

What's new in Windows 11 24H2

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Sponsor



What's new?
W11...



IoT Enterprise LTSC

What's new in Windows 11 IoT Enterprise 2024?

In comparison to Windows 10 IoT Enterprise LTSC 2021 :

- A lot of GFX features...
- New setup and OOBE experience
- New user experience
- USB 4 and Wi-Fi 6E / 7 support
- Support for the latest hardware
- Support for Wireless Display
- EULA specific to IoT Enterprise
- Internet Explorer completely removed
- Microsoft Edge browser is now default
- Improved customization options
- Improved lockdown features
- Removable packages increased by 80%
- x64 applications running on ARM64 processors without modification

What's new? – Hardware Requirements

Windows IoT Enterprise CBB/GAC

For special-purpose devices, requiring the latest functionality, provided by annual feature updates.

Modern Support Lifecycle:

- 36-month support lifecycle
- Lifecycle restarts with each annual upgrade
- Monthly security and non-security updates
- Annual release available via Windows Update
- Continuous Innovation Updates (CIU disabled by default Controlled Feature Rollout (CFR) settings to enable CIU

Minimum Requirements:

Windows 10

- 1 GHz CPU
- 2 GB Memory
- 20 GB Storage
- UEFI Firmware
- **TPM (Optional)**
- DirectX9+ Graphic

Windows 11 (24H2)

- 1 GHz or faster w/2+ cores CPU
- 4 GB Memory
- 64 GB Storage
- **TPM (Optional)**
- **DirectX10+ Graphics**
- **DirectX12+ Graphics**

Windows IoT Enterprise LTSC

For special-purpose devices, requiring longtime OS stability and security, without feature changes.

Fixed Support Lifecycle:

- 10-year support lifecycle
- Lifecycle is fixed (new license for each LTSC release required)
- Monthly security and non-security updates
- New LTSC release expected every ~3 years
- No feature updates for released LTSC versions

Minimum Requirements:

Windows 10

- 1 GHz CPU
- 2 GB Memory
- 16 GB Storage
(requires image optimization)
- UEFI Firmware
- **TPM (Optional)**
- **DirectX9+ Graphics**

Windows 11 (24H2)

- 1 GHz or faster w/2+ cores CPU
- 2 GB Memory
- 16 GB Storage
(Optional image size configuration planned)
- **TPM (Optional)**
- **DirectX10+ Graphics**
- **Specific family of CPU (2018)**

Support and Availability

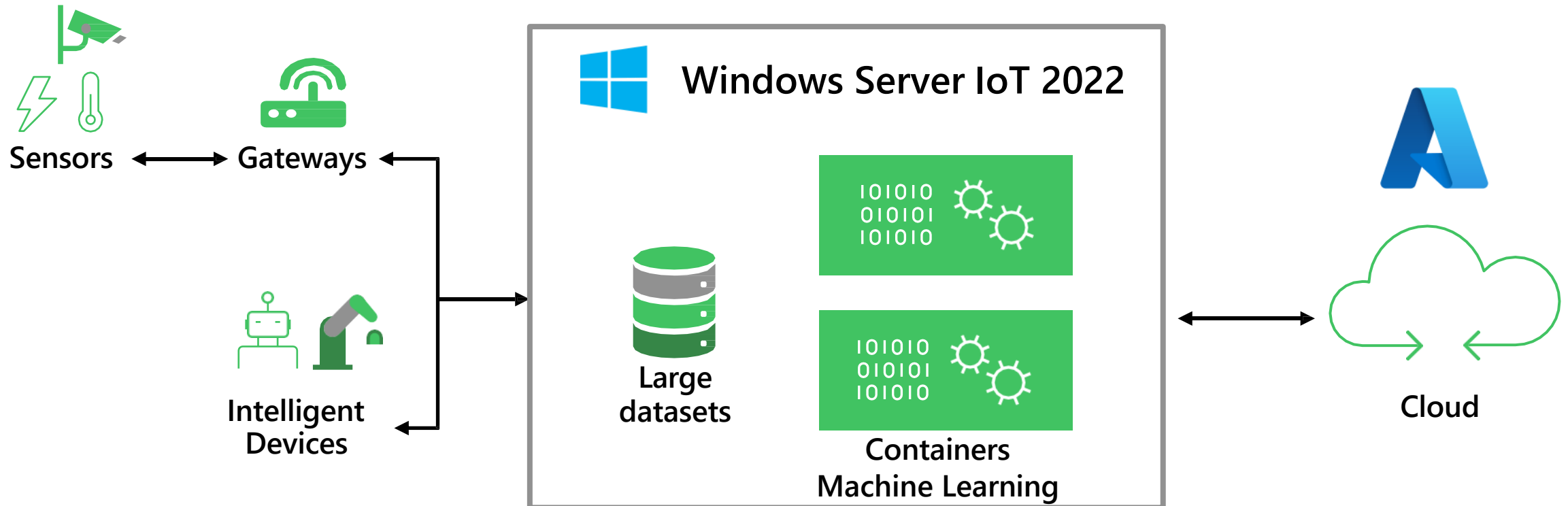




And... Windows
Server (even IoT)

Bring the power of Windows Server 2022 to IoT solutions

For the most demanding edge computing workloads



Windows Server IoT 2022 vs. Windows 10/11 IoT Enterprise

- Both have similar minimum hardware requirements
- Both have similar security, management and product lifecycles
- Both are licensed for dedicated use devices

| | Windows Server IoT 2022 | Windows 10/11 IoT Enterprise |
|--|---------------------------|------------------------------|
| Concurrent device connections | Unlimited | Max. 20 |
| CPU sockets | Max. 64 (unlimited cores) | Max. 2 (max. 256 cores) |
| RAM | Up to 48 TB | Up to 6 TB |
| Run network services with high performance | ✓ | |
| Enterprise User Management (Active Directory) | ✓ | |
| Survive extensive hardware failures in disks, servers and clusters | ✓ | |

Windows Server IoT 2022 Editions

| Editions | Description |
|---|--|
| Windows Server IoT 2022 Standard | A dedicated server with Active Directory integration (file, print, networking services) or those requiring a connected keyboard, monitor or mouse to perform its dedicated purpose. |
| Windows Server IoT 2022 Datacenter | A turnkey solution for highly virtualized datacenters or cloud environments that can consolidate several complex functions into a single server appliance. The solution may require Storage Spaces Direct. |
| Windows Server IoT 2022 Telecommunications | A specialized telecommunications application such as PBX, IP PBX, Automated Attendant, Interactive Voice Response (IVR) or teleconferencing. |
| Windows Server IoT 2022 Storage Standard | A dedicated file server appropriate for Network Attached Storage, Storage Area Network Gateway or another storage solution. |
| Windows Server IoT 2022 Storage Workgroup | A small storage solution (for 50 users or less) that does NOT require network infrastructure services (file, print, etc.) or a connected keyboard, monitor or mouse. |

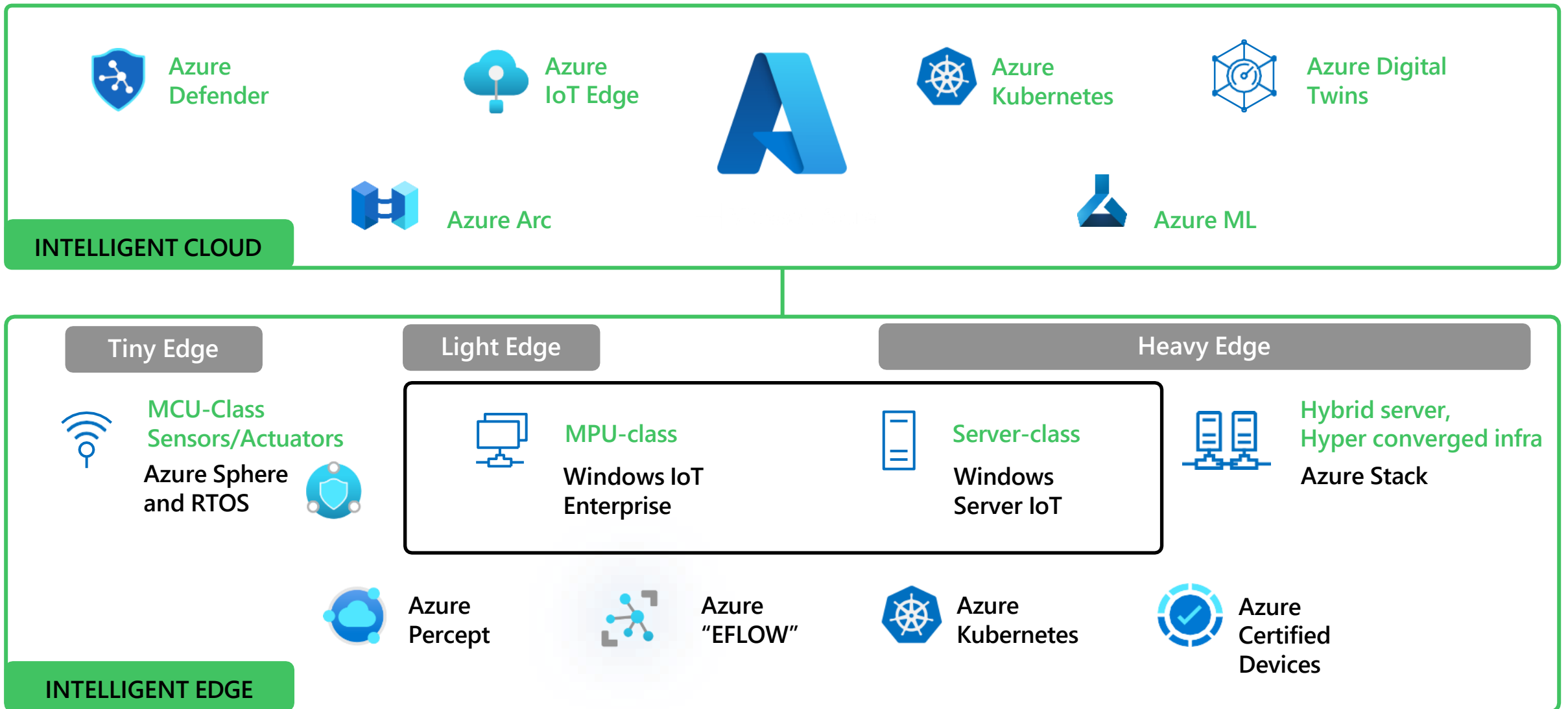
Windows Server IoT 2022 Editions

| | WS IoT 2022 Standard | WS IoT 2022 Standard CAL-less | WS IoT 2022 Datacenter | WS IoT 2022 Telco | WS IoT 2022 Storage Standard | WS IoT 2022 Storage Workgroup |
|---|---|----------------------------------|---------------------------|------------------------|---------------------------------|----------------------------------|
| Binary compatible to non-IoT SKUs | Yes | N/A | Yes | N/A | | |
| Max. # CPUs | 64 | | | | | 1 |
| Max. # Cores | Unlimited | | | | | N/A |
| Memory Support | 48 TB | | | | | |
| OS and Application preinstalled | Mandatory, only on new HW (no virtual appliance) | | | | | |
| Line of Business Applications | Not allowed | | | | | |
| Application type | Embedded application for a specific purpose only, cannot be used with other commercial applications | | | | | |
| Client Access License (CAL) required | Yes | No | Yes | No | No | No (max. 50 Users) |
| Core based licensing | Yes | | | | | No |
| | min. 16 cores per server & min. 8 cores per CPU | | | | | max. 1 CPU |
| # of virtual instances | 2 | 2 | Unlimited | 2 | 2 | 0 |
| # of add. virtual instances with full core re-licensing | +2 (max. 4) | +2 (max. 4) | N/A | +2 (max. 4) | +2 (max. 4) | |
| Headless (w/o KVM) | No | | | Mandatory | | |
| Remote Usage | Yes | | | Remote Management only | | |
| Active Directory DC | Yes | | | No | | |
| Active Directory Member | Yes | | | | | |
| Support Channel | LTSC, 5y Mainstream + 5y Extended, EOL 08/2031 | | | | | |
| Software Assurance | N/A | | | | | |

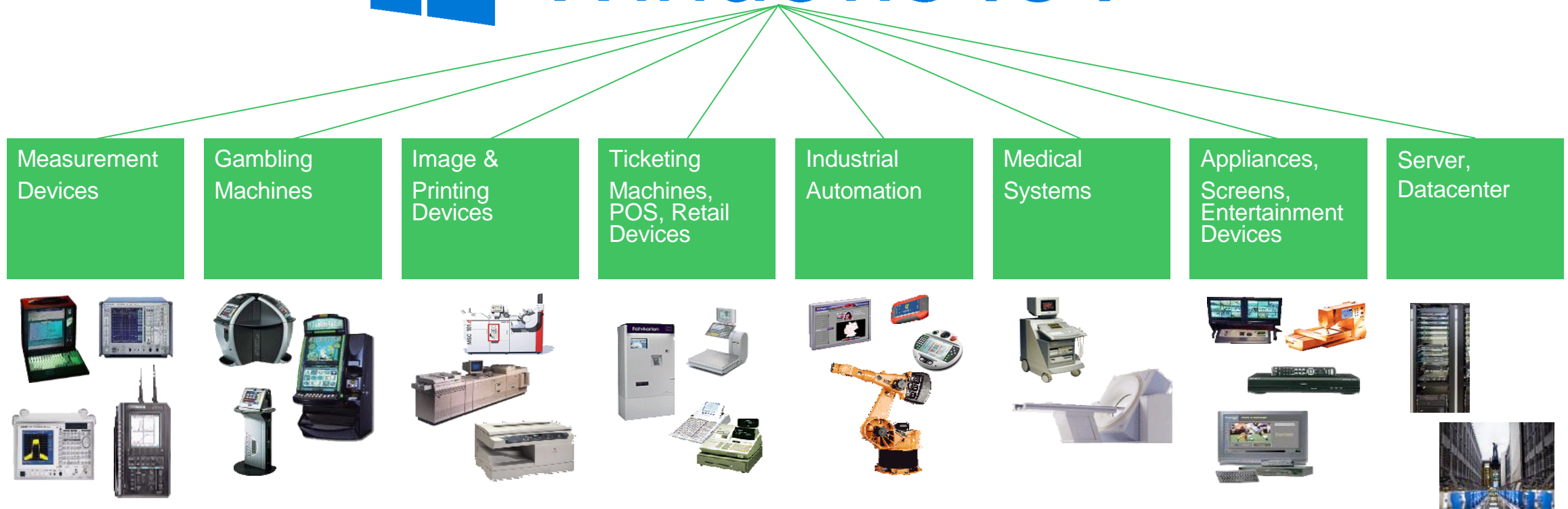
Platform



Comprehensive IoT platform from Microsoft



Microsoft Industrial Licensing Channel



Microsoft Embedded/IoT Product Portfolio



Windows 10/11 **IoT Enterprise LTSC**

For smart devices with 10-year support option

Locked down, full edition of Windows 10/11 with OEM image configuration



Windows 10/11 **IoT Enterprise GAC**

For smart devices with annual update channel

Locked down, full edition of Windows 10/11 with OEM image configuration



Windows 10/11 **IoT Enterprise on ARM**

For lower cost, lower power, smart devices.



Windows **Server IoT 2022**

For the most demanding edge computing workloads

**Windows Server IoT
2025 soon**



Windows SQL Server IoT 2022

For IoT solutions requiring the full power of SQL Server



Office Embedded

For Office usage on Embedded devices and IoT scenarios



Azure IoT Edge for Linux on Windows

For running Linux-based cloud connected workloads on edge



Roadmap, Licensing, Support & Availability

Microsoft Windows Client Channel Differentiation

Windows IoT Enterprise and Windows IoT Enterprise LTSC deliver the performance of Windows Professional with additional IoT-optimized capabilities.

| | Windows Professional SAC/CBB/GA | Windows IoT Enterprise SAC/CBB/GA | Windows IoT Enterprise LTSC |
|------------------------|------------------------------------|--------------------------------------|--------------------------------|
| Windows Core | ✓ | ✓ | ✓ |
| Common APIs | ✓ | ✓ | ✓ |
| Management | ✓ | ✓ | ✓ |
| Assigned Access | ✓ | ✓ | ✓ |
| Windows Store UX | ✓ | ✓ | |
| Consumer Apps/Games | ✓ | ✓ | |
| Advanced Management | | ✓ | ✓ |
| Advanced Security | | ✓ | ✓ |
| Advanced Lockdown | | ✓ | ✓ |
| Footprint Reduction | | | ✓ |
| Longterm 10y Stability | | | ✓ |

Advanced Management

Managed User Experience

User Experience Virtualization (UE-V)

Application Virtualization (App-V)

Control access to Windows Store

Advanced Security

Credential Guard

Device Guard

Direct Access

Microsoft Defender Application Guard

Advanced Lockdown

Custom Logon

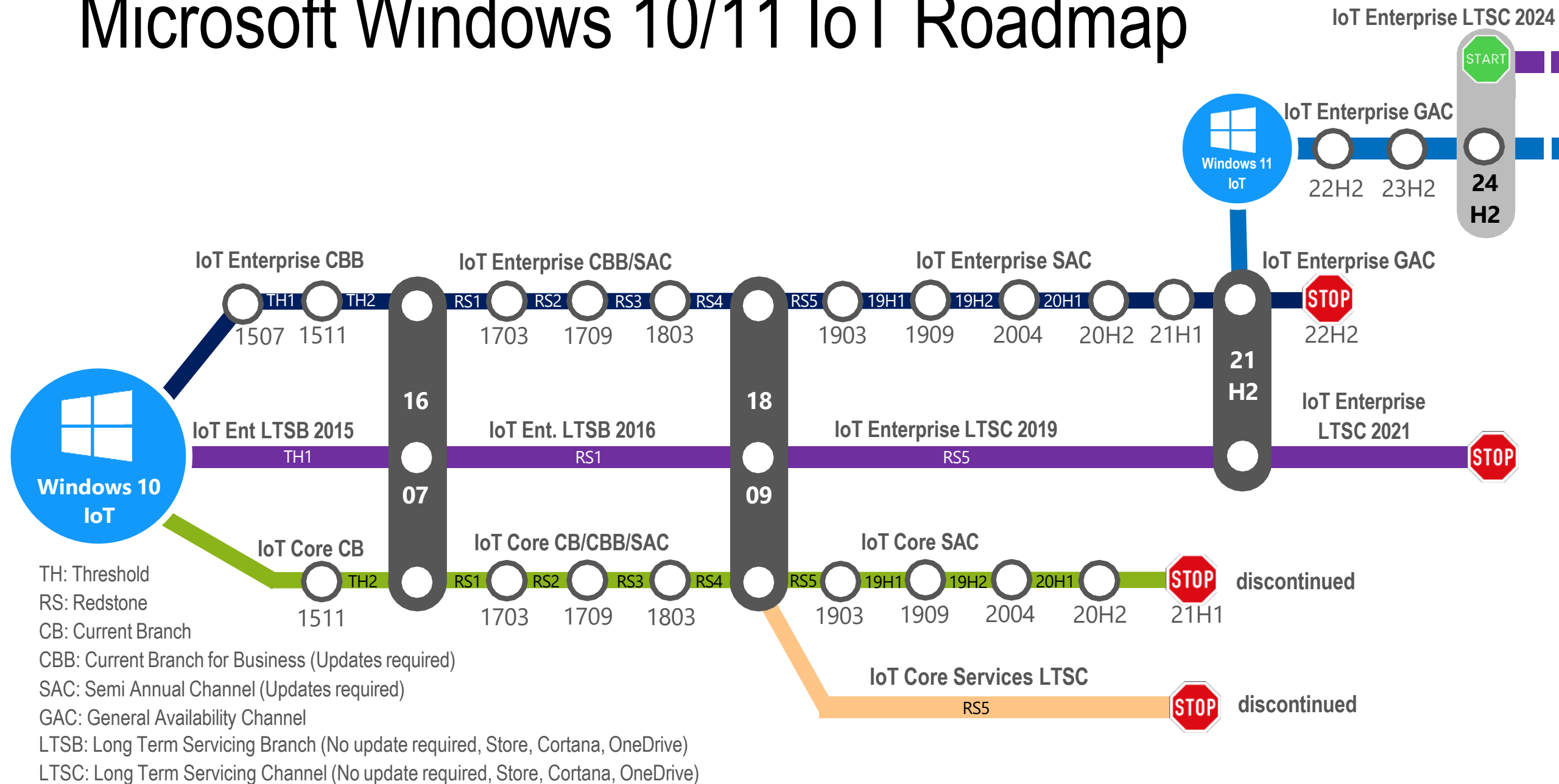
Keyboard Filter

Shell Launcher

Kiosk Mode (assigned access supported in Pro)

Unified Write Filter (UWF)

Microsoft Windows 10/11 IoT Roadmap



Windows IoT Enterprise 10 & 11 Licensing

3 licenses are available for Windows IoT Enterprise

“HighEnd”: For high end systems

“Value”: For mid range industrial systems

“Entry”: For low end systems

Windows IoT Enterprise 10 & 11 Licensing

PKEA: Product Key Entry Activation

Every single machine has an own activation key on license sticker (COA) and must be installed with this number and will be activated under this number.

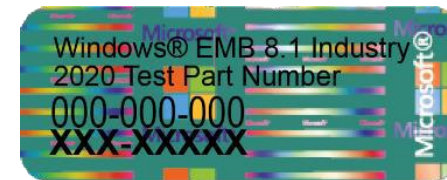


70 x 21 mm

ePKEA: embedded Product Key Entry Activation

Embedded OEM gets an OEM activation key from Microsoft per e-mail and can use the same OEM activation key for each device.

Maximum of 50.000 activations per ePKEA.



22.23 x 8.74 mm

Windows IoT Enterprise: Special Virtualization Licenses

- Programmatically Enabling Virtualization rights in OEM IoT channel
- Per VM Licensing model with no limit on #VMs
- Rights to run Windows IoT in the guest OS
- Program not applicable on Thin Client and Mobile scenarios
- No RDP access to VM, only for administration / maintenance allowed



| | Qualified Operating System* | Non Qualified Operating System** |
|-------------------------|---|--|
| OS for Host OS | QoS* | Non-QoS** |
| Virtualization Allowed? | Yes | Yes |
| Virtualization License | Embedded Usage Only | Embedded Usage Only |
| Price per VM | ~60 USD | ~ 200 USD |
| | *Qualified operating system: "Windows IoT Enterprise High End or successor product" or "Windows Server 2012 / 2012 R2 for Embedded Systems [Standard or Datacenter] or successor product" | **Non qualified Operating System: All other non – Windows platform and Windows legacy platforms namely Windows 7, 8/8.1 and Windows Server 2008 R2 Standard and Enterprise |

Support and Availability

CBB: CURRENT BRANCH FOR BUSINESS GAC: GENERAL AVAILABILITY CHANNEL

- **36-month support Lifecycle**
- Windows 11 Pro, Enterprise and Education get security updates and patches at availability (Monthly quality updates).
- In CBB/GAC: New feature update pack will be released every 12 month, **must be installed within 12 month.**
- Fixed End of Support dates per build

LTSC: LONG TERM SERVICING CHANNEL

- **10 years support Lifecycle**
- No feature updates, only quality updates to ensure that device security stays up to date. Customer don't need to install them, optional
- **No new function updates (feature packs), no store, no Cortana, no OneDrive, no Copilot**
- Microsoft will designate a long-term support rollup every 2-3 years.
- New CPU support optional available



What's Next?
Windows Server
IoT 2025 LTSC
coming soon

What's new? – Common information

In comparison to Windows Server IoT previous version, the following will be new:

- Improved Hyper-V
- Modern Identity: Next gen Active Directory
- New protection from brute force attacks
- Storage: Up to 70% performance increase
- ReFS-native deduplication and compression
- Hotpatching available
- Moving to NTLM-less world
- Desktop shell (as W11)
- Bluetooth/Wi-Fi available
- Easy Azure ARC setup
- SMB over QUIC
- EULA specific to IoT

[What's new in Windows Server 2025 | Microsoft Learn](#)

[Microsoft Evaluation Center | Windows Server 2025](#)



DEMO



Questions?

- 30+ years in IT (Developer, Architect, Consultant, PM, Trainer)
- Speaker, Community addicted
- IoT Influencer
- Microsoft Certified Trainer



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