



Windows 10 – OS, který chcete!

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Windows 10 quick overview

Kamil Roman



Discussion

What do you like about Windows 7/8?
What are you looking forward to on
Windows 10?

Quick overview

Windows redesigned







Quick overview

Editions and features



Windows 10 editions

Windows 10 Home

Windows 10 Pro

Windows 10 Enterprise

Windows 10 Mobile

Windows 10 Mobile Enterprise

Windows 10 Enterprise 2015 LTSC

Windows 10 Education

Windows 10 IoT Core

New Features overview

Microsoft Edge

Cortana

Virtual desktops

DirectX 12

Start menu

Windows Hello

Windows Store

Virtual Secure Mode

Windows Apps

Device Guard

Storage sense

Continuum

Universal Apps

Hyper-V

Action center

Microsoft Print to PDF

...

Deprecated features

Windows Media Center

Windows 7 gadgets removed during upgrade

Solitaire, Minesweeper and Hearts removed during upgrade =(((

- "Microsoft Solitaire Collection" and "Microsoft Minesweeper" available via store

Floppy drive - drivers need to be downloaded

OneDrive application removed during upgrade

- Replaced with inbox app
- Doesn't support placeholders!!!

Quick overview

Requirements



Windows 10 requirements

Processor:

- 1 GHz or faster processor or SoC

RAM:

- 1 GB for 32-bit
- 2 GB for 64-bit

Hard disk space:

- 16 GB for 32-bit OS
- 20 GB for 64-bit OS

Graphics card:

- DirectX 9 or later with WDDM 1.0 driver

Display:

- 800x600

Windows XP:**Processor:**

- 233 MHz or faster processor

RAM:

- 64 MB for 32-bit
- 256 MB for 64-bit

Hard disk space:

- 1,5 GB for 32-bit OS (661+1800+900MB)
- 1,5 GB for 64-bit OS

Graphics card:

- 16 MB superVGA

Display:

- 800x600

Additional requirements

- Cortana is only currently available on Windows 10 for the United States, United Kingdom, China, France, Italy, Germany, and Spain.
- Speech recognition requires high fidelity microphone.
- Windows Hello
 - Certified Infrared camera or fingerprint (with WBF support)
- Continuum on all desktops editions enabled manually
- Continuum for phones is limited to selected premium phones at launch.
 - External monitor must support HDMI input.
 - Office 365 subscription required for some features.

Additional requirements

- Xbox app requires an Xbox Live account.
- Two factor authentication requires the use of a PIN, Biometric (finger print reader or illuminated infrared camera), or a phone with Wi-Fi or Bluetooth capabilities.
- To use touch, you need a tablet or a monitor that supports multi-touch.
- Microsoft account required for some features.

Additional requirements

- Secure boot requires firmware that supports UEFI v2.3.1.
- Secure Logon (Ctrl + Alt + Del) on tablets without a keyboard requires Windows button.
 - Windows button + Power button.
- Some games and programs might require a graphics card compatible with DirectX 10 or higher for optimal performance.
- BitLocker To Go requires a USB flash drive.
- BitLocker requires either Trusted Platform Module (TPM) 1.2, TPM 2.0 or a USB flash drive or password (Windows 10 Pro and Windows 10 Enterprise only).

Additional requirements


- Client Hyper-V (Windows 10 Pro and Windows 10 Enterprise only) requires
 - 64bit system
 - SLAT
 - 2GB+ RAM

Additional requirements

- To install a 64-bit OS on a 64-bit PC, your processor needs to support CMPXCHG16b, PrefetchW, and LAHF/SAHF.
- InstantGo works only with computers designed for Connected Standby.
- Device encryption requires a PC with InstantGo and TPM 2.0.

Quick overview

Windows 10 upgrade



Upgrade paths from Windows 7

From Edition	To Edition
Windows 7 Starter	Windows 10 Home
Windows 7 Home Basic	
Windows 7 Home Premium	
Windows 7 Professional	Windows 10 Pro
Windows 7 Ultimate	

Upgrade paths from Windows 8.1

From Edition	To Edition
Windows Phone 8.1	Windows 10 Mobile
Windows 8.1	Windows 10 Home
Windows 8.1 Pro	Windows 10 Pro
Windows 8.1 Pro for Students	

Windows 10 free upgrade

Windows 10 upgrade from Windows 7 / Windows 8

- Upgrade for free for customers not using Enterprise editions
- Limited time offer - available first year after RTM (28.7.2016)
- Any previous licence used for upgrade transferred to OEM

Windows 10 download tool


<https://www.microsoft.com/cs-cz/software-download/windows10>


Installation media creation tool

Downloads and creates installation DVD or USB

Windows RT

Windows RT has been deprecated


- No upgrade path available
-  platform for developers



Windows 10

Windows 10 deployment

Kamil Roman



Windows 10 deployment



Deployment choices

The end of wipe and reload!

Managed in-place upgrade

Runtime configuration—
customize without imaging

Reduced validation
and deployment costs



Deployment choices

Wipe-and-load

Traditional process

- Capture data and settings
- Deploy (custom) OS image
- Inject drivers
- Install apps
- Restore data and settings

Still an option for all scenarios

In-place

Let Windows do the work

- Preserve all data, settings, apps, drivers
- Install (standard) OS image
- Restore everything

**Recommended for existing
devices (Windows 7/8/8.1)**

Provisioning

Configure new devices

- Transform into an Enterprise device
- Remove extra items, add organizational apps, and configuration

New capability for new devices

Moving in-place

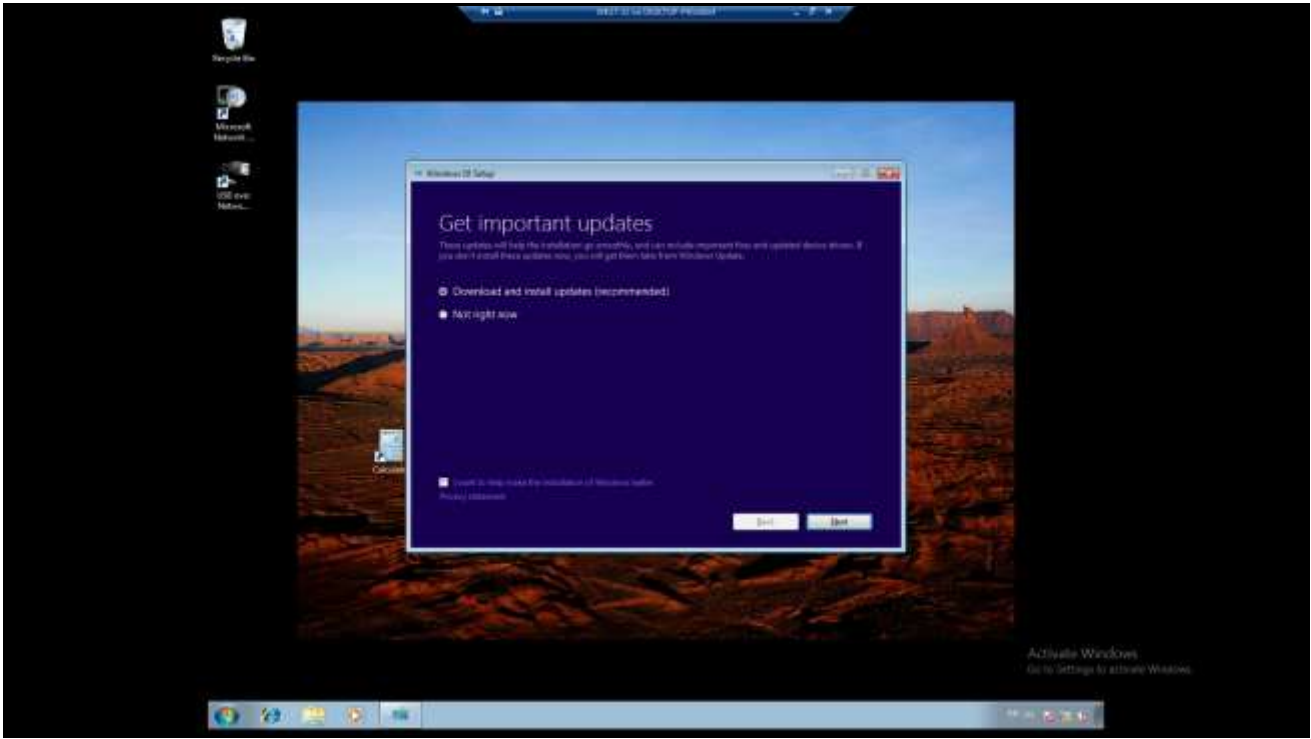
Preferred option for enterprises

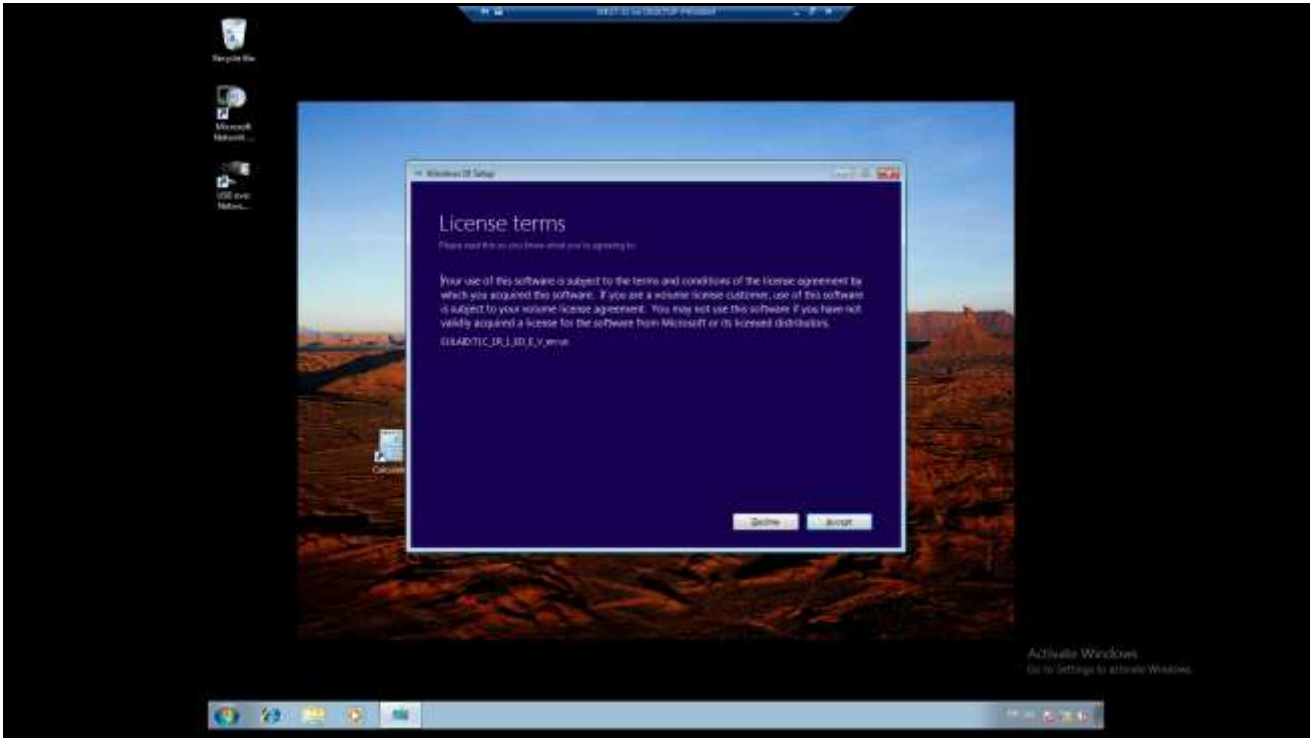
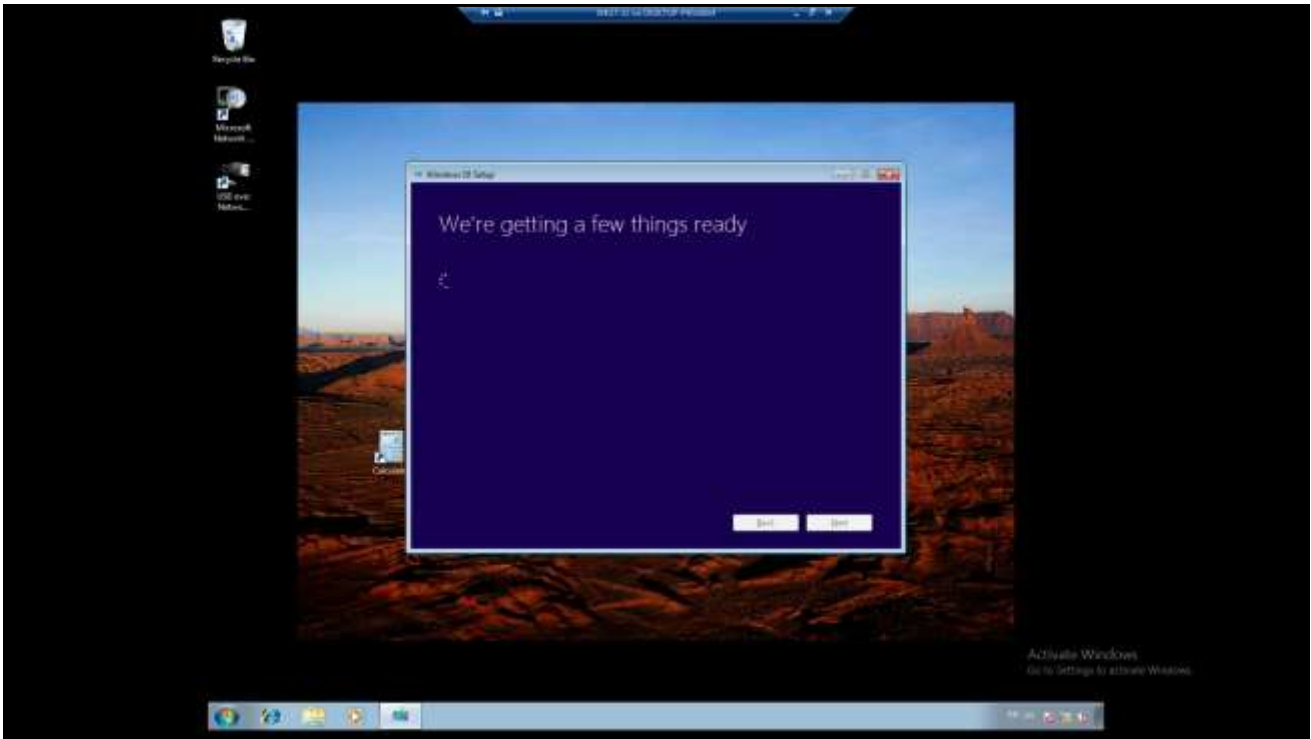
- Supported with Windows 7, Windows 8, and Windows 8.1
- Consumers use Windows Update, but enterprises want more control
- Use System Center Configuration Manager or MDT for managing the process
- Uses the standard Windows 10 image
- Automatically preserves existing apps, settings, and drivers
- Fast and reliable, with automatic roll-back if issues are encountered

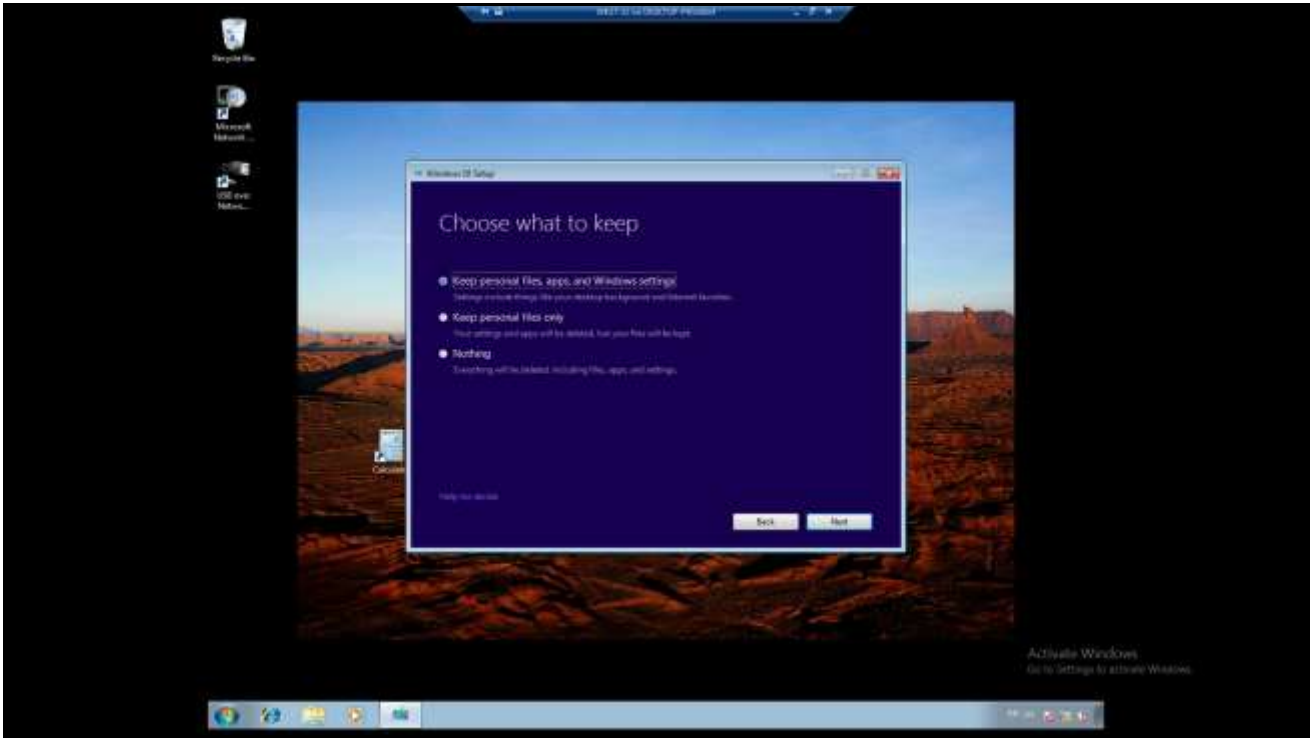
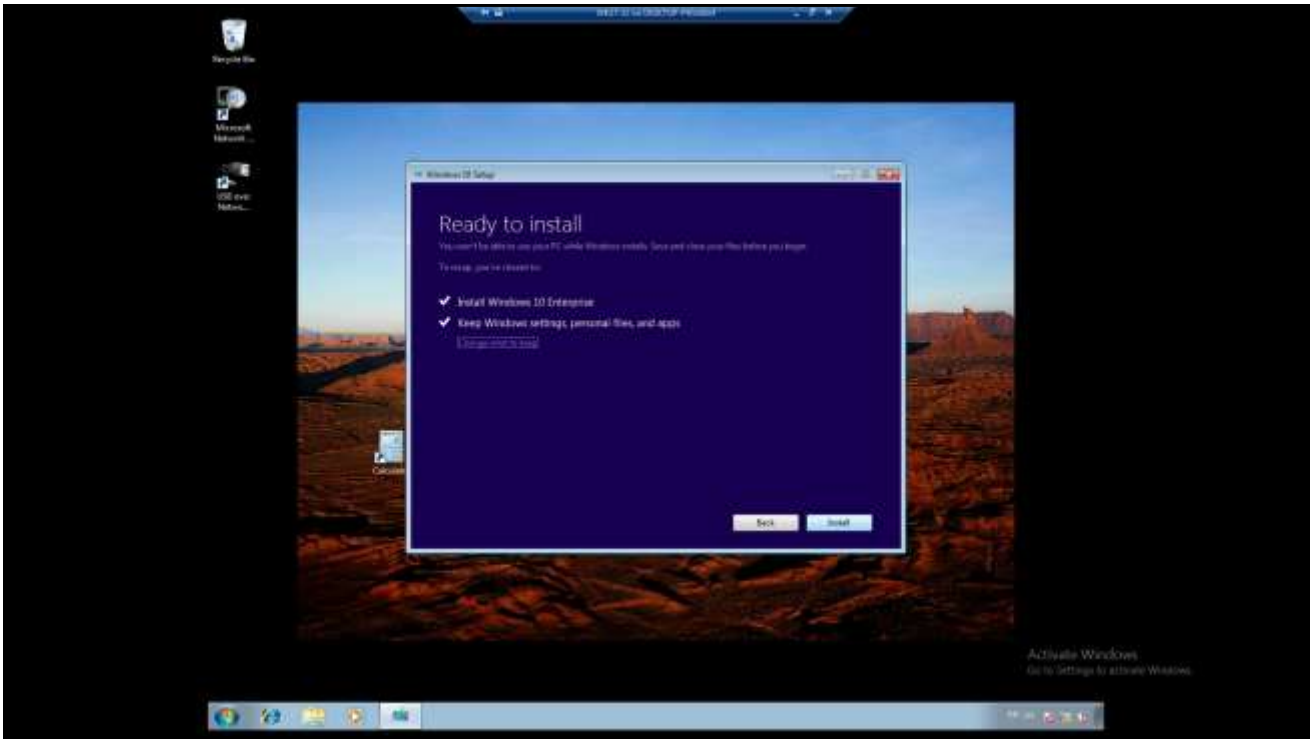
Simplified process, builds on prior experience

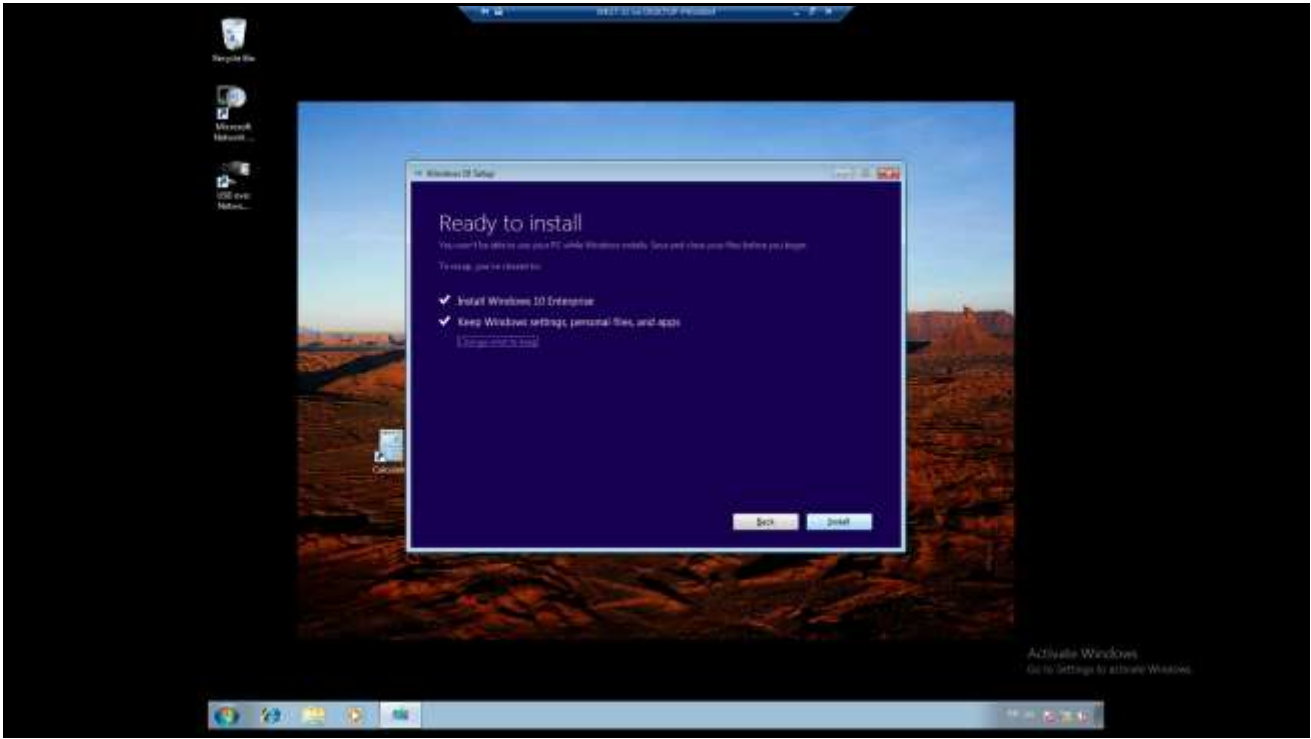
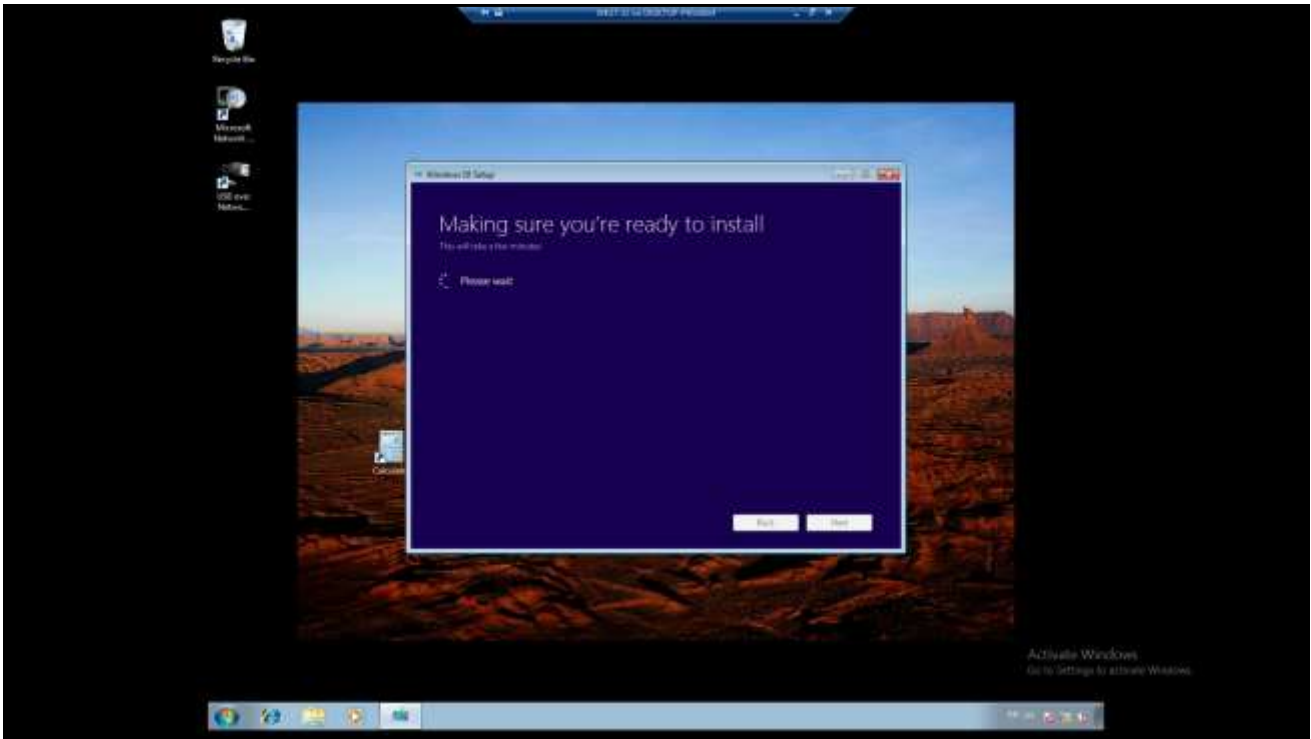
- Popular for Windows 8 to Windows 8.1
- Piloted process with a customer to upgrade from Windows 7 to Windows 8.1, as a learning process
- Feedback integrated into Windows 10 to provide additional capabilities for automation, drivers, logging, etc.
- Working with ISVs for disk encryption



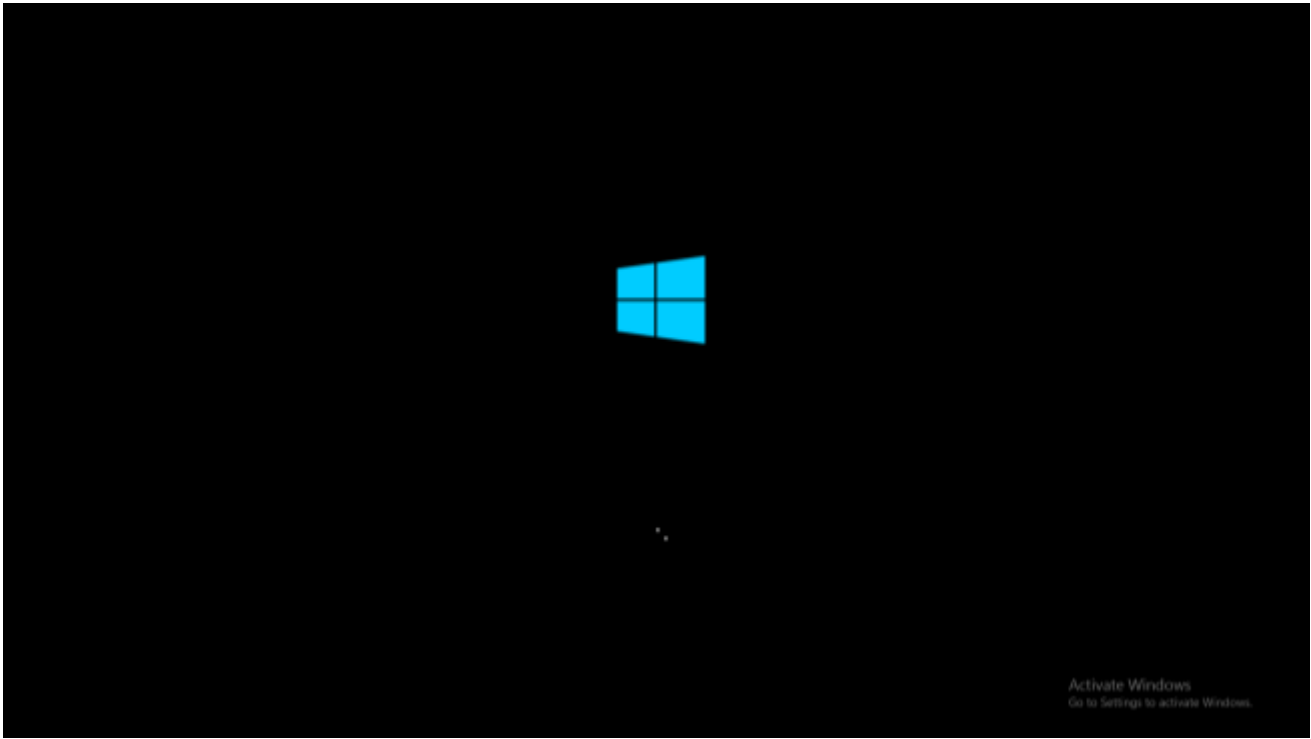














Traditional deployment

Enhancements to existing tools	Minimal changes to existing deployment processes
<ul style="list-style-type: none">• New Assessment and Deployment Kit includes support for Windows 10, while continuing to support down to Windows 7• Minor updates to System Center 2012 to add support• Minor updates to Microsoft Deployment Toolkit 2013 to add support	<ul style="list-style-type: none">• Will feel “natural” to IT Pros used to deploying Windows 7 and Windows 8.1• Drop in a Windows 10 image, use it to create your new master image• Capture a Windows 10 image, use it for wipe-and-load deployments

Compact OS

Simple deployment option

- Compresses all Windows files to save disk space
- Transparent to the user
- Successor to WIMBoot, with fewer limitations
- Windows updates automatically get compressed too

Easy to deploy

- Uses standard partition structure, hiding compressed files on the same volume
- DISM/Apply-Image/Compact:ON command line option takes care of the details
- Can be implemented after the fact as well

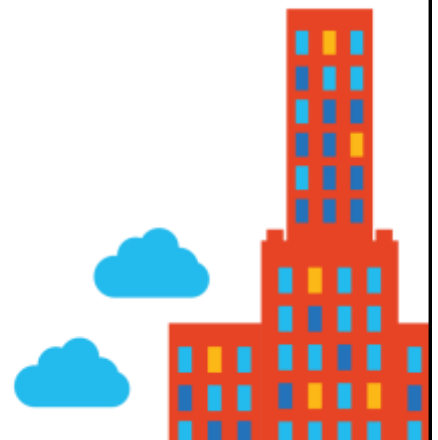
Disk space savings

- About 3GB saved on an x64 system
- Ideal for Windows systems with 32GB drives or smaller




Demo

Compact OS



Windows 10 deployment

Provisioning







Provisioning, not reimaging


Transform a device

- Enable the Enterprise SKU
- Install apps and enterprise configuration
- Enroll the device to be managed via MDM

Flexible methods

- Using media, USB tethering, or even email for manual distribution
- Automatically triggered from the cloud or connection to a corporate network
- Leverage NFC or QR codes





Runtime provisioning to the rescue!



Configure new off-the-shelf devices without re-imaging



Works on both mobile and desktop



Network connectivity not required



Simple enough to be used by employees



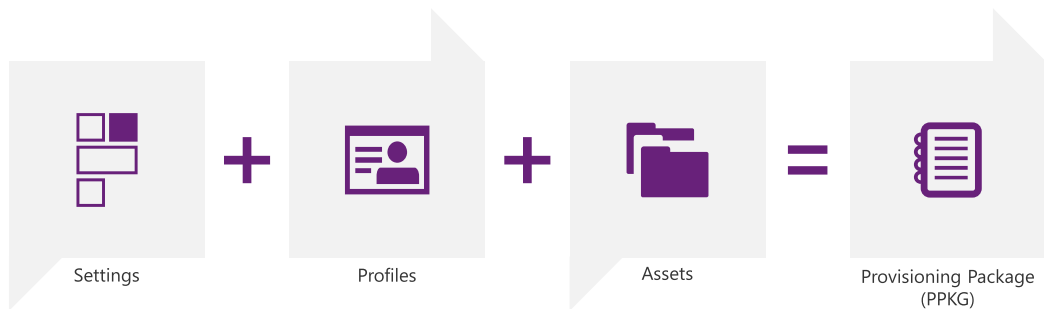
Compatible with existing solutions

When to use provisioning

- 1 Configure a device in deployments without MDM
- 2 Automate enrollment into MDM, domain, or Azure Active Directory
- 3 Ensure compliance and security BEFORE the device is enrolled

How it works

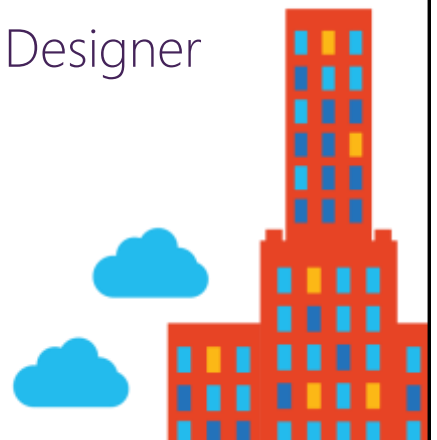
Windows Imaging and Configuration Designer creates a Provisioning Package
A package is a bundle of settings, profiles, and file assets

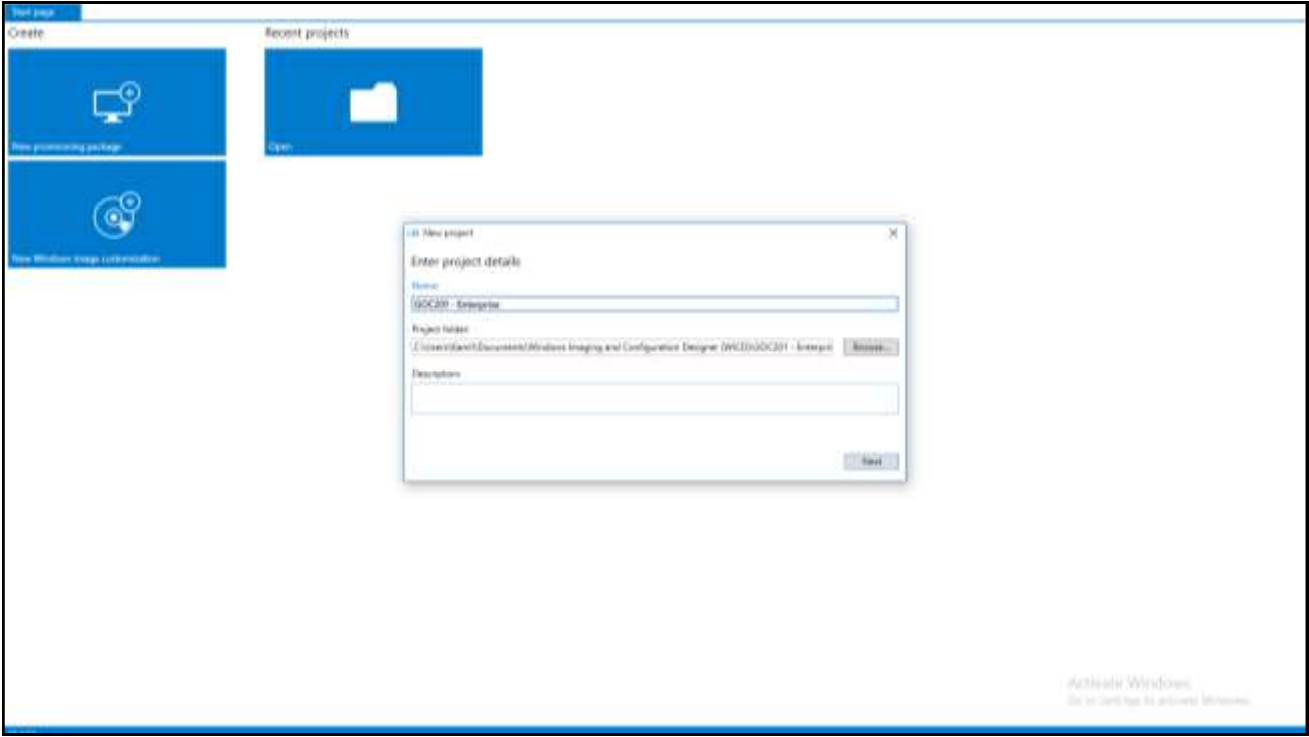
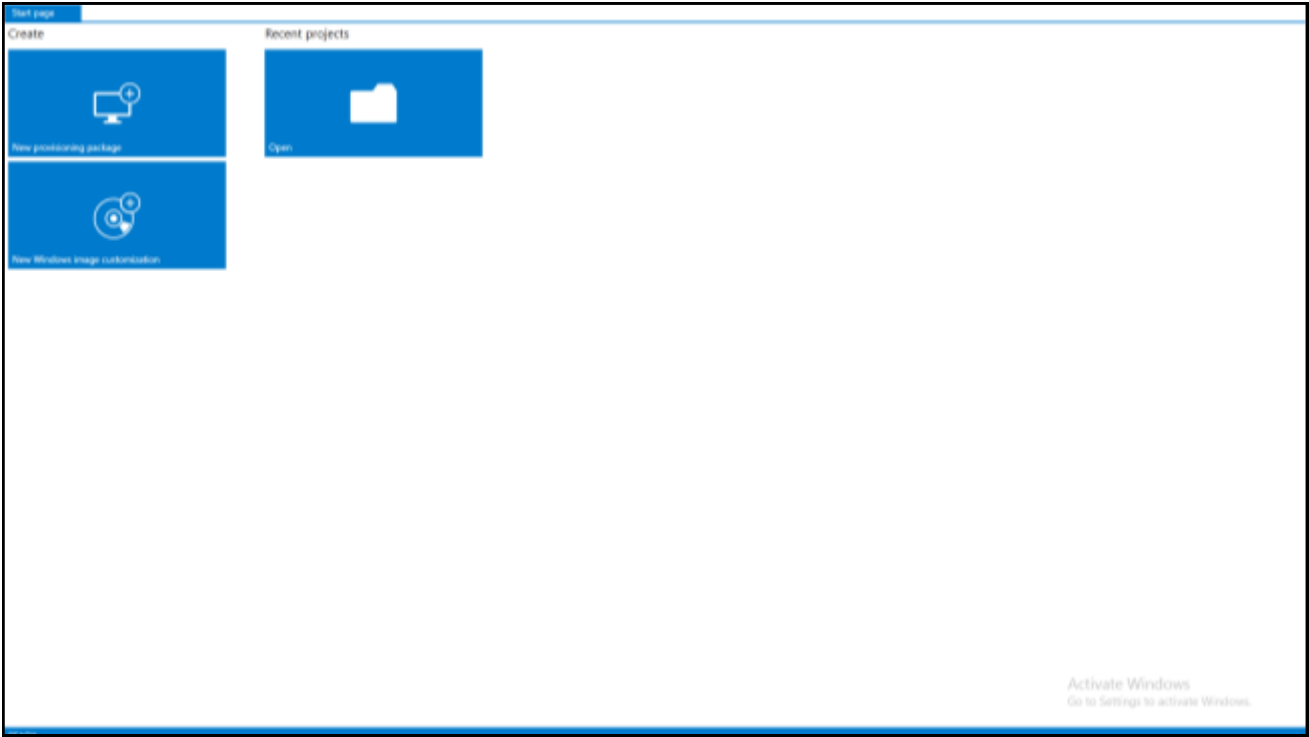


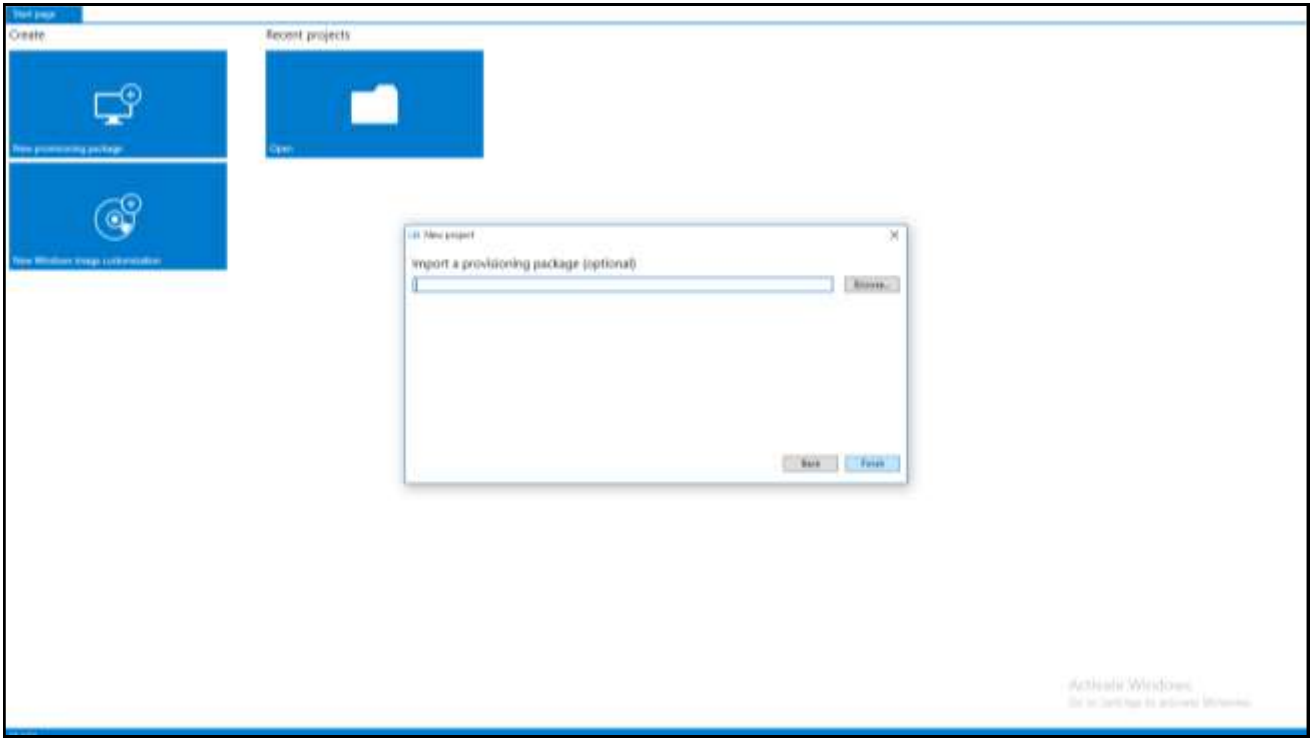
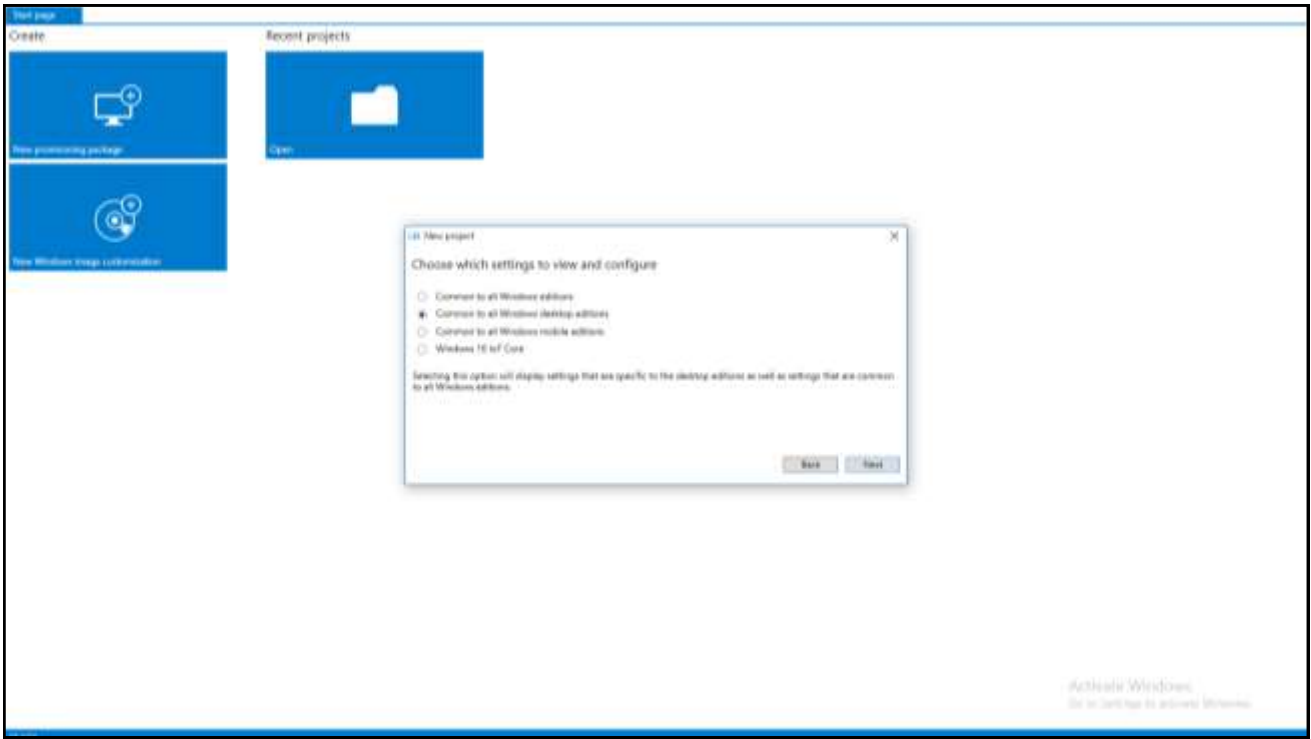
Asset binaries can be included in the package or referenced by URL

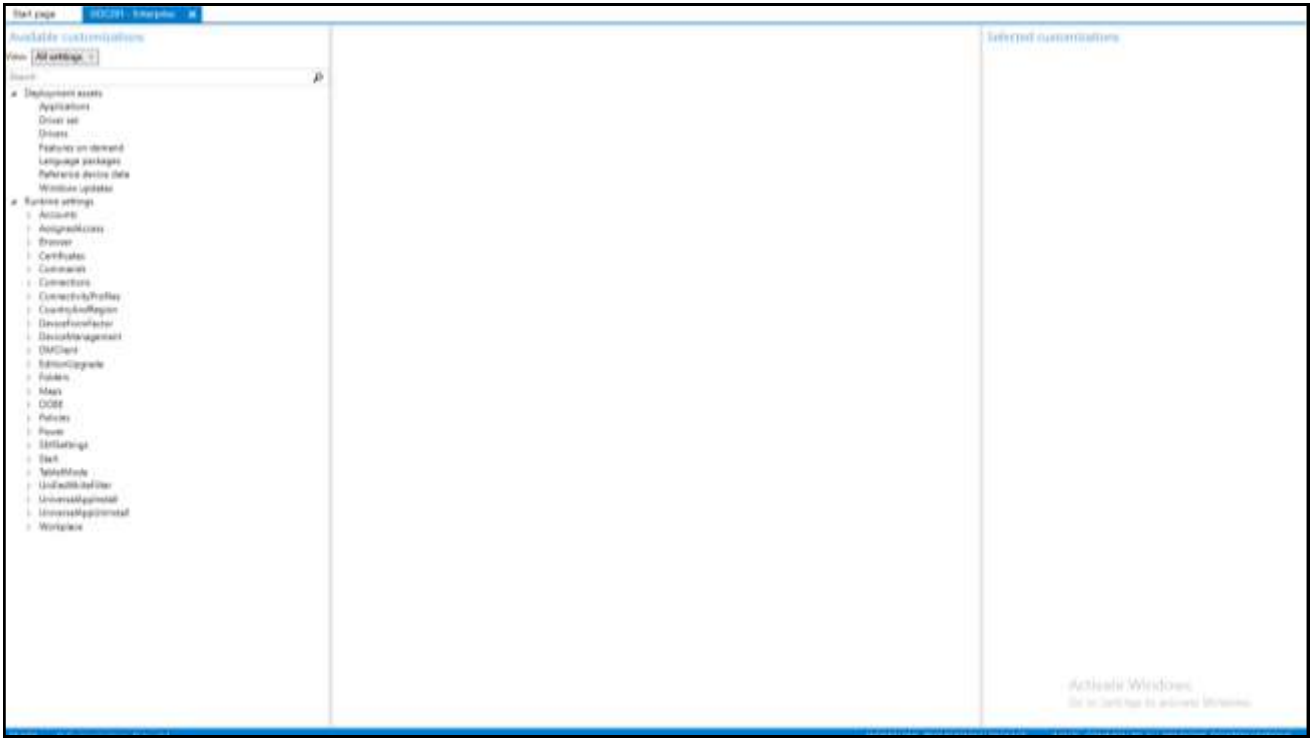
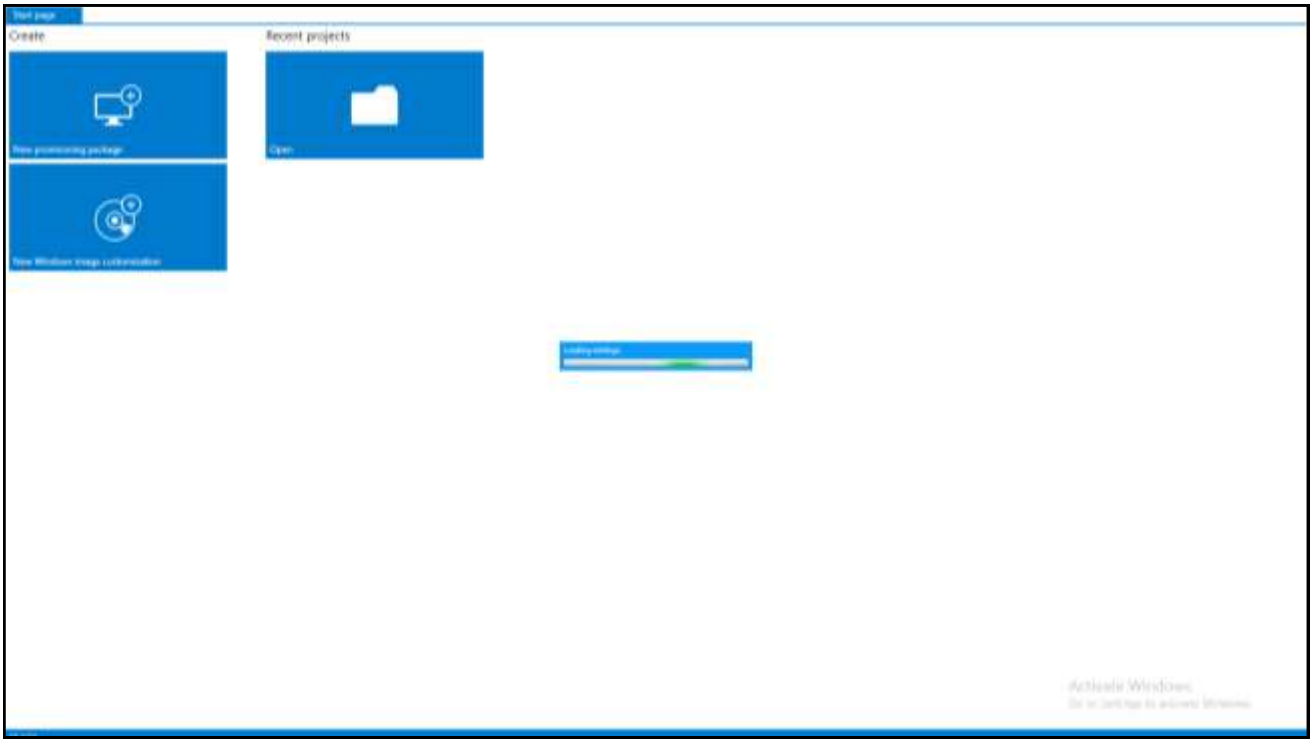
Demo

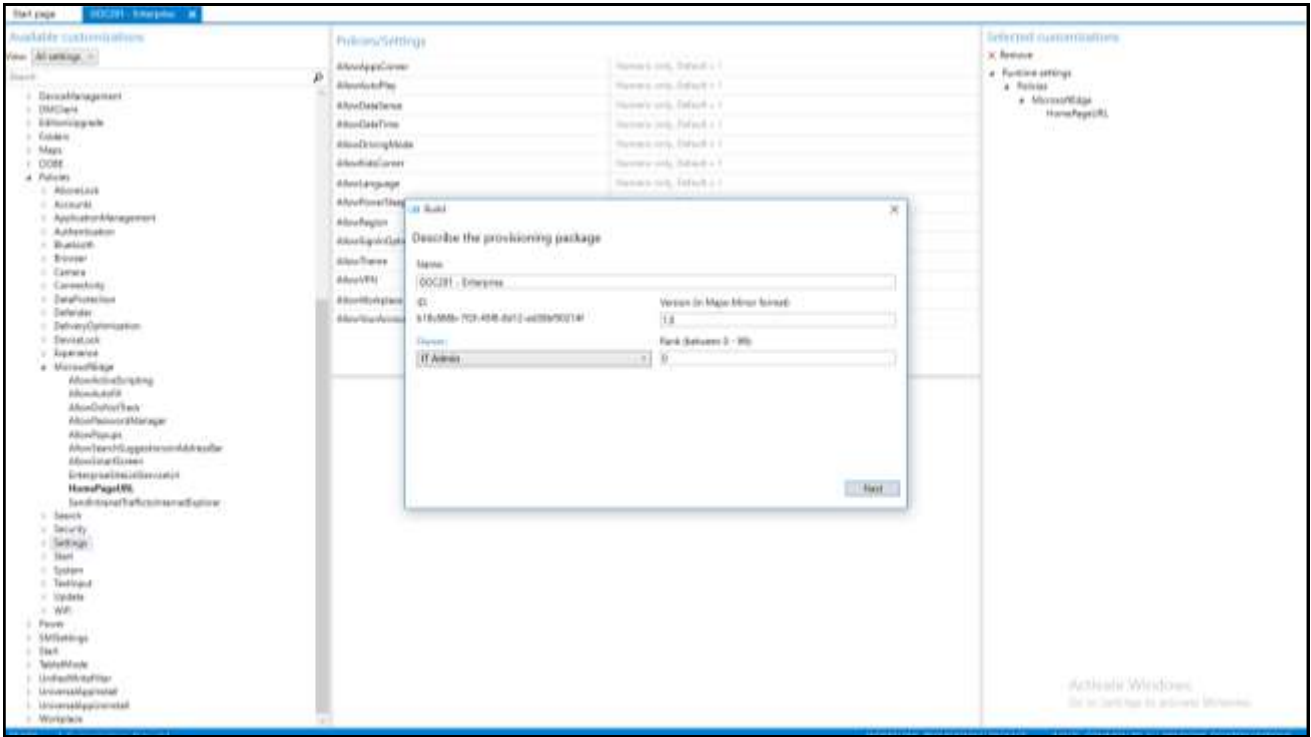
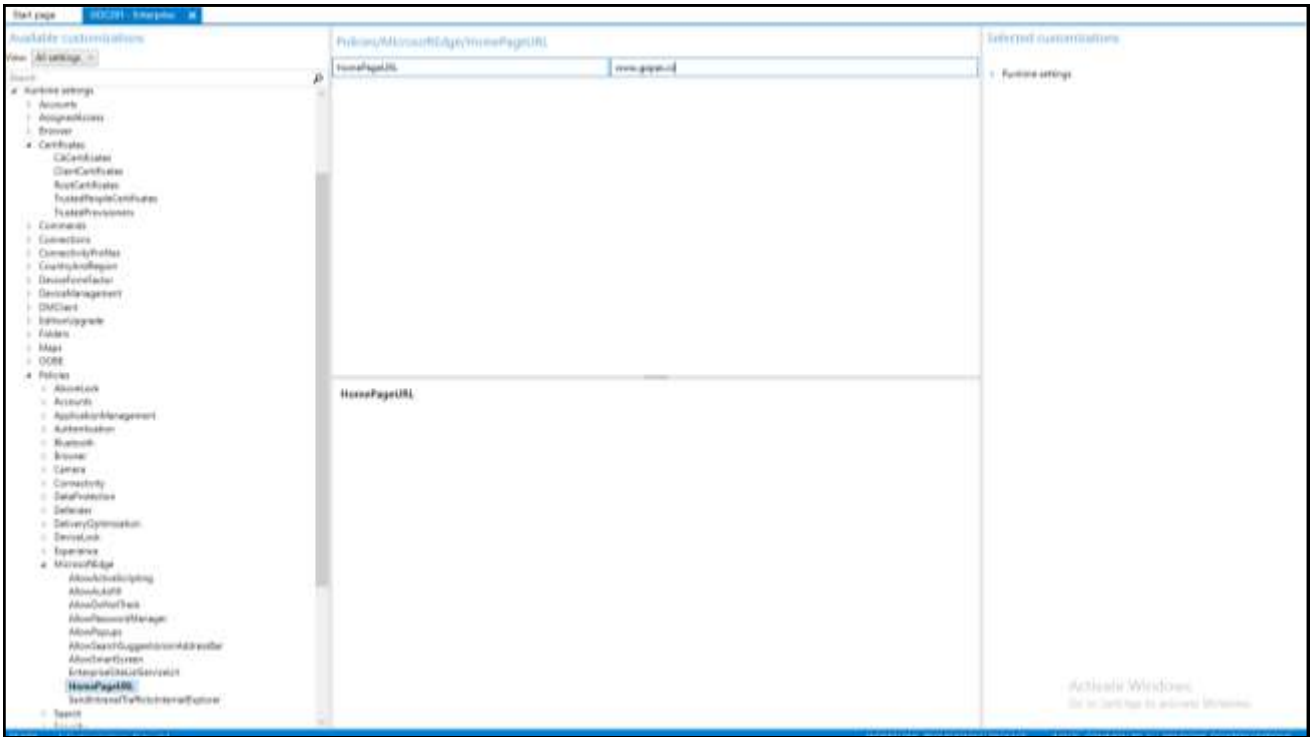
Windows Imaging and Configuration Designer

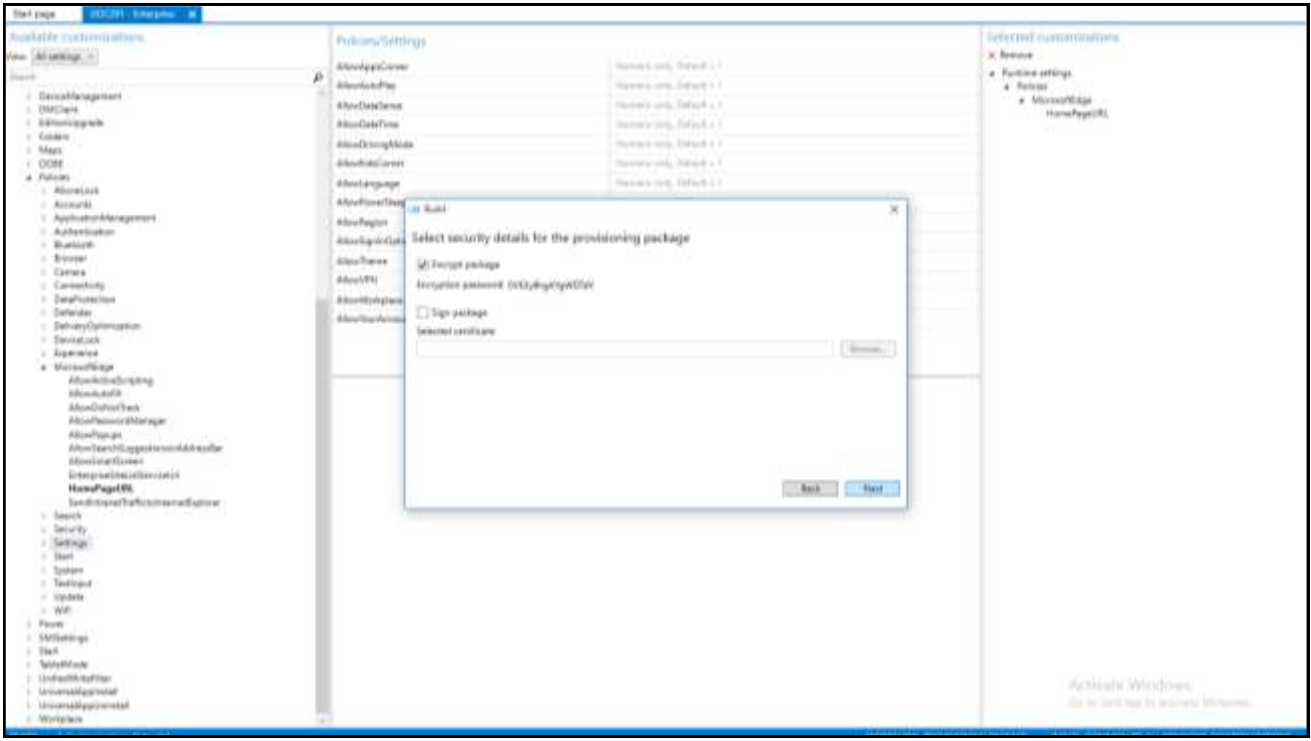
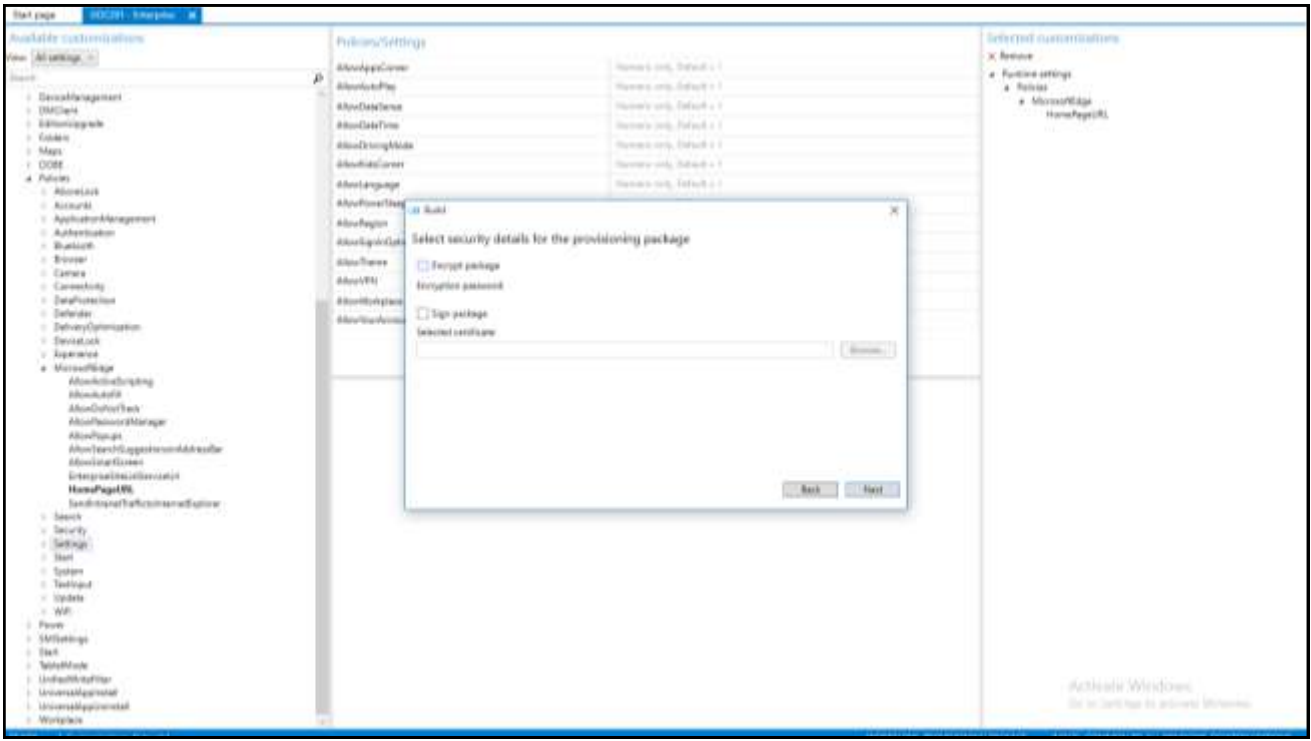


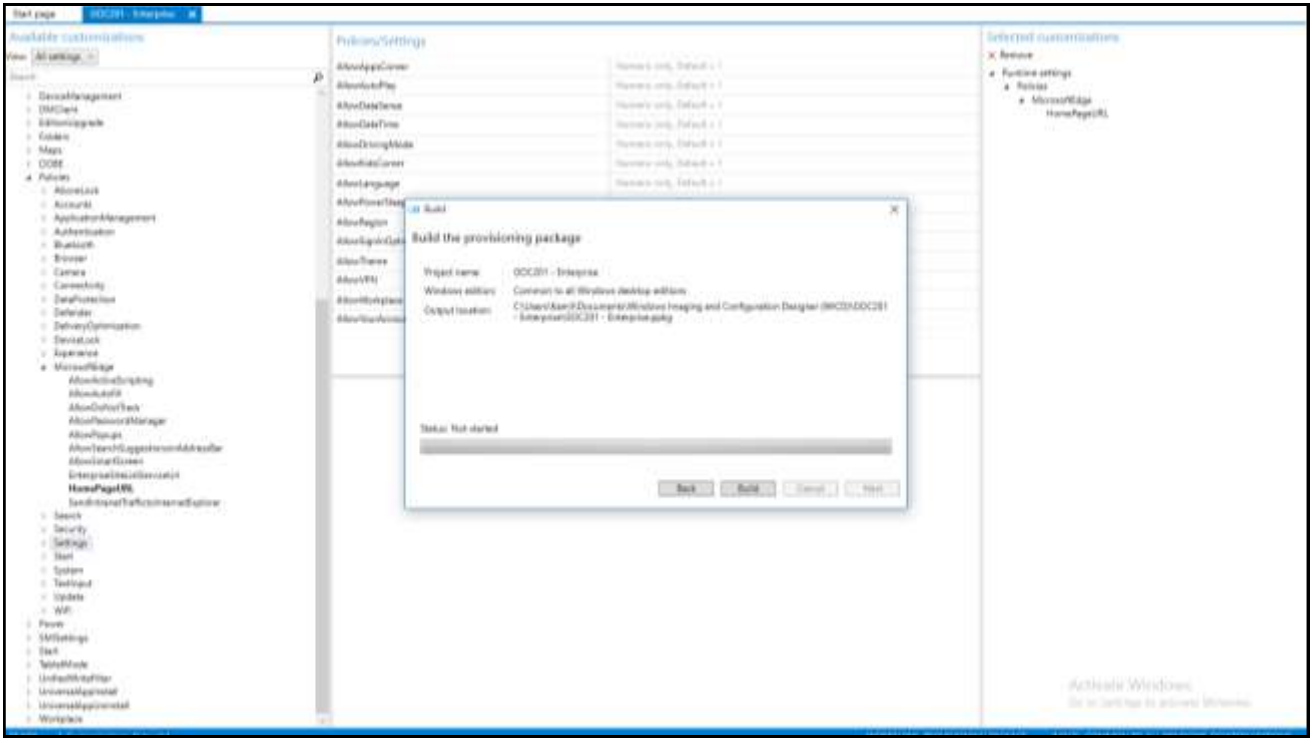
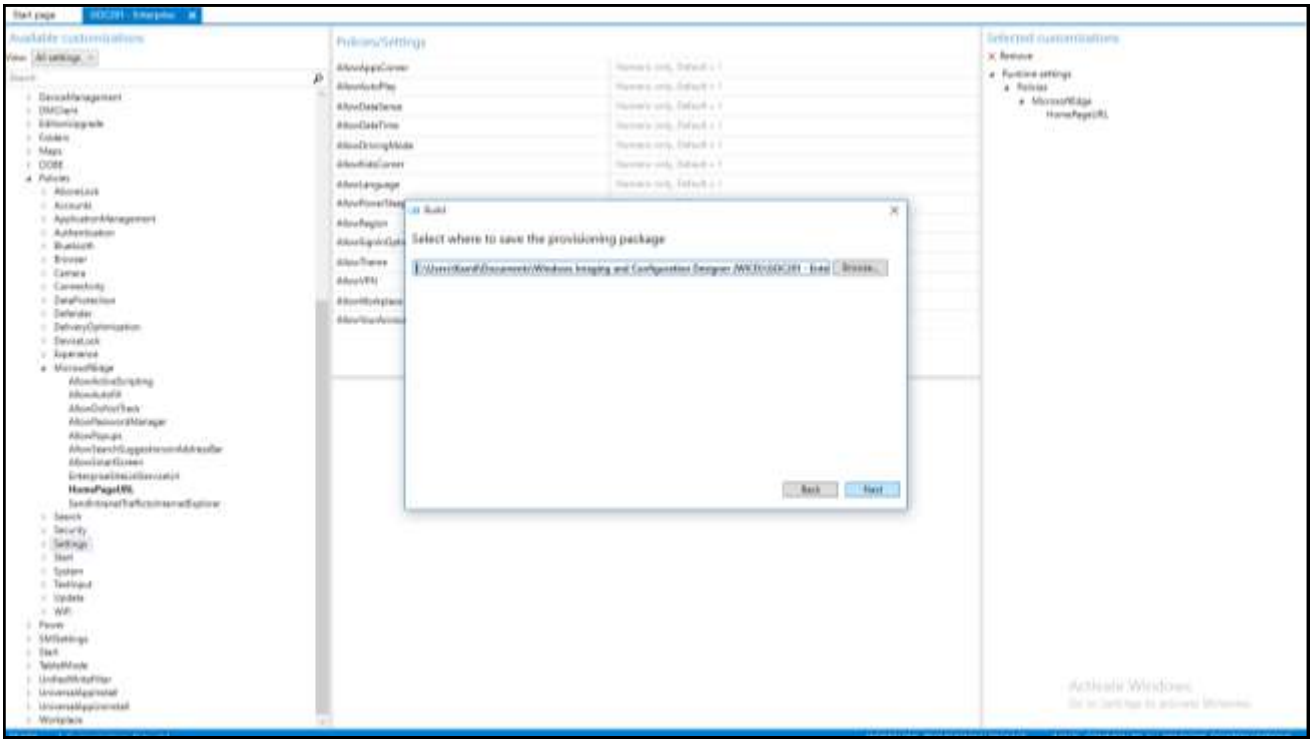


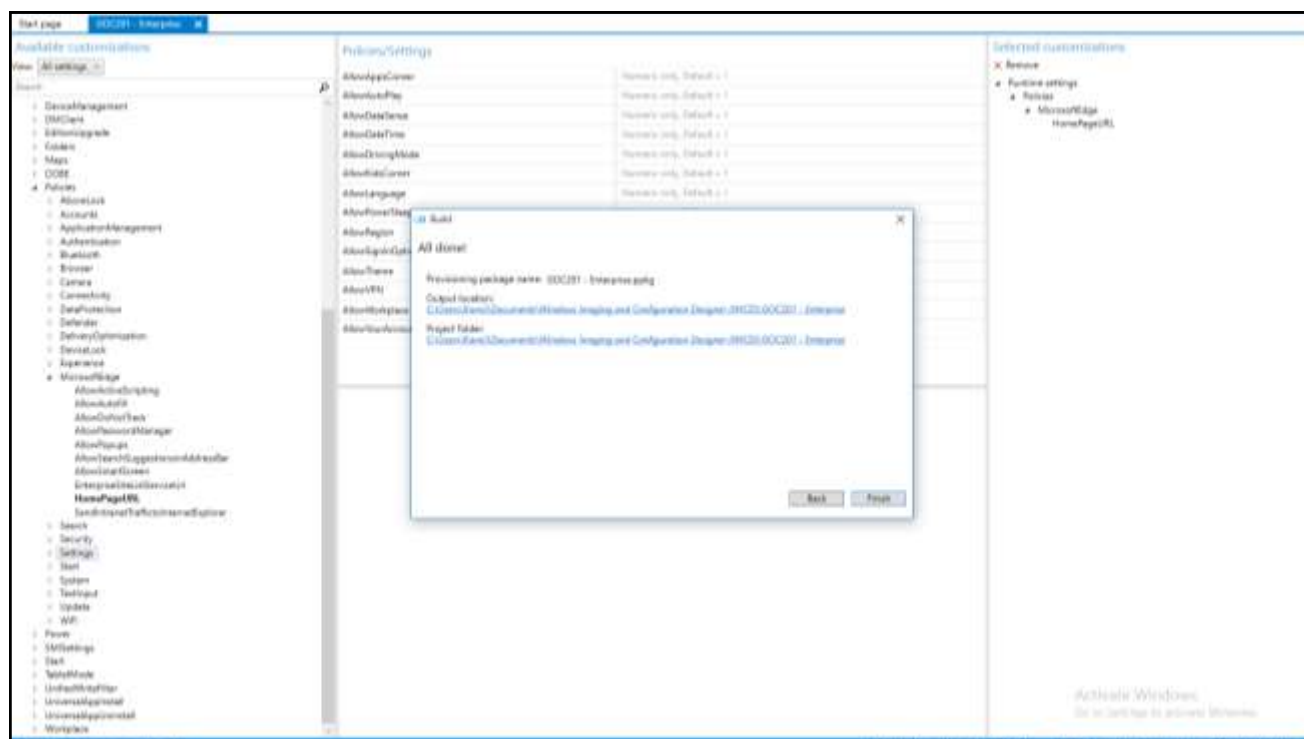












Applying a package

New device/first run experience: five taps on  button

Removable media (SD/USB) on desktop and mobile

NFC (mobile only)

During runtime

Click on .PPKG file (from email, local storage, media, URL)

USB tether (mobile only)

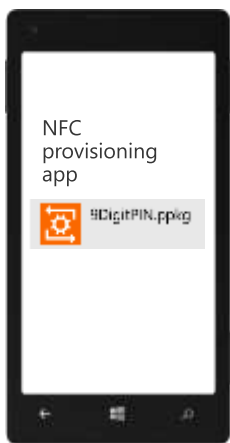
Embedded in the image

Provisioning in first run experience

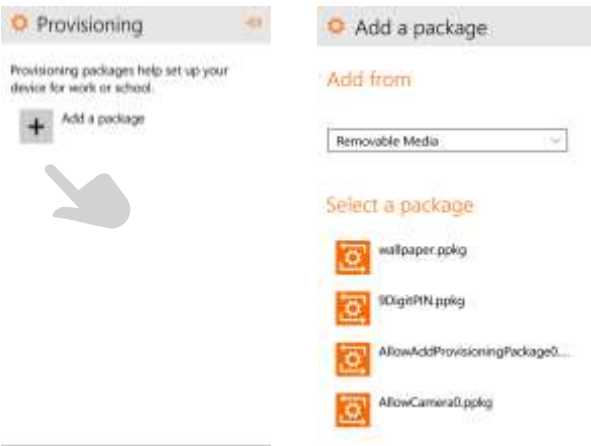


Five taps on  button to open provisioning menu

Provisioning in first run experience

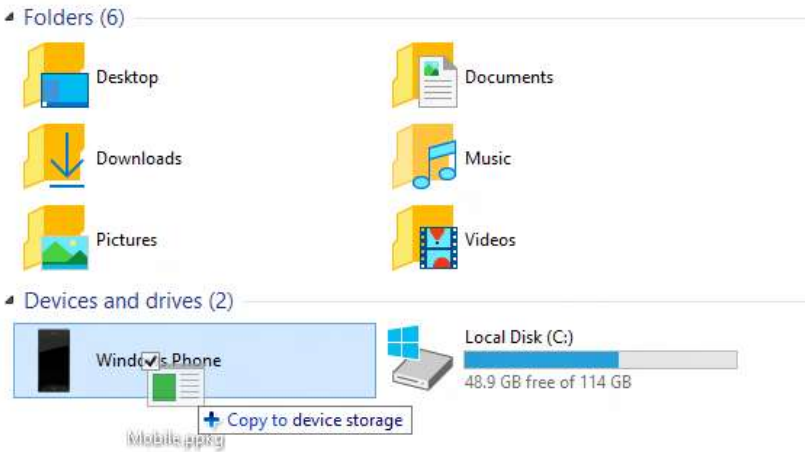


Provisioning during runtime

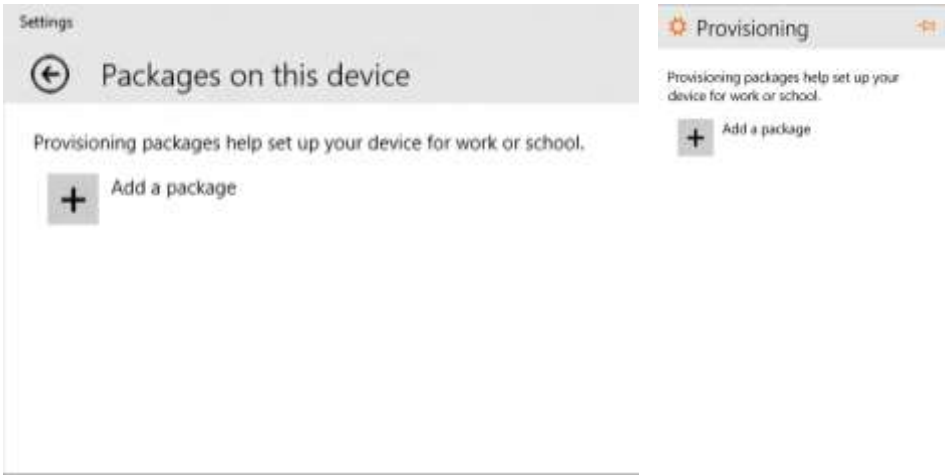


Located under
Settings >
Accounts >
Provisioning

Provisioning during runtime: USB tether



Consistent user interface on desktop and mobile



What can be provisioned

Initial setup	Edition upgrade	Certificates	Connectivity profiles
Management enrollment	Universal Windows apps	Win32 applications scripts	Enterprise policies
Offline content	Browser settings	Start menu customization	Assigned access

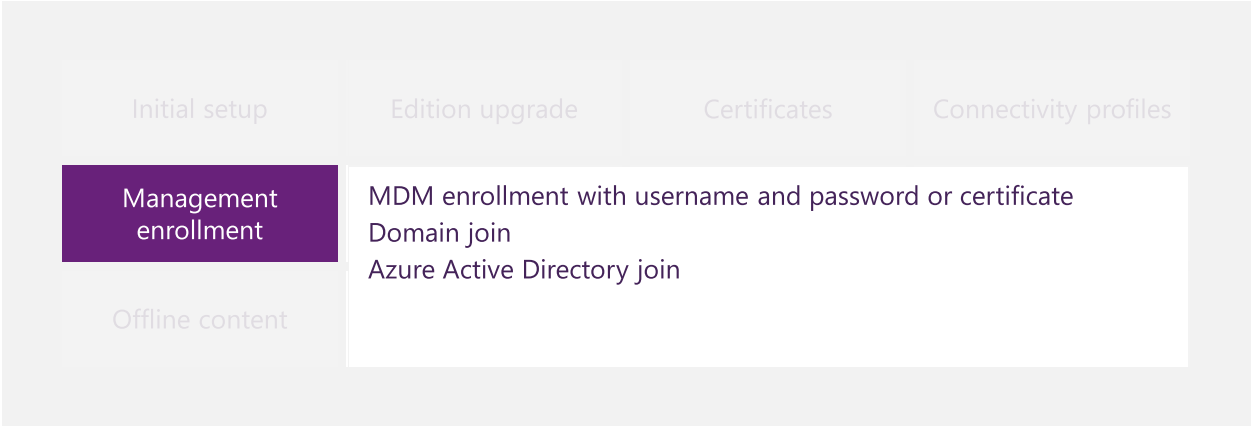
What can be provisioned

Initial setup	Edition upgrade	Certificates	Connectivity profiles
Management enrollment	Specify the license key for edition upgrade No need for reimaging!		
Offline content			

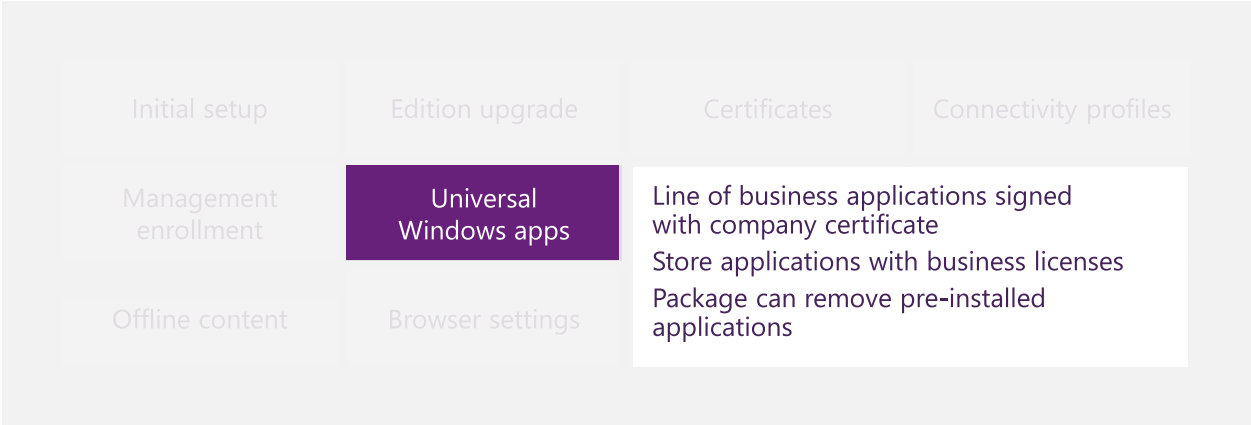
What can be provisioned

Initial setup	Edition upgrade	Certificates	Connectivity profiles
Computer name can be set to PREFIX + RANDOM or SERIAL Launch an application after FRX finishes Hide First Run Experience ("FRX") Local accounts with specified usernames, passwords, groups			Enterprise policies
			Assigned access

What can be provisioned



What can be provisioned



What can be provisioned

Initial setup	Edition upgrade	Certificates	Connectivity profiles
Deploy an MSI package Run a script to execute headless setup PowerShell scripts	Win32 applications scripts	Enterprise policies	Assigned access
	Start menu customization		

Security: encryption

Packages can be encrypted to protect sensitive content

Encryption password is generated automatically

To prevent "123456" and "pa\$\$word"

Enter security information of provisioning package:

☒ Enable package encryption

Encryption password: yzLbQ4A4bbgQgvIw

☐ Enable package signing

Selected certificate:

Select...

Enter the package password

You need a password to add BYOD.ppkg. If you don't know it, talk to your support person.

Enter the package password

Ok

Cancel

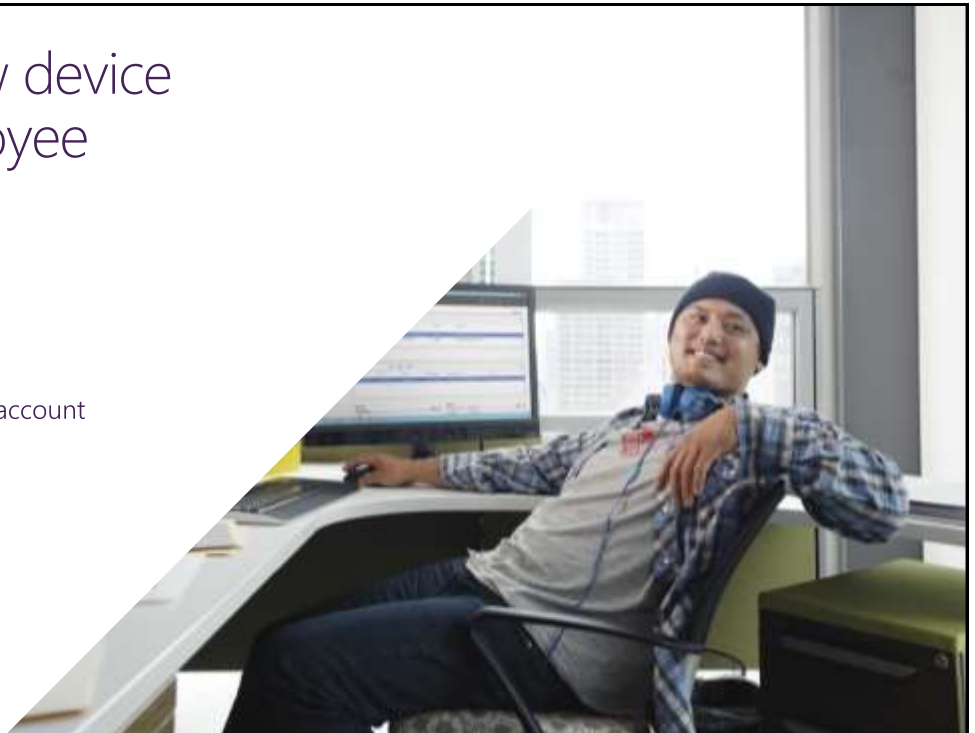
Managing the packages

- Use policies to disable
- Manual deletion of packages
- Installing new packages
- Update content by installing a new version of the package
- Optionally keep the packages when resetting a device



Set up a new device for an employee

- Edition upgrade
- Computer name
- Company root certificate
- WiFi profile
- Domain join with service account
- "Jumpstart" application
- Distribution: USB stick



Configure a device to be used as a point of sale or inventory terminal

Device name
Edition upgrade
Company root certificate
WiFi profile
Security policies
Line of business applications
Assigned access aka kiosk mode

Distribution: USB tether, NFC,
or SD card



Configure personally owned device to use within an organization (BYOD)

Company root certificate
WiFi and VPN profiles
Security policies
Line of business applications

Distribution: Email attachment or URL



Create persistent configuration by embedding a package in the image

- Company root certificate
- Security policies
- Assigned access
- Line of business applications
- Training materials
- Automated MDM enrollment



Windows 10 deployment

Compatibility considerations



App and device compatibility

Hardware requirements are unchanged

Strong desktop app compatibility
Windows Store apps are compatible

Internet Explorer enterprise investments



Enterprise investments for Internet Explorer 11

Help with compatibility issues

Enterprise Mode, offering improved Internet Explorer 8 compatibility and document type overrides

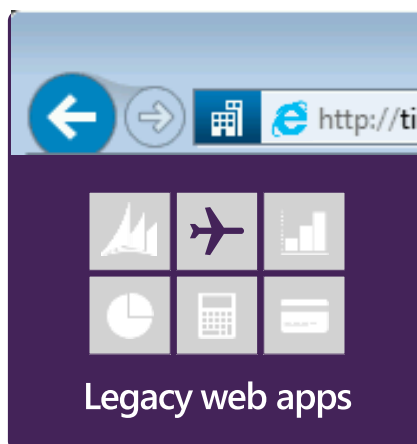
Enterprise site discovery Toolkit, to better understand how users are browsing

All capabilities will be carried forward to Windows 10

A natural stepping stone to Windows 10

Migrate to Internet Explorer 11 on Windows 7 (before 2016) to prepare

<http://blogs.msdn.com/b/ie/archive/2014/08/07/stay-up-to-date-with-internet-explorer.aspx>

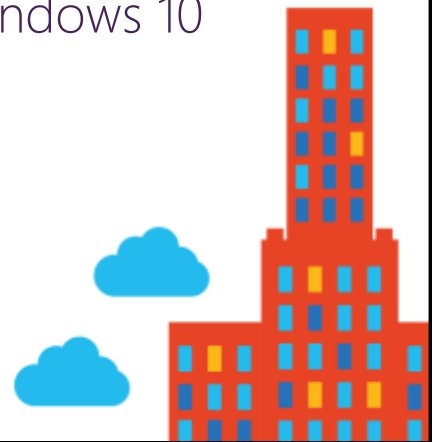


Hardware compatibility

Many vendors still unprepared

Some devices will not be supported at all!!!

Some devices sold nowadays with Windows 10 but not designed for...



Reducing the Windows Footprint

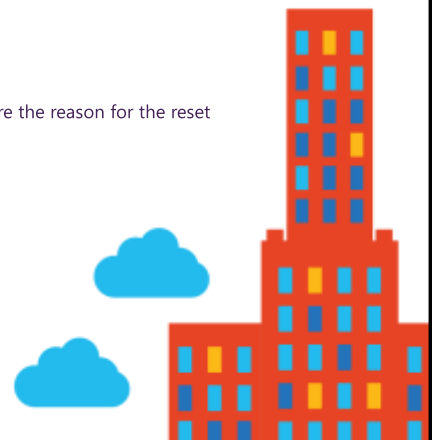
New recovery process

No extra disk space

- Leverages the existing OS files (WINDOWS\WINSXS) to reconstruct the OS
- No separate partition needed

Recovery preserves updates

- All but the last 28 days of Windows updates are kept, with new ones discarded just in case those are the reason for the reset
- Recent driver updates will also be discarded
- Language packs will be preserved



Reducing the Windows Footprint

New recovery process

1) Customizations preserved

- Apps and drivers can be captured into provisioning packages using USMT
- Provisioning packages installed by OEMs and enterprises will be automatically restored
- Provisioned Windows apps are restored to their original state (version)

2) Customizations not preserved

- All Win32 (desktop) apps are discarded
- All user-installed Windows apps (from the Windows Store) are discarded
- New versions of provisioned apps need to be reinstalled

New remote wipe capability

- IT administrator can trigger a full reset using Mobile Device Management (MDM)



Windows 10 deployment

Deployment and
management tools



Assessment and Deployment Kit

New tools

Windows Imaging and Configuration Designer (ICD)

Updated tools

User State Migration Tool (USMT)

- Supports Windows Vista and above as a source OS, Windows 7, and above as a target OS
- New capabilities for creating provisioning packages containing drivers, apps

DISM

- New commands to add provisioning packages
- Ability to apply an image as a "Compact OS"

Windows PE

RTW version available now

Moved to the Windows Dev Center

<https://msdn.microsoft.com/en-us/windows/hardware/dn913721.aspx>



MDT 2013 Update 1

Updated to support windows 10

- Works with the new ADK for Windows 10
- New upgrade task sequence
- Works with updated System Center Configuration Manager (coming soon)

Additional enhancements

- Split WIM support with media, useful for UEFI systems (FAT32 boot)
- Bug fixes



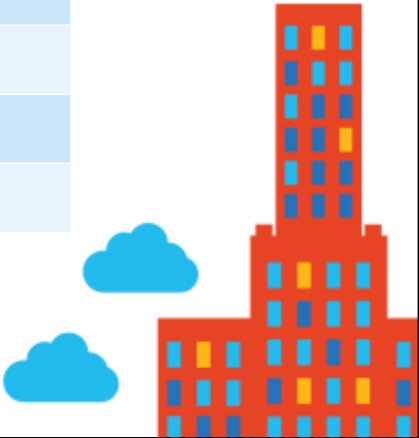
System Center Configuration Manager

Support for windows 10

Product	Supports Windows 10 Management?	Supports Windows 10 Deployment?
System Center Configuration Manager 2007	✓	
System Center 2012 Configuration Manager	✓	✓
System Center 2012 R2 Configuration Manager	✓	✓
System Center Configuration Manager v.Next	✓	✓

Windows 10 enhancements

Support for the new ADK for Windows 10 (2012 and above)
Upgrade task sequence (v.Next)



Volume activation

No changes in the process, changes in keys

- Windows update needed to support Windows 10 with existing KMS servers (Windows Server)
- New KMS and MAK keys needed
- Continued support for Active Directory-based activation



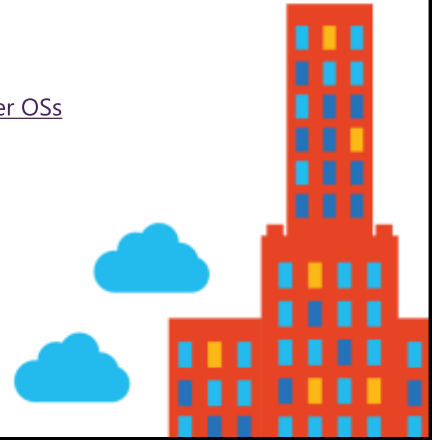
Windows Server compatibility

Full support for existing versions

- Windows 10 works with all supported Windows Server versions, Active Directory schema and functional levels
- Windows Server Update Services (WSUS) will support updating Windows 10
- New Windows 10 Group Policy settings will need new ADMX files

Things to check

- Applying security templates via GPO? Don't use Windows 7 templates on later OSs
- Using WMI filters with OS version checks? Make sure they work as expected



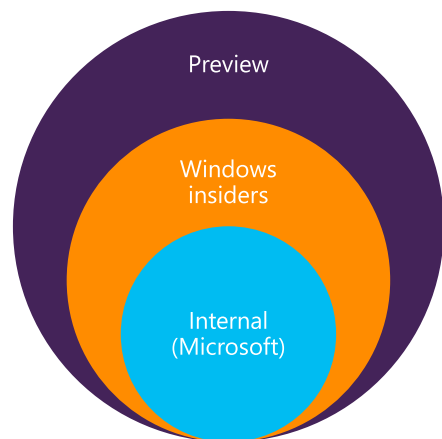
Enterprise preview process

Preview builds available to all organizations

- For evaluation and feedback, not for broad deployment

Rolled out in phases

- Enabling new features as they become available
- Fixing and refining existing features and functions
- Actively soliciting feedback



Windows 10 deployment



Deployment summary

Consider your deployment approach

Running Windows 7?	Running Windows 8?	Evaluating, deploying, or running Windows 8.1?
Evaluate Windows 8.1 for touch scenarios today Upgrade to Internet Explorer 11 by January 2016 Plan for Windows 10 for all devices	Upgrade to Windows 8.1 by January 2016 Plan for Windows 10 for all devices	Keep going! Upgrade to Windows 10 when released across all devices



Windows 10

Windows 10 security

Kamil Roman



Windows 10 security

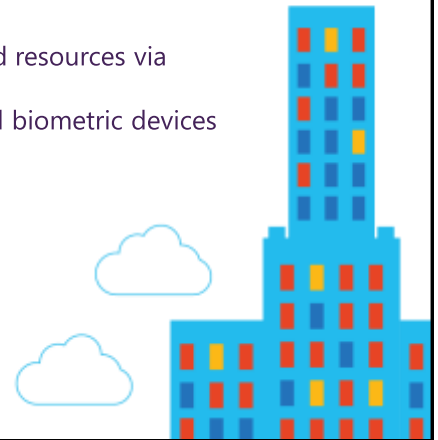


Windows Hello

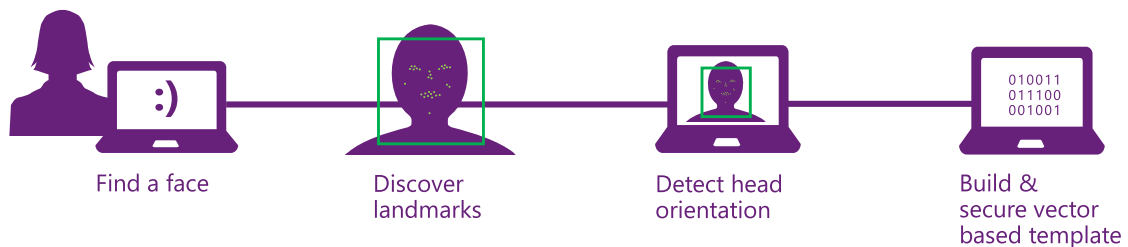
Biometric authentication in Windows 10

Windows 10 is moving the world to a more secure, password-free experience, powered by Microsoft Passport and Biometrics...

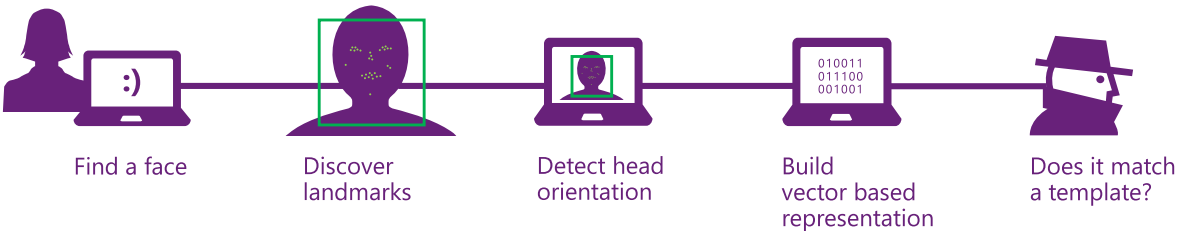
- Windows Hello introduces system support for biometric authentication – using your face, iris, or fingerprint to unlock your devices
- Convenient device logon and strong user authentication
- Enterprise level security and access to High Business Impact data and resources via Microsoft Passport
- Consistent inbox user enrolment and usage across Windows enabled biometric devices



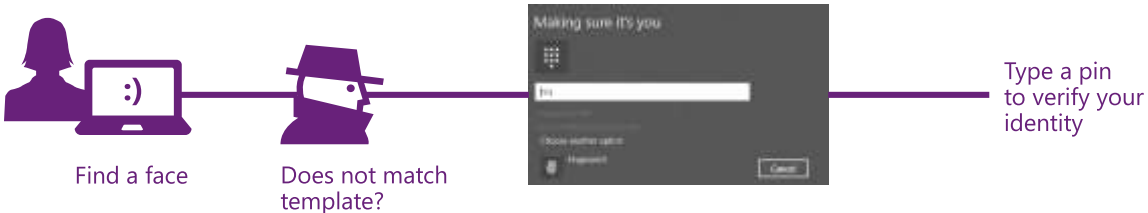
Enrollment



Usage



Recovery



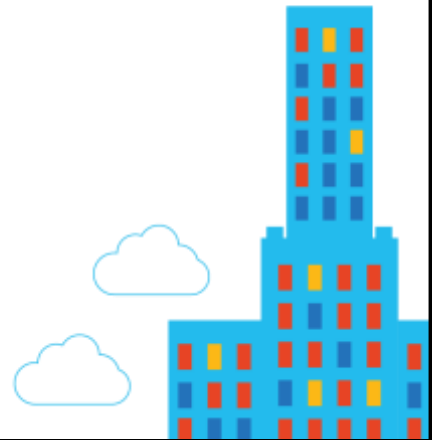
Authentication versus identification

Not every biometric modality is created equal

False Acceptance Rate (FAR)

False Rejection Rate (FRR)

"Live-ness" and anti-spoofing



Windows Hello security requirements

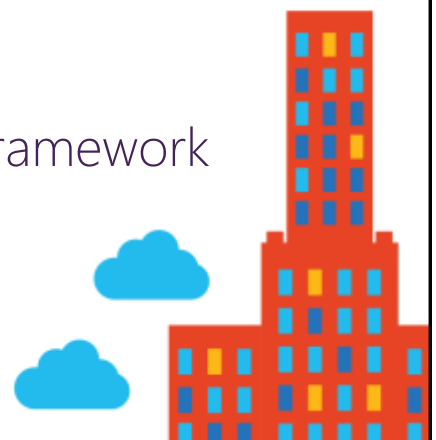
Demonstrate False Acceptance Rate (FAR): 1/100,000

With False Rejection Rate: 2-4%

Provide live-ness measures

Enable anti-spoofing detection

Integrated with Windows Biometric Framework



Live-ness and anti-spoofing?



School Portrait



Lumia 1020



Surface Pro 3



Windows 10 security

Microsoft Passport



introducing

Microsoft "Passport"

Goals

Replace passwords with a private key made available solely through a "user gesture" (PIN, Windows Hello, remote device, etc.)

Support both local Passport and Passport2Go (phone, USB dongle, etc.)

Introduce Microsoft Passport because of its convenience first and security first, UX must be **at least** as good as with passwords

using

Microsoft "Passport"

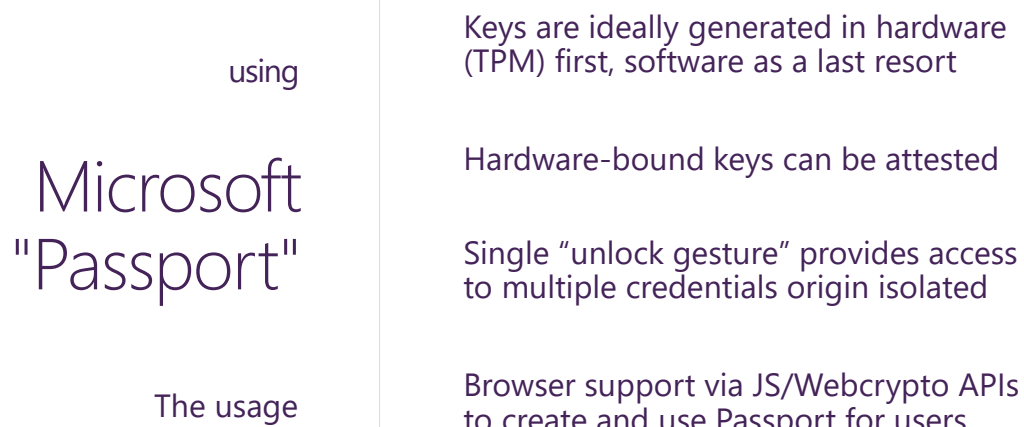
The credential

To IT it's familiar as it's based on certificate or asymmetrical key pair

To the user, it's familiar, Windows Hello or PIN user gesture

Proof-able with OTP, code, and PhoneFactor...

Public key of Passport is mapped to an user account




Windows Hello and Microsoft Passport



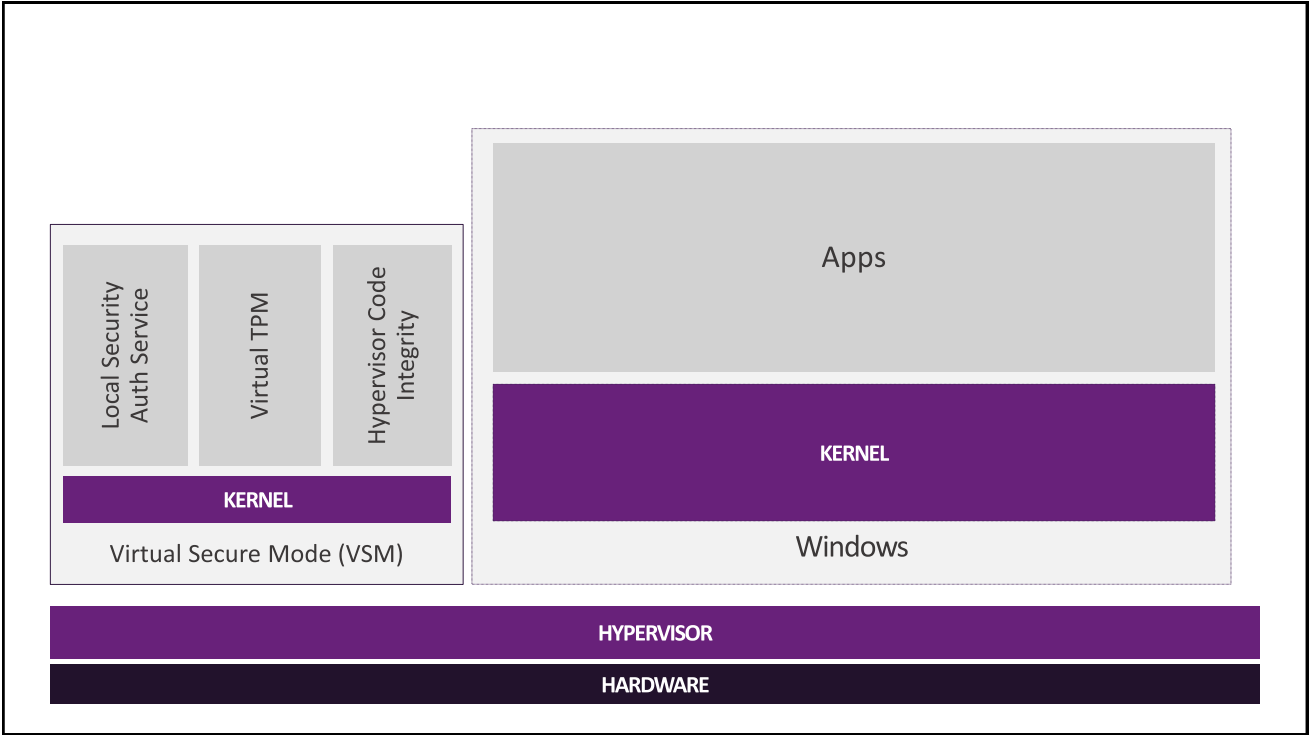
Windows 10 security

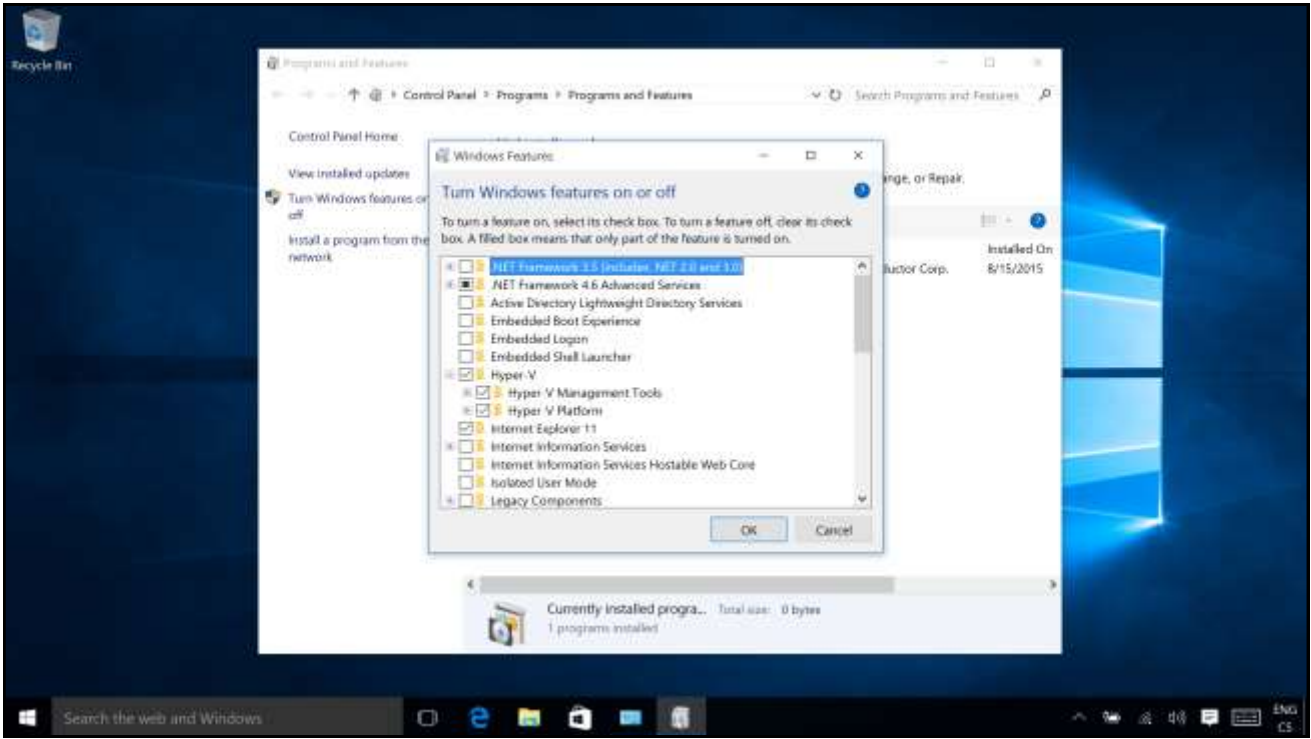
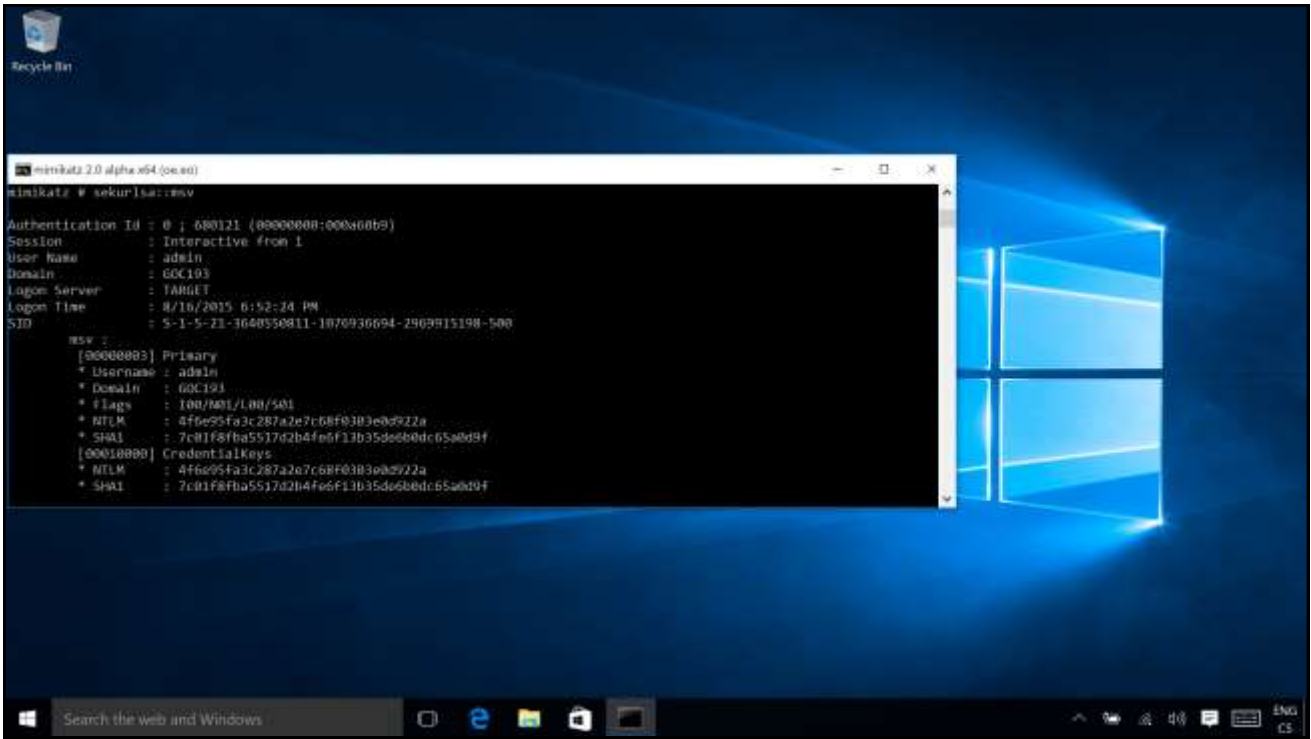
Virtual Secure Mode

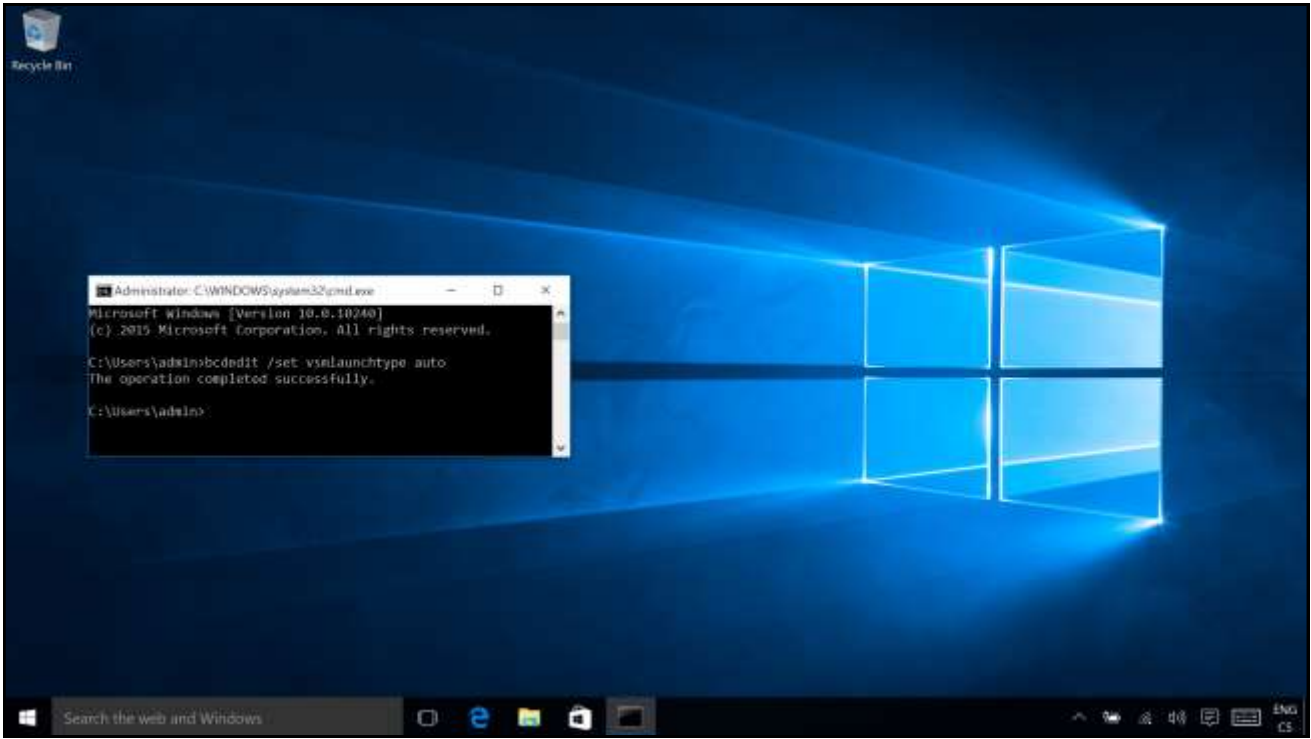
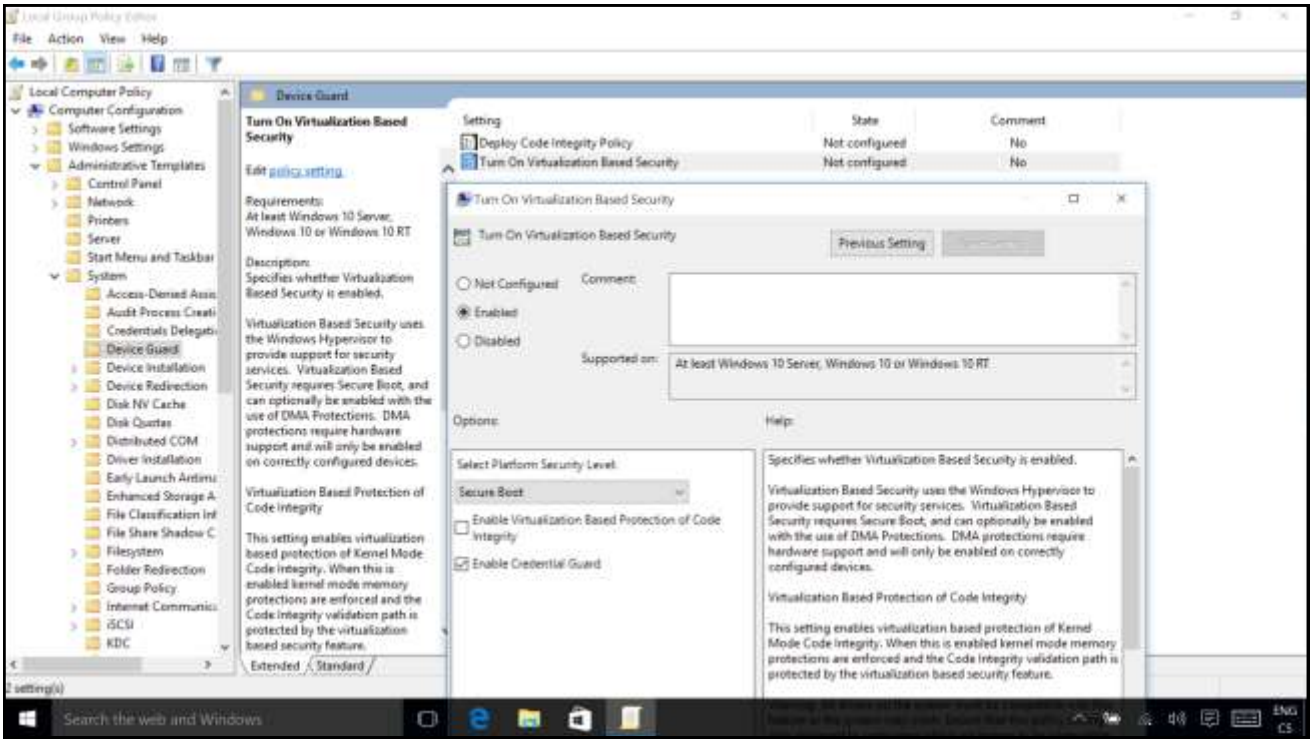


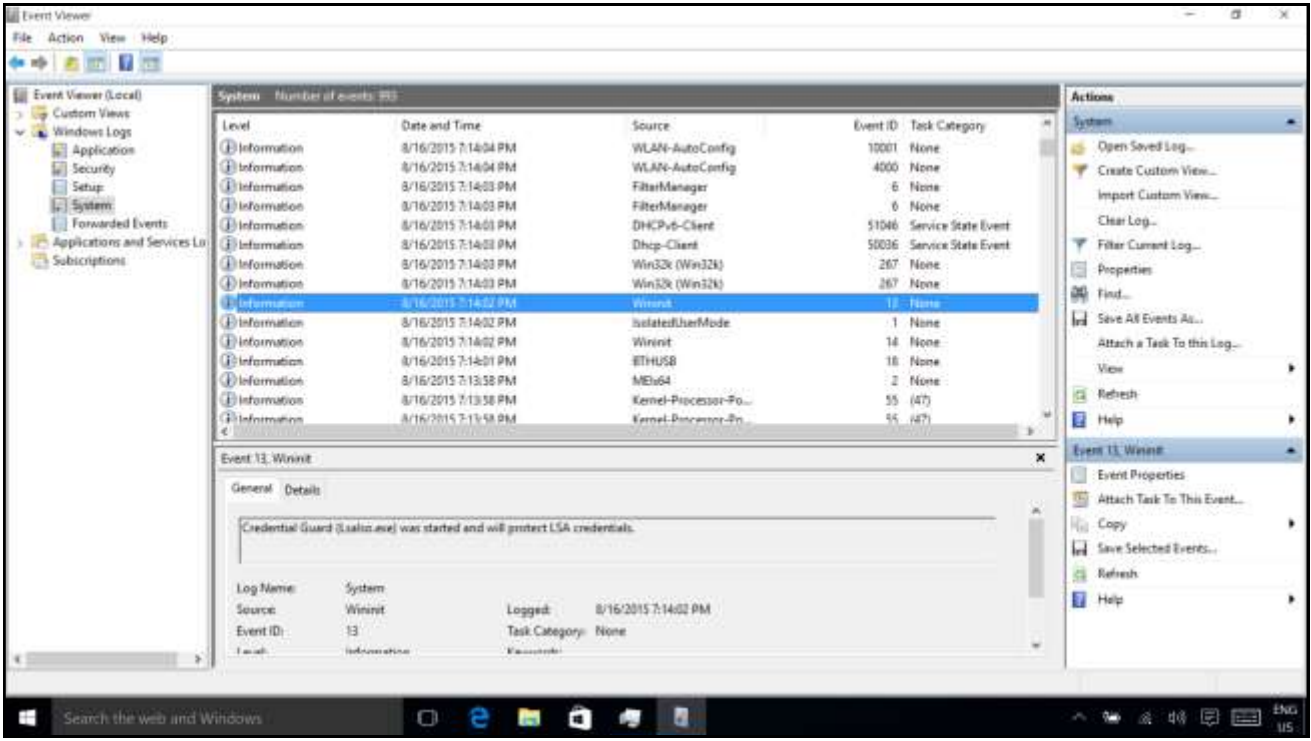
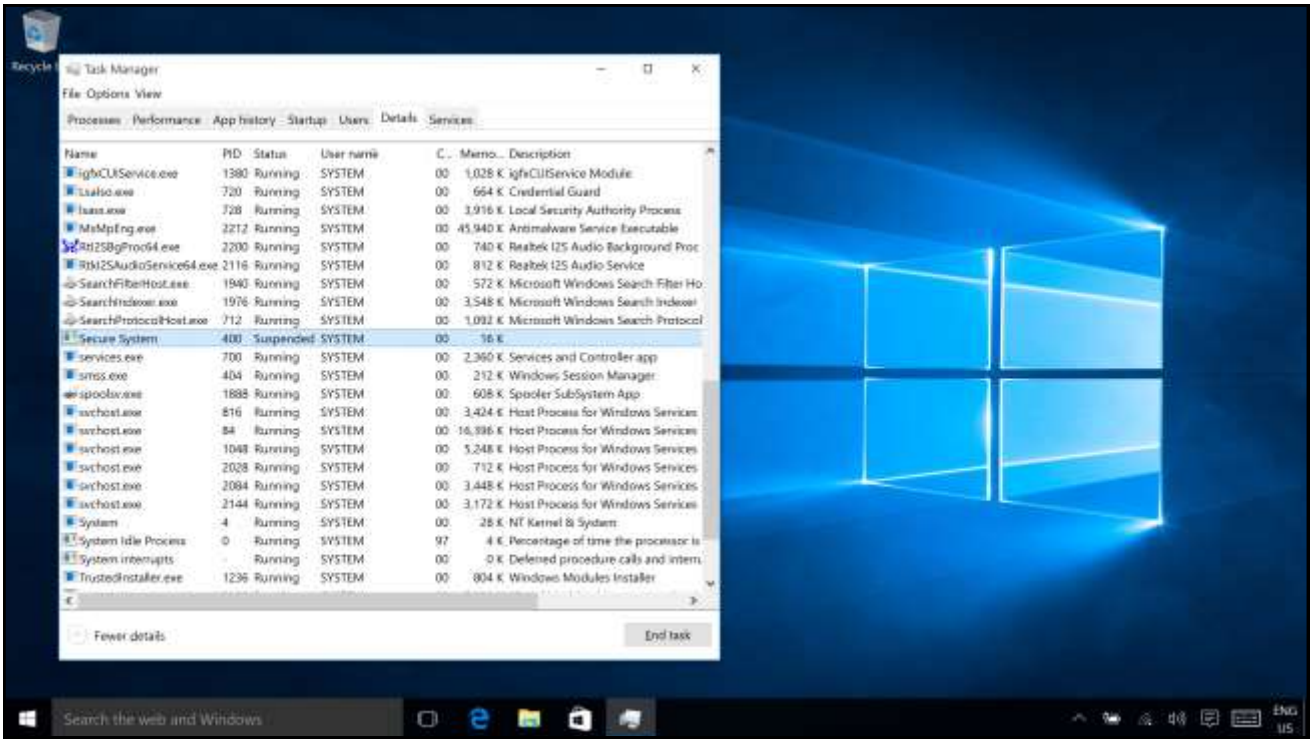
Demo

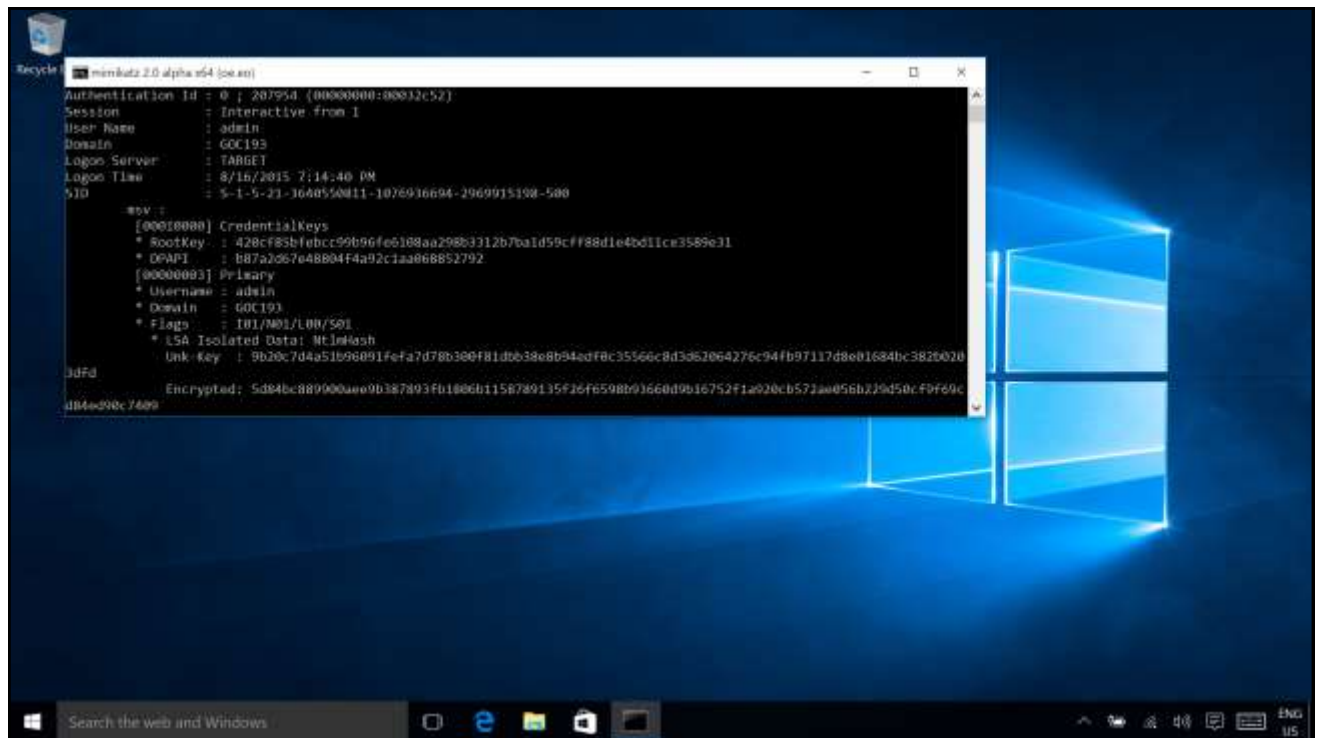
Virtual Secure Mode











New Features demos

Microsoft Edge

Virtual desktops

Start menu

Windows Store

Virtual Secure Mode

Storage sense

Continuum

Universal Apps

Action center

Microsoft Print to PDF

...



Windows 10 – OS, který chcete!

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