July 2025

Wired for Intelligence: Modernizing Healthcare infrastructure with AI-Ready networks

InfoBrief, sponsored by NTT DATA and Cisco

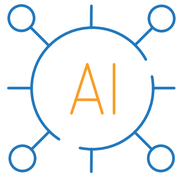
Chris Barnard
Vice President, European Telecoms and Infrastructure

Len Padilla
Senior Research Director, European Networking and Life-Cycle Services

Lynne Dunbrack
Group Vice President for Public Sector

Executive Summary: AI-powered networking is redefining the digital enterprise and driving better outcomes.

In a rapidly evolving digital landscape, AI is revolutionizing networking across industries, offering unprecedented opportunities for growth and efficiency. This IDC InfoBrief delves into the transformative impact of AI on networking, highlighting its critical role in healthcare. By leveraging AI-driven monitoring, automated configuration, anomaly detection, and self-healing capabilities, organizations can enhance network resiliency and responsiveness, driving tangible business benefits.



AI Networking Insights

AI is reshaping network management by enabling advanced automation, enhancing security, and optimizing performance, thus becoming a strategic asset for businesses.

Healthcare Advancements

Healthcare organizations are implementing AI for network management, ensuring secure and reliable connectivity for critical medical applications.

Over 78% of companies state that networking capabilities are either important or very important in selecting a provider for generative AI (GenAI) infrastructure. By harnessing the power of AI in networking, organizations can enhance their operational capabilities, foster innovation, improve their competitive position, and accelerate business growth.

Source: IDC's *AI and Networking Survey, 2024* (N = 1,209)

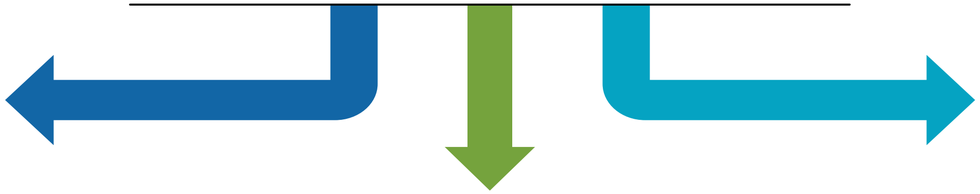
AI will have a significant economic impact and is transforming the future of every industry.

- Businesses across various sectors are recognizing the **transformative potential of AI** and are allocating significant portions of their budgets to integrate these technologies into their operations.
- The **entire AI supply chain**, from providers of essential backend supplies to AI solutions and services providers, is experiencing **increased revenue**.
- This growth extends to AI adopters on the frontend, who benefit from **enhanced production capabilities** and **new revenue streams**.
- The **ripple effect of AI adoption** is creating a robust economic ecosystem that supports sustained growth.

AI will generate a cumulative Global Economic Impact of

$19.9 Trillion by 2030.

It will represent 3.5% of global GDP in 2030 and is given by



Accelerated AI adoption with increased **direct spending on AI solutions and services**

An indirect impact on the whole **AI supply chain**, with increasing revenue for the providers of essential backend supplies to AI solutions and services providers, spurring economic **stimulus among AI adopters** on the frontend through increased production and new revenue streams

Induced impact from **increased household income and employee spending** along the **entire AI value chain**

In 2030, every new dollar spent on business-related AI solutions and services will generate $4.6 into the economy, in terms of indirect and induced effects.

Notes:
- Global Economic Impact is calculated as a cumulative sum of the direct, indirect, and induced economic impact from 2024 to 2030.
- Percentage of GDP is calculated using the total economic impact of AI in 2030 and the projected worldwide GDP by IMF in 2030.

The accelerated adoption of AI technologies is driving massive investment, which aims to unlock new efficiencies, innovation, and competitive advantage across industries.

Source: IDC Macroeconomic Center of Excellence, 2024

Enterprises want to adopt AI, but they are still working from old playbooks.

50% of enterprises in the early stages of GenAI adoption will integrate AI into 10-20 applications.

Over **40%** of enterprises in the advanced stages of GenAI adoption will integrate AI into 20-30 applications.

23% of enterprises with moderate GenAI adoption will integrate AI into over 30 applications.

Over **10%** of enterprises in the advanced stages of GenAI adoption will integrate AI into over 30 applications.

Total sample: *N=1,209* – ***Weighted base:*** *N=1,209.* ***Q:*** *Over the next year, within how many enterprise business or IT applications does your organization plan on integrating Generative AI (GenAI) model results?-*

Significant Impact:
GenAI integration into enterprise applications will greatly affect networking requirements.

Varying Adoption Levels:
Many organizations plan to incorporate GenAI, with different degrees of adoption.

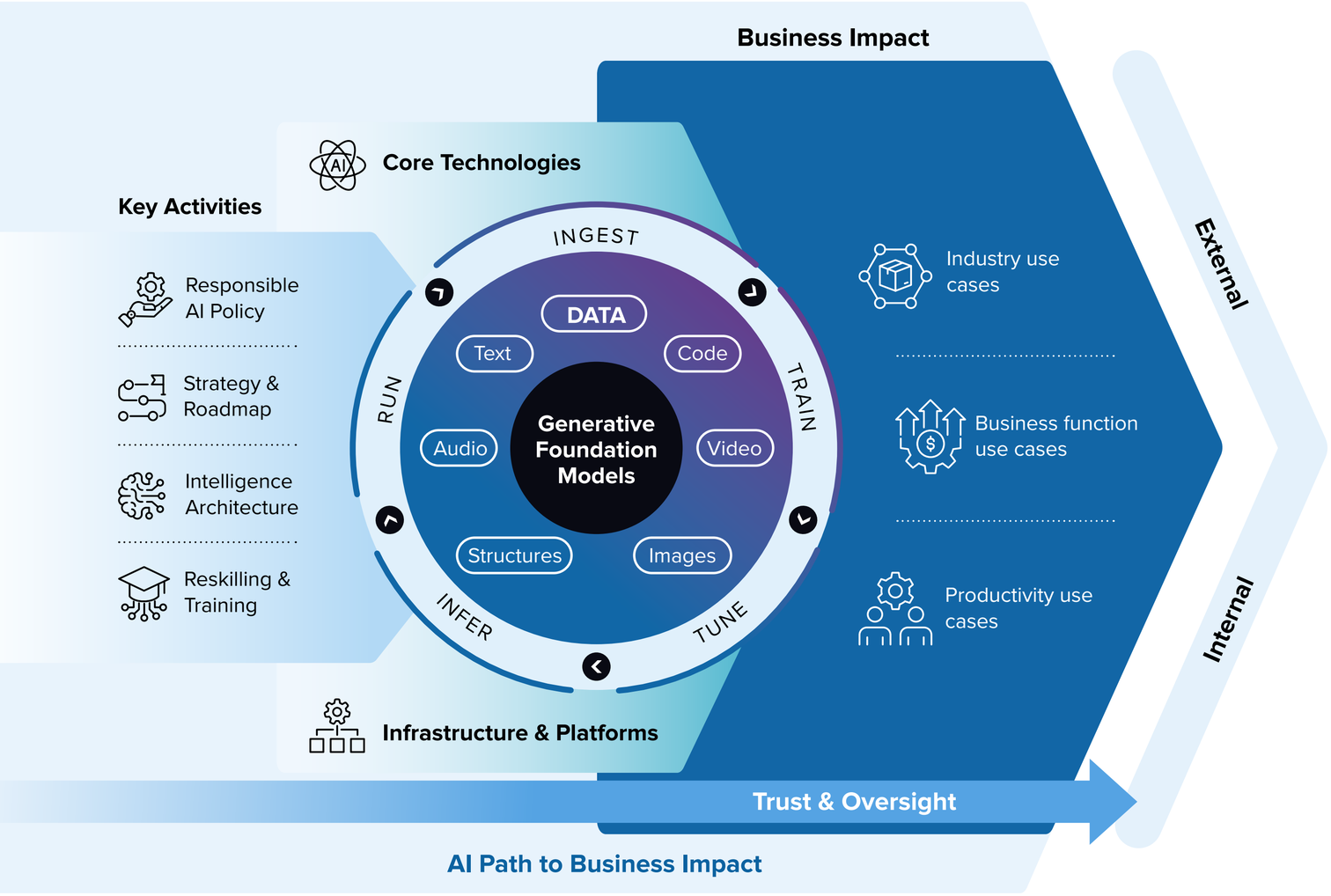
Critical Networking Needs:
As usage increases, high-speed, low-latency networks become essential.

Seamless Data Exchange:
Ensuring real-time processing and seamless data exchange is crucial.

Supporting AI Demands:
Infrastructure must evolve to meet the demands of AI-driven business processes.

Networks must evolve to become smarter and more adaptive, leveraging AI-enabled services to meet the heightened expectations of today's digital business and surpass the capabilities of yesterday's service providers.

Technology support should go beyond SLAs and break-fix/uptime to include business outcomes.



Service level agreement

Performance, Reliability, Uptime

Ensures business continuity, minimizes disruptions and maximizes user productivity

KPI: Availability, response times for critical services

Utilization level agreement

Resource optimization and cost efficiency

Reduces IT spending, optimizes resource allocation and minimizes security vulnerabilities

KPI: Cost reduction and improved license usage level

Value level agreement

Business outcomes and strategic alignment

Drives business growth, enhances customer experience, mitigates risks and delivers measurable ROI

KPI: Increased revenue and customer satisfaction

Shift the focus from uptime to outcomes:
Align technology support with what the business truly values.

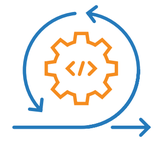
Companies can maximize business impact through strategic AI vendor and technology selection.

Focus on Outcomes, Not Products

When selecting vendors and technologies, prioritize **solutions that deliver tangible business outcomes** rather than just focusing on product features. Ensure that your t**echnology investments align with strategic goals**, driving measurable results that enhance overall business performance.

Look for Value Creation from AI Technology and Services

Choose vendors who offer **AI solutions and services designed to create value** by enhancing efficiency, fostering innovation, and providing a competitive edge. By maximizing the value derived from AI investments, businesses can achieve sustainable growth and long-term success.



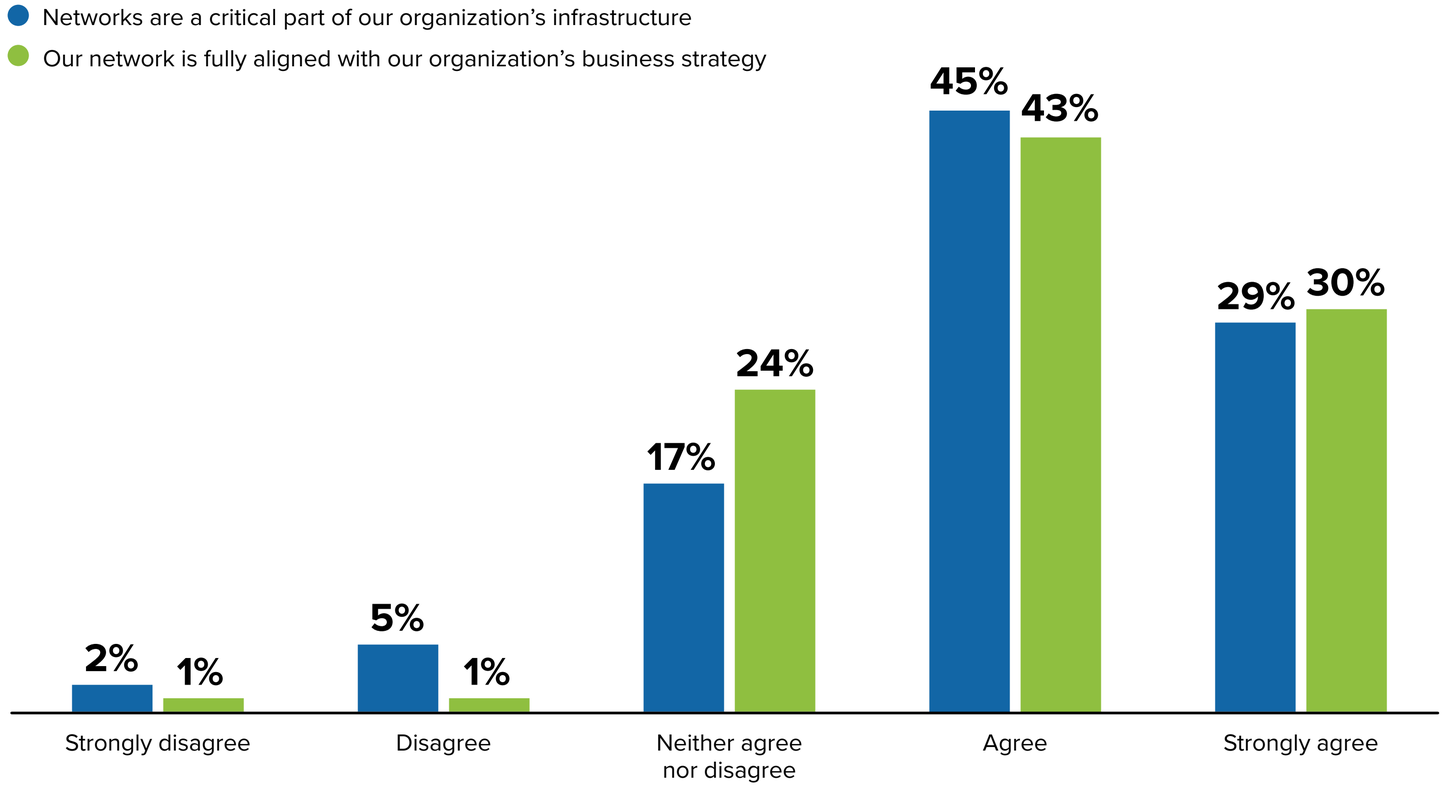
Use AI to Improve Lifecycle Services

Leverage **AI to optimize lifecycle services**, from initial deployment to ongoing maintenance, ensuring that each phase benefits from AI-driven insights and automation. This approach guarantees **continuous improvement and operational excellence** throughout the technology lifecycle, reducing costs and enhancing service quality.

Nearly three in four healthcare providers view networks as critical infrastructure that aligns with their business strategies.

Top healthcare trends driving the need for network platforms:

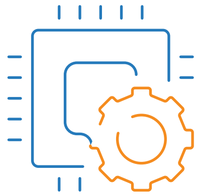
- Investments are increasing in network technologies.
- The explosion of the Internet of Medical Things and healthcare data is increasing the attack surface.
- AI-enabled technologies are expanding.
- Mergers and acquisitions and the resultant combination of IT systems, infrastructure, and data assets are creating complexity and increasing the attack surface.
- IT infrastructure is being modernized.

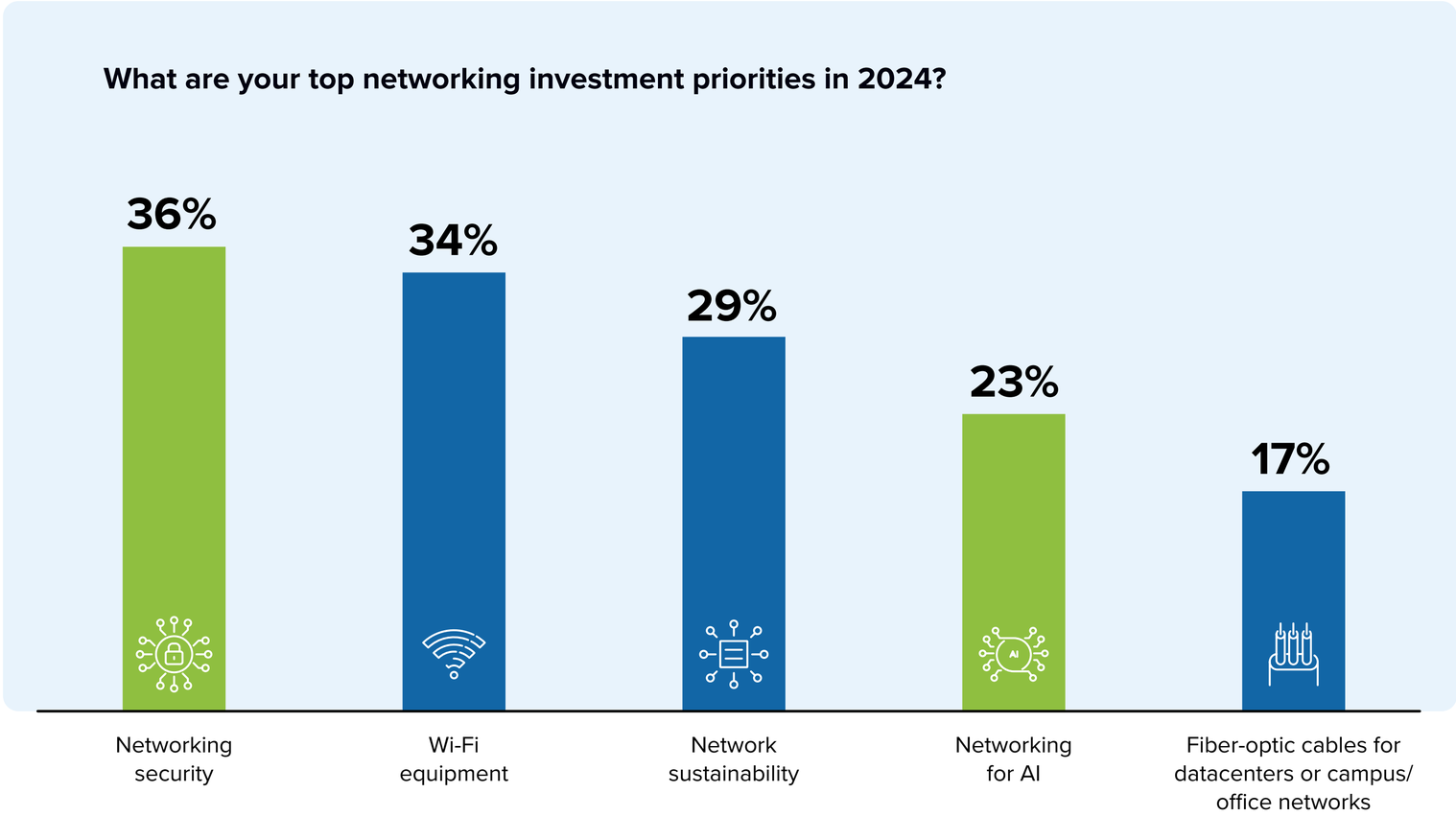


Source: IDC's *Enterprise Networking and Life-Cycle Services Survey, 2024*, healthcare (n = 86)

The cybersecurity stakes in healthcare have never been higher.

- Healthcare organizations face myriad unique pressures in transforming into modern digital enterprises. New attack vectors are emerging. The proliferation of connected health devices — in both distributed care settings and patients' homes — requires data processing at the edge.
- The accelerated use of AI technologies — advanced analytics and predictive, generative, and agentic AI — requires vast data stores for machine learning and to train foundation models. And all this data must be secured while in motion and at rest. Network security and networking for AI were top networking investment priorities in 2024.



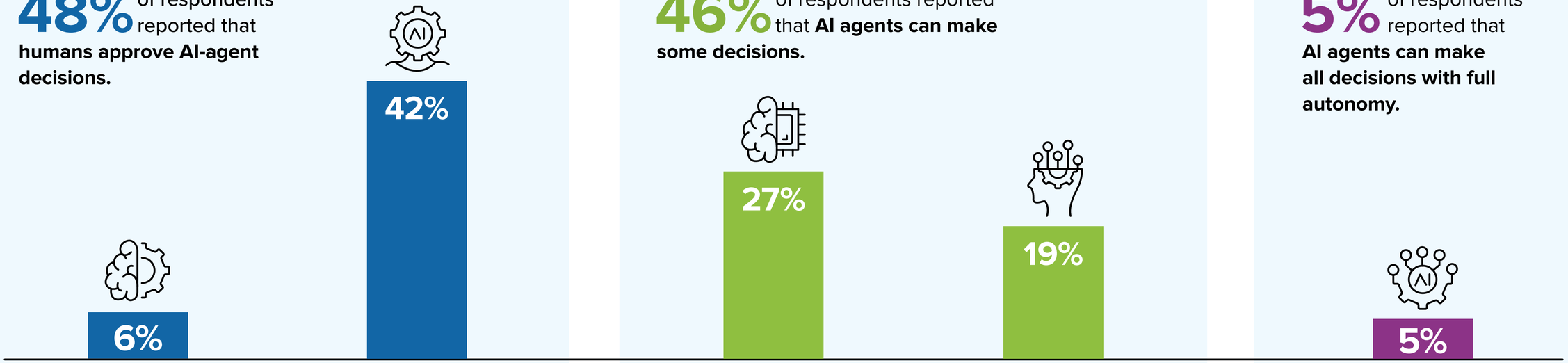


Source: IDC's *Enterprise Networking and Life-Cycle Services Survey, 2024*, healthcare (n = 86)

Agentic AI is gaining traction with healthcare providers, who envision AI agents participating in decisions. Human oversight remains the dominant model.

This shows that the industry is cautiously advancing toward semi-autonomous AI while maintaining accountability frameworks.

Which statement best represents your view of using agentic AI for decision-making within core operational processes in your organization?



Source: IDC's *GenAI Industry Use-Case Adoption Trends Survey*, March 2025, healthcare (n = 154)

Healthcare organizations' security and AI challenges demand investment in network modernization and security.

The urgency for healthcare providers to modernize their networks is growing.

Increasing reliance on applications, IoMT, and data

Enhancing patient connectivity experience

Improving operational efficiency and streamlining workflows

Addressing security concerns and compliance

Providing scalability and flexibility to support future innovation and growth

53% **of healthcare organizations reported that improved security will be their organizations' top priority for their campus networks over the next two years.**

Source: IDC's *Enterprise Networking and Life-Cycle Services Survey, 2024*, healthcare (n = 86)

Network platforms benefit IT professionals, healthcare providers, and patients.

IT Professionals

- AIOps streamline IT processes, thus helping IT workers become more efficient and productive.
- AIOps management can predict when maintenance is necessary, reduce unexpected downtime, and detect issues before end users are aware of them, resulting in enhanced experiences for both IT and end users.
- AI algorithms analyze network traffic in real time to automate threat detection, enhance real-time response, and improve defense capabilities.

Healthcare Providers

- AI-enhanced network platforms increase network reliability and performance, which ensures healthcare providers have access to critical patient data at the point of clinical decision-making.
- Improved network performance is essential for mission-critical healthcare applications requiring high-bandwidth, low-latency, and highly reliable connectivity.
- Clinician experience with healthcare IT systems has improved thanks to enhanced network performance, greater uptime, and increased reliability.

Patients

- Reliable and secure access to electronic health information enables healthcare providers to make better clinical decisions.
- Preventing network outages ensures continuous healthcare operations. For example, patients' appointments are not canceled or delayed, and ER patients arriving by ambulance are not diverted to other institutions. When a cyberattack compromises access to patient information, patient safety is at risk.
- Improved security mitigates the risk of medical identity theft for patients.

Networking leaders should create a clear road map for future AI networking adoption. The keys are assessment, planning, and investment.

Start the AI networking journey with pilot programs:

- Gain visibility and control over the current network infrastructure.
- Implement AI-enabled platforms with natural language interfaces for operations.
- Architect networks to integrate AI throughout the enterprise.
- Develop a skills transformation plan and identify early-win AI use cases.

Year 1

Use AI-enabled networking for observability and control.

Drive the adoption of advanced and AI-enabled networking:

- Incorporate intent-based network concepts for enhanced assurance.
- Build datacenter networks to support AI workloads outside of cloud environments.
- Explore early use cases for AI-driven networks with automated root-cause analysis and remediation.
- Extend AI assistant usage as capabilities improve and confidence increases.

Year 2

Build out the datacenter network to support AI workloads.

Embed AI features into all networking areas:

- Integrate network automation with wider IT application deployment.
- Implement network and security platform convergence techniques for unified security controls.
- Expand the use of network-generated data for improved operational and business insights.

Year 3

Identify opportunities and implement AI across all operations.

Building the Digital Infrastructure foundation for AI-Driven Growth

NTT DATA and Cisco together deliver secure, scalable, and high-performance digital infrastructure solutions purpose-built for AI. We help organizations build the digital backbone for AI—from secure networking and cyber-resilient systems to hybrid data centers and AI-ready experiences for employees and customers. With Cisco's industry-leading technology portfolio and NTT DATA's global reach and end-to-end service portfolio, we deliver best-in-class infrastructure and service innovation. AI is embedded across every layer of our service delivery model—from AI Assistants and Agents to AI-powered services. Our AI-first, technology-centric approach gives organizations the visibility, control, and intelligence they need to plan, deploy, and operate with confidence. Together, we empower technology leaders to reinvent digital infrastructure for AI and unlock agility, efficiency, and measurable outcomes.

Visit our Secure Networking page to learn more .

Book an Infrastructure & Software Lifecycle Assessment to get started.

For more about our partnership, visit our NTT DATA-Cisco partner page.

About IDC

International Data Corporation (IDC) is the premier global provider of market intelligence, advisory services, and events for the information technology, telecommunications, and consumer technology markets.

With more than 1,300 analysts worldwide, IDC offers global, regional, and local expertise on technology and industry opportunities and trends in over 110 countries. IDC's analysis and insight help IT professionals, business executives, and the investment community to make fact-based technology decisions and to achieve their key business objectives.

Founded in 1964, IDC is a wholly-owned subsidiary of International Data Group (IDG, Inc.), the world's leading tech media, data, and marketing services company.

IDC Custom Solutions

This publication was produced by IDC Custom Solutions. As a premier global provider of market intelligence, advisory services, and events for the information technology, telecommunications, and consumer technology markets, IDC's Custom Solutions group helps clients plan, market, sell, and succeed in the global marketplace. We create actionable market intelligence and influential content marketing programs that yield measurable results.

IDC UK
1st floor, Whitfield Street, London, W1T 2RE, United Kingdom
T 44.208.987.7100