

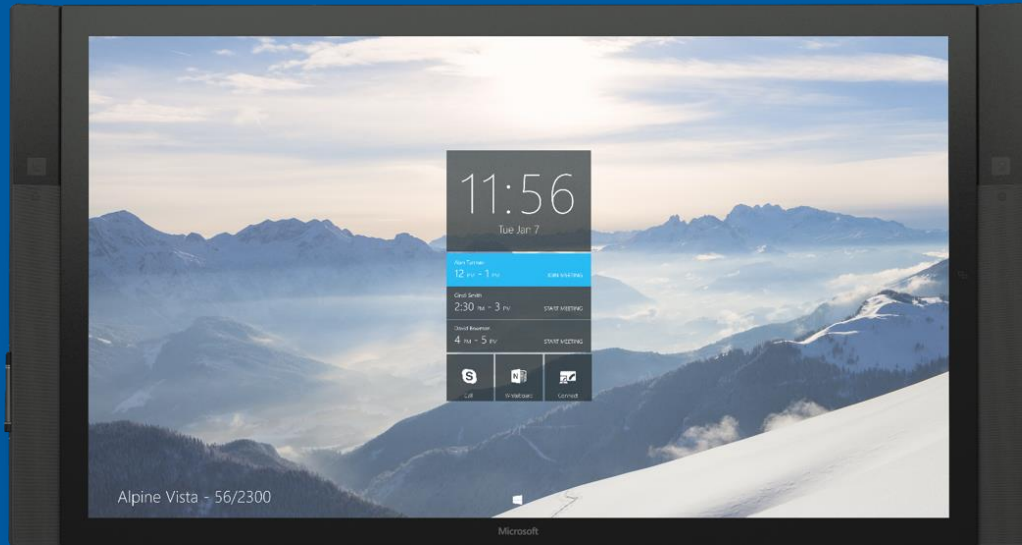


# Windows 10 Enterprise

Steven Lau  
Account Technology Strategist  
Microsoft Hong Kong Limited

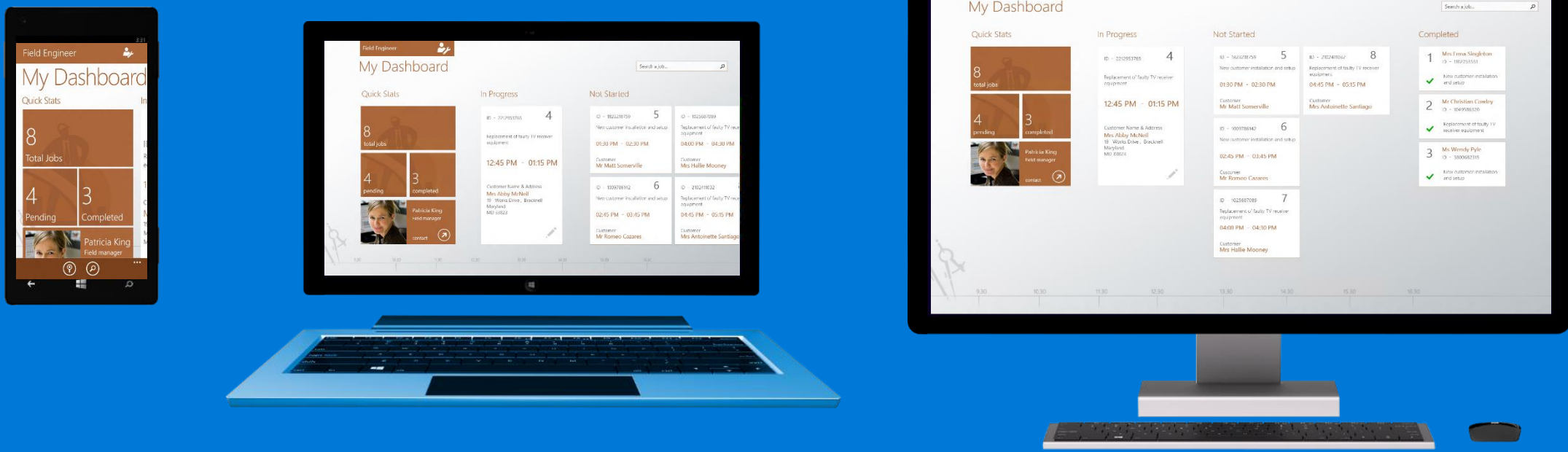


# Windows 10



One converged platform

# Universal apps



Home

Pro

Enterprise

**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**

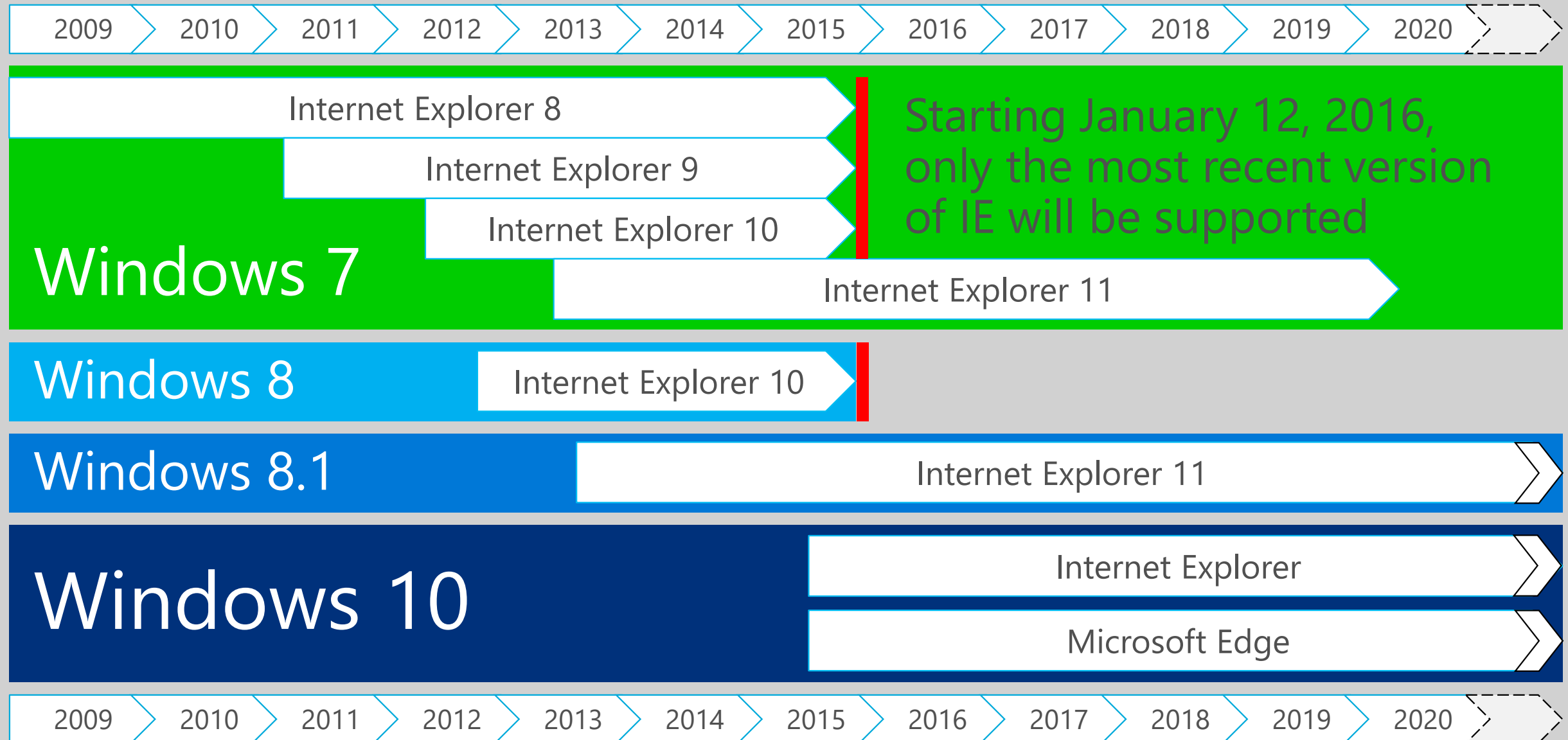
Windows Update for Business &amp; Current Branch for Business



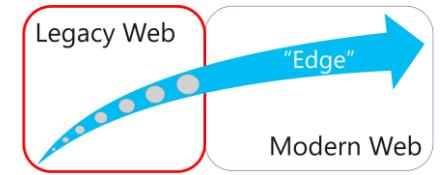
Access to Long Term Servicing Branch



# 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

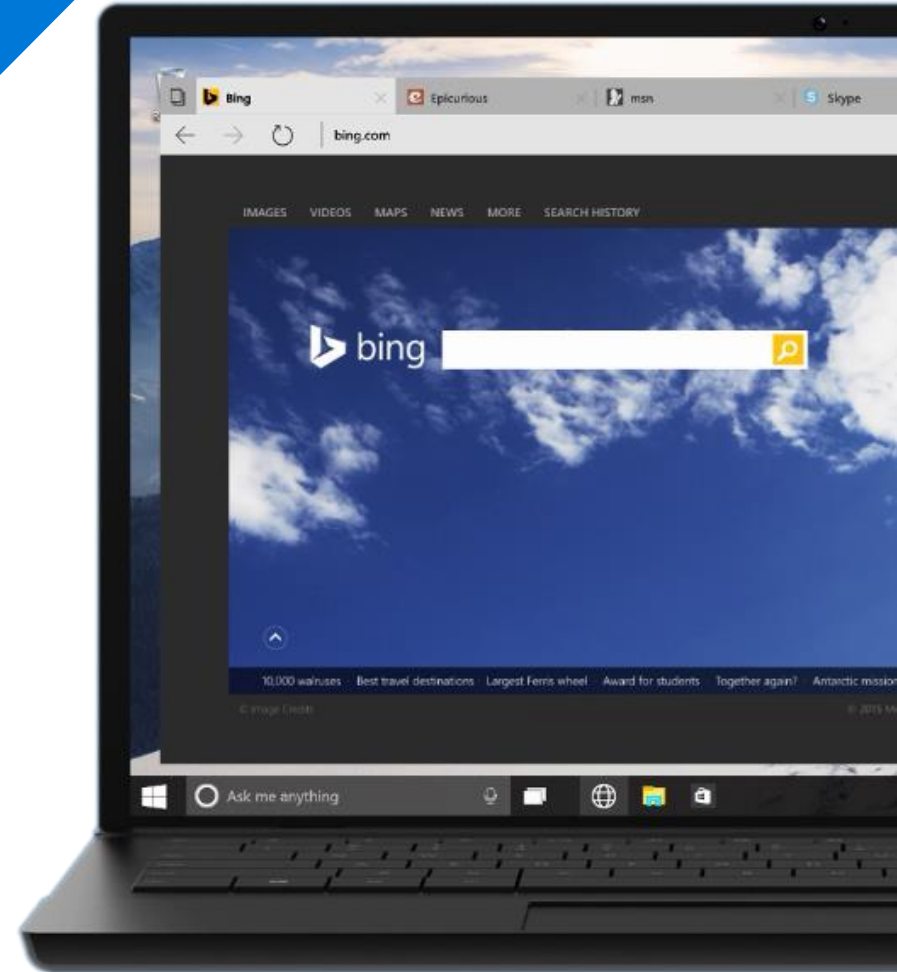
# Microsoft Edge – The New Browser

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

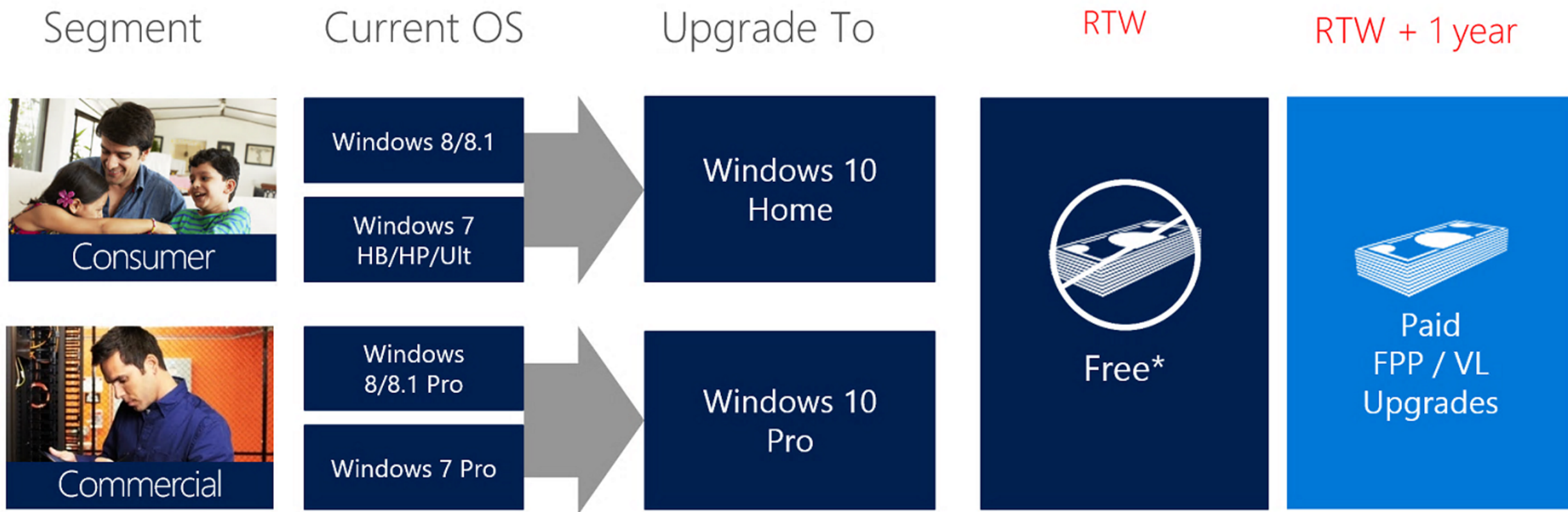
Only browser with Cortana, to get more done on the web



# Features not supported in Microsoft Edge

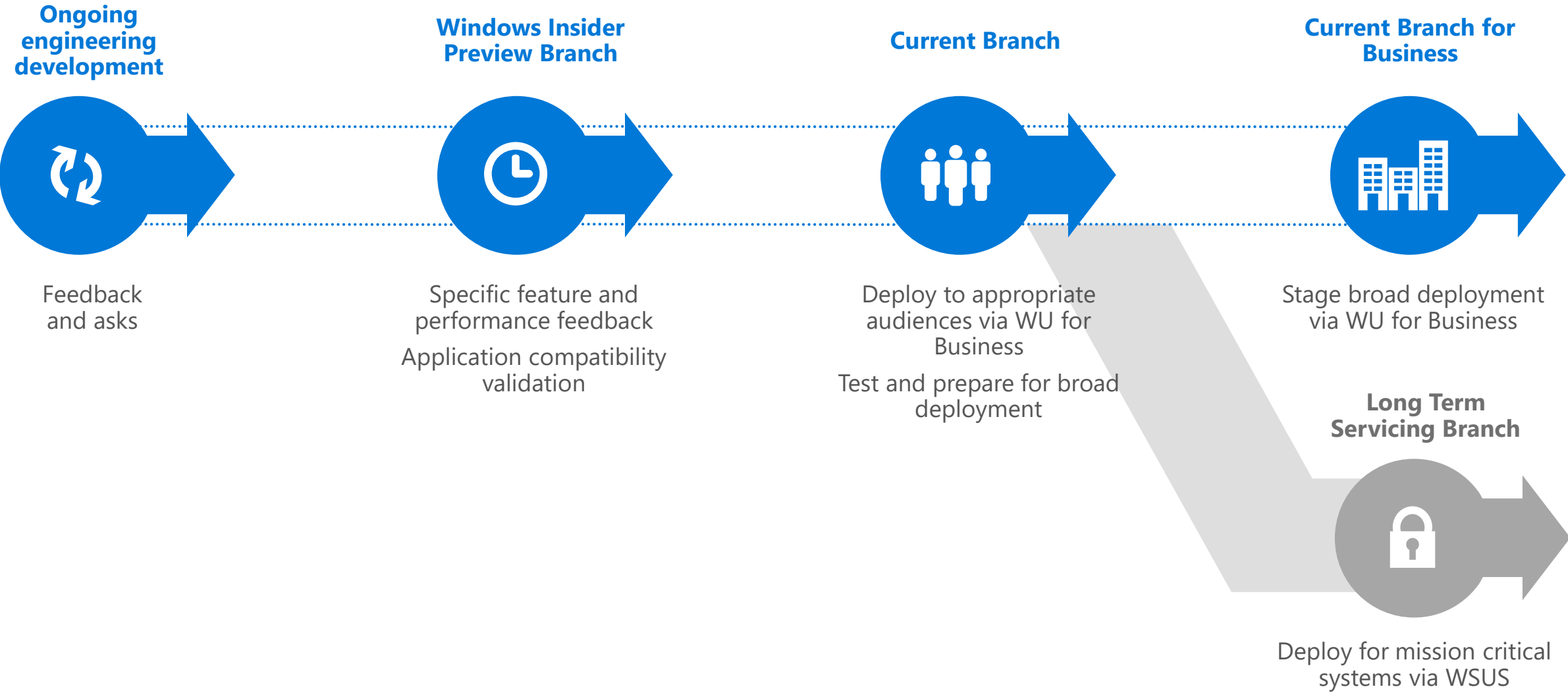
- Active X Control
  - Silverlight
  - Java
  - VBScript
- 
- *Replaced by HTML5 and JavaScript*
  - *Adobe Flash remain supported*

# "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



# 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



✦ Access to ongoing exclusive Enterprise features

✦ 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

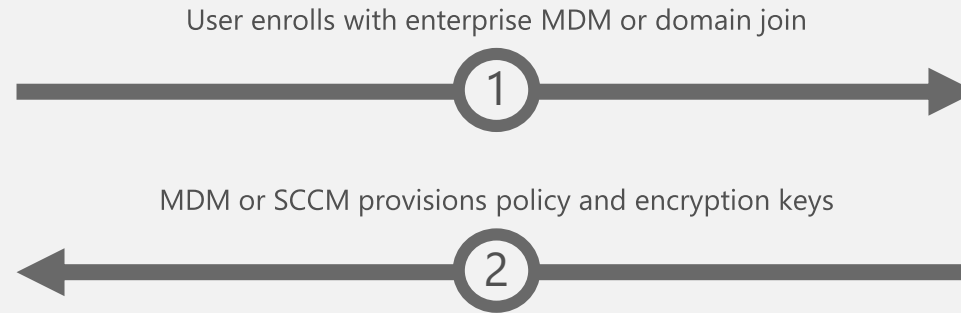
Common experience across all Windows  
devices with cross platform support

# Enterprise Data Protection

## PROVISIONING: KEYS AND POLICIES



User



User enrolls with enterprise MDM or domain join

MDM or SCCM provisions policy and encryption keys

Policies:

Enterprise allowed apps

Network policies

App restriction policy

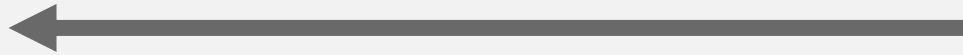


# Enterprise Data Protection

## 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

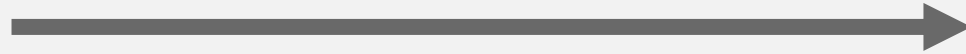
IT admin can configure which apps should automatically protect data

# 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

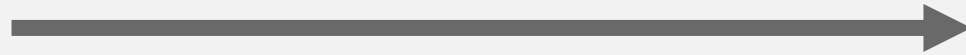
Network policy enables the blocking of data moving to non-corporate locations

# 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

Hide Folders

Tools Save Cancel

Early Designs, Not Final UI



# Save As

OneDrive - Personal

Computer

Computer

+ Add a Place

Save As

OneDrive > Documents

Organize New folder

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Save as type: Personal

Authors: Contoso

Tags: Add a tag

Title: Add a title

☒ Save Thumbnail

Hide Folders

Tools Save Cancel



Recycle Bin



Welcome to  
Tech Preview

Documents

File Home Share View

OneDrive Documents

Search Documents

<input type="checkbox"/> 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		
<input type="checkbox"/> 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

Early Designs, Not Final UI



Windows Technical Preview for Enterprise  
Evaluation copy. Build 9841



9:17 PM  
10/22/2014



Recycle Bin



Welcome to  
Tech Preview

Documents

File Home Share View

OneDrive Documents

Search Documents

<input type="checkbox"/> 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		
<input type="checkbox"/> 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

Early Designs, Not Final UI



Windows Technical Preview for Enterprise  
Evaluation copy. Build 9841



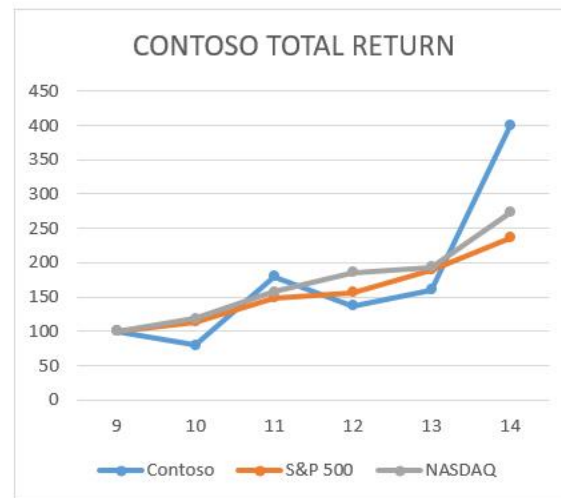
9:17 PM  
10/22/2014

# "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 1333 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 expressions.

### BUSINESS

Contoso was founded in 1995 and has been a successful company for many years. It actually exists. In this role playing exercise, we will use Contoso to deliver new market software, services, and devices that deliver new

Profile picture of Britta Simon

Britta Simon

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34

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### Tweets

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Must See HDTV for the week of March 24th: The Walking Dead on SNL [engt.co/1oWKYqq](http://engt.co/1oWKYqq)  
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- 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)  
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- 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)  
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### WARNING!

Pasting content from a corporate document to a public location is not allowed.

OK

### BUSINESS

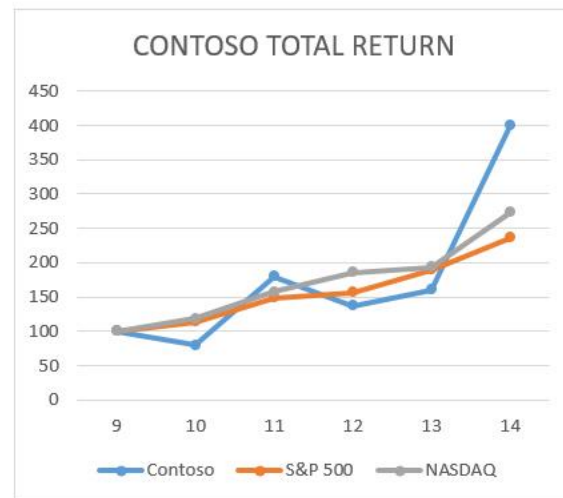
Contoso was founded in 1995 and has grown to become a leading provider of business solutions. Contoso has a long history of innovation and has been a pioneer in the development of new market software, services, and devices that deliver new

# "SOFT" BLOCK OPTION

Early Designs, Not Final UI

## FINANCIAL HIGHLIGHTS (draft)

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



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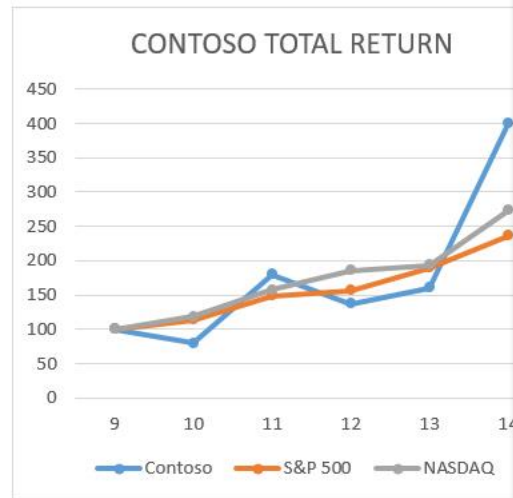
- Engadget** @engadget · 1m  
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TOTAL RETURN v. S&P 500 Index,  
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expressions.

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To continue, tell us why you are doing this.

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Paste anyway

## Tweets



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Expand

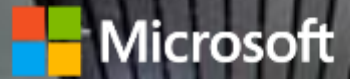
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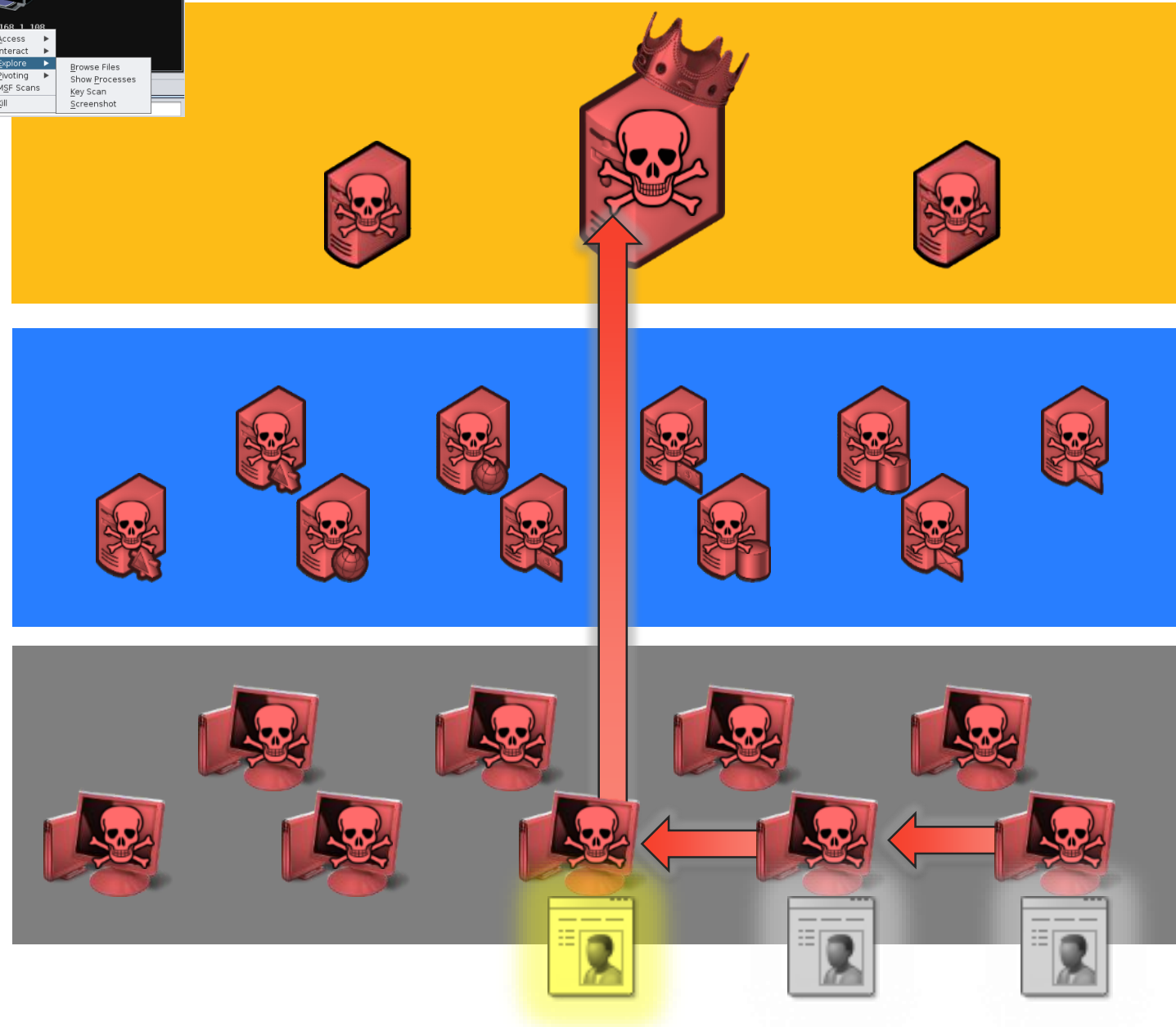
# Windows 10 – Credential Guard



# Privilege Escalation with Credential Theft (Typical)

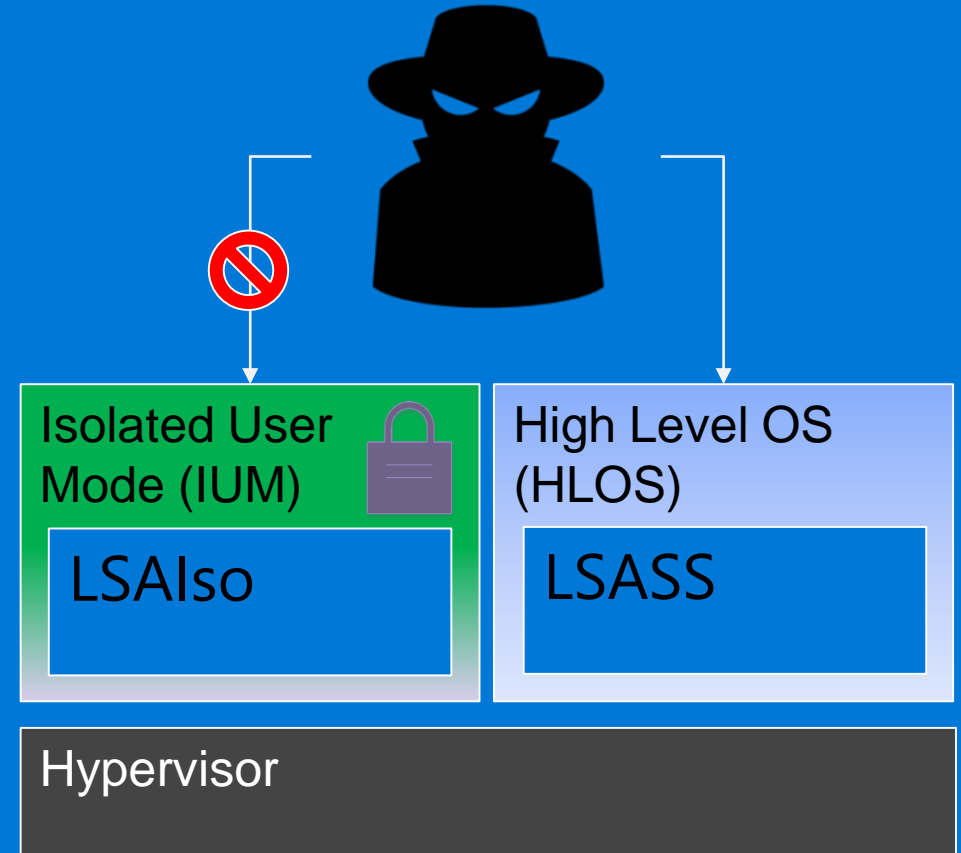


1. Get in with Phishing Attack (or other)
2. Steal Credentials
3. Compromise more hosts & credentials (searching for Domain Admin)
4. Get Domain Admin credentials
5. Execute Attacker Mission (steal data, destroy systems, etc.)



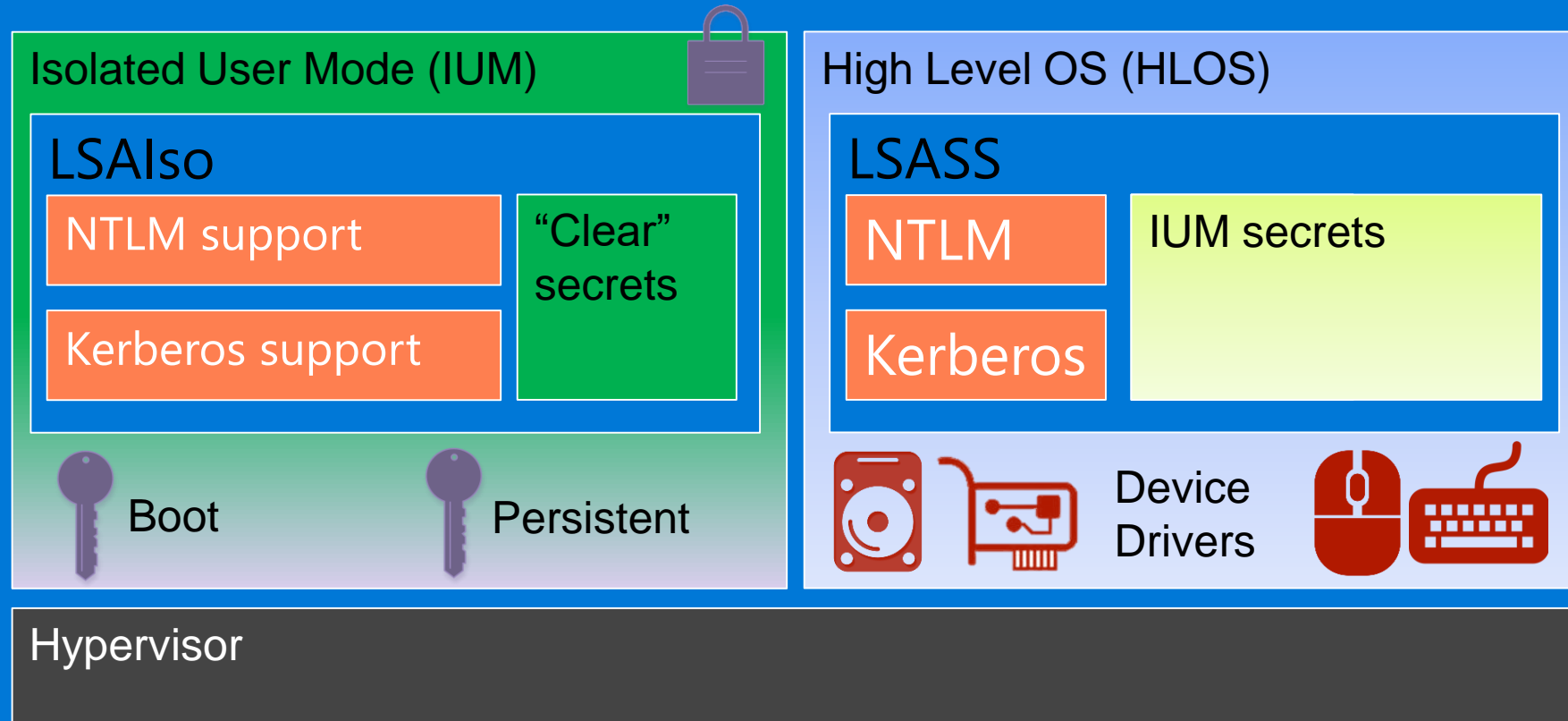
# Isolated User Mode (IUM)

- 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 Group Policy Editor

FileActionViewHelp

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

ExtendedStandard

Setting

State

Comment

Deploy Code Integrity Policy

Not configured

No

Turn On Virtualization Based Security

Not configured

No

2 setting(s)

Search the web and Windows

1:25 PM

9/8/2015

Turn On Virtualization Based Security

Turn On Virtualization Based Security

Previous Setting

Next Setting

☐ Not Configured

☒ Enabled

☐ Disabled

Comment:

Supported on:

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

Options:

Help:

Select Platform Security Level: Secure Boot

☐ Enable Virtualization Based Protection of Code Integrity

☒ Enable Credential Guard

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 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.

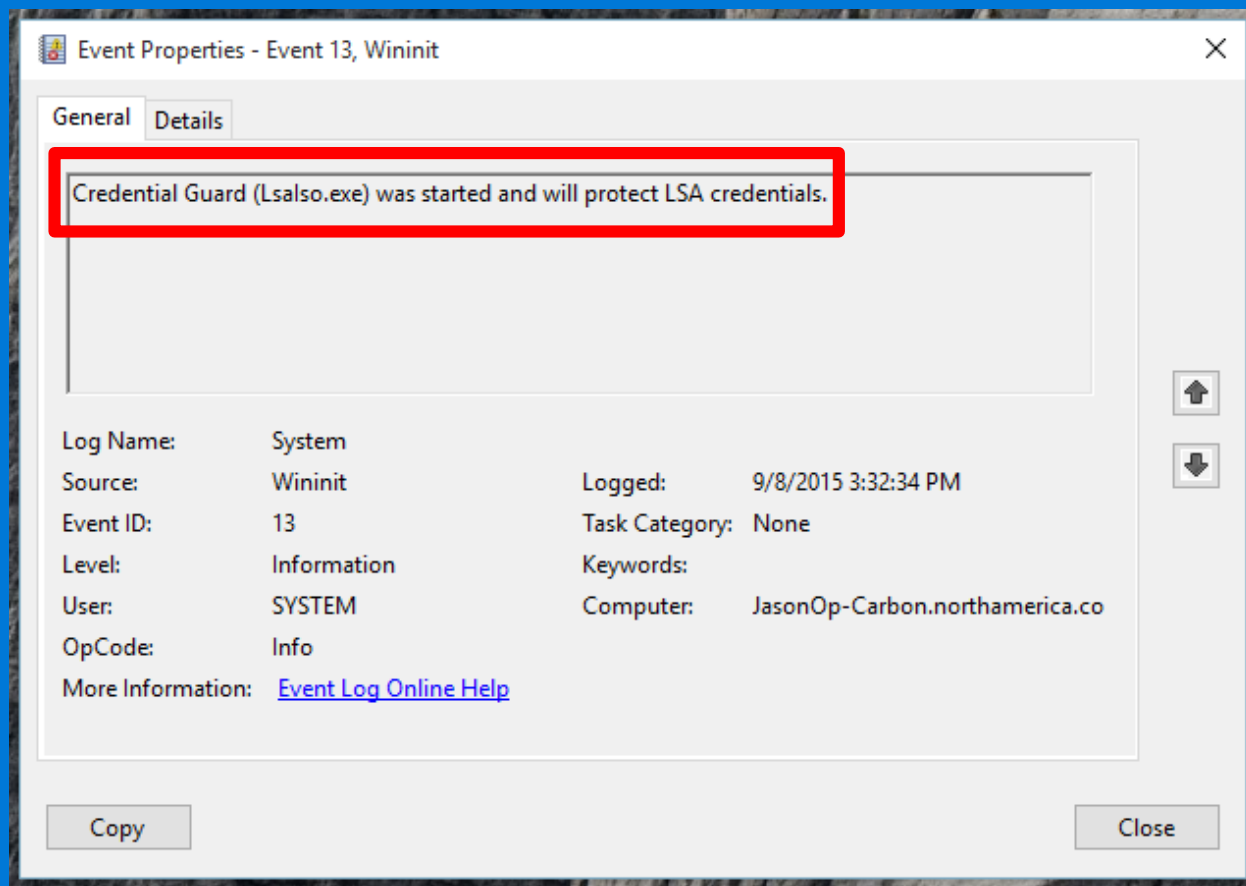
Please refer to the documentation for a complete set of requirements to securely configure this feature.

OK

Cancel

Apply





## System Summary

- Hardware Resources
- Components
- Software Environment

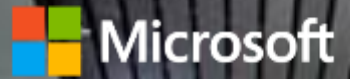
Item	Value
SMBIOS Version	2.7
Embedded Controller Version	1.02
BIOS Mode	UEFI
BaseBoard Manufacturer	LENOVO
BaseBoard Model	Not Available
BaseBoard Name	Base Board
Platform Role	Mobile
Secure Boot State	On
PCR7 Configuration	Elevation Required to View
Windows Directory	C:\WINDOWS
System Directory	C:\WINDOWS\system32
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

