Cisco Unified Edge
Solution Overview

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Cisco Unified Edge delivers a systems approach for distributed computing by bringing infrastructure to the data, enabling real-time inferencing and agentic workflows from edge to core. It is an AI-ready system that goes beyond servers offering fully flexible designs for maximum agility in tackling tomorrow's unknowns.

Figure 1. Cisco Unified Edge

Blueprinting tomorrow's computing with AI environments, not servers

In today's data-driven enterprise environments, the edge is where the action is. Organizations across every industry are exploring better ways to unlock the full potential of their data to support more informed decisions, simplify their operations, and deliver superior experiences to customers and end users. To do it, they are increasingly utilizing artificial intelligence (AI) at the edge to enhance customer experiences, improve efficiency, reduce costs, and offer real-time insights, driving competitive advantage and innovation.

Unlocking the edge potential can be challenging

From providing personalized customer recommendations to automating operations, AI at the edge empowers organizations to respond proactively to evolving business needs. However, deploying, managing, and securing today's complex, highly distributed edge environments can be challenging. IT professionals are contending with:

Operational complexity
AI is fueling explosive enterprise growth in data, devices, sites, and vulnerabilities. Yet siloed edge IT hinders consistent deployment and management. Operating across many locations demands visibility and cross-domain coordination, while limited onsite technical staff make onboarding, troubleshooting, and servicing increasingly difficult—challenging IT to scale effectively and securely.

Rigid, inflexible systems
IT teams also face the challenge of delivering flexible, resilient infrastructure that meet edge power, cooling, acoustics, and space requirements. Today's edge infrastructure must be easy to adapt and upgrade to support emerging technologies and fast evolving AI workloads and use cases.

Protecting everything, everywhere
Dramatic increases in edge applications, data analysis for real-time insights, and AI inferencing raises

security risks due to expanded attack surfaces and potential configuration drift. Securing edge infrastructure, applications, and AI models is crucial to safeguarding against potential threats from bad actors.

A fundamentally different computing paradigm for the enterprise edge

Cisco Unified Edge redefines edge computing with an AI-ready system that converges computing, networking, security, storage, and centralized cloud management, all designed from the edge up for the next decade of AI performance, simplicity, and security. Its flexible, modular, energy-efficient, and easy-to-service design can be readily tailored to support modern workloads and use cases, while also being adaptable to the rapidly evolving AI landscape.

Operational simplicity and scale are achieved through software-defined systems, centralized management, zero-touch deployment, curated blueprints, and automated orchestration. Additionally, end-to-end observability with real-time analytics provides rapid error detection and actionable insights, minimizing service outages.

The system incorporates robust, multilayered physical and digital security to protect infrastructure, applications, AI models, and data. The extensive Cisco ecosystem ensures full-stack integration and interoperability, offering maximum flexibility and choice.

AI-ready edge

Cisco Unified Edge fully integrates key technologies in a modular design to meet the distinctive needs of AI edge environments, while assuring performance, agility, and efficiency.

Modular architecture
A modular, edge-optimized, AI-ready, and SaaS-managed system integrating compute, network, storage, security, and observability so IT teams can simplify deployment and operations.

Run any workload
Personalization through a modular design capable of interchangeable support for compute and network nodes. Plus, a choice of operating systems deployed in clustered or non-clustered environments.

Investment protection
Reuse chassis power and cooling infrastructure across multiple generations of compute, networking, and GPU technologies, enhancing longevity, sustainability, and serviceability. This modular architecture lets organizations adopt technology at their pace, simplifying lifecycle management with less risk. The modular, flexible and scalable design of Cisco Unified Edge provides better TCO for enterprises with Intel based CPU-native inferencing and options for different discrete GPUs based on use case requirements.

Optimized for edge environments
Meets unique edge requirements for power, cooling, acoustics, and space while supporting workloads of today and tomorrow. An integrated 25-Gigabit high-performance networking ensures seamless, high-speed traffic within the chassis, enabling incredibly fast node-to-node communications and robust clustered environments. The integrated design lowers power and cooling overhead by consolidating independent systems into a single chassis while reducing the number of interconnecting cables.

The Intel Xeon 6 SoC provides higher CPU-native inference performance, enabling critical functionality at the edge that can reduce latency and enhance performance for end user applications. Business and

security functions benefit from AI acceleration in hardware, as well as optimizations for popular frameworks. The Intel Xeon 6 SoC handles demanding AI requirements without the added complexity and expense of discrete accelerators or backhauling data to a data center or cloud, enabling better TCO.

Ecosystem integration
Offering a choice of infrastructure software, such as Nutanix, Red Hat, VMware, and SUSE, provides flexibility to address any use case. This capability allows IT teams to tailor solutions to specific needs, for compatibility and optimized performance.

Unified operations – edge to core

Cisco Unified Edge is designed to deliver breakthrough operational simplicity at edge scale with software-defined systems, centralized cloud management, zero-touch deployment, curated blueprints, and automated orchestration. By offering server fleet visualization and observability capabilities, along with intelligent deployment and automation capabilities, it empowers IT teams with the control and insights needed for efficient global administration.

Zero-touch deployment
Eliminates the need for highly skilled IT staff to be physically present at the edge. It enables fast, consistent deployment of infrastructure and applications without the time and logistical challenges of onsite personnel.

Full-stack blueprints
Policy-based templates plus hardware, OS, and cluster blueprints automate the delivery of consistent, repeatable configurations across multiple sites, helping to scale with confidence and eliminate configuration drift across distributed edge infrastructure.

Global fleet visualization
Delivers end-to-end visualization and cross-domain context visibility for both server and network teams. One complete, unified view lets IT teams deploy, monitor, and manage their entire edge infrastructure effectively and efficiently across distributed locations.

End-to-end observability
Real-time analytics enables rapid error detection and correction across globally distributed edge infrastructure, enhancing reliability and operational insight at AI scale.

Centralized management at edge scale
Provides global consistency, visibility, and control. Centralized management enables automated global deployment of policies and settings at scale, for uniformity and ease of management across all edge locations.

Validated edge solutions
Tested and certified solutions for vertical-specific use cases, ensuring reliability. IT teams can deploy with confidence, knowing that the solutions are tailored to meet the unique challenges of their specific industry.

Designed-in security

Embedded, zero-trust security protects your data, models, and infrastructure from edge to data center. SaaS management platforms ensure that users are verified and authenticated before granting access, minimizing risks and protecting sensitive data.

Integrated protection
Provides robust physical security (locking bezel, intrusion detection) and digital protection (Trust Anchor module, signed firmware) to secure infrastructure, applications, and data at the edge, verifying system integrity.

Policy-based templates
Consistent security profiles and automated policy enforcement eliminates configuration drift, ensuring that all systems remain aligned with organizational policies, reducing the risk of vulnerabilities due to misconfigurations.

Multilayered edge security
Advanced security and networking capabilities through Virtual Network Function (VNF) capabilities, which provide threat defense and network segmentation features to secure edge infrastructures. Multilayered security capabilities across the network, application, and AI models protect workloads and data, enabling confident innovation at scale.

SaaS platform
Ensures users are verified and authenticated before gaining access, protecting sensitive data and minimizing unauthorized entry. Cisco Intersight helps maintain system configuration integrity and compliance through continuous monitoring and automated remediation actions.

Unlocking compelling edge outcomes

Cisco Unified Edge enables organizations to:	• Onboard edge infrastructure in minutes—no onsite engineering expertise, no truck rolls • Personalize resources to address any edge workloads and use cases with a modular design • Stop the rip-and-replace cycle with a modular edge system built for the next decade • Secure AI models, Kubernetes environments, and modern network traffic across edge environments • Detect and resolve issues faster with real-time observability and analytics at a global scale

Flexibility to support a variety of industry use cases

Ensures users are verified and authenticated before gaining access, protecting sensitive data and minimizing unauthorized entry. Cisco Intersight helps maintain system configuration integrity and compliance through continuous monitoring and automated remediation actions.

Manufacturing and industrial IoT	Real-time monitoring, machine control, predictive maintenance, and quality assurance can boost operational efficiency and reduce downtime.
Retail	In-store analytics, personalized customer experiences, and improved inventory management empower retailers to process data quickly and respond to customer needs in real time.

Healthcare	Remote patient monitoring, telemedicine, and real-time analytics of medical data improve patient care and promote better healthcare outcomes.
Financial	Fraud detection, branch office experience delivery, and security help financial services organizations strengthen their brand and minimize risk.

Meeting the pace of AI innovation requires modular compute and networking that can flex to new models, data types, and traffic patterns. Cisco Unified Edge is an AI-ready system that redefines computing, bringing all the strength of the data center delivered to wherever your data lives with full flexibility. It is a full-stack system that combines compute, networking, storage, and security as only Cisco can, while pre-validated full-stack designs accelerate deployment without compromising performance.

For more information

The Cisco Unified Edge solution combines compute, networking, security, storage, and observability in an easy-to-deploy system that lets organizations focus on getting the most value from their data, while providing a superior user experience with unprecedented visibility, consistency, and control.

Visit our website hyperlink (cisco.com/go/unifiededge) to see how the Cisco Unified Edge solution can empower you to accelerate edge outcomes.

Additional resources

Data sheets—chassis, module

At-a-Glance

FAQ

Infographic

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Cisco Systems (USA) Pte. Ltd.
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