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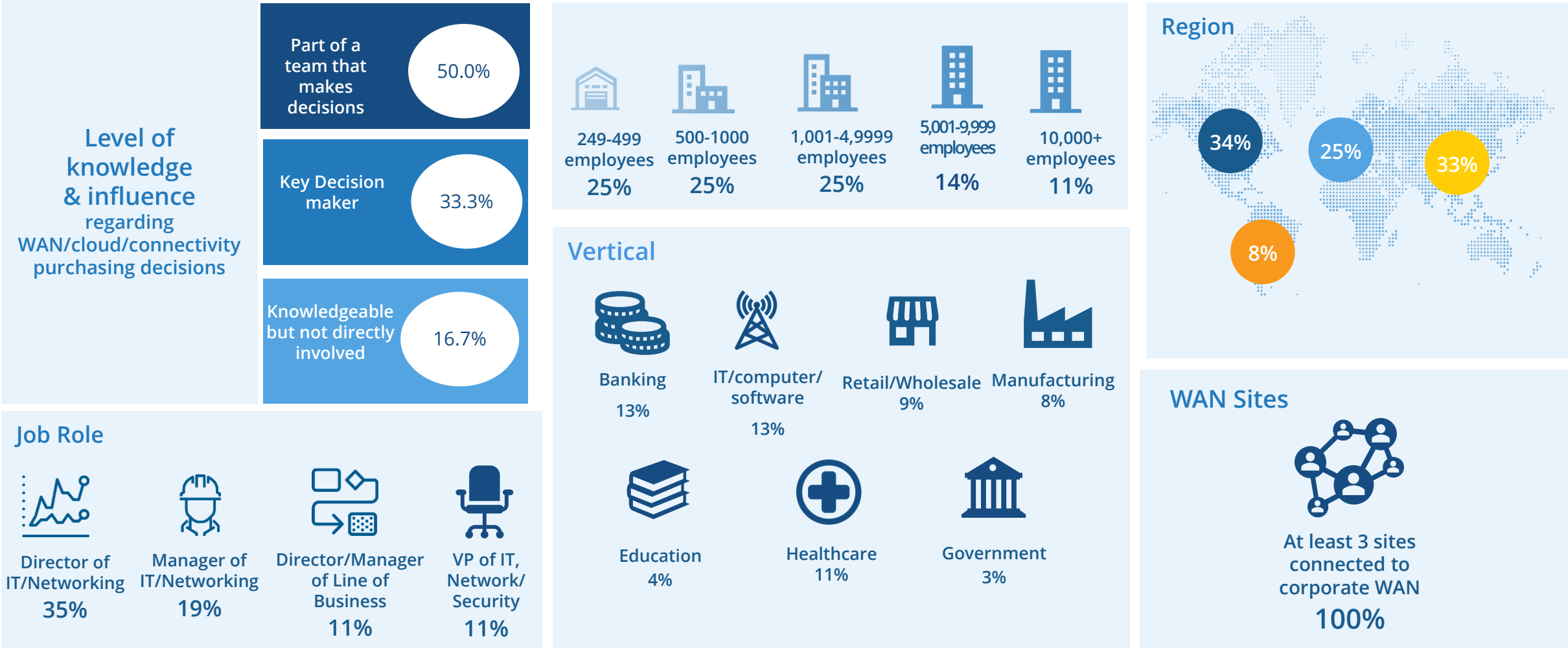
- Survey Demographics, Overview and Executive Summary
- Detailed Findings:
  - WAN Transformation
  - SD-WAN Deployment Preferences
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  - Multi-Cloud Networking & Interconnect
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Survey Demographics, Overview and Executive Summary

Survey Demographics
Total survey respondents: n = 1,224

Level of knowledge & influence
regarding WAN/cloud/connectivity purchasing decisions

Part of a team that makes decisions	50.0%
Key Decision maker	33.3%
Knowledgeable but not directly involved	16.7%

249-499 employees	500-1000 employees	1,001-4,9999 employees	5,001-9,999 employees	10,000+ employees
25%	25%	25%	14%	11%

Vertical

Banking	IT/computer/software	Retail/Wholesale	Manufacturing
13%	13%	9%	8%

Education	Healthcare	Government
4%	11%	3%

Region

34% 25% 33% 8%

Job Role

Director of IT/Networking	Manager of IT/Networking	Director/Manager of Line of Business	VP of IT, Network/Security
35%	19%	11%	11%

WAN Sites

At least 3 sites connected to corporate WAN
100%

Survey fieldwork conducted in November 2022

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WW SD-WAN Survey Special Report 2022/2023 Executive Summary

SD-WAN Deployment Trends

- **Adoption:** 40% of respondents are currently using SD-WAN; 50% are planning to use SD-WAN (47%). Top industries that have deployed SD-WAN: Finance, Transportation/Comms/Utilities, Services, Manufacturing, Retail.

- **Top SD-WAN Benefits:** Improved WAN & App Performance, simplified management, opportunity for LAN/WAN consolidation.

- **SD-WAN TCO:** 40% expect to save between 11 and 19% from deploying SD-WAN; Almost 1/3 expect to save more than 20%

- **Strong interest in NaaS for SD-WAN:** Subscriptions and usage-based pricing models for SD-WAN are of interest

SD-WAN & Security

- **SASE:** More than half have deployed SASE; Finance & retail, plus smallest orgs are most likely to use SASE; 20% have no SASE plans. Top SASE benefits: Cloud-hosted security; reduced silos; better DLP

- More than 2/3 prefer a **single-vendor SASE** solution, especially in education/government, services & retail

- Strong desire for **cloud-managed SD-WAN + Security** functions, with fewer respondents deploying on-prem security in the future

Executive Summary (continued)

SD-WAN Deployment Preferences

- **LAN +SD-WAN:** 85% of respondents are somewhat (31%) or very (54%) likely to work with their existing campus vendor when deploying SD-WAN
- **Deployment Preferences:** Even mix of SD-WAN deployment preferences across virtualized SD-WAN vs. SD-WAN on router or security appliance
- **MPLS:** Most will continue to use MPLS (44%) – especially in NA; but a large portion (38%) plan to transition from MPLS over time
- **Branch of One:** SD-WAN is seen as a key technology for supporting Branch of One (Remote workers), for improving network/app performance, and using multiple WAN links for remote employees

WAN Transformation Trends

- **Key aspects of WAN Transformation**: Integrated security, pricing, technology innovation, VNF deployments and flex consumption models.
- **Connectivity Trends:** Broadband, fiber and wireless are the top primary access connectivity methods, but respondents expect to increase their usage of cellular as a primary connectivity method in the next year.

Multi-Cloud Networking

- **Multicloud Network Challenges**: Providing optimal app experience, dealing with disparate cloud networks, and need for consistent management top list
- Majority use **cloud connects or interconnections** for multicloud networking; finance and services predominate; Site-to-site connectivity favored for cloud-interconnects vs. Site-to-Cloud

WAN Transformation

85% of respondents use or plan to use SD-WAN; Nearly 40% use SD-WAN today

QS7. Does your organization currently use or plan to use SD-WAN technology solutions? - Region

APAC respondents most likely to have deployed SD-WAN

NA respondents most likely to deploy in more than 2 years

- NA (N=515)
- EMEA (N=303)
- APAC (N=322)

38.2%
12.6%
8.0%
26.5%
14.7%

(% of respondents)

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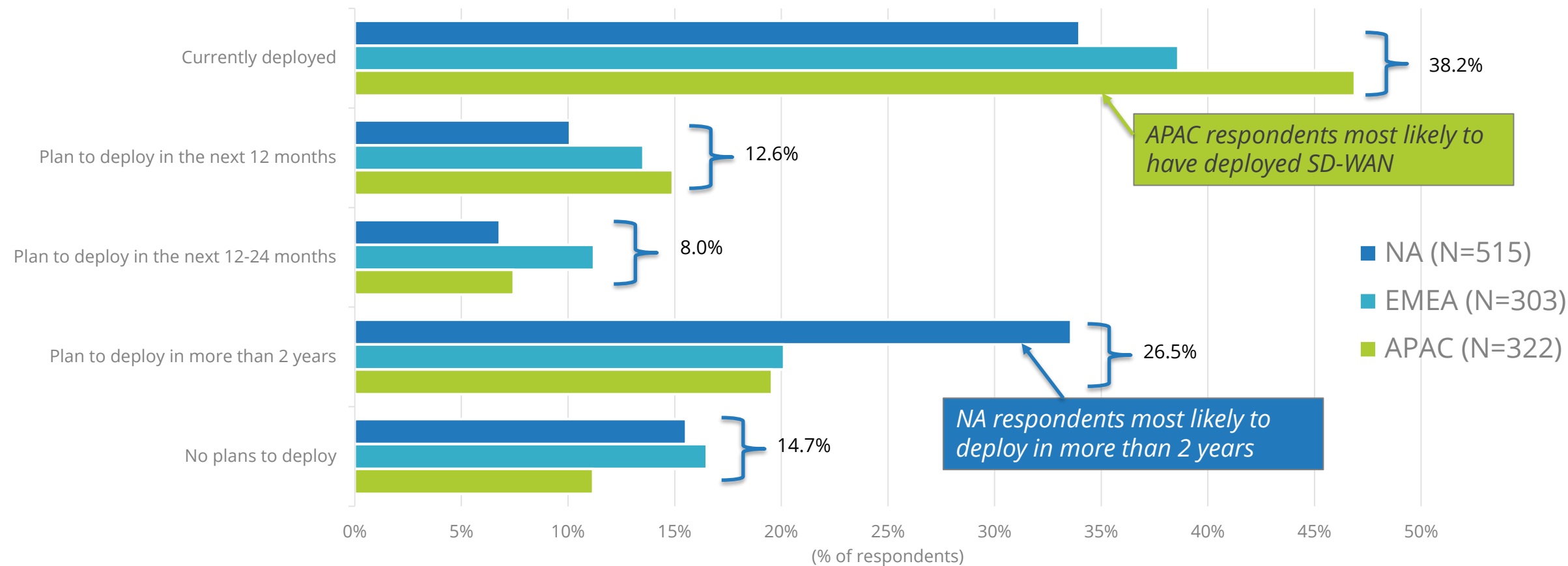
Large orgs are more likely to have deployed SD-WAN; Top industries for SD-WAN deployments: Finance, Transportation, Services

QS7. Does your organization currently use or plan to use SD-WAN technology solutions?

Legend:
- 249 to 499 (N=303)
- 500-1,000 (N=308)
- 1,001-5,000 (N=308)
- 5,000+ (N=305)

Categories:
- Currently deployed
- Plan to deploy in the next 12 months
- Plan to deploy in the next 12-24 months
- Plan to deploy in more than 2 years
- No plans to deploy

X-axis: 0% 10% 20% 30% 40% 50% 60% 70% (% of respondents)
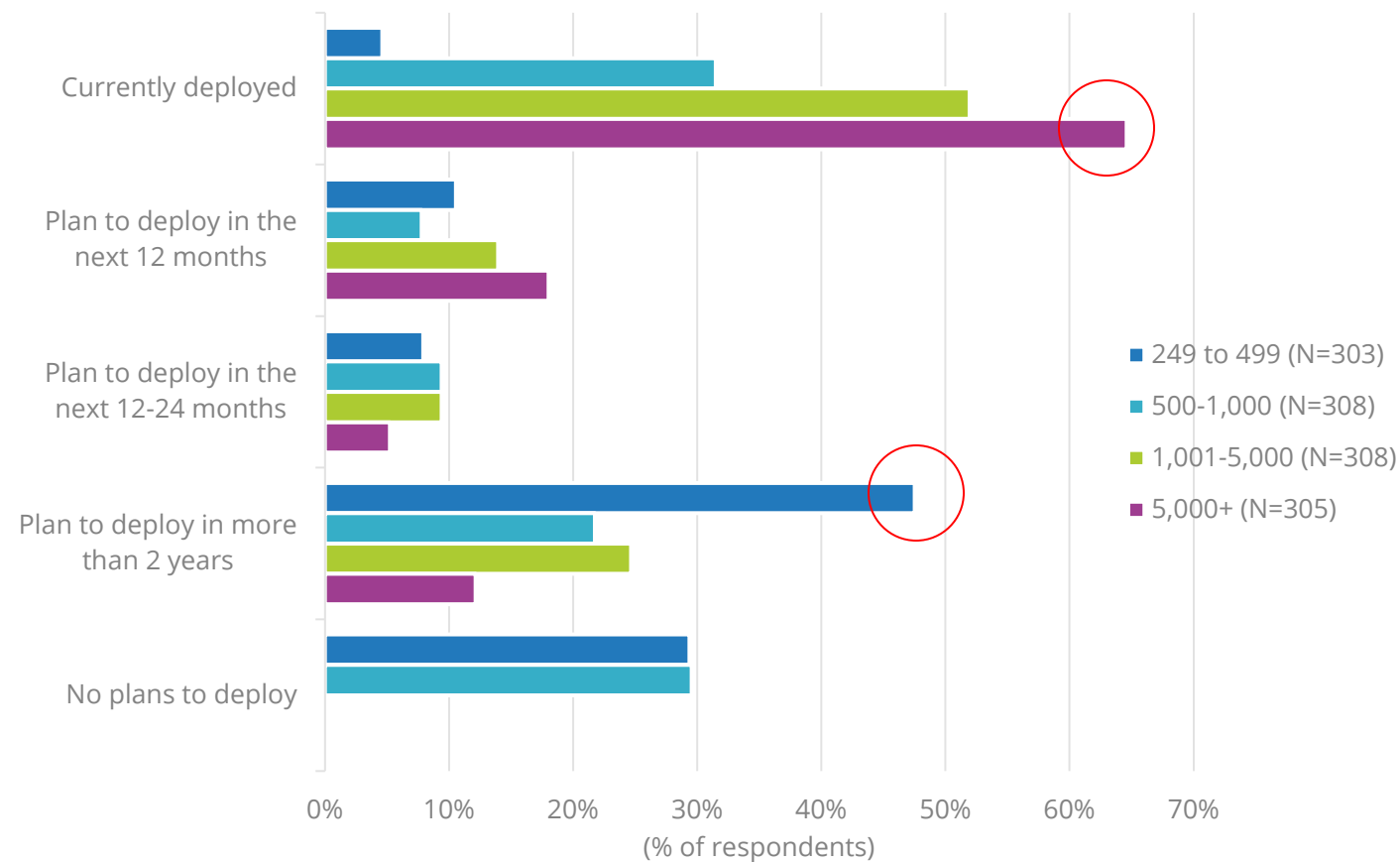
Top Industries: Currently deployed SD-WAN

Industry	Value
FINANCE	49.6
TRANPORTATION, COMMUNICATION, UTLITIES	45.4
SERVICES	42.9
MANUFACTURING	35.9
RETAIL OR WHOLESALE	34.2
HEALTHCARE and LIFE SCIENCE	30.8
EDUCATION/GOVERNMENT	28.7
OTHER	24.3

X-axis: 0.0 10.0 20.0 30.0 40.0 50.0 60.0
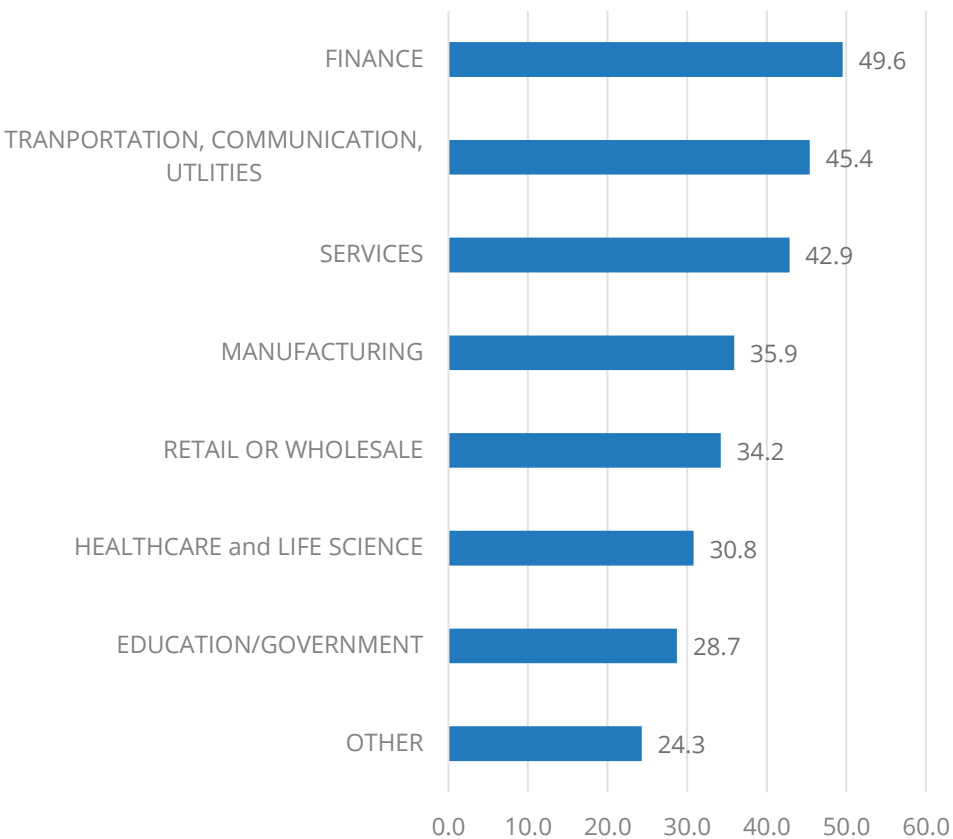
Key aspects for WAN infrastructure: Integrated security, pricing, pricing, technology innovation, multi-cloud networking & operational agility/efficiency

Q1. When purchasing wide area network (WAN) infrastructure, or services for your company, what are the three most important aspects you consider?

Aspect	Value
Integrated security (UTM/firewall, Secure Web Gateway (SWG), Next-generation...	31.5
Pricing	22.4
Technology innovation and differentiation	21.2
Multi-cloud networking capabilities	20.4
Operational agility/efficiency	19.0
Simplicity of procurement, deployment, and operation	18.1
Internet and application visibility	17.4
Cloud-managed/delivery	17.2
Ease of doing business with the vendor/provider	15.4
Alignment with existing network systems and supplier	14.9
The solution is a managed service	14.5
Service management features via self-service portal	13.7
Geographical coverage	12.6
Contract flexibility	12.3
Application-driven network policy (alignment with apps)	12.0

(% of respondents)

Priorities for WAN Consumption: VNF deployment; CSP/MSP-led network & security solutions; Flex consumption models

Q2. Which of the following options are you most interested in with regards to your wide area network (WAN)?

Option	%
Having a WAN appliance/platform that allows deployment of multiple software-based virtual network functions (VNFs)	38.2
Having a managed service provider deliver a comprehensive solution for my WAN transports and network and security services	36.3
Use a more flexible subscription or consumption/pay-for-use model for WAN services instead of paying a fixed fee for the fixed term	29.5
Moving away from in-house management of branch routers on-site toward centrally managed virtual routers or cloud-based WAN services	28.4
Considering longer contract terms, or less flexibility, in exchange for additional price discounts	26.7
Buying all WAN infrastructure directly from a single vendor	22.2
Reducing the number of contracts with different Communication Service Providers (CSP)	22.0
Modifying and purchasing services via a self-service portal	20.1
Reducing activation times for new sites	19.5

(% of respondents)

Top WAN Challenges: Security related to IaaS/SaaS; Multiple network appliance management, Network resource and performance visibility and Analytics

Q3. Please select the three most significant WAN challenges (from the following) that best relate to your company?

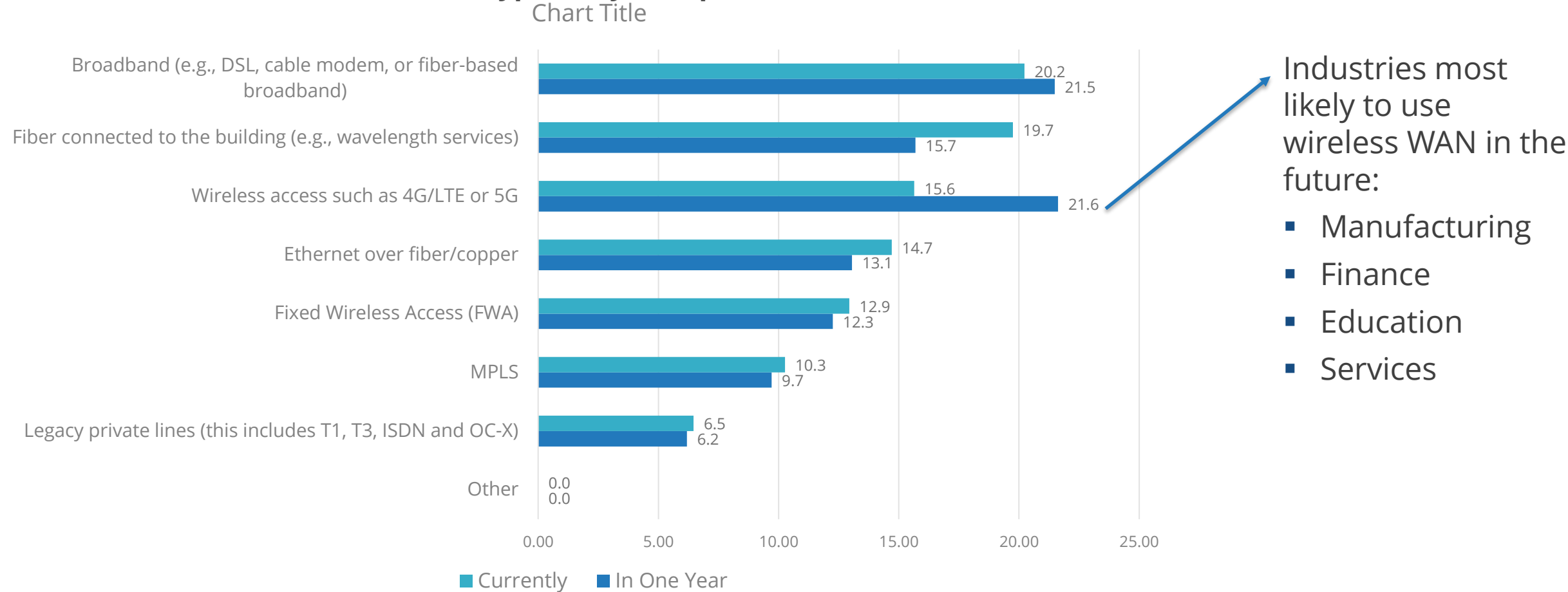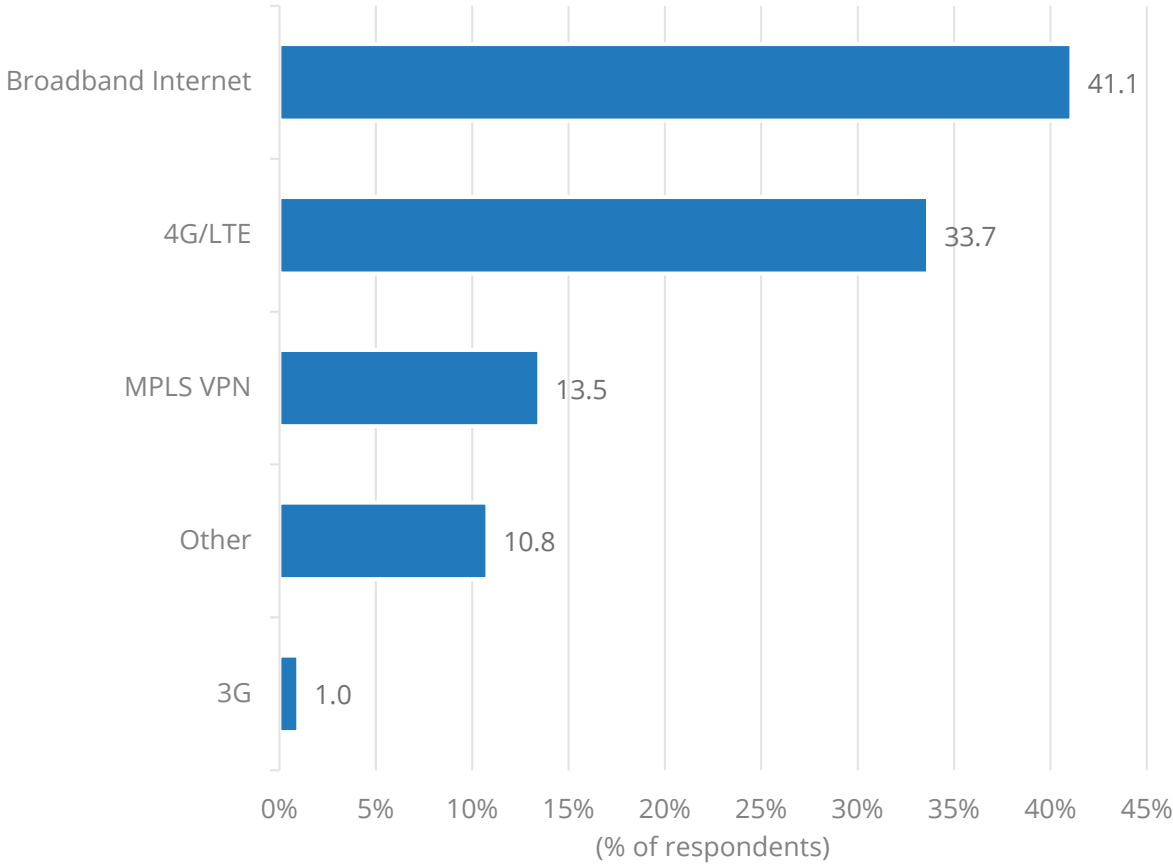| Challenge	% of respondents
Security requirements relating to IaaS and SaaS cloud services, and other internet applications	27.3
Managing multiple network appliances in the branch, including routing, security, and performance management, among others	27.2
Need for better analytics and visibility into network performance, applications and resources delivered by the network	25.5
Complexity associated with interconnecting multiple transport types (MPLS, Ethernet, Internet, leased lines, DSL, 4G/LTE)	25.2
Cost-effective delivery of SaaS, IaaS, and other cloud services across the WAN	24.9
Managing consistent user experience for on-premises enterprise apps and off-premises cloud applications (SaaS and IaaS)	24.7
In-house management of enterprise WAN networks including hardware/software procurement, management and operations	24.3
Finding a simple and flexible means of accommodating and adapting to multi-cloud networking requirements	21.5
Better visibility and analytics for work-from-home employee networks	21.2
Controlling annual costs of providing additional bandwidth	19.3
Delivery and management of UC and Video apps at remote branch offices and work-from-home (WFH) users	18.1

(% of respondents)

IDC

Wireless will overtake Broadband as the predominant primary WAN connectivity method in one year

Q4c1&2- What types of primary access does your company use to connect business sites to the corporate-wide area network (WAN) now and what types do you expect it to use 12 months from now?

Chart Title

Connectivity Method	Currently	In One Year
Broadband (e.g., DSL, cable modem, or fiber-based broadband)	20.2	21.5
Fiber connected to the building (e.g., wavelength services)	19.7	15.7
Wireless access such as 4G/LTE or 5G	15.6	21.6
Ethernet over fiber/copper	14.7	13.1
Fixed Wireless Access (FWA)	12.9	12.3
MPLS	10.3	9.7
Legacy private lines (this includes T1, T3, ISDN and OC-X)	6.5	6.2
Other	0.0	0.0

Industries most likely to use wireless WAN in the future:

- Manufacturing
- Finance
- Education
- Services

N= 1224; Base=All Respondents
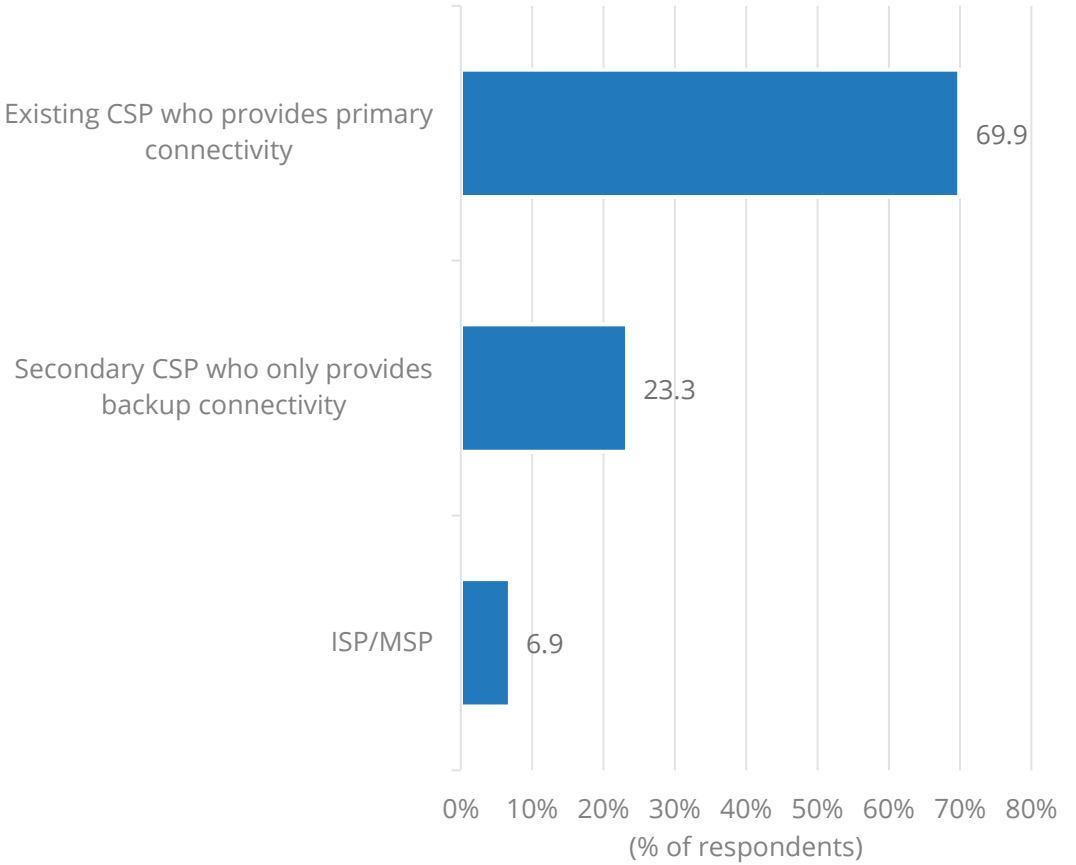Source: Software-Defined WAN (SD-WAN) Survey , IDC, November 2022

Broadband & Cellular are both used for WAN backup; Most work with same CSP for primary and backup

Q5A. What type of backup network solution does your organization use for WAN connectivity if the primary WAN connection fails?

Broadband Internet	41.1
4G/LTE	33.7
MPLS VPN	13.5
Other	10.8
3G	1.0

(% of respondents)

Q5B. Who provides this backup network solution if the primary WAN connection fails?

Existing CSP who provides primary connectivity	69.9
Secondary CSP who only provides backup connectivity	23.3
ISP/MSP	6.9

(% of respondents)

IDC

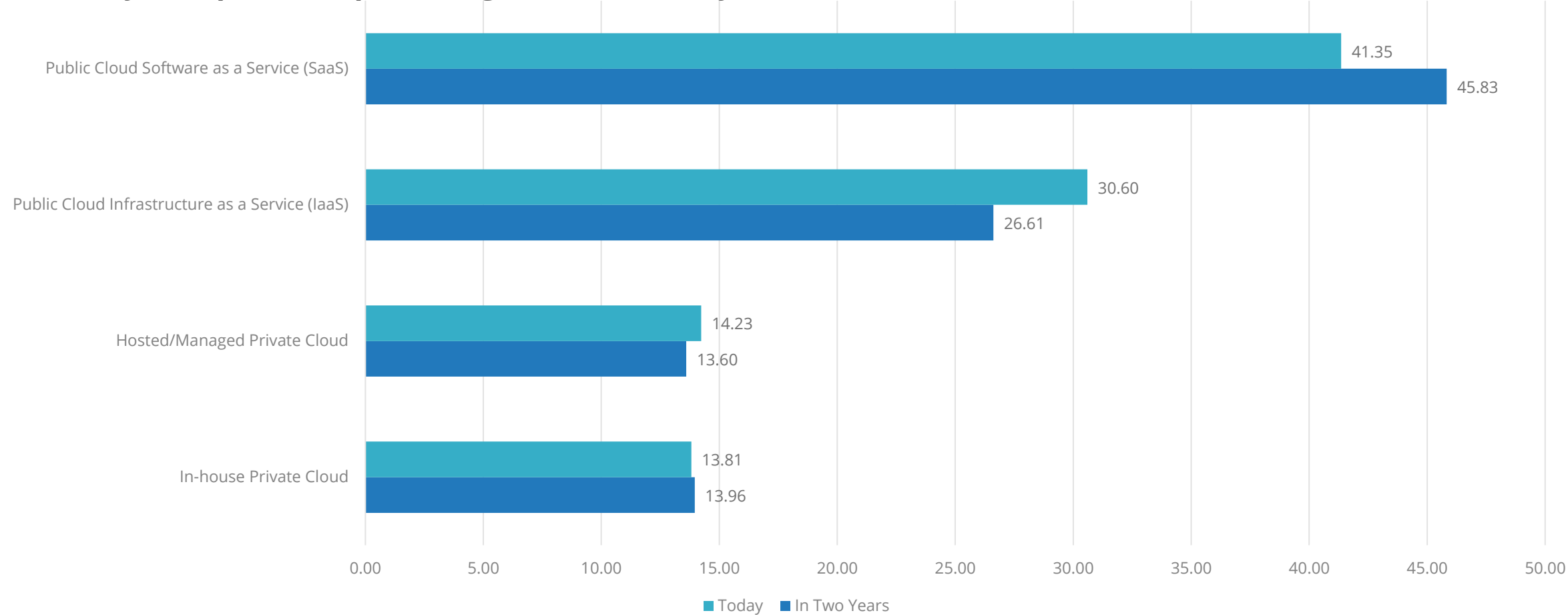# In 2 years, More traffic will be backhauled to traditional DC and less will breakout to internet using broadband

Q6c1. What percent of your branch office traffic is handled in the following ways TODAY and what percent do you expect it will be IN 2 YEARS?

Direct breakout to Internet using broadband
- Today: 28.94
- In Two Years: 25.67

Routed through a co-location or interconnection facility
- Today: 24.66
- In Two Years: 22.67

Backhauled to your corporate data center
- Today: 23.96
- In Two Years: 28.63

Direct connect (or interconnect) to a public cloud or SaaS-provider
- Today: 22.44
- In Two Years: 23.03

Legend: ■ Today ■ In Two Years

X-axis: 0.00, 5.00, 10.00, 15.00, 20.00, 25.00, 30.00, 35.00

Public cloud Software as a Service (SaaS) will continue to be the preferred way for organizations to host their applications

Q8Ac1. What percentage of your organization's applications are hosted in the following domains today and what do you expect that percentage will be in two years?

Public Cloud Software as a Service (SaaS): Today 41.35, In Two Years 45.83
Public Cloud Infrastructure as a Service (IaaS): Today 30.60, In Two Years 26.61
Hosted/Managed Private Cloud: Today 14.23, In Two Years 13.60
In-house Private Cloud: Today 13.81, In Two Years 13.96
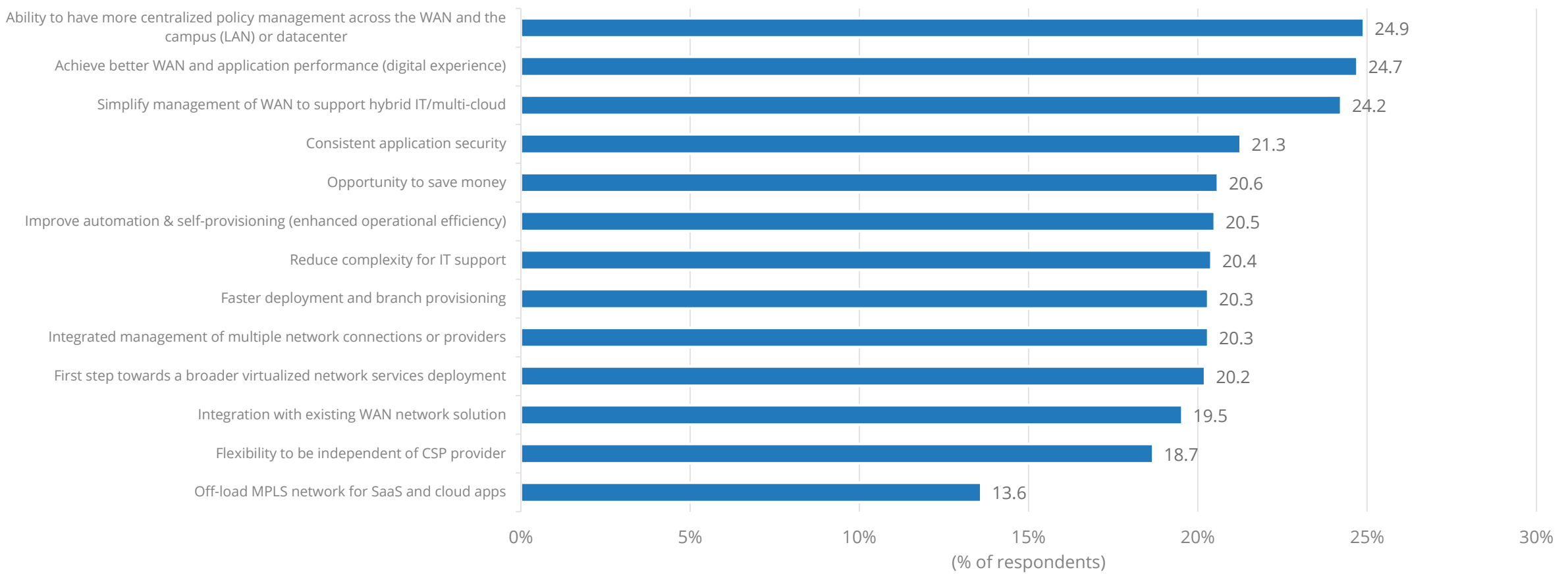
Legend: Today, In Two Years

SD-WAN Deployment Preferences

Top SD-WAN Benefits: Common WAN & LAN policy management; Better WAN/app performance; Simplified hybrid WAN management

Q10. What are the top benefits of deploying SD-WAN, or what do you expect the top benefits to be? *(Select up to three responses)*

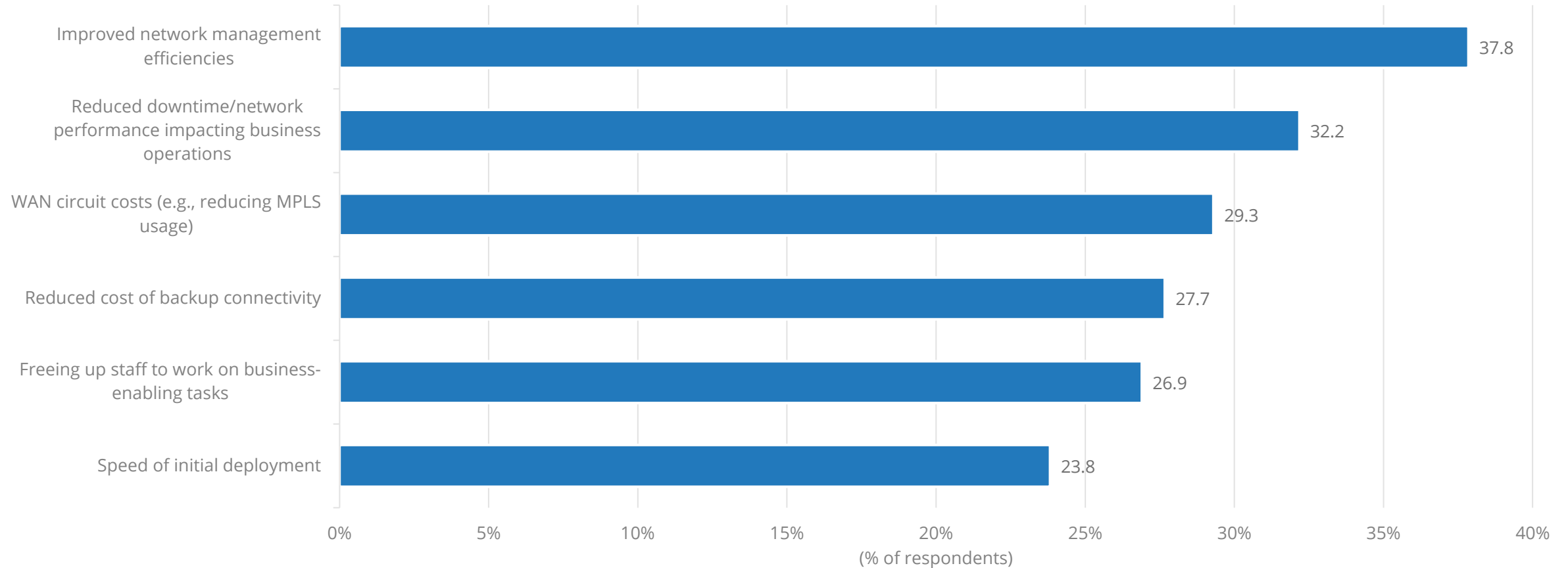| Benefit	% of respondents
Ability to have more centralized policy management across the WAN and the campus (LAN) or datacenter	24.9
Achieve better WAN and application performance (digital experience)	24.7
Simplify management of WAN to support hybrid IT/multi-cloud	24.2
Consistent application security	21.3
Opportunity to save money	20.6
Improve automation & self-provisioning (enhanced operational efficiency)	20.5
Reduce complexity for IT support	20.4
Faster deployment and branch provisioning	20.3
Integrated management of multiple network connections or providers	20.3
First step towards a broader virtualized network services deployment	20.2
Integration with existing WAN network solution	19.5
Flexibility to be independent of CSP provider	18.7
Off-load MPLS network for SaaS and cloud apps	13.6

(% of respondents)

SD-WAN Cost Savings: 60%+ of respondents expect to save between 11% and 39% from deploying SD-WAN

Q11A. What cost savings do you expect to derive from SD-WAN?

Median = 15.0%

62.8%
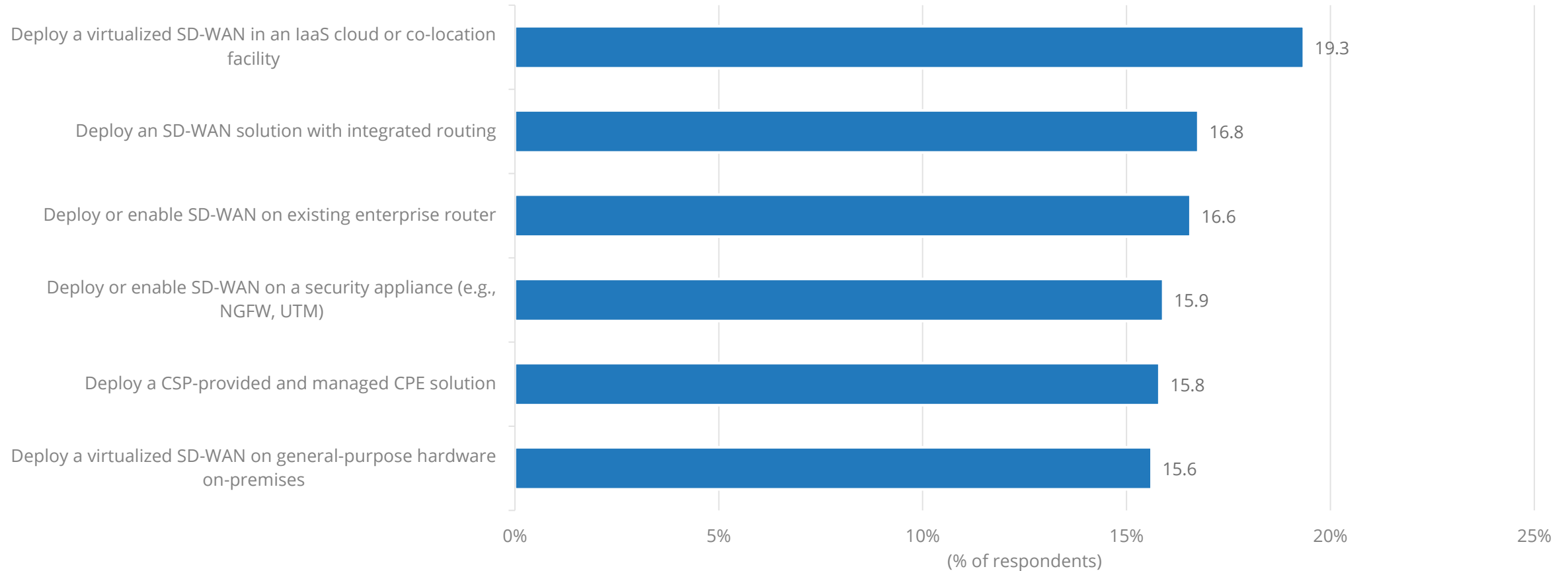of respondents

(% of respondents)
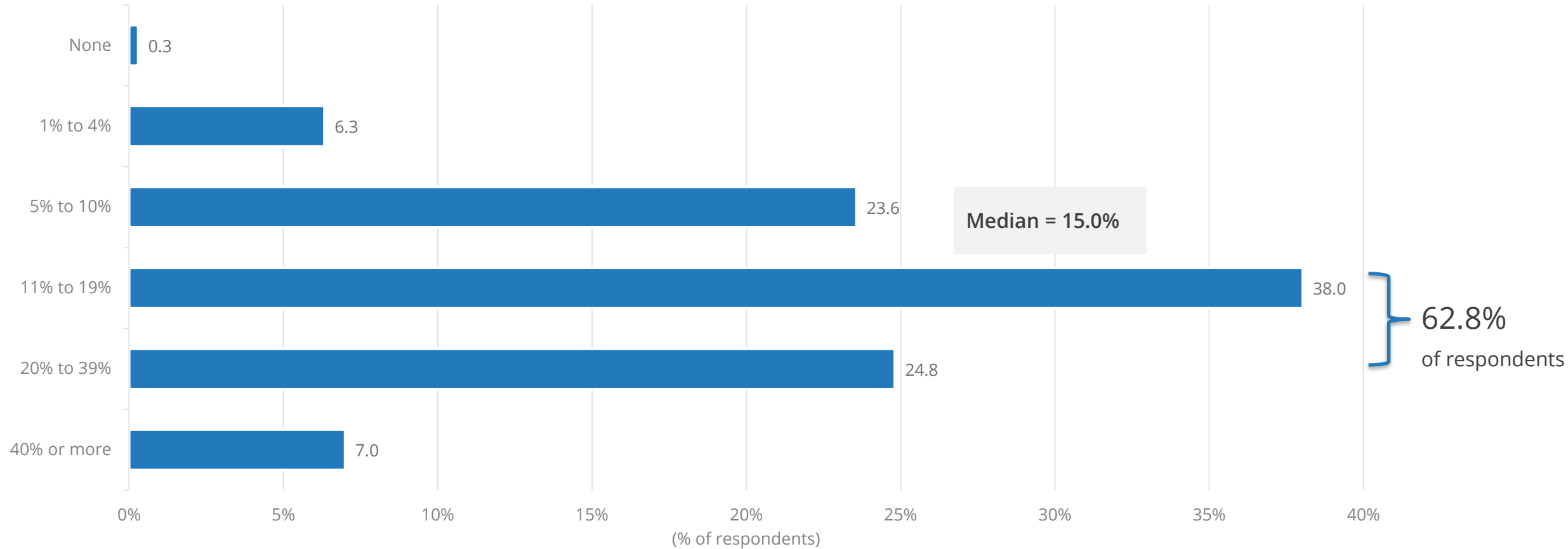
Top sources of SD-WAN cost savings: Network management efficiencies; reduced downtime; WAN link cost

Q11B. In which of the following areas do you expect to see the greatest cost savings from deploying SD-WAN?

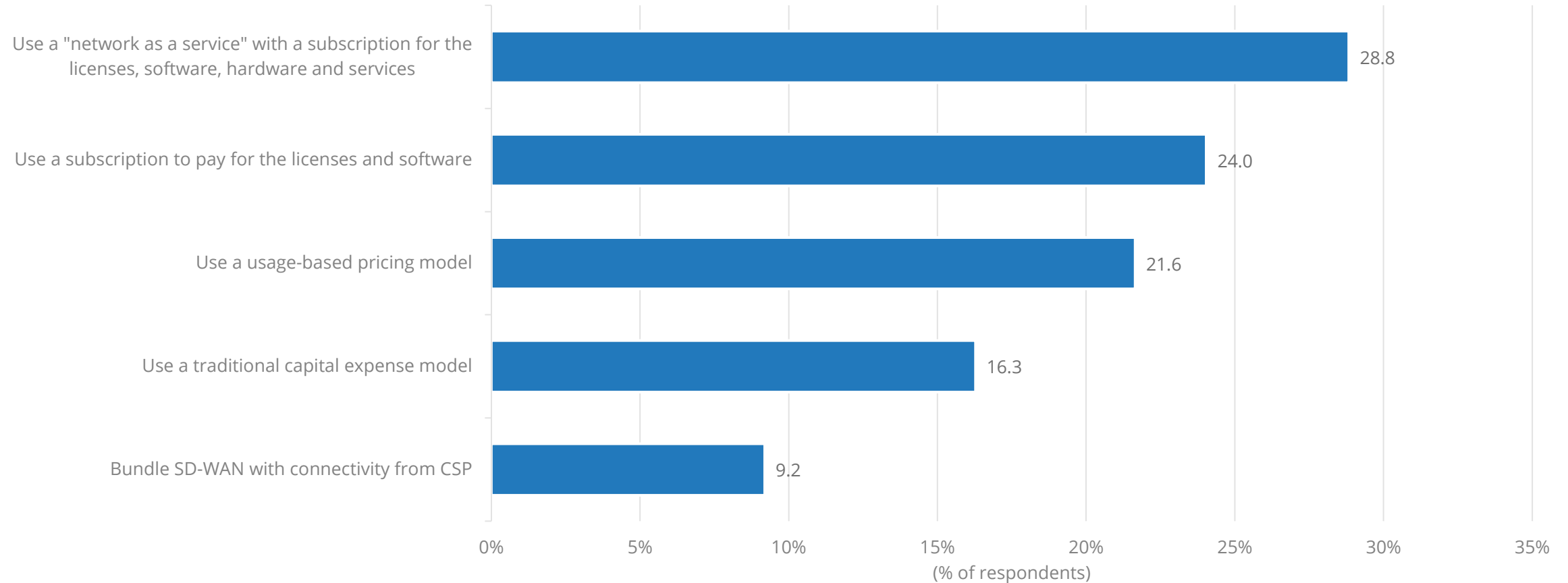| Category	% of respondents
Improved network management efficiencies	37.8
Reduced downtime/network performance impacting business operations	32.2
WAN circuit costs (e.g., reducing MPLS usage)	29.3
Reduced cost of backup connectivity	27.7
Freeing up staff to work on business-enabling tasks	26.9
Speed of initial deployment	23.8

(% of respondents)

SD-WAN deployment options: Even mix of deployment types, but virtualized SD-WAN in cloud/co-lo is most popular

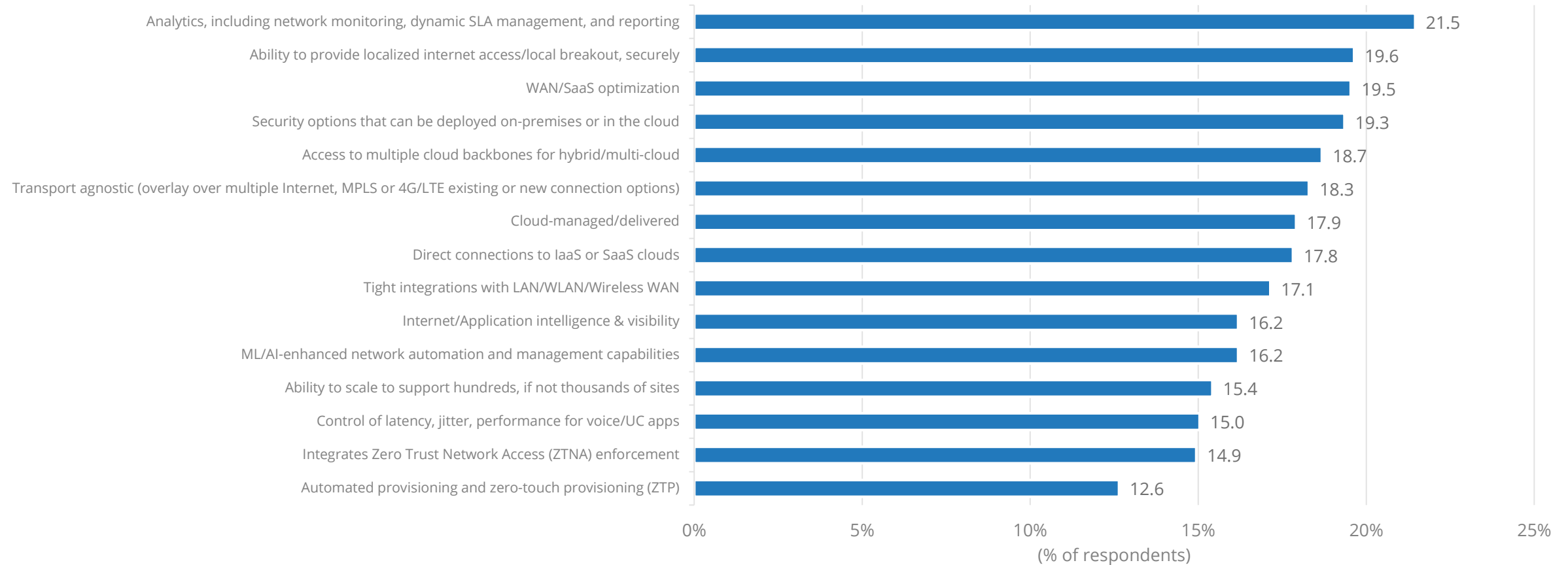**Q12. What is your preferred method for deploying an SD-WAN solution?**

Deployment method	% of respondents
Deploy a virtualized SD-WAN in an IaaS cloud or co-location facility	19.3
Deploy an SD-WAN solution with integrated routing	16.8
Deploy or enable SD-WAN on existing enterprise router	16.6
Deploy or enable SD-WAN on a security appliance (e.g., NGFW, UTM)	15.9
Deploy a CSP-provided and managed CPE solution	15.8
Deploy a virtualized SD-WAN on general-purpose hardware on-premises	15.6

(% of respondents)

SD-WAN Contract Options: Strong interest in NaaS, subscriptions and usage-based pricing

Q13. How would you prefer to purchase an SD-WAN solution?

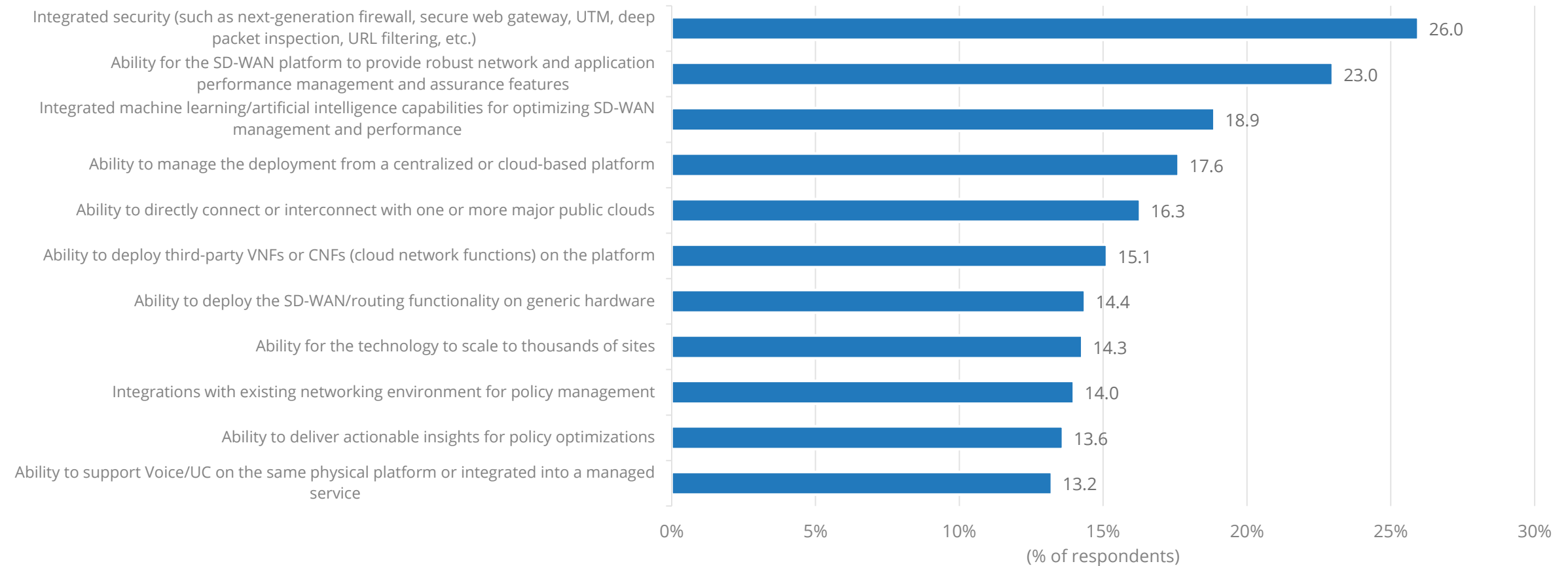| Option	% of respondents
Use a "network as a service" with a subscription for the licenses, software, hardware and services	28.8
Use a subscription to pay for the licenses and software	24.0
Use a usage-based pricing model	21.6
Use a traditional capital expense model	16.3
Bundle SD-WAN with connectivity from CSP	9.2

(% of respondents)

Most Important SD-WAN components: Analytics; local internet breakout, WAN/SaaS optimization

Q14. Which three of the following SD-WAN components would you consider the most important for selecting an SD-WAN solution?

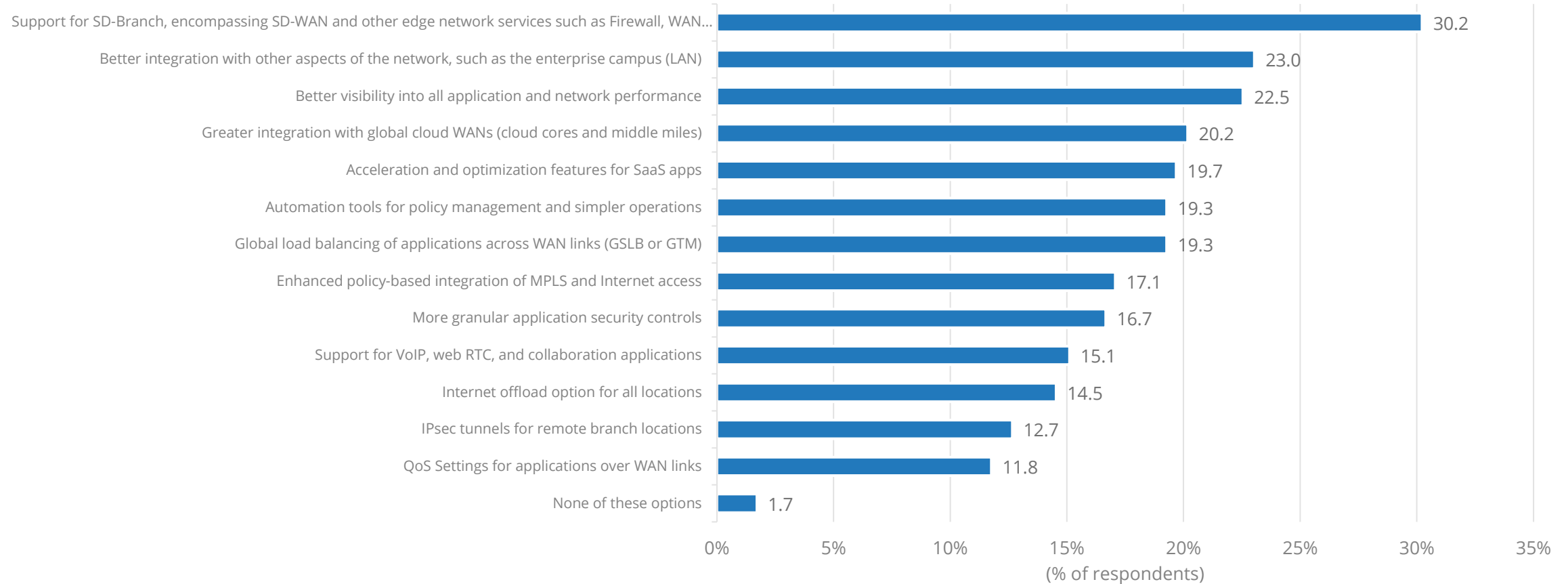| Component	%
Analytics, including network monitoring, dynamic SLA management, and reporting	21.5
Ability to provide localized internet access/local breakout, securely	19.6
WAN/SaaS optimization	19.5
Security options that can be deployed on-premises or in the cloud	19.3
Access to multiple cloud backbones for hybrid/multi-cloud	18.7
Transport agnostic (overlay over multiple Internet, MPLS or 4G/LTE existing or new connection options)	18.3
Cloud-managed/delivered	17.9
Direct connections to IaaS or SaaS clouds	17.8
Tight integrations with LAN/WLAN/Wireless WAN	17.1
Internet/Application intelligence & visibility	16.2
ML/AI-enhanced network automation and management capabilities	16.2
Ability to scale to support hundreds, if not thousands of sites	15.4
Control of latency, jitter, performance for voice/UC apps	15.0
Integrates Zero Trust Network Access (ZTNA) enforcement	14.9
Automated provisioning and zero-touch provisioning (ZTP)	12.6

(% of respondents)

Most important SD-WAN features: Integrated security; Network/App performance/assurance; integrated ML/AI

Q21. What features do you believe are most important in a modern, enterprise-grade SD-WAN platform? *(Select up to 2 responses)*
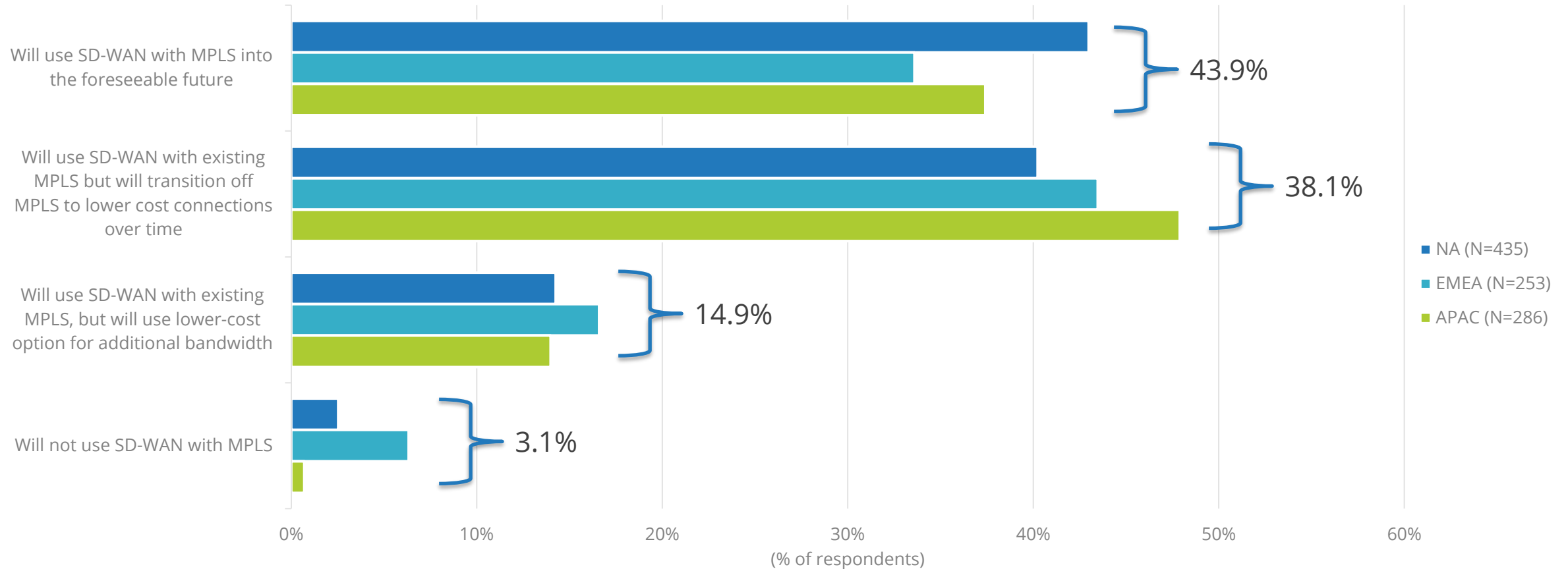

Feature	%
Integrated security (such as next-generation firewall, secure web gateway, UTM, deep packet inspection, URL filtering, etc.)	26.0
Ability for the SD-WAN platform to provide robust network and application performance management and assurance features	23.0
Integrated machine learning/artificial intelligence capabilities for optimizing SD-WAN management and performance	18.9
Ability to manage the deployment from a centralized or cloud-based platform	17.6
Ability to directly connect or interconnect with one or more major public clouds	16.3
Ability to deploy third-party VNFs or CNFs (cloud network functions) on the platform	15.1
Ability to deploy the SD-WAN/routing functionality on generic hardware	14.4
Ability for the technology to scale to thousands of sites	14.3
Integrations with existing networking environment for policy management	14.0
Ability to deliver actionable insights for policy optimizations	13.6
Ability to support Voice/UC on the same physical platform or integrated into a managed service	13.2

(% of respondents)

IDC

Areas of SD-WAN innovation: SD-Branch (integrated security/LAN); improved observability; integrations with cloud WANs

Q23. Which of the following WAN network services needs to be addressed before your company would be ready to expand its commitment SD-WAN solutions?

Service	% of respondents
Support for SD-Branch, encompassing SD-WAN and other edge network services such as Firewall, WAN…	30.2
Better integration with other aspects of the network, such as the enterprise campus (LAN)	23.0
Better visibility into all application and network performance	22.5
Greater integration with global cloud WANs (cloud cores and middle miles)	20.2
Acceleration and optimization features for SaaS apps	19.7
Automation tools for policy management and simpler operations	19.3
Global load balancing of applications across WAN links (GSLB or GTM)	19.3
Enhanced policy-based integration of MPLS and Internet access	17.1
More granular application security controls	16.7
Support for VoIP, web RTC, and collaboration applications	15.1
Internet offload option for all locations	14.5
IPsec tunnels for remote branch locations	12.7
QoS Settings for applications over WAN links	11.8
None of these options	1.7

(% of respondents)

Most will continue to use MPLS (44%) – especially in NA, but a large portion (38%) plan to transition from MPLS over time

Q19. How likely are you to use SD-WAN with MPLS versus without MPLS? - Region

- NA (N=435)
- EMEA (N=253)
- APAC (N=286)

(% of respondents)

Will use SD-WAN with MPLS into the foreseeable future — **43.9%**

Will use SD-WAN with existing MPLS but will transition off MPLS to lower cost connections over time — **38.1%**

Will use SD-WAN with existing MPLS, but will use lower-cost option for additional bandwidth — **14.9%**

Will not use SD-WAN with MPLS — **3.1%**

SaaS apps, UC/voice/video and IaaS apps will benefit most from SD-WAN

Q17. Which application will benefit most from SD-WAN?

(% of respondents)
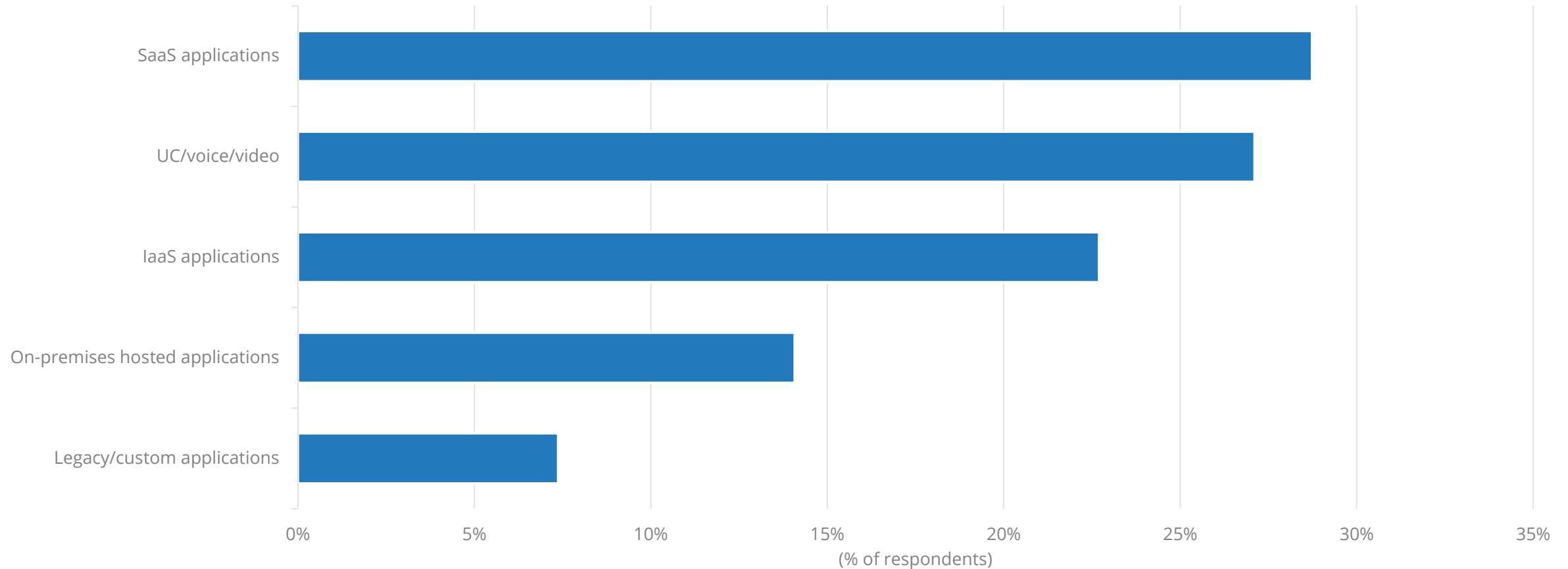
SD-Branch & SASE

Top security architectures for SD-WAN: FaaS, IPS/IDS, Encrypted traffic to the cloud

Q18A. Which of the following network-based security architectures are you most interested in deploying in conjunction with an SD-WAN? *(Select up to two responses)*
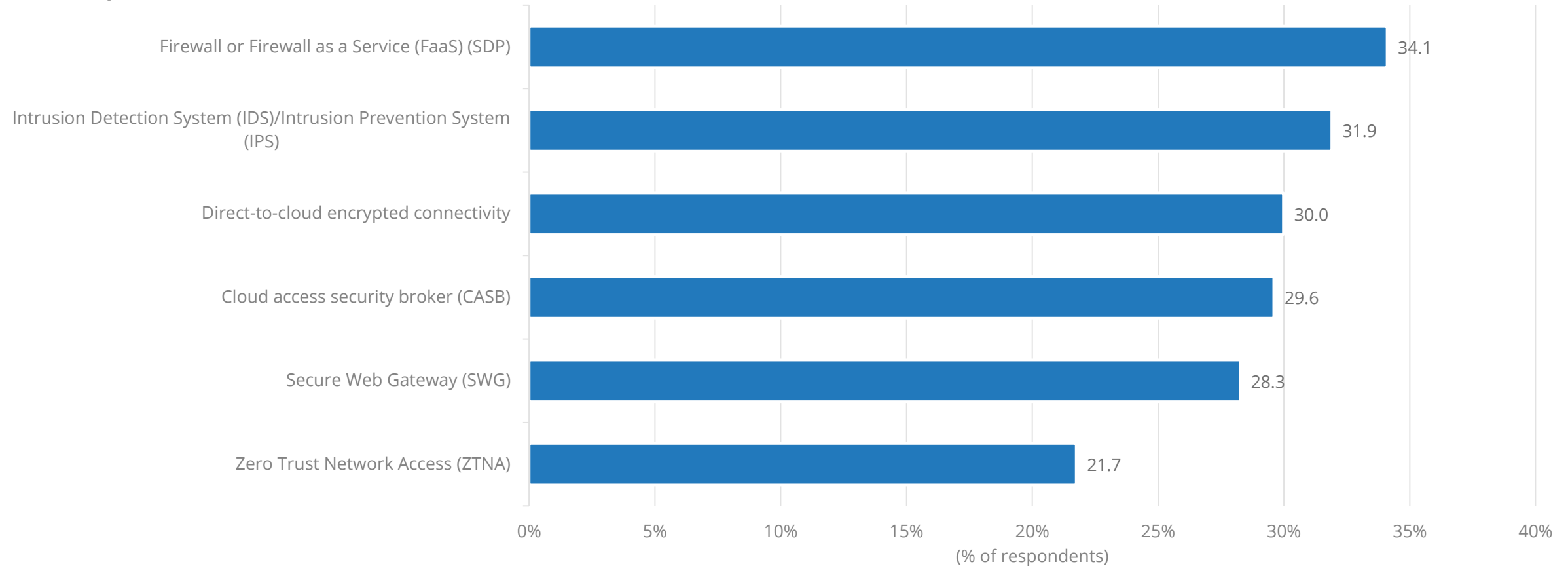
Architecture	% of respondents
Firewall or Firewall as a Service (FaaS) (SDP)	34.1
Intrusion Detection System (IDS)/Intrusion Prevention System (IPS)	31.9
Direct-to-cloud encrypted connectivity	30.0
Cloud access security broker (CASB)	29.6
Secure Web Gateway (SWG)	28.3
Zero Trust Network Access (ZTNA)	21.7

(% of respondents)

Strong desire for cloud-managed SD-WAN + Security functions, with fewer respondents deploying on-prem security in the future

Q18B. Which of the following ways would you like to deploy integrated SD-WAN and security functions today and in two years?
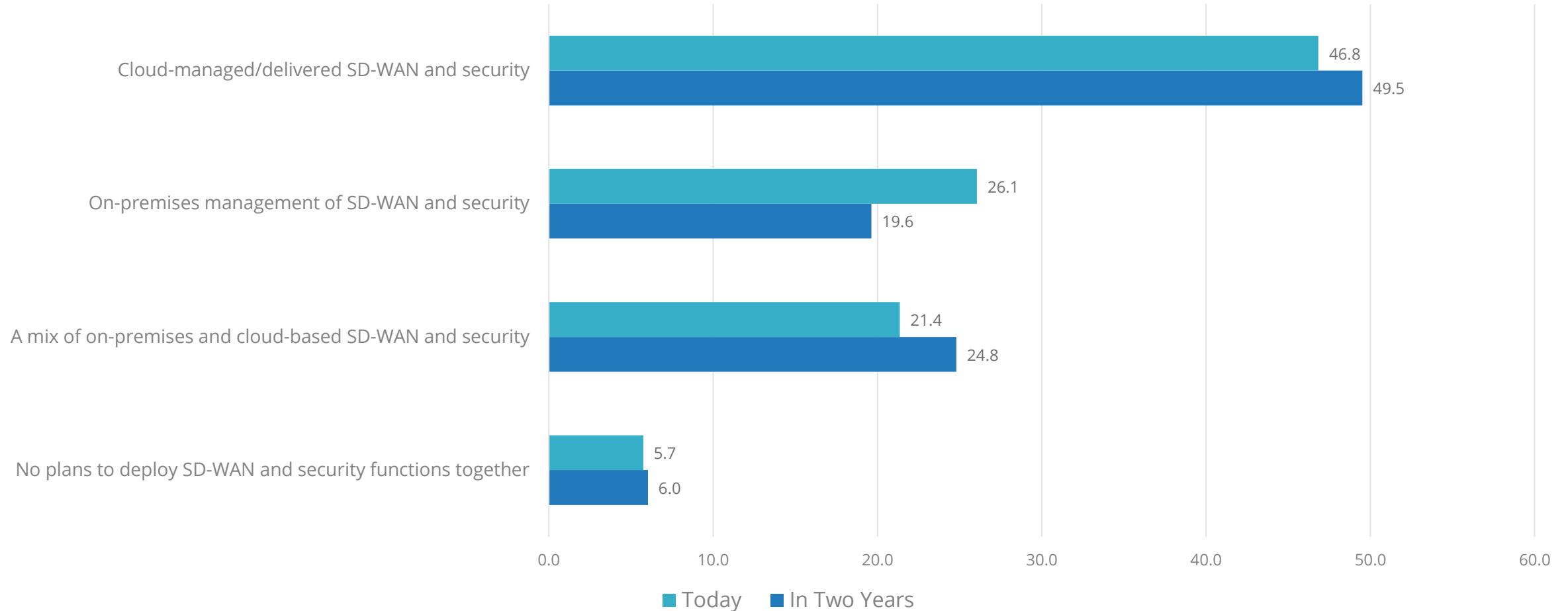
Cloud-managed/delivered SD-WAN and security: Today 46.8, In Two Years 49.5

On-premises management of SD-WAN and security: Today 26.1, In Two Years 19.6

A mix of on-premises and cloud-based SD-WAN and security: Today 21.4, In Two Years 24.8

No plans to deploy SD-WAN and security functions together: Today 5.7, In Two Years 6.0

Legend: Today / In Two Years

IDC

More than half have deployed SASE; Finance & retail, plus smallest orgs are most likely to use SASE; 20% have no SASE plans

Q18C. Have you deployed a SASE* architecture, or do you plan to do so within the next 2 years? *Secure Access Services Edge Definition: An integrated cloud-managed SD-WAN and security solution.*

Yes, we have deployed a SASE architecture today — **54.0%**

We plan to incorporate a SASE architecture into our SD-WAN in the next year — **13.4%**

We plan to incorporate a SASE architecture into our SD-WAN in the next one to two... — **12.1%**

We do not plan to use a SASE architecture — **20.5%**

NA (N=435)
EMEA (N=253)
APAC (N=286)

(% of respondents)
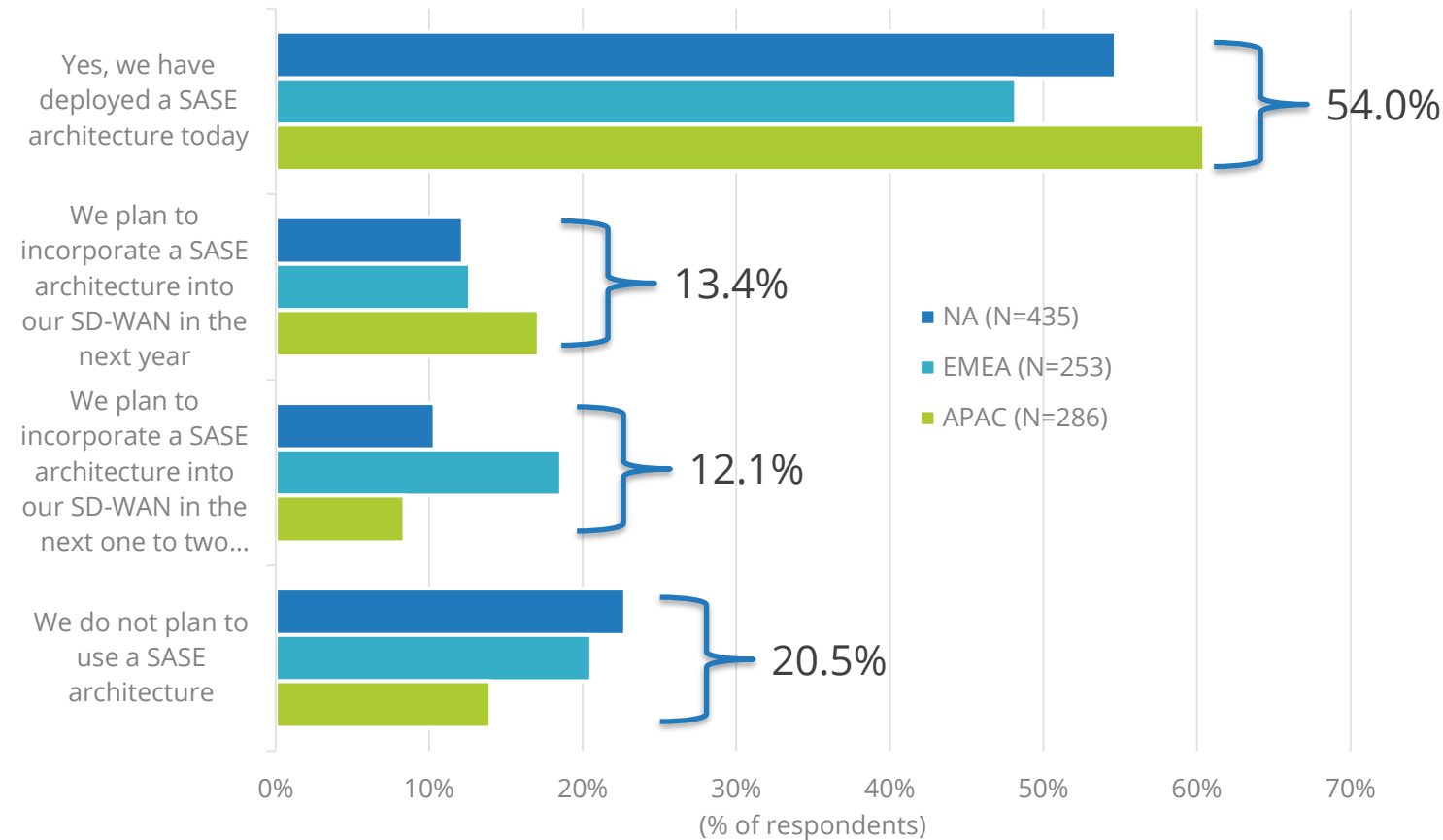
Top Industries for deploying SASE

- Finance
- Healthcare
- Retail
- Education
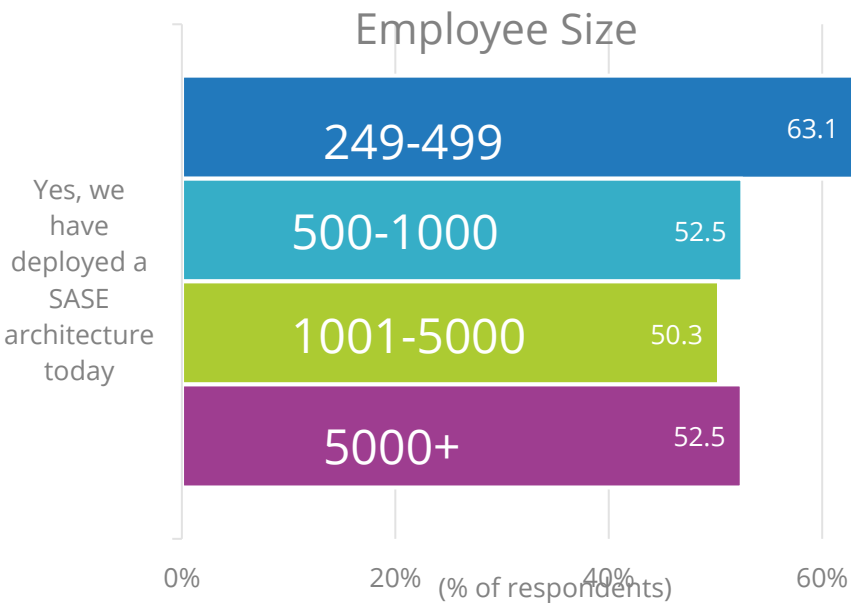
Employee Size

Yes, we have deployed a SASE architecture today

- 249-499 — 63.1
- 500-1000 — 52.5
- 1001-5000 — 50.3
- 5000+ — 52.5

(% of respondents)

More than 2/3 prefer a single-vendor SASE solution, especially in education/government, services & retail

Q18D. What is your preferred SASE architecture?

Use the same vendor for SD-WAN and security/SASE solutions — 68.1%

Use a different vendor for SD-WAN and security/SASE solutions — 31.9%

- NA (N=336)
- EMEA (N=201)
- APAC (N=246)

(% of respondents)

By Industry

Industry	Use the same vendor
EDUCATION/GOVERNMENT	76.5
SERVICES	73.0
RETAIL OR WHOLESALE	69.5
FINANCE	68.0
TRANSPORTATION, COMMUNICATION, UTLITIES	67.1
OTHER	66.7
HEALTHCARE and LIFE SCIENCE	63.8
MANUFACTURING	61.4

- Use the same vendor for SD-WAN and security/SASE solutions
- Use a different vendor for SD-WAN and security/SASE solutions

Top SASE benefits: Cloud-hosted security; reduced silos; better DLP

Q18E. What are the top benefits you get, or do you expect to get from using an SD-WAN + SASE architecture?

Benefit	% of respondents
Leveraging a cloud-hosted security model (e.g., Cloud Access Security Broker)	23.7
Broader security visibility/reduced data silos for improved threat detection	23.4
Better Data Leakage Protection (DLP), preventing data exfiltration	21.4
Working with a single vendor for WAN & security needs	20.2
Improved protection against DDoS	19.2
Consistent enforcement of policies across distributed network environments	17.5
Enabling a Zero Trust Network Access (ZTNA) model	16.9
Having closer ties between internal networking and security teams	15.9
Workload Protection	15.7
Distributed firewalling	11.4

(% of respondents)

Half of respondents (49%) want SD-WAN to integrate with existing security; 40% want best of breed SD-WAN & security

Q30. How likely are you to buy security technology/solutions from your SD-WAN vendor or Communications Service Provider who is providing your SD-WAN service? - Region

Will purchase an SD-WAN solution that integrates with our existing security technologies — **49.2%**

Will purchase best of breed security solutions, regardless of which vendor is used for the SD-WAN solution — **40.0%**

Will use security technology that are natively built into the SD-WAN solution — **9.2%**

Will not integrate security and SD-WAN at this time — **1.6%**

Legend: ■ APAC (N=322) ■ EMEA (N=303) ■ NA (N=515)

Respondents expect greater integration across SD-WAN + Security vs. SD-WAN + LAN, but strong desire for integrations across both in the future

Q22B. What level of integrated management does your organization have across your WAN and security today, and what level of integrated management do you expect in 2 years?
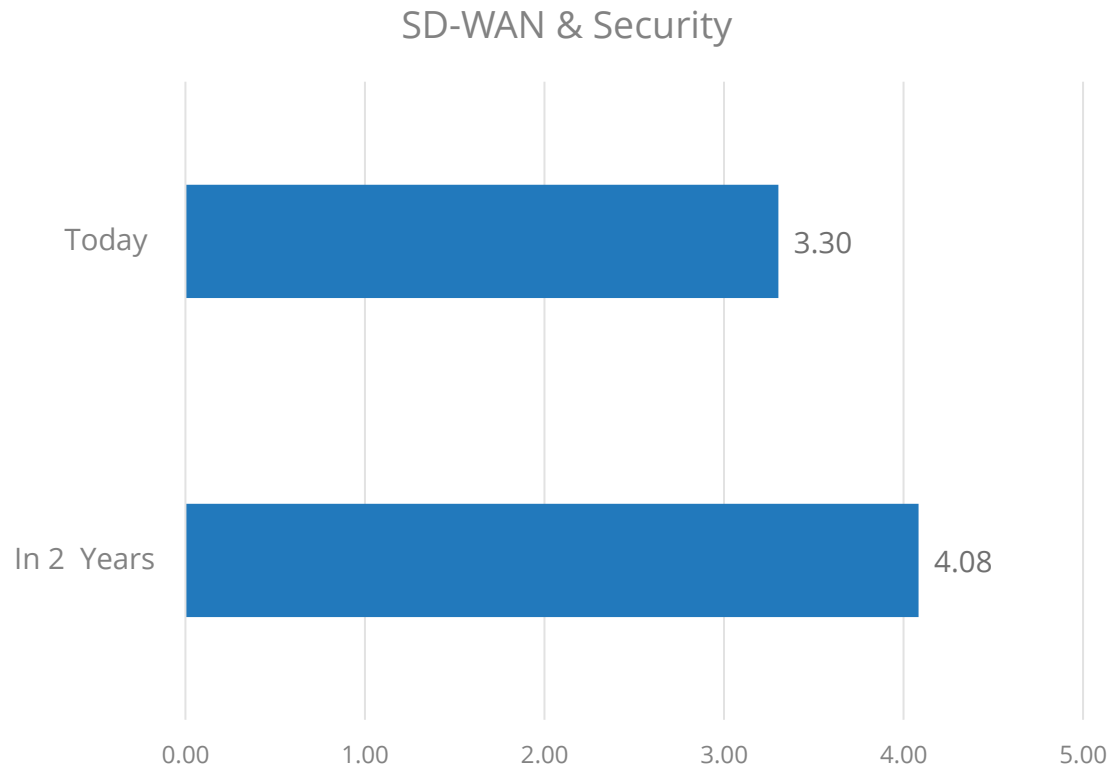
Q22A. What level of integrated management does your organization have across your WAN and LAN today, and what level of integrated management do you expect in 2 years?
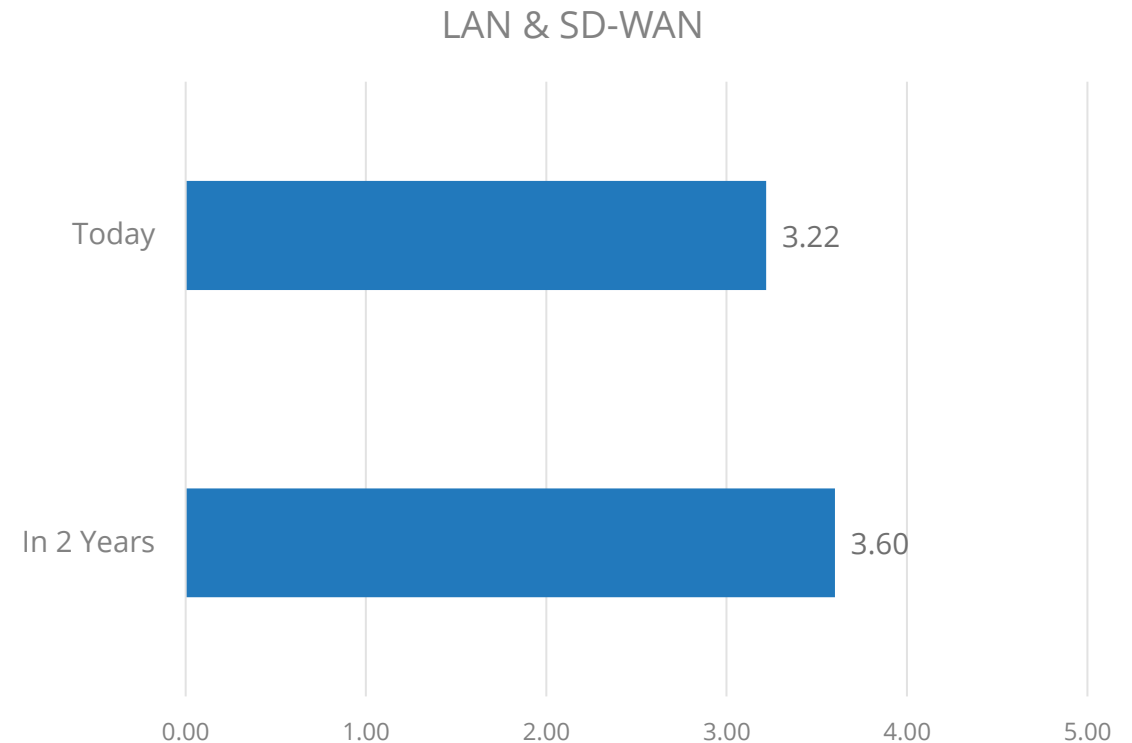
SD-WAN & Security

Today	3.30
In 2 Years	4.08

LAN & SD-WAN

Today	3.22
In 2 Years	3.60

85% of respondents are somewhat (31%) or very (54%) likely to work with their existing campus vendor when deploying SD-WAN

Q15A. How likely would you be to work with your existing enterprise/campus local area networking (LAN) vendor when deploying SD-WAN technology?

Not at all likely — 0.5
Not very likely — 1.8
Neither likely nor unlikely — 12.3
Somewhat likely — 31.1
Very likely — 54.3

(% of respondents)

85.4% Somewhat or very likely
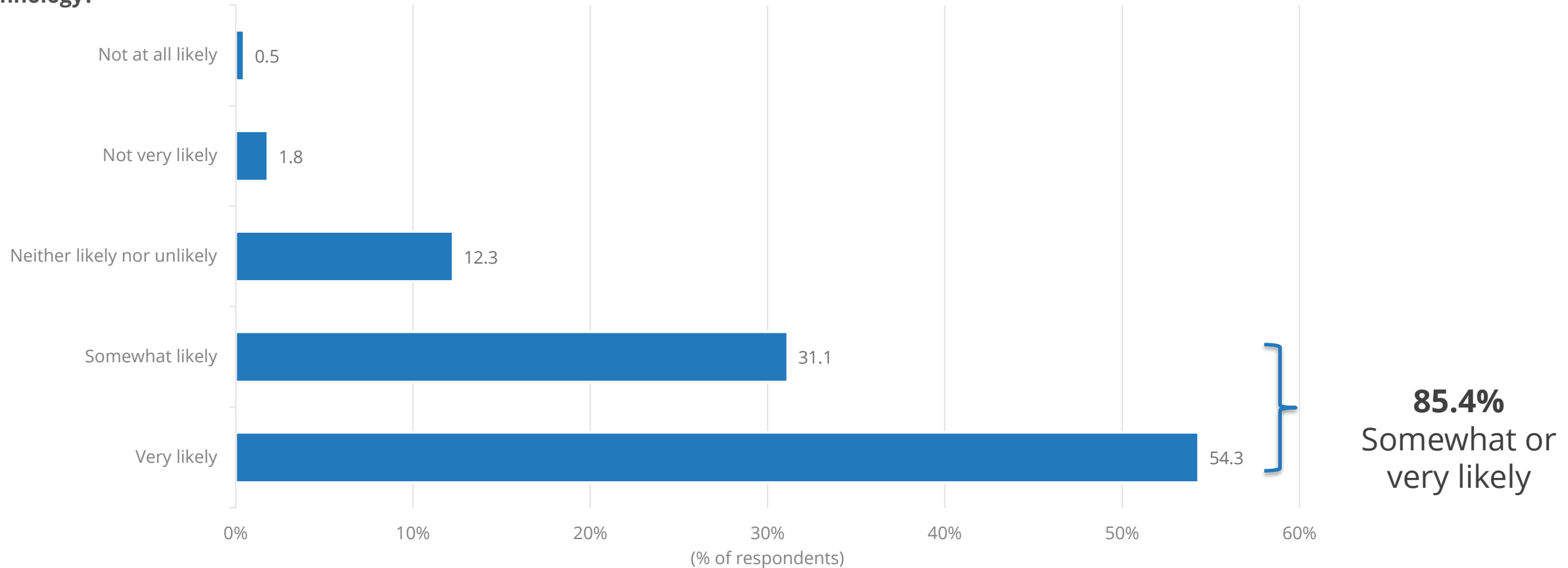
Top advantages of SD-WAN + LAN integrations: Troubleshooting, easier deployment/management, consistent security policies

Q15B. What advantages, if any, do you see with SD-WAN technology that integrates with enterprise networking needs (wired and/or wireless)?

Advantage	% of respondents
End-to-end troubleshooting of performance issues across the LAN & WAN	25.9
Easier deployment and management of the WAN because of integrations with the LAN	24.9
Consistent security policies for users and devices across LAN and WAN	24.4
Ability to set application quality of service levels between the LAN and WAN	24.2
Providing optimized application experiences regardless of device location or access technology type	22.7
Centralized creation of application policies across the LAN and WAN	21.2
Ability to work with my existing enterprise networking vendor	19.7
Standardize and streamline deployment using templates	17.1
I don't see any advantage of having SD-WAN technology that integrates with the enterprise/campus network	1.6

(% of respondents)

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SD-WAN is seen as a key technology for supporting Branch of One (Remote workers), for improving network/app performance, and using multiple WAN links for remote employees

Q16A. How important of a technology will SD-WAN be in supporting remote and mobile employees, which is referred to as the Branch of One?

- We currently use SD-WAN technologies to support remote and mobile employees — 59.7
- We plan to use SD-WAN technologies to support remote and mobile employees — 31.5
- We have no plans to use SD-WAN technology to support remote and mobile employees — 8.0
- Not sure — 0.9

(% of respondents)

Q16B. In which of the following ways do you or do you expect to use SD-WAN to support remote and mobile employees, which is referred to as the Branch of One?

- Improve network/application performance
- Use multiple WAN links for remote employees
- Deploy an SD-WAN gateway appliance at remote user site
- Use a virtualized/software-based SD-WAN
- Centrally manage groups of remote users
- Gain application/internet visibility/analytics
- Other

(% of respondents)

N= 1044; Base: Respondents currently use or plan to use SD-WAN technology solutions in the next 2 years;
Source: Software-Defined WAN (SD-WAN) Survey , IDC, November 2022

N= 952; Base=Respondents currently use or plan to use SD-WAN technologies to support remote and mobile employees

Top visibility tools for SD-WAN: Integrated observability across WAN, LAN & DC; Insight into clouds & internal/external networks

Q20. What visibility or analytics tools would be most helpful for your SD-WAN deployment?
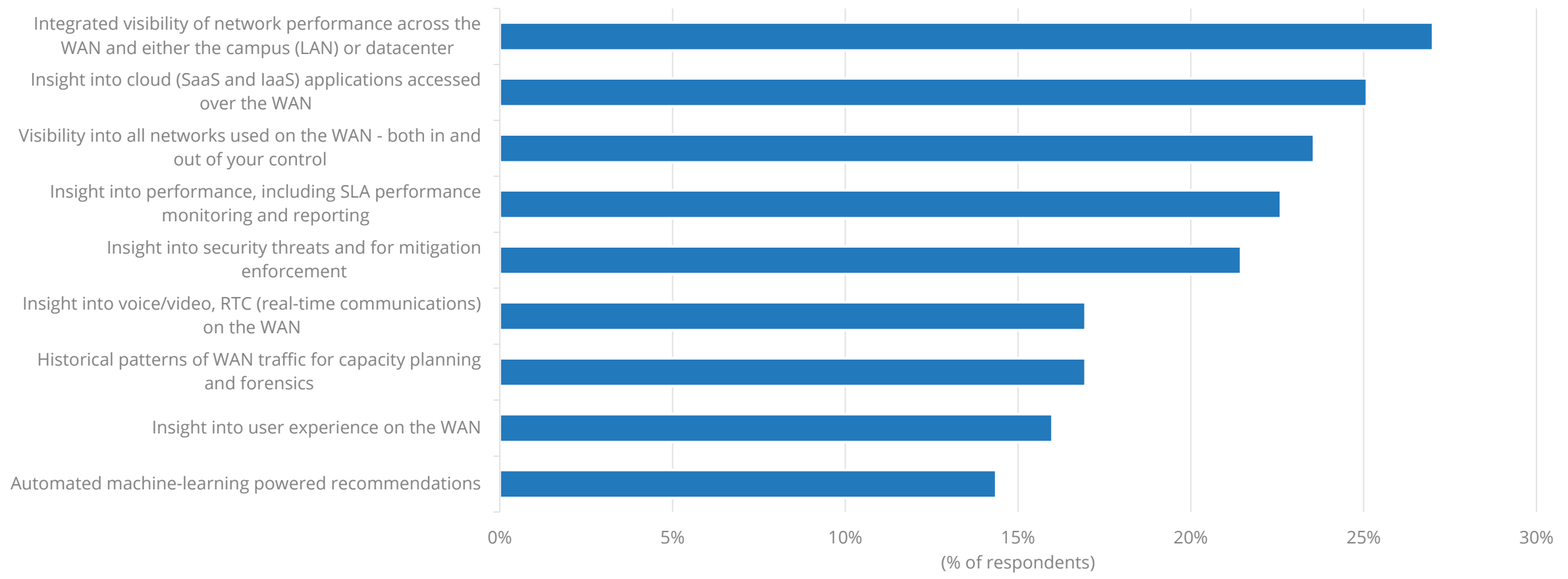
Enterprises expect just under half of branch network & security functions to be virtualized or cloud-hosted in future

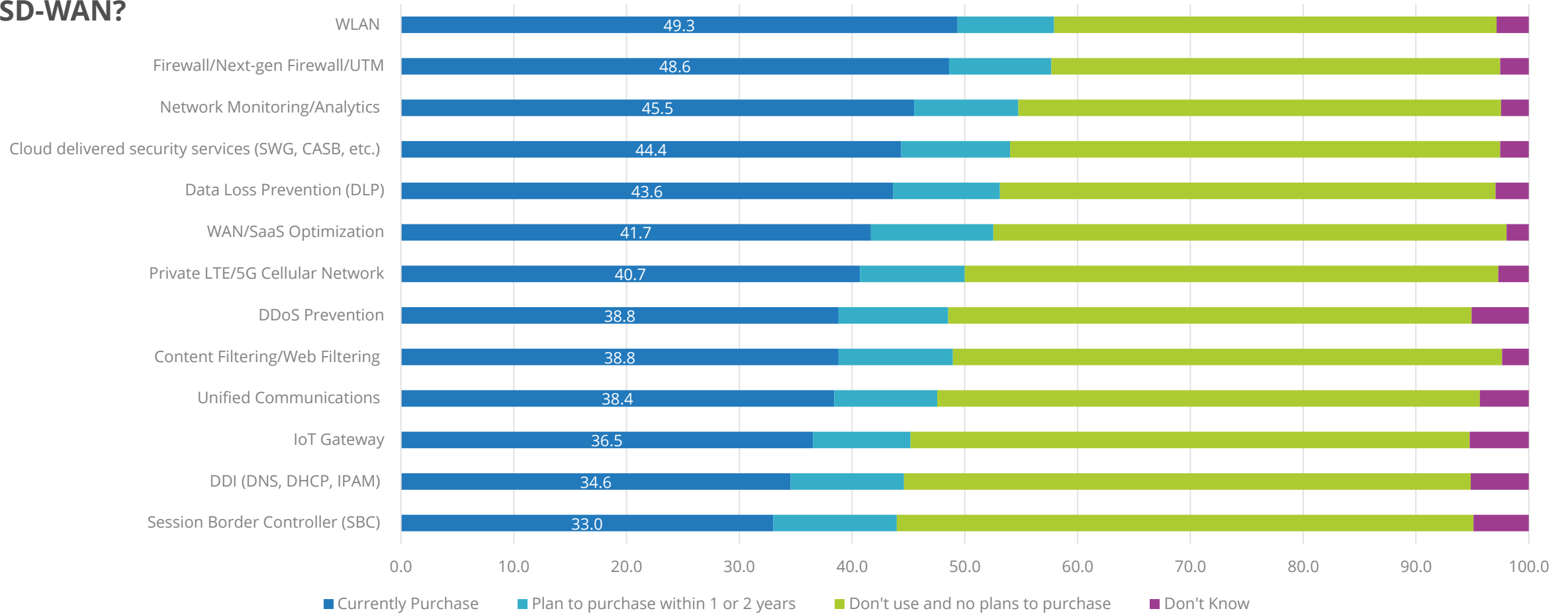**Q29. MEAN SUMMARY TABLE (including 0)- What percent of your branch office networking and security functions will be virtualized or cloud-hosted in the future?**
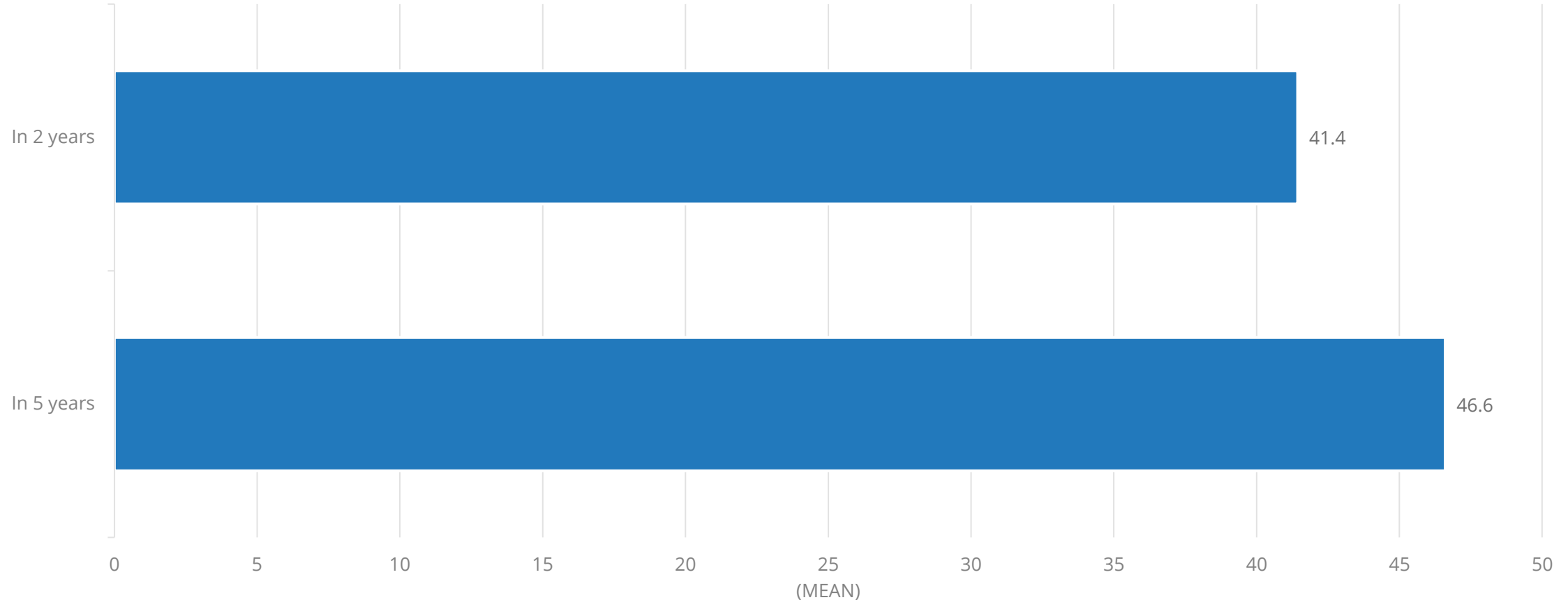
In 2 years — 41.4
In 5 years — 46.6

(MEAN)

N=1224
Base=All Respondents
Note: Managed by IDC's Global Primary Research Group.; Data Not Weighted; Use caution when interpreting small sample sizes
Source: Software-Defined WAN (SD-WAN) Survey , IDC, November 2022

Top functions bundled with SD-WAN: WLAN, NGFW, Observability, SWG/CASB, DLP

Q28A. Does your organization use or plan to use any of the following technologies bundled with your WAN or SD-WAN?

Technology	Currently Purchase
WLAN	49.3
Firewall/Next-gen Firewall/UTM	48.6
Network Monitoring/Analytics	45.5
Cloud delivered security services (SWG, CASB, etc.)	44.4
Data Loss Prevention (DLP)	43.6
WAN/SaaS Optimization	41.7
Private LTE/5G Cellular Network	40.7
DDoS Prevention	38.8
Content Filtering/Web Filtering	38.8
Unified Communications	38.4
IoT Gateway	36.5
DDI (DNS, DHCP, IPAM)	34.6
Session Border Controller (SBC)	33.0

Legend: ■ Currently Purchase ■ Plan to purchase within 1 or 2 years ■ Don't use and no plans to purchase ■ Don't Know

Even mix of deployment preferences for bundled functions with SD-WAN; WLAN & NGFW are top for cloud-managed

Q28B. How would you prefer the following technology or value-added services be deployed within your WAN or SD-WAN?
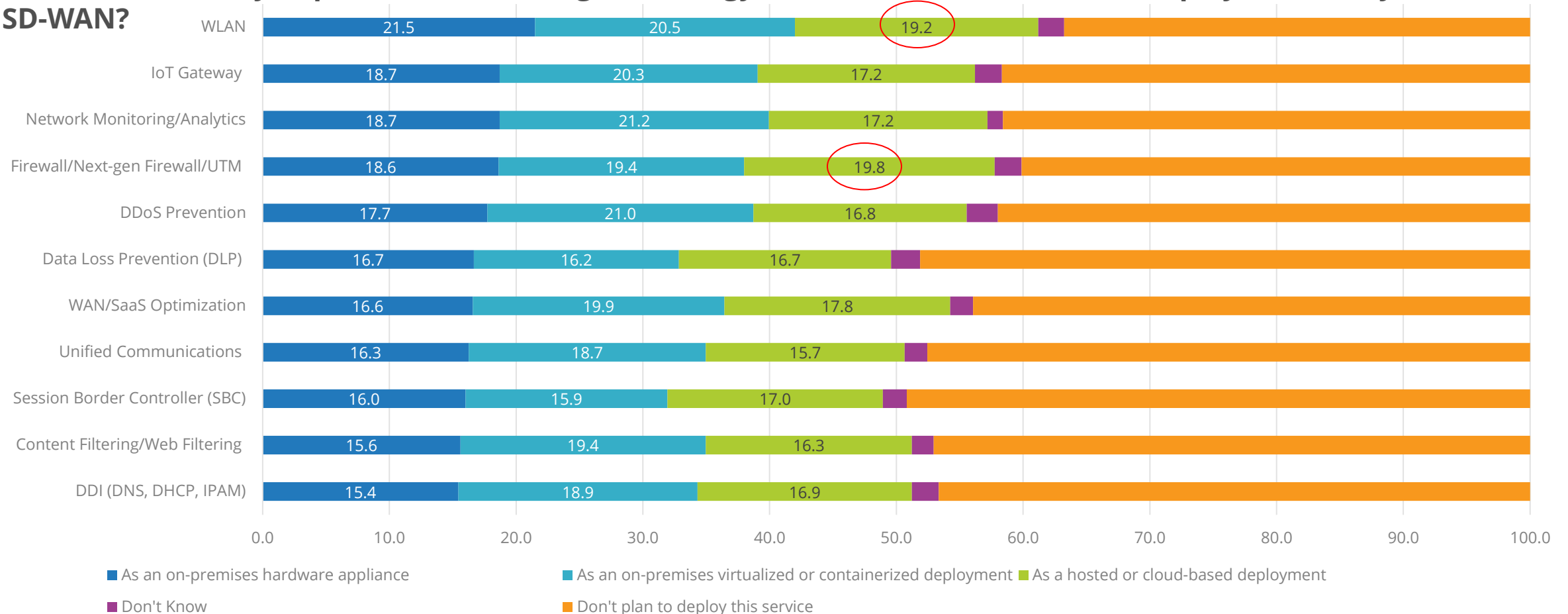
Technology	As an on-premises hardware appliance	As an on-premises virtualized or containerized deployment	As a hosted or cloud-based deployment
WLAN	21.5	20.5	19.2
IoT Gateway	18.7	20.3	17.2
Network Monitoring/Analytics	18.7	21.2	17.2
Firewall/Next-gen Firewall/UTM	18.6	19.4	19.8
DDoS Prevention	17.7	21.0	16.8
Data Loss Prevention (DLP)	16.7	16.2	16.7
WAN/SaaS Optimization	16.6	19.9	17.8
Unified Communications	16.3	18.7	15.7
Session Border Controller (SBC)	16.0	15.9	17.0
Content Filtering/Web Filtering	15.6	19.4	16.3
DDI (DNS, DHCP, IPAM)	15.4	18.9	16.9

Legend:
- As an on-premises hardware appliance
- As an on-premises virtualized or containerized deployment
- As a hosted or cloud-based deployment
- Don't Know
- Don't plan to deploy this service

N= 1224; Base=All Respondents
Source: Software-Defined WAN (SD-WAN) Survey , IDC, November 2022
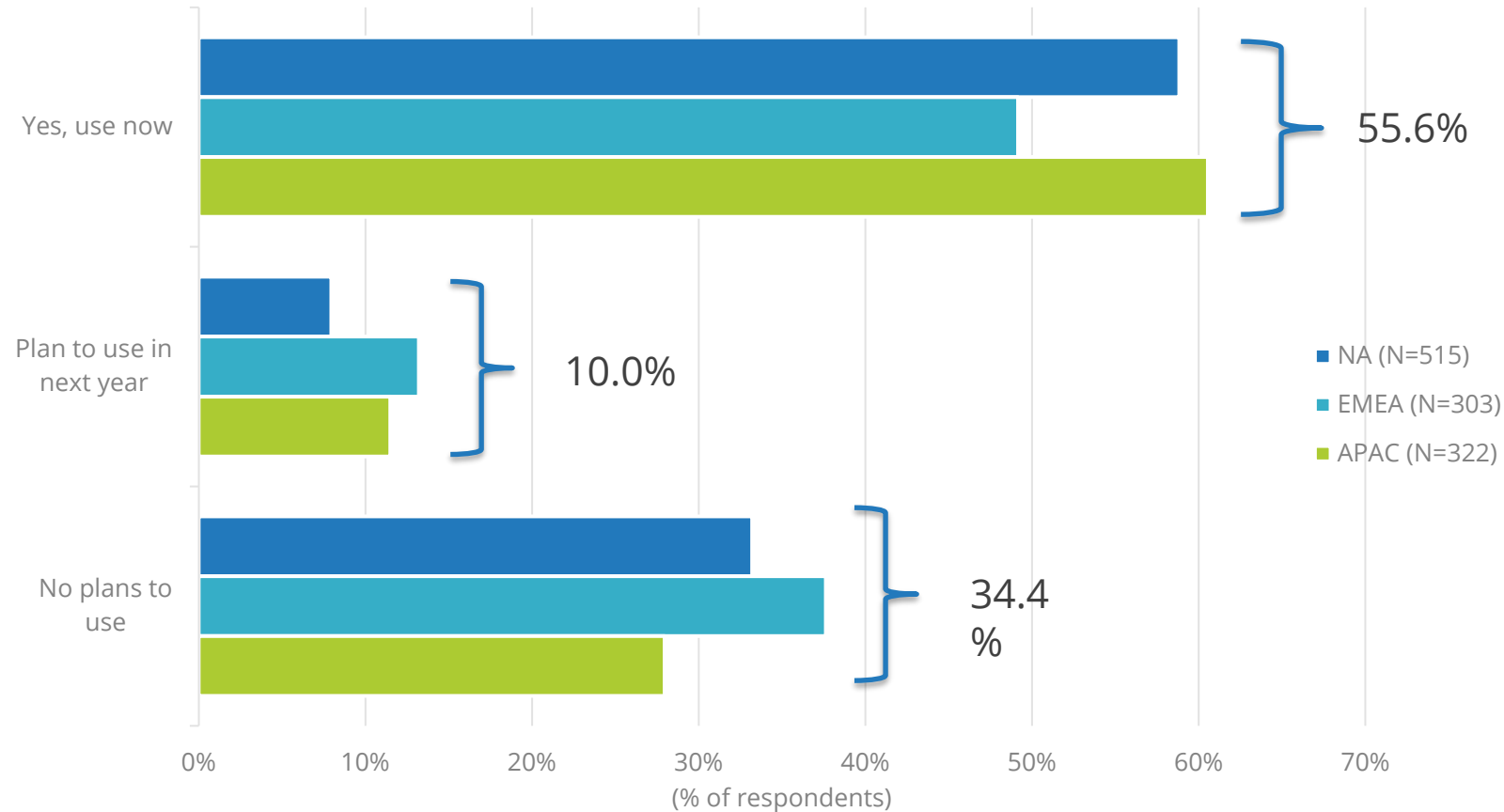
Multi-cloud and Interconnect

Multicloud Network Challenges: Providing optimal app experience, dealing with disparate cloud networks, and need for consistent management top list

Q24. Which of the following is the biggest network challenge when managing application access in multicloud environments?

Horizontal bar chart with the following categories (x-axis: % of respondents, 0% to 30%):

- Ensuring consistent QoS, optimal application experience, and reliable performance — ~27%
- Working with different cloud APIs, VPCs/VNETS, and other cloud constructs — ~25%
- Complexity of separately managing consistent connectivity to disparate IaaS and SaaS clouds — ~22%
- Lack of common security and policy across on-premise and cloud environments — ~15%
- Lack of visibility into user experience for cloud applications — ~6%
- Inconsistent operating models for cloud applications versus on-premise products/services — ~4%

Majority use cloud connects or interconnections for multicloud networking; finance and services predominate

Q25. Is your organization using or planning to use a cloud connect or interconnect partner for multi-cloud connectivity and/or site-to-site connectivity? - Region

55.6% (Yes, use now)

10.0% (Plan to use in next year)

34.4% (No plans to use)

Legend:
- NA (N=515)
- EMEA (N=303)
- APAC (N=322)

X-axis: 0%, 10%, 20%, 30%, 40%, 50%, 60%, 70%
(% of respondents)

Top Industries using cloud connect or interconnect

- Finance (63.3%)
- Services (59.5%)
- Transportation, Communications & Utilities (56.9%)

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Site-to-site connectivity favored for cloud-interconnects

Q26. Which of the following describes your top reason for using the cloud interconnect partner?

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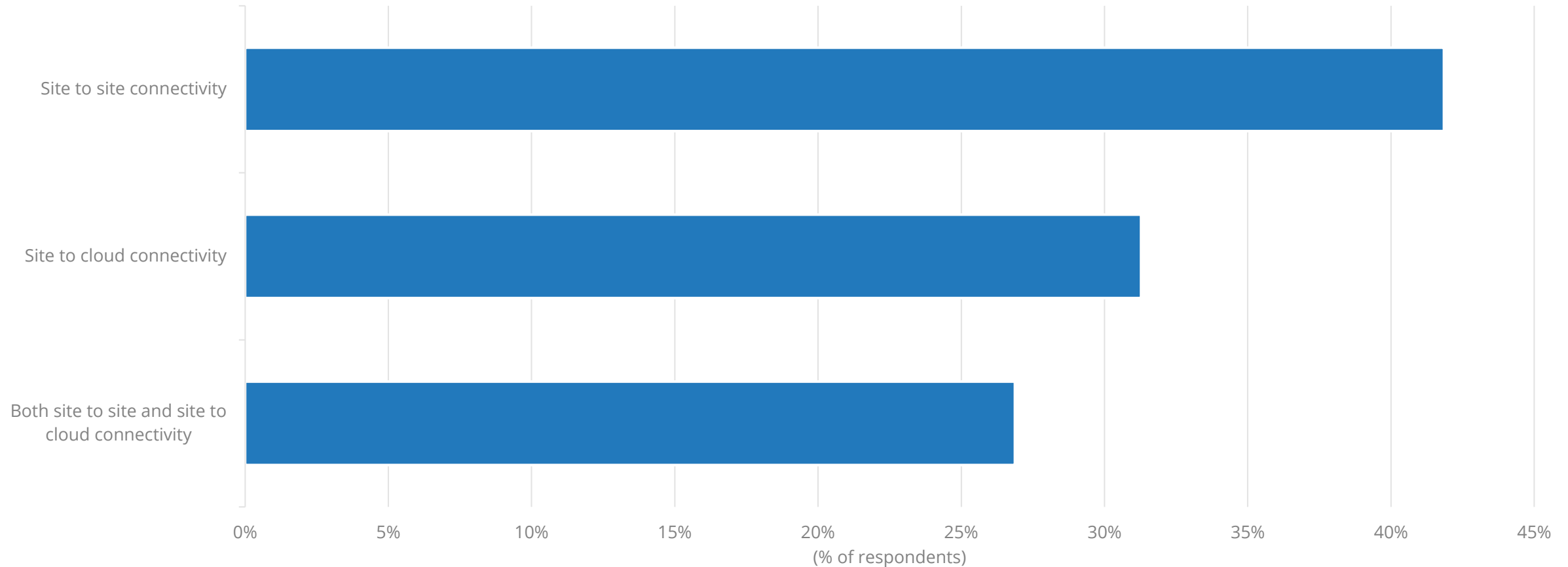
Security and policy enforcement and simplified management viewed as top benefits of interconnects; cost savings not a factor

Q27. Which of the following describes the top benefit you seek to achieve from using the cloud interconnect partner?
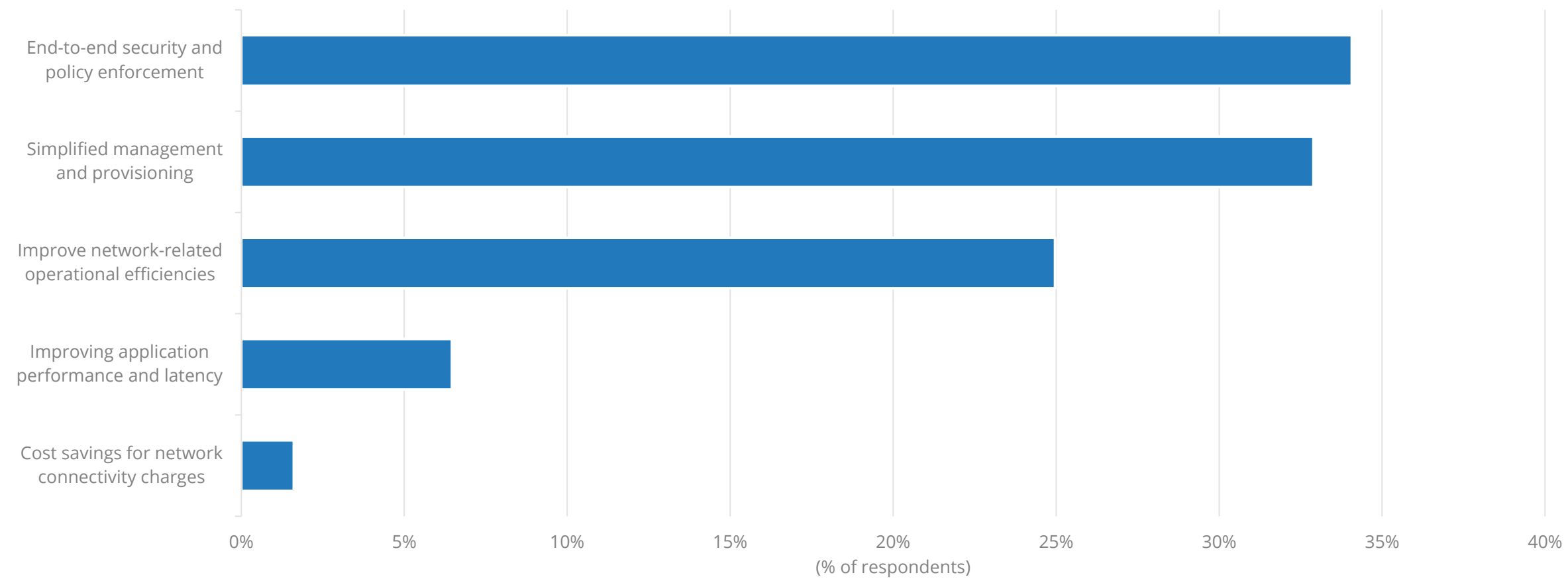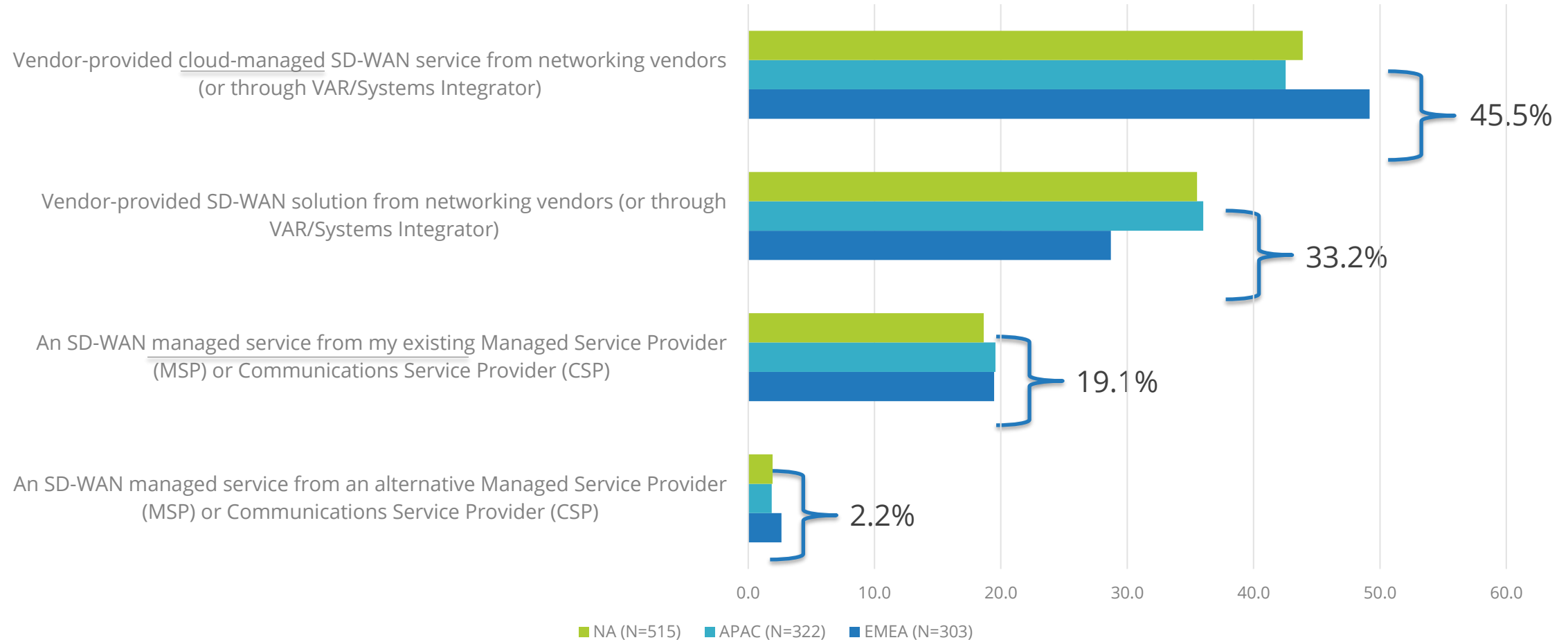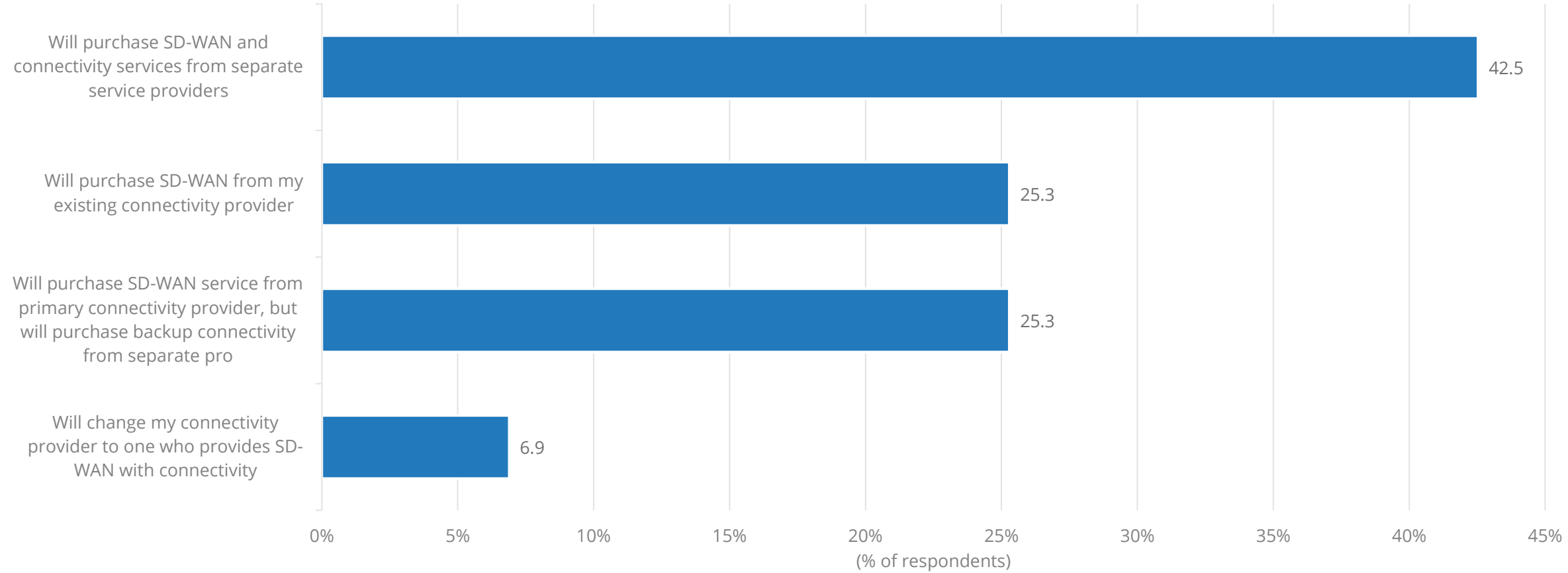
SD-WAN Partner Preferences

45% of respondents prefer a cloud-managed SD-WAN; 20% prefer a managed SD-WAN via MSP/CSP

Q31A. Which of the following options would you prefer to evaluate as an SD-WAN technology solution? - Region

Vendor-provided cloud-managed SD-WAN service from networking vendors (or through VAR/Systems Integrator) — 45.5%

Vendor-provided SD-WAN solution from networking vendors (or through VAR/Systems Integrator) — 33.2%

An SD-WAN managed service from my existing Managed Service Provider (MSP) or Communications Service Provider (CSP) — 19.1%

An SD-WAN managed service from an alternative Managed Service Provider (MSP) or Communications Service Provider (CSP) — 2.2%

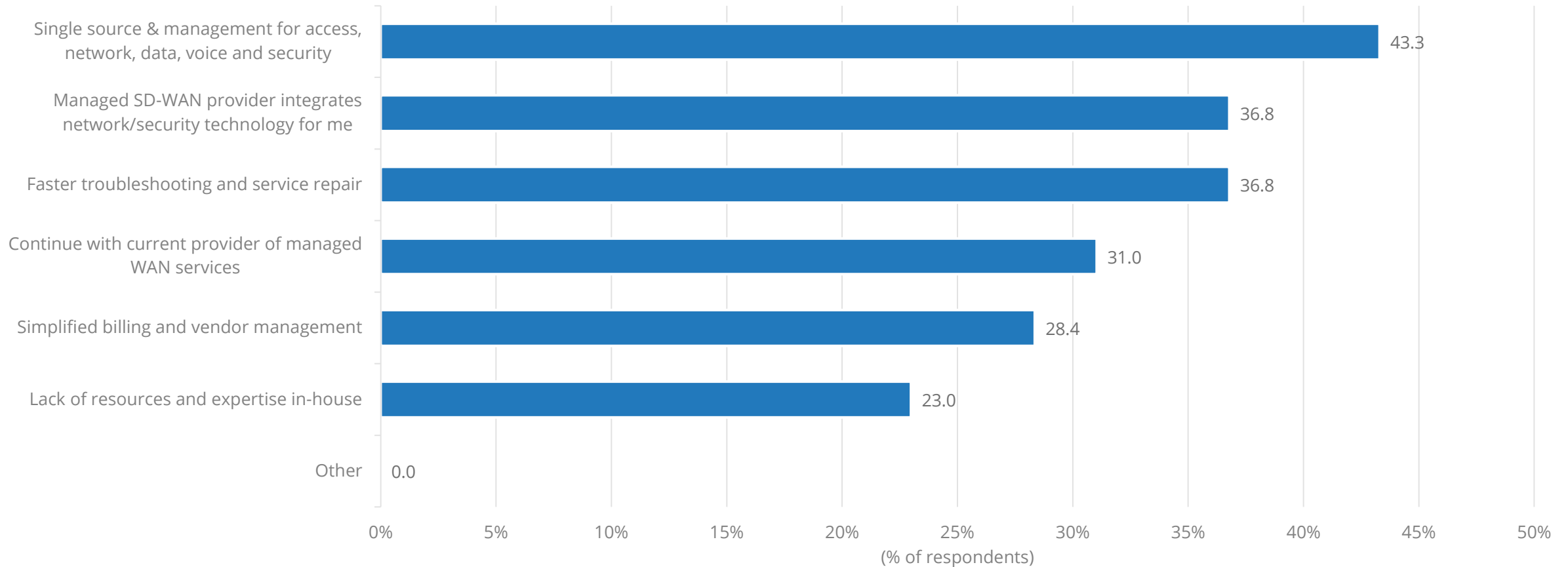NA (N=515) APAC (N=322) EMEA (N=303)

40% of those using an MSP for SD-WAN will purchase SD-WAN & connectivity from separate providers

Q31B. You indicated your plan to purchase SD-WAN from a Managed Service Provider (MSP) or Communications Service Provider (CSP). How likely are you to purchase SD-WAN from the same provider you purchase connectivity?
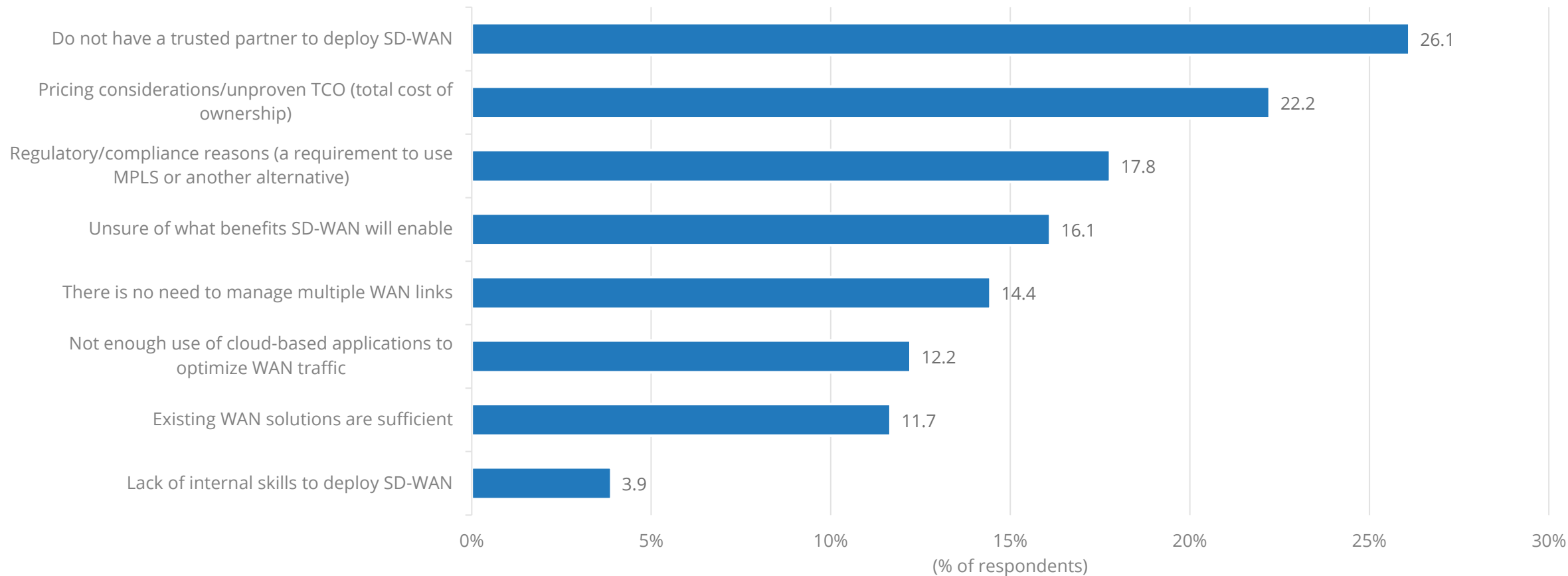

(% of respondents)

Category	Value
Will purchase SD-WAN and connectivity services from separate service providers	42.5
Will purchase SD-WAN from my existing connectivity provider	25.3
Will purchase SD-WAN service from primary connectivity provider, but will purchase backup connectivity from separate pro	25.3
Will change my connectivity provider to one who provides SD-WAN with connectivity	6.9

N= 261; Base=Respondents indicated their plan to purchase SD-WAN from a Managed Service Provider (MSP) or Communications Service Provider (CSP)
Source: Software-Defined WAN (SD-WAN) Survey , IDC, November 2022

Benefits of Managed SD-WAN: Single source management of access, network, voice & security; integrated network & security; faster problem resolution

Q31C. You indicated you would prefer to evaluate an SD-WAN managed service. Why do you prefer a managed SD-WAN service?

Category	% of respondents
Single source & management for access, network, data, voice and security	43.3
Managed SD-WAN provider integrates network/security technology for me	36.8
Faster troubleshooting and service repair	36.8
Continue with current provider of managed WAN services	31.0
Simplified billing and vendor management	28.4
Lack of resources and expertise in-house	23.0
Other	0.0

(% of respondents)

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Top reasons to not deploy SD-WAN: No trusted partner, pricing/TCO; regulatory/compliance

Q9D. What are the top reasons you do not plan to deploy SD-WAN?

Reason	%
Do not have a trusted partner to deploy SD-WAN	26.1
Pricing considerations/unproven TCO (total cost of ownership)	22.2
Regulatory/compliance reasons (a requirement to use MPLS or another alternative)	17.8
Unsure of what benefits SD-WAN will enable	16.1
There is no need to manage multiple WAN links	14.4
Not enough use of cloud-based applications to optimize WAN traffic	12.2
Existing WAN solutions are sufficient	11.7
Lack of internal skills to deploy SD-WAN	3.9

(% of respondents)

Top SD-WAN vendors under consideration: Cisco, HPE/Aruba, Citrix

Q32. Which of the following SD-WAN vendors is your organization using or considering for its deployment?

N= 1224; Base=All Respondents
Source: Software-Defined WAN (SD-WAN) Survey , IDC, November 2022
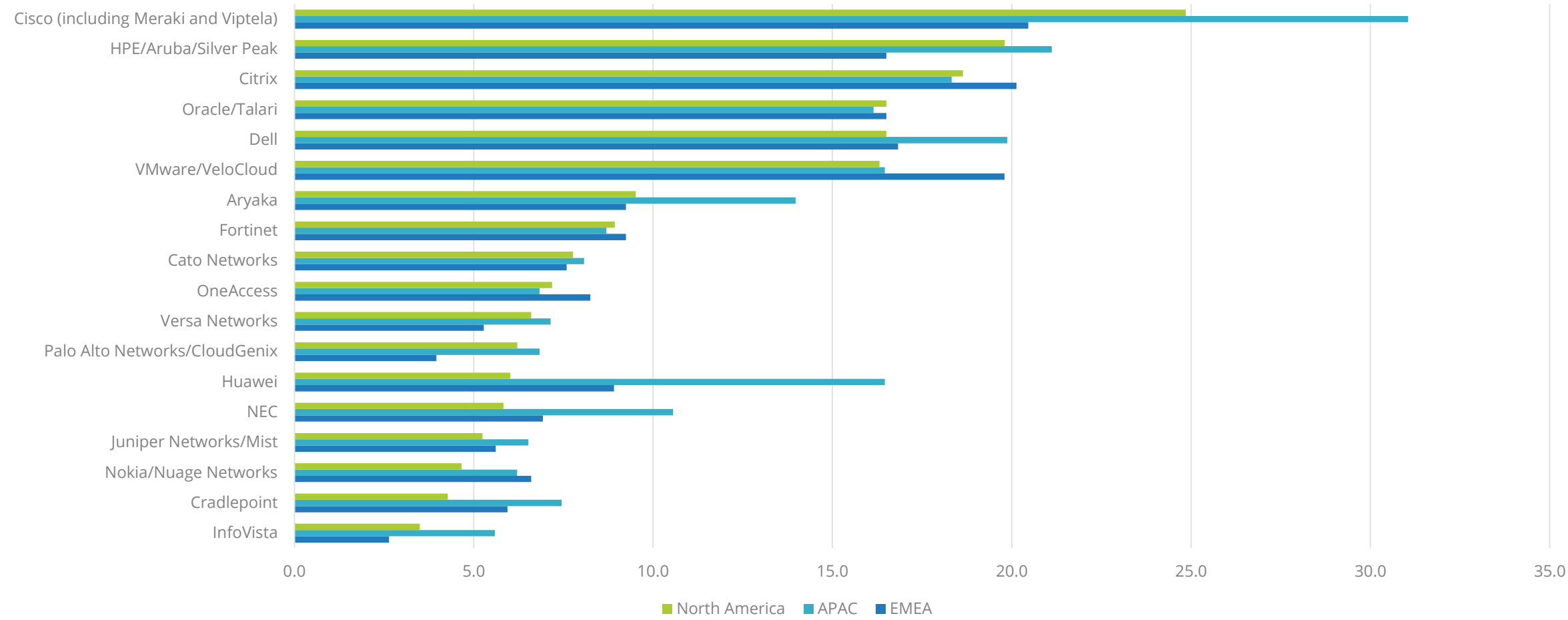
Demographics

Top roles of respondents: Director/Manager of IT/Networking/Security, or Director/Manager of LoB

QS1. Which of the following best describes your current title or role?
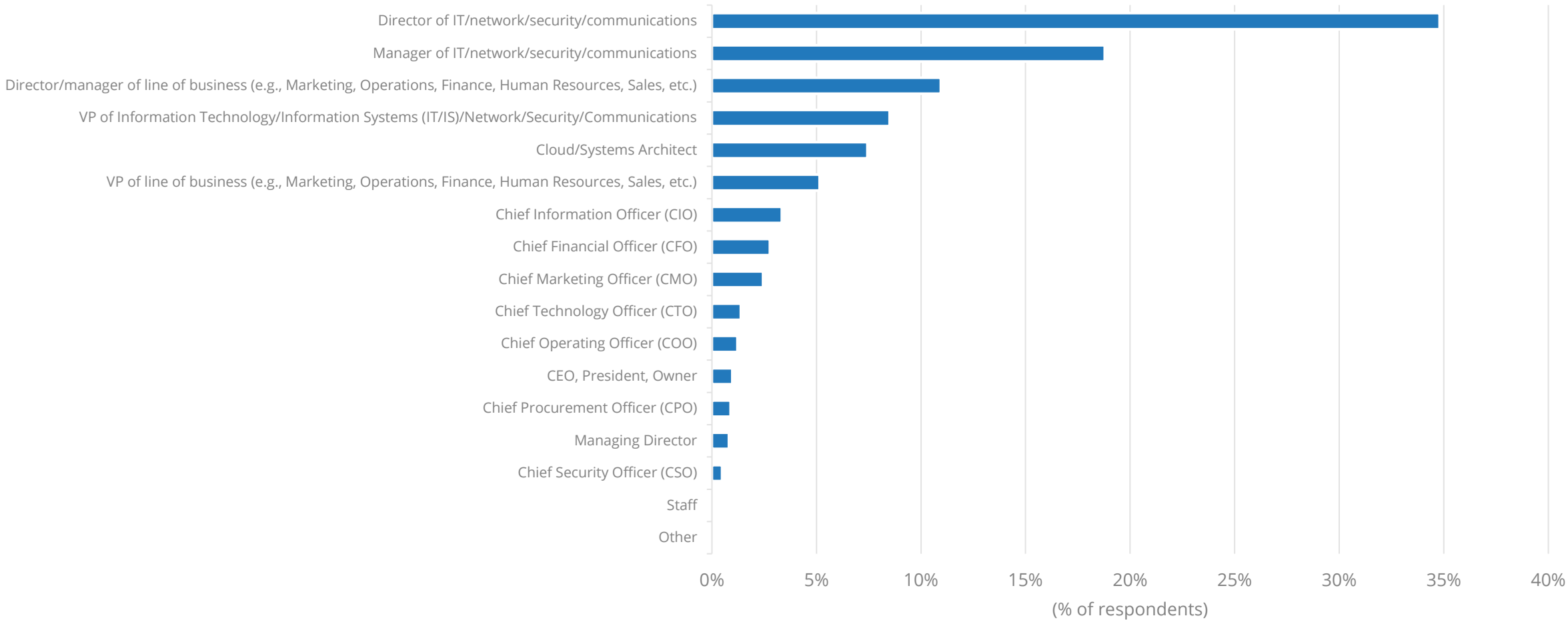
Global distribution of respondents

QS2. In which country are you employed?
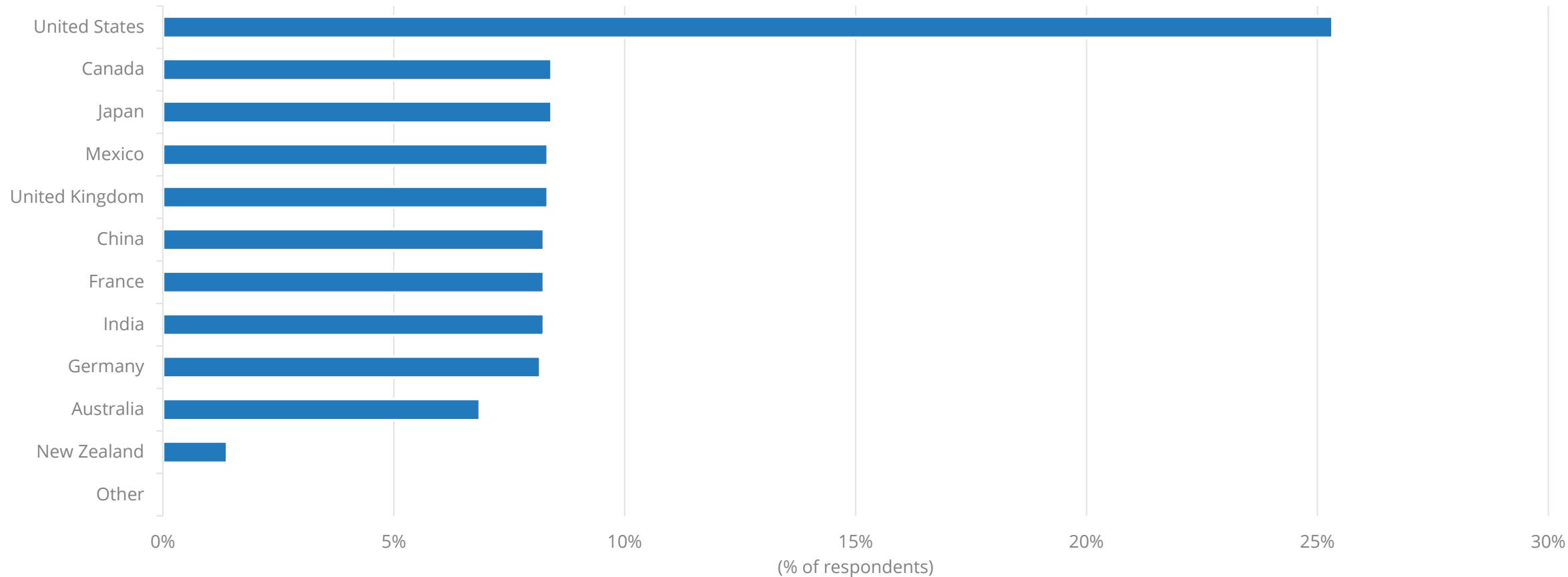
United States ██████████████████████████ ~25%
Canada ████████ ~8.5%
Japan ████████ ~8.5%
Mexico ████████ ~8.3%
United Kingdom ████████ ~8.3%
China ████████ ~8.3%
France ████████ ~8.3%
India ████████ ~8.3%
Germany ████████ ~8.2%
Australia ██████ ~7%
New Zealand █ ~1.5%
Other

(% of respondents)

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Mix of respondents from companies of different sizes (by employee count)

QS3. How many people are employed by your worldwide organization? Please include all locations?
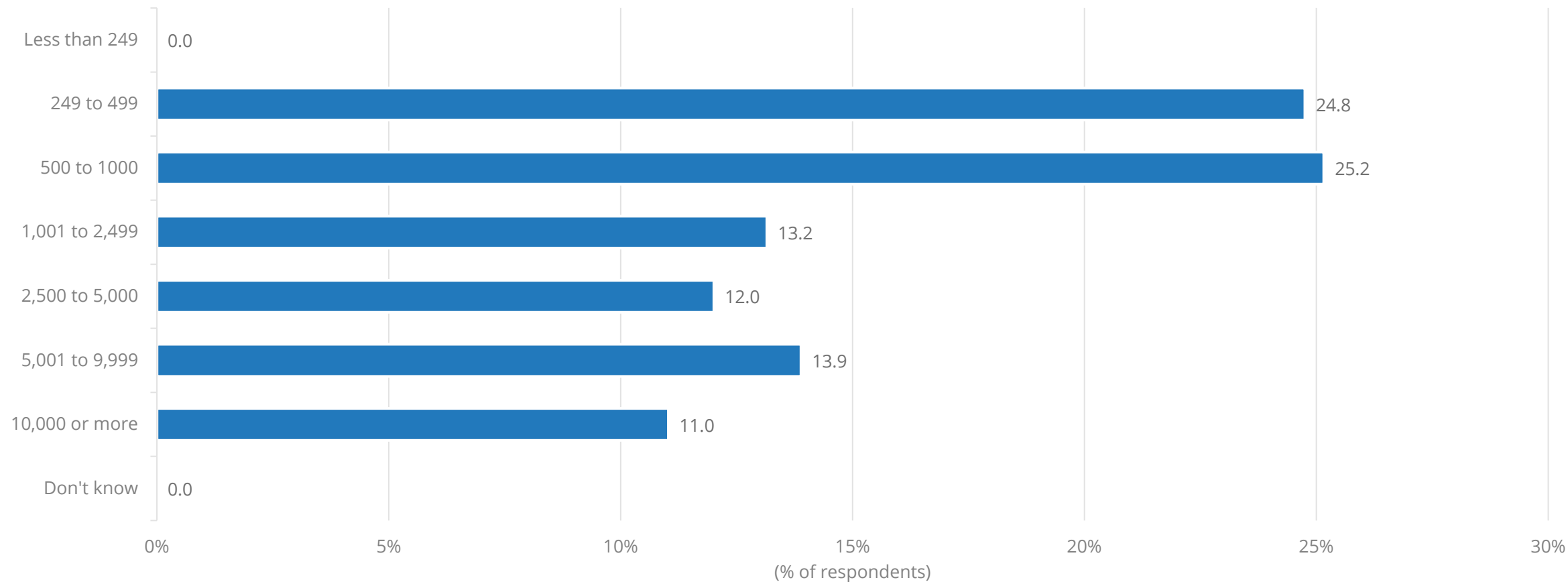
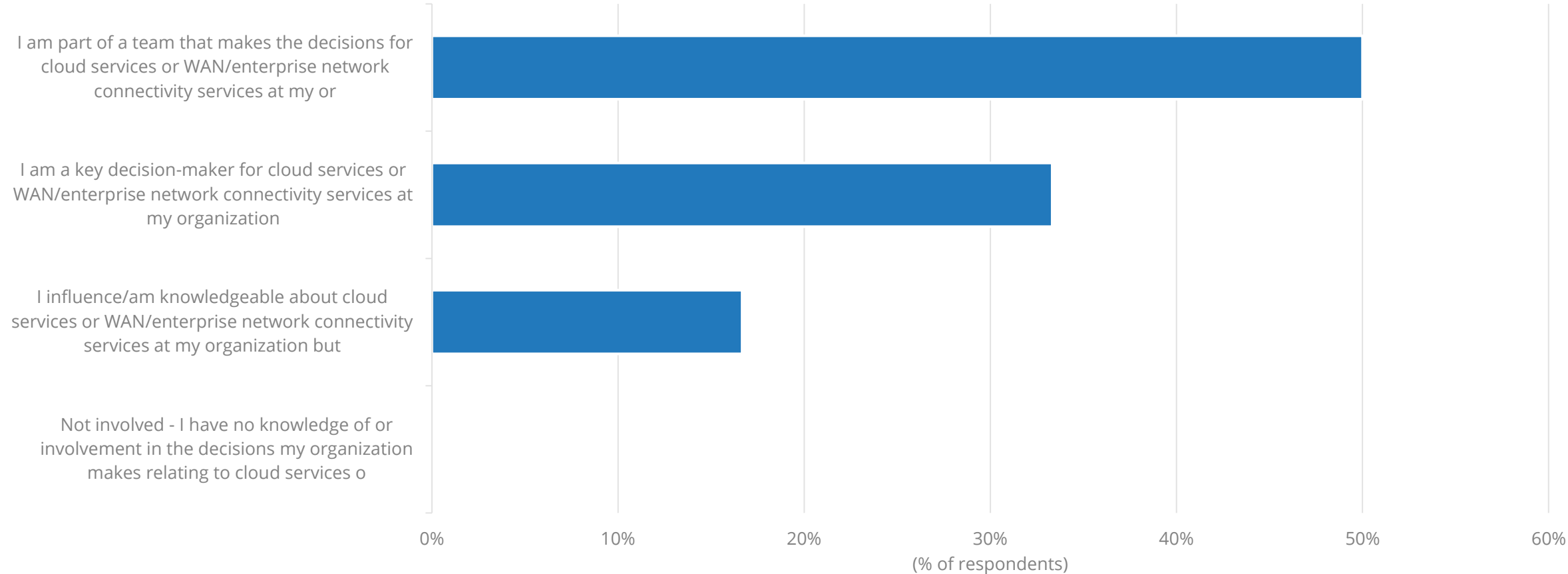| Company Size	% of respondents
Less than 249	0.0
249 to 499	24.8
500 to 1000	25.2
1,001 to 2,499	13.2
2,500 to 5,000	12.0
5,001 to 9,999	13.9
10,000 or more	11.0
Don't know	0.0

(% of respondents)

N=1224
Base=All Respondents
Note: Managed by IDC's Global Primary Research Group.; Data Not Weighted; Use caution when interpreting small sample sizes
Source: Software-Defined WAN (SD-WAN) Survey , IDC, November 2022

Mix of vertical industry respondents

QS4. Which industry classification best represents the principal business activity of your corporate headquarters (i.e. the ultimate parent) organization?
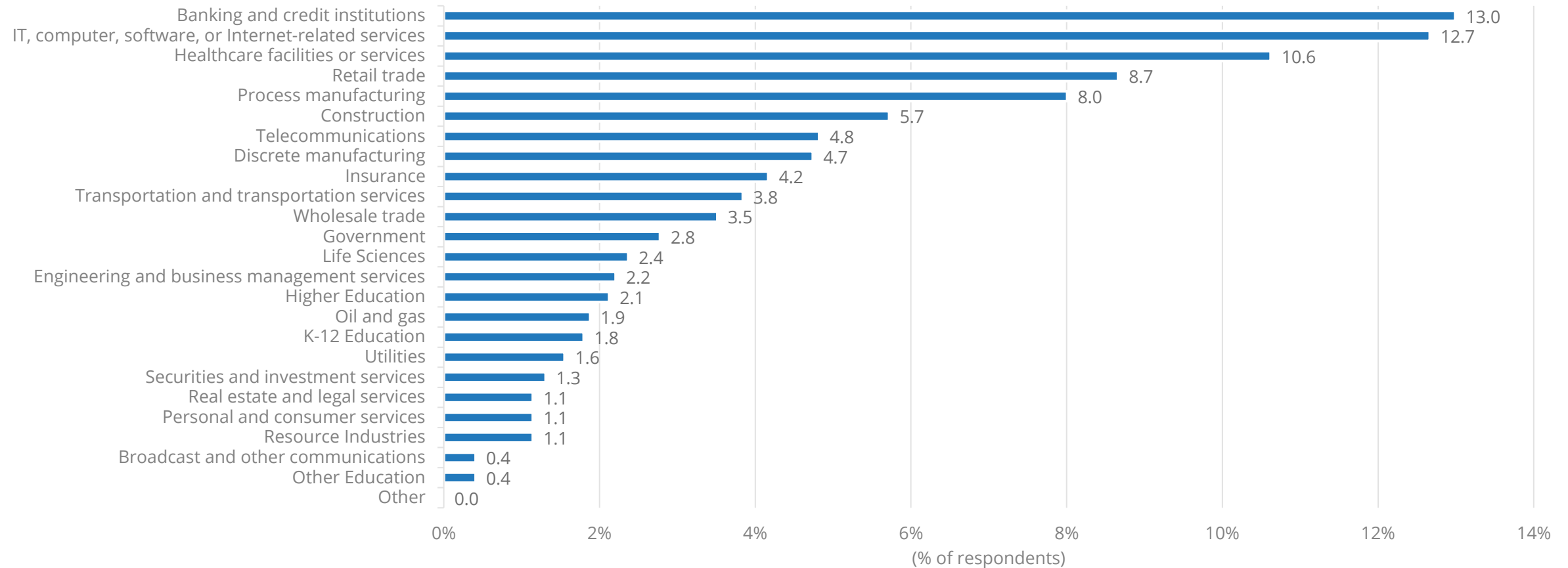
Industry	% of respondents
Banking and credit institutions	13.0
IT, computer, software, or Internet-related services	12.7
Healthcare facilities or services	10.6
Retail trade	8.7
Process manufacturing	8.0
Construction	5.7
Telecommunications	4.8
Discrete manufacturing	4.7
Insurance	4.2
Transportation and transportation services	3.8
Wholesale trade	3.5
Government	2.8
Life Sciences	2.4
Engineering and business management services	2.2
Higher Education	2.1
Oil and gas	1.9
K-12 Education	1.8
Utilities	1.6
Securities and investment services	1.3
Real estate and legal services	1.1
Personal and consumer services	1.1
Resource Industries	1.1
Broadcast and other communications	0.4
Other Education	0.4
Other	0.0

(% of respondents)

All respondents need to be a key decision maker, or part of a team that makes or influences WAN purchasing decisions

QS6. What is your role regarding the design, planning, purchasing and implementation of your organization's wide area network (WAN) services or WAN network equipment infrastructure? This includes technology, vendor, and/or service provider selection.

I am part of a team that makes the decisions for cloud services or WAN/enterprise network connectivity services at my or

I am a key decision-maker for cloud services or WAN/enterprise network connectivity services at my organization

I influence/am knowledgeable about cloud services or WAN/enterprise network connectivity services at my organization but

Not involved - I have no knowledge of or involvement in the decisions my organization makes relating to cloud services o

(% of respondents)

N=1224
Base=All Respondents
Note: Managed by IDC's Global Primary Research Group.; Data Not Weighted; Use caution when interpreting small sample sizes
Source: Software-Defined WAN (SD-WAN) Survey , IDC, November 2022