

# Module 1

Overview of Windows 10

# Module Overview

- Introduction to Windows 10
- Implementing Windows 10

# Lesson 1: Introduction to Windows 10

- Overview of New Windows 10 Features that Increase Business Productivity
- New Features of Windows 10
- Windows 10 Features not Available with the Initial Release
- Demonstration: Exploring the new User Interface (UI) of Windows 10

# Overview of New Windows 10 Features that Increase Business Productivity

## Windows 10 investments for business

### Protection against modern security threats

#### Hardware based security for better malware protection.

Secure boot  
Virtual Secure Mode

#### Secure corporate identity to protect against modern threats.

Microsoft Passport  
Biometrics

#### Protect your corporate data, wherever the data is.

Enterprise data protection (mobile and desktop, with Universal Office and Office for desktop support)

#### Eliminate malware on your devices.

Device Guard

#### More secure per-app connection for mobile workers.

Secure Remote Connection

### Managed for continuous innovation

#### Choose management solutions that work best for you.

Mobile Device Management  
Group Policy

#### End of wipe and replace deployment.

Dynamic provisioning  
In-place upgrade

#### Power your business with Universal Apps.

Private catalog  
Azure AD Join (desktop and phone)  
Business Store

#### Keep your devices secure and up to date with latest technology.

Delivering Windows as a service

### Be more productive

#### A familiar user experience that adapts to your device.

Start menu  
Continuum

#### Apps that can run on any Windows device.

Universal Apps for Windows

#### The best productivity experience across all Windows devices.

Office for Windows

#### Modernize your web experience, stay compatible.

Project "Spartan"  
Internet Explorer 11

### Innovative devices for your business

#### Latest Windows innovations on your existing PC fleet.

Great mouse & keyboard support  
Hardware compatibility  
Granular UX Control

#### Choose from the range of innovative Windows devices.

2-in-1 devices  
Surface  
Lumia

#### Redefine productivity with revolutionary Windows devices.

Surface Hub  
HoloLens

# New Features of Windows 10

## Windows 10: the next chapter

One ecosystem for the future



### One operating system

One Windows core for all devices

User experience tailored for each device

### One developer platform

Universal apps run on every Windows 10 device

### One store

Global distribution with local monetization

Reaching over one billion devices

### Windows as a service

Delivering innovation on your terms

### ...and it's still Windows...

Your existing code still works

# Updating and Maintaining

## Management Choices

| <b>Identity</b>               | <b>Management</b>                          | <b>Updates</b>                               | <b>Infrastructure</b> | <b>Ownership</b>       |
|-------------------------------|--|--|-----------------------|------------------------|
| <b>Active Directory</b>       | <b>Group Policy</b>                        | <b>Windows Update</b>                        | <b>On-premises</b>    | <b>Corporate-owned</b> |
| <b>Azure Active Directory</b> | <b>System Center Configuration Manager</b> | <b>Windows Update for Business</b>           | <b>In the cloud</b>   | <b>CYOD</b>            |
|                               | <b>3rd party PC management</b>             | <b>Windows Server Update Services (WSUS)</b> |                       | <b>BYOD</b>            |
|                               | <b>Intune</b>                              | <b>Intune</b>                                |                       |                        |
|                               | <b>3rd party MDM</b>                       | <b>3rd party MDM</b>                         |                       |                        |

**Organizations may mix and match, depending on their specific scenario**

# Security Enhancements

## Leverage Enterprise-grade security

Windows 7

Windows 10

|                            |  |  |   |
|----------------------------|--|--|---|
| <b>Identity protection</b> | Reliant on passwords<br>Credential is easy to steal  | Secure and easy to deploy<br>multifactor credentials<br>Mainstream use of biometrics on Windows<br>Pass the Hash mitigations | Windows Hello<br>Microsoft Passport<br>Enterprise Credential Protection |
| <b>Data protection</b>     | Manual provisioning of<br>drive encryption<br>Data loss prevention requires<br>additional software | Automatic disk encryption and fully<br>integrated data loss prevention   | BitLocker<br>Enterprise data protection<br>RMS (with Azure)             |
| <b>Threat resistance</b>   | Apps are trusted until<br>threat detected<br>Anti-Virus can't keep up<br>with rate of new threats  | Device configured to only run trustworthy apps<br>System defenses resilient and protected<br>through isolation               | Device Guard<br>Windows Defender<br>Hardware Based Isolation            |
| <b>Device security</b>     | Platform secured in software   | Hardware protection from power on to off   | UEFI Secure Boot, TPM 2.0<br>Device Guard                               |





## Windows 10 Features not Available with the Initial Release

The following announced features of Windows 10 will be made available over time through Windows as a Service.

- Simplified Microsoft Passport Deployments.
- Data Leakage Prevention (DLP).
- Windows Store for Business.

# Demonstration: Exploring the new User Interface (UI) of Windows 10

In this demonstration, you will see how to:

- Know the key features of the new Windows 10 UI
- Use the new Start Screen and Menu
- How to configure and use Cortana
- Use Action Center functionality
- Use IE 11 and the new Edge Browser
- Configure and use the new mail and calendar universal app
- How to use Task View and multiple desktops
- Enhanced SNAP Feature















## Lesson 2: Implementing Windows 10

- Windows 10 Desktop and Tablet Editions
- Windows 10 Hardware Requirements

# Windows 10 Desktop and Tablet Editions

## Desktop features placemat

|   | Home | Pro | Enterprise |
|---|------|-----|------------|
| <b>Existing Differentiated Features in Win7 /Win8.1</b>             |      |     |            |
| Domain Join and Group Policy Management                             |      | ✓   | ✓          |
| Existing Win7 / Win 8.1 Enterprise features                         |      |     | ✓          |
| <b>Windows 10: Management and Deployment</b>                        |      |     |            |
| Side-loading of LOB apps  | ✓    | ✓   | ✓          |
| MDM Enablement  | ✓    | ✓   | ✓          |
| Ability to join Azure Active Directory                              |      | ✓   | ✓          |
| Business Store for Windows 10                                       |      | ✓   | ✓          |
| Easy Upgrade from Pro to Enterprise edition                         |      | ✓   | ✓          |
| Granular UX Control   |      |     | ✓          |
| <b>Windows 10: Security</b>   |      |     |            |
| Microsoft Passport  | ✓    | ✓   | ✓          |
| Enterprise Data Protection  |      | ✓   | ✓          |
| Credential Guard  |      |     | ✓          |
| Device Guard  |      |     | ✓          |
| <b>Windows 10: Windows as a Service, Support &amp; Entitlements</b> |      |     |            |
| Windows Update for Business & Current Branch for Business           |      | ✓   | ✓          |
| Access to Long Term Servicing Branch                                |      |     | ✓          |

# Windows 10 Hardware Requirements

## **Windows 10 minimum Hardware requirements for Desktop:**

- Processor: 1 GHz or faster
- RAM: 1 GB (32-bit) or 2 GB (64-bit)
- Free hard disk space: 16 GB
- Graphics card: Microsoft DirectX 9 graphics device with WDDM driver

# Windows 10 Requirements for Mobile Hardware

## **Windows 10 requirement for Mobile hardware:**

- Minimum 3 inches screen
- Memory: 512 MB for 32-bit OS
- Storage Space: 4GB
- Graphics: DirectX 9
- 512MB of RAM for FWVGA (854x480 pixels) and WVGA (800x480 pixels) resolution devices
- 1GB of RAM for WSVGA (1024x600 pixels) devices, HD (1280x720 pixels), WXGA (1366x768 pixels), and qHD (960x540 pixels) devices
- 2GB of RAM for full-HD (1920x1080 pixels)

# Support for Hardware Enabled Security

## Hardware-Enabled Security

|  | VBS | CCI | CG | DG | DHA |
|--|-----|-----|----|----|-----|
| <b>DEVICE REQUIREMENTS</b>   |     |     |    |    |     |
| Windows 8, 8.1 or Windows 10 compatible hardware w/ Windows 10 Enterprise x64 Edition  |     | ✓   | ✓  | ✓  | ✓   |
| UEFI Secure Boot (UEFI 2.3.1) should have 3rd Party UEFI CA removed from UEFI DB configuration   |     |     | ✓  | ✓  |     |
| Virtualization Support configured on by default in BIOS <ul style="list-style-type: none"> <li>Virtualization extensions (e.g. Intel VT-x, AMD-V)</li> <li>Second Level Address Translation (e.g. Intel EPT, AMD RVI)</li> <li>IOMMU (e.g. Intel VT-d, AMD-Vi)</li> </ul>  | ✓   |     | ✓  | ✓  | ✓   |
| TPM 2.0  | ✓   | ✓   | ✓  | ✓  | ✓   |
| UEFI BIOS configured to prevent unauthorized user from disabling hardware-based security features <ul style="list-style-type: none"> <li>Kernel mode drivers Windows Hardware Quality Labs (WHQL) signed and compatible with hypervisor enforced code integrity</li> <li>Extended Validation (EV) identity cert now required to submit drivers to Microsoft WHQL portal</li> </ul> |     |     | ✓  | ✓  |     |
|  |     |     | ✓  | ✓  |     |
| <b>INFRASTRUCTURE REQUIREMENTS</b>   |     |     |    |    |     |
| Policy delivery  |     | ✓   | ✓  |    |     |
| Policy Certificates for signing apps and policy  |     | ✓   |    | ✓  |     |
| MDM that supports conditional access (e.g. InTune, AirWatch, MobileIron)   |     |     |    |    | ✓   |

# Why Trusted Platform Module (TPM) 2.0

| Areas                    | TPM 1.2                                | TPM 2.0  |
|--------------------------|--|--|
| <b>Algorithms</b>        | SHA-1, RSA                             | Agile. E.g., SHA-1, SHA-256, RSA, Elliptic curve cryptography P256 |
| <b>Crypto Primitives</b> | RNG, SHA-1                             | RNG, RSA, SHA-1, SHA-256   |
| <b>Hierarchy</b>         | One (storage)                          | Three (platform, storage, endorsement)                             |
| <b>Root Keys</b>         | One (SRK RSA-2048)                     | Multiple keys and algorithms per hierarchy                         |
| <b>Authorization</b>     | HMAC, PCR, locality, physical presence | Password, HMAC, policy   |
| <b>NV RAM</b>            | Unstructured data                      | Unstructured data, Counter, Bitmap, Extend                         |

- The VBS implementation of root key protection exists only for TPM 2.0
- Microsoft Passport works only if TPM 2.0 is present, TPM 1.2 are blacklisted due to reliability and performance
- Device Health Attestation requires EK certificates, widely available in TPM 2.0 but only a handful of EK certs in TPM 1.2
- TPM 1.2 only supports SHA-1, which is on the path for deprecation

# Systems Support for Windows Hello

## Windows Hello

### Facial Feature Recognition

- **RealSense Device**

- Lenovo Yoga 15
- Dell Inspiron 15
- HP Envy 15
- Intel RealSense Dev Kit

- **Fingerprint Recognition**

- Most Windows 8/8.1 Devices
- Lenovo ThinkPad Carbon X1

# Module Review

- Review Question(s)