

# Cisco Industrial IoT Portfolio



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## Bring Cisco scale and security foundation to Industrial IoT and AI initiatives

### Stop worrying about challenges and start imagining possibilities with Cisco Industrial IoT

Deploying Industrial IoT at scale isn't easy. It requires configuring and managing countless assets and devices and dealing with complex operational and industry requirements. This increase in connected "things" can also create visibility gaps that increase security risks.

Industrial networks also serve as the critical foundation upon which Industrial AI thrives. High-bandwidth, low-latency, and secure networks, required to ensure the swift and reliable transfer of data generated by sensors, machines, and control systems, are crucial for AI algorithms to operate effectively.

**Cisco provides the most secure and dependable Industrial IoT portfolio on the market**

**Cisco IIoT is an end-to-end Industrial IoT architecture that's built on our industry-leading network and security capabilities**



#### Rock-solid infrastructure

Extend the Cisco network you know and trust to scale your Industrial IoT deployment using reliable infrastructure, automation, and familiar management tools



#### Unparalleled visibility and control

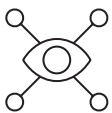
Protect your business with Cisco's industry-leading security and assurance portfolio which gives you complete visibility and control



#### Trusted expertise

Partner with a trusted leader who offers continuous innovation, market-leading products, an extensive developer program, and resources like deployment blueprints to make you successful

### Industrial IoT enables transformative use cases



Remote monitoring



Asset tracking



Worker safety



Operational agility



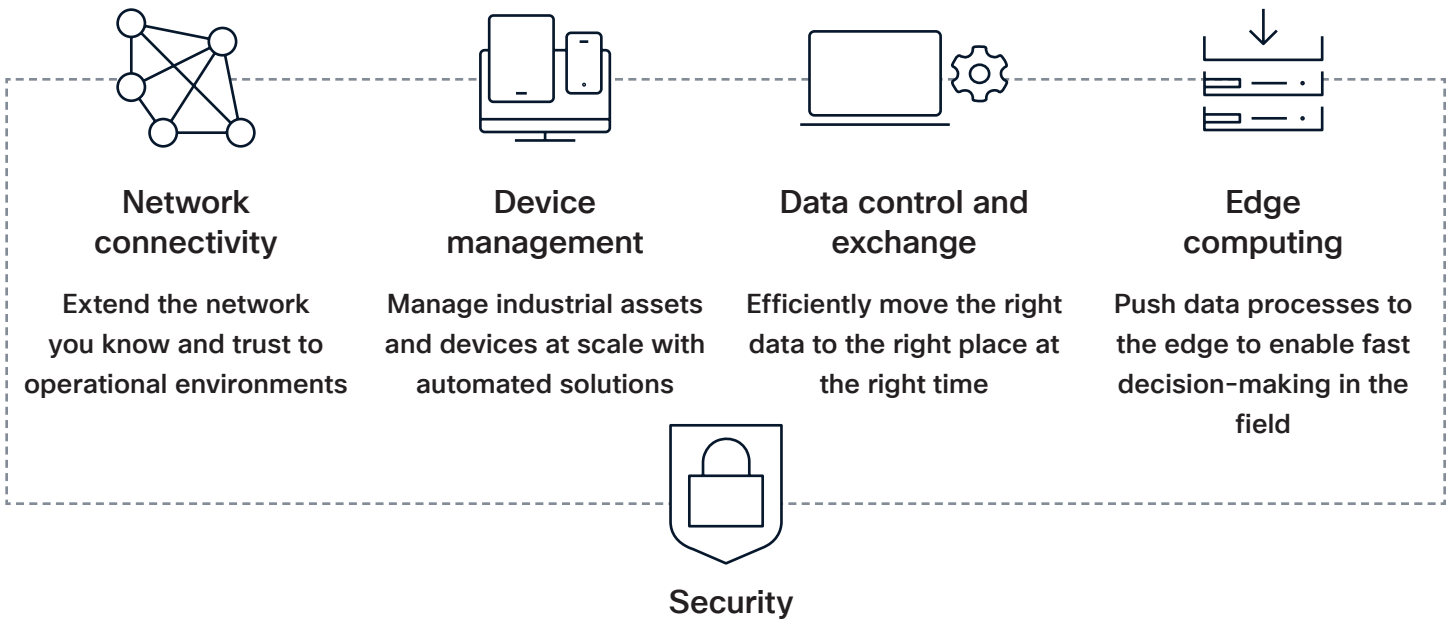
Industrial automation



Industrial AI

# Cisco offers an unparalleled end-to-end Industrial IoT architecture

Interconnect assets, applications and data to uncover transformative business insights



Protect your business from end to end with Cisco's comprehensive industrial and enterprise security portfolio

**Our 67,000 customers are already seeing tremendous results**

“ Within a month, we increased our manufacturing floor productivity by over 10 percent.

– Yair Avigdor, COO, Lordan

“ Cyber Vision found more than 20 instances of malware in our substations and identified features and protocols that don't need to be active.

– Emerson Cardoso,  
Chief Information Security Officer  
CPFL Energia

← Visit <http://www.cisco.com/go/iiot> to learn more

## Cisco Industry Validated Designs

We know our products have proven to be the industry's best "ingredients" for Industrial IoT networks. But we also know there can be complexity in designing, deploying, and managing those products into a "meal" – a complete solution to support all courses of a real-world use case.

That's why we have Cisco Validated Designs (CVDs). They are used to validate, architect, and configure next-generation technologies. Each is designed to help you accelerate digital transformation, innovate faster, and stay competitive.

Think of them as blueprints to your successful implementation. For every CVD, our engineers create detailed design and implementation guides that use Cisco and our partners' products to address critical business needs. We then engineer, test, and validate each design for our customers' industry-specific requirements, to guide their own deployments.

## Next step

To see how Cisco Validated Designs can help you, visit <http://www.cisco.com/go/iiotcvd>.

### Featured design guides

#### [Rugged Enterprise Networking](#)

Securely extend your IT network to rugged and outdoor spaces.



#### [Manufacturing](#)

Improve business operations by digitizing production environments.



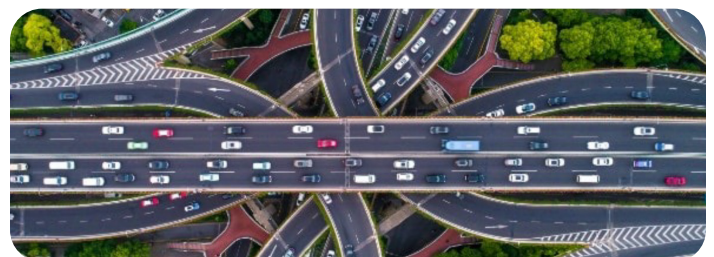
#### [Utilities and renewables](#)

Modernize the power grid to improve reliability, security, and distributed renewable resources.



#### [Roadways and intersections](#)

Improve public safety, operational efficiency, and traffic management.



# Cisco Industrial IoT solutions



**Connected Factory**



**Factory Wireless**



**Roadways and Intersections**



**Substation Automation**



**Utility WAN**



**Field Area Network (AMI)**



**Connected Renewables**



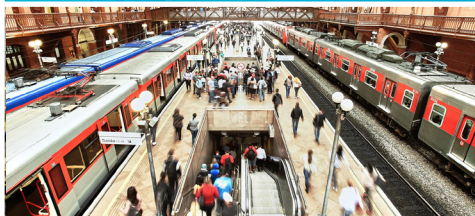
**Industrial Security**



**Smart Cities**



**Site Asset Management**



**Connected Rail**



**Distribution Automation**



**Industrial Automation**



**Connected Pipeline**



**Connected Refinery**

Cisco accelerates digital transformation, delivering insight and action from your data.

[www.cisco.com/go/iiot](http://www.cisco.com/go/iiot)

## Cisco Industrial Ethernet (IE) switching portfolio

The Cisco® Industrial Ethernet (IE) switching portfolio offers ruggedized, secure, easy-to-use switches that bring proven IT proficiencies to harsh industrial environments. They provide secure connectivity across challenging operating conditions and industries such as manufacturing, utilities, transportation, oil and gas, mining, roadways, and smart cities. These Cisco switches offer best-in-class Cisco IOS® XE Software with advanced Layer 2 and Layer 3 features, along with industrial protocol support, such as PROFINET and EtherNet/IP to accelerate industries' digital transformation and modernization.

With robust, reliable, secure networking and low-latency high-bandwidth communications, Cisco industrial switches help build the infrastructure necessary to support AI applications and accelerate innovation in demanding environments.

### Benefits

- **Enable Industrial AI** by building low-jitter high-bandwidth networks to transport large amounts of real-time data from sensors, machines, and control systems, which is essential for AI algorithms to learn and make informed decisions.
- **Secure operations at scale** by embedding advanced cybersecurity features such as OT visibility, vulnerability assessment, threat detection, zone segmentation, and secure remote access, eliminating the need for deploying dedicated security appliances.
- **Boost partnership between IT and OT** with a unified framework for network design and operations, extending IT cybersecurity practices and capabilities to OT environments, and combining monitoring, remote access and automation with unified network management systems.
- **Reduce downtime** with managed Ethernet switches that are more reliable and include high-availability technology to ensure resilient networks, even in extreme industrial environments.
- **Lower operational costs** with zero-touch provisioning that automates connecting thousands of new endpoints as part of Industrial Internet of Things (IIoT) deployments.
- **Assure network performance** in both owned and unowned networks that may exist between industrial sensors and applications in the cloud, enabling

organizations to proactively monitor, manage, optimize, and troubleshoot the network to maximize productivity.

- **Protect investments** with modular switches that minimize the need for costly complete replacements and extend the lifespan of your network infrastructure.

### Secure by design

Cisco IE switches are developed according to the Cisco Secure Development Lifecycle (SDL), which enforces a secure-by-design philosophy from product planning through end of life and conforms to the requirements of ISA/IEC 62443-4-1 as well as ISA/IEC 62443-4-2. The SDL provides assurance that the switches are themselves protected against cyberthreats and contribute to the overall security and resilience of industrial operations. Cisco IE switches also contain several embedded security features that provide additional layers of protection.

### Ready for Industrial AI

Cisco IE switches play a pivotal role in enabling Industrial AI by facilitating high-speed, reliable transfer of real-time data from diverse industrial devices to AI applications in datacenters and cloud. They help build a secure, resilient, and scalable fabric that ensures consistent and deterministic data flows crucial for AI algorithms to perform real-time analysis and control.

Select switches offer edge-compute capabilities for local data processing, enabling operations teams to make informed data-driven decisions, right at the source.

## Advanced OT security

Select models of the Cisco IE switch portfolio with [Cisco IOx](#) based edge-compute capabilities can enable advanced OT security functions. This eliminates the need for deploying dedicated security appliances and avoids security gaps by enabling the switches to protect connected assets. This results in a network architecture that sees more, protects more, and is simpler to deploy at scale.

The built-in advanced security functions include:

- **OT visibility:** Gain insights on your OT security posture and reduce your attack surface. The built in [Cyber Vision](#) sensor provides comprehensive visibility into Industrial Control Systems (ICS) and OT assets, their vulnerabilities and their communication activities. It detects malicious traffic and abnormal behaviors, so you can defend operations.
- **Microsegmentation:** Protect operations by restricting what can communicate to what and limiting lateral movement of threats. Cyber Vision leverages its deep visibility of OT assets to automatically recommend zones and conduits and simulate policies to ensure they will not disrupt production. When ready, enforce them using the Cisco TrustSec® technology directly from Cyber Vision or using Cisco Identity Services Engine (ISE).
- **Secure remote access:** Control risks from remote users accessing OT assets for configuration, monitoring, or troubleshooting. Empower operations teams with self-service remote access that lets you easily enforce least-privilege access policies. The built-in Cyber Vision gateway agent enables secure remote access capabilities purpose-built for OT workflows.

## Centralized network management

Scaling your industrial network and making it more flexible to adapt quickly to changing requirements is easy with intelligent management. You can easily manage your Industrial IoT network with the same tools that manage your IT network, such as [Cisco Catalyst™ Center](#), which allows zero-touch deployments, automates configuration changes, monitors performance, and identifies and helps correct faults, reducing time and cost of deployment. You may also use other management options such as the included web management tool.

Select Cisco IE switches can also be managed by the Meraki dashboard, providing a centralized cloud-based alternative to manage large but highly distributed deployments.

In addition to the management dashboards, Cisco offers a troubleshooting agent for industrial networks, an agentic AI system specifically designed to prevent networking issues from impacting operations in industrial environments, particularly in manufacturing. It acts as a networking expert, gathering data, identifying problems, troubleshooting, and recommending fixes through a conversational interface.

## Cisco ThousandEyes Assurance

Select Cisco Industrial Ethernet switches can run the embedded [ThousandEyes](#) Enterprise Agent that offers a powerful solution for industrial organizations seeking to improve the reliability, security, and performance of both their owned and unowned networks. By providing comprehensive visibility and insights into complex network environments, ThousandEyes Assurance enables proactive problem detection, faster troubleshooting, and enhanced operational continuity, ultimately supporting digital transformation and innovation in industrial sectors.

## Comprehensive form factors

Cisco offers its IE switch portfolio in different form factors to suit a range of industries and use cases.

- **DIN rail switches:** These switches can be mounted on standard DIN rails, which are commonly used in industrial control panels. The switches are compact and take up less space in these panels, which is useful in tight spaces where there is limited room for equipment. Cisco IE DIN rail switches are available in both fixed and modular forms that can be expanded with additional ports to keep up with demand. They also offer a choice of power supplies, allowing you to match the right power capacity for your Power over Ethernet (PoE) needs. Select models feature conformal coating for additional resistance against corrosion.
- **Rack-mount switches:** These switches are designed to be mounted in a standard 19-inch equipment rack, which allows for flexibility in deployment – in industrial settings, server rooms, or even in data centers. Some of the Cisco rack-mount industrial switches are conformally coated for additional resistance against corrosion.
- **IP67-rated switches:** These switches are wall mounted and can withstand the harshest conditions, including dust, water, and extreme temperatures, as well as severe shocks and vibrations. Because they are designed to withstand harsh conditions, IP67-rated industrial switches are more reliable and less likely to fail and cause downtime. The switches are equipped with M12 connectors rather than standard RJ-45 connectors. Some Cisco IP67-rated switch models also provide PoE, both fiber and copper ports, and 10GE uplink ports.
- **Embedded switches:** These switches are built for secure, high-bandwidth, mission-critical mobile networks. They enable integrators to build custom solutions for specialized use cases.

## Modular DIN rail switches

Select models of the Cisco IE switch portfolio are available in a modular form factor. These switches include the base system to which expansion modules may be attached as required. This modularity gives you the freedom to add, remove, or change copper or fiber ports in the future in sync with your evolving needs without having to replace the entire switch.

### [Cisco IE3500 Rugged Series](#)

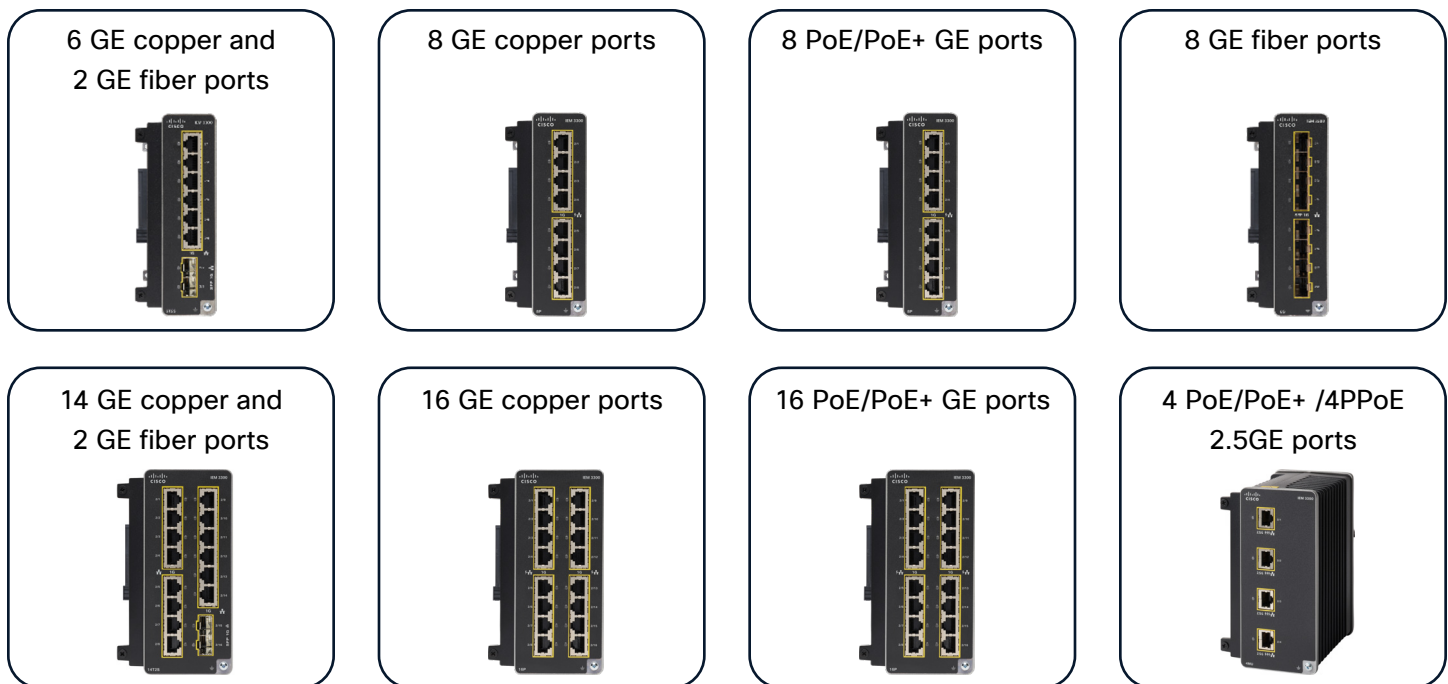
- Advanced modular DIN rail switches expandable up to 27 ports
- All Gigabit Ethernet platform, Layer 2 or Layer 3
- Up to 24 ports of PoE/PoE+/4PPoE (power budget up to 480W), and 3 10GE uplinks
- Copper, fiber, and PoE/PoE+/4PPoE expansion modules
- IOS XE operating software
- Microsegmentation based on Cisco TrustSec technology
- Low-jitter switching for time-sensitive critical data
- Choice of management by Catalyst Center or Meraki Dashboard
- Cisco SD-Access Fabric Edge node
- Cisco IOx application hosting environment
- Cisco Cyber Vision included at no extra cost for deep visibility into connected assets and the OT security posture, AI-assisted network segmentation, and secure remote access
- ThousandEyes agent for visibility over owned and unowned networks



Expansion modules add versatility and flexibility to your industrial network by providing additional ports, functionalities, and features that the base switch units might not have. These modules let you customize the switch to your specific needs, allow you to accommodate future additions and changes, provide built-in scalability, and promote long-term viability and sustainability.

Expansion modules for the Cisco IE3500 Rugged Series allow you to add fiber, copper, or PoE ports. Any expansion module can be attached to any of the base switch models.

The following expansion modules are available for the Cisco IE3500.

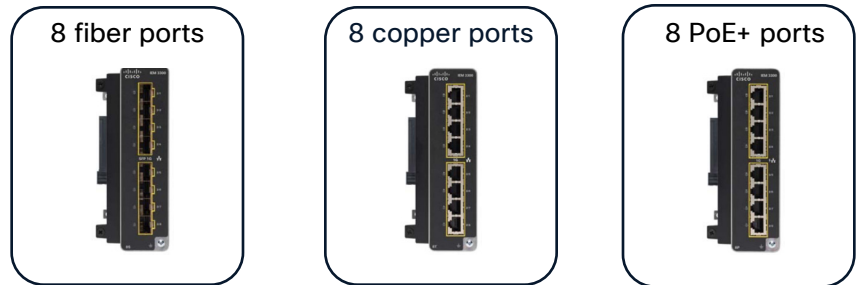


### [Cisco Catalyst IE3400 Rugged Series](#)

- Advanced modular DIN rail switch expandable up to 26 ports
- All Gigabit Ethernet platform, Layer 2 or Layer 3
- Up to 24 ports of PoE/PoE+ (power budget up to 480W)
- Copper, fiber, and PoE+ expansion modules
- Cisco IOS XE operating software
- Cisco Catalyst Center for management
- SD-Access policy extended node
- Microsegmentation based on Cisco TrustSec technology
- Advanced industrial protocols and additional resiliency and security features
- Cisco IOx application hosting environment
- Optional Cisco Cyber Vision for deep visibility into connected assets and the OT security posture, AI-assisted network segmentation, and secure remote access



Expansion modules for the Catalyst® IE3400 allow you to add fiber, copper, or PoE ports and include the following. In addition to these, the Catalyst IE3400 can utilize expansion modules for the Catalyst IE3300 with some limitations.

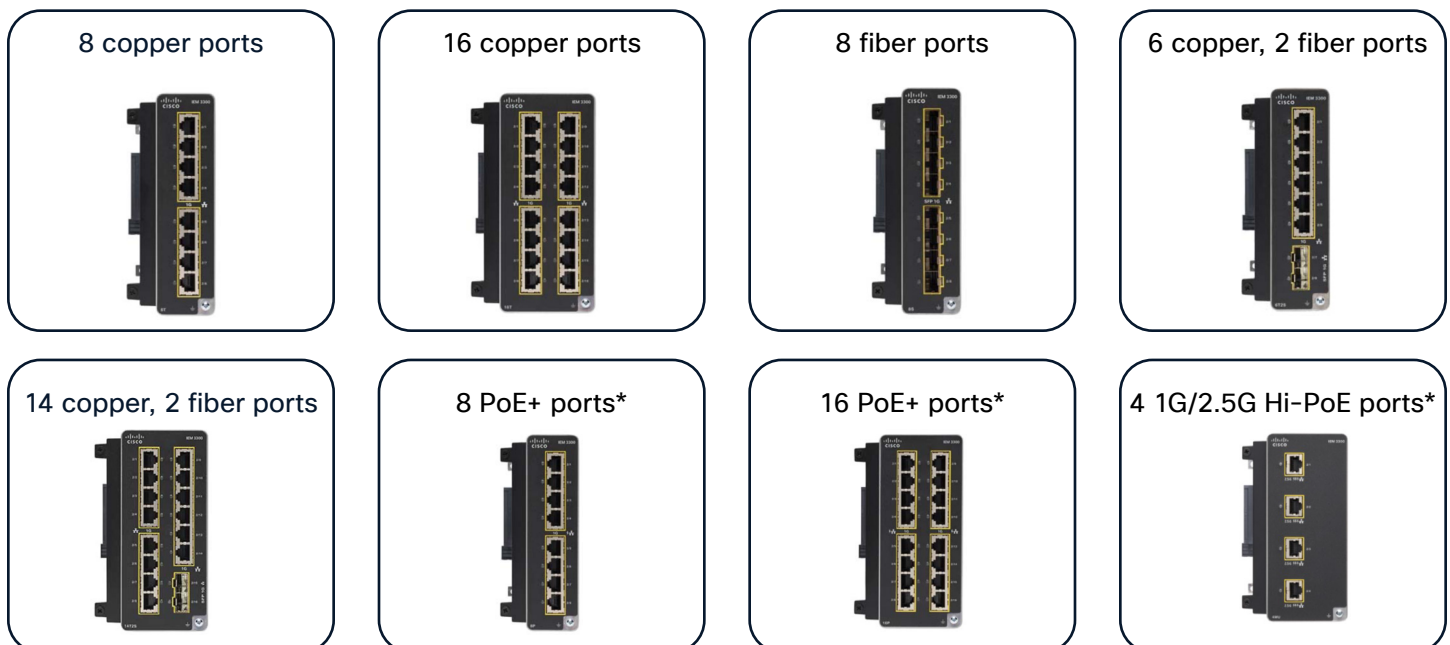


### Cisco Catalyst IE3300 Rugged Series

- Modular DIN rail switch expandable up to 26 ports
- All Gigabit Ethernet platform with available 10G uplink option, Layer 2 or Layer 3
- Up to 24 ports of PoE/PoE+ (power budget up to 480W with expansion modules)
- Copper, fiber, and PoE+ expansion modules
- Cisco IOS XE operating software
- Cisco Catalyst Center for management
- SD-Access extended node
- Cisco IOx application hosting environment
- Optional Cisco Cyber Vision for deep visibility into connected assets and the OT security posture, AI-assisted network segmentation, and secure remote access



Expansion modules for the Catalyst IE3300 allow you to add fiber, copper, or PoE ports to the base system and include the following.



\* Compatible with select models of the Catalyst IE3300 and IE3400 Rugged Series. Please consult the respective datasheets.

## Fixed DIN rail switches



### [Cisco Catalyst IE3200 Rugged Series](#)

- Fixed DIN rail switch, 10 ports
- All Gigabit Ethernet platform, Layer 2
- 8 ports of PoE/PoE+ (power budget up to 240W)
- Cisco IOS XE operating software
- Cisco Catalyst Center for management
- SD-Access extended node



### [Cisco Catalyst IE3100 Rugged Series](#)

- Compact form-factor fixed DIN rail switch with 6, 10, 12, or 20 ports
- 2 or 4 dual-media or fiber uplink ports
- All Gigabit Ethernet platform, Layer 2
- Up to 8 ports of PoE/PoE+/4PPoE with up to 90W per port
- Total PoE power budget up to 240W
- Conformal coating for added environmental protection (on select model)
- Cisco IOS XE operating software
- Cisco Catalyst Center for management
- SD-Access extended node



### [Cisco IE1000 Series Switches](#)

- Fixed DIN rail switch, up to 10 ports
- Up to 8 Fast Ethernet (FE) ports, 2x 1G combo uplinks (on select models)
- Lightly managed Layer 2
- Up to 8 ports of PoE/PoE+ (power budget up to 180W)
- Security: Port security, TACACS, 802.1X
- Plug and Play (PnP) for easy deployment

## Rack-mount switches

Designed to fit into a standard 19-inch rack, Cisco rack-mount switches offer several models with options for 1 Gigabit Ethernet, Multigigabit, and 10 Gigabit Ethernet ports, supporting up to 28 ports for versatile connectivity, up to 90W of PoE per port, and up to 720W per switch. A new model features both 1GE fiber and copper PoE/PoE+ ports.



### [Cisco Catalyst IE9300 Rugged Series Switches](#)

- 19-inch rack-mount switch
- Based on the Unified Access Data Plane (UADP) Application-Specific Integrated Circuit (ASIC)
- All Gigabit Ethernet platform, Layer 2 or Layer 3
- All-fiber, all-copper, or mixed-media ports with speeds of 1GE, 2.5GE, or 10GE
- PoE/PoE+/4PPoE ports with up to 90W/port
- Up to 720W PoE power budget per switch
- GNSS/GPS antenna interface and conformal coating (on select model)
- Cisco IOS XE operating software
- Vertical stacking up to four members (on select models)
- Advanced industrial and redundancy protocols
- Cisco Catalyst Center for management
- SD-Access fabric edge node
- Cisco IOx application hosting environment
- Cisco Cyber Vision included at no extra cost for deep visibility into connected assets and the OT security posture, AI-assisted network segmentation, and secure remote access



### [Cisco IE4010 Series Switches](#)

- 19-inch rack-mount switch, 28 ports
- All Gigabit Ethernet platform, Layer 2 or Layer 3
- Up to 24 ports of PoE/PoE+ (power budget up to 385W)
- Both copper and fiber ports on a single chassis
- Advanced industrial protocols and additional security features
- Cisco Catalyst Center for management
- SD-Access extended node

## Heavy-duty IP67 switches

Cisco IP67-rated industrial switches are designed to withstand extreme environments. These switches are certified to protect against dust and water submersion, meeting rigorous standards for temperature, vibration, humidity, and electromagnetic emissions

### [Cisco Catalyst IE3500 Heavy Duty Series](#)

- Wall-mount IP66/IP67-rated switch with M12 interfaces
- Fast and Gigabit Ethernet platform, Layer 2 or Layer 3
- 8, 16, or 24 copper or fiber ports with speeds of 1GE, 2.5GE or 10GE
- Up to 14 ports of PoE/PoE+/4PPoE up to 60W per port and PoE power budget up to 240W per switch
- IOS XE operating software
- Microsegmentation based on Cisco TrustSec technology
- Low-jitter switching for time-sensitive critical data
- Catalyst Center for management
- Cisco SD-Access Fabric Edge node
- Cisco IOx application hosting environment
- Cisco Cyber Vision included at no extra cost for deep visibility into connected assets and the OT security posture, AI-assisted network segmentation, and secure remote access
- ThousandEyes agent for visibility over owned and unowned networks



### [Cisco Catalyst IE3400 Heavy Duty Series](#)

- Wall-mount IP66/IP67 switch with M12 interfaces
- Up to 24 all Gigabit Ethernet or all Fast Ethernet ports, Layer 2 or Layer 3
- Cisco Catalyst Center for management
- SD-Access policy extended node
- Microsegmentation based on Cisco TrustSec technology
- Advanced industrial protocols and additional security features
- Cisco IOx application hosting environment
- Optional Cisco Cyber Vision for deep visibility into connected assets and the OT security posture, AI-assisted network segmentation, and secure remote access



### [Cisco Catalyst IE3100 Heavy Duty Series](#)

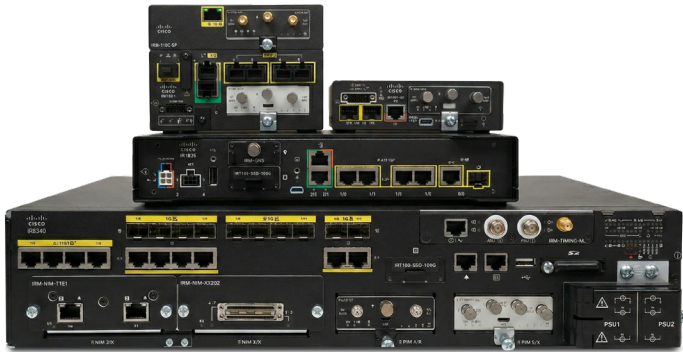
- Wall-mount IP66/IP67-rated switch with M12 interfaces
- Compact form-factor with 6 FE+2 GE or 8x 1GE ports, Layer 2
- Cisco IOS XE operating software
- Cisco Catalyst Center for management
- SD-Access extended node



## Next steps

To learn more about the Cisco Catalyst Industrial Ethernet switching portfolio, visit [www.cisco.com/go/ie](http://www.cisco.com/go/ie) and use the [Cisco Switch Selector](#) to find the best switch for your particular use case.

## Cisco Industrial Router (IR) portfolio



Cisco industrial routers are a range of ruggedized modular platforms on which you can build a highly secure, reliable and scalable communications infrastructure. They support ThousandEyes Assurance, allowing you to proactively monitor your network with end-to-end visibility all the way to the industrial edge. In addition, they offer built-in advanced OT and IT security capabilities, including Next-Generation Firewall (NGFW) and Cyber Vision for deep visibility into connected assets and the OT security posture, and secure remote access.

All Cisco industrial routers share a core set of common characteristics. They are certified to meet harsh environmental standards – and have modular designs that can help extend product life and lower costs. This flexible design enables WAN redundancy and is ready to handle public and private 4G or 5G – including FirstNet private LTE, and Citizens Broadband Radio Service (CBRS), as well as enhanced data throughputs and differentiated services. They are powered by Cisco IOS XE, and offer a choice of management options, allowing you to extend your network from the enterprise to the industrial edge using common security policies, tools, and management policies.

### Modular design

Enjoy many pluggable module options, such as public or private 4G LTE, 5G RedCap, and Full 5G, and additional storage. The platform can adapt as your connectivity needs grow or technology evolves.

### Ruggedized

Designed for industrial deployments, including harsh environments with extreme temperatures.

### Scale with choice of management

Scale and simplify operations. Equip IT and operations teams with powerful management tools such as Field Network Director, Cisco Catalyst Center, and Cisco Catalyst SD-WAN Manager.

### Enjoy routing and full-stack multilayer security, all in one

There's no need for separate hardware to protect remote operations. Comprehensive enterprise-grade security features and OT threat intelligence are built-in, including next generation firewall capabilities, such as advanced firewalling, URL filtering, intrusion prevention, malware protection, and DNS security.

### ThousandEyes Assurance

Proactively monitor OT asset network connectivity health and improve operational resilience with end-to-end network visibility using ThousandEyes Assurance.

### Visibility into connected assets

Assess your OT security posture and shrink your attack surface. Cisco Cyber Vision is built in to provide detailed visibility into connected assets, their vulnerabilities, and activities.

### Secure access to remote assets

Take control over remote access to OT assets. Cisco Cyber Vision turns your Cisco industrial routers into Zero-Trust Network Access (ZTNA) gateways to simplify and secure remote access at scale.

### Take action right at the edge

Use the platform's built-in edge compute application hosting capabilities, which support building and running your own applications at the edge.



### [Cisco IR1000 Rugged Series Secure Routers](#)

- Ultra-compact and ultra-low power industrial router that fits into tight cabinet spaces
- Flexible mounting options, including cabinet doors
- Modular hardware design to extend product life
- Advanced security capabilities, including Next-Generation Firewall
- Choice of WAN interfaces like Ethernet, 4G LTE /5G
- FirstNet Capable
- Ruggedized and compact with low power consumption
- SD-WAN with enterprise-grade security
- Cisco IOS XE operating software
- Edge compute with application hosting
- IEC 61850-3 and IEEE 1613 certified for utilities deployment
- Optional ThousandEyes Assurance for proactive monitoring at the industrial edge
- Optional Cisco Cyber Vision for deep visibility into connected assets and the OT security posture, and secure remote access
- Optional Cisco Edge Intelligence for getting Industrial IoT data to the right applications at the right time



### [Cisco Catalyst IR1100 Rugged Series Routers](#)

- Modular and expandable hardware design to extend product life
- Advanced security capabilities
- Choice of WAN interfaces like Ethernet, dual LTE/5G/cellular for WAN redundancy
- FirstNet Capable
- Ruggedized and compact with low power consumption
- SD-WAN with enterprise-grade security
- Cisco IOS XE operating software
- Edge compute with application hosting
- ThousandEyes Assurance for proactive monitoring at the industrial edge
- Optional Cisco Cyber Vision for deep visibility into connected assets and the OT security posture, and secure remote access
- Optional Cisco Edge Intelligence for getting Industrial IoT data to the right applications at the right time
- IEC 61850-3 and IEEE 1613 certified for deployment in utility substations
- 100 GB of additional storage for edge applications

## Expansion modules for the Catalyst IR1101



Enjoy the small form factor of the Catalyst IR1101, or expand with one or two modules to add more connectivity options. Connect two of any of the four options listed below to each IR1101.



### IRM-1100-SPMI

Dual active WAN and storage options for flexibility

- 1 x GE fiber port (L2/L3)
- Slot for second PIM
- 4 x digital I/Os for dry/wet contacts
- mSATA slot for additional storage



### IRM-1100-4A2T

Connectivity to legacy devices on serial ports

- 1 x GE fiber port (L2/L3)
- 4 x asynchronous serial ports



### IRM-1100-SP

Dual active WAN

- 1 x GE fiber port (L2/L3)
- Slot for second PIM



### IRM-1100-4S8I

Additional SFP ports for long-distance communications and strong protection against Electromagnetic Interference (EMI)

- 4 x GE SFP ports (L2/L3)
- 8 x digital I/Os for dry/wet contacts



### [Cisco Catalyst IR1800 Rugged Series Routers](#)

- Highly secure, high-performance, modular routers with 5G
- Next-Generation Firewall capabilities built-in
- Rolling stock EN50155 certified
- SD-WAN with comprehensive threat protection and security features
- Cisco IOS XE operating software
- Edge compute supporting Cisco Edge Application Hosting
- ThousandEyes Assurance for proactive monitoring at the industrial edge
- Optional Cisco Cyber Vision for deep visibility into connected assets and the OT security posture, and secure remote access
- Optional Cisco Edge Intelligence for getting Industrial IoT data to the right applications at the right time
- FirstNet Capable
- 2 cellular slots, 1 Wi-Fi slot
- 8 GB memory
- CAN bus, PoE/PoE+, ADR GNSS slot, SSD slot
- 4 digital I/O ports, advanced security features, 1 RS-232/485 combo port



### [Cisco Catalyst IR8300 Rugged Series Router](#)

- Rugged, 5G, integrated routing and switching platform for many industries and use cases
- Next-Generation Firewall capabilities built-in
- IEC-61850-3 and IEEE 1613 certified for deployment in utility substations
- Hot-swappable, fully redundant power supplies and high-availability design for maximum network uptime and redundancy
- Multiple interface options, including Ethernet switch, T1/E1, and serial (RS-232)
- Enhanced security and advanced QoS for compliance with critical infrastructure protection mandates
- SD-WAN with comprehensive threat protection and security features
- Cisco IOS XE operating software
- Edge compute supporting Cisco Edge Application Hosting
- ThousandEyes Assurance for proactive monitoring at the industrial edge
- Optional Cisco Cyber Vision with Snort IDS for visibility of OT assets, activities, and security posture
- Precision timing source



### [Cisco Catalyst IR8100 Heavy Duty Series Routers](#)

- Heavy duty, IP67-certified, fully modular industrial router designed for harsh outdoor environments
- Wi-SUN Field Area Network 1.1 certified
- 5G, public and private LTE, and more
- Advanced cybersecurity and hardware security
- Built-in edge compute and SD-WAN-enabled
- ThousandEyes Assurance for proactive monitoring at the industrial edge
- 1 Gigabit copper with PoE output
- 1 Gigabit fiber/SFP
- 3 additional I/O slots
- AC powered with built-in battery backup
- 12V DC for external devices

## Pluggable network modules for Catalyst industrial routers



Cisco industrial routers provide flexible networking options to meet your constraints and use case requirements. Use the pluggable module that supports the technology you need and replace to adapt to technology changes or as your needs evolve.

- 4G LTE and P-LTE pluggable module, FirstNet Capable
- 5G Reduced Capability (RedCap) module for seamless transition from 4G LTE to 5G when ready. 4G LTE compatible. eSIM capable. Anterix band 106 support
- 4G LTE 450-MHz pluggable module\*
- 5G Standalone (SA) and Non-Standalone (NSA) sub-6-GHz cellular pluggable module with P-LTE, FirstNet Capable
- 2-port T1/E1 pluggable module‡
- 8-port RS232 serial pluggable module‡

\* Catalyst IR1101 only    ‡ Catalyst IR8300 only

## Next steps

To learn more about Cisco Catalyst industrial routers, visit [www.cisco.com/go/iot-routers](https://www.cisco.com/go/iot-routers).

## Industrial Wireless (IW) access points and clients

Workers, assets, and resources are becoming increasingly connected in manufacturing, transportation, smart cities, oil and gas, mining and beyond. This expansion of Industrial IoT networking and equipment interconnectivity enables new use cases and opportunities, but it also places new demands on your infrastructure. Cisco responds to these demands with range of access point specifically designed for offering extended, high-performance wireless connectivity in these outdoor and harsh industrial environments.

Our access points and clients are all built on the 802.11ax standard. They support Wi-Fi 6/6E and most support Cisco Ultra-Reliable Wireless Backhaul (URWB) enabling you to connect mission-critical applications requiring greater reliability than Wi-Fi alone can provide.

### Ultra-Reliable Wireless Backhaul (URWB)

URWB delivers reliable wireless connectivity for moving assets or to extend your network where running fiber isn't feasible or is too costly. It provides high-bandwidth, high-availability, ultra-low-latency, seamless handoffs with zero packet loss, making it ideal for connecting the most demanding applications that need uninterrupted wireless connectivity.

URWB has been successfully deployed in rail, mining, smart cities, container terminals, entertainment, factories, and other industries.

### High bandwidth

A multigigabit data rate makes it the ideal choice for demanding applications such as real-time video surveillance, onboard Wi-Fi for edge devices, depot telemetry download, and much more.

### Seamless handoff

Handoff is one of the primary challenges in vehicle-to-wayside communications. Unlike other technologies, URWB offers seamless roaming from one base station to the next, helping ensure strong radio signals or no packet loss so moving vehicles are always connected to the application.

### Ultra-low latency

When real-time interaction is required, latency must be negligible compared to the reaction time. Thanks to their wireless-aware switching protocol, these radio platforms have incredibly low latency, making them the ideal choice for remote control, machine-level protocols, VoIP, and autonomous and semi-autonomous applications.

### Stability and reliability

Mission-critical OT networks cannot allow downtime. Losing connection in OT means stopping machines and processes, often resulting in a huge loss of money.

Thanks to the latest technologies and dedicated network design and deployment, Cisco will help make your wireless data network smooth and seamless.

<sup>1</sup> Wi-Fi 6E availability based on local regulations

## Fast failover

Sometimes stability is not enough. Applications such as Communications-Based Train Control (CBTC) require a failover system in case of communication or hardware default. To accomplish this, Cisco introduced a special algorithm that can reconfigure the network on redundant hardware in less than 500 ms.

## High availability

Cisco URWB's innovative technology, Multipath Operations (MPO), provides uninterrupted wireless connectivity by sending high-priority packets via redundant paths on uncorrelated frequencies at the same time to multiple access points. It lowers the effects of interference and hardware failures, preventing packet loss, lowering latency, and increasing availability.

For more information on URWB, please visit: [cisco.com/go/urwb](https://cisco.com/go/urwb).

Customers can now activate and set up URWB capabilities on their Cisco Wi-Fi access points via the Wireless LAN Controller (WLC), allowing them to manage ultra-reliable networks using Catalyst Center (CC). If needed, URWB can also operate in a dedicated standalone mode on IW Wi-Fi 6E access points. This mode can be configured through IW Service and monitored using IW Monitor.



### [Cisco Catalyst IW9167E Heavy Duty Access Point](#)

- Supports Wi-Fi 6/6E, URWB and WGB
- Tri 802.11ax radio (2.4 GHz, 5 GHz, 5/6 GHz)
- Suitable for pole installation on wayside/trackside
- 4x4 MIMO, 4 spatial streams, with a wide choice of antennas to better suit each use case
- 8 N-type antenna connectors
- 2 Multigigabit RJ-45, SFP+, optional M12 adapters
- Heavy-duty, IP67 certified enclosure to operate under extreme water, dust, and temperature conditions (-50° to +75°C; -58° to 167°F)
- EN50155 certified for rolling stocks
- Supports GNSS, BLE, and scanning radio for spectrum management, minimizing interference
- Can be powered by PoE or DC

### [Cisco Catalyst IW9167E Heavy Duty Access Point for hazardous locations](#)

- Supports Wi-Fi 6/6E, URWB and WGB
- Tri 802.11ax radio (2.4 GHz, 5 GHz, 5/6 GHz)
- Suitable for pole installation on wayside/trackside
- 4x4 MIMO, 4 spatial streams, with a wide choice of antennas to better suit each use case
- 8 N-type antenna connectors
- 2 Multigigabit RJ-45, SFP+, HazLoc certified M25 ports
- Heavy-duty, IP67 certified enclosure to operate under extreme water, dust, and temperature conditions (-50°C to +75°C; -58° to 167°F)
- EN50155 certified for rolling stocks
- Class I Division 2, Zone 2/22, ATEX, and IECEx certifications for hazardous locations
- Supports GNSS, BLE, and scanning radio for spectrum management, minimizing interference
- Can be powered by PoE or DC

### [Cisco Catalyst IW9167I Heavy Duty Access Point](#)

- Supports Wi-Fi 6/6E and URWB
- Tri 802.11ax Wi-Fi 6/6E radio (2.4 GHz, 5 GHz, 6 GHz), bringing all the benefits of Wi-Fi 6/6E to the harshest environments: more spectrum, more channels, higher throughput, and improved security
- 4x4 MIMO, 4 spatial streams, with internal omnidirectional antenna 5-6 dBi
- IP67 certified, withstands dust, water and extreme temperature ranges of -50° to +65°C (-58° to 167°F)
- Optional M12 I/O connectors
- Supports GNSS, BLE
- Can be powered by PoE or DC



### [Cisco Catalyst IW9165E Rugged Access Point and Wireless Client](#)

- Supports Wi-Fi 6/6E, URWB and WGB
- Dual 802.11ax radio (5 GHz, 5/6 GHz)
- DIN rail compact form factor to enable integration in industrial vehicles, robots, cranes, trains, and more
- Wide choice of antennas to better suit each use case (4 RP-SMA)
- 2 Multigigabit RJ-45, optional M12 adapter
- Ruggedized hardware supporting high temperature ranges (-40° to +70°C; -40° to 158°F)
- EN50155 certified for rolling stocks
- Supports GNSS, BLE
- Can be powered by PoE or DC

### [Cisco Catalyst IW9165D Heavy Duty Access Point](#)

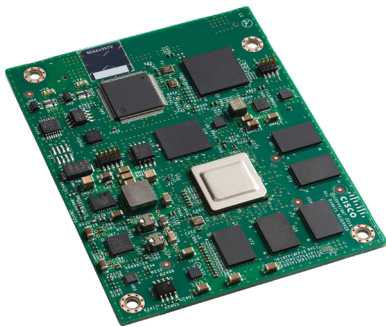
- Supports Wi-Fi 6/6E and URWB
- Dual 802.11ax radio (5 GHz, 5/6 GHz)
- Built-in directional antenna for easy deployments
- Choice of external antennas to quickly extend network to new places when needed (2 N-type)
- 2 Multigigabit RJ-45, optional M12 adapters
- Heavy-duty, IP67-certified enclosure to operate under extreme water, dust, and temperature conditions (-50° to +75°C; 58° to 167°F)
- Supports GNSS, BLE
- Can be powered by PoE or DC

## Next steps

To learn more about Cisco Industrial Wireless access points and clients, visit [cisco.com/go/iw](https://cisco.com/go/iw).

## Cisco Industrial IoT embedded networks portfolio

The Cisco industrial IoT embedded networks portfolio includes access points, routers, and switches that use Cisco's networking technology packaged into highly ruggedized, low size, weight, and power networking components. Their small form factor coupled with mobile and edge-specific features make these products ideal for applications across industries such as mining, oil and gas, transportation, shipping, and defense, where highly secure, reliable performance is required during extreme conditions.



### [Cisco ESR6300 Embedded Services Router](#)

#### **Exponentially faster**

The ESR6300 offers significantly faster secure throughput than the previous generation of ESRs, to meet increased bandwidth needs arising from the rapid growth of sensor data and video streams.

#### **Cisco trustworthy systems**

The onboard Cisco Trust Anchor Module (TAM) plus image signing, secure boot, and runtime defenses help ensure that the code running on the Cisco ESR6300 is authentic, unmodified, and operating as intended.

#### **Simplified integration**

At 3 inches by 3.75 inches, the ESR6300 is smaller than its predecessors, making it easier to integrate into compact solutions. It is hardened for extreme temperatures, shock, and vibration to achieve the highest standard of reliability.

#### **Modularity options**

The ESR6300 provides two WAN ports of Gigabit Ethernet that give you a choice of media type and four LAN ports of Gigabit Ethernet with PoE/PoE+ ready options. As your needs evolve, add mSATA storage for Cisco Edge Application Hosting.

#### **Streamlined management with Cisco IOS XE**

Cisco IOS XE is highly programmable, with open and standards-based APIs and next-generation, multilayer security built in. This unified software stack is ideal for process and workflow automation, so you can qualify and deploy new services faster.

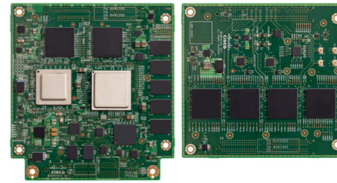
#### **Software-defined WAN on the ESR6300**

The ESR6300 is hardware ready to support [SD-WAN](#) so you can leverage IT expertise to a distributed network, operate at scale, and lower TCO. Cisco SD-WAN architecture delivers scale, simplicity, and unified management for extending the enterprise network to a distributed Industrial IoT deployment.



### [Cisco Catalyst ESS9300 Embedded Series Switch](#)

- High-bandwidth with 10 ports of 10GE Small-Form-Factor Pluggable Plus (SFP+)
- Ruggedized for the harshest conditions, including extreme temperatures (-40° to +85°C), shock, and vibration
- Select model available as a mezzanine card conformant to OpenVPX standards
- FIPS-140 and MIL-STD-810H certifications
- Low power consumption: 35W
- RJ-45 Ethernet management port (optional)
- RJ-45 or USB micro-B console port
- Common +3.3V and 5V power inputs
- Crucial security features including secure boot and zeroization
- Advanced Cisco IOS XE operating system and WEBUI management



### [Cisco Embedded Service 3300 Series Switches](#)

- High-speed PC 104 compact form-factor switch
- Ruggedized to operate in harsh environments (-40° to +85°C)
- Low power consumption (mainboard 16W, expansion 8W)
- 2x 10G uplink ports, 8x 1G downlink ports on mainboard
- 16x 1G downlink ports on expansion board for high port density
- Modern Cisco IOS XE operating system and WEBUI management
- PoE-ready architecture and software
- Layer 2 Network Essentials feature set

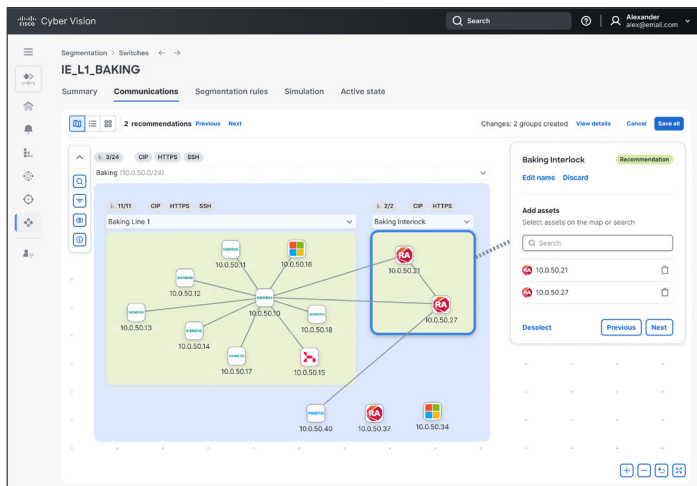
## Next steps

Find out more about Cisco's [IoT embedded networks](#).

## Cisco Industrial cybersecurity

### Cisco Cyber Vision

OT visibility, microsegmentation, and secure remote access for industrial operations.



Cisco Cyber Vision provides continuous visibility into your Industrial Control System (ICS) and your OT security posture so you have the insights to reduce the OT attack surface. It helps protect operations with AI-assisted network segmentation that can be implemented in weeks, not years. Its secure remote access capabilities empower operations teams with self-service remote access to OT assets and let you enforce least privilege zero-trust policies.

Cyber Vision uses a unique edge architecture that embeds OT security features into your industrial network. The network that connects your assets profiles everything, detects malicious traffic and abnormal activities, enforces IEC 62443 zones and conduits, and controls who can remotely access your assets. That's OT security you can deploy at scale.

### Benefits

#### OT security you can deploy at scale

Cyber Vision embeds visibility capabilities into industrial network equipment. There's no need to deploy dedicated appliances or build out-of-band networks to send network flows to a central security platform. Network managers will appreciate the unique simplicity and lower costs of the Cyber Vision architecture.

#### Unmatched visibility on your OT cyber risks

Cyber Vision inventories all connected assets, maps their communication activities, and highlights their vulnerabilities so you understand your OT security posture. It detects malicious traffic and abnormal behaviors. All this information is collected by your network equipment, helping ensure 100% visibility.

#### Adaptive network segmentation to protect OT

Cyber Vision helps implement adaptive network segmentation in OT in weeks, not years. AI-assisted recommendations let OT teams easily create zones and policies matching the industrial processes. Simulation lets you verify policies will not disrupt production. When you're ready for it, Cyber Vision works directly with industrial switches to enforce policies at line rate without additional appliances or complex setup. Zone definitions can also flow directly into Cisco Identity Services Engine (ISE) to extend enterprise-wide microsegmentation to industrial settings, and into Cisco Secure Firewall to easily enforce macrosegmentation.

#### Secure remote access to OT assets

Cyber Vision is also a comprehensive secure remote access solution purpose-built for OT workflows. It empowers operations teams with self-service zero trust remote access and lets you easily enforce least-privilege access policies so you can control risks from remote users.

## Next steps

To find out more about how Cisco can help you protect your industrial operations from cyber threats, visit [www.cisco.com/go/cybervision](http://www.cisco.com/go/cybervision) or [www.cisco.com/go/iotsecurity](http://www.cisco.com/go/iotsecurity).

# Network Management

## Cisco Catalyst Center

Cisco Catalyst Center is a proven network management system deployed in the world’s largest enterprises and most complex networks. Cisco Catalyst Center in industrial automation networks gives OT a curated view and set of functions to perform key network maintenance tasks, consistently and scalably, increasing Overall Equipment Effectiveness (OEE) and uptime, lowering operational costs, enhancing security, and helping ensure network performance.

### Benefits

#### Network automation

- Discover existing network devices and topology
- Use network Plug and Play to provision new infrastructure
- Check for inconsistent configurations
- Deploying new images and patches at scale

#### Network assurance

- Collecting and analyzing network telemetry information
- Proactively identifying issues and root causes
- Helping step through remediation options

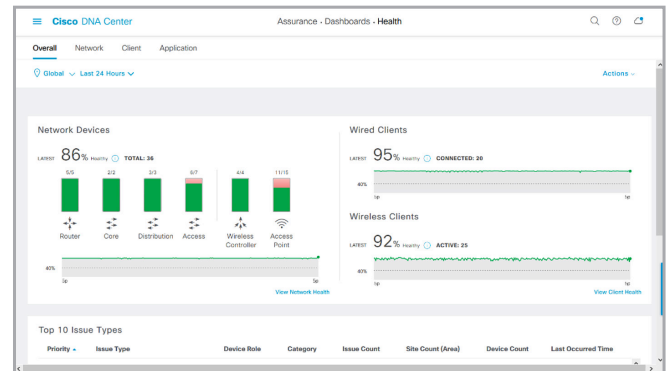
#### Industrial cybersecurity

- Detailed visibility into connected industrial assets and applications
- Segment communications
- Monitor and detect abnormal behaviors
- Contain malware and other attacks
- Integrate operational and enterprise security

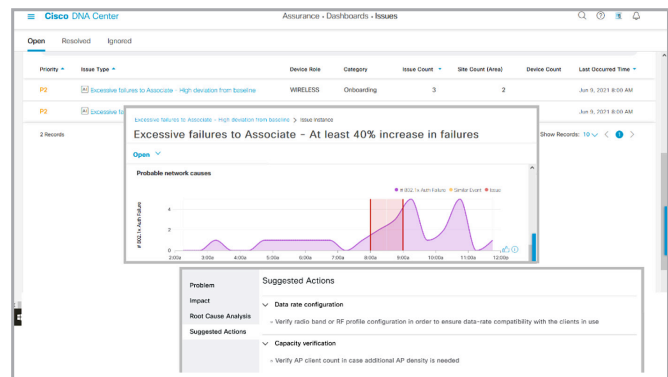
## Next steps

To find out more about Cisco Catalyst Center, visit [www.cisco.com/go/iotmanagement](http://www.cisco.com/go/iotmanagement).

### Network health



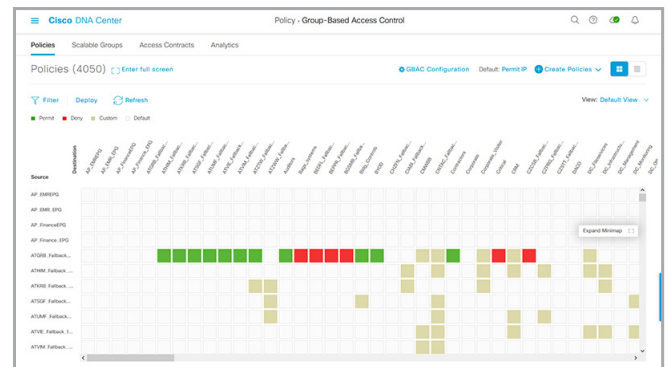
### Network issues



### Network topology



### Access policies for segmentation

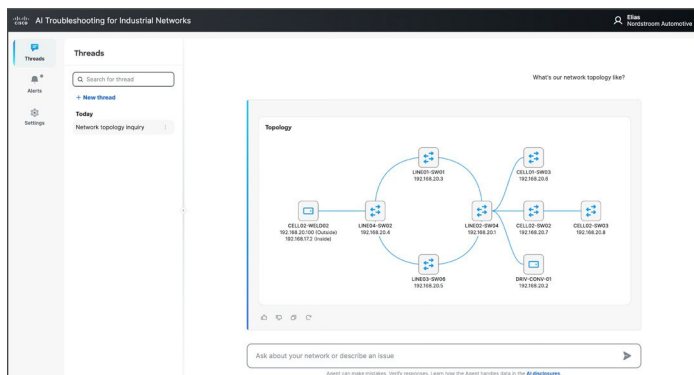


## [Meraki dashboard](#)

The Meraki dashboard is a powerful cloud-based platform that simplifies network management by providing an intuitive and interactive web interface. It allows users to manage and monitor their network with ease, offering features such as zero-touch deployment, real-time network analytics, and comprehensive visibility into network health and performance. The dashboard supports a wide range of Cisco Meraki and Catalyst products, including wireless access points, switches, and security appliances, enabling seamless integration and management across the entire network. Additionally, the Meraki Dashboard enhances security by providing encrypted data transmission, two-factor authentication, and detailed logging capabilities, ensuring that network operations are secure and reliable. These features make the Meraki Dashboard an ideal solution for organizations looking to streamline their network management processes and improve operational efficiency.

## [AI Troubleshooting agent for industrial networks](#)

Cisco's AgenticOps for industrial networks empowers operational teams by acting as an easy-to-use, AI-powered networking expert specifically designed for industrial environments. It proactively monitors the network for anomalies, instantly diagnoses root causes when issues arise, and provides clear, actionable remediation steps. This streamlined approach significantly reduces Mean Time to Resolution (MTTR), prevents costly downtime, and enables OT teams to confidently maintain operational uptime and boost productivity, regardless of their networking skill level. Cisco's AgenticOps helps shift operations from reactive troubleshooting to proactive monitoring, thereby maximizing operational uptime and boosting productivity.



## [Cisco Catalyst SD-WAN](#)

As you connect distributed industrial sites together, it is essential to simplify and automate your WAN infrastructure deployment and management. Cisco Catalyst SD-WAN provides solutions for common challenges for industrial spaces by supporting multiple transports with configurable dynamic routing policies while leveraging the same security features and management tools for both the enterprise and industrial network extensions.

Cisco Catalyst SD-WAN Manager provides centralized policy creation for all Cisco industrial routers deployed in the infrastructure. By creating security policy templates, all existing devices, and any newly connected devices, will be subject to a consistent set of policies curated by the security team.

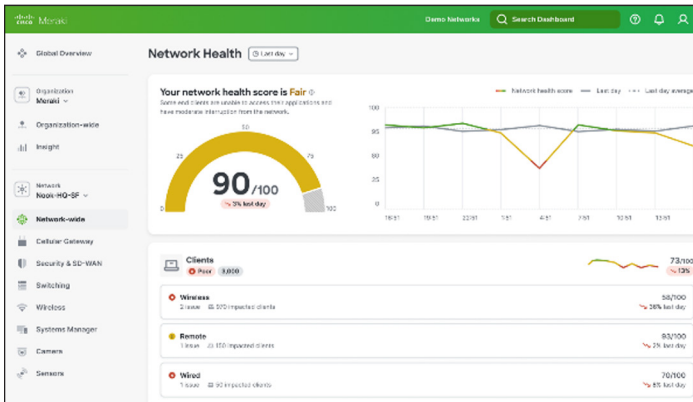
Manage and optimize your industrial fixed and mobile networks using SD-WAN:

- **Simplified management** using a common management tool for your Enterprise and Industrial devices
- **Multi-WAN support** for always-connected mobile use cases
- **Secure** common policies are extended to the devices at your network edge
- **On-premises** or cloud-hosted architectural flexibility
- **Scalable** solution that allows thousands of assets to operate simultaneously, positioning the customer to meet future requirements

## Automation benefits

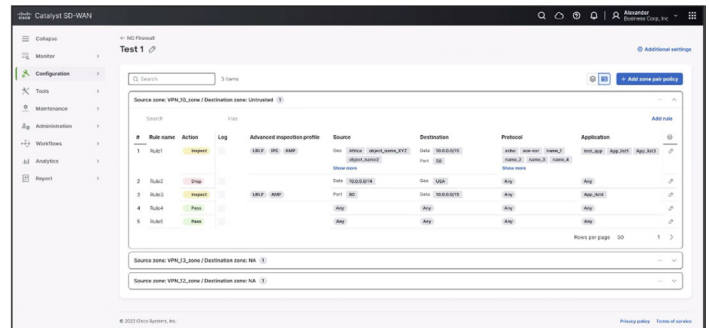
- Zero-touch deployment of field gateways (i.e., no field staff required to configure a gateway)
- Simple provisioning of service VPNs to segregate traffic (such as Supervisory Control and Data Acquisition [SCADA], closed-circuit television [CCTV], Phasor Measurement Unit (PMU), IP Telephony, etc.)
- Templated configurations making it easy to change configuration and push it to gateways
- Application of unified security policies across a diverse range of remote sites and equipment
- Managing multiple backhaul connectivity options at the gateway, including private MPLS for critical SCADA traffic and cellular for backup, and even internet-based connections for non-critical traffic, where appropriate
- Lifecycle management of gateways (e.g., firmware updates, alarm monitoring, and statistics)

## Network health



reliable. These features make the Meraki Dashboard an ideal solution for organizations looking to streamline their network management processes and improve operational efficiency.

## Cisco Catalyst SD-WAN Manager centralizes security policy definition



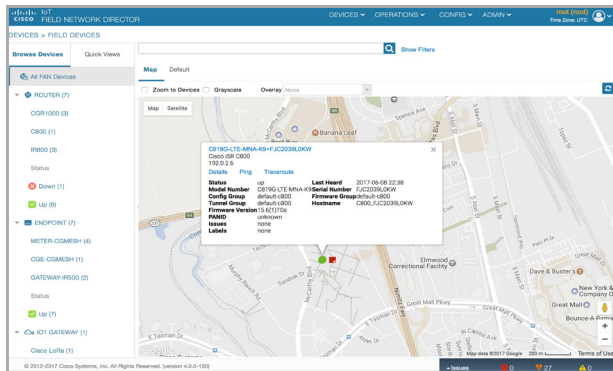
Cisco Catalyst SD-WAN Manager also offers centralized logging and reporting. It collects all events, alarms, and logs from your Cisco industrial routers, giving security teams visibility and understanding of any activity that is occurring within their critical infrastructure and helping them comply with cybersecurity mandates like NIS2.

SD-WAN is well suited to industrial deployments because it supports the needed reliable multi-WAN connectivity options, includes configuration templates for replication of consistent configurations across a large geography, and protects devices and connected sensors using end-to-end network security that extends to the edge routers.

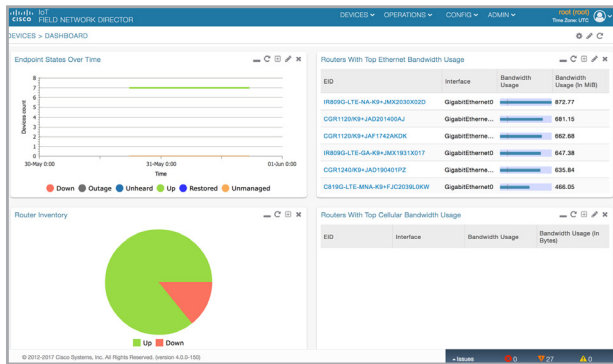
## SD-Routing Mode on Catalyst SD-WAN Manager

For those who prefer to keep their routers in autonomous mode, SD-WAN Manager supports routing deployments in SD-Routing Mode. Save time and energy managing your routing environment by simplifying monitoring, configuration, and security operations from a single intelligent dashboard. In fact, you can manage multiple deployments in SD-WAN Mode and in SD-Routing Mode all from SD-WAN Manager.

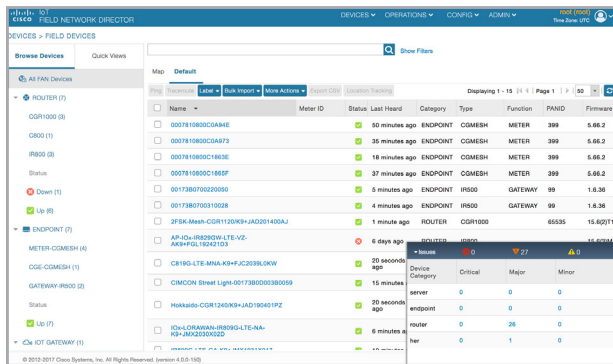
### GIS map



### Dashboard



### Device listing



### Device properties



## Cisco IoT Field Network Director (FND)

The Cisco IoT Field Network Director (FND), the operating system for the multiservice Field Area Network (FAN), is a software platform that manages multiservice networks of Cisco industrial products, including industrial routers and endpoints for the utilities industry. Features that distinguish the IoT FND include:

- Ease of deployment at scale with Zero-Touch Deployment (ZTD) of gateways and devices
- Secure and scalable end-to-end enrollment and management of these gateways and devices
- Optimized for operation in constrained bandwidth network
- Ease of use with an intuitive web interface and GIS map visualization and monitoring
- Rich set of northbound APIs for third-party integration
- Scales to manage up to tens of thousands of routers and millions of mesh endpoints

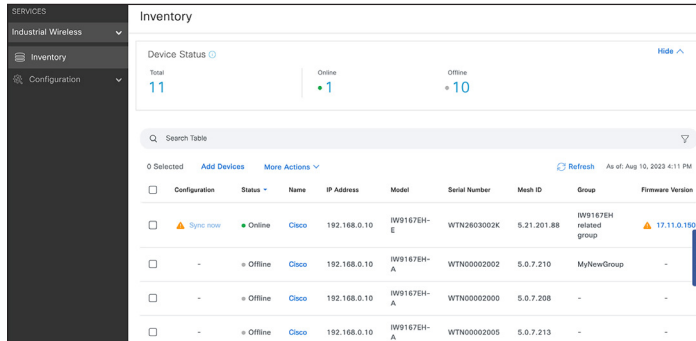
### Benefits

- Comprehensive and customizable dashboard for fast, at-a-glance network health check
- Real-time GIS maps of connected devices for increased asset visibility
- Simplify troubleshooting for operators by providing customizable rules to generate custom events that matter the most
- Integrate with existing automation applications, tools, and processes through open APIs
- Supports Cisco Catalyst IR1100 Rugged Series Routers and Cisco Catalyst IR8100 Heavy Duty Series Routers

## Next steps

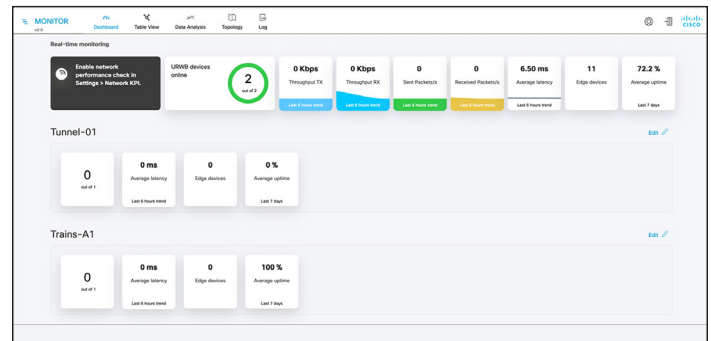
To find out more about Cisco IoT Field Network Director, visit [www.cisco.com/go/fnd](http://www.cisco.com/go/fnd).

## Cisco Industrial Wireless service



Industrial Wireless (IW) service is used to provision and manage standalone URWB IW devices. It is a secure, cloud-native, scalable service. It also allows you to configure and upgrade the firmware of connected devices remotely. For air-gapped networks, the offline mode still allows for creating templates and configuration files that can be locally uploaded to the device through the WebUI or command-line interface. To learn more about the IW service, see the [Cisco Industrial Wireless service At-a-Glance](#).

## Cisco Industrial Wireless Monitor



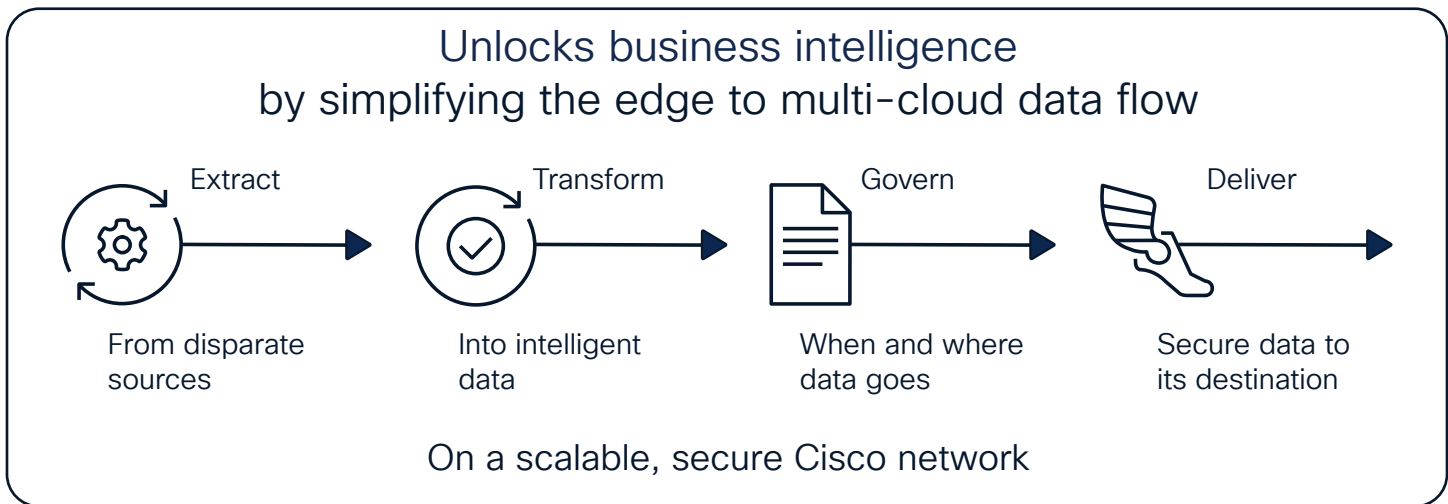
Industrial Wireless (IW) Monitor is a networkwide, on-premises monitoring tool, allowing any standalone URWB user to proactively maintain and monitor one or multiple wireless Operational Technology (OT) networks. IW Monitor displays data and situational alerts from every Cisco URWB device in a network, in real time.

IW Monitor supports fixed and roaming network architectures and allows easier end-to-end troubleshooting of any Cisco URWB system. It can be operated as a standalone system or in parallel with a sitewide Simple Network Management Protocol (SNMP) monitoring tool. It is designed to support network installations used in smart cities, rail, mining, ports and terminals, entertainment, smart factories, and military applications.

Learn more in the [IW Monitor solution overview](#).

## Edge computing

### Cisco Edge Intelligence



#### Unlock business value by simplifying the edge-to-multicloud data flow

The best decisions are made when the right people have access to the right information at the right time. The IoT has dramatically increased the volume and variety of data produced, opening the door to a wave of new possibilities. The key is to extract the data from its source, transform it so it is usable, and securely deliver the right data to the right applications to put it to work.

But most solutions today are so complicated that organizations often cannot reap the full rewards of their data-gathering projects. The most important data is often at the remote edge of the network, where the core business operates, such as in oil rigs, delivery trucks, and utility substations, and on roads. In addition, organizations lose insight into who has access to what data and often don't have the needed flexibility and simplicity to send the data everywhere it needs to go.

#### Next steps

To learn more about Cisco Edge Intelligence, visit [www.cisco.com/go/edgeintelligence](http://www.cisco.com/go/edgeintelligence).

#### Cisco Edge Intelligence delivers

Cisco Edge Intelligence securely delivers data from connected assets at the network edge to multicloud application destinations. The software is integrated into Cisco's industrial networking and compute devices for an out-of-the box experience to simplify deployment and lower costs. It provides full control over and governance of IoT data, from its extraction to its transformation to its secure delivery. And because Cisco Edge Intelligence has a network- integrated approach with centralized management across the network, applications, and data, it is easy to scale and secure.

#### Benefits

With Cisco Edge Intelligence, you gain:

- The ability to seamlessly extract, transform, and share data from connected assets at the IoT edge to multicloud environments
- An all-in-one solution for easy deployment out of the box
- Full data ownership, control, and governance
- Cisco security

## Cisco Edge Application Hosting

### Edge compute application framework

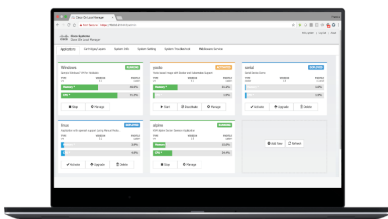
#### Fast. Simple. Secure. Scalable.

Cisco Edge Application Hosting is a simple yet powerful infrastructure framework allowing developers and operators to securely onboard legacy and greenfield applications to their IoT edge infrastructure at massive scale, creating business value from previously untapped data.

#### Benefits

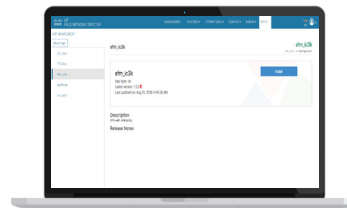
- **Transformation of IoT data into new digital business value:** Build new business with the ability to process high volumes of data at the edge and deliver closed loop system control in real time
- **Rapid time to value:** Achieve business outcomes associated with IoT initiatives more rapidly with application execution at the edge and scale with the Cisco partner ecosystem
- **Broad scope of impact:** Reach production deployment rapidly with edge application management and execution at IoT scale

#### Docker developer tool EMU



- Execute container or virtual machine concurrently
- Run Windows or Linux applications
- Easily consumable Edge Application Hosting system services

#### Management tool



- Zero-touch deployment of devices
- Centralized device and application lifecycle management at scale
- End-to-end security

#### Cisco Edge Application Hosting components

- **Cisco application hosting-enabled edge network devices:** The Cisco edge application framework provides uniform and consistent hosting capabilities for applications across the Cisco IoT network infrastructure. The Cisco Edge Application Hosting environment brings together Cisco IOS XE Software, the industry-leading and highly secure networking operating system, and Linux, the leading open-source platform.
- **Cisco Edge Application Hosting developer tools and documentation:** SDKs, command-line and web-based UI tools, and Cisco DevNet documentation on how to build, package and deploy edge applications to Cisco IOx enabled network devices.
- **Cisco Edge Application Hosting management:** Deploy and manage edge applications at scale from centralized device and edge application management software. Support for both on-premises and cloud-based management. These edge applications may be supplied by an ecosystem partner and Cisco or developed with a range of common programming languages.

## Next steps

The Cisco Edge Application Hosting framework offers consistent management and hosting across network infrastructure products. To find out more about Cisco Edge Application Hosting, visit [www.cisco.com/go/iox](http://www.cisco.com/go/iox) and [developer.cisco.com/docs/iox/](http://developer.cisco.com/docs/iox/).

# Cisco Industrial IoT Portfolio

## Deploy. Accelerate. Innovate.

Cisco Industrial IoT is an end-to-end architecture that enables you to digitize your business and drive better business results. It offers rock-solid infrastructure, unprecedented visibility, security, and control, and trusted expertise to help ensure the success of your IoT deployment.

[www.cisco.com/go/iiot](http://www.cisco.com/go/iiot)

