

Windows 10 IoT Enterprise

The Internet of Things (IoT) has created opportunity for device OEMs, but it has also introduced more pressure to 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

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.

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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

Windows 10 IoT Features at a Glance

<p>Granular UX Control</p> <p>Unified Write Filter</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Create Read-only devices <input checked="" type="checkbox"/> Protect system against write operations <p>Assigned Access</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Block edge gestures, hotkeys and other key combinations <input checked="" type="checkbox"/> Launch a Universal Windows app on login plus lock access to system <input checked="" type="checkbox"/> Multi-user profiles for mobile with Application and Settings Allow Lists <input checked="" type="checkbox"/> Button Remapping and Lockdown <p>AppLocker</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Eliminate unwanted/unknown applications <input checked="" type="checkbox"/> Suppress system dialogs & control processes that can be run <p>MDM & Group Policies</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Suppress toast notifications <input checked="" type="checkbox"/> Restrict USB devices / peripherals on system <p>Shell Launcher</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Launch a Classic Windows application on login <input checked="" type="checkbox"/> Block hotkeys and other key combinations <p>Embedded Logon</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Suppress Windows UI elements displayed during Windows logon and shutdown <input checked="" type="checkbox"/> Suppress Windows UI elements displayed during logon and logoff <p>Embedded Boot Experience / Unbranded Screens</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Custom brand a device by removing and/or replace Windows UI boot elements 	<p>Security</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Advanced Device Security <ul style="list-style-type: none"> • Only allow trusted peripherals • Secure IoT Devices with Trusted Platform Modules (TPM) <input checked="" type="checkbox"/> Next Generation Credentials – two-factor authentication <input checked="" type="checkbox"/> Device Guard - Run only trusted apps with Advanced Threat Resistance <input checked="" type="checkbox"/> Windows Hello and Passport <p>Management</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> MDM Enablement <input checked="" type="checkbox"/> Ability to control and block modern app updates <input checked="" type="checkbox"/> Ability to block un-enrollment <input checked="" type="checkbox"/> Context Manager <input checked="" type="checkbox"/> Bulk provisioning through Barcode/NFC/SD card <p>Servicing</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Current Branch (CB) <input checked="" type="checkbox"/> Current Branch for Business (CBB) <input checked="" type="checkbox"/> Long Term Servicing Branch (LTSB) 	<p>Activation</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Deferred activation <input checked="" type="checkbox"/> No activation required <input checked="" type="checkbox"/> Online activation <p>App Platform</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Universal Windows Platform (UWP) apps <input checked="" type="checkbox"/> Classic Windows applications (Win 32/.NET) <p>Tools</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Converged toolset: Image Configuration Designer (ICD) in the Assessment & Deployment Kit (ADK) <p>Peripheral/Device Connectivity Support</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Retail Industry Peripherals supported in box by Enterprise (Barcode Scanner, Mag Stripe Reader, Receipt Printer, Cash Drawer , Payment Terminal) <input checked="" type="checkbox"/> Access to standard busses (e.g. GPIO, I2C, PSI) and system settings (e.g. power state, radio control, Bluetooth) via UWP APIs <input checked="" type="checkbox"/> Access to Windows Universal Driver (UD) Platform creates common & consistent device driver APIs <input checked="" type="checkbox"/> AllJoyn is integrated into Windows 10 core framework, so its available to all Windows 10 devices
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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	<ul style="list-style-type: none"> ▪ Win32 and Universal App support ▪ Advanced security threat protection ▪ Same deployment, manageability and servicing as desktops ▪ Advanced device lockdown capabilities 		<ul style="list-style-type: none"> ▪ All Windows 10 apps are compatible with Windows 10 Mobile and offer advanced lockdown features and multi-user support. 		<ul style="list-style-type: none"> ▪ No shell; UI customizable for your brand ▪ Single application; Boot straight to application
Usage Scenarios	<ul style="list-style-type: none"> ▪ Industry tablets ▪ POS ▪ Kiosk ▪ Digital signage ▪ ATM ▪ Medical devices ▪ Manufacturing devices ▪ Thin client 		<ul style="list-style-type: none"> ▪ Mobile POS ▪ Industry Hand-Held Terminal (HHT) 		<ul style="list-style-type: none"> ▪ Ultra-Thin Client ▪ Digital Signage ▪ Smart Building ▪ IoT Gateway ▪ HMI ▪ Smart Home Devices ▪ Home Medical Devices
Product Lifecycle	<ul style="list-style-type: none"> ▪ 15 years product availability ▪ 10 years product support 		<ul style="list-style-type: none"> ▪ 5 years product availability ▪ 5 years product support 		<ul style="list-style-type: none"> ▪ 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.