

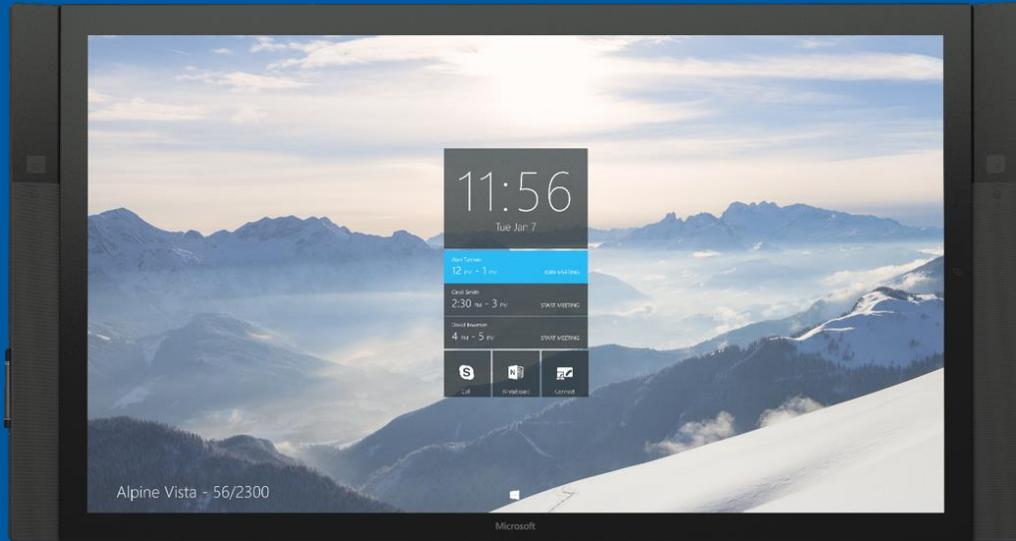


# Windows 10 Enterprise

Steven Lau  
Account Technology Strategist  
Microsoft Hong Kong Limited

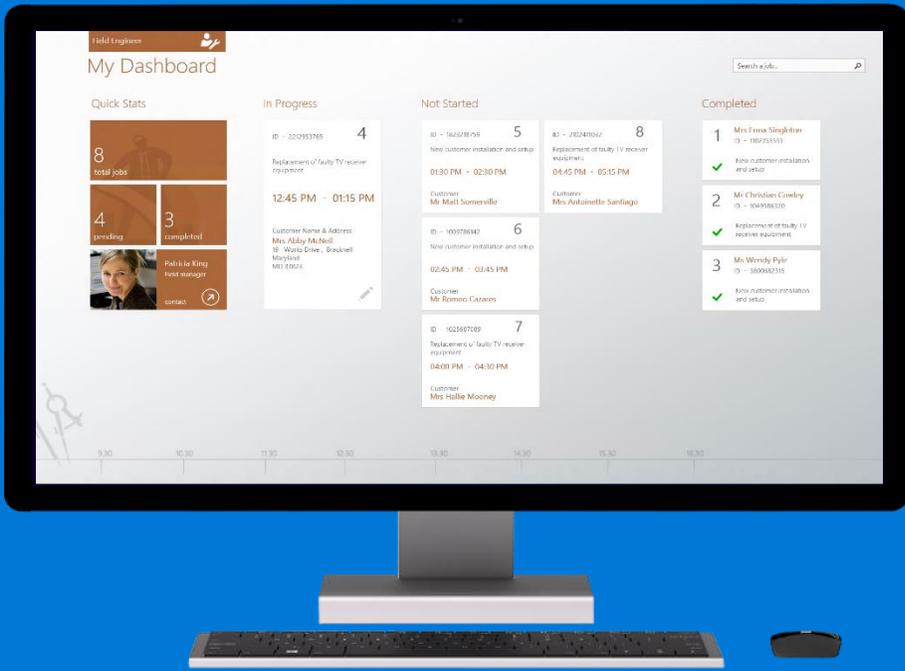
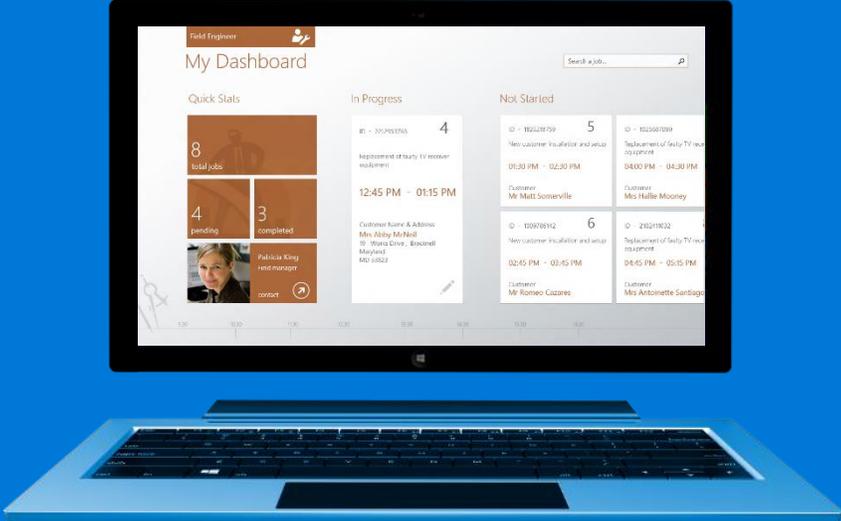


# Windows 10



One converged platform

# Universal apps



**Existing Differentiated Features in Win7 /Win8.1**

Domain Join and Group Policy Management		✓	✓
Existing Win7 / Win 8.1 Enterprise features			✓

**Windows 10: Management and Deployment**

Side-loading of LOB apps	✓	✓	✓
MDM Enablement	✓	✓	✓
Azure AD Join		✓	✓
The Business Store		✓	✓
Private Catalog		✓	✓
Granular UX Control and Lockdown			✓

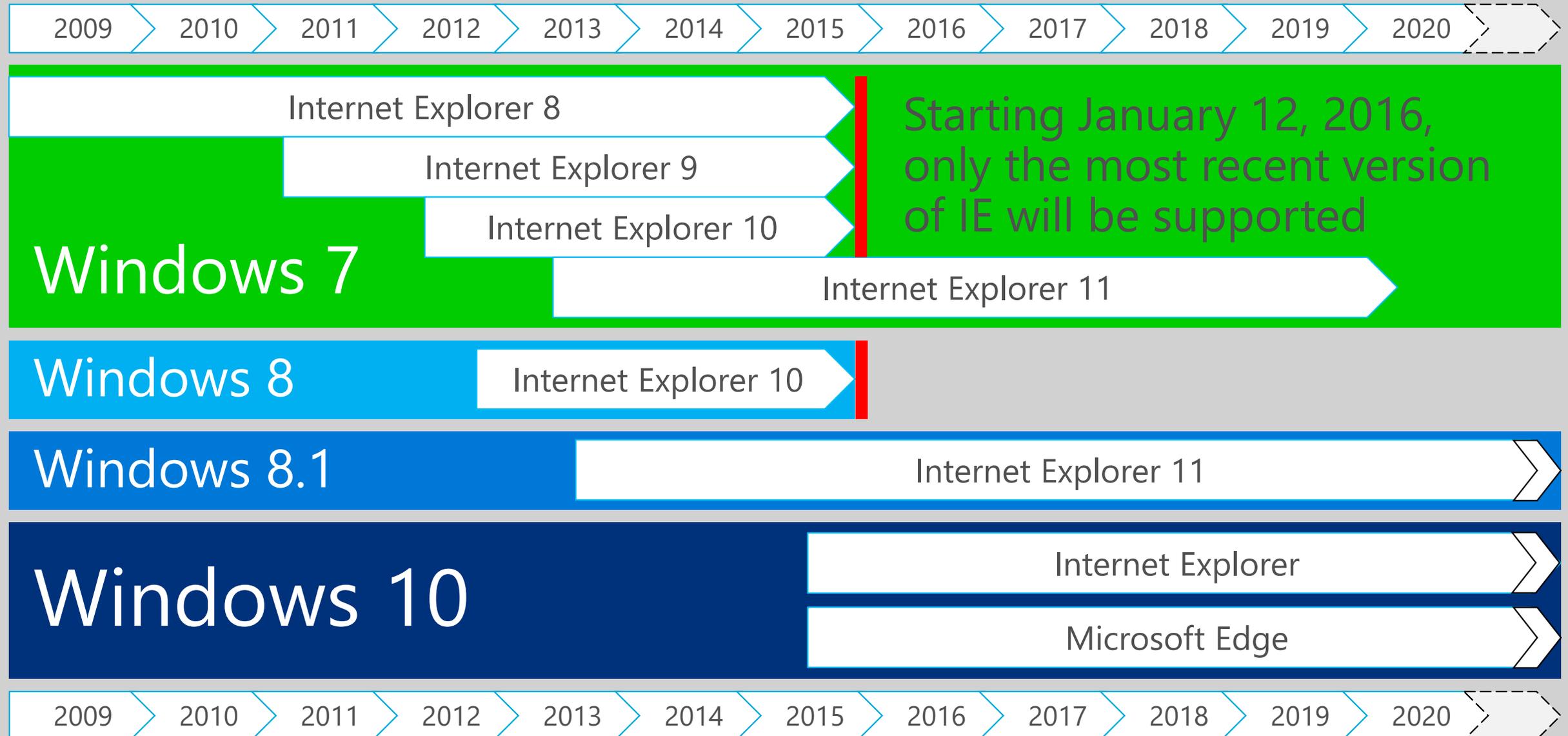
**Windows 10: Security**

Microsoft Passport	✓	✓	✓
Enterprise Data Protection		✓	✓
Hardware-based Hyper-V isolation (VSM) scenarios			✓
Device Guard			✓

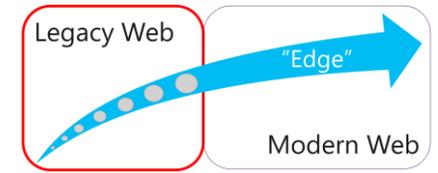
**Windows 10: Windows as a Service, Support & Entitlements**

Windows Update for Business & Current Branch for Business		✓	✓
Access to Long Term Servicing Branch			✓

# Windows Browser Roadmap



# Enterprise Mode Eases Upgrades



Provides backward compatibility for web apps designed for older versions of Internet Explorer

Supports IE10/IE9/IE8/IE7/IE6 modes

Works with Windows 7, Windows 8.1, Windows 10

Reduces web app testing and remediation

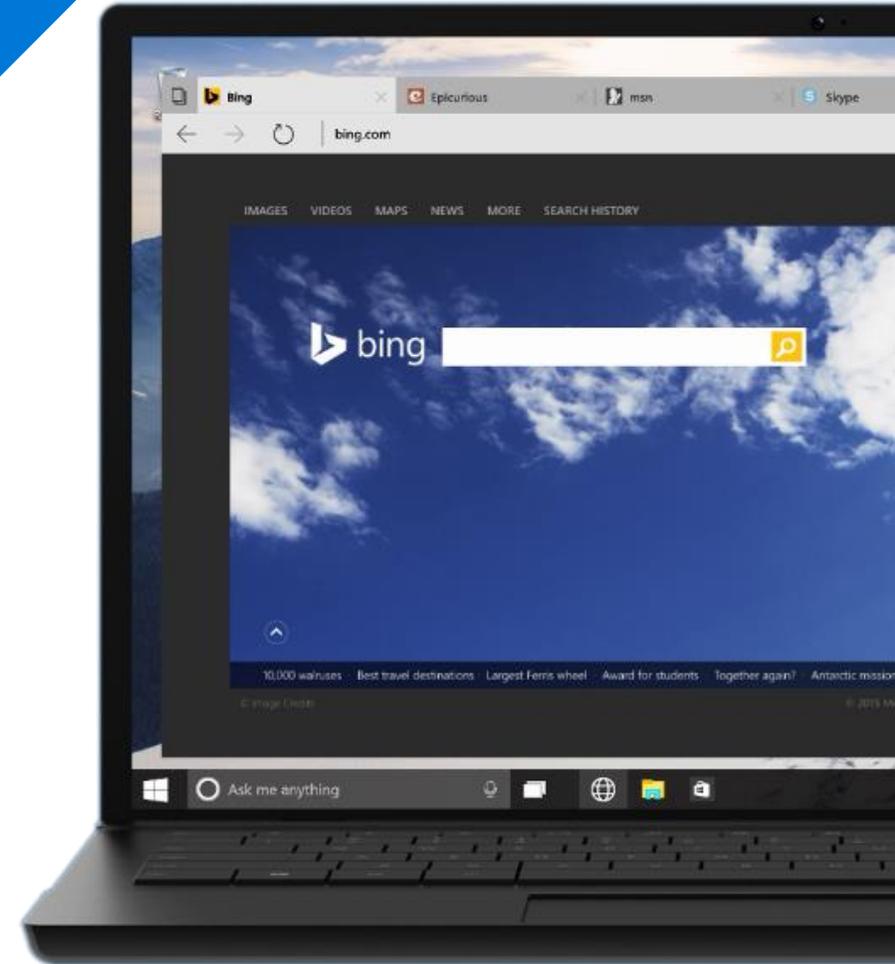
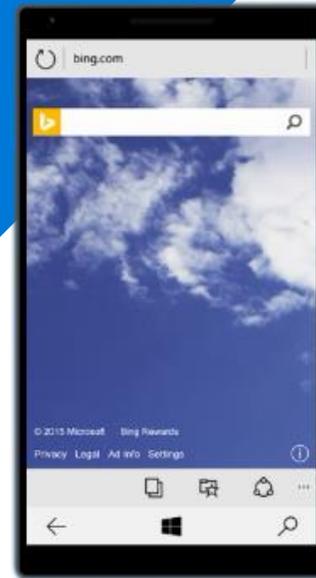
# Microsoft Edge – The New Browser

Built for the modern web

Only browser with built-in note-taking and sharing

Best browser for reading, optimized for your device and distraction-free

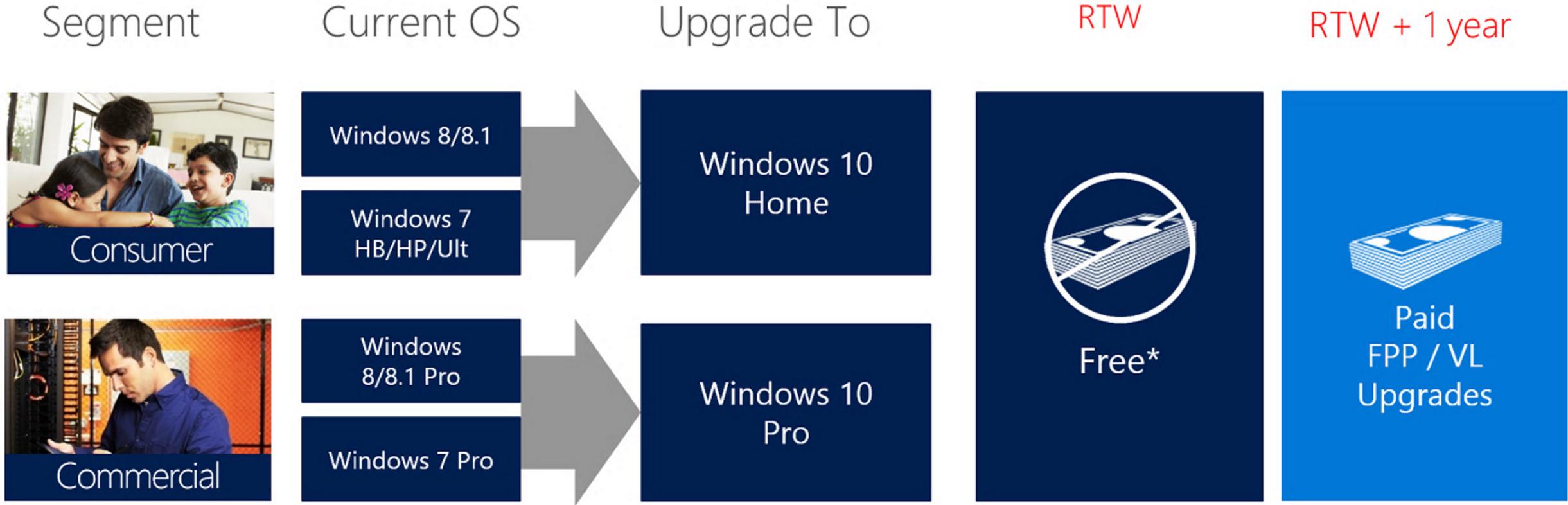
Only browser with Cortana, to get more done on the web



# Features not supported in Microsoft Edge

- Active X Control
  - Silverlight
  - Java
  - VBScript
- 
- *Replaced by HTML5 and JavaScript*
  - *Adobe Flash remain supported*

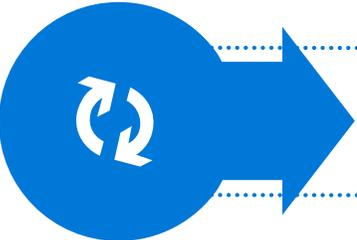
# "Get Current" Upgrade Plan



\* OEM/Retail SKUs will upgrade through Windows Update. VL SKUs will upgrade through Windows Update, key will become the Store key, mirroring the consumer scenario.

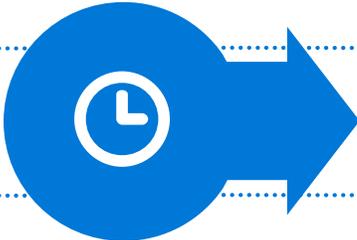
# Customer journey

Ongoing engineering development



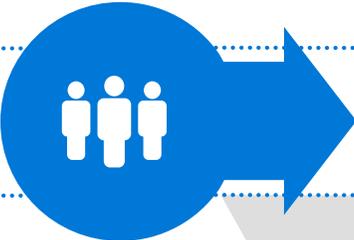
Feedback and asks

Windows Insider Preview Branch



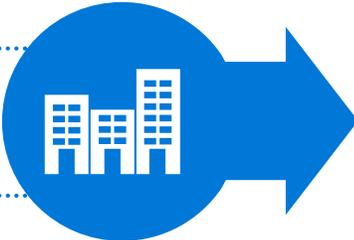
Specific feature and performance feedback  
Application compatibility validation

Current Branch



Deploy to appropriate audiences via WU for Business  
Test and prepare for broad deployment

Current Branch for Business



Stage broad deployment via WU for Business

Long Term Servicing Branch



Deploy for mission critical systems via WSUS

# Flexible Enterprise Adoption Options

Capabilities	Current Branch for Business (CBB)	Long Term Servicing Branch (LTSB)
Recommended Enterprise use scenario	General information worker systems; salesforce, etc.	Special systems: Air Traffic Control; Hospital ER, etc.
Value of the latest features as they are released	✓	
Several months to consume feature updates	✓	
Modern and compatibility web browsing choices	✓	Compatibility
Support for Universal Office and 1 <sup>st</sup> party Universal apps	✓	
Support for Win 32 Office	✓	✓
Ongoing security updates for the lifetime of the branch	✓	✓
Config. Manager 2012 support	Upgrade to Config Manager vNext	✓
No feature upgrade required to stay supported		✓

# Windows 10 Enterprise with Software Assurance

 **Exclusive Enterprise features**

- ✦ Granular UX control and lockdown
- ✦ Enterprise Credential Protection
- ✦ Telemetry control via GP/MDM
- ✦ Device Guard
- DirectAccess
- Windows to Go
- AppLocker
- BranchCache

 **Virtualize, Manage, Restore with MDOP**

- Microsoft User Experience Virtualization (UE-V)
- Microsoft Application Virtualization (App-V)
- Microsoft BitLocker Administration & Monitoring (MBAM)
- Microsoft Advanced Group Policy Management (AGPM)
- Microsoft Diagnostics and Recovery Toolset (DaRT)

Now included with SA

 **Flexibility in how you deploy and use Windows**

- ✦ Access to Long Term Servicing Branch (10 years of support)
- Choice of and ability to mix:
  - Current Branch
  - Current Branch for Business
  - Long Term Servicing Branch

 **Version rights, foundational benefits and support**

- Version rights for future and past LTSBs
- Windows To Go Rights
- Virtualization rights
- 24x7 and extended hotfix support
- Training vouchers and e-learning
- Technet benefits



✦ New

# Windows 10: Enterprise Data Protection



# DATA PROTECTION IN A CLOUD & MOBILE WORLD

## REQUIRES

Protection everywhere (at rest, in transit, across devices, storage location...*everywhere*)

Enable wipe and other management fundamentals

Supported by all the apps you use, fully integrated experience





# INTRODUCING

## Enterprise Data Protection

### A DIFFERENT APPROACH

Protects data at rest, and wherever it rests or may roam to

Seamless integration into the platform,  
No mode switching and use any app

Corporate vs personal data identifiable  
wherever it rests on the device

Prevents unauthorized apps from  
accessing business data

IT has fully control of keys and data and  
can remote wipe data on demand

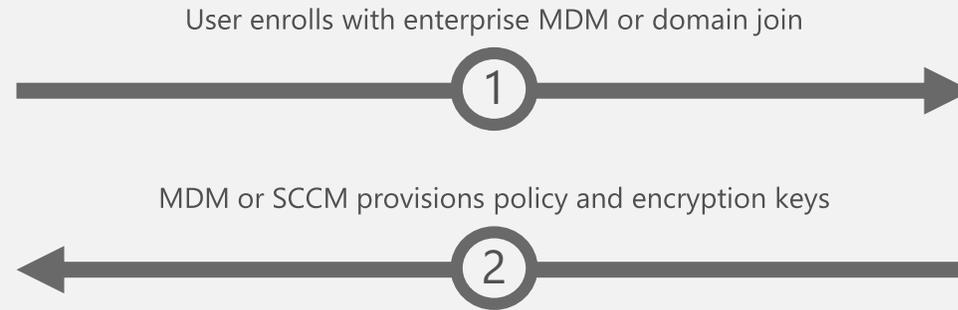
Common experience across all Windows  
devices with cross platform support

# Enterprise Data Protection

## PROVISIONING: KEYS AND POLICIES



User



Policies:  
Enterprise allowed apps  
Network policies  
App restriction policy



# Enterprise Data Protection

## DATA INGRESS



User



Data coming in from an enterprise network location is encrypted on device

Examples: OneDrive For Business, Corporate Exchange mail, file, etc.

# Enterprise Data Protection

---

## DATA GENESIS



User

Users can save to enterprise folders, encryption will be automatically applies.

Users are given an option to save data as personal or corporate

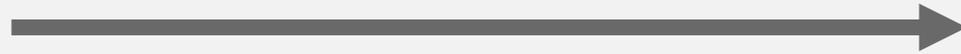
IT admin can configure which apps should automatically protect data

# Enterprise Data Protection

## DATA EGRESS



User



Enlightened applications will be able to maintain protection on egress

Policy based app restrictions can block app access to data, meaning it can't egress

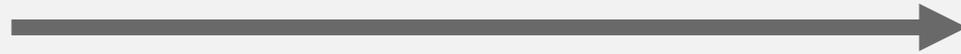
Network policy enables the blocking of data moving to non-corporate locations

# Enterprise Data Protection

## CROSS PLATFORM DATA SHARING



User



Protected data accessible on non-Windows platforms.

Readers available for cross-platform editing.

Public API for 3<sup>rd</sup> party adoption.



Early Designs, Not Final UI

# Save As

OneDrive - Personal

Computer

Computer

Add a Place

Save As

OneDrive > Documents

Organize New folder

Name	Date modified	Type	Size	Availability
Office Docs	10/21/2014 4:37 PM	File folder		
Annual Report Draft 1	10/22/2014 9:13 PM	Microsoft Word D...	0 KB	Available
Britta's Notebook	10/9/2014 7:19 AM	Internet Shortcut	1 KB	Available

File name: Annual Report Draft 1

Save as type: Personal

Authors: Contoso

Tags: Add a tag

Title: Add a title

Save Thumbnail

Tools Save Cancel



Info

New

Open

Save

Save As

Print

Share

Export

Close

Account

Options

Add-Ins

Early Designs, Not Final UI

# Save As

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Name	Date modified	Type	Size	Availability
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Tools Save Cancel



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Share

Export

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Account

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Early Designs, Not Final UI

Documents

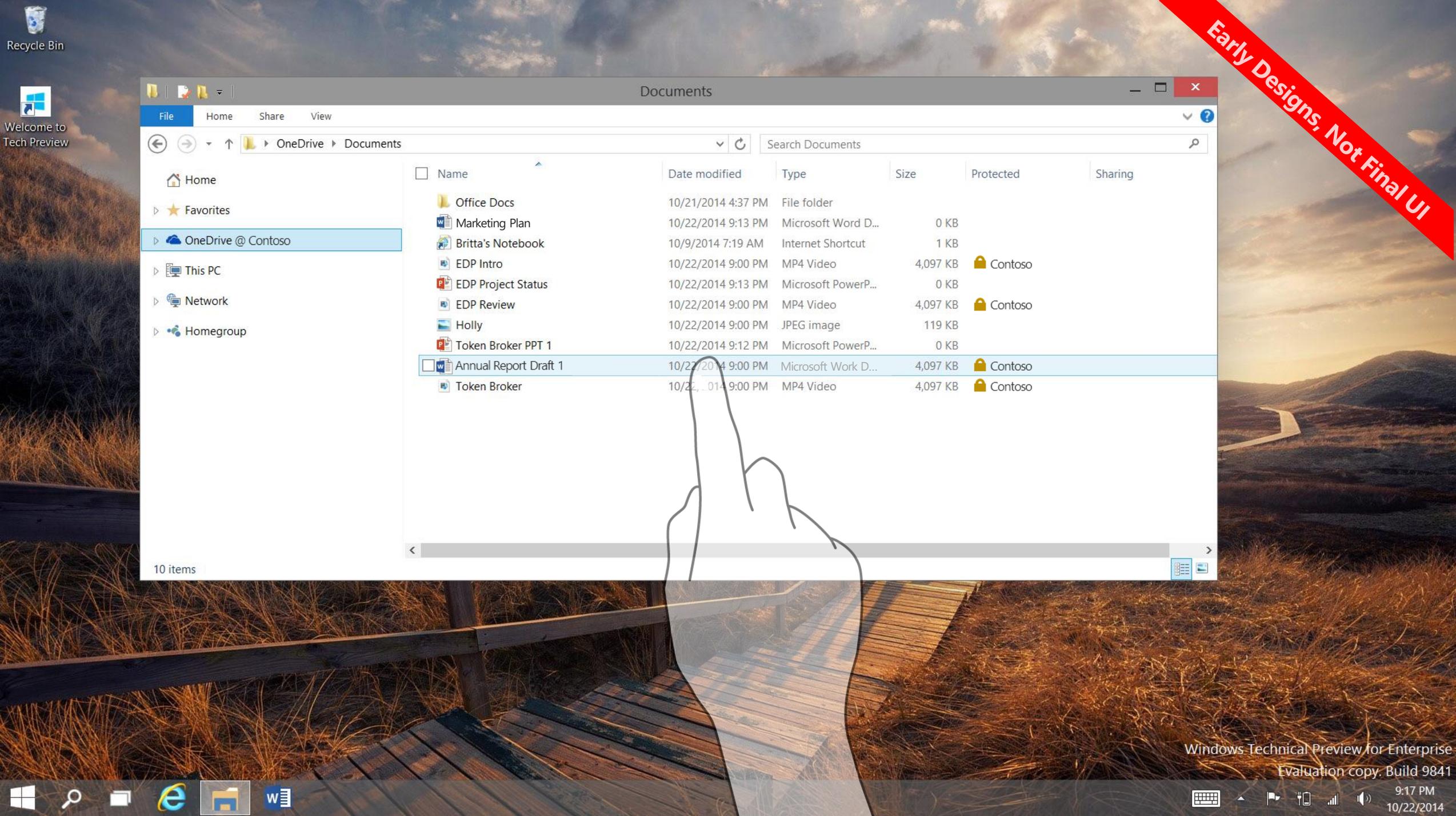
File Home Share View

OneDrive Documents

Search Documents

Name	Date modified	Type	Size	Protected	Sharing
Office Docs	10/21/2014 4:37 PM	File folder			
Marketing Plan	10/22/2014 9:13 PM	Microsoft Word D...	0 KB		
Britta's Notebook	10/9/2014 7:19 AM	Internet Shortcut	1 KB		
EDP Intro	10/22/2014 9:00 PM	MP4 Video	4,097 KB	Contoso	
EDP Project Status	10/22/2014 9:13 PM	Microsoft PowerP...	0 KB		
EDP Review	10/22/2014 9:00 PM	MP4 Video	4,097 KB	Contoso	
Holly	10/22/2014 9:00 PM	JPEG image	119 KB		
Token Broker PPT 1	10/22/2014 9:12 PM	Microsoft PowerP...	0 KB		
Annual Report Draft 1	10/22/2014 9:00 PM	Microsoft Work D...	4,097 KB	Contoso	
Token Broker	10/22/2014 9:00 PM	MP4 Video	4,097 KB	Contoso	

10 items



Recycle Bin  
Welcome to Tech Preview

Early Designs, Not Final UI

Documents

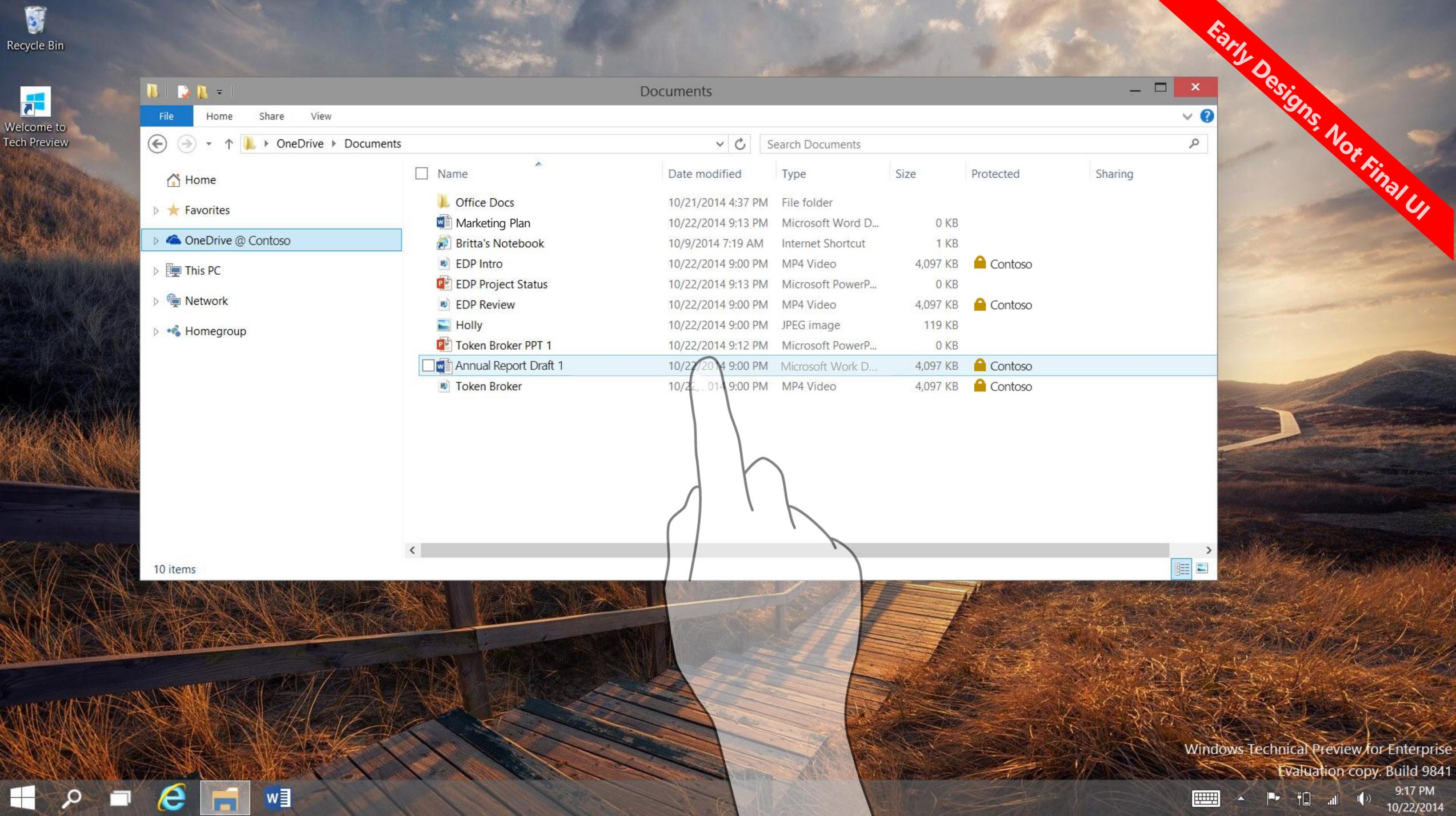
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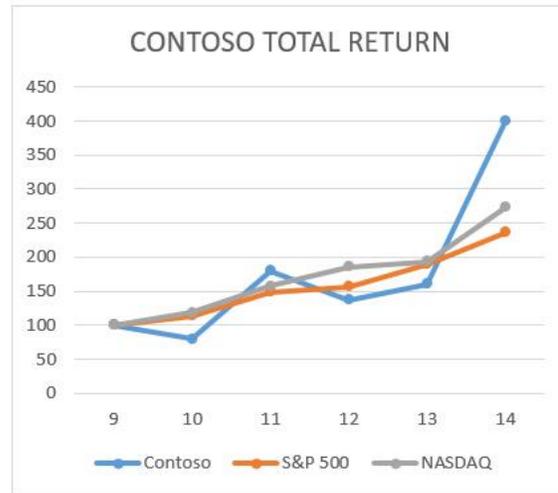


# "HARD" BLOCK OPTION

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## FINANCIAL HIGHLIGHTS (draft)

TOTAL RETURN v. S&P 500 Index, and the NASDAQ Index



### OPERATIONS

We have operations centers that support all operations in their regions, including customer contract and order processing, credit and collections, information processing, and vendor management and logistics. The regional center in Iceland supports the European, Middle Eastern, and African region; the center in Texas supports the Japan, India, Greater China, and Asia-Pacific region; and the centers in Orlando, Florida, Puerto Rico, and

2014 total return increased outperforming both the S&P 500 and the NASDAQ indices.

During fiscal years 2014, development expense was \$8 million, respectively. Total revenue in each of those years made significant investments and development efforts.

### NOTE ABOUT FORWARD-LOOKING STATEMENTS

This report includes estimates relating to our business performance and operating results that are within the meaning of the Reform Act of 1995, Section 1933 and Section 21E of the Securities Act of 1934. Forward-looking statements throughout this report, including "Business," and "Market Analysis." These forward-looking statements are identified by the words "anticipate," "estimate," "opportunity," "plan," "may be," "will continue," "will" and other similar expressions.

### BUSINESS MODEL

Contoso was founded in 1995 and has since then actually exist. In this role, we provide market software, services, and devices that deliver new

Britta Simon

TWEETS 243 FOLLOWING 154 FOLLOWERS 49

Engadget @engadget · 1m  
Must See HDTV for the week of March 24th: The Walking Dead on SNL [engt.co/1oWKYqq](http://engt.co/1oWKYqq)  
View summary

Visual Studio @VisualStudio · 2m  
The OData Team has an interesting write up on how OData support OData v4: [spr.ly/6010glvn](http://spr.ly/6010glvn) (w/ release notes)  
Expand

NetBrain @NetBrainTechies · Mar 17  
Create dynamic (self-updating) network diagrams in minutes click. Try: [bit.ly/1gGn9N0](http://bit.ly/1gGn9N0). [pic.twitter.com/ZbtOvi6kSS](http://pic.twitter.com/ZbtOvi6kSS)  
Promoted by NetBrain

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OK

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### BUSINESS

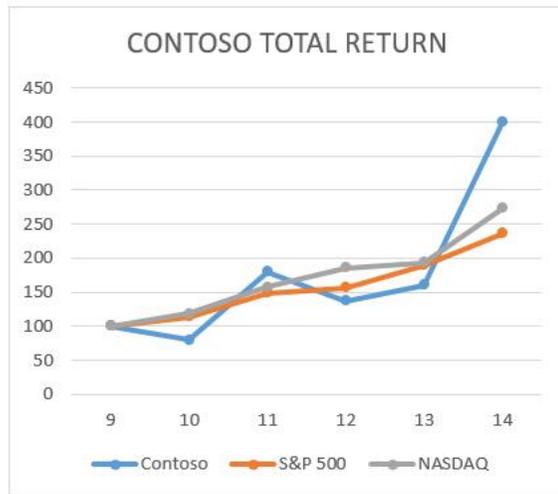
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Early Designs, Not Final UI

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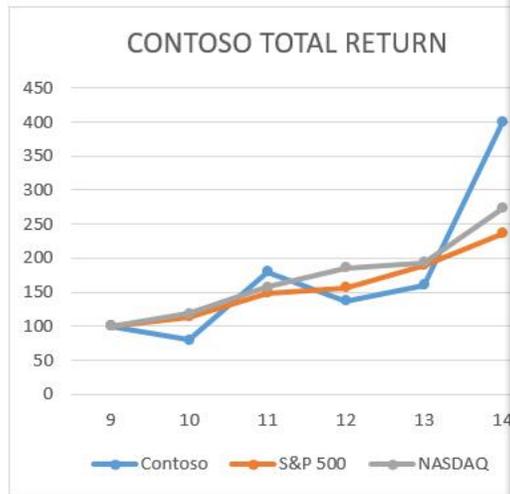
Twitter profile for Britta Simon. Stats: 243 Tweets, 154 Following, 49 Followers. Recent tweets from Engadget, Visual Studio, and NetBrain.

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### Tweets

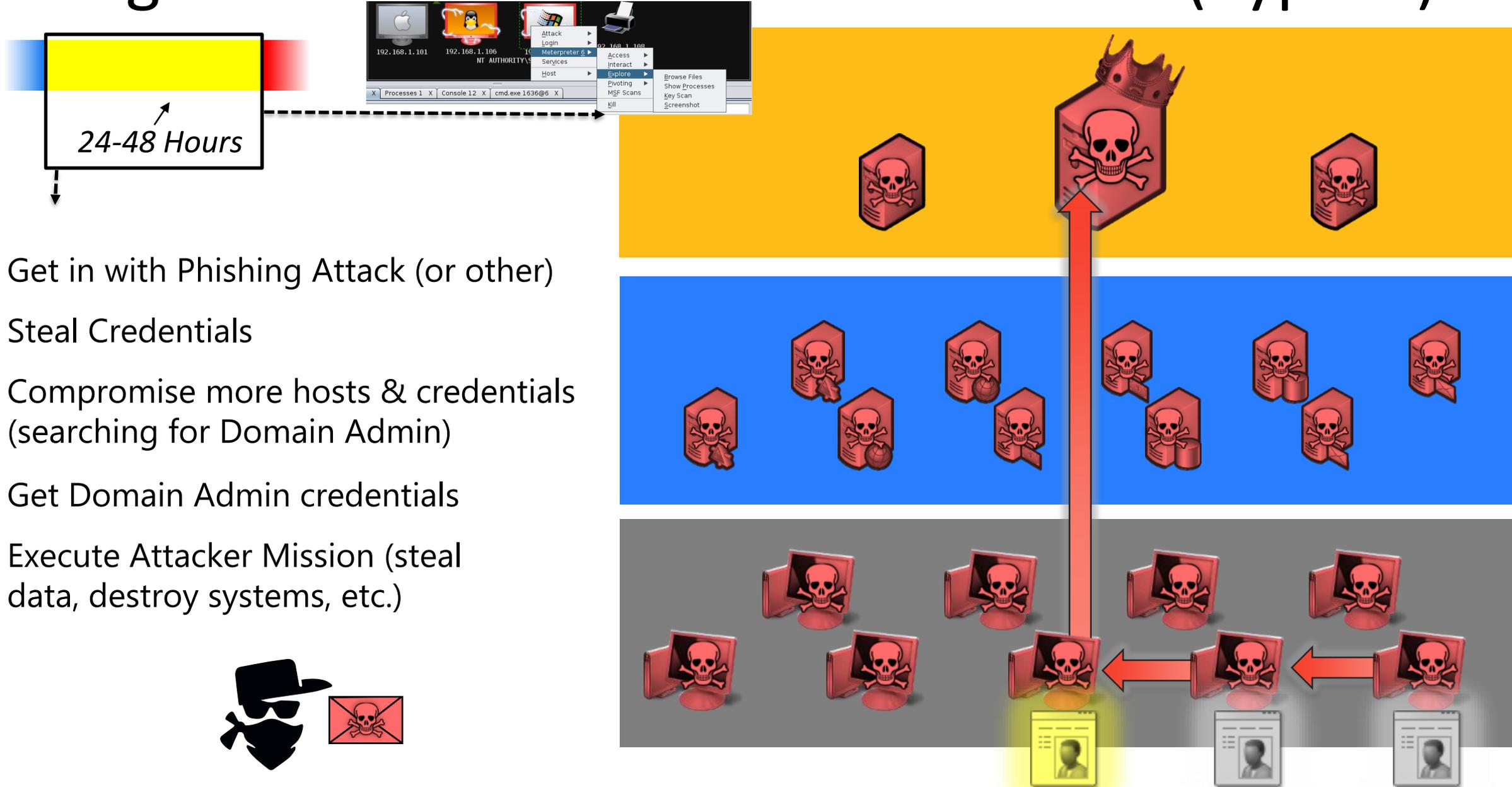
- Engadget** @engadget · 1m  
Must See HDTV for the week of March 24th: The Walking De on SNL [engt.co/1oWKYqq](http://engt.co/1oWKYqq)  
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# Windows 10 – Credential Guard



# Privilege Escalation with Credential Theft (Typical)

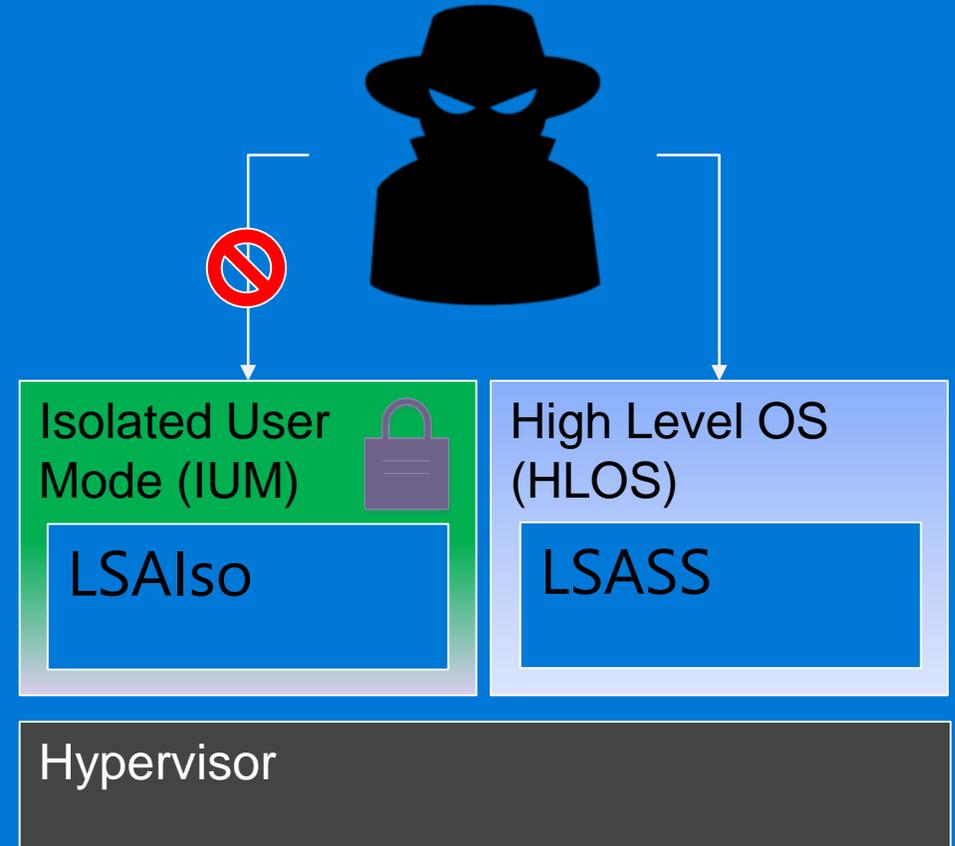


1. Get in with Phishing Attack (or other)
2. Steal Credentials
3. Compromise more hosts & credentials (searching for Domain Admin)
4. Get Domain Admin credentials
5. Execute Attacker Mission (steal data, destroy systems, etc.)



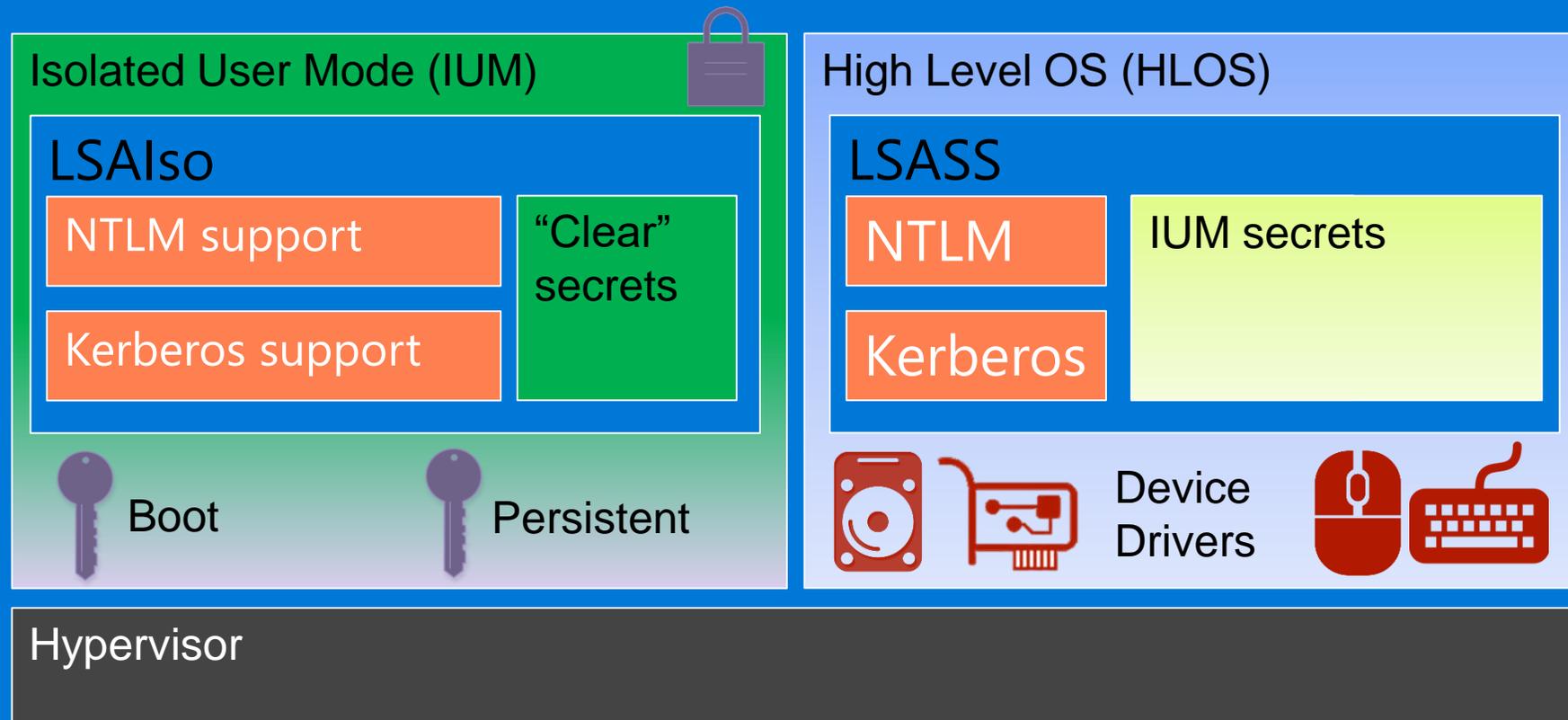
# Isolated User Mode (IUM)

- Move LSASS function to VSM
  - Limited function OS
  - Strict signing - doesn't host device drivers
  - Provides strong isolation boundary
  - Building block for all security promises



# High Level Architecture

- Move “clear” secrets to IUM “oracle”
  - Answers questions, but does not divulge secrets



Note: MS-CHAPv2 and NTLMv1 are *blocked*



- Local Computer Policy
  - Computer Configuration
    - Software Settings
    - Windows Settings
      - Name Resolution Policy
      - Scripts (Startup/Shutdown)
      - Deployed Printers
      - Security Settings
      - Policy-based QoS
    - Administrative Templates
      - Control Panel
      - Network
      - Printers
      - Server
      - Start Menu and Taskbar
      - System
        - Access-Denied Assistance
        - Audit Process Creation
        - Credentials Delegation
        - Device Guard**
        - Device Installation
        - Device Redirection
        - Disk NV Cache
        - Disk Quotas
        - Distributed COM
        - Driver Installation
        - Early Launch Antimalware
        - Enhanced Storage Access
        - File Classification Infrastructure
        - File Share Shadow Copy Provider
        - Filesystem
        - Folder Redirection
        - Group Policy
        - Internet Communication Management
        - iSCSI
        - KDC
        - Kerberos
        - Locale Services
        - Logon
        - Mitigation Options
        - Net Logon
        - Power Management

Device Guard

Turn On Virtualization Based Security

Edit [policy setting](#).

Requirements:  
At least Windows 10 Server, Windows 10 or Windows 10 RT

Description:  
Specifies whether Virtualization Based Security is enabled.

Virtualization Based Security uses the Windows Hypervisor to provide support for security services. Virtualization Based Security requires Secure Boot, and can optionally be enabled with the use of DMA Protections. DMA protections require hardware support and will only be enabled on correctly configured devices.

Virtualization Based Protection of Code Integrity

This setting enables virtualization based protection of Kernel Mode Code Integrity. When this is enabled kernel mode memory protections are enforced and the Code Integrity validation path is protected by the virtualization based security feature.

Warning: All drivers on the system must be compatible with this feature or the system may crash. Ensure that this policy setting is only deployed to computers which are known to be compatible.

Credential Guard

This setting lets you decide

Extended Standard

Setting	State	Comment
Deploy Code Integrity Policy	Not configured	No
Turn On Virtualization Based Security	Not configured	No

Turn On Virtualization Based Security

Turn On Virtualization Based Security Previous Setting Next Setting

Not Configured Comment:

Enabled

Disabled

Supported on:

Options:

Select Platform Security Level:

Enable Virtualization Based Protection of Code Integrity

Enable Credential Guard

Help:

Specifies whether Virtualization Based Security is enabled.

Virtualization Based Security uses the Windows Hypervisor to provide support for security services. Virtualization Based Security requires Secure Boot, and can optionally be enabled with the use of DMA Protections. DMA protections require hardware support and will only be enabled on correctly configured devices.

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Credential Guard

This setting lets you decide whether users can turn on Credential Guard with virtualization-based security to help protect credentials.

Disabling these settings does not remove the feature from the computer. Instead, you must also remove the security functionality from each computer, with a physically present user, in order to clear configuration persisted in Secure Boot.

Please refer to the documentation for a complete set of requirements to securely configure this feature.

OK Cancel Apply

TI Sensor To...

Connected Cow.pptx

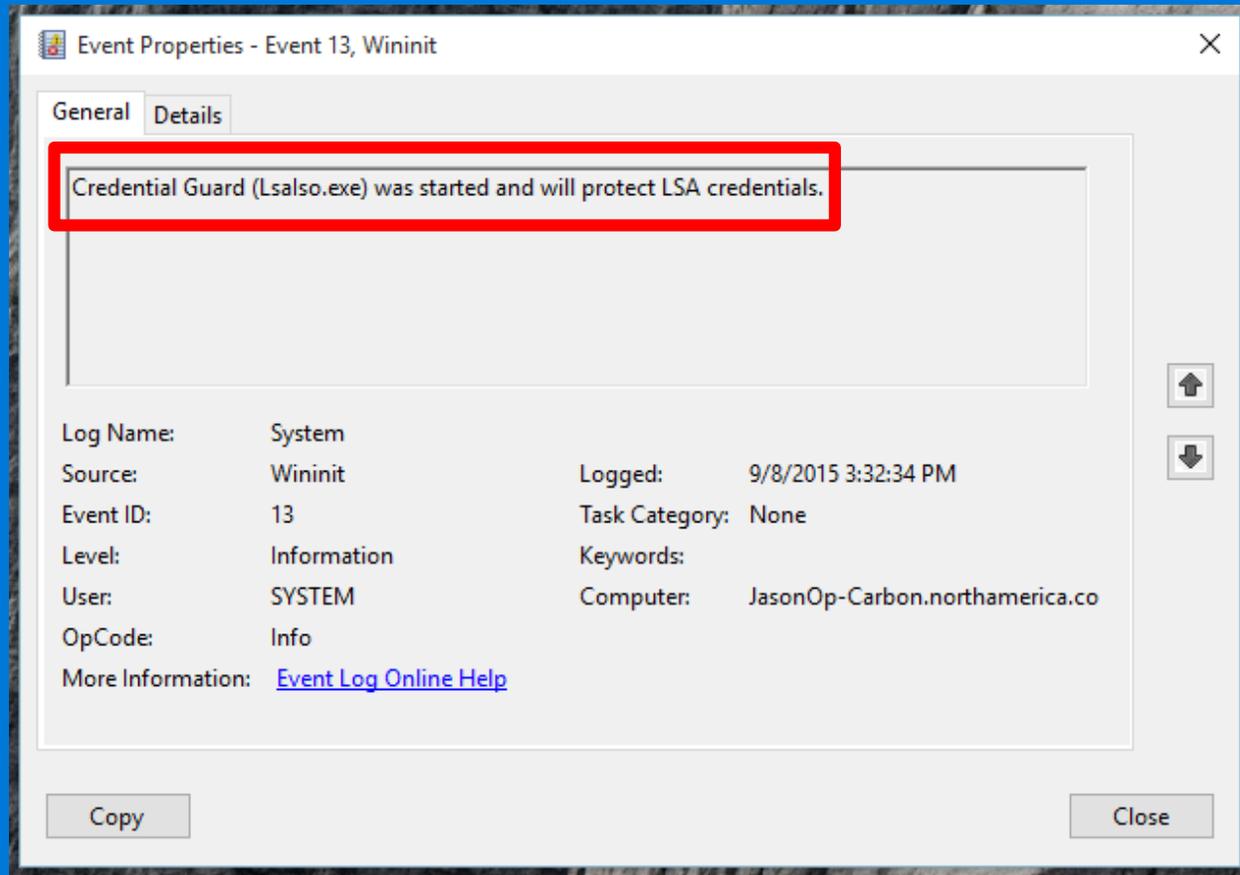
Guggenhei... 071515 WP...

Sirosh\_Strat...

Recycle Bin

root.cer

key.txt



## System Summary

- Hardware Resources
- Components
- Software Environment

Item	Value
SMBIOS Version	2.7
Embedded Controller Version	1.02
BIOS Mode	UEFI
BaseBoard Manufacturer	LENOVO
BaseBoard Model	Not Available
BaseBoard Name	Base Board
Platform Role	Mobile
Secure Boot State	On
PCR7 Configuration	Elevation Required to View
Windows Directory	C:\WINDOWS
System Directory	C:\WINDOWS\system32
Boot Device	\Device\HarddiskVolume2
Locale	United States
Hardware Abstraction Layer	Version = "10.0.10240.16392"
User Name	NORTHAMERICA\jasonop
Time Zone	Mountain Daylight Time
Installed Physical Memory (RAM)	8.00 GB
Total Physical Memory	7.82 GB
Available Physical Memory	5.17 GB
Total Virtual Memory	9.07 GB
Available Virtual Memory	6.26 GB
Page File Space	1.25 GB
Page File	C:\pagefile.sys
Device Guard Virtualization based security	Running
Device Guard Required Security Properties	Base Virtualization Support, Secure Boot
Device Guard Available Security Properties	Base Virtualization Support, Secure Boot
Device Guard Security Services Configured	Credential Guard
Device Guard Security Services Running	Credential Guard

Find what:

Find

Close Find

 Search selected category only Search category names only



# Windows 10 – Device Guard



# Device Guard

## What is Device Guard?

- Combination of hardware + software security features
- Enables businesses to strongly control what is allowed to run
- Brings mobile-like security protections to desktop OS with support for existing line of business apps

# Device Guard

## The Parts to the Solution

- Hardware security
- Virtualization based security
  - Protects critical parts of the OS against admin/kernel level malware
- Configurable code integrity
- Manageability via GP, SCCM, MDM, and PowerShell

# Virtualization Based Security

## Provides a new trust boundary for system software

- Leverage platform virtualization to enhance platform security
- Limit access to high-value security assets from supervisor mode (CPL0) code

## Provides a secure execution environment to enable:

- Protected storage and management of platform security assets
- Enhanced OS protection against attacks (including attacks from kernel-mode)
- A basis for strengthening protections of guest VM secrets from the host OS

## Windows 10 services protected with virtualization based security

- LSA Credential Isolation
- vTPM (server only)
- Kernel Mode Code Integrity

