Windows

Windows 10 IoT Enterprise

The Internet of Things (IoT) has created opportunity for device OEMs, but it has also introduced more pressure innovate, added complexity to their business models, and raised the bar on creating secure, connected devices. **Windows 10 IoT Enterprise** brings a the full Windows experience to embedded devices, enabling OEMs to quickly create high-performance devices that deliver a familiar and secure experience to their customers.

Windows 10 IoT Enterprise is a full version of Windows 10 that powers a range of industry devices across retail, manufacturing, health, government and other industries. Windows 10 IoT devices run powerful line of business applications and perform specialized functions in a secure, reliable, and streamlined way to meet mission-critical industry demands.

IoT Enterprise runs on 32-bit and 64-bit x86 chipsets with support for Universal Windows Platform (UWP) apps as well as Classic Windows (e.g. Win32 and .NET) applications.

IoT Enterprise provides advanced device lockdown capabilities to enable industry-specific device scenarios including:

- Industry Tablets
- Thin Clients
- Retail POS
- Digital Signage/Kiosk
- ATM
- Medical Devices
- Manufacturing

Windows 10 IoT Enterprise

Differentiating Features

- Advanced security threat protection
- Same deployment, manageability and servicing as desktops
- Advanced device lockdown capabilities

Hardware and Application Support:

- Classic Windows application and Universal Windows app support for mission-critical industry devices
- Scales to highest-end hardware (e.g. processors, memory, storage)
- Delivers a full Windows UI with Touch

One Windows Platform

Shorten time to market and reduce development & support costs by investing in one Windows platform that scales across devices:

- One common toolset, one common app platform, and one common deployment, management, and servicing system allows your customers to easily integrate Windows 10 IoT into their existing environment.
- Natural and personal user experience simplifies device operation and reduces your customer's learning curve.

Secure

Meet your customer's needs for a more secured industry device with Windows' Enterprise-grade security capabilities and advanced lockdown:

- Enterprise-grade security ensures the device and the data that the device collects and manages are protected from the next generation of threats, ensures secure connection to the network and thwarts unauthorized access, and provides advanced malware threat resistance by ensuring that only certified apps run on the device.
- Windows 10 allows OEMs to lock devices down with business-specific applications and ensures that the device functions and is used as intended.

Connected

Exceed your customer expectation with an industry device that uses industry standards to connect with other devices as well as industry-specific peripherals and low-level hardware:

- Access barcode scanners, magnetic stripe readers, receipt printers, and cash drawers from Universal Windows apps.
- APIs allow easy access and integration of sensors and devices over a variety of busses: GPIO, I2C, SPI and easy access to custom hardware.

Learn more about Windows 10 IoT Enterprise at:
www.windowsembedded.com

Windows 10 IoT Features at a Glance

Granular UX Control

Unified Write Filter
- ☑ Create Read-only devices
- ☑ Protect system against write operations

Assigned Access
- ☑ Block edge gestures, hotkeys and other key combinations
- ☑ Launch a Universal Windows app on login plus lock access to system
- ☒ Multi-user profiles for mobile with Application and Settings Allow Lists
- ☒ Button Remapping and Lockdown

AppLocker
- ☑ Eliminate unwanted/unknown applications
- ☑ Suppress system dialogs & control processes that can be run

MDM & Group Policies
- ☑ Suppress toast notifications
- ☑ Restrict USB devices / peripherals on system

Shell Launcher
- ☑ Launch a Classic Windows application on login
- ☑ Block hotkeys and other key combinations

Embedded Logon
- ☑ Suppress Windows UI elements displayed during Windows logon and shutdown
- ☑ Suppress Windows UI elements displayed during logon and logoff

Embedded Boot Experience / Unbranded Screens
- ☑ Custom brand a device by removing and/or replace Windows UI boot elements

Security
- ☑ Advanced Device Security
  - Only allow trusted peripherals
  - Secure IoT Devices with Trusted Platform Modules (TPM)
- ☑ Next Generation Credentials – two-factor authentication
- ☑ Device Guard - Run only trusted apps with Advanced Threat Resistance
- ☑ Windows Hello and Passport

Management
- ☑ MDM Enablement
- ☑ Ability to control and block modern app updates
- ☑ Ability to block un-enrollment
- ☑ Context Manager
- ☒ Bulk provisioning through Barcode/NFC/SD card

Servicing
- ☒ Current Branch (CB)
- ☒ Current Branch for Business (CBB)
- ☑ Long Term Servicing Branch (LTSB)

Activation
- ☑ Deferred activation
- ☒ No activation required
- ☑ Online activation

App Platform
- ☑ Universal Windows Platform (UWP) apps
- ☑ Classic Windows applications (Win 32/.NET)

Tools
- ☑ Converged toolset: Image Configuration Designer (ICD) in the Assessment & Deployment Kit (ADK)

Peripheral/Device Connectivity Support
- ☑ Retail Industry Peripherals supported in box by Enterprise (Barcode Scanner, Mag Stripe Reader, Receipt Printer, Cash Drawer , Payment Terminal)
- ☑ Access to standard busses (e.g. GPIO, I2C, PSI) and system settings (e.g. power state, radio control, Bluetooth) via UWP APIs
- ☑ Access to Windows Universal Driver (UD) Platform creates common & consistent device driver APIs
- ☑ AllJoyn is integrated into Windows 10 core framework, so its available to all Windows 10 devices

Windows 10 IoT Version Comparison

Version	Enterprise		Mobile Enterprise		Core
What is it?	Full version of Windows 10 with advanced lockdown capabilities powering a range of industry devices across retail, manufacturing, health, government or any other industries.		Next generation platform for line-of-business mobile devices built on Windows 10.		An optimized version of Windows that enables building smaller footprint and lower cost devices but still delivers the same capabilities customers expect in Windows
Hardware	32-bit	64-bit	With UI	Without UI	All
Processor	x86	x86	X86 (date TBD) and ARM ≥600MHz	X86 (date TBD) and ARM ≥400MHz	ARM + x86
Min Memory	1GB	2GB	512MB	256MB	< 256mb
Min Storage	16GB	20GB	2GB	2GB	<2GB
Key Features	▪ Win32 and Universal App support ▪ Advanced security threat protection ▪ Same deployment, manageability and servicing as desktops ▪ Advanced device lockdown capabilities		▪ All Windows 10 apps are compatible with Windows 10 Mobile and offer advanced lockdown features and multi-user support.		▪ No shell; UI customizable for your brand ▪ Single application; Boot straight to application
Usage Scenarios	▪ Industry tablets ▪ POS ▪ Kiosk ▪ Digital signage ▪ ATM ▪ Medical devices ▪ Manufacturing devices ▪ Thin client		▪ Mobile POS ▪ Industry Hand-Held Terminal (HHT)		▪ Ultra-Thin Client ▪ Digital Signage ▪ Smart Building ▪ IoT Gateway ▪ HMI ▪ Smart Home Devices ▪ Home Medical Devices
Product Lifecycle	▪ 15 years product availability ▪ 10 years product support		▪ 5 years product availability ▪ 5 years product support		▪ TBD ▪ TBD

Which Version to Choose?

Does the targeted device require desktop functionality or access to desktop apps (e.g. Win32, .NET, WPF)?

Does the targeted device require a shell experience, multiple applications, Windows first-party applications, touch, or mobile voice?

For devices that don't require any of these features, manufacturers should investigate using Core.