Deliver Exceptional Experiences for Every End User and Operator

Secure and reliable connectivity with a complete client-to-cloud network portfolio

See how Juniper delivers AI for networking and networking for AI.

Explore the platform →

The challenge

Limited resources, growing complexity, and increasing security risks

IT leaders are expected to deliver greater value from their networks with the same or lower budgets and limited staff. They must also manage rising complexity from exponential growth in data and the proliferation of network devices and users. While bad actors are constantly probing for any opportunity to breach network defenses, at the same time, user expectations for exceptional network experiences continue to grow.

The capabilities you need

A secure network optimized for performance

The impact of a security breach or network downtime can be devastating for nearly any organization, but secure connectivity does not in itself assure a great experience. Juniper's AI-Native Networking Platform enables networks to evolve by getting smarter, more automated, and more capable of fully leveraging the transformative, proactive power of AI.

85%
Reduction in networking OpEx, according to ACG

Simplicity

Reduce network complexity and streamline operations so operators can focus on more strategic initiatives and innovation

Productivity

Automate routine tasks, gain real-time insights into user experiences, and enable proactive, self-healing network operations

Reliability at scale

Ensure consistent performance and high availability across all network devices, demanding workloads, and enterprise applications

90%
Reduction in wireless-related issues reported by employees at ServiceNow

Zero Trust security

Protect users, devices, applications, and data wherever they are with security built into the design of the platforms and simplified policy control applied and enforced at a global scale

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Delivering on the promise of AI

The industry's first AI-Native Networking Platform leverages a common cloud and AI engine end-to-end across all networking domains, including wireless, wired, SD-WAN, WAN, data center, and security. It significantly streamlines ongoing management challenges while assuring that every connection is reliable, measurable, and secure. It also helps build high-performance, highly adaptive network infrastructures optimized for mission-critical AI workloads.

How it works

Purpose-built with AI and for AI

In today's digital landscape, network performance is no longer defined by uptime alone. It's about delivering seamless and high-quality user and operator experiences. Juniper's AI-Native Networking Platform embraces this "experience first" approach with a focus on three key ingredients: the right data, the right real-time response, and the right infrastructure.

Juniper's AI-Native Networking Platform is built on the right data, the right real-time response, and the right secure infrastructure.

The right data

Great AI begins with great data. Juniper is the first tech provider to capture the right data by asking experience-first questions like "How do we ensure every user in every location is getting a consistent experience?" and "Can the network adapt to fix issues before users even know they exist?"

With a nearly a decade of honing the right data and training its AI models, Juniper has created AI toolkits that deliver valuable insights with minimal false positives. Real-time telemetry data collected from across all network devices, including routers, switches, access points, and firewalls continuously informs these algorithms, ensuring they evolve to effectively meet network demands.

The right real-time response

IT teams are under constant pressure to ensure highly reliable connectivity and resolve network issues quickly when they arise. However, the complexity of modern networks and the sheer volume of data make this a significant challenge.

Juniper Mist AI, a key part of Juniper's AI-Native Networking Platform, provides unmatched visibility into network health with automated event correlation, root cause identification, and proactive anomaly detection. Armed with these insights, IT operators can pinpoint the root cause and resolve network issues before they affect users. The system can even take corrective action autonomously, reducing the need for human intervention.

Marvis, the industry's first AI-Native Virtual Network Assistant (VNA), further simplifies network operations through its conversational interface, recommended actions, and digital experience twins.

The right secure infrastructure

Processing massive amounts of data and producing actionable responses in real time requires a scalable and secure infrastructure. From devices to operating systems to hardware to software, Juniper has the industry's most scalable infrastructure, which underpins and supports its AI-Native Networking Platform.

The Juniper Mist Cloud is a cloud-native, API-connected architecture built to process massive amounts of data and AI workloads. It's flexible, scalable, and agile, delivering updates, feature releases, bug fixes, threat patches, and device support, frequently with no interruption to network performance.

93%

Of organizations state that integrated AI and automation solutions meet or exceed their expectations for increasd network team productvity

Source: Enterprise Strategy Group Research Report, The Role of AI and Automation in Networking, August 2024

How it works

Leveraging rich telemetry for AI-driven insights

Juniper's AI-Native Networking Platform, with Mist AI and Marvis, delivers industry-leading "AI for networking" across all networking domains. Together, they provide proactive insights and actions and self-driving network operations to ensure no issue goes unnoticed. Root cause identification and automated event correlation enable operators to rapidly resolve issues, so end users enjoy seamless connectivity with no interruptions or slowdowns.

A single platform for managing network operations across all networking domains drastically simplifies operations. Your operators gain visibility into network and security health and can see how every user is experiencing the network in real time. Consolidated management not only enhances visibility, but also enables more efficient operations, breaking down network silos.

AI for networking across the Juniper portfolio includes:

Campus and branch

Juniper Mist Wireless Assurance, Wired Assurance, WAN Assurance, and Access Assurance

Indoor location services

Juniper Mist User Engagement, Asset Visibility, Contact Tracing and Premium Analytics

Enterprise routing

Juniper Mist Routing Assurance optimizes and automates WAN performance

Data center

Marvis VNA for Data Center is the only AI-powered data center virtual network assistant

How it works

Building optimal AI data centers

To maximize AI investments, enterprises need robust, highly specialized networking infrastructure designed to build AI data centers that are optimized for high-speed data processing. AI training, measured by job completion time (JCT), is a massive parallel processing problem that requires a fast and reliable network fabric to get the most out of expensive, compute-intensive GPUs.

Juniper's "networking for AI" solution addresses these unique challenges by leveraging open, standards-based Ethernet technologies that have become the preferred alternative to proprietary solutions like InfiniBand. Juniper's AI-Native Networking fabrics are designed to support 400GbE and 800GbE speeds, ensuring that GPUs can communicate seamlessly with low latency and lossless transmission.

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This solution uses Juniper Apstra intent-based automation that streamlines the design, deployment, and day-to-day management of AI data centers. By constantly validating the network's compliance with business intent, Apstra ensures the infrastructure runs smoothly, reducing the need for manual intervention. This leads to faster, more efficient troubleshooting and increased overall reliability.

Marvis Virtual Network Assistant (VNA) for Data Center enhances this automation by using AI-driven insights to proactively identify network issues. It works in conjunction with Apstra to provide proactive and prescriptive data center actions and simplify knowledgebase queries using the Marvis conversational interface (powered by GenAI). Proactive actions by Marvis save time and money and increase network uptime by accelerating problem resolution.

How it works

Integrated security without compromising performance

As cyberattacks grow more sophisticated, network security must evolve to protect increasingly complex infrastructures. Traditional siloed security approaches, which separate network and security management, struggle to keep up with modern threats.

Juniper's Secure AI-Native Edge, a key part of the AI-Native Networking Platform, seamlessly integrates networking and security functions into Mist AI, providing a single, unified networking and security interface. This approach empowers organizations to maintain end-to-end protection while optimizing network performance.
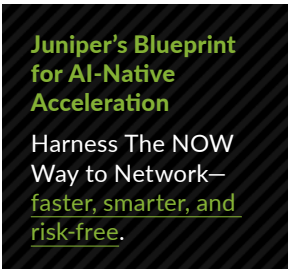
By uniting security and networking under a single interface, operators have a comprehensive view for configuring, managing, and troubleshooting network and security operations. Enabling them to monitor traffic patterns, detect anomalies, and enforce consistent security policies across the entire infrastructure means they can respond more effectively to incidents, minimize downtime, and ensure that the network operates at peak efficiency.

Juniper's AI-Native Networking Platform embeds Zero Trust security across all networking domains—from the edge to the cloud and data center—ensuring protection at every layer. In addition, Juniper's integrated security solution combines advanced AI capabilities and the industry-leading efficacy of Juniper's next-generation firewalls (NGFWs).

> According to IDC's Future of Connectedness Survey (06/23), **43% of organizations** identified network security as their top connectivity-related challenge.

Core capabilities

Routine task automation	Allows IT teams to focus on strategic initiatives instead of day-to-day maintenance
Proactive issue resolution	Leads to increased network reliability, reduced downtime, and streamlined operations
Autonomous optimization	Improves network performance, ensuring end users consistently experience reliable and high-performing connectivity
Enhanced network visibility	Allows operators to quickly identify and resolve issues through event correlation, anomaly detection, and root causes analysis
100% open APIs	Integrate seamlessly with essential services like Zoom, Microsoft Teams, and ServiceNow for increased efficiency, better engagements, and robust, secure connectivity
Intent-based automation	Shields operators from network complexity and accelerates deployment times by up to 85%
100% interoperability	Assures the fastest innovation, maximizes design flexibility, and prevents vendor lock-in for backend, frontend, and storage AI networks
Juniper Validated Designs (JVDs)	Simplifies deployment and troubleshooting processes for designing and deploying optimal networking solutions in all network domains across the portfolio
Zero Trust security	Enables unified management, simplified policies, and industry-leading threat protection

Juniper's Blueprint for AI-Native Acceleration

Harness The NOW Way to Network— *faster, smarter, and risk-free*.

How we deliver

Ameritrust achieves the agility it needs for future unknowns.

Leuven puts clinician, patient, and IT experiences first.

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Our advantage

Designed with AI at its core

Juniper stands out in the market by taking an experience-first approach to networking. We designed our AI-Native Networking Platform with AI and for AI from the beginning to simplify operations and boost productivity for operators, while providing seamless, secure, and reliable connectivity for end users.

Why Juniper

The NOW Way to Network

Juniper Networks believes that connectivity is not the same as experiencing a great connection. Juniper's AI-Native Networking Platform is built from the ground up to leverage AI to deliver exceptional, highly secure, and sustainable user experiences from the edge to the data center and cloud. Additional information can be found at Juniper Networks (www.juniper.net) or connect with Juniper on X (Twitter), LinkedIn, and Facebook.

More information

To learn more about Juniper's AI-Native Networking Platform, visit https://www.juniper.net/us/en/ai-native-networking-platform.html

Take the next step

Connect with us

Learn how we can build what's next.

Let's chat →

Accelerate your journey

Streamline your adoption of the industry's first AI-Native Networking Platform.

Go there NOW →

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