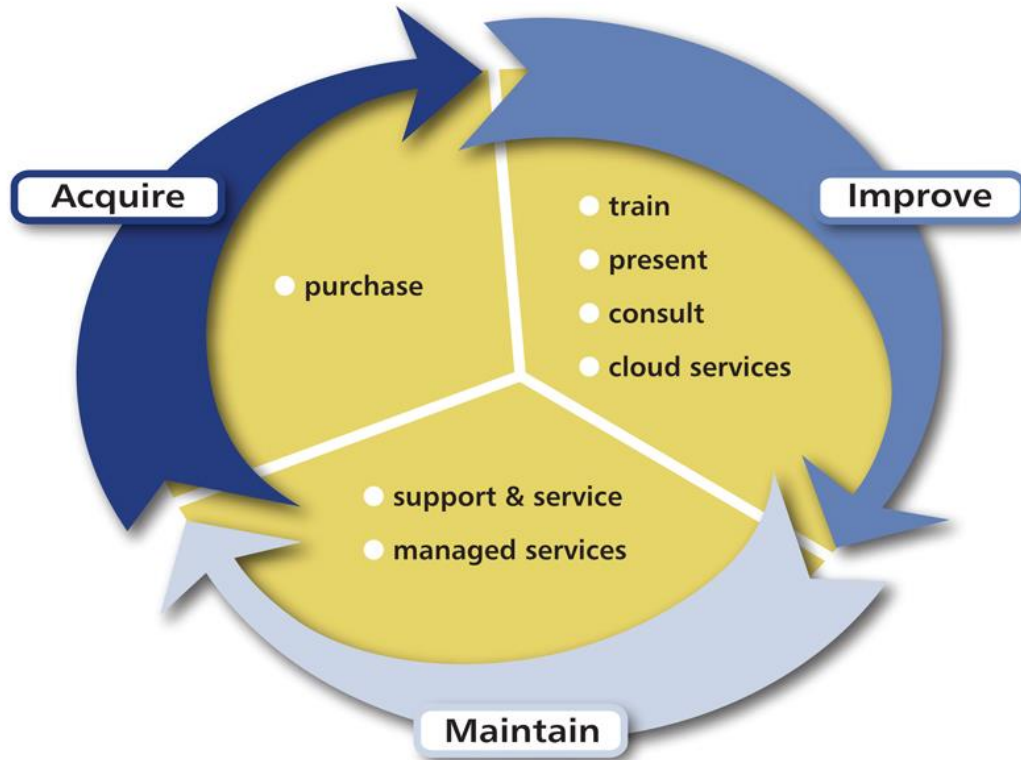


# Welcome!

## Migrating to Windows 10 Is it Time?



# System Source & Microsoft:

- **Microsoft Certified Partner...since 1980's**
  - **Silver – Learning Solutions**
    - Train 6,000 students/year
    - Our Instructors rate 20% higher than Microsoft National Average Customer Satisfaction Scores.
  - **Silver – Infrastructure**
- **1,000's of Microsoft implementations**
  - **Small Business to Enterprise**
  - **Non-profit**
  - **Education**

# System Source & Microsoft:

- **Microsoft Competencies:**

- **Server Platform**

- Windows Server 2012, 2016

- **Management & Virtualization**

- Microsoft Cloud Solutions, Microsoft Private Cloud, System Center, Windows Server

- **Messaging**

- Exchange Server – on premises, Exchange Online

- **Hosting**

- Exchange Server, SQL Server, Windows Server

- **Devices & Deployment**

- Windows 10, Office

- **Small Business**

- Office 365, Windows 10

- **Mid-Market Solutions Provider**

- Microsoft Cloud Solutions, Office 365, Windows Server, Windows 10

# Migrating to Windows 10 – Is it Time?

January 31, 2018



David Piehl  
Lead Technical Trainer  
Senior Systems Engineer

**David Piehl**, MCITP, MCT, MCSE, CCEE, CCI,  
CCEA, CTT, MCNE, A+, Proj+

**Senior Technical Trainer**

**Team Member Since 1995**

**p. 410.771.5544**

**f. 410.771.9507**

**dpiehl@syssrc.com**

**www.syssrc.com**



Learning Center

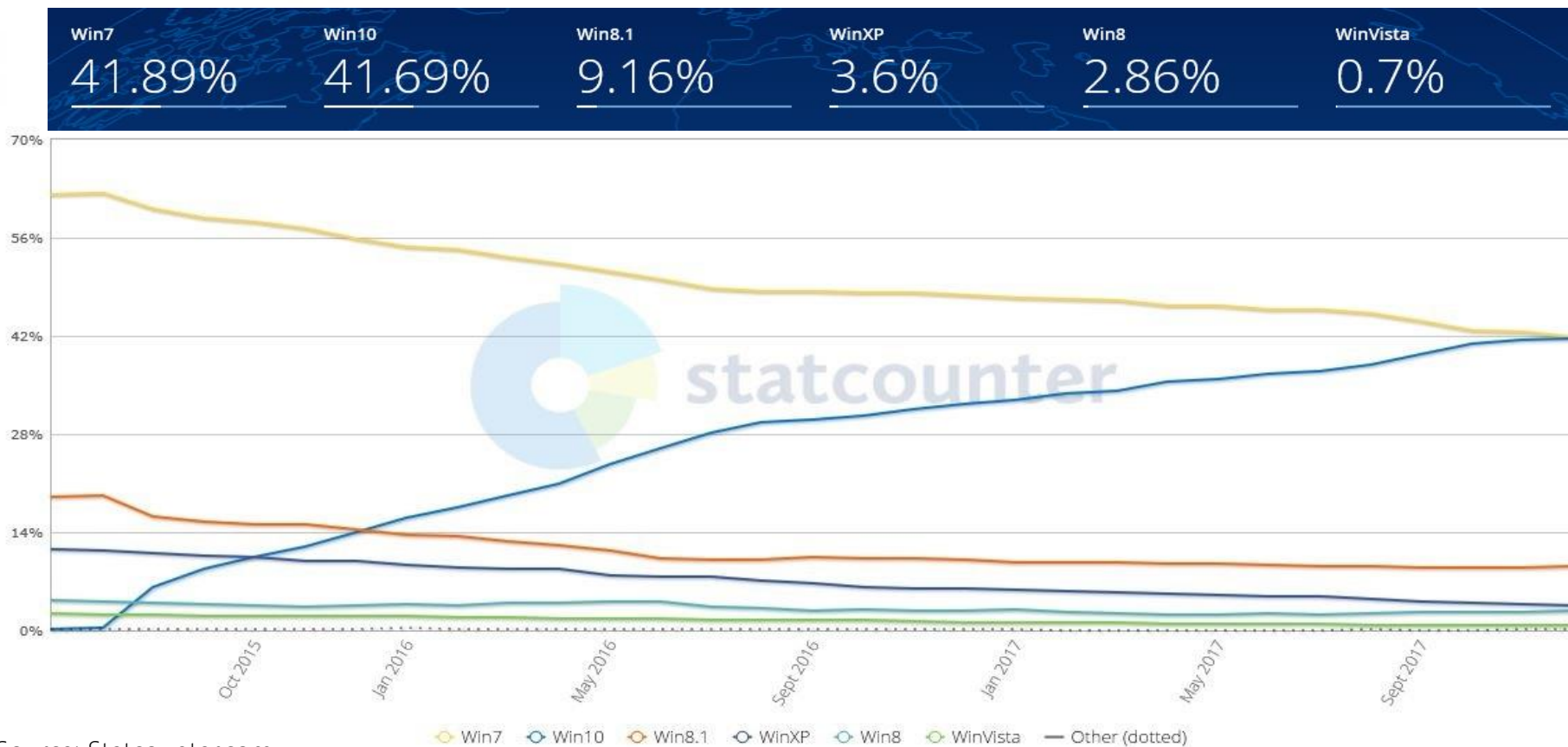
**338 Clubhouse Road. Hunt Valley. MD 21031-1398**

# Topic List

- **New and updated features since the first 2015 release**
- **What you need to know about Microsoft's Windows as a Service strategy and how it will affect you and your organization**
- **How Windows Updates has changed to support Windows as a Service**
- **No-cost deployment methods and tools to ease your transition to Windows 10**
- **Licensing considerations**
- **Windows 10 training and certification options**
- **Demonstrations**

# Desktop Windows Version Market Share Worldwide

June 2015 - Dec 2017





# System Source Managed Services clients

- As of 1/20/18, the breakdown of the Windows clients we support in Managed Services:

OS	% share
Windows 7	58.5%
Windows 10	36.7%
Windows 8.1	4.7%
Windows XP	<0.1%

# Microsoft's Original Design Goals for Windows 10

- **One converged Windows platform:** start assuming every device can potentially become mobile and provide the same apps, management methodology and user experience across PCs, tablets, laptops and phones
- **Easier enterprise deployment:** upgrades directly from Windows 7 are supported (and actually encouraged); new option to “transform” a device into an Enterprise device
- **Integration of better security to handle threats that weren't around in 2009**
- **Make amends after the lackluster reception of Windows 8 by making Windows 10 a “more lovable product”**

# Windows as a Service

When someone tells you *"I'm running Windows 10"* you'll need to ask for clarification

- Microsoft's old method of providing major OS releases every 3 years has been replaced with semi-annual updates, all under the name "Windows 10", in what is called ***Windows as a Service***.
- Since July 2015 when Windows 10 was first released, the following versions have been, or will be, released:
  - Version 1507 – Initial release
  - Version 1511 – November update
  - Version 1607 – Anniversary Edition
  - Version 1703 – Creators Update
  - Version 1709 – Fall Creators Update
  - Version 1803 – Currently available to the Insider Preview program

# Core features that were there since the beginning

- **Enhanced start menu** with fly-out, live tiles
- **Automatic desktop adjustment** from *Tablet Mode* to *Desktop Mode* to accommodate adding or removing a keyboard (Microsoft calls this feature *Continuum*)
- **Cortana** virtual assistant (version 1)
- **Windows snap-to-1/4 screen**
- **Time-delayed snipping tool**
- **Windows Hello** native fingerprint, facial and iris recognition
- **Virtual desktops**
- **Two web browsers:** Microsoft Edge and IE 11
  - According Net Applications, combined **Edge + IE11 usage has 16.8% combined share** as of December. **Chrome has 58.9%**

# Core features that were there since the beginning (continued)

- **Client Hyper-V\***
- **Bitlocker availables in the Pro version** (Windows 8.x had this too but Windows 7 did not)
- **Credential Guard\***, which uses UEFI Secure Boot, the device's TPM and an instance of client-side Hyper-V to store domain credentials in a virtual container, isolated from the kernel and the user-mode of the OS
- **Device Guard\*** which uses Hyper-V and a Code Integrity policy to protect Windows kernel-mode processes against the injection and execution of malicious or unverified code.
- **Microsoft Passport** which replaces passwords with two-factor authentication that consists of an enrolled device and a Windows Hello (biometric) or PIN
  - Full Windows Hello support, however, was not available in the beginning
- **Windows Universal Apps/Windows Store**

\* On 64 bit platforms that meet hardware requirements

# Features added in 1511

## Changes related to the user experience or UI

- More consistent context menus (although still not 100%)
- Ability to have 4 columns of tiles on Start instead of 3
- Added 3 new universal apps—Messaging, Phone and Skype Video—that provide in-box access to Skype functionality
- Edge browser adds Tab Previews and Cast to Device for Miracast or DLNA as well as other minor improvements
- Default printer improvements: a user can choose to always have Windows use the most recently-used printer as the default printer
- Cortana adds movie and event reminders based on email confirmations and can now also be used with local accounts

# Features added in 1511 (continued)

## Technical Changes

- Hyper-V nested virtualization
- Improved memory manager compresses items in memory before paging them to disk, allowing more apps to reside in physical memory
- Added back the ability to install apps on external storage (e.g. SD Card) which had been removed in 1507

# Features added in 1607

Changes related to the user experience or UI

- Changes to the Start menu
- Dark theme option (Settings > Personalization > Colors)
- Addition of *Windows Ink* adds the ability to use a stylus in different places. Some apps, such as Maps, are modified to natively support Windows Ink
- Cortana becomes available from the Lock screen
- *Cortana app for Android* connects Android devices to provide notification and text message mirroring in Action Center as well as the ability to remotely ring a phone from a Windows 10 device
- Ability to pin specific windows or programs to all virtual desktops



# Features added in 1607 (continued)

Changes related to the user experience or UI (continued)

- Action Center notifications are now grouped by app instead of chronologically and can be dismissed in groups
- New, crisper emoji design (over 50,000 available) but not easy to get to outside of Tablet mode (problem resolved in 1709 – **Windows Key** + . gets you there)
- Ability to configure time ranges for *Active Hours* directly in the GUI instead of the registry
- Edge starts supporting browser extensions – a whopping 13 of them – which users obtain from the Windows Store, as well as enough other improvements to obtain a “perfect score” on the HTML5 Accessibility Benchmark (<http://html5accessibility.com/>)

# Features added in 1607 (continued)

## Technical Changes

- *Containers* feature which provides a lightweight environment with namespace and process isolation often used for application development
- Windows Defender can be enabled as a secondary anti-malware scanner through “limited periodic scanning”
- Windows Hello integration with Edge allows logging in to websites with facial recognition, fingerprint or iris scan
- Windows Hello adds support for logging in with a companion device (e.g. a smartphone or fitness band)
- New options for controlling Windows Updates (more details later)

# Features added in 1703

Changes related to the user experience or UI

- Added *Paint 3D* and HoloLens app support
- Start menu tiles can become “app folders” each containing up to 9 tiles on a single medium-sized Start tile for easier organization of apps
- More improvements to Edge (added  $\approx$  20 new extensions)
- Cortana responds to voice commands for more apps, such as Netflix, SlingTV, Spotify, etc.
- Blue light filter (name later changed to Night Light)
- Snipping tool hotkey to clipboard (Win-Shift-S)
- **REMOVED**: Start menu access to the traditional Control Panel (it is still accessible by searching for it)

# Features added in 1703 (continued)

## Technical Changes

- *Windows Defender Advanced Threat Detection* (Enterprise only) adds new functionality, such as watching for memory and kernel level exploits, allows deploying lists of blocked behaviors, and can allow isolation of compromised machines
- Windows Hello can be configured to lock a device when a user's Bluetooth-paired device moves away
- Further control over Windows Updates

*It was also around this time (May 2017) that Microsoft formalized their semi-annual release schedule*

# Features added in 1709

Changes related to the user experience or UI

- Improvements to Settings app
  - *System > Settings > About* is reorganized into 3 categories, replacing one long list
  - Remote Desktop settings are now configured in one place *Settings > System > Remote Desktop*
- New Power Throttling feature provides a simple slider-based option that lets you tune Windows 10 for better battery life vs. better performance
- Cortana displays answers in a flyout from the Start menu, including web search results from Bing (no browser necessary) and Cortana's settings are now fully integrated into the Settings app
- Edge continues to evolve: enhanced PDF capabilities including form completion, pinning websites directly to the taskbar

# Features added in 1709 (continued)

## Technical Changes

- The Delivery Optimization feature (peer-to-peer Windows updates) gets options for fine-tuning bandwidth allowances
- SMBv1 is completely removed from Enterprise and mostly removed in Pro (client components stay)
- Computer Browser service is removed
- Hyper-V gets a virtual machine gallery and a host battery life indicator inside virtual machines

# Features added in 1709 (continued)

## Technical Changes (continued)

- *Controlled Folder Access* is a Defender-integrated anti-ransomware feature that prevents unapproved apps from accessing Windows system files and data folders
  - If an app is seen as malicious or suspicious, it will be prohibited from making changes to any files in any protected folder
  - Could help mitigate ransomware attacks (unprotected folders could still be impacted)
  - List of monitored folders can be configured and apps can be whitelisted
- *Windows Defender Application Guard* sandboxes Edge browser sessions using Hyper-V virtualization and Container technology (Enterprise only)

# Features under development in 1803

- Quiet Hours renamed to *Focus Assist* and enhanced to include *Off*, *Alarms Only* or *Priority Only*. Also easier to access: right-click on Settings
- *Timeline* is a feature that integrates with Task View to track the apps, documents and websites a user has open, save them as a group, and allow the user to continue working on the same set of tasks at a future time
- Settings app allows more control of information sent to Microsoft at Settings > Privacy > Diagnostics & feedback
- Adds *Diagnostic Data Viewer* app that lets you review diagnostic data your device is sending to Microsoft, grouping the info into simple categories based on how it's being used
- Configuration options for Windows Hello are now accessible from the Hello tile on the sign-in screen



# Features under development in 1803 (continued)

- Universal Windows Apps now need the user's explicit permission to access pictures, videos and documents
- *Nearby Sharing* allow easy sharing of files using Wifi or Bluetooth, similar to Apple's AirDrop
- Storage Sense now includes a *Free Up Space Now* option which takes over those responsibilities from the old Disk Cleanup utility

# Windows as a Service: What you need to know

# Windows as a Service

- Microsoft will no longer develop major new versions of the Windows client every  $\approx 3$  years
- Instead, new versions of Windows 10 with incremental feature updates will be developed on a semi-annual basis and deployed to different audiences at different times
- The name being used for this new method is ***Windows as a Service***
- The backbone of WaaS is the concept of *servicing channels*, which are...

# Windows as a Service - channels

Channel	How it works
Insider Preview	An opt-in program where new features are delivered to users for testing and feedback. Features in this channel are not suitable for deployment to a broad audience.
Semi-annual channel (targeted)	Features in this branch are deemed by Microsoft to be mature enough to be released to a wider audience. (Formerly "Current Branch")
Semi-annual channel	SCCM and Group Policy allow machines to be designated for feature update deferral for approximately 4 months (Formerly "Current Branch for Business")
Long-Term Servicing channel	LTSC is a special edition of Windows 10 Enterprise that uses the old "5+5" approach and is intended for computers that need a high degree of stability. (Formerly "Long-Term Servicing Branch")

How Windows Updates has changed to support Windows as a Service

# Quality Updates and Support Policy

- Patches that address problems with Windows, security or otherwise, are referred to as ***quality updates***
- In the past, Microsoft would support an OS for approximately 5 years with “standard” support and another 5 years with “extended” support, which includes development of quality updates
- Starting with Windows 10, that “5+5” policy only applies to the LTSC version of Windows 10 Enterprise edition
- After working out some initial kinks with their Windows 10 support policy, Microsoft has settled on 18 months of support from the date of initial release

# Quality Updates

- In practical terms, this means:
  - 1507 – the original – is already EOL
  - 1511 support will end on April 28, 2018 (this extension was one of the kinks)
  - 1607, the “Anniversary Edition,” is tentatively scheduled for EOL sometime in March
  - 1703 and onward: 18 months of support from the release date (so we’re told)
- Unless you plan to deploy LTSC, you should expect more frequent, but hopefully less involved, upgrade cycles
- On a brighter note, end users should require less training when new versions are released than they did in the past

# Delivering Windows Updates

The screenshot shows a Windows Update policy configuration window. At the top, there are window control buttons and the title 'Select when Preview Builds and Feature Updates are received'. Below the title, there are 'Previous Setting' and 'Next Setting' buttons. The main configuration area includes radio buttons for 'Not Configured', 'Enabled' (which is selected), and 'Disabled'. A 'Comment' text box is present. The 'Supported on' dropdown menu is set to 'At least Windows Server or Windows 10'. Below this, there are sections for 'Options:' and 'Help:'. The 'Options:' section contains a dropdown menu for 'Select the Windows readiness level for the updates you want to receive:' with 'Semi-Annual Channel' selected. Other options include 'Preview Build - Fast', 'Preview Build - Slow', 'Release Preview', and 'Semi-Annual Channel (Targeted)'. There is also a 'Pause Preview Builds or Feature Updates starting:' text box with a date format example '(format yyyy-mm-dd example: 2016-10-30)'. The 'Help:' section contains detailed text about update readiness levels, including instructions for Preview Builds and Feature Updates, and a note about telemetry level settings. At the bottom right, there are 'OK', 'Cancel', and 'Apply' buttons.

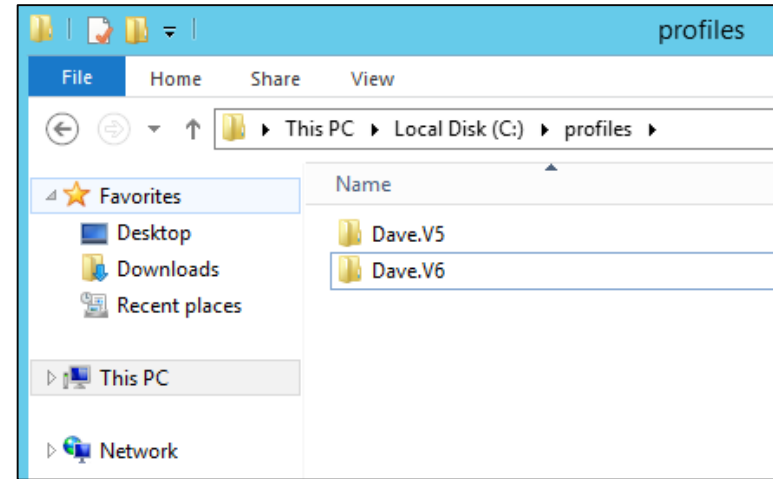
- Updates can still be obtained directly from Microsoft or through WSUS, with or without Configuration Manager
- GPOs have been updated to allow selecting a feature update channel
- Feature updates can be deferred for up to an additional 365 days
- Feature updates can also be “paused” on a specified date, which will remain in effect for 35 days unless removed earlier



# Non-Intermingling of Profiles

- This slide is just a heads-up about profile version incompatibility starting in 1607
- For anyone using roaming profiles, please be aware that users running earlier Windows 10 versions will automatically get a new profile the first time a logon occurs from a 1607 machine

Operating System	Profile Version
Windows XP	V1
Windows Vista & 7	V2
Windows 8	V3
Windows 8.1	V4
<b>Windows 10 (&lt;1607)</b>	<b>V5</b>
<b>Windows 10 (&gt;=1607)</b>	<b>V6</b>



# Windows 10 no-cost deployment methods and tools

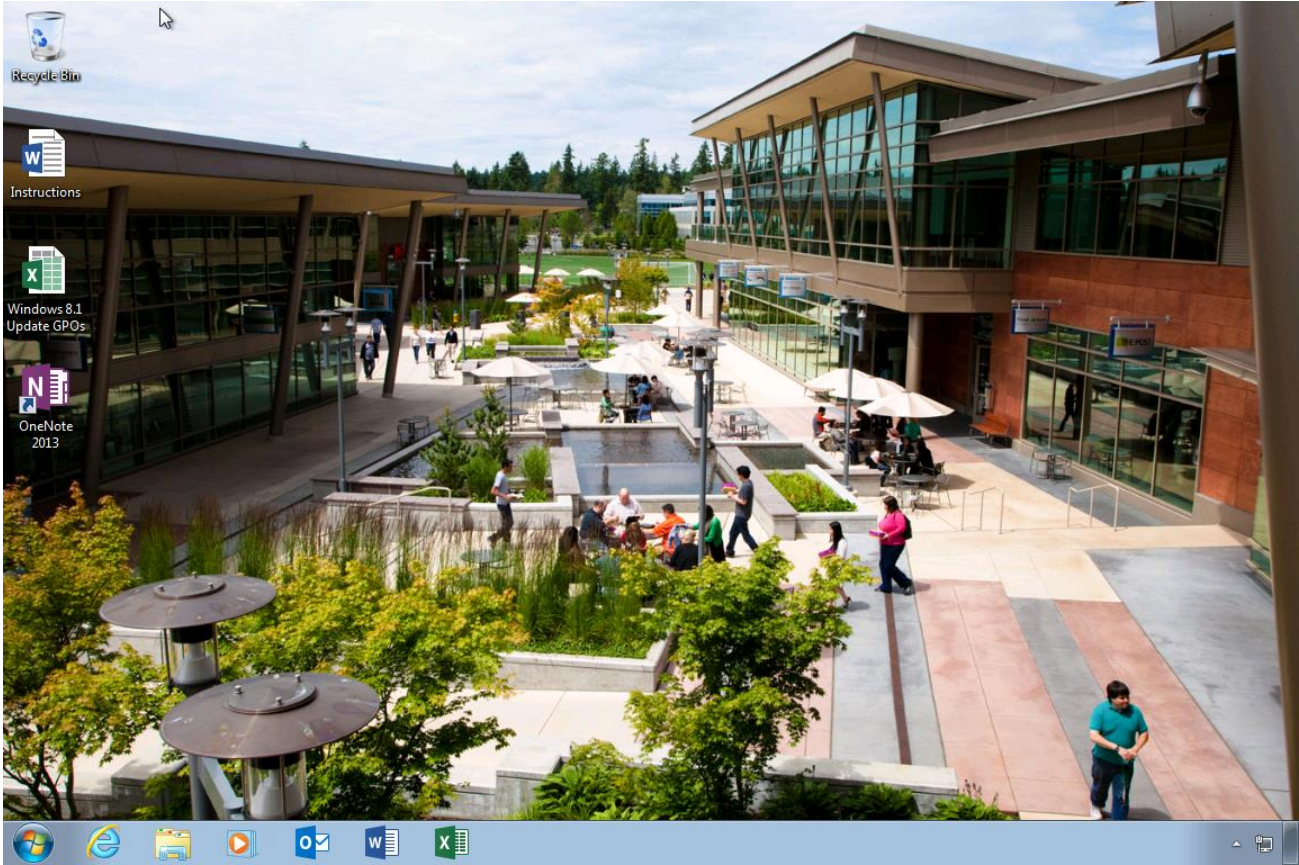
# Tools and Methods Summary

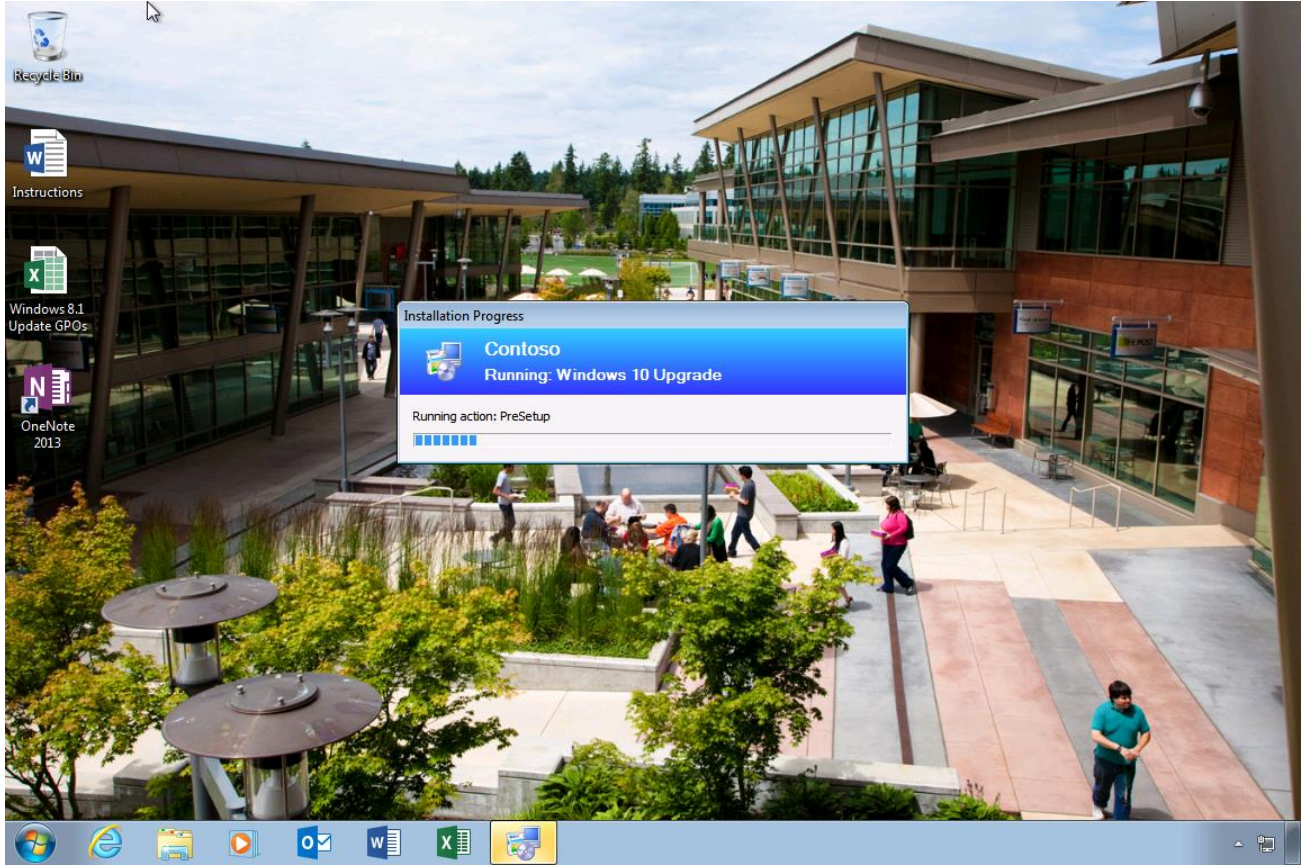
- In-place upgrade
- Windows Assessment and Deployment Kit (WADK)
- Microsoft Deployment Toolkit (MDT)
- Windows Deployment Services (WDS)
- Windows Configuration Designer

# Tools and Methods Summary: In-Place Upgrade

- Unlike in the past, in-place upgrades are supported 2 major versions back, which opens up the possibility of a direct update from Windows 7 SP1
- The rules are the same
  - No 32/64 bit intermingling
  - No change to language
  - Limited options for changing version

# In Place Upgrade from Windows 7 SP1






Recycle Bin

Instructions


Windows 8.1  
Update GPOs

OneNote  
2013

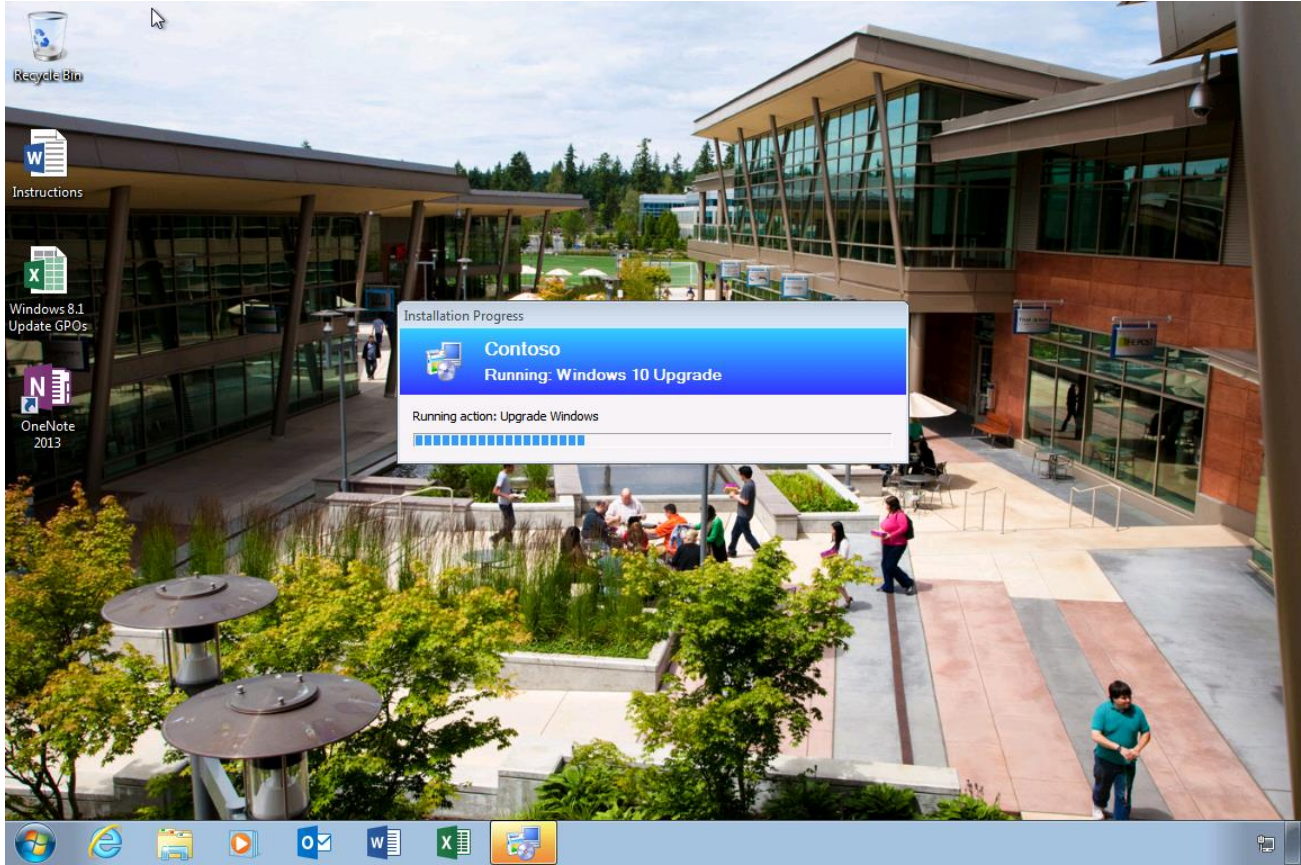
Installation Progress

 **Contoso**  
Running: Windows 10 Upgrade

Running action: PreSetup







Recycle Bin

Instructions

Windows 8.1  
Update GPOs

OneNote  
2013

Installation Progress

**Contoso**  
Running: Windows 10 Upgrade

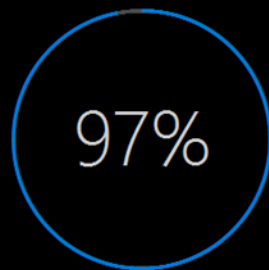
Running action: Upgrade Windows

Progress bar: [██████████]



# Installing Windows

Your PC will restart several times. Sit back and relax.



Configuring Settings

Setting up

Applying PC settings

Setting up a few more things 91%





Recycle Bin



Instructions



OneNote  
2013



Windows 8.1  
Update GPOs



Windows 10 Enterprise Insider Preview  
Evaluation copy. Build 10074

Windows taskbar with search bar and icons for File Explorer, Mail, Word, and Excel.

System tray showing: Volume icon, Network icon, Notification area icon, Time: 10:38 PM, Date: 4/25/2015



Recycle Bin



Michael

- File Explorer
- Documents
- Settings

Most used

- Snipping Tool
- Sticky Notes
- Paint
- Windows PowerShell
- Remote Desktop Connection
- Notepad

Recently added

- Insider Hub

Power

All apps

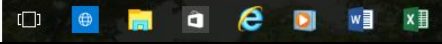
Life at a glance

 Calendar	 Mail	 Project Spartan
 Photos	 Search	
 People	 News Obama jokes about his fourth-quarter 'bucket list' at WHCD	
 Weather		

Play and explore

 Music	 Video	 Xbox
 Money Probate pirates are hijacking America's \$41 trillion wealth transfer		 Sports Grizzlies hold off a late Trail Blazers rally to go up 3-0
 Get started	 Insider Hub	 Windows Feed

search the web and Windows



Windows 10 Enterprise Insider Preview  
Evaluation copy, Build 10074

11:42 PM  
4/25/2015

# Tools and Methods Summary: WADK

- Windows Assessment and Deployment Kit (WADK)
  - Formerly known as WAIK, this is a free download with helpful deployment tools
    - **DISM** for creating images in .wim format, servicing existing images
    - **Windows SIM** is a GUI that assists in writing answer files
    - **USMT** which helps with migrating user files and settings from an old computer to a new one
    - **Configuration Designer** (formerly ICD) is a tool to create *Provisioning Packages*, which are self-contained files used to configure a device for enterprise support without imaging
    - And many more

# Tools and Methods Summary: MDT

- Microsoft Deployment Toolkit (MDT)
  - Provides a collection of tools and processes centered around a “*workbench*”
  - The workbench provides a central point of management for images, device drivers, and more
  - Using task sequences, MDT provides a consistent way to image workstations and includes support for clean installs, side-by-side and wipe & load migrations
  - The newer versions include a task sequence that supports in-place upgrades from Windows 7, 8 and 8.1 to Windows 10
  - Part of Microsoft’s “*lite-touch*” deployment methodology

# Tools and Methods Summary: WDS

- Windows Deployment Services (WDS)
  - WDS is a native (in-box) Windows Server role
  - The primary feature of WDS is its ability to provide images to PXE boot, bare-metal clients
  - WDS also supports multicast image deployment which makes imaging multiple computers concurrently much more bandwidth-efficient

# Tools and Methods Summary: WCD

- Windows Configuration Designer (formerly Image and Configuration Designer pre-1703)
  - Part of WADK or can be downloaded as an app from the Windows Store
  - Provides a GUI that greatly simplifies the process of provisioning an existing Windows device without reimaging it
  - The resulting files could be saved on a flash drive and include a .PPKG which can be run by double-clicking

# Windows Configuration Designer

Windows Configuration Designer



File ▾

Start page

Project\_1

Windows ICD makes it easy to build and flash a Windows image, create provisioning packages, or set up devices to  
Recent project.

## Create

### Provision desktop devices



Configure common settings for Windows desktop devices

### Provision Windows mobile devices



Configure common settings for Windows mobile devices

### Advanced provisioning



View and configure all possible settings on provisioned devices

### Provision kiosk devices



Configure common settings for a device that will run a single app in kiosk mode

### Provision Surface Hub devices



Configure common settings for Surface Hub devices




# Licensing

So Many Options.....So Little Time

- 7 DIFFERENT Ways to Buy Office!
- Subscription or Perpetual? CSP? Open? Enterprise? ETC, ETC...

To Make the BEST use of Everyone's Time

Check on the Evaluation that you'd like more information on  Licensing, so we can cover your individual licensing needs!



# Training and Certification: Windows 10

# Windows 10 Training at System Source

## Course 10982: Supporting and Troubleshooting Windows 10

- *This course is focused on getting a help desk up to speed on Windows 10 support issues with a focus on break/fix and servicing tickets*
- This is the most popular course

Upcoming scheduled classes include:

- Feb 19 – 23 (Columbia)
- Mar 19 – 23 (Hunt Valley)

To register for any course:

Online: [www.syssrc.com/html/training/index.shtml](http://www.syssrc.com/html/training/index.shtml)

Email: [training@syssrc.com](mailto:training@syssrc.com)

Phone: 410-771-5544 x5

# Windows 10 Training at System Source

## Course 20697-1: Installing and Configuring Windows 10

- *This course is focused on the underlying technology and day-to-day administration of networks with Windows 10 clients. While installation is discussed, it is not the primary focus.*

Upcoming scheduled classes include:

- Feb 19 – 23 (Live Virtual)
- Mar 19 – 23 (Live Virtual)
- Apr 16 – 20 (Hunt Valley)

To register for any course:

Online: [www.syssrc.com/html/training/index.shtml](http://www.syssrc.com/html/training/index.shtml)

Email: [training@syssrc.com](mailto:training@syssrc.com)

Phone: 410-771-5544 x5

# Windows 10 Training at System Source

## Course 20697-2: Deploying and Managing Windows 10 Using Enterprise Services

- *This course is focused primarily on deployment methods for all types of Windows 10 clients. It also covers integration with online services and management methods including Azure and Intune.*

Upcoming scheduled classes include:

- Feb 26 – Mar 2 (Live Virtual)
- Mar 26 – Mar 30 (Columbia)

To register for any course:

Online: [www.syssrc.com/html/training/index.shtml](http://www.syssrc.com/html/training/index.shtml)

Email: [training@syssrc.com](mailto:training@syssrc.com)

Phone: 410-771-5544 x5

# Windows 10 Training at System Source

## Course 20695: Deploying Windows Desktops and Enterprise Applications

- *This course is also focused on deployment methods but includes a planning component and also covers SCCM and Office 2016. It does not cover Azure or Intune.*

Upcoming scheduled classes include:

- Feb 26 – Mar 2 (Live Virtual)
- Mar 26 – Mar 30 (Columbia)

To register for any course:

Online: [www.syssrc.com/html/training/index.shtml](http://www.syssrc.com/html/training/index.shtml)

Email: [training@syssrc.com](mailto:training@syssrc.com)

Phone: 410-771-5544 x5

# Windows 10 Training at System Source

## Design your own custom course from MOC courseware

- *This flexible option allows you to select modules from any Microsoft Official Curriculum course and create your own custom training, including labs*
- *Custom courses can be held at any of our classrooms in Hunt Valley or Columbia, or in any Internet-connected location of your choosing*

To register for any course:

Online: [www.syssrc.com/html/training/index.shtml](http://www.syssrc.com/html/training/index.shtml)

Email: [training@syssrc.com](mailto:training@syssrc.com)

Phone: 410-771-5544 x5

# Windows 10 Training at System Source

## Live Virtual Training

- *You can attend any course we offer, live, as a remote student. Just notify your rep when you register and we'll provide step-by-step instructions for how to connect to the instructor's live presentation and how to access your labs.*
- *Our classrooms are also available to rent for your own group training sessions or for a quiet location an individual to get away from the office to take a 3<sup>rd</sup> party virtual course.*

To register for any course:

Online: [www.syssrc.com/html/training/index.shtml](http://www.syssrc.com/html/training/index.shtml)

Email: [training@syssrc.com](mailto:training@syssrc.com)

Phone: 410-771-5544 x5

# A few Demos



# In summary

- **Windows 10 share continues to grow** as Windows 7 gets closer to end of support, but Microsoft has backed off its goal of 1 billion devices within 3 years of launch. As of last May, they announced the 500 million mark.
- **With the advent of Windows as a Service** you will need to rethink your upgrade and patching processes as well as end-user training cycles.
- **There won't be as many changes with each new version of Windows 10** than you are accustomed to, say, with Windows XP to 7.
- **Microsoft has a lot of free guidance and tools** to help with installing, upgrading and migrating to Windows 10 (all roads lead to the WADK).
- **We have a full catalog of Windows 10 courses** and would love to see you in a training class. We can help you choose the right off-the-shelf course or plan and deliver a customized training program for your help desk, administrators, builds team, end-users or any combination.

**Evaluations  
Door Prizes  
Learning Center Offer**

**THANK YOU!**

