXE Se	erver Initial Settings
You the o	can use these settings to define which client computers this server will respond to. Known clients are clients that have been prestaged. When the physical computer performs a PXE boot, the operating em will be installed based on the settings that you have defined.
Sele	ect one of the following options:
0	o not respond to any client computers
OF	Respond only to <u>k</u> nown client computers
• F	Respond to all client computers (known and unknown)
E To c	Reguire administrator approval for unknown computers. When you select this option, you must approve the computers using the Pending Devices node in the snap-in. Approved computers will be added to the list of prestaged clients.
	< <u>B</u> ack <u>N</u> ext > Cancel



6. You should see the following:



7. Make sure the service starts correctly:







- 8. Install MDT: <u>https://www.microsoft.com/en-us/download/confirmation.aspx?id=54259</u> and WADK: <u>https://docs.microsoft.com/en-us/windows-hardware/get-started/adk-install</u>
 - a. Download the Windows ADK for Windows 10, version 1809
 - b. Download the Windows PE add-on for the ADK

9. Run through Wizard

a. Configure the following for WADK:

Windows Assessment and Deployment Kit - Windows 10	- 🗆 X
Select the features you want to inst	tall
Click a feature name for more information.	
Application Compatibility Tools	User State Migration Tool (USMT)
Deployment Tools	Size: 612.7 MB
✓ Imaging And Configuration Designer (ICD) Iools to migrate user data from a previous installation	
Configuration Designer	Windows to a new installation.
✓ User State Migration Tool (USMT)	Includes:
Volume Activation Management Tool (VAMT)	ScanState tool
 Windows Performance Toolkit 	LoadState tool USMTUtile tool
 Microsoft User Experience Virtualization (UE-V) Template 	
Media eXperience Analyzer	
2	
	Estimated disk space required: 1.0 GB Disk space available: 116.0 GB
	Back Install Cancel

b. Search for Deployment Workbench under the start menu to make sure everything installed correctly:





10. For the Windows PE installation wizard	d, specify Installation on this co	nputer
--	------------------------------------	--------

Specify Location			
 Install the Windows Assessment and Deployment Windows 10 to this computer 	t Kit Windows Preinstallation Environm	ent Add-ons	-
Install Path:			
C:\Program Files (x86)\Windows Kits\10\		В	rowse
* Windows Kit common installation path used			
O Download the Windows Assessment and Deployr	ment Kit Windows Preinstallation Envir	onment Add-	ons -
Windows 10 for installation on a separate compu	iter		
Windows 10 for installation on a separate compu Download Path:	iter		
Windows 10 for installation on a separate compu Download Path: C:\Users\nross\Downloads\Windows Kits\10\ADK\	iter WinPEAddons	В	rowse
Windows 10 for installation on a separate compu Download Path: C:\Users\nross\Downloads\Windows Kits\10\ADK\ Estimated disk space required:	WinPEAddons 5.7 GB	В	rowse
Windows 10 for installation on a separate compu Download Path: C:\Users\nross\Downloads\Windows Kits\10\ADK\ Estimated disk space required: Disk space available:	WinPEAddons 5.7 GB 104.4 GB	В	rowse

11. Create new Deployment Share

•

a. In Deployment workbench>New Deployment share

(= =) []		
· · · ·		
Deployment Work	bench	
> Information Ce	enter	
> 🛃 Deployment	New Deployment Share	osoft Deplo
	Open Deployment Share	o o o n D o pio
	Refresh	icrosoft Deploy nce for automa
	Help	uration manage



b. Customize the following settings to your environment:

New Deployment Share Wizard	X	Share	
Path Share Descriptive Name Options Summary Progress Confirmation	Specify the location of the network share for this deployment type. Deployment share path: DA Deployment Share Browse	Path Share Descriptive Name Options Summary Progress Confirmation	Specify the share name to be used with the specified local path. If the share already exists on this computer, it must point to the path specified for this deployment share. Share name: DeploymentShareS Full path UNC path: \\MDTTesting\DeploymentShareS
	l⊳		
	Previous Ned Cancel		Previous Next Cancel
	New Deployment Share Wizard Descriptive Name		×

Path Share Descriptive Name Options Summary Progress Confirmation	Specify a descriptive name for the deployment share. Deployment share description: MDT Deployment Share
	5
	Previous Next Cancel



New Deployment Share Wizard Options	5	
Path Share Descriptive Name Options Summary Progress Confirmation	When performing deployments, the behavior of the Deployment Wizard can be customized by turning various wizard panes on or off. For those that are not desired, modify the defaults below as appropriate. Ask if a computer backup should be performed. Ask for a product key. Ask to set the local Administrator password. Ask if an image should be captured. Ask if BitLocker should be gnabled.	
	These settings can be changed later by modifying the rules defined for the deployment share.	
New Deployment Share Wizard	×	
Path Share Descriptive Name Options Summary Progress Confirmation	All of the necessary details have been specified. Please review the values below. Details: Path: D:\DeploymentShare Upgrade: False ShareName: DeploymentShare\$ Description: MDT Deployment Share Ask about Backup: True Ask for Product Key: False Ask about Image Capture: True Ask about BtLocker: True	
	Click next to execute the requested action.	
	Previous Next Cancel	



c. Click View Script to get a custom powershell script you can use to implement the same settings to other customers:

New Deployment Share Wizard	×	
Path Share Descriptive Name Options Summary Progress Confirmation	The process completed successfully. Desting share "Deployment Shares" with path "D-Deployment Share". Share existed successfully. Performing the operation", "New drive" on target "Name: DSDD1 Provider: MicrosoftDeployment Toolka'.MII Performing the operation", "new drive" on target "deployment share". Initializing a circle and tools. Performing the operation", "Deployment Share". Initializing a circle and tools. Performing the operation" open" on target "deployment share". Initializing a circle and tools. Performing the operation "open" on target "deployment share". Deployment Share at "D-Deployment Share". Successfully added MDT drive DS001 to the persisted drive list.	DeploymentWorkbench - [Deployment Workbench\Deployment Shares] File Action View Help Mons Development Shares Mons Development Shares Deployment Shares Deployment Shares DeploymentShare* -FullAccess Administrators Import-Module "C: VProgram Files VMicrosoft Deployment Toolkit\bin\MicrosoftDeploymentShares" - DeploymentShare* -Description "MOT Deployment Share"
	Karre Output	

d. You will now see the following:





Import Your OS

1. Add your OS to the Deployment Workbench

a. Go to File Explorer and create a new Folder in your D: drive called Win10Source

		Drive Too	Temporary Storage (D:)		
е	Share	View Manage	9		
۱ پ	> This	s PC 🔹 Temporary S	Storage (D:)	ٽ ~	Search Tempora
955		Name	^	Date modified	Туре
1		📜 Deployment	Share	4/4/2019 7:48 PM	File folder
ada		📜 Win10source		4/5/2019 7:13 PM	File folder
aus	~	DATALOSS_V	VARNING_README	4/3/2019 4:47 PM	Text Docur
ents	×				
	*				
	*		ĸ		

b. Copy the files from the DVD drive from part one of this document and paste them into this folder:

₹		Drive Tools DVD Drive (F:) ESD-	SO	_
-lome S	hare	View Manage		
· 🛧 🖆 :	> This	FC > DVD Drive (F:) ESD-ISO >	∨ ບ S	earch DVD Drive (F:)
access		Name	Date modified	Туре
ktop		📜 boot	3/12/2019 8:16 AM	File folder
wlaada		📜 efi	3/12/2019 8:16 AM	File folder
moads	7	📜 sources	4/5/2019 6:55 PM	File folder
uments	×.	📜 support	3/12/2019 8:16 AM	File folder
Jres	*	🛐 autorun	3/12/2019 8:09 AM	Setup Information
rces	*	📄 bootmgr	3/12/2019 8:09 AM	File
'C		📄 bootmgr.efi	3/12/2019 8:09 AM	EFI File
ktop		🖆 setup	3/12/2019 8:09 AM	Application
uments				
vnloads				
ic				
lres				



c. Right click on Operating Systems>Click Import Operating System

DeploymentWorkbench - [Deployment V	Norkbench\Deployment Shares\MDT Deplo	yment Share (D:\DeploymentShare)\Operating Systems]
File Action View Help		
🗢 🔿 🚈 🗟		
i Deployment Workbench	Name	Description
> 🔄 Information Center		-
 Deployment Shares 		There are no items to show in this view.
✓ Deployment Share (D:\Dep	loymentSl	
> Part Applications		
🖳 Operating Systems		
> 强 Out-of-Box Dri 🛛 Import	Operating System	
> Packages New Fo	lder 1/5 ²	
> 📑 Task Sequence > 🦳 Advanced Con View	>	
> 🛐 Monitoring Refresh	L	
Export I	List	
Help		

d. Choose Custom Image file and choose the boot.wim file we moved into the D: Drive:





e. Set up files are not needed:



f. Continue till completion:

DeploymentWorkbench - [Deployment Workbench\Deployment Shares\MDT Deployment Share (D:\DeploymentShare)\Operating Systems]
 File Action View Help

File Action view Help				
🗢 🄿 🛛 🔁 🛛				
 Deployment Workbench Information Center Deployment Shares MDT Deployment Share (D:\DeploymentSl Applications Operating Systems Out-of-Box Drivers Packages Task Sequences Advanced Configuration Monitoring 	Name Microsoft Windows PE (x64) in Upgrade Win 10 bo Microsoft Windows Setup (x64) in Upgrade Win 10	Description Microsoft Windows PE (x64) Microsoft Windows Setup (x64)	Platform x64 x64	Build 10.0.1' 10.0.1'



Create a New Task Sequence

1. Create a new task Sequence

a. Go to Task Sequence>New Task Sequence

📷 DeploymentWorkbench - [Deployment Workbench	\Deployi	nent Shares\MUL Deployment Share (D:\Deployr	nent
File Action View Help				
🗢 🔿 🛛 🙇 🛛 🚔				
Deployment Workbench		Name		ID
> Information Center				
🗸 📜 Deployment Shares			There	are i
🗸 🚬 MDT Deployment	Share (D:\DeploymentSl			
> 📑 Applications				
Operating Syst	ems			
Out of Poy Dri	units .			
	vers			
> Packages				
> 👔 Task Sequer	New Task Sequence			
> 🔄 Advanced 🤇	New Task bequence			
> 🏹 Monitoring	New Folder	12		
	View	>		
	Refresh			
	Export List			
	Help			

b. Define the ID and Name:

New Task Sequence Wizard	×
General Setti	ings
General Settings Select Template Select OS Specify Product Key OS Settings Admin Password Summary Progress Confirmation	Specify general information about this task sequence. The task sequence ID is used internally as part of the deployment process. The task sequence name and comments are displayed by the deployment wizard. Task sequence ID:
	Previous Next Cancel



c. Leave the following:

New Task Sequence Wizard	X
General Setti	ngs
General Settings Select Template Select OS Specify Product Key OS Settings Admin Password Summary Progress Confirmation	Specify general information about this task sequence. The task sequence ID is used internally as part of the deployment process. The task sequence name and comments are displayed by the deployment wizard. Task sequence ID: Win10v1 Task sequence name: Windows 10 Pro Upgrade Task sequence comments:
	Previous Next Cancel

d. Choose the OS you added in the previous section:

Select OS	Ν
General Settings Select Template Select OS Specify Product Key OS Settings Admin Password Summary Progress Confirmation	The following operating system images are available to be deployed with this task sequence. Select the one to use. Operating Systems Microsoft Windows PE (x64) in Upgrade Win 10 boot.wim Microsoft Windows Setup (x64) in Upgrade Win 10 boot.wim



e. Do not specific a product key:

	New Task Sequence Wizard
Specify Prov	duct Key
Select Template Select OS Specify Product Key OS Settings	Secret a module regulated when deploying Windows 7, Windows Server 2008 R2, or later OS versions, or if the product key will be specified at deploy time using the wizard or a rule.
Specify Product Kny OS Settings Admin Password Summary Progress Confirmation	 Specify a multiple activation Key (MAR Key) for activating this operating system. In order to activate, each computer deployed using this MAK key will need to contact the Microsoft activation service on the intermet. This is only supported for Windows 7 and later operating systems when using volume license media. MAK Product Key: Specify a retail product key. (Note that retail keys can only be used to activate a single machine.) Product Key:
	Previous Next Cancel

f. Enter your custom settings:

New Task Sequence Wizard	
OS Settings	
General Settings Select Template	Specify settings about this task sequence. These settings will be used for all deployments of this task sequence, unless ovemidden during the deployment process using the wizard or a rule.
Select OS	Full Name:
OS Settinos	UpgradeWin10
Admin Password	
Summary	Organization:
Progress	Wrajrecords
Confirmation	
	Internet Explorer Home Page:
	www.google.com
S.	
	Previous Next Cancel



g. Specify the admin password:

	New Task Sequence Wizard
General Settings Select Template Select OS Specify Product Key OS Settings Admin Paseword Summary Progress	New Task Sequence Wizard sword Specify the local Administrator password for this task sequence. Image: Specify the local Administrator password. Administrator Password: Image: Please confirm Administrator Password:
Confirmation	 Do not specify an Administrator password at this time. The local Administrator password will be provided during the deployment of this task sequence, so it is not needed as part of the task sequence internation.
	Previous Next Cancel

h. You will see your summary page:

Summary	
General Settings Select Template Select OS	All of the necessary details have been specified. Please review the values below. Details:
Specify Product Key OS Settings Admin Password Summary Progress Confirmation	TaskSequenceID: Win10v1 TaskSequenceName: Windows 10 Pro Upgrade IsUpgradeTS: False Template: Custom.xml
	Click next to execute the requested action. $\label{eq:click} \bigcup_{\mathcal{C}}$
	Previous Next Cancel



i. Click Finish to see the following:



j. You can configure additional settings by right clicking on the task sequence and going to properties:





Create MDT Deployable Image

1. Crete a Deployable Image:

a. Right click on your deployment share and select Update Deployment Share

🚾 DeploymentWorkbench - [Deployment Workbench\Deployment Shares\MDT Deployment Share (D:\DeploymentShare)] File Action View Help 🗢 🔿 🖄 🗟 🛛 i Deployment Workbench Name > 🕌 Information Center Applications ✓ Deployment Shares Concrating Systems 🗸 🚬 MDT Dep Update Deployment Share of-Box Drivers > 📑 Applic Close Depuryment Share ages 🔍 Opera Sequences View > nced Configuration > 🄤 Packa Refresh toring Task S Export List... > 🧧 Advar > 🛅 Monit Properties Help

b. Choose the following:





c. Complete till wizard completion:

Progress		
Options Summary Progress Confirmation	Mounting WIM file. Making sure the deployment share has the latest x86 tools Processing LiteTouchPE (x86) boot image === Building requested boot image profile. Determining if any changes have been made in the boot image confil No existing boot image profile found for platform x86 so a new image Calculating hashes for requested content. Changes have been made, boot image will be updated.	guration. will be created.
	Viniows PC Willing, Vrograg mes (co) (Windows Nas (10 Vissessin)	inens and Deployment Na Windows r
	- Im	Stop Execution
	Previous	Finish Cancel

d. If you got to your Deployment share in your D: Drive>Deployment Share>Boot>x86, you will see you .WIM file now

• DOOL				L	- ~ -	
me Sh	are	View			~ ?	Actions
↑ «	Tem	porary Storage (D:) > DeploymentShare > Boot	v ت	Search Boot	Q	MDT Dep
		Name	Date modified	Type	Size	Upd
ccess		Harro	bate mounica	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	5120	Clos
op	*	📕 x64	4/6/2019 5:56 PM	File folder		View
up La sula		📙 x86	4/6/2019 5:53 PM	File folder		VIEV
loads	7	LiteTouchPE_x64	4/6/2019 5:59 PM	Disc Image File	376,6	Q Refr
ments	*	LiteTouchPE_x64.wim	4/6/2019 5:59 PM	WIM File	334,3	📑 Ехро
es	*	LiteTouchPE_x64	4/6/2019 5:59 PM	XML Document		Prop
es		LiteTouchPE_x86	4/6/2019 5:56 PM	Disc Image File	305,4	? Help
)source		LiteTouchPE_x86.wim	4/6/2019 5:56 PM	WIM File	263,8	
ows 10 ISC	0	🖹 LiteTouchPE_x86	4/6/2019 5:56 PM	XML Document		
ор		Ν				



Add Boot Images to WDS

1. Open WDS

a. Server manager>Tools>Windows Deployment Services



b. Right Click Boot Images>Add Boot Image





			Select Windows Image File	9			
🕤 💿 🔹 🕇 🕌 «	New	Vol	ume > DeploymentShare > v	Ċ	Search Deployme	entShare	P
Organize • New fol	der)III • 🔟	
Desktop Downloads Recent places	^	Na	me		Date modified	Туре	
			SOEMS		10/17/2015 6:47 PM	File folder	
			Applications		10/17/2015 6:47 PM	File folder	
This DC		3	Backup		10/17/2015 6:48 PM	File folder	
P Decision			Boot		10/17/2015 7:08 PM	File folder	
Desktop	_	1	Captures		10/17/2015 6:47 PM	File folder	
Downloads	=	1	Control		10/17/2015 6:52 PM	File folder	
Music		1	Operating Systems		10/17/2015 6:47 PM	File folder	
E Pictures			Out-of-Box Drivers		10/17/2015 6:47 PM	File folder	
Videos		-	Packages		10/17/2015 6:47 PM	File folder	
Local Disk (C:)		4	Scripts		10/17/2015 6:47 PM	File folder	
New Volume (D:)		-	Servicing		10/17/2015 6:53 PM	File folder	
	~ <		Templates III		10/17/2015 6:47 PM	Filefolder	>
Fil	e nan	ne:		,	Vindows image	files (*.wim)	~
					Open	Cancel	_

c. Find the WIM file under D: Drive>Deployment Share>Boot>x86

Deploy the Windows 10 Image

- 1. Verify Configuration Settings in WDS
 - a. Right Click on your Deployment share, click Properties, then go to sharing

Share	View				
🖙 🕨 Thi	s PC 🔸 New Volume (D:)		✓ C S	earch New V
	Name	•	Date modified	Туре	Size
	🍌 DeploymentShar		10/12/2016 6.62 04	a routable	v 1
5	🍌 iso	45	DeploymentShare Prop	erties	^
aces	RemoteInstall W2012R2Source	General Shar	ing Security Previous Version	e Customize	
	🎍 win10Source	1	Deployment Share		
ts		Type:	File folder		
ls		Location:	D:\		
		Size:	4.96 GB (5.330,927,906 bytes))	
		Size on disk:	4.96 GB (5,335,687,168 bytes)		
: (C:) me (D:)		Contains:	2,404 Files, 399 Folders		
		Created:	Saturday, October 17, 2015, 6	47.21 PM	
		Attributes:	Read-only (Only applies to f	iles in folder)	
		R	Hidden	Advanced	
	S.				
selected			OK Cm	nal Annh	



b. Go to Advanced Sharing

в	De	ployme	ntShare Prop	erties
General	Sharing	Security	Previous Version	ns Customize
Netwo	rk File an Deplo Share ork Path: 012R2DE iare	d Folder Shar ymentShar d P\Deployn	e e nent Share\$	
Advan Set ou advan	ced Shar stom per ced shari	ing missions, cr ng options d Sharing	reate multiple shar -	es, and set other
		(J		
		C	K Car	icel Appl

c. Click on permissions and make sure you have the correct Administrators with full control:

R	DeploymentShare Properties X
	Advanced Sharing X Permissions for DeploymentShare\$
	Share Permissions Group or user names: CREATOR OWNER Administrations R. Administrations (DEPLOY/Administrations)
	Add Remove Permissions for CREATOR OWNER OWNER OWNER
	Full Control ✓ Change ✓ Read ✓
	OK Cancel Apply



- 🕨 🏟 🙍 📷 🗟 🖬 Windows Deployment Services Boot Images 2 Boot Image(s) Windows Deployment Services
 Servers
 Dimetry 2012/2dep.deploy.com
 Dimetry 2012/2dep.deploy.com
 Dimetry 2012 Proding Devices
 Dimetry 2012 Proding Devices
 Dimetry 2012 Proding Devices
 Dimetry 2012 Proding Devices W2012R2DEP Properties Image Name Architecture Lite Touch ... x86 Lite Touch ... x64 Sta On TFTP est Advanced Network TFTP
 PXE Registrice AD DS Boot Client DHCP Multicast General On W2012R2DEP Computer name: w2012r2dep.deploy.com D:\RemoteInstall Remote installation folder: Server mode: Native (Windows Deployment Services) J
- d. Right Click on the Server>Click Properties>Click Advanced:

e. Authorize the following:

ieneral	PXE Response	AD DS	Boot	Client	DHC
Multicast	Advar	bed	Network		TFTP
Domain Con	troller				
 Allow W domain 	indows Deploymer servers (recommen	nt Services to d ided)	lynamically dis	cover valid	t
○ Window	s Deployment Sen	rices should us	e the following	g servers:	
Domain	controller:			Browse	
Global o	atalog:			Browse	1
	2	<u>6</u>			
		0			



End-User Experience

We first want to test out the deployment with our 2 pilot devices. When we boot them up, it will PXE boot onto the system, and the user will be prompted to press f12 for a network service boot.

a. From there they will be asked to choose the boot image:

e louch w	THUOWS PE				
		(X64)			
			. b a		
				•	L

b. Run the deployment wizard:

S to	Run the Deployment Wizard install a new Opertiting System
	Run the Microsoft Deployment Wizard to install an Operating System or perform other task.
0	Exit to Command Prompt
	J
Keyboard Layout	Inited States
Carlinum Charles ID	Configure with Static IP Address



c. Define the deployment share path that you copied when you first configured the deployment share in MDT

🛓 Microsoft Deployment Toolkit 🤤	
Deployment Share	
	٦
Specify which deployment share to use.	
Before this wizard can continue, it will need to know the path of a Deployment Share.	
Deployment Share: (format: "Server\share" or "\\server"	
W ×	
L	
gack Next Cancel	

d. Add your credentials:

🕲 User Credentials	ntials			
Specify cred	entials for User Name: Password: Domain:	administrator	o network	shares.
				<u>o</u> K <u>C</u> ancel



e. Choose the appropriate settings here based on your environment:

la Windows Deployment Wizard	1	×
🧔 Computer D	Details	
Task Sequence Computer Details Move Data and Settings User Data (Restore) Locale and Time Capture Image BitLocker Ready	Computer name: MININT-7L1HKNA	X
	User Name: administrator Password: Domajn: Join a workgroup. Workgroup: WORKGROUP	
	E	ack Next Cancel

f. Move User data and settings:





g. Do not capture the image:



h. Choose whether or not to enable BitLocker

Windows Deployment Wiza	đ	×
il BitLocker		
Task Sequence Computer Details Move Data and Settings User Data (Restore) Locale and Time Capture Image	Specify the BitLocker configuration. BitLocker can be enabled to provide an additional level of dat Do not enable BitLocker for this computer.	a security for this computer.
BitLocker Beady	Enable BitLocker. Enable BitLocker using TPM only	
	 Enable BitLocker using TPM and Pin. Enable BitLocker using TPM and a startup key. Enable BitLocker using only an External Startup Key. Enable BitLocker using only an External Startup Key. Choose where to store the Recovery Key. In Active Directory Do not create a recovery key. (Not recommended) Wait for Bitlocker Encryption to complete on all drive 	First Available V First Available V
	Bat	:k <u>N</u> ext <u>C</u> ancel



i. Copy the details that you created. We will be using these for our broad deployment so end-users do not have to configure all of the info

Task Sequence Computer Details Move Data and Settings User Data (Restore) Locale and Time	Ready to begin. Using the information you provided, the deployment can now begin.				
Capture image BitLocker Ready	TSGuid = "Win10Dep" DeploymentType = "N_WCOMPUTER" OSDDiskParttionStyle = "WIN10ADVANCED" OSDComputerName = "WIN10ADVANCED" DomainAdminPassword = """""" DomainAdminPomain = "deploy" JoinWorkgroup = "WORKGROUP" USMTOfflineMigration = "FALSE" UserDataLocation = "NONE" UserLocate = "en-us" UserLocate = "en-us" UserLocate = "en-us" KeyboartLocate = "en-us" KeyboartLocate = "en-us" Docapture = "NO" BedeinstalSuppres = "YES"				

BROAD DEPLOYMENT:

j. Back in the Deployment workbench, right-click on your deployment share>Properties>Rules>Edit Bootstrap.ini





🦉 Bootstrap - Notepad		
File Edit Format View Help		
[Settings] Priority=Default		
[Default]		
	I	

k. Paste in your configuration we copied in step "n" under {Default]

L. Update the deployment share to add this configuration





m. When you are ready for broad deployment, go back to WDS>Right-click on your server>Properties>Boot>And click Continue the PXE Boot:

File Action View Help	MDTTESTING Properties ×						
Minda - Desta - A Continu	Multica	st Advan	ced	Network		TFTP	
 Windows Deployment Services Servers MDTTesting.wrajrecords.com Install Images Boot Images Boot Images Pending Devices Multicast Transmissions Drivers Active Directory Prestaged Device 	General PXE Response AD DS Boot Client DHCP PXE Boot Policy After a network boot is initiated, define when a PXE boot will continue. Known clients: Known clients: Require the user to press the F12 key to continue the PXE boot Always continue the PXE boot Image: Continue the PXE boot Image: Continue the PXE boot Never continue the PXE boot Unknown clients: Image: Require the user to press the F12 key to continue the PXE boot Image: Continue the PXE boot Image: Continue the PXE boot						
	Contin Never	s continue the PXE boot unle continue the PXE boot unle	ss the user pre	esses the ESC	key		

n. With these settings configured, all of the users in your environment will get the image pushed to them without having to press f12 or run through the wizard of setting like we did for out pilot users



Conclusion

I hope this article provided you some targeted guidance on deploying the Windows 10 upgrade across your network. Any feedback to improve your experience would be greatly appreciated. I would also like to hear if there is more content that you would like to see in this guide. Any feedback can be sent to my email below:

Msp4msps@tminus365.com

