



The Quantifiable Business Value of Advanced Networking

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EXECUTIVE SUMMARY

Transforming the Network to Keep Pace with Digital Business

Digital transformation is creating pressure on enterprise networks to quickly evolve to meet digital business demands, while accelerating a flurry of technology advances.

IDC's 2020 networking trends predictions include:

SECURITY

By 2023, 60% of enterprises will look for integrated solutions with advanced security features, embedding automation and intelligence tools to optimize and secure their core and edge network.

EDGE

As the enterprise edge is re-architected, the worldwide SD-WAN infrastructure market will grow at a CAGR of 30% to exceed \$5 billion by 2023.

AI

Over 60% of large enterprises worldwide will rely on advanced AI capabilities to automate at least one part of their enterprise network by 2024.

WiFi 6 / 5G

Driven by the continued need for ubiquitous indoor and outdoor wireless connectivity, more than 50% of worldwide enterprises will have converged management of 5G and Wi-Fi 6 by 2025.

SDN

By 2023, more than 60% of large enterprises will adopt multicloud SDN for operational simplicity and consistent network and security policies across hybrid IT environments.

Successful IT organizations are embracing these advanced networking capabilities across multiple domains of the network – from the enterprise campus to the WAN/branch and datacenter/multicloud – with centralized visibility, automation, and security in an Intent-Based Networking architecture.

This is allowing organizations to achieve their digital transformation goals by:

- Adopting cloud-based services and edge computing
- Supporting a distributed mobile workforce
- Enabling a world of Internet-connected devices
- Reducing the risks of digital business

Organizations that deploy advanced networking technologies can achieve **significant value**. This IDC study showcases the quantifiable results organizations interviewed by IDC have realized as a result of embracing advanced networking technologies:

- Total value of \$204,600 per 100 users per year
- 10% average higher gross revenue by organization
- 21% higher productivity for developers
- 60% less unplanned downtime
- 21% more efficient IT network infrastructure teams

Source: IDC 2020 Futurescape Predictions for Enterprise Networking



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Traditional Networking Objectives are Not Enough in the Digital Era

Enterprises have traditionally measured the success of their networks based on a set of metrics such as capacity and availability. These are still important objectives, but they're not enough to ensure the network is meeting the needs of a modern digital business. IT must support both traditional and new metrics the network will be measured by.

IT's success is now being measured in frictionless operations: supporting new applications on any infrastructure; automatically and securely onboarding new users and devices, and leveraging artificial intelligence (AI) to enhance automation. Networks will increasingly integrate seamlessly with IT workflows, enable employee productivity, support new revenue opportunities, and facilitate a high-quality digital customer experience.

Advanced networking capabilities are needed to meet the traditional and new metrics IT leaders are measured by.

IT Efficiency

Reducing Risk

Enabling Business

TRADITIONAL KPIS

Capacity & scalability	Number of network disruptions	Number of users and devices supported
Network performance	Number of security breaches	Number of apps supported

NEW KPIS

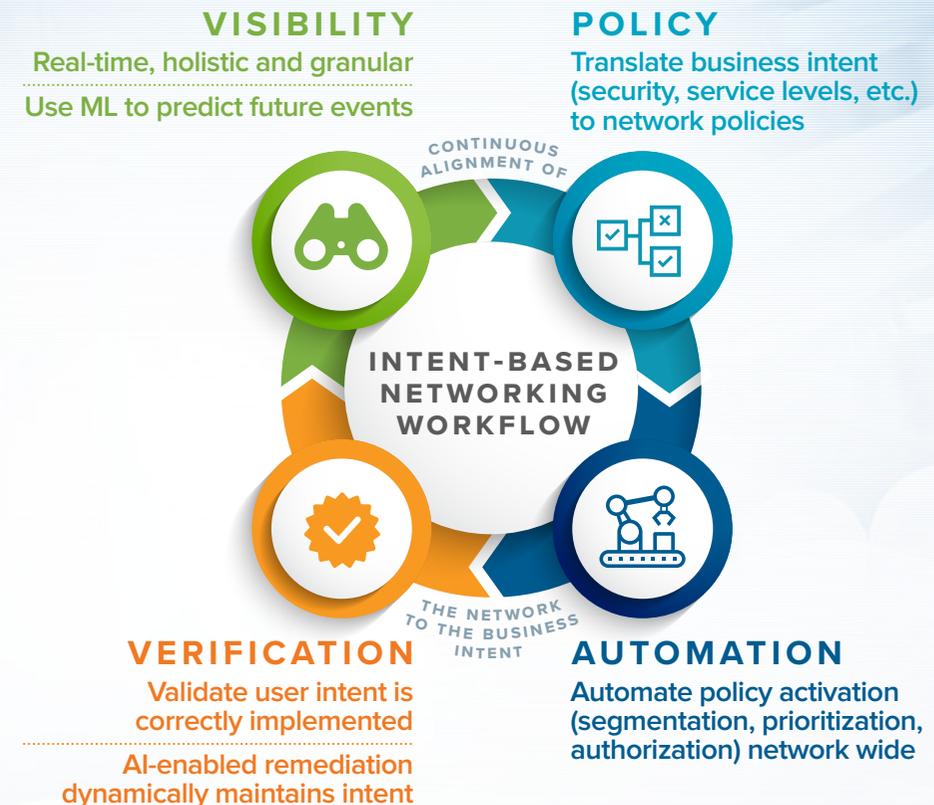
End-to-end application and service performance levels	Mean time to identify, resolve, predict and prevent breaches & disruptions	Quantifying and assuring high-quality end user / IoT experiences
Resource split between network maintenance and value creation	Dynamic identity-based policies follow users, devices, applications and data everywhere	Time to onboard / migrate / expand apps and workloads on any multicloud / edge infrastructure
Level of NetOps integration into IT, security, cloud workflows	Supporting IT and business sustainability / compliance goals	Continuous network alignment to business intent (e.g., app experience, compliance, efficiency)

Intent-Based Networking Helps Achieve Modern Networking Metrics Across Domains

Manually operated, siloed network domains no longer suffice — enterprises must ensure traditional and new metrics are exceeded across multiple domains.

Intent-Based Networking (IBN) is an advanced network management architecture built atop the principles of software-defined networking that allows continuous alignment of network-to-business intent, networkwide.

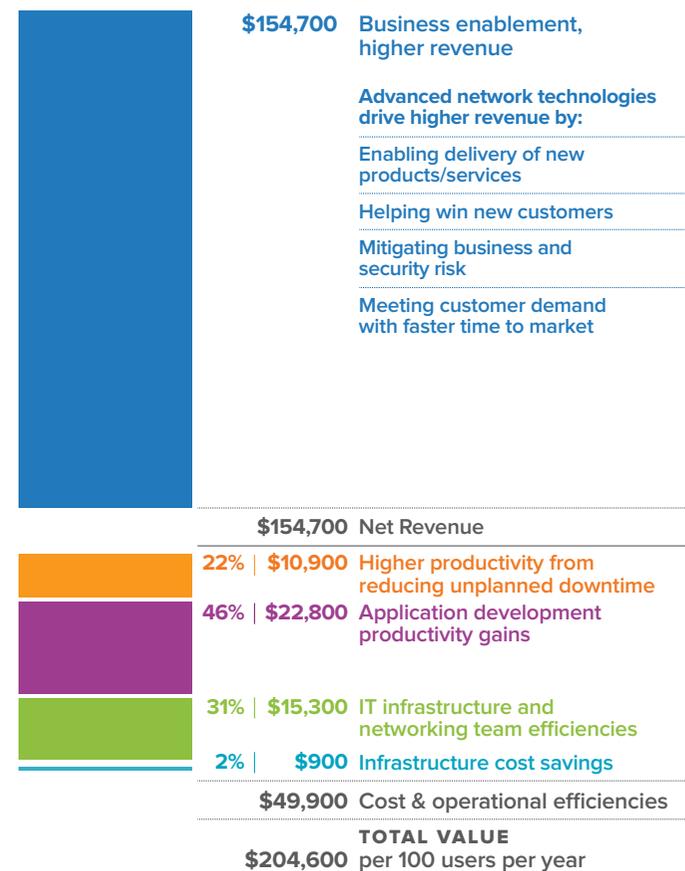
Campus	Creates an access network that allows any user or device to connect seamlessly to the network, be automatically authenticated and have their precise usage/authorization policies follow their identity no matter where on the network they traverse.
WAN/Branch	User and device policies extend from the campus into branch offices via multiple connectivity methods (broadband, MPLS, cellular) for optimized, secure multicloud access.
DC/Multicloud	A common enterprise and public cloud network that aligns to business intent, enabling seamless workload mobility and optimized access to users from anywhere to applications hosted in any cloud or edge.
IoT	Automatically ensure continued, secure Operational Technology services and IoT applications (e.g., sensor monitoring, device control, analytics, and others).



EMBRACING THESE TENETS HAS DIRECT, QUANTIFIABLE BUSINESS VALUE

The IT and Business Benefits of Using Advanced Networking Technologies Across Multiple Domains

Value of benefits per year per 100 users



Through in-depth interviews with organizations around the globe with employee bases ranging from 600 to 150,000 and annual revenues of \$8.4 million to \$135 billion. IDC found significant quantifiable benefits of using advanced networking capabilities to drive their businesses and support business operations. These benefits relate to both traditional networking metrics such as performance and stability, as well as new networking metrics such as efficiencies tied to automation and centralization, and enablement of the business and end users through improved performance, security, and agility.

IDC's research shows that **study participants will realize value of \$204,600 per year per 100 users** (average of \$61 million per organization), primarily through **revenue gains** tied to enabling their businesses, but also in terms of **ensuring higher productivity for application developers and IT networking teams and reducing networking-related costs.**

For study participants, advanced networking technologies have become crucial to having networks that **enable their organizations to not only compete but thrive** in competitive markets.

“We can now provide a better customer experience and we are quicker to market. Also, our customers have told us they feel comfort in the fact that we are taking cybersecurity so seriously. We are recognized as a mature, secure organization, so it does help win new business as well.”

Travel & Hospitality, United States

Advanced Networks Help Organizations Identify, Address, and Win More Business Opportunities

ADVANCED NETWORK TECHNOLOGIES ENABLE ORGANIZATIONS TO:



RESULTS

10%
average gross revenue gain
per organization per year

\$308 million
additional gross revenue
per year per organization

\$46 million
additional net revenue
per year per organization

“We can roll out much more robust applications for our stores with the newer networks and can give them better metrics on selling. We are now able to count the number of people that go in and out of each store, and we can provide a better in-store experience with multimedia-type applications... We've been able to better manage staffing levels, and better staffing creates happier customers, which results in higher revenue – up to 50% higher.”

Retail and Wholesale, North America

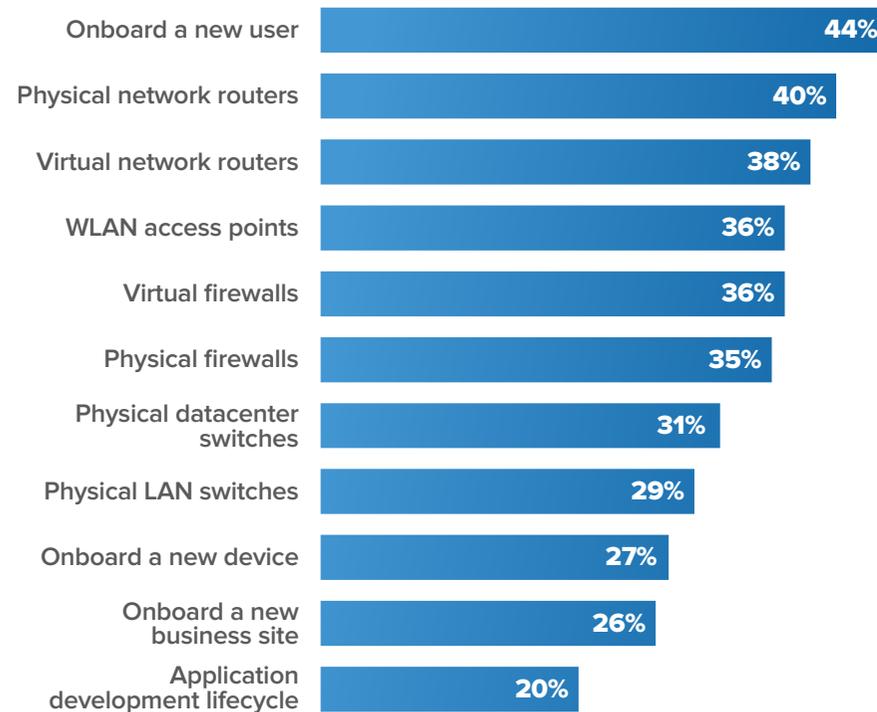
“These advanced technologies have been like a catalyst for us because we are getting and exploring ideas which we didn't have without seeing or using the technology before. Because we can now do business in areas where we haven't done business before, and we can act on certain requirements coming from the customer, or even the market... we're winning more than \$50 million per year in higher revenue as a result.”

Manufacturing, EMEA

Advanced Networks Enable Development Through Agility

Improvements to Networking and IT Agility

PERCENT FASTER TO DEPLOY, CONFIGURE, AND MODIFY



Businesses depend on having IT organizations that are sufficiently agile and flexible to meet changing demand. Without the ability to convert business intent into actionable and innovative services, they will struggle to meet customer and employee needs.

For organizations, meeting business intent requires enabling an agile network that includes the timely delivery of new functionality for employees and customers in the form of new applications, features, and services. In turn, **development teams need access to responsive, flexible, and high-performing IT resources, including network capacity and access** that depends on the timely delivery and configuration of secure network resources (including switch, router, firewall, and network access point resources).

IDC’s research demonstrates the consistent and significant extent to which advanced network technologies reduce friction associated with management and operations of both physical and virtual network resources. Increasingly, this value also relates to moving and migrating applications securely and efficiently in a multicloud and container-driven IT world.

Enhanced network agility brings significant value for interviewed organizations both **in terms of enabling their businesses and their development teams**. Interviewed organizations linked a **21% productivity increase for developers** to their use of advanced network technologies. This represents **a substantial increase in the value of their development teams, worth an average \$6.80 million per organization**.

“We can easily push out policy with our advanced network, whereas before it was more complicated to build a policy, push it out by store, and then manage policies. With the new technologies for our network platform, we can make a global change to our QoS and push it to all the stores within a few minutes. Before, it might have taken days or weeks to get that policy out.”

Retail and Wholesale, North America

Delivering Business Transformation with More Robust and Efficient Network Security

True agility cannot exist without robust security.

The ability to segment new users — whether employees, users of mobile devices, customers, or partners — and things is a core tenet of an enterprise-grade platform. At the same time it has become increasingly necessary to protect applications and services through policy-based segmentation wherever they reside. **Seamless segmentation** allows organizations to **build up more secure network platforms and reduces the lag for responding to business opportunities** by enabling faster onboarding of new devices, users, applications, and sites to the network. In addition, maintaining segmentation can be quite challenging and resource-intensive without automation.

Further, enhanced security is fundamental to minimizing risk. Organizations with advanced networks can **identify and resolve potential security threats faster** with automation, segmentation, and analytic-driven responses across all network domains. This helps them **minimize the potential cost of significant security breaches and increases their business confidence to roll out new digital initiatives**.

“We are in a much better place today than we were a few years ago in terms of network security... We formulated the network state that we wanted to be in, and it helps us to gain visibility and move much faster to mitigate the threats as soon as we identify them.”

Financial Services, APAC

Improvements to Network Security and Segmentation



Advanced Network Technologies Enable Improved Business Continuity

In an uncertain world, businesses and their networks must be ready for anything. Enterprises can't know when a natural disaster will strike or when they will face other business interruptions; they can only prepare for the worst and have a network that can help them respond to any circumstance. Their businesses depend on application and service availability and performance, as well as uninterrupted connectivity to workers, customers, and partners.

Advanced networks suffer fewer unplanned outages and interruptions and reduce the time needed to address problems that do occur. Likewise they have the agility to quickly provision new sites or reconfigure networks to help the organization overcome disruptions and limit the impact and associated risk. Study participants related these improvements to having operational data that allows them to proactively predict and avoid outages and flexibility and agility that help them limit the impact of outages that occur.

Unexpected network downtime can exert a significant cost on organizations. Interviews show that study participants are **saving more than three hours of productive time per user per year** thanks to advanced network technologies, **worth over \$3 million per year in productive employee time saved**, with the cost per outage at over \$700,000 per outage before investment in advanced network technologies.

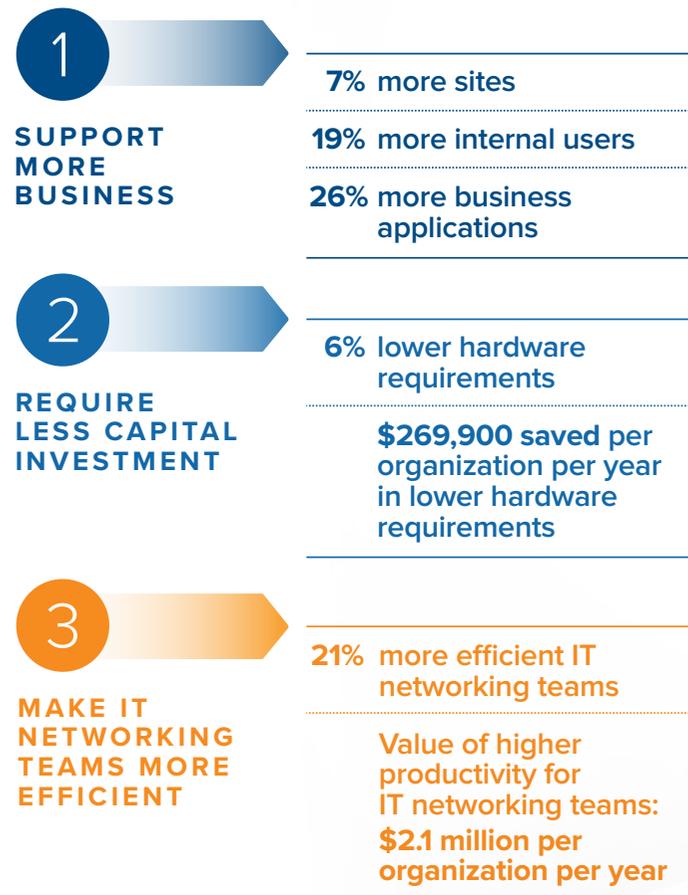
	BEFORE / WITHOUT ADVANCED NETWORK	WITH ADVANCED NETWORK	IMPROVEMENT	% BENEFIT OF ADVANCED NETWORK TECHNOLOGIES
Number of unplanned outages per year	7.7	3.9	3.8	50%
Mean Time to Resolution (hours)	3.0	2.0	1.0	34%
Lost productive time per year per user (hours)	5.3	2.1	3.2	60%
Lost productive time per year per organization measured in terms of full-time equivalents (FTEs)	77.9	31.5	46.4	60%
Average equivalent value of lost productive time per surveyed organization per year	\$5.45M	\$2.21M	\$3.25M	60%

“From the manufacturing footprint side, the impact of our advanced network technologies has been significant, especially in terms of how quickly we can get offline systems fixed and back in the game. We now know instantly when we get a down signal and can respond. If we're not delivering to our customer on time, we are potentially putting our relationship at risk, and we could get a bad name, and it's very hard to put a price on that.”

Manufacturing, EMEA

Advanced Networks are More Efficient and Cost-Effective

ADVANCED NETWORKS:



Organizations need networks that are cost-effective and require less resources to just manage and support than traditional network approaches.

Advanced network technologies that automate the full network management lifecycle free up time of highly-qualified network engineers and other IT networking professionals, enabling them to better support high-value business and IT initiatives.

Advanced network technologies enable organizations to make more efficient use of network hardware and associated power and space requirements, thereby reducing and optimizing network costs. For some organizations, having a cost-effective network infrastructure translates to improved ability to compete on price for their services and products, an essential advantage in competitive markets.

“We have the same number of staff, but advanced network technologies have definitely improved our operations in that there is less time spent maintaining the networks. That is especially so because now we're managing it all through scripts and automation instead of making manual changes. It's made the staff we have more productive, probably as much as 40%.”

Retail and Wholesale, North America

MANUFACTURING

Increasing Productivity and Agility

Manufacturing organizations must:

Accelerate innovation

Digitize efficient supply chains

Move to smart manufacturing

Advanced networking capabilities important for manufacturers:

Pervasive high-bandwidth, low-latency connectivity across manufacturing plants and operations

Collection and analysis of sensor-based data to support operations and maintenance

Detailed operational insights into device performance on networks to address performance issues

Advanced networks can help manufacturers achieve business and operational objectives by:

Enabling use of real-time data to inform decisions about manufacturing and production activities and limit the potential for impactful downtime

Allowing for faster and “just in time” delivery of new and more tailored products by digitizing manufacturing activities and supply chains

Supporting use of IoT and mobile applications across manufacturing operations

STUDY TESTIMONY

“We can now do business in areas where we haven't done business before, and we can now act on certain requirements coming from the customer, or even the market. It's important to be able to fulfill these requirements, which we can do much better now.”

Manufacturing, EMEA
>\$50M higher revenue per year

STUDY TESTIMONY

“Our ERP system's performance has improved at our remote locations with advanced network technologies. Because all locations are now operating in the same way, we're able to collect data that increases our scalability and flexibility to make quick decisions or adjustments in production when needed.”

Manufacturing, North America
8-10% increase in revenue

FINANCIAL SERVICES

Innovate Faster and More Securely

Financial Services organizations must:

Engage in
connected banking

Provide dynamic
customer experiences

Protect customer data
and services

Advanced networking capabilities important for financial services companies:

Microsegmentation of users and devices on networks to ensure inspection, encryption

Detailed reporting on all network actions to identify and address performance degradation or security breaches in real time

Advanced networks can help financial services organizations achieve business and operational objectives by:

Supporting robust digital banking offerings to deliver superior customer service

Providing consistent and secure experiences across geographical markets and branch locations

Ensuring ability to maintain regulatory compliance, reducing mean time to identify fraud

STUDY TESTIMONY

“We now have a network that now supports our consolidation project, so we can all use one system with all the data together in one spot. So, a change anywhere is changed for everyone at the same time. This allows us to develop new forward-facing products, which should also save costs because we don't have to absorb things across different platforms.”

Financial Services, APAC,
protecting most of revenue

STUDY TESTIMONY

“What we've had to do is incorporate advanced network technologies to our new digital platform because that is what clients expect. They expect a new digital banking system and want to embrace it. They see the bigger finance institutions already embracing it, so they expect us to do so, otherwise they'll go elsewhere.”

Financial Services, EMEA,
protecting all revenue

HEALTHCARE

Improving Patient Care and Experience

Healthcare organizations must:

 Deliver knowledge-based medicine

 Provide value-based healthcare services

 Consider telemedicine and remote healthcare services

Advanced networking capabilities important for healthcare organizations:

 Microsegmentation of users and devices to limit access to data and protect life-critical systems

 Mobile wayfinding within hospitals / clinics to help patients and guests

 Delivery of remote digital services for better care experience and operational efficiency

Advanced networks can help healthcare organizations achieve caregiving and operational objectives by:

 Helping to scale patient care and clinical operations

 Keeping caregivers focused on serving patients rather than being slowed by administrative and technological tasks

 Supporting development and delivery of robust and tailored healthcare-focused software

STUDY TESTIMONY

“Security is always forefront because we’re a healthcare company. Patient data is one of those things that someone can end up on the news for losing some information, and you really get crucified for it... We have put in place advanced monitoring for security and data classed as patient data.”

Healthcare, Australia

50% faster to identify a potential security incident

STUDY TESTIMONY

“On the IoT side, our advanced networking technologies have allowed systems to connect and authenticate consumer devices that previously could not be authenticated with just typing in a password. We now have devices that do enable that, including services and automation systems. Software development is also aided by the speed provided by these networks. It makes it easier for a lot of people to develop solutions, work in the cloud, pull data back and forth, and do that with ease. A few years ago, that would have been a big barrier.”

Healthcare, United States

20% more productive development teams

GOVERNMENT

Improved Citizen Services and Experiences

Government organizations must:

Provide better and more digital experiences to constituents

Ensure efficient, effective, and engaged government services

Advanced networking capabilities important for governmental organizations:

Leveraging cloud-based services and more agile networks for elastic scalability

Moving from a capex to opex IT model

Enabling pervasive connectivity for Smart Cities, including always-on wireless with capacity to support increased bandwidth needs

Advanced networks can help governments achieve their objectives by:

Enabling service-based approaches

Supporting organizational agility

Minimizing operational and auditing risk for agencies running on a shared infrastructure

STUDY TESTIMONY

“Our staff has been wrapped around, ‘Oh, I’m connecting this location to this location.’ They now understand that with intent-based networking and advanced network technologies, we’re connecting services to services and everything underneath it becomes transparent to that end user.”

Government, United States

STUDY TESTIMONY

“What we found with the newer network technologies is improvement on two sides with regard to risk. One, we can check virtually everything because we’re able to monitor to a much greater extent. And two, now we also know that everything is being configured correctly, and in accordance with the standards they have put out.”

Government, United States

IDC Essential Guidance

Plan for the future and align technology with the business

Consider the priorities of your business and what technology it will need to achieve those goals. Alignment between IT and the business is a critical factor to successful technology transformation.

Consider holistic, automated management

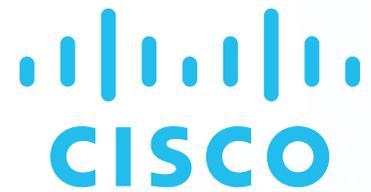
Managing various aspects of network and IT resources as silos leads to a lack of efficiency and vulnerable security. Organizations should consider holistic, automated management across multiple domains, which will help them exceed metrics expectations for their modern digital businesses.

Learn about the latest networking industry trends

Take a readiness assessment to compare your network's readiness with that of peer organizations. Use the Business Value data in this InfoBrief to advocate for investments in advanced networking technology.

SPONSOR MESSAGE

The Quantifiable Business
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How does your network's
readiness compare with
that of peer organizations?

[CLICK HERE TO TAKE AN ASSESSMENT](#)



Methodology & Firmographics

For this study, IDC interviewed and surveyed organizations that have deployed advanced network technologies including: network automation in campus/branch networks, datacenter network automation, network-driven real-time analytics and assurance solutions, network security threat detection solutions, next-generation access solutions (SD-Access), next-generation WAN solutions (SD-WAN), and high-speed network infrastructure equipment.

The findings in this InfoBrief derive from in-depth interviews that IDC conducted with 16 organizations that have deployed these advanced network technologies across their networking environments. These study participants:

Averaged 31,566 employees and \$16.09 billion in annual revenue (9,000 and \$1.63 billion medians, respectively)

Represented the experiences of organizations based in: United States (9 organizations), Germany (2), United Kingdom (2), Australia (1), Hong Kong (1), and Singapore (1)

Provided experiences from various industry verticals, including: Manufacturing (4), Financial Services (3), Government (2), Healthcare (2), Real Estate (1), Retail & Wholesale (1), Technology Manufacturing (1), Telecommunications (1), Travel & Hospitality (1)

IDC's standard Business Value methodology was utilized for this project. This methodology is based on gathering data from interviewed organizations as the foundation for the model. Based on these interviews, IDC measured benefits from use of advanced network technologies in the following areas: cost savings, staff efficiencies, user productivity gains, and increased revenues.