

ENTERPRISE NETWORK INSIGHTS 2020:

TRANSFORMING THE CORPORATE WAN



INTRODUCTION

THE SURVEY

This report is based on a survey that was commissioned by Telia Carrier and carried out in the second half of 2020 in four of the world's biggest markets—the US, the UK, Germany and France. It provides insights into the evolution of the corporate WAN and cloud adoption—from the top of business. More than three quarters (78%) of survey respondents were key enterprise stakeholders or had the last say in network development decisions. Respondents came from a variety of sectors, ranging from the automotive industry to financial services, and all worked for companies employing more than 3,000 people. (See research methodology, last page.)

THE REPORT ANALYZES THE MAIN FINDINGS OF THE SURVEY IN THREE SECTIONS:

1. TODAY'S WAN

—the current state of the corporate WAN; the preferred method of connecting to the cloud; problems and 'pain points'.

2. TODAY'S ENTERPRISE

—the aims and expectations of leaders as technology evolves; the myths and misconceptions that can derail a network development strategy.

3. TOMORROW'S SUPPLIER

—network service delivery for enterprises in the future; meeting the need for scalability, flexibility, automation, energy-efficiency and a great customer experience.

In the final section, the report pulls together the main themes, and looks at their implications for enterprises as they make their network development decisions for the 2020s.

EXECUTIVE SUMMARY

Digital technology and the cloud have transformed the way businesses are run and how they connect with employees, suppliers, partners, and customers—across sites and geographies. However, the corporate WAN is not yet the best it could, and should, be. This is not just because WAN technology is still evolving, but also because the WAN ecosystem hasn't been fully understood: knowledge gaps about the Internet and its various tiers have made decision-making difficult.

Leaders may need to review their strategies for the next three to five years if they really want to create the networks that transform their businesses, whilst controlling costs and reducing their carbon footprint. Network providers can be strategic partners in the growth and development of enterprises—if they're aligned with enterprises' needs.

THIS REPORT FINDS THAT:

THE PUBLIC INTERNET AND CLOUD-BASED SERVICES DOMINATE THE CORPORATE WAN LANDSCAPE AND RELIABLE CONNECTIVITY IS SEEN AS CRITICAL TO BUSINESS PERFORMANCE

90% of today's enterprises rely on the public Internet for some or all of their wide area network services, and 48% say the impact of a corporate WAN outage exceeding 24 hours would be catastrophic.

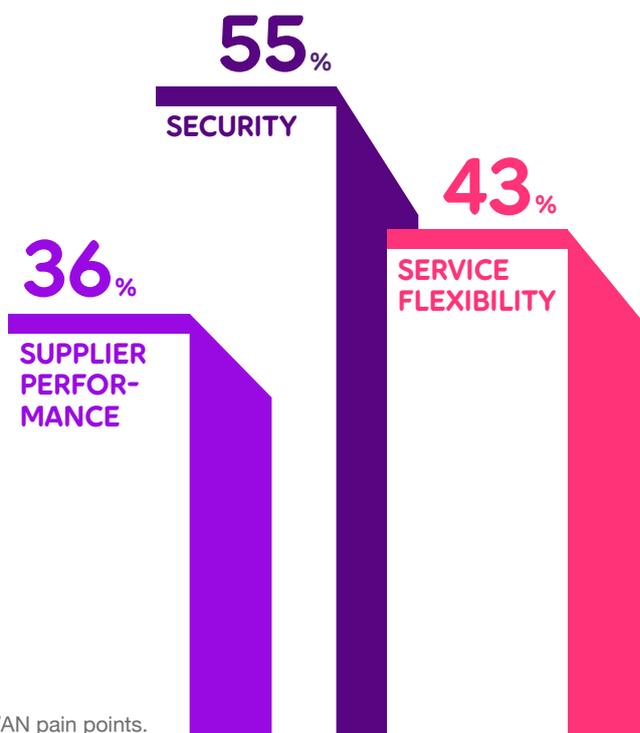


BANDWIDTH, SERVICE FLEXIBILITY AND CUSTOMER SUPPORT ARE ENTERPRISES' TOP THREE PRIORITIES WHEN CHOOSING A LOCAL NETWORK PARTNER TO CONNECT TO THEIR PREFERRED CLOUD PROVIDERS

40% say bandwidth is the top criterion, 36% flexibility, and 29% customer support.

CORPORATE WANS ARE UNDERPERFORMING, AND RELATIVELY FEW PROVIDERS MEET CUSTOMERS' EXPECTATIONS

55% say security is the biggest pain point, 43% service flexibility, 36% supplier performance, and 35% network congestion. Only 51% rate their current suppliers as 'great' for customer experience, with 45% saying failure to provide fast solutions for simple problems is their biggest issue, and 27% that the struggle to find information and support bothers them most.



The main WAN pain points.

THE ROAD MAP TO OPTIMAL PERFORMANCE IS UNCLEAR; KNOWLEDGE GAPS MEAN IT'S OFTEN HARD TO MAKE INFORMED CHOICES

51% of survey respondents rate their understanding of how the Internet backbone works as very good or excellent, but . . . 61% think of public Internet connectivity as a commodity that doesn't vary much between suppliers.

SUSTAINABILITY IS A KEY CRITERION

80% of enterprises say a supplier's commitment to sustainability features at some point in the selection process, with 38% eliminating candidates at the earliest stages if they fail to make the grade on environmental responsibility.

95% would pay more to secure a sustainable supplier, with 44% willing to pay a premium of between 10% and 15%.



ENTERPRISES WANT A 'HIGH-TECH, HIGH-TOUCH' FUTURE

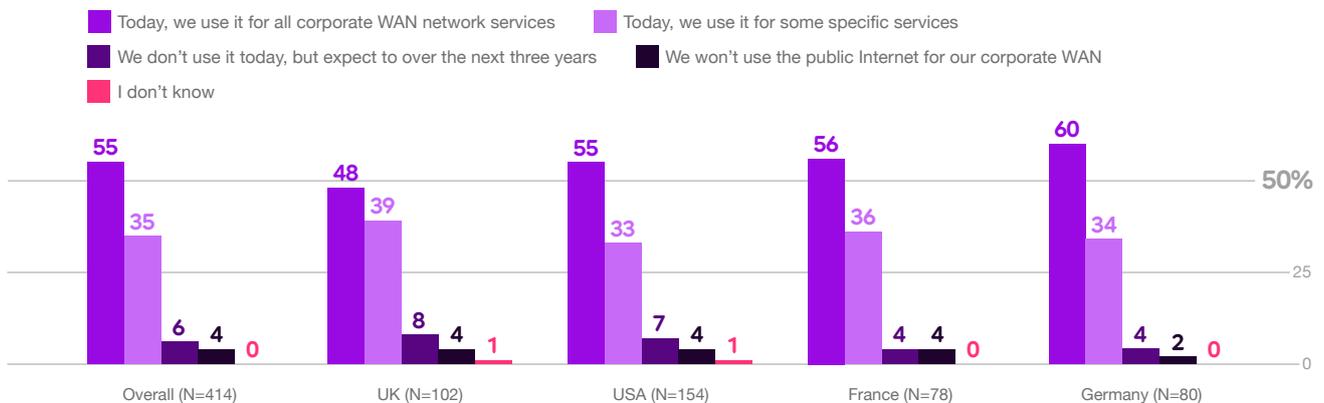
Demand for new tools and technologies to improve workflows and increase transparency is strong: 90% would like their network partners to adopt more machine-to-machine workflows and automation to enhance their services; 68% say they use APIs to achieve real-time visibility of their network performance or control of their network infrastructure. But the need for a human interface endures: 34% say that the traditional human sales and account-management relationships will continue to dominate the way they do business over the next three years.

Providers most able to satisfy the call for high network performance, environmental sustainability and customer service will be those most able to take their customers to the next stage of WAN evolution. These providers will be seen as companies core to the effective functioning of a business and its growth and development, rather than as 'just' suppliers on the periphery.

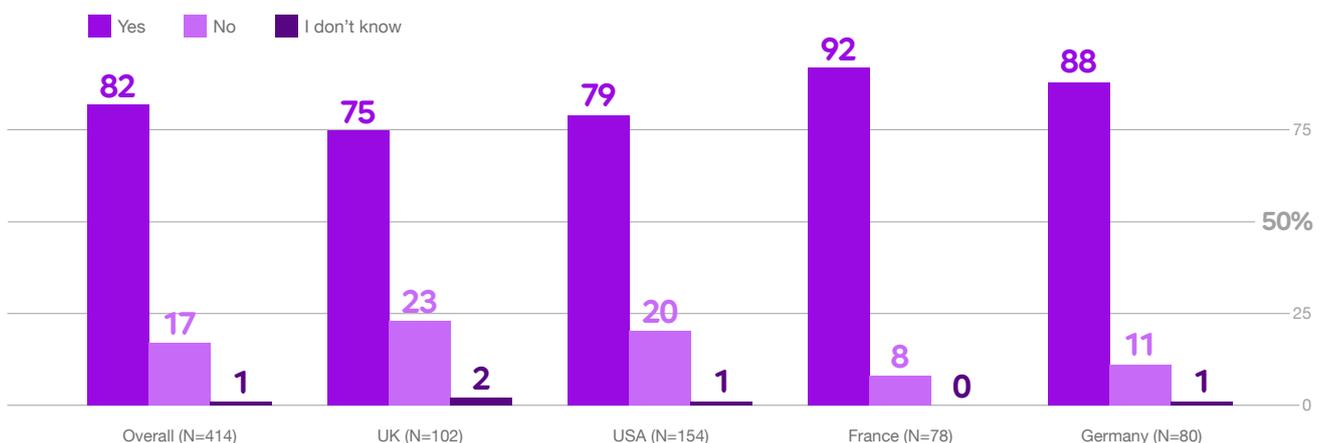
TODAY'S WORLD: ENTERPRISE NETWORKS IN 2020

The Internet has revolutionized both the way business is done and the way business is run. Connectivity, across multiple sites and territories, has never been easier. But further change is needed to establish networks that really work for businesses. The corporate WAN currently falls short of expectations—for both performance and service.

Digital technology and the cloud have transformed the enterprise network, and data traffic has shifted radically towards the public Internet. The vast majority of participants—90%—say they now use the public Internet as the underlay for some or all of their corporate WAN services, and only a minority say they won't use it for their wide area network in the future.



These findings are consistent with the number saying they believe the public Internet to be sufficiently reliable for the network underlay for corporate WAN applications: 82%.

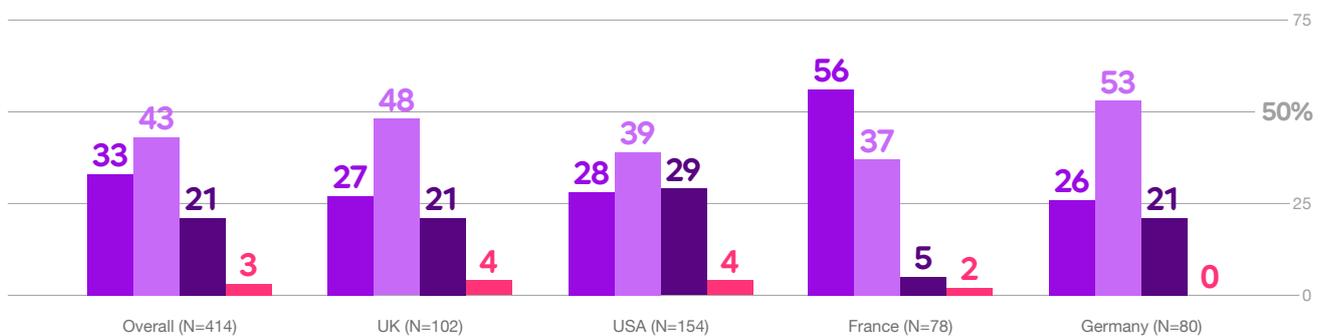


THE INTERNET-CENTRIC NETWORK is now the lifeblood of business and it just has to function effectively — otherwise, growth slows, decisions and transactions are delayed, and work stops. The simple fact is, lost connections cost. More than two thirds (64%) of businesses say a corporate WAN outage of just one hour would have a significant-to-high impact on their businesses, and nearly half (48%) estimate that an outage of 24 hours or more would be catastrophic.



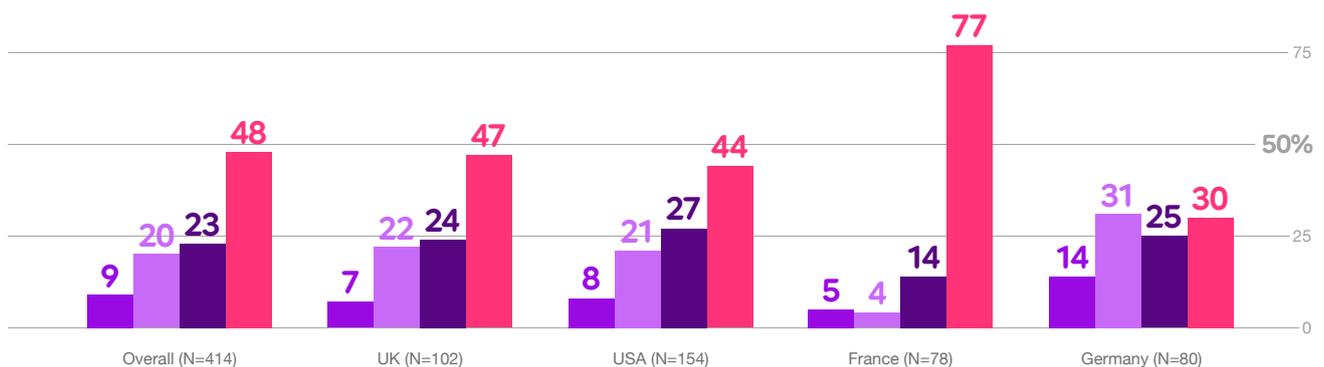
Network outage impact: 1 hour

Minor Significant High Catastrophic



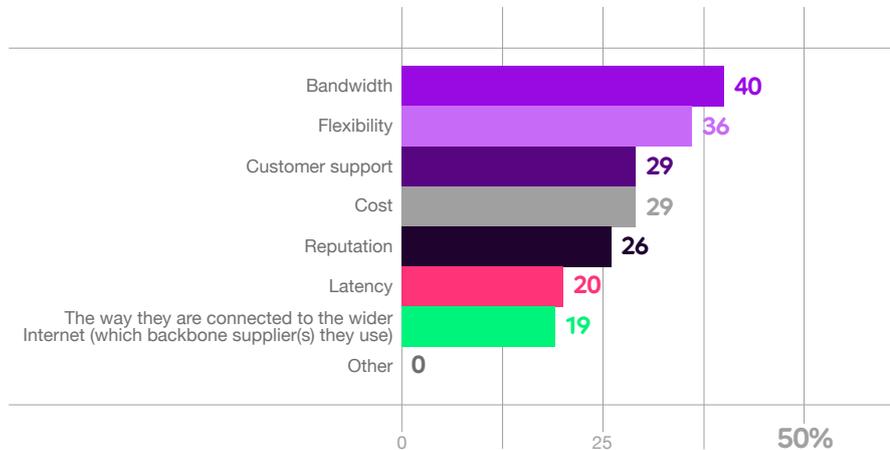
Network outage impact: 24 hours and longer

Minor Significant High Catastrophic



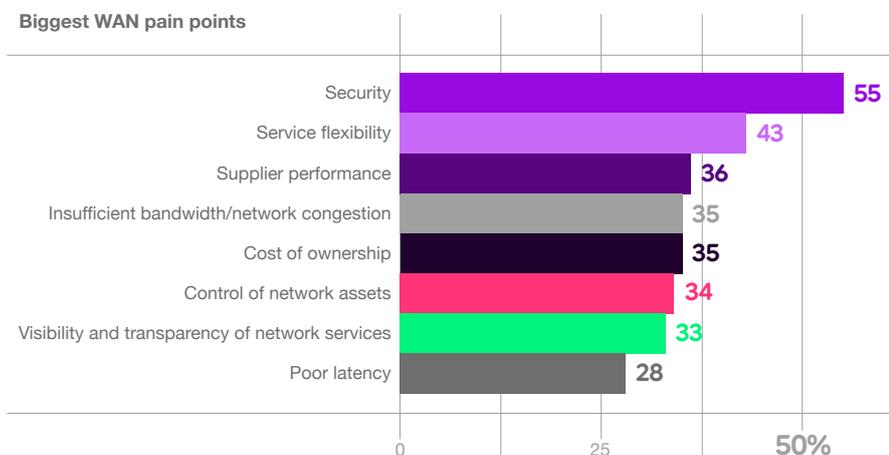
IF ALWAYS-ON CONNECTIVITY is a priority in this brave new world of the public Internet so, too, is security. Enterprises currently prefer private connectivity to reach their cloud providers, with VPN the top choice, preferred by 33% of participants. The public cloud, in contrast, is preferred by just 14%. Private networks look likely to remain part of enterprises' security strategy for the foreseeable future.

OTHER PRIORITIES INCLUDE: the capacity to cope with growth in the volume of traffic as data proliferates and businesses expand; the ability to re-direct data in the event of spikes in demand or connectivity problems; the ability to find solutions fast when things go wrong. Bandwidth, service flexibility and customer support are the top three most important considerations when enterprises choose local network partners / ISPs.



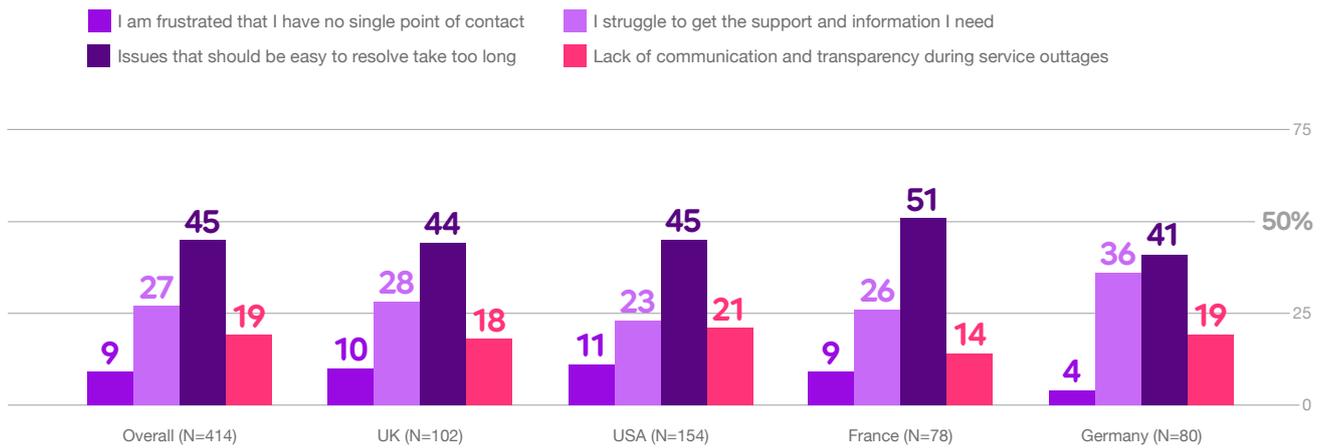
BUT ARE CORPORATE WANs DELIVERING ON THESE PRIORITIES?

The answer, sadly, is 'no'. Security, service flexibility and supplier performance remain major concerns, ranked the first-, second- and third-biggest 'pain points' by enterprises.



All too often, it seems, suppliers don't have the bandwidth and diversity to cope with surges in data volume and sudden spikes in demand, and they just don't provide the data security and the support services organizations need.

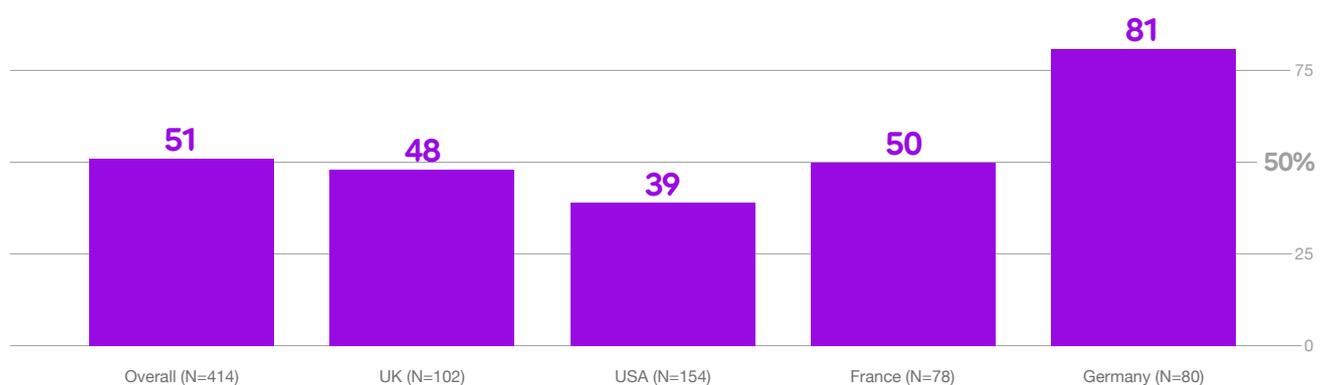
THE CONCERNS ABOUT SUPPLIER PERFORMANCE are amplified in the findings for customer satisfaction: only 51% of enterprises rate providers 'great' for customer service, suggesting a significant number feel let down. Where service falls short of expectations, failure to resolve simple issues quickly and to provide easy access to information and support are the most serious complaints.



TODAY'S ENTERPRISE: CONNECTED BUT UNINFORMED?

Organizations have welcomed advances in information and communication technology and are ready for the next wave. They face challenges, however, as they try to develop robust networks for the future. Myths and misconceptions make choosing the right network supplier difficult.

Big businesses have fully embraced the Digital Revolution and most have migrated to the cloud. Knowledge of connectivity is good: the majority of enterprises are familiar with the various routes to the cloud. While market comparisons have to be treated with some caution as the number of survey respondents varies between countries, German business leaders seem particularly switched on about telco/carrier-managed solutions for cloud-connectivity.



Knowledge of the wholesale market and upstream connectivity is good, with more than two thirds overall (69%) saying they're familiar with the supplier landscape for services such as IP Transit and IP Connect.

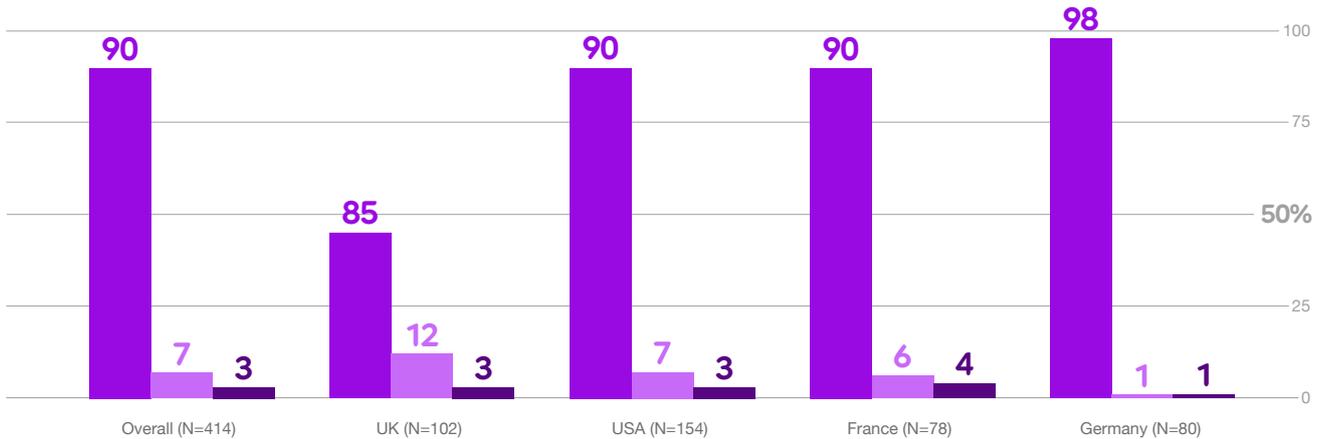
What's more, today's enterprises are hungry for technologies that will increase automation and transparency and give them more control over their networks. The vast majority—90%—would like network providers to offer more machine-to-machine workflows and automation to improve their services. And a significant percentage—more than a third (39%)—already use APIs to gain better visibility of their WAN performance, where available.



81% of German leaders are switched on about telco/carrier managed cloud solutions.

Would you like your network providers/partners to adopt more machine-to-machine workflows and automation to enhance your network services?

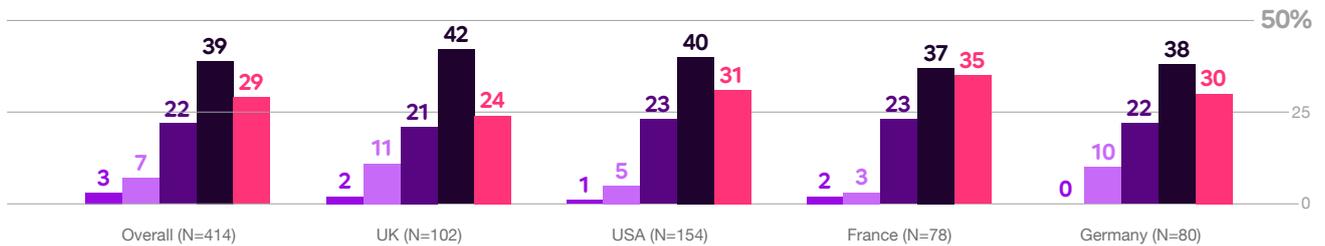
■ Yes
 ■ No
 ■ I don't understand how this could help my network



SERVICE API ADOPTION

How are enterprises using service provider APIs?

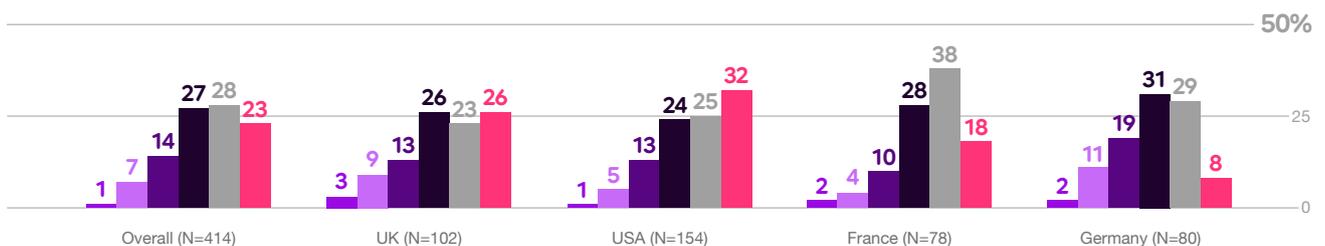
■ Not at all
 ■ We get minimal data on our network status
 ■ We can view historical network performance data
■ We have real-time visibility of our WAN performance
 ■ We have real-time visibility and control over our WAN infrastructure



The survey findings are paradoxical, though. Alongside the ‘literacy’ lie knowledge gaps about the Internet: 51% of enterprises rate their understanding of how the Internet backbone works as very good or excellent, but nearly two thirds—61%—think of public Internet connectivity as a commodity that doesn’t vary between suppliers.

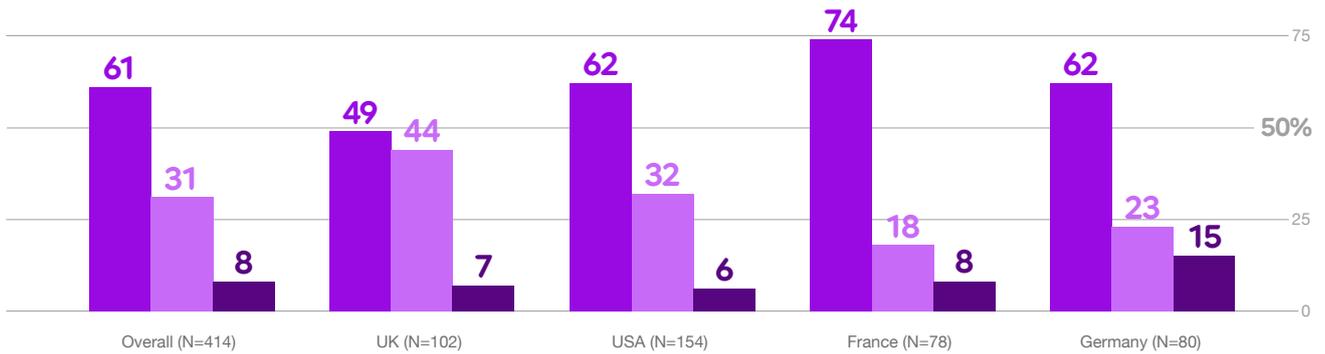
On a scale of 1-10 how would you rate your understanding of how the Internet backbone works?

■ 5
 ■ 6
 ■ 7
 ■ 8
 ■ 9
 ■ 10



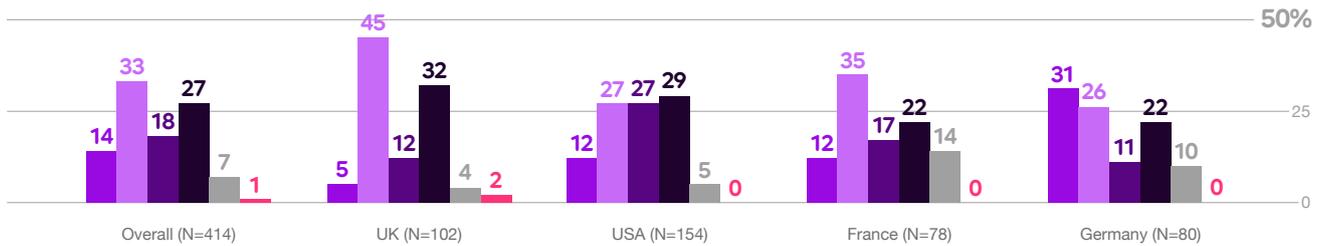
In your opinion, is public Internet connectivity simply a commodity that works the same way, regardless of supplier?

Yes To some extent No



As a result, network-development strategy is looking a little uninformed. Direct connection and original Tier 1 suppliers, such as telcos and carriers, are often overlooked when it comes to choosing a method to connect to the cloud, for example. Meanwhile, the somewhat 'old-tech' solution of the VPN is the most popular overall.

Public Internet Cloud VPN Direct Connection Cloud partner Telco/carrier managed I don't have preferred method



Telcos and international carriers that have their own, well connected, autonomous systems (or domains of public Internet address blocks) and provide the high-bandwidth superhighways of the Internet backbone can promise better performance. This is particularly the case if they have evolved in line with changes in technology and established their own network infrastructure, in state-of-the-art data centers and offer dedicated 24/7 support. The perception that original carriers are hidebound by legacy systems and that they can't provide support 'on the ground' is often false.

Connectivity to the public Internet is not universally consistent; a supplier's position in the structure of the Internet and its own ecosystem of connections and points of presence matters. Enterprises aware of this are more likely to make informed choices and partner with the right providers for their business needs.

TOMORROW'S SUPPLIER: FLEXIBLE, INNOVATIVE AND CUSTOMER-FOCUSED

The network supplier of the future has to put the needs of the customer at the center of everything it does. This means answering the call for a sustainable business model and for the human 'interface' of customer service—as well as for the bandwidth, systems and tools to provide the best possible network performance and power business growth.

The critical importance of the corporate WAN makes the network provider an important, strategic, partner in the future of an enterprise. But what does the network provider of tomorrow 'look like'? Which providers will make the best strategic partners?

The ability to meet the criteria of reliability (in terms both of always-on connectivity and customer service) and cutting-edge innovation will be key. Enterprises will need to look closely at the ecosystem of a prospective supplier and at its relationship to the Internet backbone—especially in terms of bandwidth and routing efficiency. And they will need to think about the accessibility of customer service teams—engineers are unlikely to solve problems quickly and provide 'live' support if they're in a different time zone—and whether a supplier is keeping pace with technological change. In addition, two other things will set providers apart.

1. SUSTAINABILITY

More than a third of respondents in total (38%) now only shortlist suppliers with a strong commitment to sustainability. In France this figure rises to 55%.

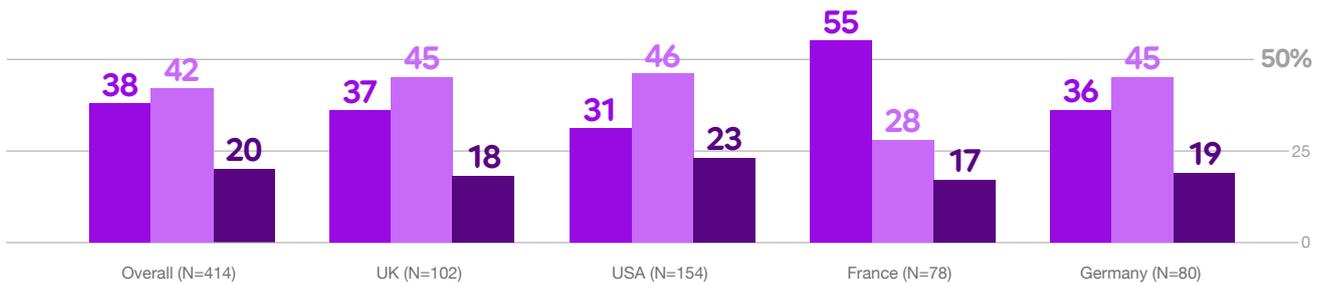
Of those who don't include sustainability in their initial selection criteria, 42% say it helps them choose between the final candidates. And only a fifth say they choose suppliers solely on the basis of price and performance.

Importantly, the vast majority (95%) are willing to pay a premium for a sustainable supplier, of 5% or more.



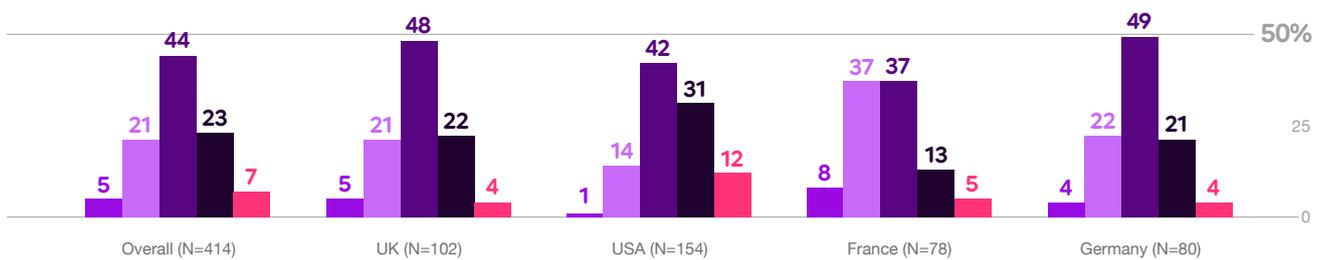
Which of the following statements best describes how important sustainability is for your company when selecting network partners?

- We only shortlist companies with a strong commitment to sustainability in their field
- Sustainability would only become a factor when comparing suppliers in the final selection stage
- Supplier selection is driven purely by price and performance



When selecting network providers, what would you consider an acceptably higher price to secure a sustainable supplier?

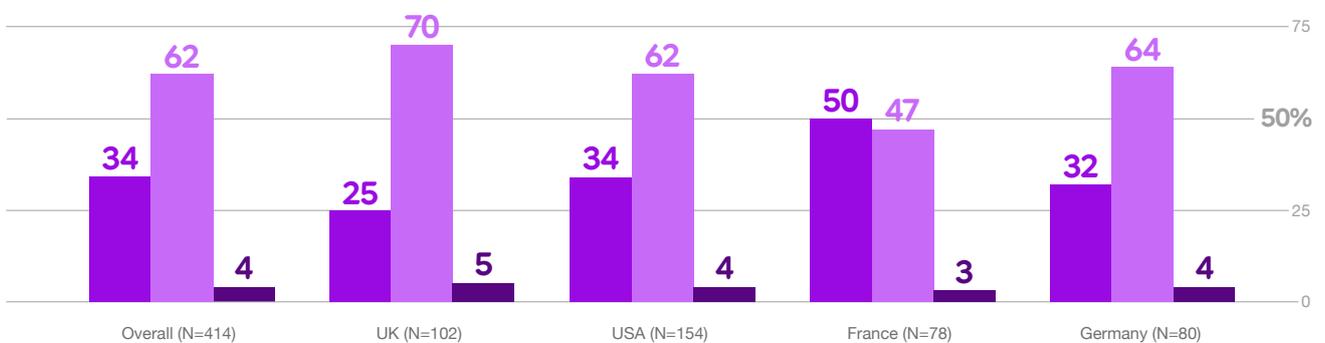
- Nothing
- 5-10%
- 10-15%
- 15-20%
- >20%



2. 'HIGH-TOUCH' SERVICE

Despite the heavy emphasis on machine-to-machine workflows and self-provisioning, over a third (34%) of enterprises expect traditional relationships with suppliers to continue to dominate in the future. Even as automation increases, the human element remains important; tomorrow's world is 'high-tech and high-touch'. The move to 'self-serve' does not eliminate the need for supplier support. This seems particularly the case in France, where half of respondents say human interaction will define the way they work with network operators over the next three years.

- The traditional human sales and account management relationships will dominate the way we work with network operators
- We expect to rely on APIs to commission and manage services
- Not at all



The global services provider with a local presence and / or ability to offer services tailored to the needs of enterprises seems likely to be rated more highly for customer experience. The last thing an enterprise wants is to be treated as 'just another' customer.



CONCLUSIONS

Enterprises need the bandwidth scalability and network footprint to adapt to changes in traffic volumes as they grow and expand across diverse geographies, bandwidth flexibility during spikes in traffic, optimal levels of data security throughout the ecosystem of providers, low latency that minimizes lag and delay, and a combination of self-provisioning tools and personalized, human-touch service and support.

For too many, however, this is a WAN ideal that is out of reach. Security, service flexibility, supplier performance and customer service all fall significantly below expectations. There's a gap between network need and current network design and performance.

The problem stems partly from a tendency to think of the public Internet as a commodity that doesn't vary significantly in quality. This misconception means enterprises are not always making informed decisions about their network development strategies and are not always choosing the right partners and providers for them.

Global Tier 1 networks with a strong customer experience ethos and a commitment to sustainability and cutting-edge innovation can bridge the divide between the WAN ideal and the WAN reality. To do so, though, they may need to close a knowledge gap first—and debunk the myth that public Internet connectivity is always the same.



IMPLICATIONS FOR ENTERPRISES

The research suggests enterprises need to ask seven key questions when selecting network services providers.

IS THE SUPPLIER ...

1. ABLE TO SCALE UP

—to adapt to changes in traffic volume as business becomes more data-driven and enterprises grow and / or expand to new territories?

2. FLEXIBLE

—able to re-route traffic dynamically and offer enterprises sufficient bandwidth on alternative paths to limit congestion and provide continuity of service in the event of problems?

3. RELIABLE AND RESPONSIVE

—able to resolve issues quickly and effectively and genuinely concerned with its customers and their specific needs?

4. SECURE

—able to offer the right blend of public Internet and private connections and the kinds of solutions that really keep business-critical traffic safe?

5. CUTTING EDGE

—a leader in fiber optics, APIS, SD-WAN and other emerging technologies, aligned with best-in-class IT systems, and free from outdated legacy infrastructure?

6. COMMITTED TO SUSTAINABILITY

—running the kind of infrastructure and systems, for example, energy-efficient data centers, that reduce carbon emissions and, potentially, total cost of ownership?

7. HIGH-TECH, HIGH-TOUCH

—offering tomorrow's technologies and tools together with more traditional and personalized account management?

By comparing supplier performance in these areas, enterprises will be able to make more informed choices that will ultimately benefit their WAN evolution strategy overall.

RESEARCH METHODOLOGY

This research was carried out online in July-August 2020 with 414 industry representatives in the US, the UK, Germany and France, on behalf of Telia Carrier by Savanta, a global leader in digital data collection.

Participants in the survey came from a range of industries: manufacturing / engineering (58); automotive (24); pharmaceuticals (7); banking (54); finance / financial services (87); fintech (9); tech / business services (53); engineering services and consultancy (2); information services and consultancy (120). All, however, worked for enterprises of more than 3,000 people.

Participants were split between the four markets as follows: US (154); UK (102); France (78); Germany (80).

The vast majority of respondents (85%) held leadership roles, e.g. at C-suite level, and more than half (56%) said they had the last word in network development strategy.

ABOUT TELIA CARRIER

Telia Carrier solves global connectivity challenges for multinational enterprises whose businesses rely on digital infrastructure. On top of the world's Number-1-ranked IP backbone and a unique ecosystem of cloud and network service providers, we provide an award-winning customer experience to customers in 120 countries worldwide. Our global Internet services connect more than 700 cloud, security and content providers with low latency. For further resilience, our private Cloud Connect service connects directly to Amazon Web Services, Microsoft Azure, Google Cloud, IBM Cloud and Oracle cloud across North America, Europe and Asia.

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