Empowering Digital Transformation

Challenges in Transformation and the Benefits Derived from Cloud Solutions

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In This InfoBrief

Customer satisfaction and application performance improvement are the leading benefits for digital transformation (DX).

Organizations face a challenge in implementing DX due to **skills shortages and budget constraints** that using an external IT partner can mitigate.

Rapid provisioning and ease of network/IT management are the key challenges and requirements for digital transformation.

Securing apps and data and providing high-speed cloud connectivity are the top use cases, as they impact application performance.

Cloud services that span a variety of deployment locations drive improved efficiency and application performance, followed equally by innovation, speed, and customer satisfaction.

The majority of midsize businesses and large enterprises are **investing in AI tools for customer engagement,** led by the manufacturing, financial, tech, healthcare, and retail segments.

The information in this InfoBrief is based on a Thought Leadership survey, which Lumen sponsored and IDC conducted.

U.S. Organizations: Still in the Early Phase of Implementing Digital Transformation

Only 32% have implemented DX, with large enterprises leading the effort.

80% of very large enterprises (5,000+ employees) have implemented DX within core operations or plan to implement it in the future.

Midsize companies (500 to 4,999 employees) trail, with 57% that have implemented or have imminent plans to implement DX.

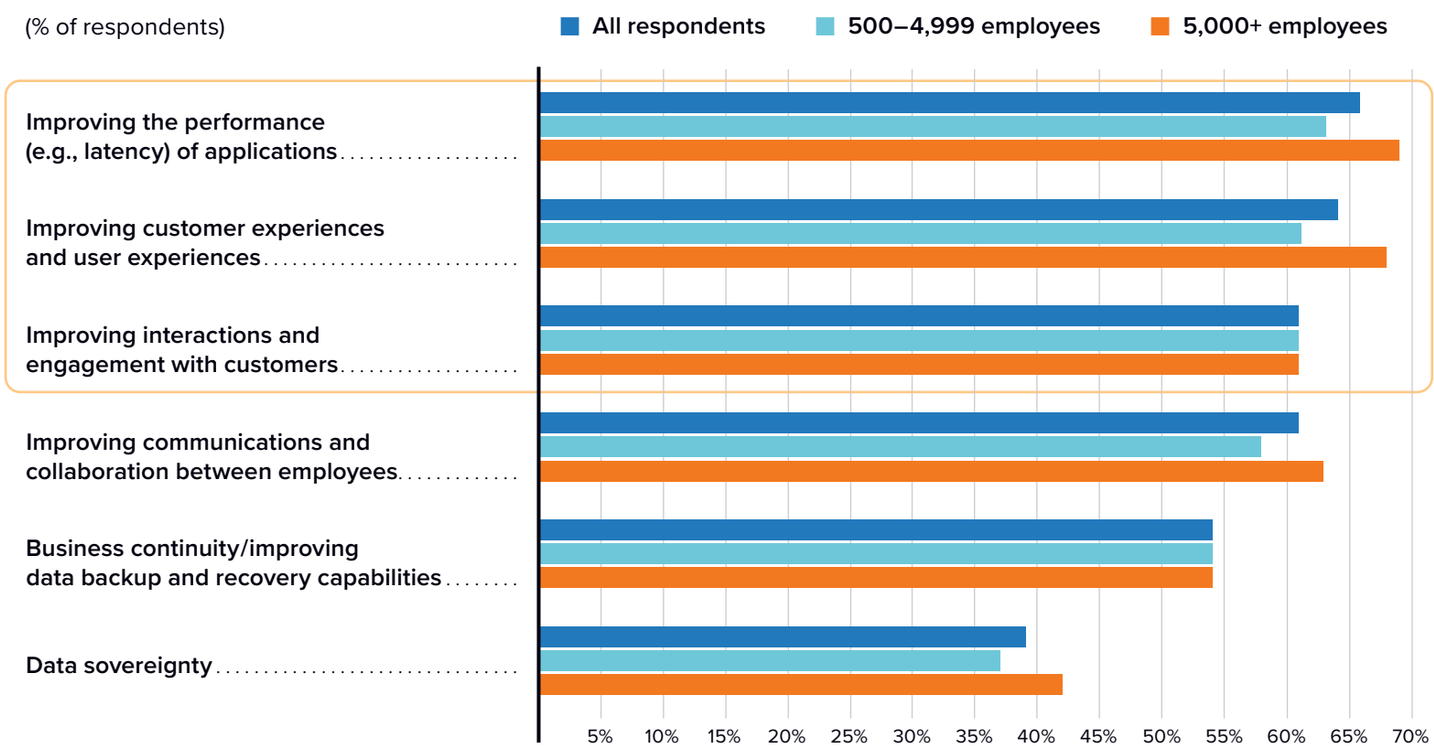
n = 823; Source: IDC's *U.S. Lumen Digital Survey,* April 2024 | For an accessible version of the data on this page, see Supplemental Data in the Appendix.

Top Investment Priorities: Improving Application Performance and Customer Satisfaction

Across all enterprise segments, improving application performance and customer experiences and engagements are the top business investment areas.

Very large enterprises are nearly equally focused on improving application performance and customer/user experience.

All customer segments have a similar interest in improving interactions and customer engagements.



n = 823 (all respondents), n = 430 (500–4,999 employees), n = 345 (5,000+ employees); Source: IDC's *U.S. Lumen Digital Survey,* April 2024 | For an accessible version of the data on this page, see Supplemental Data in the Appendix.

Top Business Priorities When Considering Network Transformation

The top-ranked business priorities for network transformation are higher customer satisfaction, increased revenue, and improved operational efficiency.

1 Increase customer satisfaction

It is important to **restructure the network infrastructure** to optimize performance, reliability, and scalability, **ensuring seamless connectivity for customers.**

2 Increase revenue

Integrating customer-focused apps enhances the user experience, **boosting interactions.**

3 Improve operational efficiency

This facilitates enhanced agile performance and positive business outcomes with automated workflows and real-time deployment and visibility.

4 Improve employee productivity

Leveraging **advanced analytics and monitoring tools** conveys deeper insights into **network performance and customer behavior,** enabling data-driven decision-making.

5 Improve profit margins

An efficient network infrastructure reduces downtime, improves employee productivity, and enhances customer interactions.

n = 823; Source: IDC's *U.S. Lumen Digital Survey,* April 2024

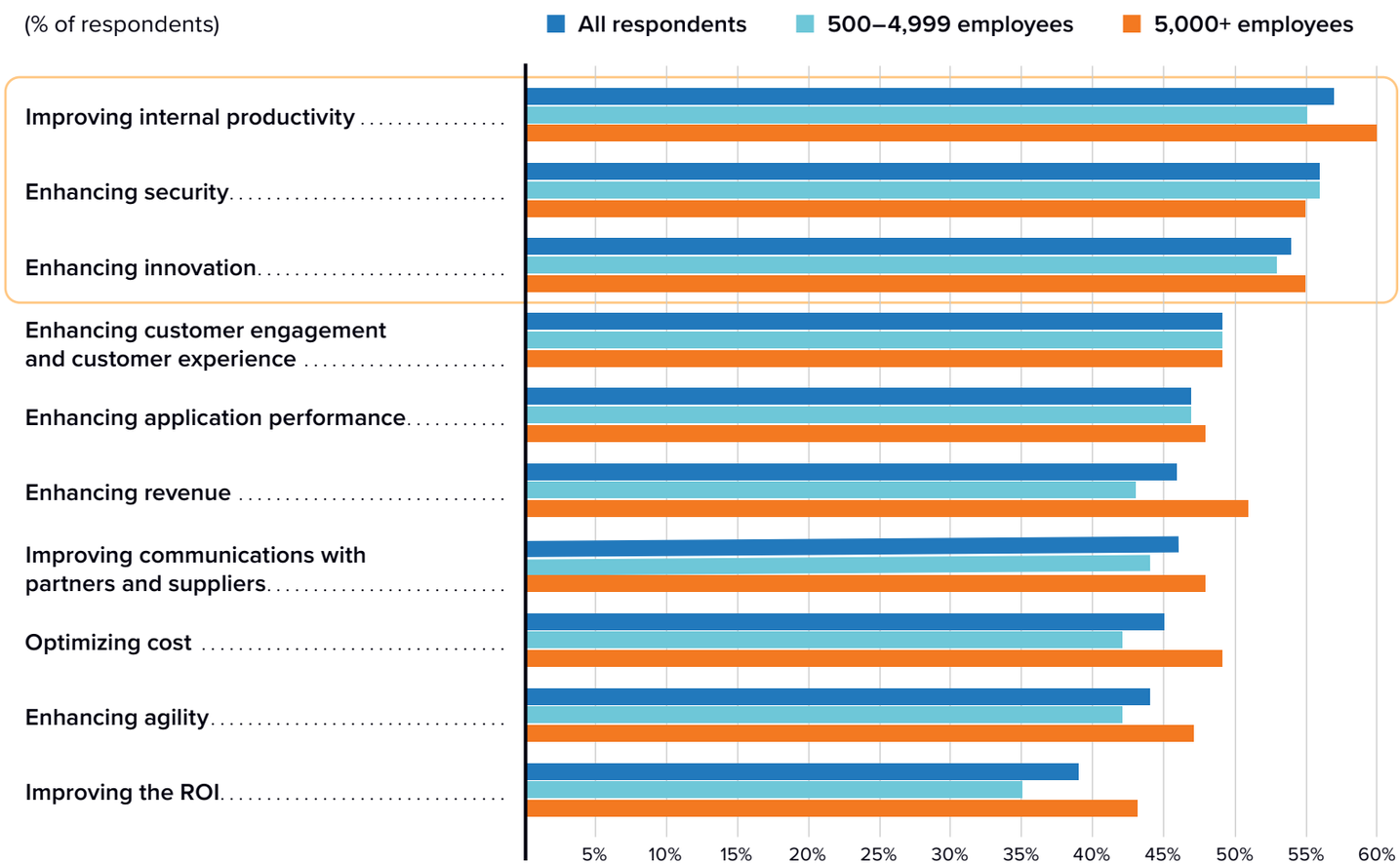
Top Drivers for Digital Infrastructure Investment: Productivity, Security, and Innovation

Across all segments, the top 3 expected benefits are improving productivity, enhancing security, and increasing innovation.

For all segments, enhancing the customer experience and application performance trail slightly in priority.

Very large enterprises report that enhancing revenue is important.

Though lower on the list of importance, **all segments** always look to drive the return on investment (ROI).



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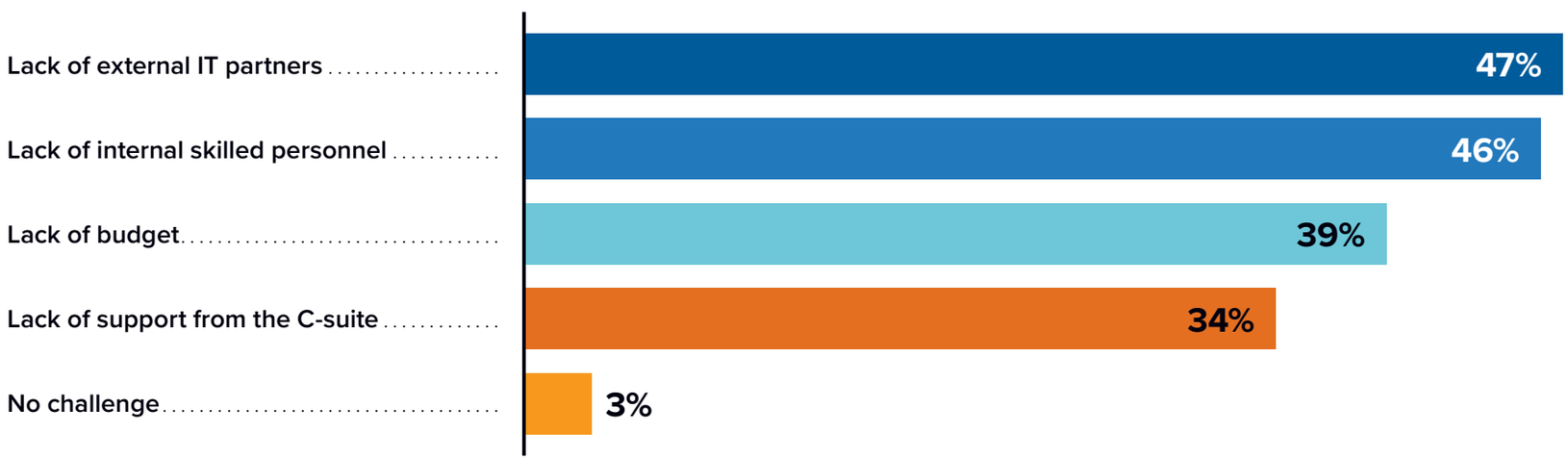
Challenges in Implementing Digital Infrastructure

The lack of external IT partners, the internal skills gap, and the lack of buy-in from the C-suite, along with budget constraints, are key challenges that organizations must surmount to implement digital infrastructure.

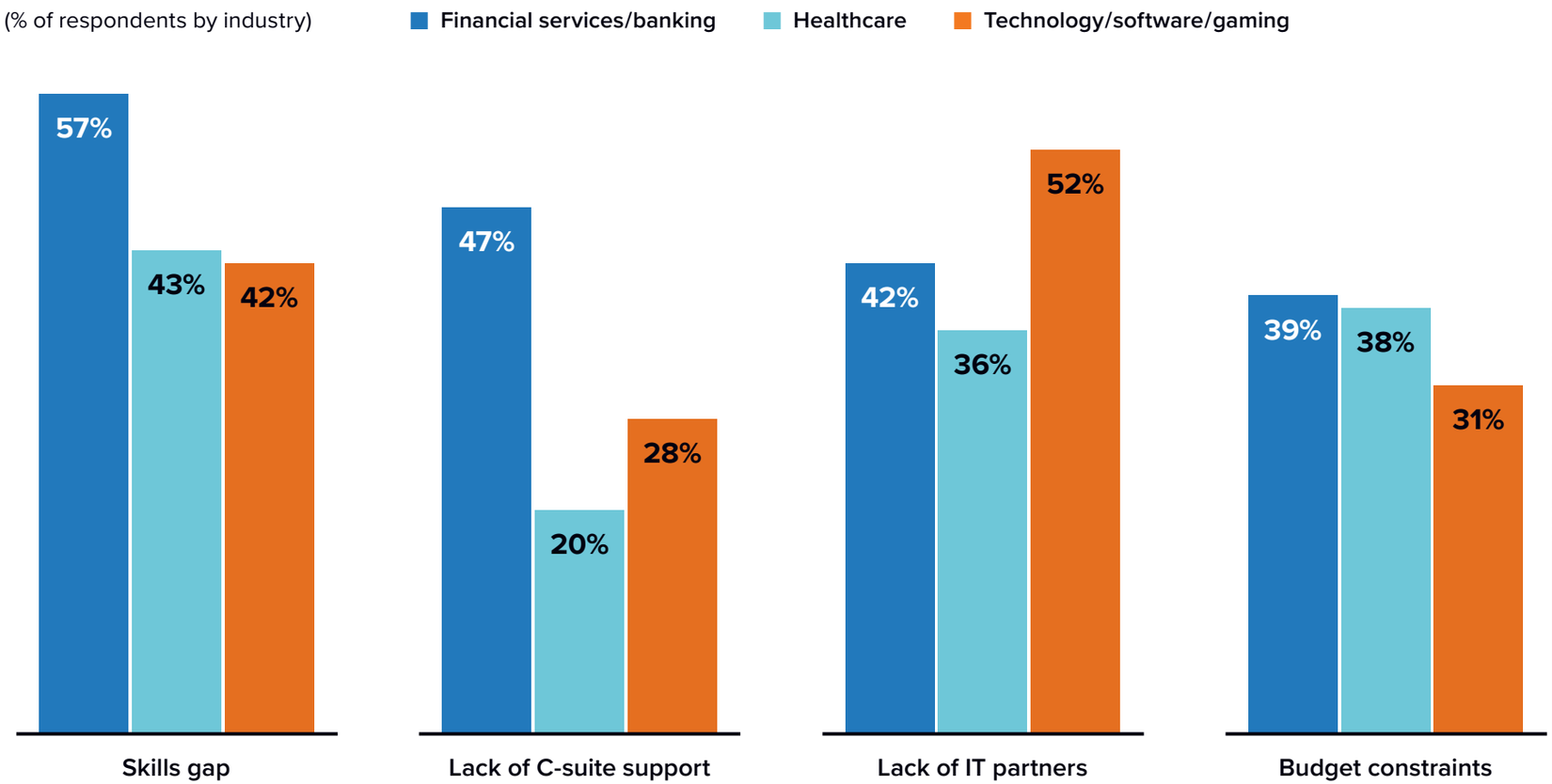
(% of respondents)



n = 823; Source: IDC's *U.S. Lumen Digital Survey,* April 2024

Challenges in Implementing Digital Infrastructure (continued)

(% of respondents by industry)



n = 102 (financial services/banking), n = 100 (healthcare), n = 100 (technology/software/gaming); Source: IDC's *U.S. Lumen Digital Survey,* April 2024 | For an accessible version of the data on this page, see Supplemental Data in the Appendix.

AI Impacts Customer Engagement

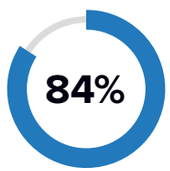
AI has supplanted security and cloud deployment
as the number 1 investment priority for enterprises during 2024.

Note: Data weighted by IT spend.
n = 887; Source: IDC's *Future Enterprise Resiliency & Spending Survey Wave 3,* March 2024

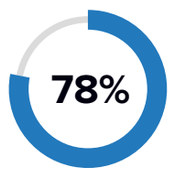
of midsize and large enterprises are currently using AI or will use it in the next 12 months for customer engagement solutions.

Among the leading industries implementing AI for customer engagement are:

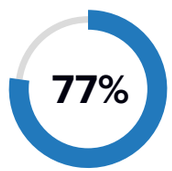
(% of respondents by industry)



Manufacturing

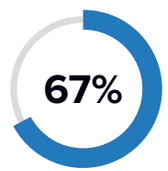


Financial services



Technology/ software/gaming

Healthcare



Retail

Large enterprises are more aggressively moving to implement AI than midsize companies.

81%
Large enterprises
5,000+ employees

67%
Midsize companies
500–4,999 employees

Currently using AI or planning to use it in the next 12 months

n = 823; Source: IDC's *U.S. Lumen Digital Survey,* April 2024

Expected Benefits of Implementing AI/ML to Support IT Solutions

(% of respondents)

n = 823; Source: IDC's *U.S. Lumen Digital Survey,* April 2024

Impacts of Cloud Services

Cloud services and underlying infrastructure have positive impacts on application performance/availability, customer satisfaction, and efficiency, as well as faster innovation.

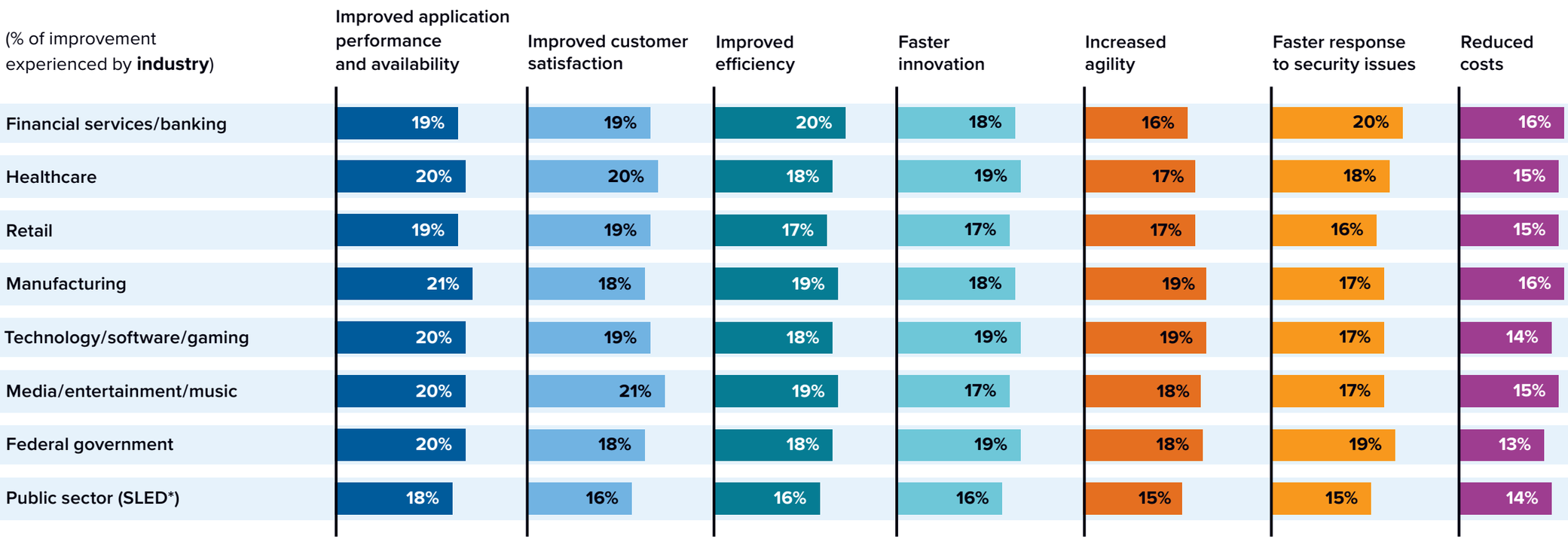
IDC considers cloud a comprehensive platform that provides on-demand provisioning and elastic scaling of infrastructure and application services.

(% of improvement experienced by **all respondents**)

n = 823; Source: IDC's *U.S. Lumen Digital Survey,* April 2024

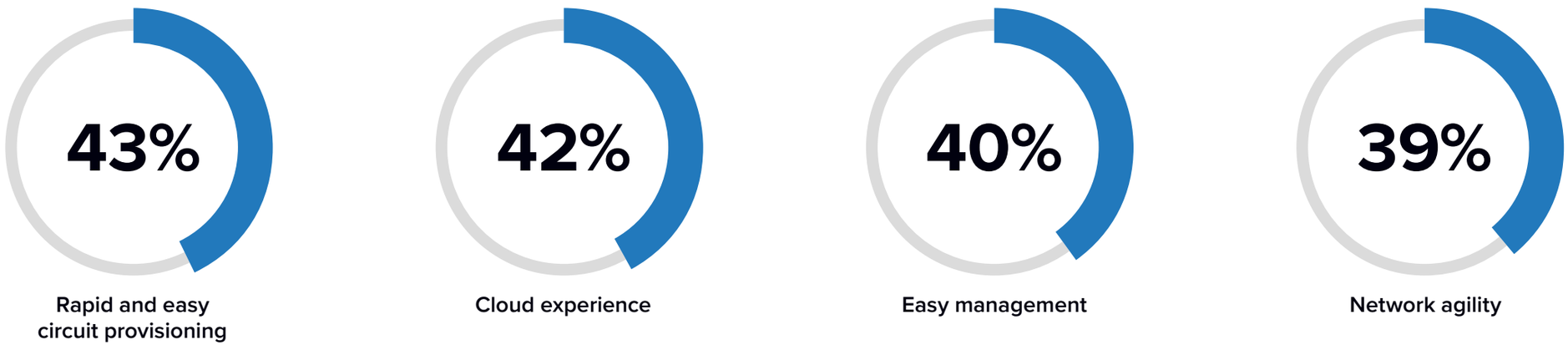
Benefits of the Cloud Operating Model

The benefits of the cloud operating model extend to various industries and apply to both internal and external stakeholders.



* SLED = state, local, higher education. n = 823; Source: IDC's *U.S. Lumen Digital Survey,* April 2024 | For an accessible version of the data on this page, see Supplemental Data in the Appendix.

Digital Transformation: Rapid Provisioning, Cloud Experience, and Easy Network Management



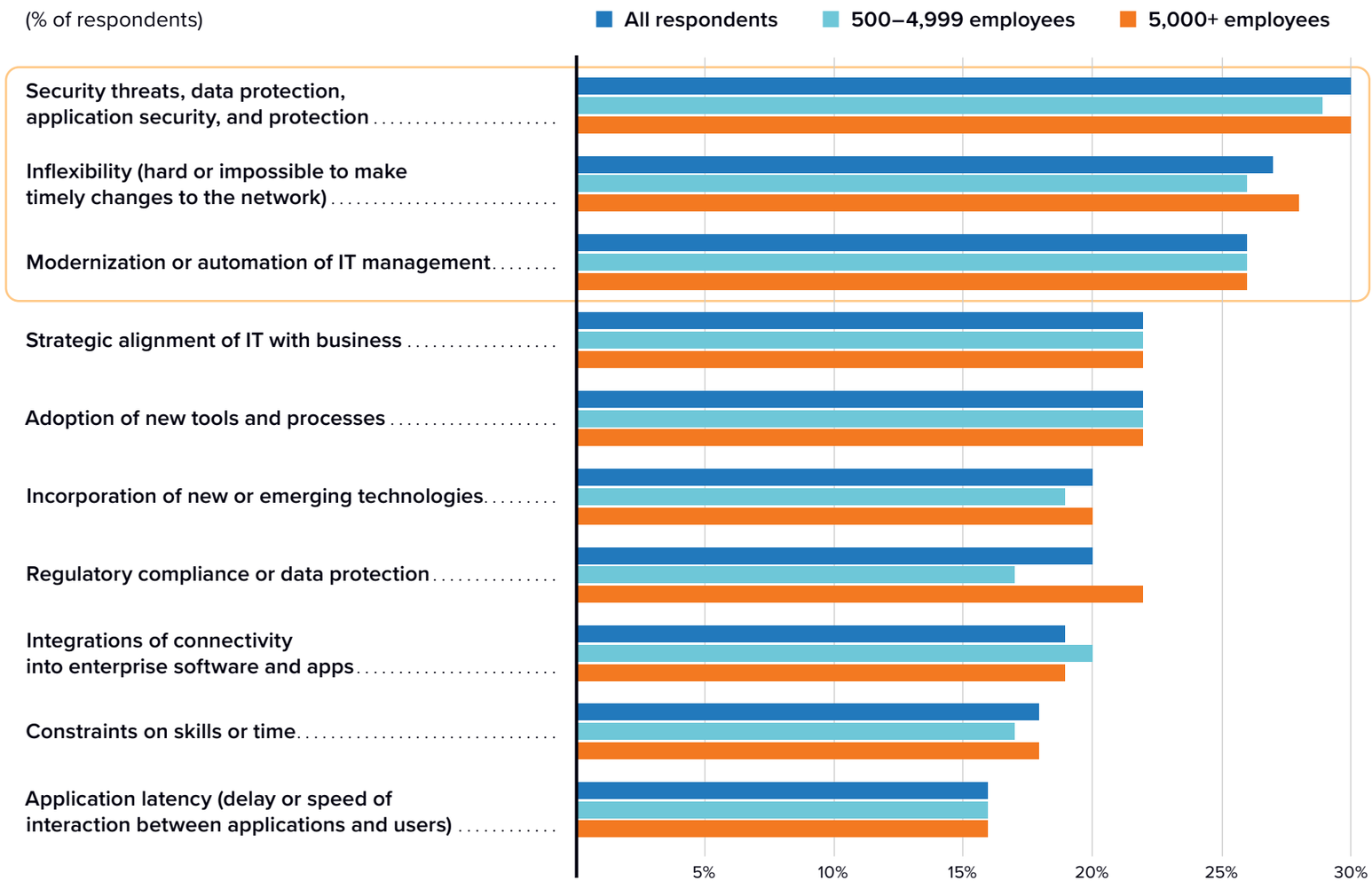
(% of respondents)

n = 823; Source: IDC's *U.S. Lumen Digital Survey,* April 2024

Key Challenges to Digital Transformation

Security threats, data and application protection, network flexibility, and modernization are key challenges to digital transformation.

Additionally, large enterprises and midsize companies equally struggle with alignment of IT with the business and adoption of new tools.



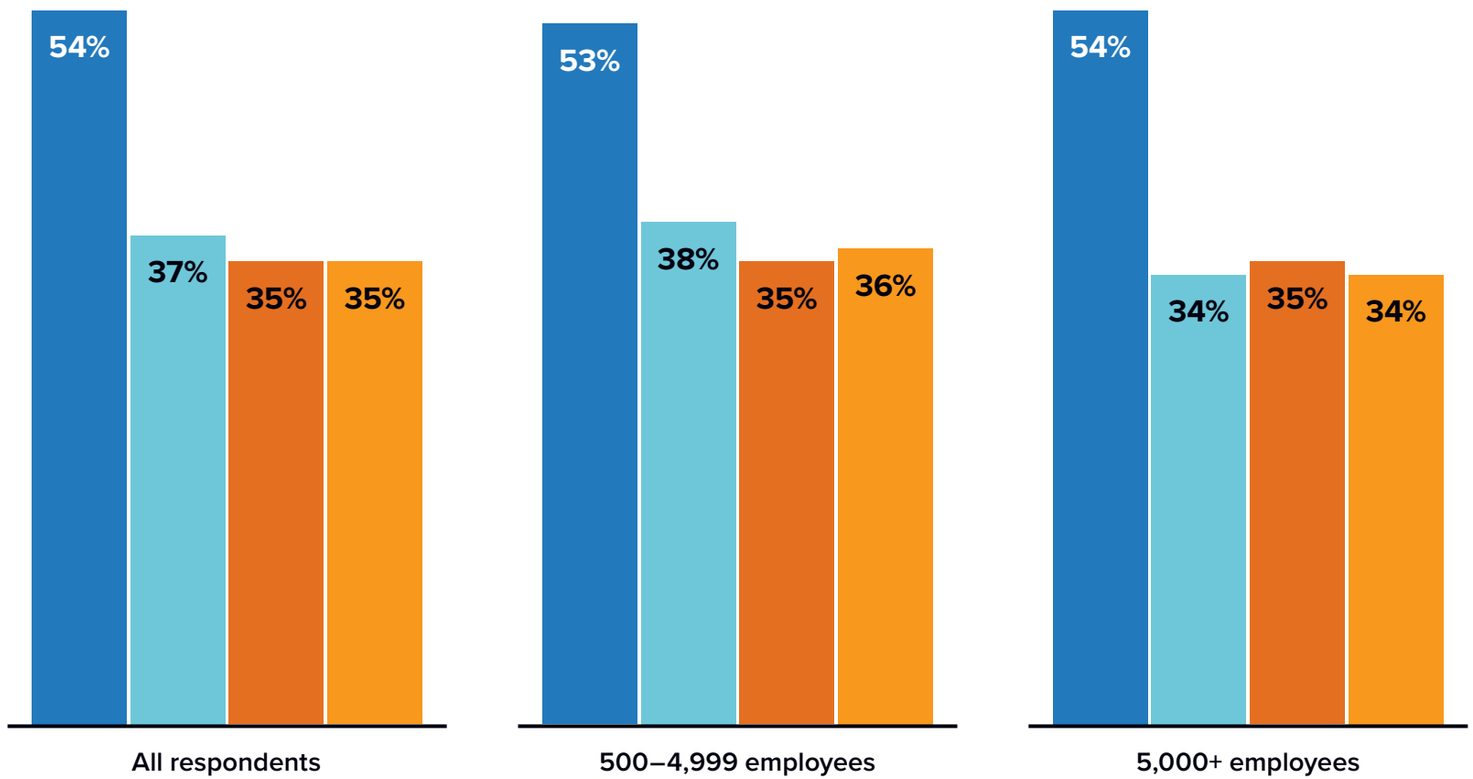
n = 823 (all respondents), n = 430 (500–4,999 employees), n = 345 (5,000+ employees); Source: IDC's *U.S. Lumen Digital Survey,* April 2024 | For an accessible version of the data on this page, see Supplemental Data in the Appendix.

Benefits of Choosing a Single Communications Service Provider

What are the business benefits of choosing integrated connectivity and technology services from a single communications service provider?

(% of respondents by **business size**)

- Improved security
- Ease of deployment and management
- Operational cost savings
- End-to-end reliability

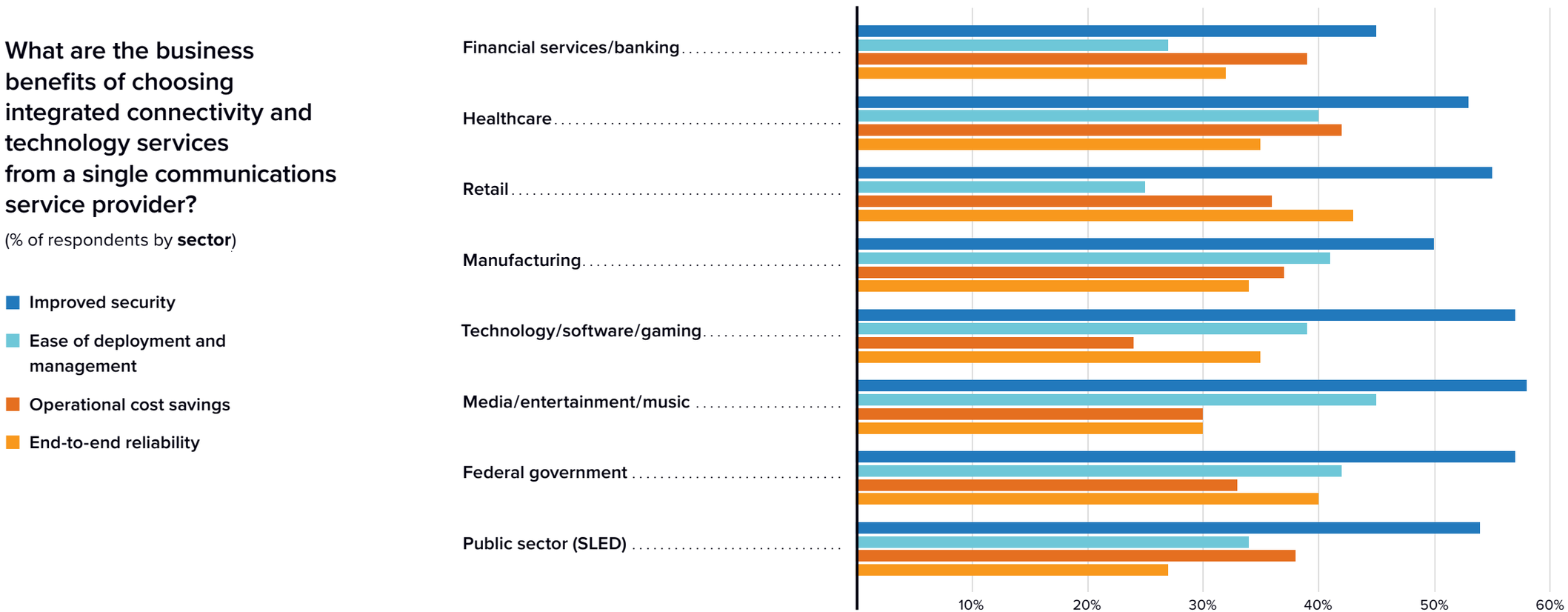


Notes: Managed by IDC's Global Primary Research Group. Data not weighted. Use caution when interpreting small sample sizes. Multiple dichotomous table—total will not sum to 100%.
n = 823 (all respondents), n = 430 (500–4,999 employees), n = 345 (5,000+ employees); Source: IDC's *U.S. Lumen Digital Survey,* April 2024 | For an accessible version of the data on this page, see Supplemental Data in the Appendix.

Benefits of Choosing a Single Communications Service Provider (continued)

What are the business benefits of choosing integrated connectivity and technology services from a single communications service provider?

(% of respondents by **sector**)



Notes: Managed by IDC's Global Primary Research Group. Data not weighted. Use caution when interpreting small sample sizes. Multiple dichotomous table—total will not sum to 100%. n = 823 (all respondents), n = 102 (financial services), n = 100 (healthcare), n = 100 (retail), n = 103 (manufacturing), n = 100 (technology/software/gaming), n = 103 (media/entertainment/music), n = 102 (federal government), n = 113 (public sector [state/local/higher education]); Source: IDC's *U.S. Lumen Digital Survey,* April 2024 | For an accessible version of the data on this page, see Supplemental Data in the Appendix.

Essential Guidance

Organizations should accelerate digital transformation, as it drives **improved application performance and engaged customer experiences,** both of which are key to business success.

- Organizations should **seek an external IT partner** to mitigate challenges related to skills shortages and budget constraints.
- The ideal IT partner should facilitate **rapid provisioning and a cloud model and enable transparent network management tools.**
- **Network transformation is key** to organizations' ability to leverage cloud resources and improve network agility, resulting in higher customer satisfaction, increased revenue, and improved operational efficiency.
- **Implementing AI/ML solutions provides multiple benefits,** including fortified security, enhanced productivity, increased operational efficiency, and improved customer experience.

Methodology

Survey sample size:
823 IT and business decision-makers from various industries in the U.S.

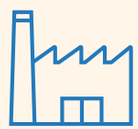
In support of a thought leadership study, IDC conducted a web survey in April 2024. The purpose of the survey was to gauge the advancement in technology deployment and **address the challenges in digital and network transformation and the benefits that cloud solutions provide.**

IDC and Lumen collaboratively designed the web survey.

INDUSTRIES (8 SECTORS)

Financial services/ banking

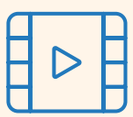
Healthcare



Manufacturing

Retail

Technology/ software/gaming



Media/ entertainment/music

Federal government

Public sector (SLED)

COMPANY SIZES (MINIMUM 500)

Midsize
500–4,999
employees

Large enterprises
5,000+
employees

Appendix: Supplemental Data

The tables in this appendix provide accessible versions of the data for the complex figures in this document. Click “Return to original figure” below each table to get back to the original data figure.

SUPPLEMENTAL DATA FROM PAGE 4

(% of respondents)

	All respondents	500 to 4,999 employees	5,000+ employees
Implemented a comprehensive digital infrastructure as a core operational capability	32%	28%	37%
Crafted a digital mission statement and begun the process of implementing it throughout various departments in our organization	35%	29%	43%
Established basic capabilities and working on an organizationwide strategy	23%	26%	18%
Entered the initial stages and engaging in specific projects as required	10%	17%	1%

n = 823; Source: IDC’s *U.S. Lumen Digital Survey,* April 2024

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Appendix: Supplemental Data (continued)

SUPPLEMENTAL DATA FROM PAGE 5

(% of respondents)

	All respondents	500 to 4,999 employees	5,000+ employees
Improving the performance (e.g., latency) of applications	66%	63%	69%
Improving customer experiences and user experiences	64%	61%	68%
Improving interactions and engagement with customers	61%	61%	61%
Improving communications and collaboration between employees	61%	58%	63%
Business continuity/improving data backup and recovery capabilities	54%	54%	54%
Data sovereignty	39%	37%	42%

n = 823 (all respondents), n = 430 (500–4,999 employees), n = 345 (5,000+ employees); Source: IDC's *U.S. Lumen Digital Survey,* April 2024

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Appendix: Supplemental Data (continued)

SUPPLEMENTAL DATA FROM PAGE 7

(% of respondents)

	All respondents	500 to 4,999 employees	5,000+ employees
Improving internal productivity	57%	55%	60%
Enhancing security	56%	56%	55%
Enhancing innovation	54%	53%	55%
Enhancing customer engagement and customer experience	49%	49%	49%
Enhancing application performance	47%	47%	48%
Enhancing revenue	46%	43%	51%
Improving communications with partners and suppliers	46%	44%	48%
Optimizing cost	45%	42%	49%
Enhancing agility	44%	42%	47%
Improving the ROI	39%	35%	43%

n = 823 (all respondents), n = 430 (500–4,999 employees), n = 345 (5,000+ employees); Source: IDC's *U.S. Lumen Digital Survey,* April 2024

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Appendix: Supplemental Data (continued)

SUPPLEMENTAL DATA FROM PAGE 9

(% of respondents by industry)

	Financial services/banking	Healthcare	Technology/software/gaming
Skills gap	57%	43%	42%
Lack of C-suite support	47%	20%	28%
Lack of IT partners	42%	36%	52%
Budget constraints	39%	38%	31%

n = 102 (financial services/banking), n = 100 (healthcare), n = 100 (technology/software/gaming); Source: IDC's *U.S. Lumen Digital Survey,* April 2024

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Appendix: Supplemental Data (continued)

SUPPLEMENTAL DATA FROM PAGE 13

(% of improvement experienced by **industry**)

	Financial services/ banking	Healthcare	Retail	Manufacturing	Technology/ software/ gaming	Media/ entertainment/ music	Federal government	Public sector (SLED*)
Improved application performance and availability	19%	20%	19%	21%	20%	20%	20%	18%
Improved customer satisfaction	19%	20%	19%	18%	19%	21%	18%	16%
Improved efficiency	20%	18%	17%	19%	18%	19%	18%	16%
Faster innovation	18%	19%	17%	18%	19%	17%	19%	16%
Increased agility	16%	17%	17%	19%	19%	18%	18%	15%
Faster response to security issues	20%	18%	16%	17%	17%	17%	19%	15%
Reduced costs	16%	15%	15%	16%	14%	15%	13%	14%

* SLED = state, local, higher education. n = 823; Source: IDC's *U.S. Lumen Digital Survey,* April 2024

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Appendix: Supplemental Data (continued)

SUPPLEMENTAL DATA FROM PAGE 15

(% of respondents)

	All respondents	500 to 4,999 employees	5,000+ employees
Security threats, data protection, application security, and protection	30%	29%	30%
Inflexibility (hard or impossible to make timely changes to the network)	27%	26%	28%
Modernization or automation of IT management	26%	26%	26%
Strategic alignment of IT with business	22%	22%	22%
Adoption of new tools and processes	22%	22%	22%
Incorporation of new or emerging technologies	20%	19%	20%
Regulatory compliance or data protection	20%	17%	22%
Integrations of connectivity into enterprise software and apps	19%	20%	19%
Constraints on skills or time	18%	17%	18%
Application latency (delay or speed of interaction between applications and users)	16%	16%	16%

n = 823 (all respondents), n = 430 (500–4,999 employees), n = 345 (5,000+ employees); Source: IDC's *U.S. Lumen Digital Survey,* April 2024

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Appendix: Supplemental Data (continued)

SUPPLEMENTAL DATA FROM PAGE 16

What are the business benefits of choosing integrated connectivity and technology services from a single communications service provider?

(% of respondents by **business size**)

	All respondents	500 to 4,999 employees	5,000+ employees
Improved security	54%	53%	54%
Ease of deployment and management	37%	38%	34%
Operational cost savings	35%	35%	35%
End-to-end reliability	35%	36%	34%

Notes: Managed by IDC's Global Primary Research Group. Data not weighted. Use caution when interpreting small sample sizes. Multiple dichotomous table—total will not sum to 100%.
n = 823 (all respondents), n = 430 (500–4,999 employees), n = 345 (5,000+ employees); Source: IDC's *U.S. Lumen Digital Survey,* April 2024

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Appendix: Supplemental Data (continued)

SUPPLEMENTAL DATA FROM PAGE 17

What are the business benefits of choosing integrated connectivity and technology services from a single communications service provider?

(% of respondents by **sector**)

	Financial services/ banking	Healthcare	Retail	Manufacturing	Technology/ software/ gaming	Media/ entertainment/ music	Federal government	Public sector (SLED)
Improved security	45%	53%	55%	50%	57%	58%	57%	54%
Ease of deployment and management	27%	40%	25%	41%	39%	45%	42%	34%
Operational cost savings	39%	42%	36%	37%	24%	30%	33%	38%
End-to-end reliability	32%	35%	43%	34%	35%	30%	40%	27%

Notes: Managed by IDC's Global Primary Research Group. Data not weighted. Use caution when interpreting small sample sizes. Multiple dichotomous table—total will not sum to 100%. n = 823 (all respondents), n = 102 (financial services), n = 100 (healthcare), n = 100 (retail), n = 103 (manufacturing), n = 100 (technology/software/gaming), n = 103 (media/entertainment/music), n = 102 (federal government), n = 113 (public sector [state/local/higher education]); Source: IDC's *U.S. Lumen Digital Survey,* April 2024

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About the IDC Analysts

Ghassan Abdo
Research Vice President,
WW Telecom, Virtualization & CDN, IDC

Ghassan Abdo, Research Vice President in the Telecommunications group, covers the evolution of the Telco Cloud Ecosystem as well as the emerging Virtualized Enterprise Networking services. His primary focus areas include service provider SD-WAN and managed services and emerging NFV-based virtual networking services as well as other managed WAN services. In the Hosting & Cloud segment, Ghassan covers service provider–managed hosting services, including hybrid managed private/public cloud services, colocation services, secure cloud connect, and CDN services.

More about Ghassan Abdo

Courtney Munroe
Research Vice President,
Worldwide Telecommunications Research, IDC

Courtney is responsible for supporting IDC's continuous research on global telecommunications trends. His core research includes the evolution of WAN networking to software-defined hybrid WAN and the impact of digital transformation on the WAN architecture. His research focus also includes consumer and enterprise networking requirements and analysis of the communications service provider strategies as they transform to implement new business models.

More about Courtney Munroe

About the IDC Analysts (continued)

Dave McCarthy
Research Vice President,
Cloud and Edge Infrastructure Services, IDC

Dave McCarthy is Research Vice President within IDC's worldwide infrastructure research organization and global research lead for the cloud and edge services practice. Dave leads a team of analysts covering research on shared (public) cloud, dedicated (private) cloud, and edge deployments, services, adoption trends, vendor strategies, and market dynamics. Benefiting both technology suppliers and IT decision-makers, Dave's insights delve into ways in which hybrid and distributed cloud platforms provide the foundation for next-generation workloads, enabling organizations to innovate faster, automate operations, and achieve digital resiliency.

More about Dave McCarthy

Message from the Sponsor

Lumen empowers organizations with an effortless digital experience that makes it easy for customers to do business with us. Everything we do at Lumen takes advantage of our network strength.

We specialize in delivering flexible, high-speed connectivity and advanced cybersecurity solutions to help businesses transform and thrive. Our services include:

- **Network-as-a-service (NaaS):** Network functions and services that are cloud based with Lumen NaaS are delivered on demand with agile bandwidth, low latency, edge computing, scale, redundancy, and a self-service reconfigurable fabric.
- **High-capacity cloud connectivity:** This involves robust connections that support large-scale cloud operations with a premier digital ecosystem that empowers customers to activate high-performance, dedicated cloud solutions.
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