The Cisco IoT System

Bringing Integration, Analytics, and Security to Your IoT Deployment

The Cisco® IoT System is a comprehensive set of products and technologies for creating IoT solutions from cloud to fog. Because it is based on a systems approach, the Cisco IoT System enables stronger security, lowers integration costs, and accelerates innovation. Its products and technologies are engineered for the manufacturing, oil and gas, utilities, transportation, mining, and public sector industries. It is delivered across six technology pillars: Cisco Fog Computing; Network Connectivity; Physical and Cybersecurity; Data Analytics; Management and Automation; and Application Platform.

With the Cisco IoT System, you can more quickly integrate your IT and Operational Technology (OT) environments and gain new business insights with analytics built into your network. You'll also be able to deploy physical and cybersecurity consistently, and create innovative infrastructures to compete in a new era of IoT.

Cohesive, Powerful, and Secure IoT

As the IoT creates opportunity, it also increases complexity, producing vast amounts of data, and creating a maze of details to manage. To overcome those challenges, you need to do more than connect things and collect data. Realizing the true value of IoT requires:

- Bridging IT and OT, and supporting your entire organization with a scalable network infrastructure
- Making sure you can understand, act on, and protect the data you collect
- Securing your entire technology ecosystem – from cloud and fog networks, to the data being shared between servers and devices

The Cisco IoT System makes all that possible, bringing integration, analytics, and security to your IoT efforts. In addition, Cisco IoT Security Services help secure your cyber assets and physical assets, prevent disruptions, by analyzing your risk profile and implementing cybersecurity as well as physical security mechanisms to manage that risk.

They help you anticipate and respond to new threats, reduce complexity and fragmentation, and adapt with agility to changing business models.

A New Way to Deploy, Accelerate, and Innovate

Today, business growth and security depend on smarter connections, resource optimization, and rapid innovation. And customers have high expectations around speed and dependability. A partial commitment to IoT isn't enough.

How You Benefit

- **Improve product quality and operational effectiveness** by seamlessly connecting IT and OT. Use analytics and open APIs to control, monitor, analyze, and optimize performance

- **Mitigate risk in an increasing hostile threat environment** with scalable, comprehensive cyber and physical security.

- **Create new revenue streams** by using pervasive IoT analytics to accelerate new services delivery and enhance product quality with data privacy

- **Lower operating expenses** by using a common network to increase uptime, react quickly to changing market conditions, and reduce energy consumption

- **Increase business agility and decrease disruptions** through the use of edge network devices that enable Machine as a Service (MaaS) for IoT

"[We now have] greater manufacturing flexibility across the supply chain… and have experienced a substantial reduction in downtime. What used to take hours or days to triage and troubleshoot now takes seconds."

David Gutshall
Infrastructure Design Manager,
Harley-Davidson Motor Company

Next Steps

Cisco can help you bring the promise of IoT to fruition. To find out how the Cisco IoT System can help you innovate faster, make smarter business decisions, and strengthen security for your business and your customers, visit www.cisco.com/go/iotsystem.

What can a comprehensive, systems approach to IoT do for your business? Here's how the Cisco IoT System is improving services and products across verticals:

Harley-Davidson deployed plant-wide Ethernet architecture and digital signage, giving the motorcycle manufacturer flexibility across its supply chain. The new architecture also provided an expansive view of information across the organization, and helped reduce plant downtime. Employees also reported an improved working culture.

BC Hydro, a Canadian utility company, used Cisco Field Area Network and fog computing solutions to create an IP-based, multi-service network that consolidates the management of all smart meters, DA devices, and other grid endpoints.

The city of Mississauga, Canada's sixth largest municipality, uses the Cisco IoT System to deliver city-wide Wi-Fi, connect its transit systems, optimize buildings, and run an intelligent streetlight system – all managed through a single command and control center.

A Giant Leap Forward in IoT Cohesion and Capability

The Cisco IoT System includes six pillars (Table 1), making sure your organization benefits from a complete solution:

Table 1. Cisco IoT System Pillars and Capabilities

Pillar	Capabilities
Cisco Fog Computing	Software and hardware that extends IoT applications to the network edge, enabling data to be efficiently analyzed and managed where it's generated – reducing latency and bandwidth requirements and enabling MaaS.
Network Connectivity	Reliable, scalable, high-performance networking solutions with a broad portfolio of routing, switching, and wireless products – available in ruggedized and non-ruggedized form factors as well as software only solutions that integrate into 3rd party devices.
Physical and Cybersecurity	Security solutions from the cloud to the fog that address the full attack continuum – before, during, and after an attack. Includes OT specific products, the IoT network as a sensor and enforcer and IoT physical security.
Data Analytics	Distributed network infrastructure components and IoT-specific APIs that run business-specific software analytics packages throughout the network architecture – from the cloud to the fog – and allows you to feed IoT data intelligently into business analytics.
Management and Automation	Simplified management of large IoT networks with support for multiple siloed functions, and enables the convergence of OT data with the IT network.
Application Platform	Platform that allows cloud-based app development and deployment from cloud to fog, simply and at scale. Also offers open APIs and app development environments for use by customers, partners, and third parties.