



2020 Global Networking Trends Report

Executive Brief

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Never before has IT's role in the organization been so critical, nor has so much been at stake. Nine out of 10 executives believe that emerging digital technologies will transform their businesses, and the majority are looking to IT to lead the way.

This executive summary of the *2020 Global Networking Trends Report* provides insights into the trends driving the need for a new networking model; what that model means from a technology, operations, and talent perspective; and how you can align your IT investments to get the greatest effect and benefit.

Why now?

We are in the midst of the biggest network transformation ever. Siloed planning and execution are giving way to a systematic approach to delivering and operating network services. IT teams that understand these impending changes will be better prepared to make the best choices for their organizations.

What you will find.

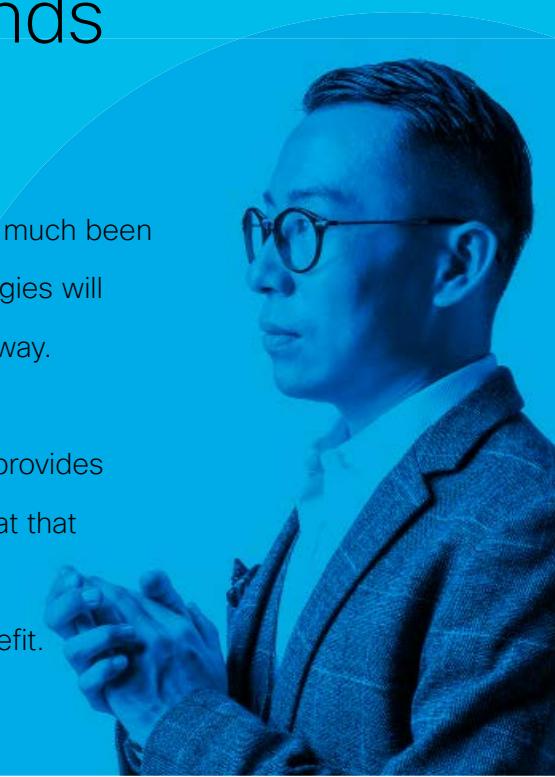
This report offers up-to-date information that can guide your network transformation plans.

- It provides valuable guidance from Cisco's top networking experts and highlights data from our *2019 Global Networking Trends Survey*, including insights into how your peers are transforming their networks.

- It reveals where the most critical skills gaps will be, going forward, and how to develop the talent needed to build the network team of the future.
- It identifies the essential things you need to know to have the right conversations with your network team as you evolve your network roadmap.

Why Cisco?

If anyone can lay claim to a "heritage" in networking, it's Cisco. Cisco has a proven record of helping IT teams through a myriad of successful technology transitions over the last three decades. Not only does the vast majority of Internet traffic travel across Cisco's systems, but Cisco® solutions are the networking foundations for service providers, corporations, government agencies, utilities, and educational institutions around the world.



Trends shaping the network in the digital age

Macro global, social, and business forces are combining with ongoing technological innovation to define the strategic importance and required capabilities of tomorrow's IT networks.

A number of global, business, and technology trends are shaping the role that the network plays in an organization. Understanding these trends can help IT leaders better prepare themselves for the increasing expectations assigned to the network by business leaders.



43%

43% of IT leaders consider their networks as strategic business-enabling or business-enhancing platforms, and only 8% consider them

a “noncritical cost center.” In addition, 87% believe they will have an advanced network that can keep up with dynamic business needs within three years.¹



Key insights

The network is evolving from “connectivity driven” to “business-outcome driven”:

The last 50 years of networking have been focused on achieving fast, reliable, and ubiquitous connectivity. However, traditional networking models can no longer sustain the needs of businesses that are innovating at an ever-increasing rate. The new network needs to be in continuous harmony with the changing needs of the organization. It needs to intelligently provide transparent, secure, and ubiquitous services—just like the electric grid. This new model has been termed “intent-based networking” (IBN) and builds on many facets of software-defined networking (SDN).

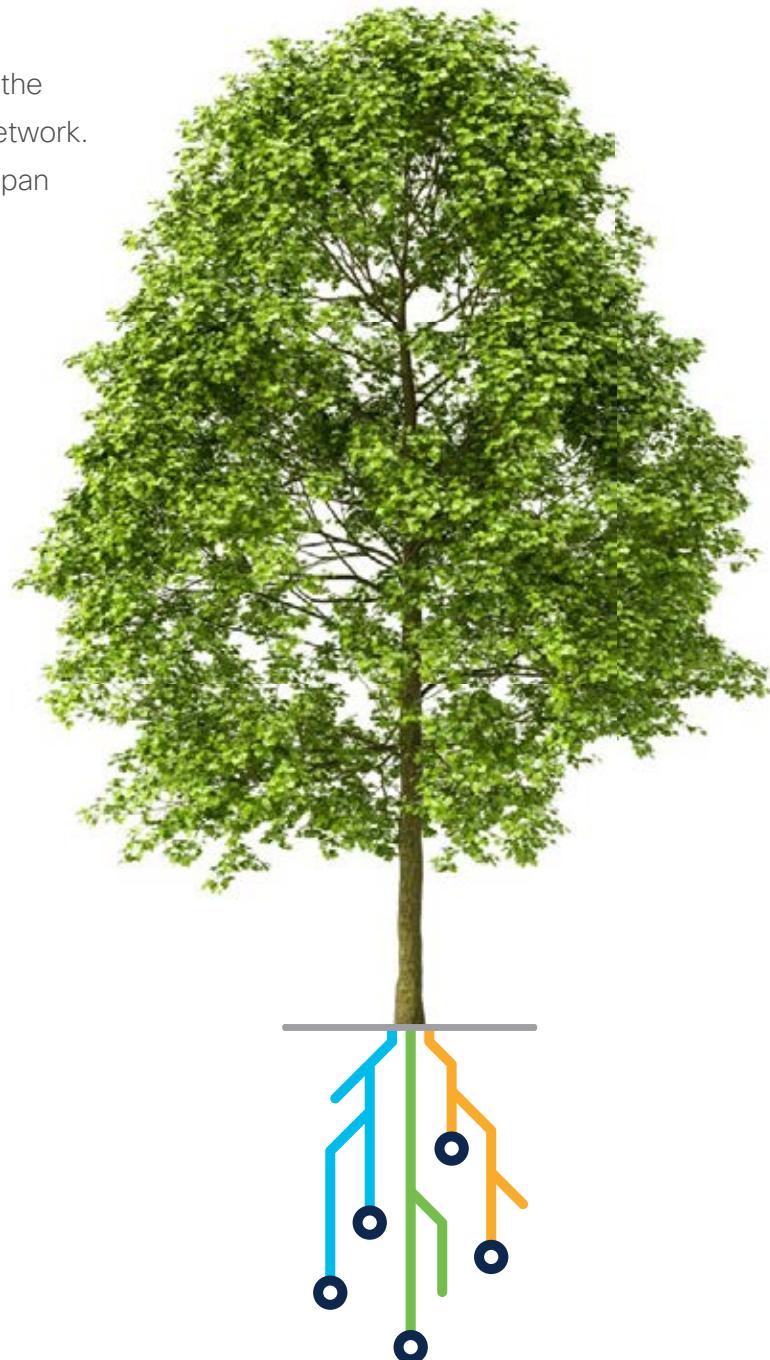


Emerging technologies are critical to managing scale and complexity: The sheer scale, complexity, and dynamic nature of today's business and digital demands are exceeding the capacity of human operators alone. Emerging technologies such as automation, artificial intelligence (AI), and machine learning can significantly improve how organizations simplify and secure operations, enable rapid adaptability, and augment human decision making.

Align network strategies to digital transformation

strategies: IT leaders should build a network transformation plan that takes into consideration the business and technology trends impacting the network. The plan should align to business priorities and span architecture, technology, operations, and talent.

Develop the team of the future: The new network will require new expertise and skill sets. Network strategists and network practitioners should identify career and learning pathways that will give them the skill sets needed to lead this network transformation and enhance their value.

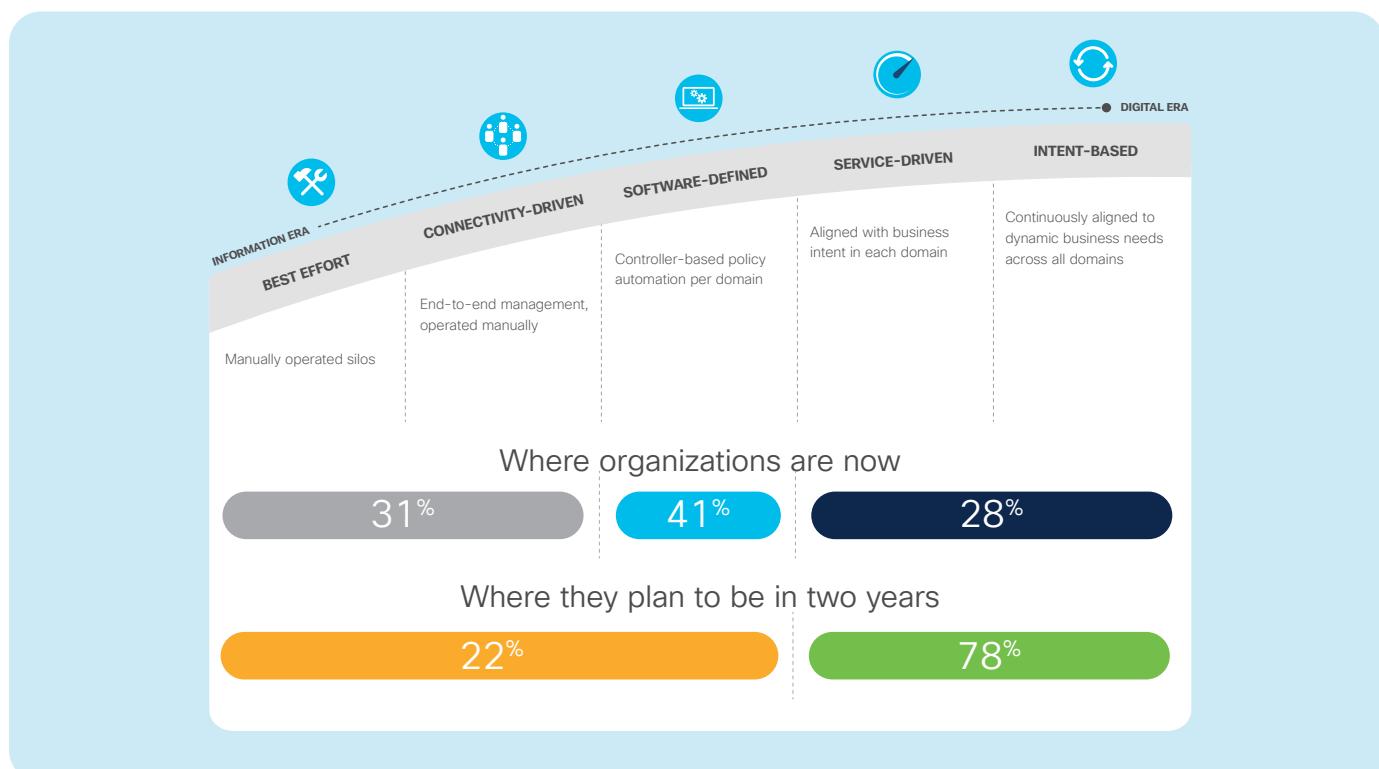


Trends in network technology

Harnessing and integrating emerging technologies will be critical to transforming the IT infrastructure and enabling the business.

Advances in five technology areas—**automation**, **AI**, **multicloud networking**, **wireless**, and **network security**—promise to power the biggest wave of network transformation seen in decades. These technologies will support the market’s needs for increased scale, agility, and security and, by doing so, will enable digital innovation with the necessary speed and confidence required to be competitive in today’s world.

Overall, IT leaders and network strategists are bullish about their journey toward a more advanced network that can meet the demands of the digital era.



78% of organizations actively plan to have adopted service-driven or intent-based networking within two years, and 94% will have deployed SD-WAN in the same time frame.¹

 Key insights

Accelerate automation, intelligently: While SDN has delivered substantial benefits, it has focused primarily on automating day 0 and day 1 provisioning and configuration. The next step is to evolve to an intent-based open platform that automates the complete network lifecycle and integrates seamlessly into the IT process. Build a roadmap that delivers on a strategy of closed-loop IBN across each network domain in incremental steps that deliver the best ROI to the organization.

Define AI boundaries: The use of AI in the context of IT operations (AIOps) is becoming critical for operations, service delivery, and network assurance. Expert networking knowledge will be needed to verify that AI is achieving IT and business objectives as intended. Define how far AI can go in making decisions or taking action before a human operator needs to get involved.

Implement processes to support multicloud networking: There's a perception that cloud diminishes the network's relevance. Nothing is further from the truth. Combining on-premises hosted applications with multicloud services and edge computing will require an intent-based network that extends visibility, policy control, and security to wherever data and workloads reside.

Software-defined WAN (SD-WAN), direct cloud access, colocation facilities, and cloud exchanges can ensure that cloud services effectively and affordably meet business requirements. In addition, multicloud applications

and services will require continuous integration and delivery between on-premises, cloud, and edge workloads. Enterprises that implement operational processes to support this will reap the benefits of greater speed and flexibility.

“We find that digital business innovation drives advances in wireless innovation, while advances in wireless innovation themselves are opening up possibilities for new business innovations. It’s the virtuous cycle.”

– Guillermo Diaz, SVP of customer transformation, Cisco

Create a wireless strategy around Wi-Fi 6 and 5G: The combination of Wi-Fi 6 and 5G, along with emerging capabilities such as OpenRoaming, will deliver on the promise of an always-on, high-quality user experience everywhere. Consider how Wi-Fi 6 and 5G will affect future business requirements, and shape your wireless strategy accordingly.

Strengthen network security through IBN: Integrating security with intent-based-networking capabilities results in a powerful combination that streamlines effective policy enforcement, protection, and remediation across the network. A good plan is to develop network security capabilities in five key areas: visibility and threat detection, zero-trust access, continuous protection, trustworthy network infrastructure, and integrated security operations (SecOps) and network operations (NetOps) workflows.

Trends in network operations

For the first time, networking teams—by virtue of embracing an open-platform, DevOps-led approach—have the tools and technologies to integrate the network into IT processes and streamline end-to-end workflows so they can gain efficiencies and be more responsive to business needs.

Many IT leaders have begun the journey from a reactive operational model to a business-outcome-driven model, and many more plan to follow suit over the next couple of years.



Question: Which statement best describes your organization's current approach to network operational readiness?

Source: 2019 Global Networking Trends Survey; n = 1556 network strategists

 Key insights

Traditional network operations models are unsustainable: In the face of ever-increasing digital demands, traditional network operations models are not sustainable in supporting required business services. To improve service quality, cost, agility, and security, network administrators should move away from managing individual devices and focus their attention on managing and automating the end-to-end network system via the network controller.

Align to three new process pillars: When adopting controller-based automation and assurance models, networking teams can focus their efforts on three critical process areas: 1) network lifecycle management, 2) policy management, and 3) assurance management. This also enables greater role clarity within the network operations team.



73% of networking teams spend more of their time maintaining the status quo rather than focusing on multicloud, security, applications, and deployment.¹ Manual tasks that could be automated are the enemy of innovation and increased value-add by teams.

An open-platform, DevOps approach is increasingly important: Embracing an open-platform, DevOps-led approach makes it possible to integrate the network into IT processes and streamline end-to-end workflows in order to gain efficiencies and be more responsive to business needs.

Siloed IT and a lack of integration across networking, other IT domains, and lines of business is hampering the ability of organizations to be agile, better serve their customers, and differentiate themselves from their competition.¹

Develop AIOps capabilities: The massive amounts of data, telemetry, and events generated by today's networks are exceeding the ability of human operators alone to take corrective action to consistently meet service requirements. By using machine learning and machine reasoning, human operators can respond faster and even predict and remediate problems before they occur—saving costs and preventing lost productivity and revenue caused by service disruptions.

Trends in network talent

Over the next two years, advanced networking technologies will alter nearly every network role. IT professionals will need to adapt to develop the talents needed for the new network.

Whether a line of business is deploying a new IoT application, new cloud service, or new compliance policy, IT professionals need to understand what is required from the network and what their role will be so they can deliver the required network services on time and securely.



Key insights

Top networking skills gaps: While leaders express a fair level of confidence in their network team's capabilities, they find that the biggest skills gaps exist around AI, IT and operations technology integration, automation, and networking DevOps.¹

Emerging areas will require new expertise: As the network becomes increasingly integrated with IT, new domain expertise in areas such as SecOps, AIOps, and NetOps will need to be developed.¹

Evolving role of strategists: Network strategists will take on high-value roles that target improving business alignment, integrating IT processes, improving security, and making better use of data. Strategists should consider acquiring technical, business, and software expertise that will broaden the value of their contribution.



93% of executives say the skills gap is preventing them from transforming fast enough.²

Evolving role of practitioners: As network operations become more automated, network administrators will take on roles that align to new operational practices related to the management of network lifecycle, policy, and assurance. Acquiring the right mix of technical and software skills will help practitioners succeed in these critical areas.

Get critical insights to guide your network transformation from Cisco's top experts.

[Watch the virtual event](#)

[View the full report >](#)

Sources:

1. 2019 Global Networking Trends Survey, Cisco, 2019.

2. Next-Generation IT Talent Strategies, Cisco, October 2018.

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