CISCO The bridge to possible

2024

Global Networking Trends Report

Networking strategies to advance
digital business

Jonathan Davidson
Executive Vice President and General Manager, Cisco Networking

Welcome to the 2024 Global Networking Trends Report

Throughout my 25+ years in the networking industry, one thing has remained consistent: the network becomes more important every year. Far from being a commodity, the network is inextricably linked with respondents' business strategies. This year's research shows more advanced network environments are linked to better results.

As an IT professional, you understand that factors like artificial intelligence (AI), cloud, hybrid work, containerized applications, and Internet of Things (IoT) can accelerate innovation—unless complexity gets in the way. Ultimately, you're responsible for the quality of experiences delivered across the network. Efforts to deliver quality experiences are often thwarted by increasing network complexity, legacy approaches, and mismatched skillsets.

In this report, we assess the networking challenges, IT and business priorities, architectural maturity, and investment strategies of 2,052 IT leaders and professionals across 10 industries globally. Our goal is to provide insights into areas driving network transformation. Across these trends, three themes stand out to me and often come up in my conversations with customers: the platform, security, and AI.

→ **The platform.** Adopting a centralized network management platform is transformational. This approach helps IT teams attain greater visibility, connectivity, and security in a world of public clouds, private clouds, and on-premises workloads.

→ **Secure networking.** Cybersecurity tops the list of respondent concerns. Customers across every vertical believe that AI-generated insights will help them stay ahead of the expanding threat landscape. If it's connected, it must be protected.

→ **For AI, with AI.** Organizations are modernizing their infrastructures for AI workloads and more sustainable data centers. And with AI, they are building better networks, predicting failures, and diagnosing problems.

The 2024 Global Networking Trends Report provides a critical perspective from the IT leaders who are tasked with ensuring the network delivers secure digital experiences for all. I hope you find it as informative and helpful as I have.

Jonathan Davidson

Contents

Overview

On the journey to more simple, secure, scalable, and sustainable networks, the 2024 Global Networking Trends Report identified important advances in five strategic areas to help drive digital business.

Architecture transformation

A network platform, integrated partner ecosystem, and digital experience assurance—enabled through advanced network telemetry and end-to-end visibility—are all becoming increasingly popular to simplify operations and drive digital resilience.

Security convergence

Converging network and security technologies and workflows are now a top priority and a best practice as security concerns expand with continued cloud adoption.

AI operations

Automation through an AI-enabled approach is a much-sought-after strategy to simplify and optimize operations, assure the digital experience, and mitigate risk while strengthening security.

Data center at scale

Data center infrastructure modernization is underway to meet AI workload and new application demands at scale while leveraging AI-native platforms to address increasing complexity.

Sustainability advancement

IT is looking to networking platform features to advance telemetry and visibility and build smart, sustainable buildings while advancing net-zero goals.
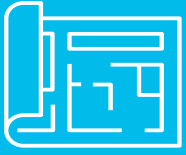
Architecture transformation

A **network platform** is an integrated system that combines software, policy, and open APIs with an intuitive user interface, advanced telemetry, and automation. It provides a centralized operator experience, end-to-end network management, and an API-driven ecosystem that simplifies operations and enables digital experiences across one or more networking domains.

The evolution to an **AI-native network platform** equips IT teams with the continuous intelligence and automated control required to consistently deliver quality digital experiences.

IT leaders are still grappling with point solutions deployed during the pandemic that served time-sensitive needs but have left IT teams with an inefficient and complex infrastructure framework. Many are looking to be more efficient with an architectural approach that provides greater end-to-end visibility and control across all network domains.

42% of IT leaders and professionals say a network platform can greater support cross-domain management to unlock better performance, innovation, and cost savings.

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2024 Cisco Global Networking Trends Report / Contents / Architecture transformation /
Trend: Network Platform Adoption on the Rise

6

Trend

Network Platform Adoption on the Rise

Respondents acknowledge the growing need for the network to support their organization's dynamic IT and business initiatives, spanning improvements in end-user experiences, network and security performance, and managing operational expenditures (OpEx). IT leaders and professionals recognize that a network platform can provide a more efficient and consistent architecture, allowing for simpler cross-domain integration and improved performance in these and other initiatives.

Today

According to the research, while one in five (21%) organizations surveyed are currently using multiple, separate management systems when managing their campus, branch, WAN, data center, and multicloud domains, 39% are currently leveraging a platform architecture across some networking domains. Survey respondents were strongly supportive of network platform adoption, given the alignment of benefits from that approach with the IT and business outcomes they are trying to achieve. Those outcomes include faster IT and business innovation (43%), improved network performance and security posture (40%), and cost savings (37%).

In addition to acknowledging the benefits of a network platform, respondents are also realizing the importance of cloud-based management, with respondents saying 33% of their LAN, WAN, and SD-WAN is currently cloud managed. When asked about the advantages of cloud management, respondents cited enhanced network security (45%), quicker network infrastructure deployments (41%), and faster access to new management features (39%).

Two-year outlook

Adoption of the network platform is anticipated to increase, with nearly three-quarters (72%) of respondents expecting to leverage a platform architecture across one or more domains. Of those, 39% expect to scale the platform architecture across all networking domains, greatly simplifying network management and enabling a variety of business, operational, and technical benefits—from open API ecosystems to enhanced IT collaboration across functions, easier integrations, and a rich pool of data. Data aggregated from telemetry across network domains provides an enterprise-wide view that can be used to generate insights from AI analytics, enhancing performance, experience, security, cost efficiency, and sustainability.

72%

of IT leaders and professionals expect to have a platform architecture in place across one or more networking domains in the next two years.

"Organizations that take advantage of a platform approach, which can simplify management and enable advanced functionality, will be better positioned to win in the digital business era."[1]

Brandon Butler, IDC Research Manager, Enterprise Networks

↗ Read the IDC white paper on the network platform approach.

"The simplicity with the cloud-based platforms allows my team to show users possibilities beyond just troubleshooting with the network. We have the opportunity to be more innovative."

Jack Satterfield,
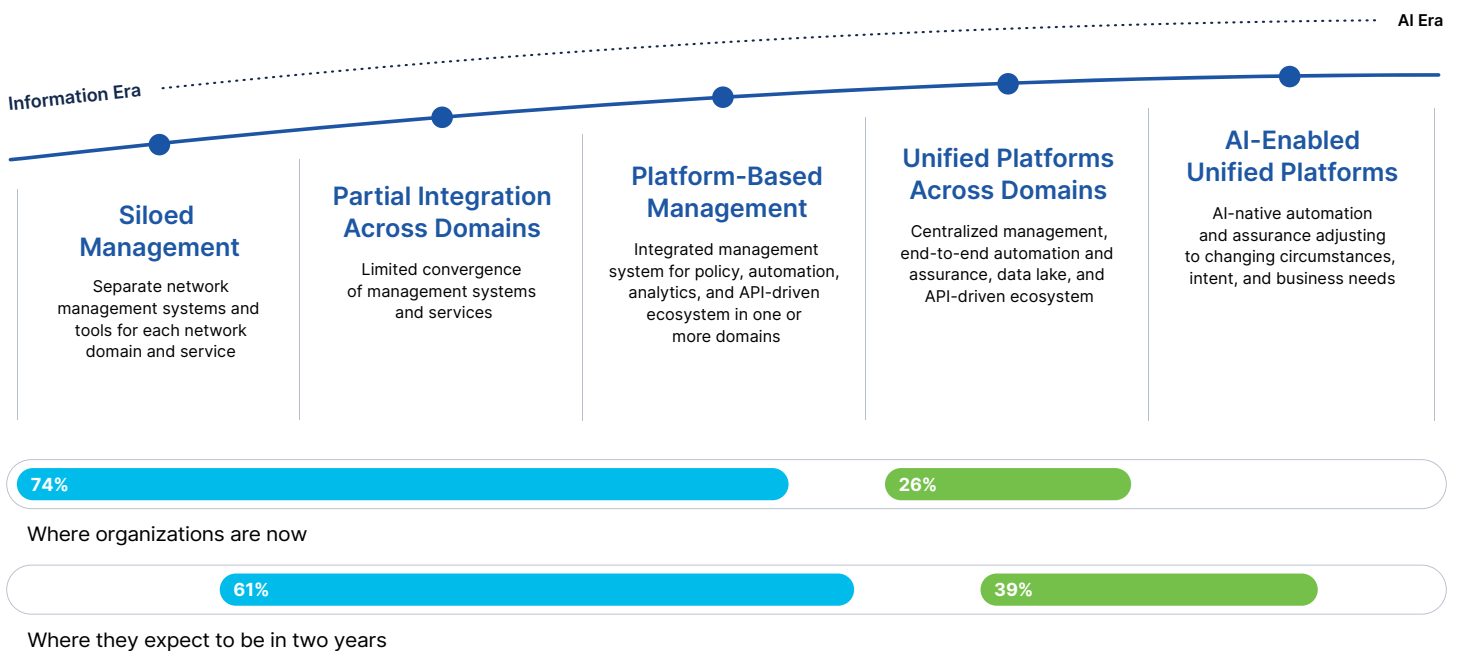Chief Technology Officer,
Pima Community College

"Enriched with enterprise-wide data and guided by AI-driven insights and recommendations, a platform can deliver end-to-end visibility to inform and resolve potential performance and connectivity issues. Combined with an open and extensible developer ecosystem, IT professionals can integrate a platform deeply into their business workflows and accelerate time to value with automation."

Lawrence Huang, Senior Vice President and General Manager, Cisco Networking - Meraki & Wireless

Network architecture maturity status (today vs. two-year outlook)

Network architecture refers to the enterprise network infrastructure design, life cycle management, and governance across domains, including campus, branch, WAN, data center, multicloud, industrial, etc.

AI Era

Information Era

Siloed Management

Separate network management systems and tools for each network domain and service

Partial Integration Across Domains

Limited convergence of management systems and services

Platform-Based Management

Integrated management system for policy, automation, analytics, and API-driven ecosystem in one or more domains

Unified Platforms Across Domains

Centralized management, end-to-end automation and assurance, data lake, and API-driven ecosystem

AI-Enabled Unified Platforms

AI-native automation and assurance adjusting to changing circumstances, intent, and business needs

74%   26%

Where organizations are now

61%   39%

Where they expect to be in two years

2024 Cisco Global Networking Trends Report / Contents / Architecture transformation /
Trend: Digital Experience Assurance for Greater Reliability and Consistency

9

Two-year outlook

Among all respondents, 75% plan to deploy tools that offer end-to-end visibility via a single console. Of those, 38% expect that their digital experience assurance will be AI-enabled and another 37% anticipate leveraging a single console to gain end-to-end visibility. An AI-native network platform that combines network datasets from different domains and uses artificial intelligence/machine learning (AI/ML) to analyze the data will help drive decisions that make network operations proactive and predictive instead of reactive.

75%

of organizations plan to gain end-to-end visibility via a single console to enable high-quality digital experiences within the next two years.

Trend

Digital Experience Assurance for Greater Reliability and Consistency

Digital experience assurance refers to the ability to provide consistently reliable experiences between users, devices, applications, and services across all *owned* (data center, campus and branch, WAN, and industrial networks) and *unowned* (internet, cloud provider, multicloud) domains. By correlating and contextualizing data to provide continuous intelligence and automated corrective actions across the end-to-end network, IT teams can achieve digital resilience that assures always-on, quality experiences for employees, customers, and the organization overall.

Today

IT leaders are grounded in the principle that network experiences—for customers and employees alike—are an important driver for digital business success. However, as workforces, applications, and services grow more distributed, visibility into the hops between network, cloud, and internet domains has become less transparent. Many of these connections begin and end outside of the traditional corporate infrastructure. A pain point felt by over a third of respondents (35%) is a lack of visibility into complete network paths, including internet and cloud networks. Additionally, 41% said that service reliability to ensure predictable and consistent user experiences and application delivery needs significant improvement. Without it, their organizations cannot meet IT and business objectives.

The ability to provide an end-to-end approach to digital experience assurance across all owned and unowned network paths is critical to ensuring digital resilience. Yet, 39% of respondents said they currently have either limited visibility or full visibility using multiple consoles to monitor digital experiences between users, devices, applications, and services.

"With how our network works, any small disruption to our operation can have a knock-on effect. It's vital that we assure our services from the very get-go."

Simon Challis, Senior Technology Manager, Platform Design, EasyJet

2024 Cisco Global Networking Trends Report / Contents / Architecture transformation /
Trend: Reliance on Partner Ecosystems and Open API Integrations

10

Trend

Reliance on Partner Ecosystems and Open API Integrations

With the need to rapidly create more sustainable IT infrastructure and buildings, IT will increasingly rely on extended partner ecosystems and platforms that enable integrations with open APIs.

Today

Currently one in five (21%) organizations in the survey have no API-driven network ecosystem integrations. Another 22% have limited IT integrations across disparate network domains.

Over a quarter (26%) said a top networking investment area over the next 12 months will be management platforms for simplified operations and API-enabled integrations. For 33%, the most important criteria when evaluating new networking investments is the ability to integrate the technology into the existing network. An extensible ecosystem with platforms that enable technology innovations through open APIs and partner integrations will better allow the network to drive IT and business success, said 29%.

Two-year outlook

A majority (64%) expect to have unified, API-driven integrations for IT and business innovation within the next two years, and 20% of this group anticipates deploying an intent-based, API-driven network. Intent-based, API-driven networks abstract low-level network complexities, allowing developers to build sustainable applications that can dynamically request and leverage network resources based on real-time requirements to promote efficient resource utilization and reduce waste. For 40%, selecting partners to provide sustainability services is expected to lead to a significant, positive impact on their organization's sustainability strategy.

64%

of respondents expect to have unified, API-driven integrations for IT and business innovation within the next two years.

Security convergence

The continued expansion of the attack surface due to highly distributed workforces and applications has kept cybersecurity risk top of mind among organizations. Cybersecurity is the number one concern impacting networking strategy, according to 40% of respondents. Cloud-based security management, along with the convergence of security and networking, are considered priorities for addressing the growing threat landscape.

40%
of IT leaders and professionals said cybersecurity is the number one concern impacting their networking strategy.

"There is a certain amount of flexibility and agility that we need. But our main focus is really securing the network; understanding, deploying, establishing, and managing a secure network architecture."

IT Director,
Multinational European Bank

2024 Cisco Global Networking Trends Report / Contents / Security convergence /
Trend: Network and Security Convergence Bridges Consistency Issues

12

Trend

Network and Security Convergence Bridges Consistency Issues

Organizations are prioritizing the integration of networking and security domains and teams as both an IT and business imperative. They recognize that keeping networking and security tools, data, platforms, and processes separate is no longer a viable option. Bridging capabilities and applying AI-powered analytical insights based on combined networking and security data delivers more reliable, optimized connectivity and stronger security across campus, branch, data center, cloud, and operational technology (OT) environments.

Today

In this year's survey, 42% of respondents said integrating networking and security is the area requiring the most improvement to meet IT and business objectives.

According to 44% of organizations surveyed, faster cybersecurity threat identification and response was the most important benefit expected from convergence of networking and security technologies, processes, and tools. Sharing data and telemetry between networking and security domains was the second ranked benefit for 29% of respondents, followed by providing consistent, secure access to multicloud applications from anywhere for 27% of respondents.
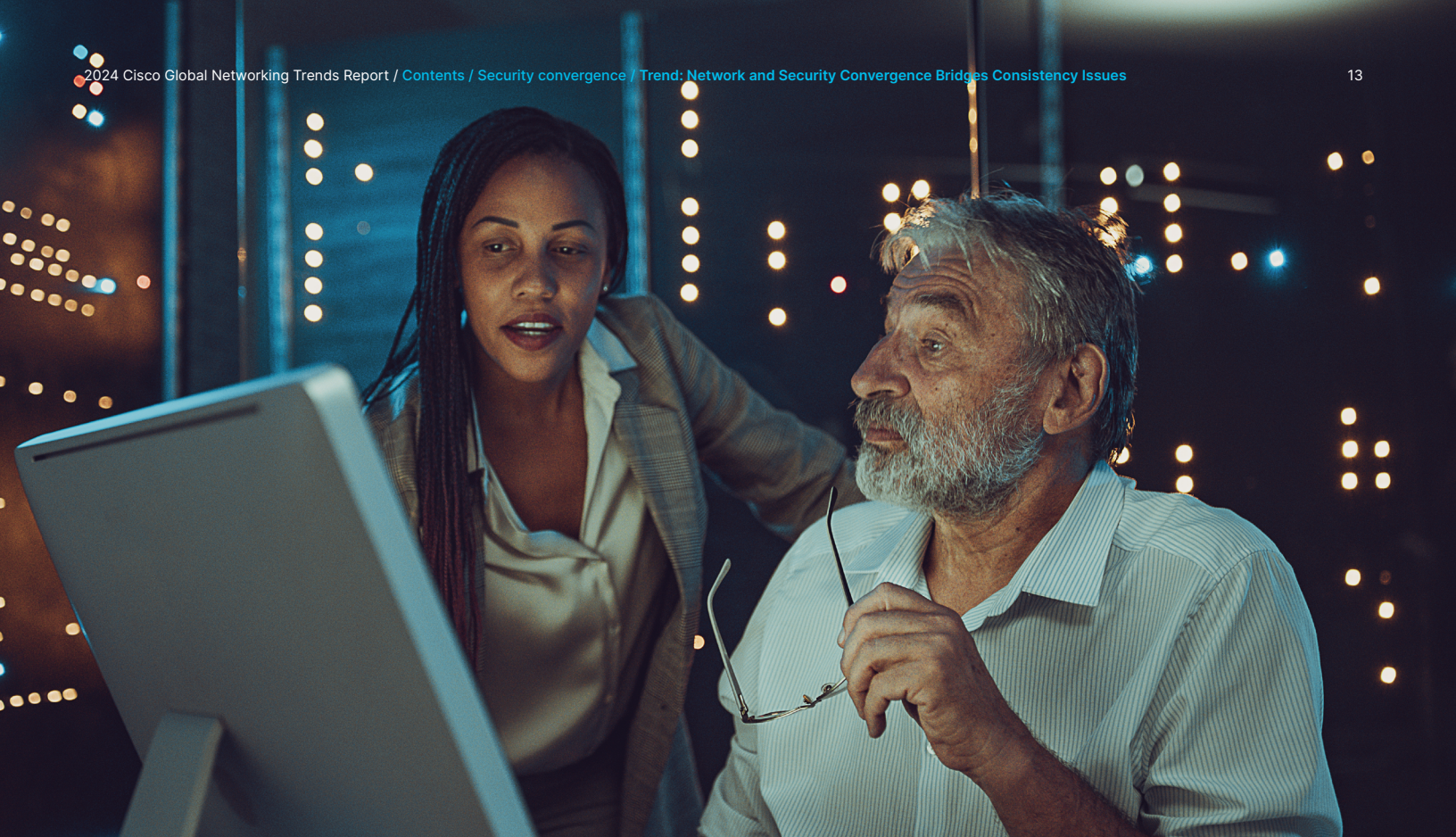
Two-year outlook

Organizations are planning multiple architectural and technology investments to help facilitate their networking and security convergence journey. When asked about their top network security priorities for the next two years, 52% said the integration of network security into broader IT security functions was their top priority. One important example of this is that 76% of those organizations plan to deploy a secure access service edge (SASE) architecture with integration of SD-WAN and security service edge (SSE) cloud security within the same timeframe.

76%

plan to deploy a SASE architecture with integration of SD-WAN and SSE within the next two years.

"Convergence is not merely a technical adjustment but a strategic imperative that necessitates a shift towards a powerful, unified IT framework that combines data, processes, and human expertise to combat threats and deliver consistent experiences."

Omri Guelfand, Vice President, Product Management, SASE, Cisco

↗ Explore **secure networking** for people, applications, and data.

Significant network security investment areas over the next years

52% Integrating of network security
into broader IT security

49% Moving more security tools
to be cloud based

33% Consolidating vendor
management

26% Implementing
a zero-trust network

23% Integrating across SD-WAN and cloud-based
security for complete SASE architecture

Two-year outlook

In two years, 60% of companies expect to have an integrated multicloud networking and security management platform with common APIs for secure workload mobility, network and application visibility, and policy management.

Additionally, organizations on the leading edge of IT innovations plan to have AIOps-driven automation in place to optimize workload mobility with end-to-end visibility across multicloud, private cloud, and edge networks.

60%

of companies expect to have an integrated multicloud networking and security management platform in place within the next two years.

Trend

Secure Multicloud Networking

Organizations are moving decisively to deploy workloads across multiple public and private clouds, creating a multicloud environment. According to the 2023 Global Networking Trends Report, 92% of organizations use two or more public cloud providers to host their workloads, with 34% using more than four. However, each public cloud service provider, private data center, and hybrid cloud environment uses different network and security operational models. Organizations need to address the resulting management complexity with a strategy that enables better visibility and more consistent control of connectivity and security across disparate private and public cloud environments.

Today

Separate vendor-specific cloud network management tools are being used by 20% of surveyed organizations for data and workload integrations between data center, edge, and public cloud networks. For 17% of respondents, SD-WAN cloud on-ramp connectivity is being used to help deliver more consistent connectivity and management across clouds, and 28% have deployed a basic multicloud network platform that manages connectivity across two or more cloud environments.

"Multicloud is a reality that we must deal with ... In a perfect world, I wouldn't want to have a multicloud because [it] is very complex to manage from a configuration and maintenance standpoint and a cybersecurity standpoint."

IT Director, Global Automotive Technology Company

2024 Cisco Global Networking Trends Report / Contents / Security convergence /
Trend: Cloud-Based Security Is Top Networking Investment Area

15

Trend

Cloud-Based Security Is Top Networking Investment Area

Cloud-based security is the biggest area of networking investment for this year, according to 38% of respondents. Securely connecting the distributed workforce and their devices is a dominant part of future IT strategies. In a multicloud, work-anywhere world, a cloud-native security solution such as SSE fosters closer network and security collaboration and minimizes risk by centralizing access control, threat protection, data security, security monitoring, and acceptable-use control.

Today

Given the increasingly distributed nature of the modern workforce, it's no surprise that ensuring robust security to support remote or hybrid workers was cited as the top networking challenge for 39% of respondents. Cloud applications and continuous updates to hosted security vulnerability engines and data-rich analytics engines were each identified as the main motivations for choosing cloud-based security by 40%. The most popular cloud-based security capabilities organizations in the survey are using IP VPN (53%) followed by secure web gateway (47%) and cloud access security broker (40%).

Two-year outlook

Over the next two years, 49% of respondents will be investing significantly in cloud-based security tools. Within that timeframe, 39% expect that more than half of their security tools will be cloud-based. This pace of growth is expected to continue, with the global cloud security solutions market expected to more than triple in size between 2022 and 2029, growing from $33 billion to $106 billion.[2] For 29% of survey respondents, policy-based microsegmentation to support a zero-trust network architecture for IoT devices will be another major area of IT investment.

49%

of IT leaders and professionals said they will be investing significantly in cloud-based security tools over the next two years.

Top networking investment areas over the next 12 months

38% Cloud-enforced security

34% AI-enabled networking for predictive assurance

33% Data center network upgrades to facilitate new app and workload types (e.g., GenAI)

31% Hiring new or re-skilling existing networking staff

30% Network automation

29% Sustainability initiatives

AI operations

This year's survey data shows that IT leaders and professionals clearly believe in the potential of AI to greatly enhance a myriad of applications, including automating operations, enforcing policy, strengthening security, and assuring digital resilience.

"I think the great power of AI, besides generating images and text, is faster correlation analysis. AI will be able to identify really quickly and alert us on when there is a bottleneck, what could be the cause, is there a mismatch into the configuration—and automatically correct it."

Group CIO,
European-Based
Private Equity Firm

The bridge to possible

2024 Cisco Global Networking Trends Report / Contents / AI operations /
Trend: AI-Powered Operations to Improve Efficiency

18

Trend

AI-Powered Operations to Improve Efficiency

AI promises to radically improve operational efficiency. A broad adoption of AI-enabled operations will bring trusted systems that constantly learn and improve, reducing a significant amount of manual work.

Today

Fewer than 5% of respondents believe their IT teams are equipped to deliver the innovations required to help steer business strategy, satisfy customers, and optimize operations. Asked about the day-to-day activities of designing, deploying, and managing the network, 37% said they struggle with staff resources to manage consistent designs and deployments. Over a third said that a lack of automation to perform operational tasks is a significant issue. With increasingly distributed and complex networks and intelligence spread across different domains and networking products, reducing the administrative burden on IT is a priority.

A majority (67%) of those surveyed said their IT teams have begun adopting AI capabilities to simplify operations, automate complex tasks, and accelerate remediation of performance issues. In the move to AI for network operations, 32% believe using a network platform is the right solution to aggregate network telemetry data for analytics and specialized AI applications.

Two-year outlook

Within two years, 60% expect to have AI-enabled predictive automation in place across all domains to manage and simplify network operations. Additionally, 17% expect to integrate AI-enabled networking with AIOps in that timeframe. This will enable predictive optimization between users, devices, and apps across all network domains.

60%

of respondents expect to have AI-enabled predictive automation in place across all domains to manage and simplify network operations within the next two years.

"The future will involve more automation ... The emphasis has to be on efficient operations, allowing the group to channel IT investment into revenue-generating projects."

Nicolas Gachet, Global Head of Network Special Projects, the Adecco Group

Explore **AI-enabled NetOps** service automation and assurance.

AI-enabled advancements expected within the next two years to improve network operations, security, digital resilience, and sustainability:

AI-enabled predictive network automation in place across all domains to simplify NetOps

60%

AI-enabled secure access service edge (SASE) cloud architecture

54%

AI-enabled endpoint recognition and policy management

51%

AI-enabled predictive digital experience assurance

38%

AI-enabled network solutions to deliver sustainability outcomes

25%

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The bridge to possible

2024 Cisco Global Networking Trends Report / Contents / AI operations /
Trend: Data Governance and AI-Enabled Analytics for Predictive Assurance

20

Trend

Data Governance and AI-Enabled Analytics for Predictive Assurance

IT leaders and professionals acknowledge that gaining visibility into network performance from various network domains is crucial to assuring consistent, high-quality digital experiences. They are looking at how to access both aggregated, proprietary telemetry data and performance telemetry from owned and unowned domains. Once data is aggregated, IT and business leaders can apply AI to analyze traffic and assist in performance-based decision making to improve operations and create competitive advantage.

Today

Less than 7% of respondents say their data governance practices currently provide them with a competitive advantage. Survey results show a third of respondents are prioritizing the aggregation of data-driven analytics through a network platform, and another 41% believe a network platform can improve application performance overall.

Organizations realize that collecting performance data is only the first step. More than a third (34%) ranked AI-enabled networking for predictive assurance as their second most important networking investment area over the next 12 months. Applying AI training models to data for predictive and proactive remediation of network problems can help assure network performance and high-performance digital experiences. Yet today, less than 4% of surveyed organizations currently have AIOps-enabled predictive service assurance in place to manage digital experiences between users, devices, applications, and services. This indicates the reactive nature of ensuring network performance today instead of a more predictive and proactive approach.

"Every organization leverages a network to connect their users. And having the most consistent [network] experience is critical to making sure our organization functions properly ... Without a solid network that your organization is running on, you wouldn't have that organization or the ability to connect its users."

Michael Kutka, Network Architect, Insight Global

Two-year outlook

Within the next two years, two-thirds (66%) of respondents expect to have governance policies and procedures in place to access and utilize data to support defined use cases. A third expect that those use cases will result in competitive advantages for their organizations. For 38%, those will include proactive and predictive operations with AI-enabled network and digital experience assurance. Investment in those capabilities is expected to yield the performance and experience-based results required to drive digital business.

66%

expect to have governance policies and procedures in place over the next two years to leverage data to support defined use cases—half of which expect these use cases to give them a competitive edge.

Trend

AI-Enabled Security to Mitigate Risk

Organizations continue to cite cybersecurity risks as their top networking concern. Complex and ubiquitous connections, distributed users, and resource constraints have organizations looking to create a security posture that is data-driven and AI-enabled to mitigate risk and overcome a cybersecurity skills gap.

Today

Security is not only a top concern, but it is also one of the most important metrics used to define the success of networking initiatives and investments for 30% of respondents. But using AI capabilities to provide a stronger and more consistent security posture is currently in its infancy among surveyed organizations.

A little over one quarter are currently using AI-enabled automation for end point recognition and policy management. Less than 4% are using AI for end-to-end segmentation to enable a zero-trust model for securing user and device connectivity.

"Identity intelligence is being built, developed, and trained on current security models and billions of security events obtained from telemetry. It can then be applied to next-generation security controls like secure service edge and SASE to help IT teams make smarter zero-trust access decisions and better defend against identity-based attacks."

D.J. Sampath, Vice President, Product Management, AI Security, Cisco

Two-year outlook

The use of AI to enhance cybersecurity is expected to increase in the next two years, with 51% of respondents planning to deploy AI-enabled endpoint recognition and policy management. This will give organizations the ability to identify potential performance and security issues and proactively address them. Another 54% plan to have an AI-enabled, SASE cloud architecture in place within the next two years.

51%

of IT leaders and professionals plan to deploy AI-enabled endpoint recognition and policy management to enhance cybersecurity within the next two years.

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Data center at scale

Different AI workload types come with different data center infrastructure needs. Organizations will need to modernize their data centers depending on the AI workload types they are prioritizing for their data centers. The three workload types can be categorized as:

1. Build the model for large foundational training.

2. Optimize the model for fine-tuning a pre-trained model with specific data sets.

3. Use the model for inferencing insights from new data.

The tsunami of AI workloads being deployed in enterprise data centers alongside more traditional workloads is resulting in a renewed prioritization of data center modernization. Organizations need an infrastructure capable of effectively hosting these new, demanding workloads, while also simplifying operations.

The bridge to possible

2024 Cisco Global Networking Trends Report / Contents / Data center at scale /
Trend: Data Center Modernization a Priority for Scaling AI Workloads

23

Trend

Data Center Modernization a Priority for Scaling AI Workloads

To facilitate increasingly data-intensive workloads from new applications like AI/ML, IT leaders and professionals are focusing their budgets on Ethernet and enhanced Ethernet to advance data center modernization.

Today

In addition to public and private clouds, on-premises data centers and edge environments are playing an increasingly important role in IT hosting plans. Among respondent organizations in this survey, 25% of their workloads are running in data centers, hosted clouds, or collocated data center environments. Another 17% are being hosted in edge environments with small form factor infrastructures.

A third of respondents said they are making data center network upgrades an investment priority over the next 12 months based on the increased network demand from new applications and workloads like generative AI (GenAI). For 32% of organizations, InfiniBand is the current high-performance, high-throughput technology of choice to connect data-intensive workloads.

"While the details of your AI effort will continue to evolve, the infrastructure choices made now will determine their future success. Ethernet is the answer standing the test of time—and will once again through new standards-based innovations."

Kevin Wollenweber, Senior Vice President and General Manager, Engineering, Data Center and Provider Connectivity, Cisco

Two-year outlook

Over the next two years, 47% of respondents expect a moderate or significant increase in workloads hosted in data center, hosted cloud, or collocated data center environments.

The expected expansion of AI workloads poses a major network scaling challenge. Networks must scale more efficiently than with traditional network protocols used for high-performance computing environments. This is leading to greater interest in Ethernet and enhanced Ethernet connectivity, with 89% of respondents planning to have deployed some form of AI-ready data center clusters within two years and 56% saying they will deploy a next-generation enhanced Ethernet network to provide standardized packet lossless technology to support AI workloads.

56%

of respondents are planning to deploy next-generation enhanced Ethernet networks to meet the increasing demand of AI workloads over the next two years.

Explore how to scale your
data center for AI applications.

2024 Cisco Global Networking Trends Report / Contents / Data center at scale / Trend: Data Center Operators Adopt AI and Platforms

24

Two-year outlook

Within two years, 61% of respondents plan to simplify their data center network operations with an AI-native platform approach that facilitates predictive operational insights to support more efficient and secure data center management of workloads and services across NetOps, DevOps, and CloudOps.

61%

say they plan to simplify their data center network operations over the next two years with AI-native platforms to facilitate predictive operational insights from AIOps and data analytics.

Trend

Data Center Operators Adopt AI and Platforms

Data center teams are turning to network platforms and AI to address the increasing complexity of data center network operations.

Today

Currently, 38% of organizations clearly see how a network platform can support simplified data center network management. And 32% see immediate dividends from access to aggregated network telemetry data to feed analytics and AI-native capabilities for better user and IT outcomes.

Faster IT and business innovation is recognized as the top benefit of a platform approach by 43% of those surveyed. For 42%, the top benefit is simplified end-to-end network management that facilitates cross-domain IT workflow integrations across SecOps, CloudOps, and ITOps. For 41% of respondents, a major benefit of a platform approach is the ability to accelerate deployment of applications and networks.
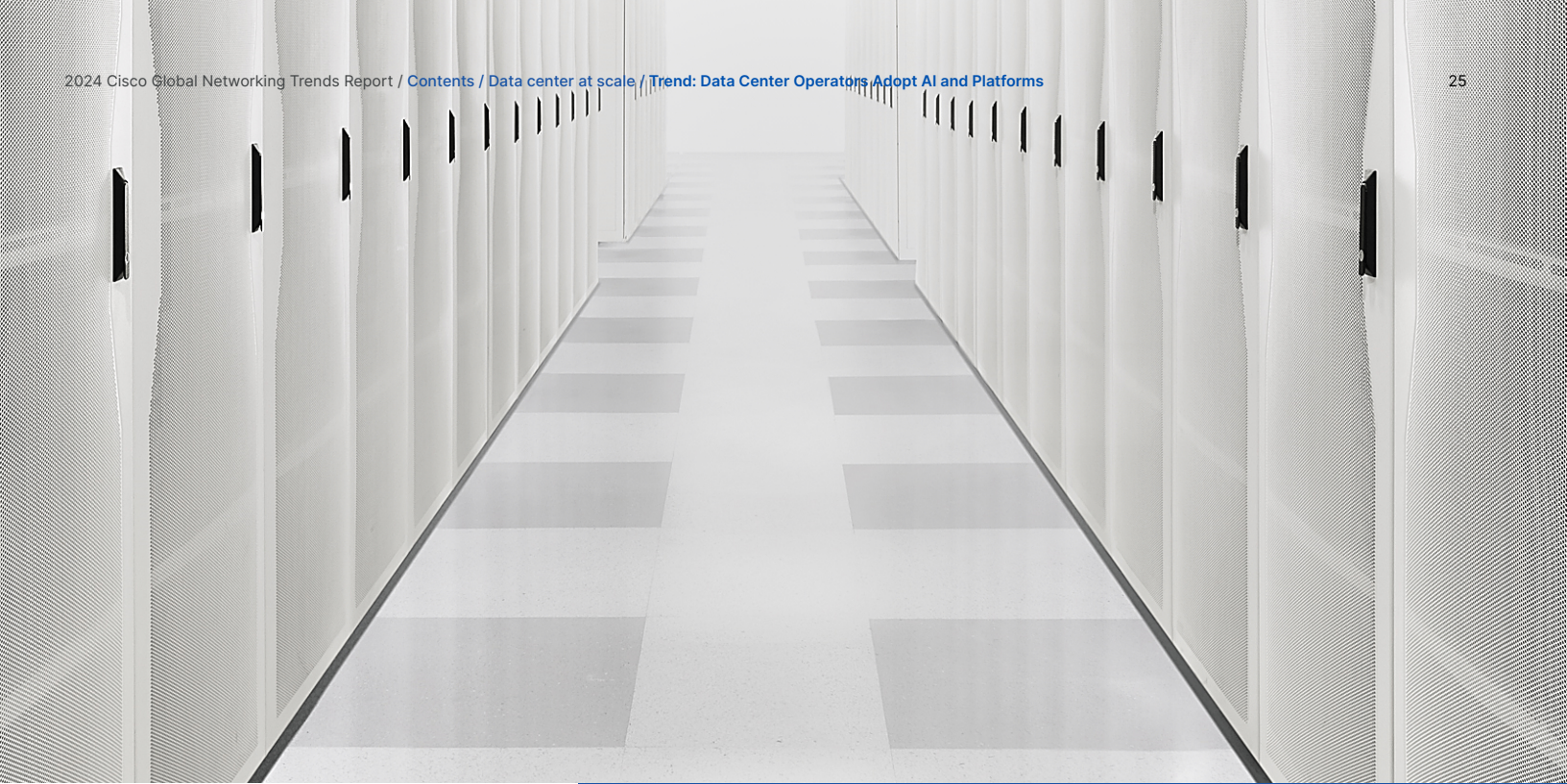
Data center modernization initiatives planned within the next two years to meet increasing workload and operations demands.

↑

47% of respondents expect a moderate or significant increase in workloads hosted in private data center, hosted cloud, or collocated data center environments.

89% data center clusters deployed for running AI workloads

61% AI-native platform approach that facilitates predictive operational insights

56% enhanced Ethernet network fabrics for running AI workloads

43% platform architecture across all domains, including data center

40% hardware modernization to drive greater energy efficiency and sustainability goals

Sustainability advancement

"As a CIO in current days, sustainability is part of the strategy. IT needs to ensure that these [sustainability business goals] are being supported by IT solutions, and moreover, that these IT solutions are using sustainable technologies themselves."

CIO,
Private Holding Company in Latin America

Business stakeholders continue to drive sustainability demands, often driven by mandated environmental, social, and governance (ESG) compliance standards. This puts IT squarely in the lead to reduce energy consumption and minimize emissions. Hampered with lack of visibility and poor data quality, IT's focus is to advance visibility of sustainability data across their networks and to create smarter, more sustainable buildings.

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2024 Cisco Global Networking Trends Report / Contents / Sustainability advancement /
Trend: IT-Led, Data-Driven Strategies for Sustainability

27

Trend

IT-Led, Data-Driven Strategies for Sustainability

Organizations believe that IT can play a leadership role in their sustainability strategies. Collecting the right data and producing insights to reduce energy usage and carbon emissions is a work in progress, with many companies expecting major progress in the next two years.

Today

IT leaders and professionals said networking investments over the past 12 months have advanced sustainability goals by 19%. For 42% of organizations, sustainability is seen as one of the top areas where the network can drive digital business success, and IT is playing a major role in the formulation of sustainability strategies.

"As we collectively move toward an increasingly digital future, IT will play a critical role in helping to turn this ambition [net-zero campuses by the end of 2025] into a reality."

Rachel Higham, Global Chief Information Officer, WPP

Two-year outlook

IT anticipates being embedded in organization-wide sustainability strategies, according to 56% of respondents. Another 55% of IT leaders and professionals expect network protocol-driven sustainability initiatives like selective powering and the use of low-power modes to positively impact sustainability goals over the next two years. According to IDC, by 2026, ESG performance metrics will be viewed as a top decision factor for IT equipment purchases and over 50% of RFPs will include metrics on carbon emissions, material use, and labor conditions.[3]

56%

of IT leaders and professionals expect IT to be embedded in organization-wide sustainability strategies over the next two years.

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2024 Cisco Global Networking Trends Report / Contents / Sustainability advancement /
Trend: Infrastructure Telemetry and Visibility Requirements are a Priority

28

Trend

Infrastructure Telemetry and Visibility Requirements are a Priority

IT teams struggling with gaining visibility into relevant sustainability metrics expect to utilize platform dashboards to gain comprehensive visibility into real-time sustainability telemetry.

Today

The main technological obstacle to becoming a sustainable organization is that existing IT products do not provide an adequate level of visibility into sustainability data, said 40% of respondents. Specifically, nearly a third (32%) said they don't have visibility into their IT-related energy consumption or emissions data. Another 39% said they are unsure if the data they're gathering meets the quality standards needed for measuring their sustainability performance for external reporting.

Two-year outlook

Network-driven energy management (e.g., real-time telemetry and platform dashboards) solutions are expected to have a significant, positive impact on sustainability strategy, said 60% of respondents. Another 25% expect to use network and AI solutions to deliver sustainability outcomes across the organization that are customized to industry-specific or layout-specific needs. For example, at a large office complex, thousands of data points are generated every second to fine-tune energy efficiency for heating, cooling, and lighting.

60%

of respondents said network-driven energy management solutions like access to real-time telemetry and platform dashboards are expected to have a significant, positive impact on sustainability strategy over the next two years.

"Greater infrastructure visibility allows companies to optimize future upgrades, purchasing only the necessary capacity to avoid wasting energy."

Frank Osberg, Network Architect, Solar Denmark

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IT initiatives expected to positively impact sustainability strategy over the next two years:

60% IT network-driven energy management
(e.g., real-time telemetry and platform dashboards)

55% Network protocol-driven sustainability (e.g., selective
and low-power modes, demand anticipation)

44% Procurement transformation (e.g., partner/
vendor selection, packaging, recycling)

40% Partner/vendor selection (e.g., mature
sustainability services and programs)

39% Hardware modernization (e.g., product
modularity and product efficiency)

2024 Cisco Global Networking Trends Report / Contents / Sustainability advancement /
Trend: Planning for Improved Building Infrastructure Efficiencies and Experiences

30

Trend

Planning for Improved Building Infrastructure Efficiencies and Experiences

With over half of the workforce now reportedly working mainly from corporate sites, and with buildings being a major source of CO2 emissions, IT teams can now modernize buildings using data and analytics to meet sustainability and employee productivity goals.

Today

Work models are split down the middle among organizations, with 54% of respondents saying they connect to the network primarily at an office or corporate site and 46% connecting from home, in the field, or working hybrid schedules. At the same time, according to industry figures, 37% of the world's CO2 emissions come from buildings,[4] while more than 30% of a building's energy is wasted, according to estimates in the U.S.[5] Additionally, 36% of study respondents said that connectivity, infrastructure, and facilities management all require significant improvements to be more sustainable. IT teams can partner with facilities management professionals to modernize work environments for improved employee satisfaction and productivity while also improving energy efficiency and lowering their carbon footprint through monitoring, data analysis, and more efficient infrastructure.

Two-year outlook

In the next two years, 30% of respondents believe that sustainability concerns will significantly impact their organization's networking strategy. 31% anticipate deploying network-enabled energy visibility, and control features will be among the top smart building investment areas over the next two years.

During this time, they are also prioritizing the upgrading of Wi-Fi infrastructure for improved performance and density (42%), deploying a platform for smart services (35%), and upgrading switches to support Power over Ethernet (PoE) (34%).

"The priority has been, particularly after the disruption of COVID-19, to create a welcoming space where people can unlock their creativity. ... We have a role to play in attracting employees back to the office. People have missed that experience."

Colin Bannon, Chief Technology Officer, BT

42%

of organizations said their top smart building initiative over the next two years will be prioritizing the upgrade of Wi-Fi infrastructure for improved performance and density.

Top planned smart building investment areas over the next two years:

42% Upgrading Wi-Fi infrastructure for improved performance and density

35% Deploying platform for smart services such as location-based services

32% Upgrading switches to support Power over Ethernet (PoE, Universal POE)

31% Deploying network-enabled energy visibility and control

29% Implementing energy-efficient infrastructure

29% Enabling policy-based microsegmentation to support zero-trust network access (ZTNA) for IoT

Conclusion

At a time of economic and sociopolitical change, organizations are on a journey to create operational efficiency, secure connectivity, and accelerate IT innovation for digital business advancement.

IT leaders are advancing their organization's network journey by:

- ⊘ Proactively assuring reliable, secure, connected experiences for greater digital resilience

- ⊘ Ensuring a simplified and unified operational experience across domains and teams with AI-native network platforms

- ⊘ Delivering the scale and flexibility to support the use cases, applications, and workload demands of today and tomorrow

- ⊘ Adding extensive data-driven capabilities to simplify complex cross-domain environments, achieve proactive remediation, and strengthen security across users and devices

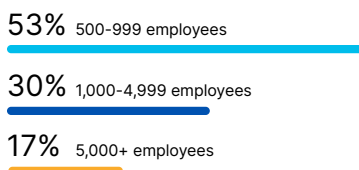- ⊘ Enabling easy access to a broad ecosystem of partner solutions via open APIs

Within the next two years, many more organizations will add advanced networking architectures and capabilities to their environments, doing far more with increasingly scarce human resources and redefining how the network contributes to the bottom line.

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Methodology

The Global Networking Trends study was conducted by Cisco with research and analysis by IDC, during November 2023. Responses were gathered from 2,052 IT leaders and professionals from 13 countries and 10 industries. Top networking challenges, priority IT and business outcomes, architectural advances, and future-looking investment strategies were assessed across a dozen criteria points critical to an organization's networking advancement, including architecture, cross-domain security strategy, and the pivotal role AI plays across all facets of networking.

Canada - 87

USA - 390

Mexico - 87

Brazil - 90

UK - 220

France - 187

Germany - 201

India - 115

China - 194

Japan - 178

Korea - 91

Singapore - 78

Australia - 134

Company size

53% 500-999 employees

30% 1,000-4,999 employees

17% 5,000+ employees

Demographics

- 13 countries
- 10 industries
- 2,052 respondents surveyed
  - 68% IT professionals (manager, director)
  - 32% IT leaders (VP, EVP, C-Level)

Objectives

- Assess top networking challenges
- Identify priority IT and business outcomes
- Understand level of architectural advancement
- Determine future investment strategies

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[1] IDC Analyst Connection, sponsored by Cisco, "How A Network Platform Approach Is Becoming Imperative for IT and Business Agility," #US51420323, December 2023.

[2] "Cloud Security Market Size, Share, Trends," Fortune Business Insights, 2021.

[3] IDC Blog, IDC FutureScape: WW Sustainability/ESG 2023 Predictions, December 5, 2022.

[4] "Building Materials and the Climate: Constructing a New Future," United Nations Environmental Program report, 2023.

[5]   "How Much Energy is Consumed in U.S. Buildings?" FAQ, U.S. Energy Information Administration, 2023.

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