

Shift Your Network Thinking To SD-WAN And Security

Security, Reliability, And Remote Access Must
Be Top Of Mind When Selecting A Provider

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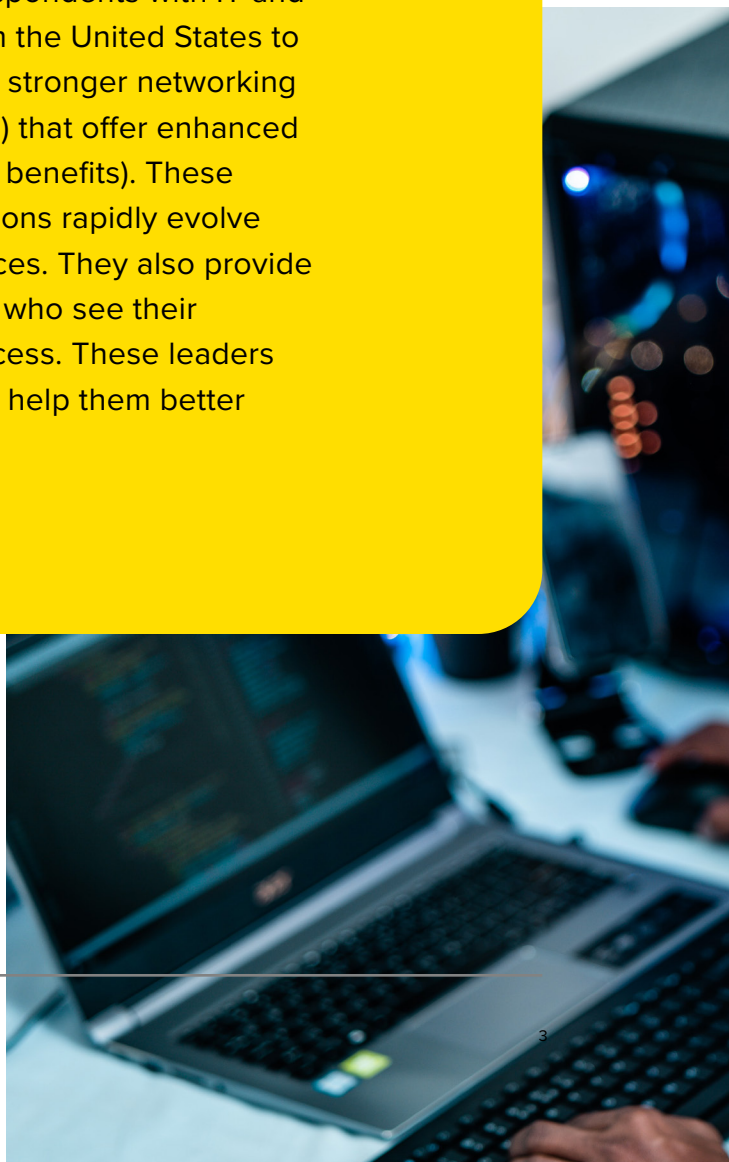
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Executive Summary

Networks — the enterprise nervous system connecting every vital component — enable business transformation by supporting a wide range of needs from fundamental communication systems to cloud-based security. Like the human body, a business cannot move properly or grow when its nervous system is compromised. Too many firms have networks that are too brittle, inefficient, and inflexible to support their transformation initiatives, especially when it comes to security. To succeed on the transformation journey, IT and business leaders have started to reassess their networking strategy, technology, and operations to evolve the static, manually driven network into next-generation networking that supports and secures the emerging digital business.

In December 2021, Windstream Enterprise commissioned Forrester Consulting to evaluate driving factors and results for organizations that are making the transition from legacy networking approaches to SD-WAN. Forrester conducted an online survey with 302 respondents with IT and line-of-business leaders in different industries from the United States to explore this topic. We found that firms are seeking stronger networking solutions through software-defined WAN (SD-WAN) that offer enhanced security, reliability, and performance (among other benefits). These capabilities are particularly important as organizations rapidly evolve and offer greater remote/hybrid working experiences. They also provide greater peace of mind for IT and business leaders who see their network as a critical component to their firm's success. These leaders are pursuing greater security and dependability to help them better manage growing demands.



Key Findings

Traditional networking models are holding firms back. Digital transformation requires a strong network. Past WAN architectures, such as hub-and-spoke and multiprotocol label switching, can no longer fully meet business needs, and changing workplace dynamics driven by the pandemic are creating new requirements that must be addressed. For example, the rapid acceleration of remote work is compounding the need for greater network flexibility, reliability, and security.

SD-WAN grows out of the old WAN weeds. Firms are turning to SD-WAN to address core concerns with WAN infrastructure and meet evolving business demands. Although the move toward SD-WAN isn't new, it's becoming increasingly critical to make the move. Firms must carefully consider this investment before executing a SD-WAN strategy. Primary concerns for most organizations on this journey include implementing proper network security controls and ensuring the right resources are in place to manage the new network infrastructure.

With proper care, SD-WAN helps firms address important business needs. Business and technology leaders are eager to execute their implementation strategies as they focus on SD-WAN's benefits and profit potential for the organization. Specifically, they are excited about how the technology can help them tackle concerns about network security, performance, and reliability, yielding a more confident path toward the not-too-distant future.

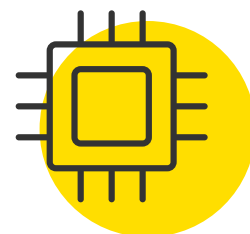
SD-WAN can improve security, reliability, and performance — critical business requirements in a multi/hybrid cloud world.



Digital Journeys Require Network Upgrades For Future-Fit Firms

Many organizations are shifting away from archaic network methods in favor of a business-wide networking fabric built on Zero Trust security concepts and SD-WAN capabilities to accommodate increasing numbers of employees working from home. Many of these employees are managing increased workloads and need more efficient networks. Traditional networking options are static, slow, unautomated, and do not meet the needs of modern environments (e.g., cloud, internet of things [IoT], mobile). This is partly because networking professionals architected current network infrastructure initiatives and goals to serve an IT agenda — a well-intentioned, inside-out effort to support business processes and transactions that often misses the mark to serve end users, according to Forrester research.¹ In surveying 302 IT and business leaders about their network needs, we found that:

- **Connectivity becomes key to a business's ability to survive.** Digital transformation must be built on solid network foundations. 80% of respondents view their network as important or critical to the success of their company's digital transformation efforts, and most agree that digitalization efforts are increasing demands on their WAN for remote sites or remote employees. This is particularly true for government organizations that have made drastic changes to their working environments due to the pandemic. The message is clear: Organizations cannot survive with current network solutions.
- **WAN solutions are failing to fully meet business needs in several areas.** Firms report that their WAN solutions lack capabilities ranging from the fundamental to the more advanced. More than two-thirds do not believe that their WAN solution fully supports unified communications for all employees, and nearly six in 10 aren't satisfied with their solution's ability to provide real-time visibility into network and



Traditional networks were built on an IT agenda and not with business outcomes in mind.

application performance. Nearly 40% feel their network reliability and performance does not meet their needs (see Figure 1).

More than two-thirds do not believe that their WAN solution fully supports unified communications for all employees.

Figure 1

“How well does your current WAN solution address the following needs?”

● Does not meet our needs at all - Meets our needs somewhat



Base: 302 LOB and IT decision-makers in the US

Source: A commissioned study conducted by Forrester Consulting on behalf of Windstream, December 2021

- **In addition, WAN network security offerings are lacking.** More than half of business and technology leaders report that they aren't fully satisfied with the range of security services and offerings their WAN solution provides, especially those that are cloud based. In particular:
 - Nearly two-thirds of healthcare professionals expressed at least some displeasure with cloud-based security offerings from their WAN solution.
 - Sixty percent of retail professionals expressed at least some displeasure with the range of security services and offerings from their WAN solution.

UPDATING WAN INFRASTRUCTURE IS A TOP PRIORITY FOR ALL

This priority is driven by the expanding business needs of employees and non-employees alike. For most organizations, internet is a critical business medium; it is no longer primarily used for leisure activities. It's the main tool connecting these firms with a complex web of partners, customers, and IoT devices. Therefore, employees and other users need secure access and an optimal working experience regardless of where they are and what devices they use. For example, nearly half of respondents reported that the increased number of non-employees' devices needing internet access at remote sites is driving the desire to update/upgrade their network; a little more than 40% said secure remote access for employees was driving their demands.

- **The new hybrid work world forces the network to evolve.** Firms specifically seek greater visibility into their WAN traffic and stronger security services with their WAN to protect the business and its remote assets. Financial services/insurance is experiencing the greatest impact on networking needs for remote sites or remote employees. Eighty-four percent of respondents state they are moving to a higher number of employees either working from home or operating as a hybrid workforce.

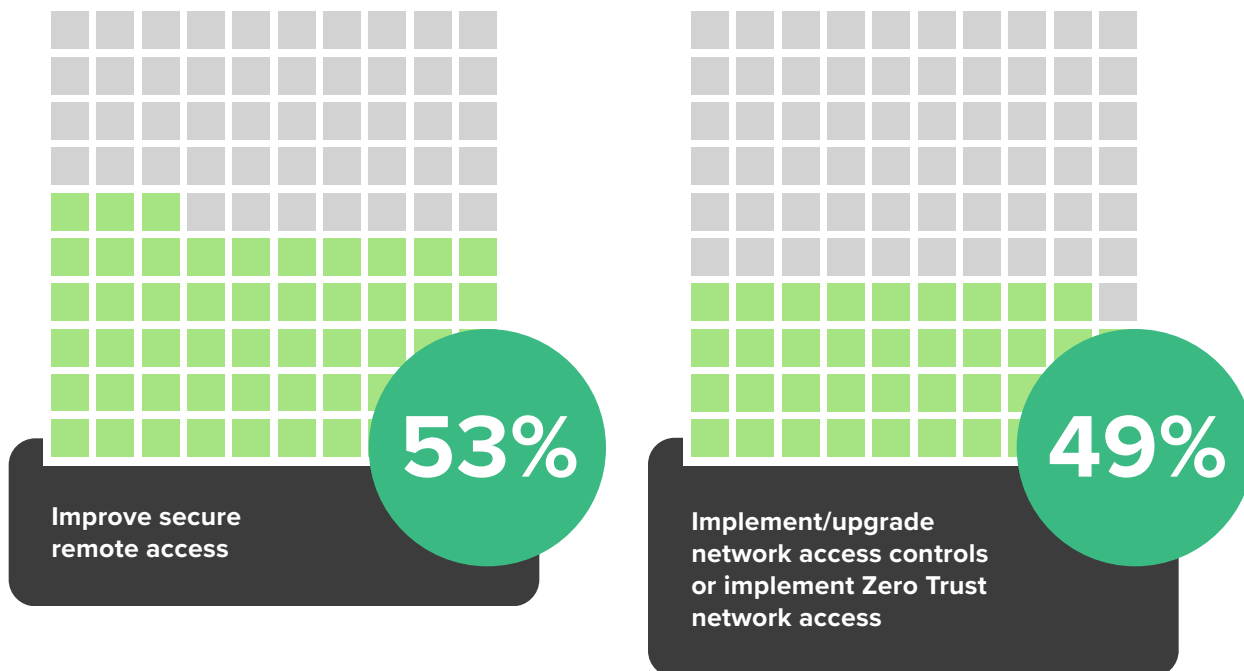


- **Firms seek remote access control to improve their security posture.** Improving network security is a top priority compared to other key networking initiatives, given the criticality of the internet as a business medium. As businesses become more dynamic to serve expanding customer needs, they also risk increased vulnerability due to the increasing prevalence of network breaches, according to Forrester Research.ⁱⁱ For this reason, firms seek a greater ability to support new capabilities such as remote working through leading-edge security practices. For example, roughly half seek to improve secure remote access and implement/upgrade network access controls or implement Zero Trust network access (see Figure 2).

84%
of respondents from financial service organizations are increasing the number of employees working from home or operating as a hybrid workforce.

Figure 2

“How are you looking to improve your WAN network security?”



Base: 129 LOB and IT decision-makers in the US

Source: A commissioned study conducted by Forrester Consulting on behalf of Windstream, December 2021

Struggles With WAN Lead To Greater Interest In SD-WAN

Firms are making improvements to their networks to get ahead of rapidly evolving customer and employee expectations due to digitalization. As a result, WANs have been evolving from hub-and-spoke architectures to fabrics — a dynamic mesh of virtual and physical connections interweaving hybrid cloud resources and business locations, according to Forrester Research.ⁱⁱⁱ The need for these improvements is amplified by the increased demand and evolving working environments that are plaguing current WAN networking systems. Many business and technology leaders believe these changes are causing reliability issues and security concerns that must be addressed. For example, 40% of survey respondents stated that they have difficulty ensuring broad network availability across locations and difficulty securing remote sites with internet connectivity.

- **Retail wants to make sure its networking “lights” are always on.** Nearly half of respondents from retail organizations feel challenged to ensure broad network availability across locations.
- **Legacy WAN network designs don’t cut it in the fast-paced world of financial services and insurance.** Nearly two-fifths of respondents from this vertical say it takes too long to deploy new WAN services, connectivity, or hardware (e.g., routers, cable modems) to new sites.
- **Respondents across all industries just want the ability to keep up.** Regardless of the industry, a little more than a third of firms find it difficult to keep pace with the increasing amount of traffic (e.g., software as a service, desktop virtualization, cloud infrastructure, big data, IoT) traversing the WAN.
- **Many employees struggle with connectivity.** With large numbers working from home, basic network challenges have begun to arise again. More than 80% of respondents indicate employees experience performance gaps occasionally or frequently working at home and between large offices/sites.

TO ADDRESS WAN CHALLENGES AND NETWORK SECURITY CONCERNS, ORGANIZATIONS ARE INVESTING IN SD-WAN

SD-WAN provides an essential set of capabilities to create WAN fabrics, according to Forrester Research.^{iv} And although it's not a brand-new technology, organizations are showing greater interest in SD-WAN adoption, given its upside. Security teams and leaders are driving this decision (see Figure 3).

- **Firms rely on service companies for SD-WAN.** Organizations are split in their use of a network operator/telco or managed service provider (MSP) for their SD-WAN needs. Regardless of which SD-WAN deployment method they use, roughly 58% would prefer their implementation to be lightly, moderately, or heavily co-managed by their provider, while 42% would prefer their implementation to be fully managed. In all, 88% of respondents indicate their internal technology organizations depend on help from partners. Of those who are using a VAR, most are complementing their VAR solution with a network operator/telco or MSP.
- **Similar management trends exist with security solutions.** Slightly more than half of all respondents turn to a network operator/telco or an MSP for security solutions/services. Interweaving security and networking to improve business outcomes can be difficult. For this reason, those that rely on these solutions prefer their security implementations to be lightly or moderately co-managed by their provider (see Figure 4).

Figure 3

“When it comes to implementing SD-WAN and security, who initiates the project?”



36% Security teams



29% It's driven from the top



17% Networking teams



11% Business (e.g., marketing, operations)



6% Regulatory and compliance team

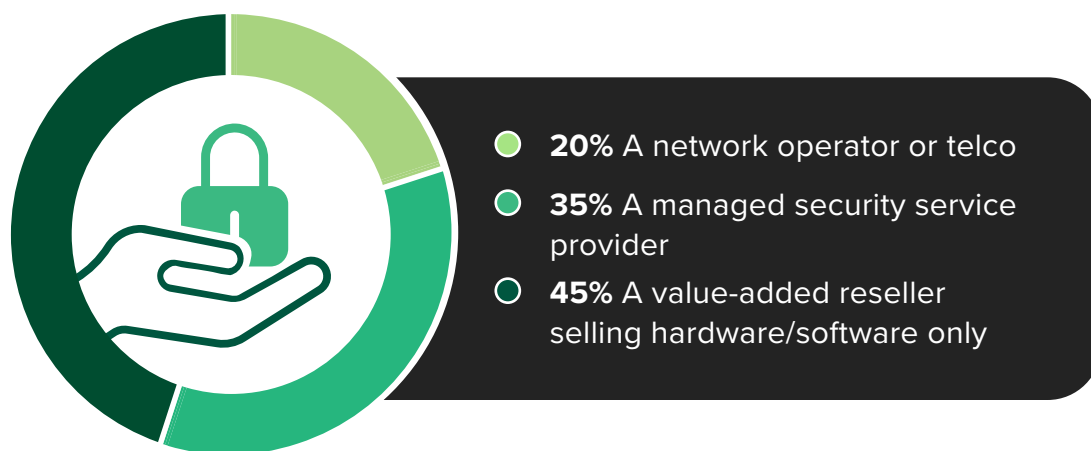


2% Legal team

Base: 253 LOB and IT decision-makers in the US
Source: A commissioned study conducted by Forrester Consulting on behalf of Windstream, December 2021

Figure 4

“Which of the following best describes who you turn to for security services/solutions?”



Base: 302 LOB and IT decision-makers in the US

Source: A commissioned study conducted by Forrester Consulting on behalf of Windstream, December 2021

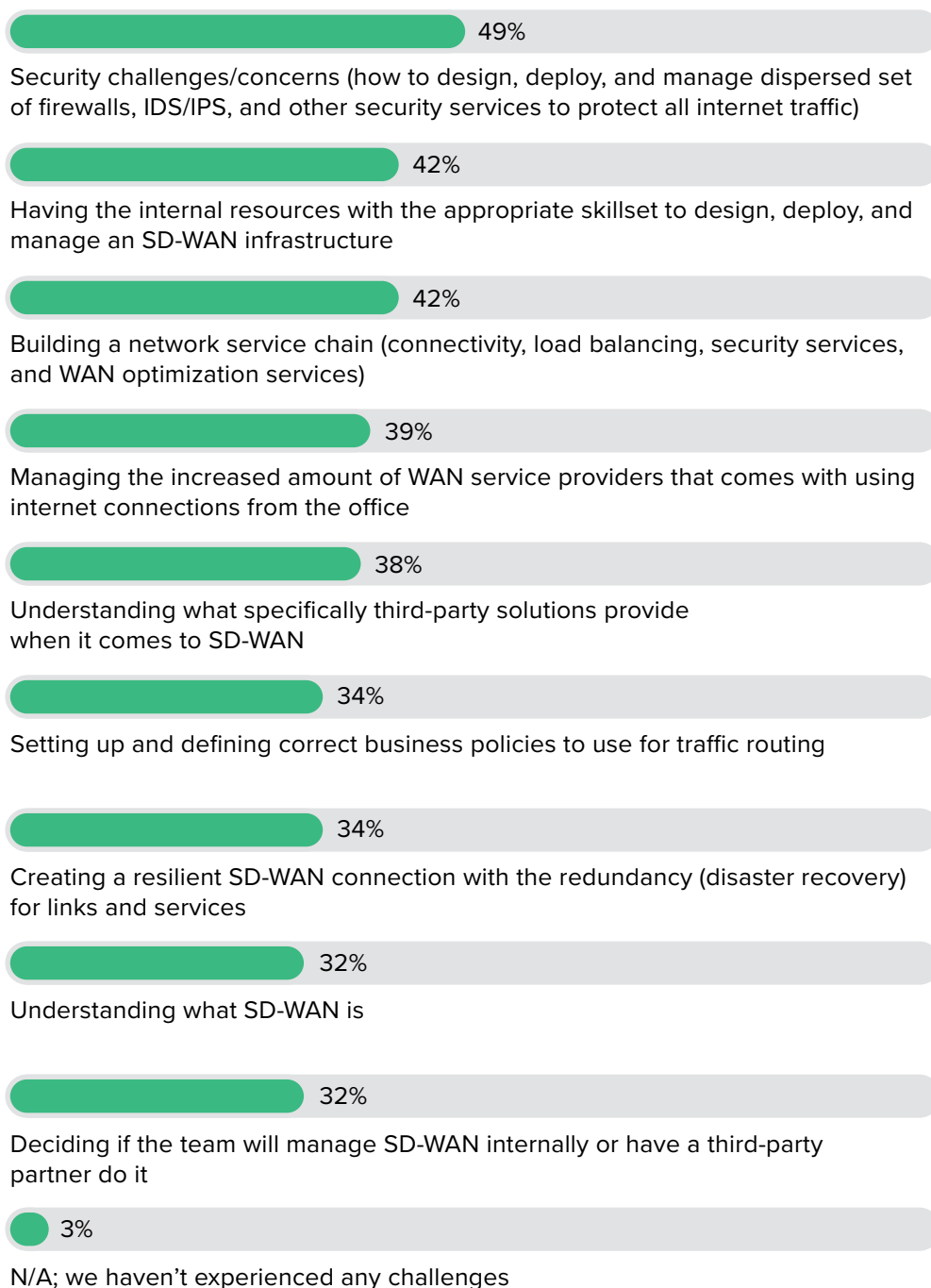
SD-WAN investments come with their own challenges such as developing new security configurations, having the appropriate resources in place, and building network service chains (see Figure 5). These top challenges were consistent across industry respondents, except for government respondents, who are more focused on understanding what exactly third-party solutions provide when it comes to SD-WAN, demonstrating a need for further education in this vertical. In general, these hurdles reveal firms' desire for greater control over their network and to provide optimal user experience for critical business needs.

Investment in SD-WAN comes with its own set of challenges that business and technology leaders are eager to address.



Figure 5

“What barriers or challenges do you anticipate, or have you experienced, in your organization’s adoption of SD-WAN?”



Base: 302 LOB and IT decision-makers in the US

Source: A commissioned study conducted by Forrester Consulting on behalf of Windstream, December 2021

Business And Technology Leaders Focus On Outcomes When Implementing SD-WAN

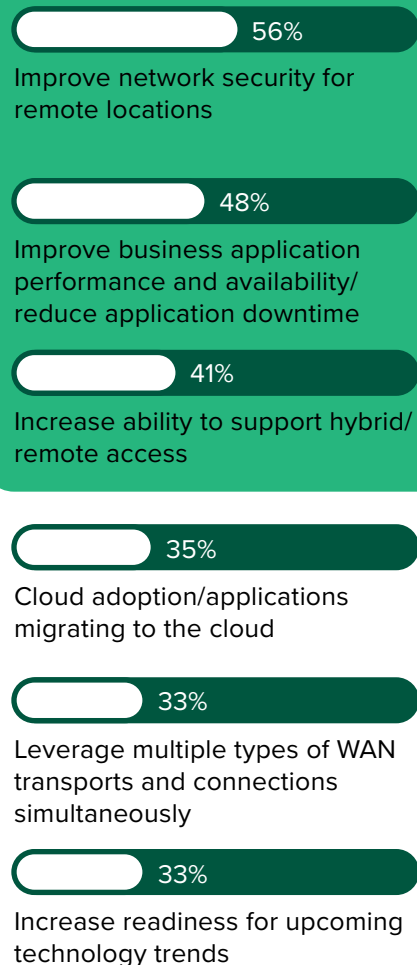
SD-WAN is the next evolution in connectivity, according to Forrester Research, and it is considered the inevitable next step for firms to support better application control, improve customer experience, and increase networking agility.^v This sentiment is echoed by survey participants who seek enhanced security (especially for remote workers) and improved business application performance and reliability through SD-WAN because of their challenges with traditional WAN systems (see Figure 6).

- **Leading factors driving SD-WAN implementation are largely industry agnostic.** Most firms, regardless of their vertical, cited the leading factors driving their firms' desire to implement SD-WAN and related services as "Improve network security (leverage on-premises, software, or other security solutions) for remote locations" and "Improve business application performance and availability/reduce application downtime."
- **There is some variation between verticals.** Retail organizations are also driven by their desire to increase their readiness for upcoming technology trends. Those in the travel and hospitality industry are driven by their need to increase their ability to support hybrid/remote access.

Firms begin a lengthy evaluation process to select the best provider for their requirements once it's established that they need SD-WAN. Not surprisingly, security, reliability, and clear

Figure 6

"Which of the following factors are driving your organization's need to implement or consider implementing SD-WAN and related services?"



Base: 302 LOB and IT decision-makers in the US

Source: A commissioned study conducted by Forrester Consulting on behalf of Windstream, December 2021

and flexible service offerings are key to their selection process. Seventy percent or more respondents rate the following criteria as critical or important to them (see Figure 7):

- Financial service/insurance organizations have the most stringent requirements for SD-WAN providers. Roughly three-quarters of respondents from this industry rated the attributes listed as critical or important (see Figure 8).
- Retail organizations are less critical than their counterparts when evaluating SD-WAN providers. On average, 60% of respondents rated the attributes listed as critical or important.

Technology leaders evaluate the success of their SD-WAN implementation on the ability to reduce complexity, enhance performance, and improve security (see Figure 9). The ability to centralize IT resources away from remote/branch office locations is especially important to financial service/insurance organizations, which tend to operate complex networks at a greater scale. Government organizations are more likely than other industries to focus on enhanced performance measures such as the ability to increase the network's agility in responding to business changes or application requirements. Healthcare respondents put the greatest emphasis on security measures. Regardless of the metric, establish the appropriate KPI's to ensure maximized ROI.

Firms hold SD-WAN providers accountable for their promises.

Figure 7

Most Important Criteria To Selecting A Service Provider For SD-WAN Services



Integrated WAN and network security offering



Consistent SLAs and service availability/coverage



Ability to purchase multiple/bundled services from the same provider (network, access, voice, LAN, security)



Provides natively embedded security in the network's DNA



Brand reliability



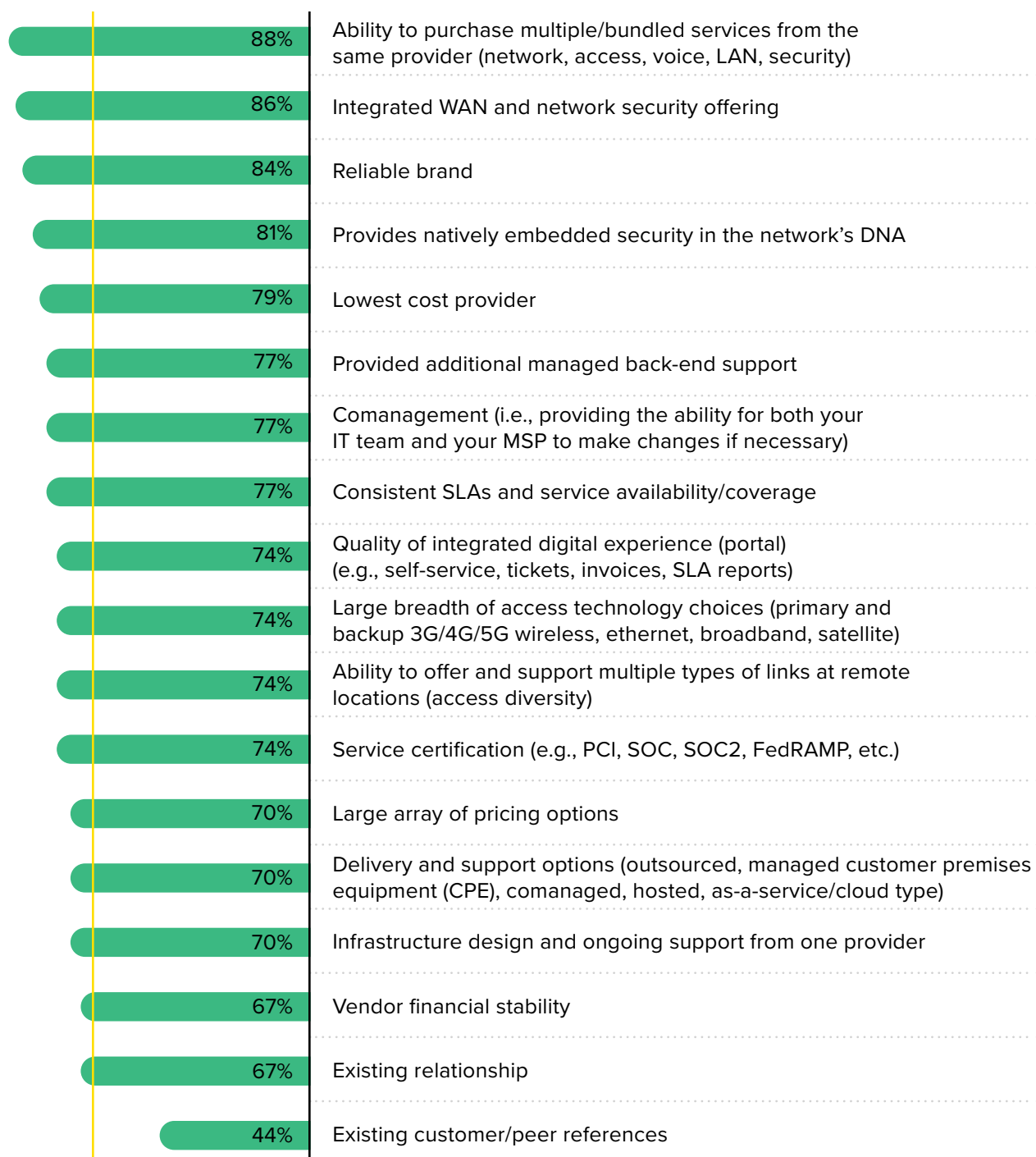
Service certification (e.g., PCI, SOC, SOC2, FedRAMP, etc.)

Base: 302 LOB and IT decision-makers in the US

Source: A commissioned study conducted by Forrester Consulting on behalf of Windstream, December 2021

Figure 8

Most important criteria for Financial Services And/or Insurance Firms when selecting a service provider for SD-WAN services.



Base: 302 LOB and IT decision-makers in the US

Source: A commissioned study conducted by Forrester Consulting on behalf of Windstream, December 2021

Figure 9

**Percent Of Respondents Who Selected The Following Measures
To Evaluate The Success Of Their SD-WAN Implementation**



Base: 302 LOB and IT decision-makers in the US

Source: A commissioned study conducted by Forrester Consulting on behalf of Windstream, December 2021

Key Recommendations

The journey to SD-WAN begins with a single step — the realization that a better networking and security option exists for business needs. As businesses expand beyond physical and metaphorical walls, traditional WAN approaches can't keep up with the growing complexity of business, customer, and employee demands. Today's firms seek providers that offer better reliability and performance, greater accessibility for remote workers and sites, and stronger security embedded into the networking fabric. To achieve these benefits, firms must chart a path for the journey ahead and regularly evaluate whether their networking solution is providing the desired ROI. To find the right partner:

Create a single team with security and networking stakeholders.

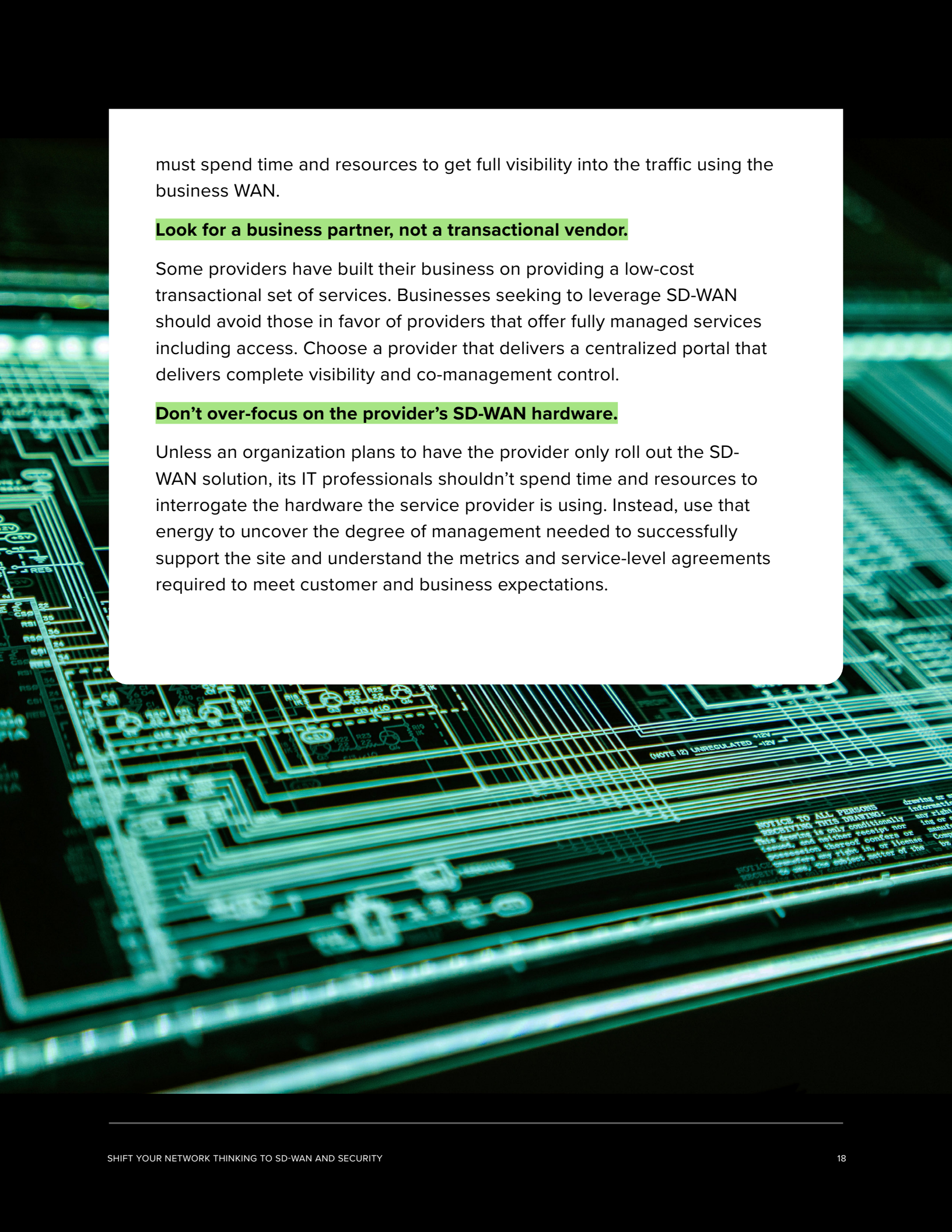
SD-WAN and security are intertwined. Organizations can't implement a network without evaluating the security requirements to implement it. To decrease the amount of time it takes to roll out SD-WAN and improve ROI, technology executives should put together a team that encompasses both networking and security professionals.

Clarify Zero Trust edge requirements (e.g., PCI, PSD, or GLBA).^{vi}

The team must map current security infrastructure and security requirements and then ask the following questions: Do security services review devices and the traffic they generate within an access point, gateway, or switch? If not, does the organization tunnel the traffic to security devices somewhere else in the network for policy decisions? Answering these questions helps define where traffic must be augmented or backhauled for the insertion of security services.

List the applications flowing in and out of the sites.

Many organizations want to adopt SD-WAN capabilities without fully understanding the types, amount, and priority of traffic flowing in and out of the sites. SD-WAN's core value is in improving application experience and reliability. To maximize the value of SD-WAN service, organizations



must spend time and resources to get full visibility into the traffic using the business WAN.

Look for a business partner, not a transactional vendor.

Some providers have built their business on providing a low-cost transactional set of services. Businesses seeking to leverage SD-WAN should avoid those in favor of providers that offer fully managed services including access. Choose a provider that delivers a centralized portal that delivers complete visibility and co-management control.

Don't over-focus on the provider's SD-WAN hardware.

Unless an organization plans to have the provider only roll out the SD-WAN solution, its IT professionals shouldn't spend time and resources to interrogate the hardware the service provider is using. Instead, use that energy to uncover the degree of management needed to successfully support the site and understand the metrics and service-level agreements required to meet customer and business expectations.

Appendix A: Methodology

In this study, Forrester interviewed and conducted an online survey of 302 network decision-makers at organizations in the United States to evaluate what is driving the move from legacy networking approaches to SD-WAN. Survey participants included decision-makers in IT and line-of-business roles (e.g., finance, product management, operations). Questions provided to the participants asked about current experiences with WAN internet access, participants' challenges with their WAN solution, reasons for implementing SD-WAN, and the benefits experienced with the SD-WAN solution. Respondents were offered a small incentive for spending time on the survey. The study began in November of 2021 and was completed in December of 2021.

Appendix B: Demographics

COMPANY REVENUE

\$1B+	16%
\$500-\$999M	22%
\$400-\$499M	17%
\$300-\$399M	18%
\$200-\$299M	15%
\$100-\$199M	8%
\$25-\$99M	5%
\$2-\$24M	1%

COMPANY SIZE BY EMPLOYEES

100-499	13%
500-999	18%
1,000-4,999	31%
5,000-19,999	20%
20,000-49,999	14%
50,000+	5%

INDUSTRY

Travel & Hospitality	17%
Healthcare	17%
Government	17%
Education/Nonprofits	17%
Financial/Insurance	17%
Retail	16%

RESPONDENT LEVEL

C-level Executive	13%
Vice President	29%
Director	59%

Appendix C: Supplemental Material

RELATED FORRESTER RESEARCH

"SD-WAN — More Than Just Cutting WAN Costs," Forrester Research, Inc., September 7, 2021

"Evaluate SD-WAN Services Based On Branch Office Goals, Not Hardware Data Sheets,"
Forrester Research, Inc. August 2, 2021

"The Forrester Wave™: Software-Defined WAN Services, Q4 2020," Forrester Research, Inc.
October 15, 2020

Appendix D: Endnotes

ⁱ Source: "Create A Business-Optimized Network To Accelerate Your Digital Business," Forrester Research, Inc., March 19, 2021.

ⁱⁱ Source: "The State Of Network Security, 2020 To 2021", Forrester Research, Inc., August 2, 2021.

ⁱⁱⁱ Source: "Evaluate SD-WAN Services Based On Branch Office Goals, Not Hardware Data Sheets"
Forrester Research, Inc., August 2, 2021.

^{iv} Source: "Evaluate SD-WAN Services Based On Branch Office Goals, Not Hardware Data Sheets"
Forrester Research, Inc., August 2, 2021.

^v Source: "SD-WAN — More Than Just Cutting WAN Costs," Forrester Research, Inc., September 7, 2021.

^{vi} PCI DSS: Payment Card Industry Data Security Standard; PSD: Payment Services Directive; GBLA:
Gramm-Leach-Bliley Act.



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