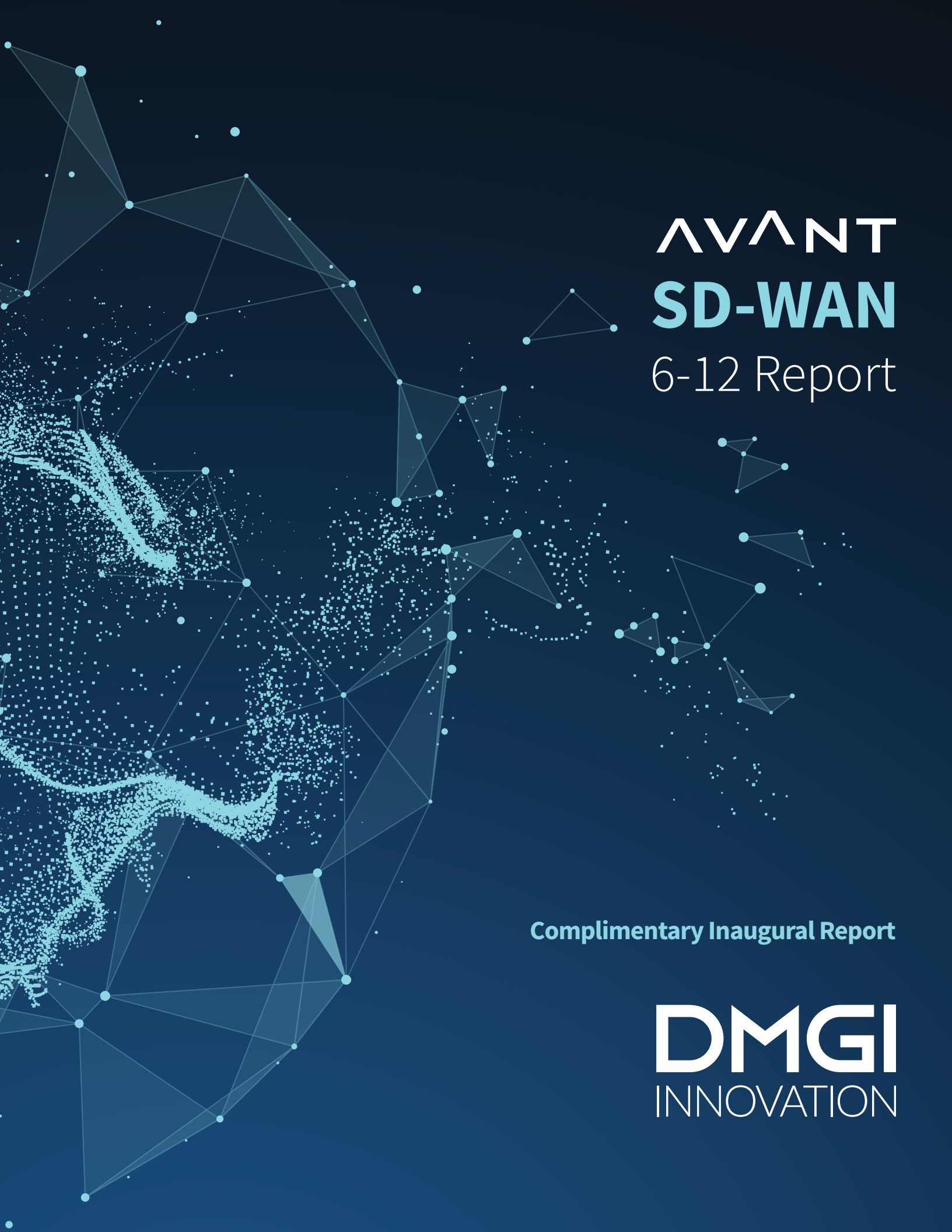

AVANT

SD-WAN

6-12 Report

Complimentary Inaugural Report

DMGI INNOVATION

DMGI INNOVATION

About the Analyst

Ken Presti develops the strategic framework and manages the process of leveraging AVANT's internal data and external data to drive high-value market research designed to help consultants, agents, channel partners, and other members of the Trusted Advisor community more effectively help their business customers understand and evaluate Information Technologies.

Ken Presti comes to the table with a wealth of experience in market research, survey development, focus group moderation, interviewing, and content development for the technology industry. His primary area of expertise is focused on go-to-market and channel strategies spanning the industry sectors of networking, cloud, security, and telecom.

A former Research Director of IDC's Network Channels & Alliances service, he has served as a Trusted Advisor to several key networking vendors and service providers. He has also led his own market research and channel advisory firm, Presti Research & Consulting, and has worked with other prominent channel consultancies. Presti specializes in combining empirical data, his own experience with the perspectives of industry leaders in a way that fully illustrates technology trends, business model evolution, likely outcomes, and strategies for success.

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Introduction

Welcome to the inaugural AVANT "6-12 Report,"

developed by AVANT Research & Analytics with the assistance of technical teams within AVANT Communications, and backed by a wealth of data secured by AVANT in our normal course of business, our own primary research of end customers (AVANT State of Disruption Study [GoAVANT.net/Disruption]) and Trusted Advisors (Cloud Channel Survey [GoAVANT.net/Survey]), plus other reputable industries sources.

Our reports will focus on today's most disruptive technologies, where the pace of change is rapid. These companies or technologies, which may have been relatively anonymous just a few years ago, have now emerged as highly viable solutions to resolve the business needs that led to their creation. They have, in effect, disrupted the IT landscape, which is well known for its accelerating pace of change and innovation.

The 6-12 Report is designed to provide enterprise technology leaders with a contemporary and relevant overview of the featured subject for the next six to 12 months. Each subject is selected based on its opportunity for adopting companies to realize competitive advantages within their particular industry, market space, or company size.

Our Mission

AVANT enables Trusted Advisors (agents, VARs, MSPs, consultants and similar channel partners) to support their business customers with IT technology decisions, with a specialization in disruptive technologies and solutions. We accomplish this with our:

- **AVANT Technical Specialists** that study the ins and outs of the latest IT technologies
- **AVANT Assessment Data** collected during thousands of customer assessments and resulting customer decisions
- **AVANT Primary Research** of both customers and trusted advisors, to inform our decision making process
- **AVANT PATHFINDER** an IT Decision Making tool and repository of AVANT's market intelligence, allowing for comparative searches and intelligent search to help (GoAVANT.net/Pathfinder)
- **AVANT Analysts** to conduct research and analyze data for in-depth analysis

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AVANT's Platform for IT Decision Making has assisted Trusted Advisors and their customers with thousands of IT decisions annually for customers of all sizes, from SMB to Fortune 500, providing us a large experience base and data set to reflect upon. Our role in supporting real world IT decision making with Trusted Advisors and their customers with leading technologies and solutions places us in a unique position to see near real-time market trends.

Our data is collected through sales efforts in conjunction with the Trusted Advisor community, through assessment data collected at the outset of the sales discussion, and through various market research tools, including surveys, interviews, focus groups, and external reports.

SD-WAN: Is It Ready for Prime Time?

This 6-12 Report focuses on the market dynamics around software defined wide-area networking, (SD-WAN), a wide-area networking technology that has gained substantial momentum as a means of supporting latency-sensitive applications while at the same time controlling costs and enhancing performance.

Key aspects covered in this report include:

- **How enterprise customers can leverage SD-WAN towards increased network performance and/or lower costs**
- **The types of applications best served by SD-WAN**
- **The key players in the SD-WAN space**

We will also explore additional issues around benefits to your company, the status of MPLS, impacts on cybersecurity, and whether there is a continuing need for firewalls and routers.

The selection of the right SD-WAN solution for your company can be a time-consuming and complex task. There are many criteria to consider, including applications supported, security needs, geographic needs, preference for self or turnkey management, and many more. This report will help you to evaluate this wide variety of options and considerations that should factor into your technology planning processes.

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The Rate of Disruption Index (RDI)

AVANT Research and Analytics has conducted a study of the most disruptive technologies changing today's IT landscape, including SD-WAN, UCaaS, Hyperscale Platforms, Colocation, and Managed Security Services. Our goal was to assist our readers in assessing the rate of transition from one technology to a newer technology that is either taking its place or supplementing it. The "Rate of Disruption Index," or "RDI," represents the year-over-year shift in market uptake, as perceived by respondents to AVANT's State of Disruption Survey, conducted in the spring of 2019. Our study showed SD-WAN had the highest RDI index and represented the most disruptive technology measured in the study.

AVANT polled 300 US-based enterprise decision-makers at either the C-suite or Management/VP-level in IT, security, or finance. To qualify for the survey, respondents had to be involved in choosing or helping the organization to implement new data network, voice, or compute infrastructure technology including buying/selecting new tools and services. Respondents include statistically significant subsets from the following five industries: Manufacturing Financial Services, Healthcare/Medical, E-commerce, and Consulting/Business Services.

As part of the survey, respondents were asked to compare their current progress within a technology transition with where that progress stood at the end of 2018. That data was then processed through a mathematical equation that quantifies that progress. For example, respondents were

SD-WAN by the Numbers

SD-WAN is the most disruptive technology in AVANT's 2019 State of Disruption Study, a groundbreaking market research initiative of more than 300 technology decision-makers evaluating the most disruptive technologies changing today's IT landscape, including SD-WAN, UCaaS, Hyperscale Platforms, Colocation, and Managed Security Services. Our goal was to measure how rapidly the market is transitioning from a legacy technology to a newer technology that is either replacing or supplementing it. The "Rate of Disruption Index," or "RDI," represents the year-over-year shift in market displacement, based on responses to the survey conducted in the spring of 2019. The RDI is useful for comparing the significance of market impacts in a way revenue numbers and or revenue growth alone cannot. For more information on how the RDI is calculated, please see the sidebar. Using this metric, SD-WAN is posting a year over year 13% RDI in supplementing or replacing non-SD-WAN enabled networks. This RDI is nearly twice as great as the Cloud infrastructure 7% RDI replacing legacy on premise servers to cloud platforms, as well as twice as great as the UCaaS 7% RDI replacing legacy PBX platforms.

SD-WAN has the highest RDI in the State of Disruption study.

SD-WAN	UCaaS	Cloud
13% RDI	**7%** RDI	**7%** RDI

Source: AVANT State of Disruption Report 2019

The data shows that SD-WAN adoption is fastest in smaller companies with an RDI of 15%-16% for companies $1M to $10M and $10 to $100M, but still respectable for > $1B companies with an RDI of 8%, still beating UCaaS and Cloud adoption RDI rates mentioned earlier.

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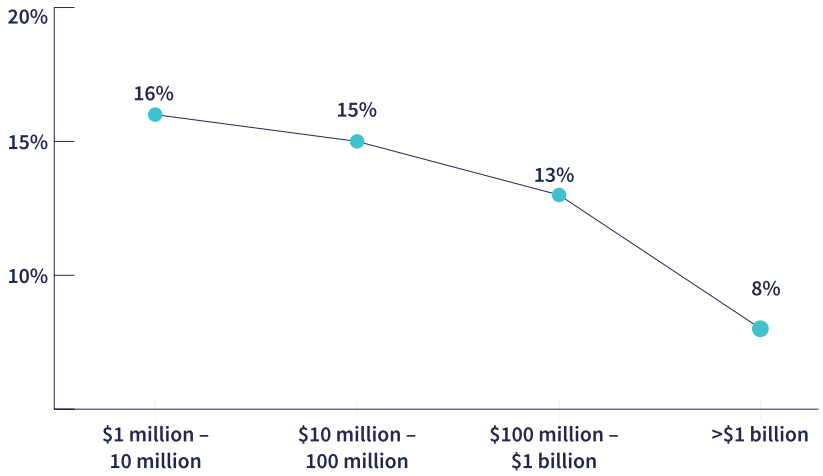
RDI of SD-WAN adoption, by company size (revenue)



Source: AVANT State of Disruption Report 2019

It is AVANT's belief that SD-WAN will continue to make ongoing incursions into the higher end of enterprise, beginning at remote offices, and other edges of the network, and then reaching steadily closer towards the core.

From a broad market perspective, the numbers show a strong upswing for SD-WAN. According to Framingham, Massachusetts-based international Data Corporation (IDC) the infrastructure market for SD-WAN is predicted to expand at a 30.8% compound annual growth rate (CAGR) from 2018 to 2023, reaching $5.25 billion, according to IDC's SD-WAN Infrastructure Forecast.

Frost & Sullivan is only slightly less bullish, measuring the SD-WAN market at a mere $593 million in 2017 but expecting it to reach $4.4 billion by 2023. AVANT's own research demonstrates that 68 percent of Trusted Advisor channel sellers believe customers will buy SD-WAN by 2021, up from 49 percent in 2019.

Customers who will buy SD-WAN

Source: AVANT Cloud Channel Survey 2019

(RDI cont.)

asked to position, on a scale of 1 to 10, where their security infrastructure fell at the end of 2018, with "1" being 100% in-house resources, and "10" being 100% cloud based. We then asked respondents to again position and the same scale where their security infrastructure is expected to fall at the end of 2019. In a scenario in which the average of all respondents was "7" on the first question, followed by an average of "8" on the second question, we measured the rate of disruption, accordingly:

(8-7)/7 = 0.1429

This computes to an RDI of approximately 14 percent, representing the rate at which business leaders expect to transition to a cloud-based model, and thereby displacing, or disrupting, the on-premises approach to security. To view this a different way, if the two models were tectonic plates pushing against each other, the RDI represents the earthquake, and its shift in plate tectonics.

This statistic will be used in this 6-12 Report, as well as in forthcoming 6-12 Reports on other technologies and business models.

The RDI is useful in understanding how adoption rates of new technologies are displacing legacy solutions as a comparative measurement to company sizes, market segments and as a comparative tool to other technology trends in a way financial market size does and growth does not, since the financial growth or revenue size of particular solution does not inform us, in and of itself, how much of an impact this growth is really having on a legacy alternative and normalizes this impact across different comparisons.

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(Avant 2019 Cloud Channel Survey of 187 channel sellers). Although AVANT has named SD-WAN as the industry's #1 most disruptive technology, SD-WAN's market uptake is not yet coming at the expense of legacy MPLS technology, given that 53 percent of $1B enterprises still plan to invest in MPLS, while the lower end of the market is displacing MPLS much more quickly (Avant State of Disruption 2019).

53% **of companies >$1B still plan to buy MPLS**

Source: AVANT State of Disruption Report 2019

SD-WAN technology can be purchased on a CAPEX model or on a monthly basis, sometimes with an upfront hardware charge for on premises equipment, or the on-premise hardware cost is rolled into the monthly charge. OPEX charges are typically charged based on maximum capacity while monthly contracts typically charge by stair-stepped bandwidth throughput corresponding to various price bands, or alternatively by actual use statistics.

When SD-WAN is looked at by the top 5 industries adopting it, Consulting/Business Services is posting the highest rate of disruption at 20 percent RDI while e-commerce and Healthcare/medical post the lowest disruption among the top five at 11 percent RDI.

Source: AVANT State of Disruption Report 2019

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Key Value Proposition

The reasons for market penetration are not hard to understand.

The emergence of a widening variety of latency-sensitive and bandwidth-heavy applications is driving a need for increased demands on corporate networks, while at the same time reinforcing a certain cost consciousness and security awareness. Increasingly, data traffic no longer lives solely within the confines of a corporate data network. The trends to leverage cloud platforms such as UCaaS, CRM, and email are also changing corporate WAN requirements. SD-WAN can meet these needs and can be used in conjunction with any other network technologies, including broadband, MPLS, Ethernet, 4G/5G wireless, DSL, private fiber networks, and satellite.

How does SD-WAN work? SD-WAN evaluates network traffic patterns and chooses the most efficient route across the network in real time. It can combine multiple lower-cost networks that have variable performance characteristics, and even combine them with guaranteed quality more expensive networks like MPLS to achieve even better performing networks than any individual network alone. An SD-WAN network continuously monitors performance feedback telemetry across an end to end SD-WAN deployment and makes dynamic packet or session level data decision as to which path network traffic will use. If broadband is performing better than MPLS in that particular moment, it will choose the broadband connection. It also has the ability to prioritize traffic based on user defined rules, ensuring the most important or network sensitive traffic is handled accordingly.

SD-WAN also enhances network efficiency by leveraging some of the most important characteristics of the cloud; namely fully leveraging the many-to-many connections possible with the internet, instead of transmitting data from point-to-point in predefined networks utilizing the old hub-and-spoke or star models, thereby adding to latency and cost. To further enhance cloud-based application performance, some SD-WAN providers also have direct connections into the most popular cloud-based applications and global data center providers, enabling customers to leverage their networks' SD-WAN edge deployments. Other SD-WAN providers have their own backbone network, with dedicated high performing network connections regionally or around the globe, providing a high performing express route for more reliable connectivity to countries, where internet latency can often be a problem.

The ability of SD-WAN to dynamically make a decision on where to route traffic makes it an ideal solution for higher reliability networks. Multiple service providers can be used in an all-active configuration in order to minimize the impact of an outage. As always, establishing a service level agreement targeting your company's needs and resources is also highly beneficial. Pre-SD-WAN technology was not very friendly to managing multiple simultaneous networks, at times requiring backup networks to remain dormant awaiting an outage, or taking too long to transition and reroute traffic, which would drop calls and other network sensitive applications. SD-WAN allows for the simultaneous use of the backup network, achieving more combined bandwidth availability and higher performance than any single network due to dynamic routing.

"Mid-size and small enterprises are moving quickly to cloud, with large enterprises consideration rates increasing more each day" said Gary Levy, VP Worldwide Alliances and Channels at Oracle Communications. "As mission critical applications are sourced across cloud environments, enterprises are re-thinking how they are leveraging MPLS. We find that enterprises are reducing expensive point to point MPLS circuits, increasing usage of less expensive broadband internet, and rapidly deploying SD-WAN."

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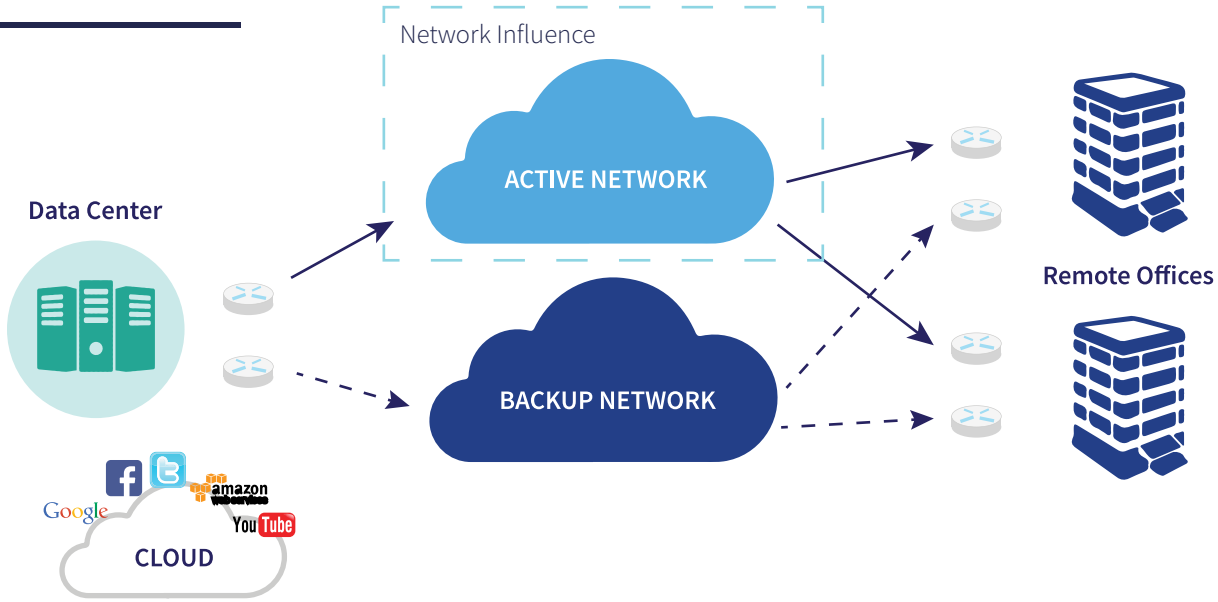
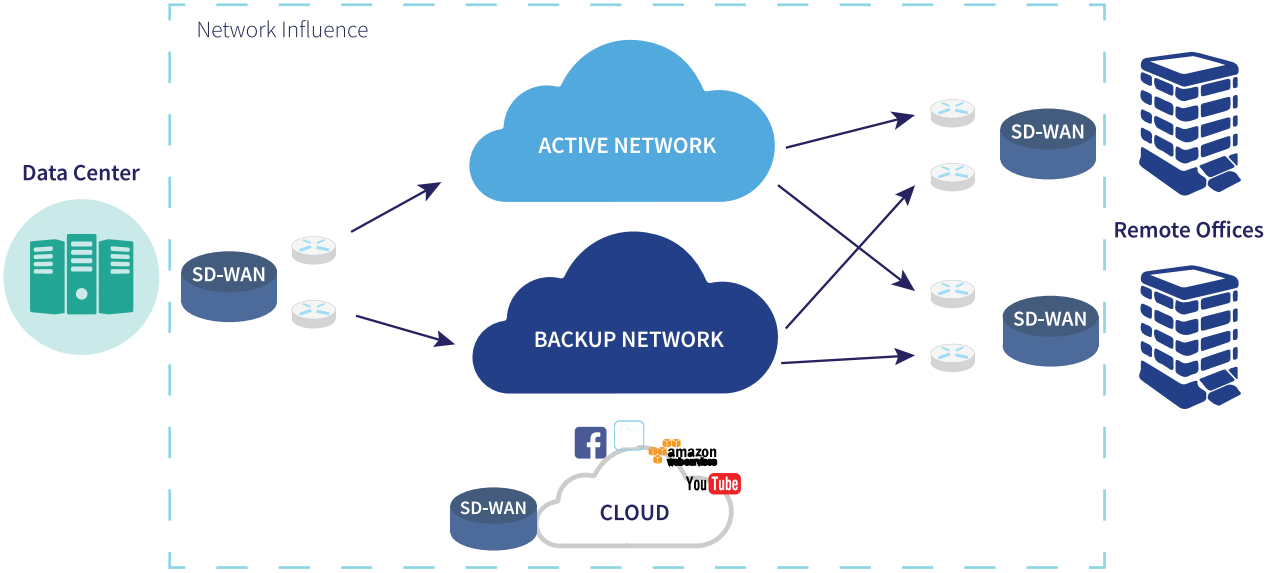
Before SD-WAN



After SD-WAN



Users can still configure SD-WAN solutions with backup networks that are nominally unused, however the use of some of these secondary networks may carry higher operational expense than others. Some SD-WAN edge devices come with built in LTE capabilities for built in resiliency or you may choose to have additional circuits intended for network resiliency with a lower monthly fee but high usage rate. Therefore, for better cost control, a return to the primary network should be made as soon as feasible.

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The ability to simultaneously handle multiple networks makes SD-WAN a great network transition tool. One can implement SD-WAN in advance of the expiration of an MPLS contract, still leveraging the MPLS connectivity for the combined SD-WAN network, and then decide to add alternative networks, or supplement the MPLS network without needing to decommission and transition off the MPLS WAN immediately. There is no need to wait for your MPLS network contract to expire before starting to trial and implement your SD-WAN network.

The ability to simultaneously handle multiple networks makes SD-WAN a great network transition tool.

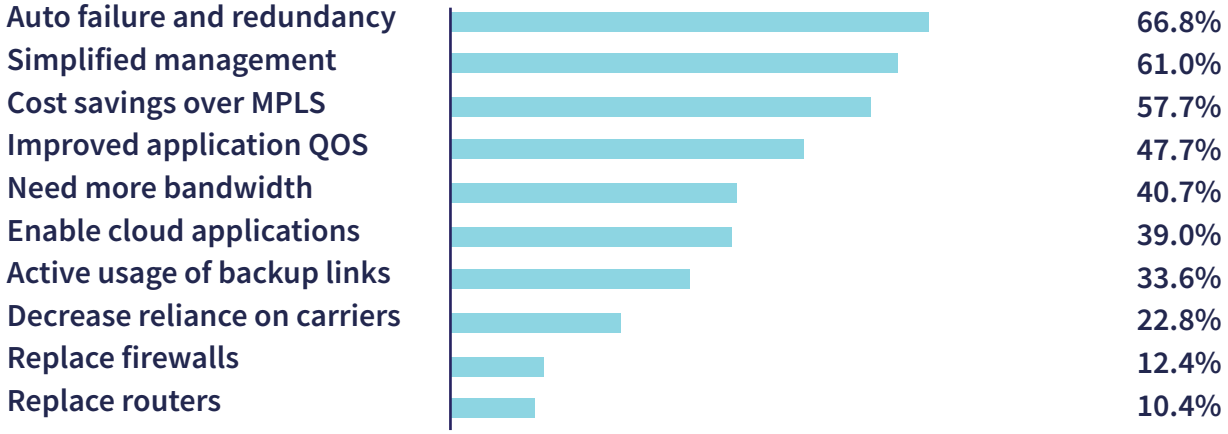
Depending on the solution, SD-WAN can also incorporate many security features, replacing standalone security appliances, firewalls, VPNs and more advanced security functionality.

Lastly, it can also be a replacement for the corporate edge router, and some even have WIFI access capabilities making it an ideal solution for a remote office or retail chain.

"It is a simpler and more efficient way to handle routing and unify the functions of multiple devices," said Paul Weiss, Vice President of Helm Partners, LLC, a Pennsylvania-based Trusted Advisor. "It can also drill down to help me understand how applications are being used, the performance across my connections, and how my sites and my people are doing. There's a significant advantage to business intelligence and the ability to troubleshoot as compared to traditional routing and firewalling models. You can also use these capabilities to build up your uptime or strengthen security."

Why are you looking at SD-WAN?

(By percentage of 241 respondents)



Source: AVANT Research & Analytics, August 2019

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Enterprise customers report that their teams typically see a noticeable performance boost when SD-WAN is integrated into the network. This can be especially critical when using UCaaS, CCaaS, or any other software-as-a-service offerings, given that these technologies can have a direct cause-and-effect relationship with customer service and customer experience.

According to AVANT's Assessment Data, auto failover and redundancy represents the number one reason why enterprise customers first take a look at SD-WAN. Simplified management and cost savings over MPLS ranked second and third, respectively.

Companies in the 250-500 seat range were far more drawn to potential cost savings (77%) than any other value category.

Current & Planned WAN Environments

62% currently have MPLS

40% plan to keep original network

39% plan to replace original network

Source: AVANT Research & Analytics, August 2019

According to AVANT's assessment data, most companies are coming to SD-WAN from a MPLS environment (62 percent), and 40 percent report a near-term plan to keep their original network, while a nearly equal percentage plan to replace their original network sooner rather than later. Approximately 40 percent are aiming at an SD-WAN set up that includes Dual Internet connections and 39 percent are planning a hybrid environment that includes MPLS. Products and technologies that users may choose to displace through the adoption of SD-WAN include routers (55 percent), standalone firewalls (47 percent) and WAN optimization (23 percent), given that these functions can now be delivered by other means.

Oftentimes, a discussion on SD WAN begins with a conversation on an entirely different subject – most likely a value proposition around UCaaS, SaaS, or some other application that requires a substantial amount of bandwidth or is otherwise latency sensitive. In such circumstances, the discussion can turn to SD-WAN as a means of providing the network power necessary to support the higher-level application that is intended to provide a competitive differentiator for the customer.

Oftentimes, a discussion on SD-WAN begins with a conversation on an entirely different subject - most likely a value proposition around UCaaS, SaaS, or some other application.

It is important to take stock of how your company uses technologies and where those technologies are located. The tables below show how customer organizations tend to deploy various technologies and applications, based on AVANT's assessment data. Depending on where these technologies and applications are located, different solutions may be the right choice. For example, some providers may incorporate a global backbone network or one that has connectivity built into your specific data center or cloud application, thereby establishing for themselves a position on your short list of potential providers.

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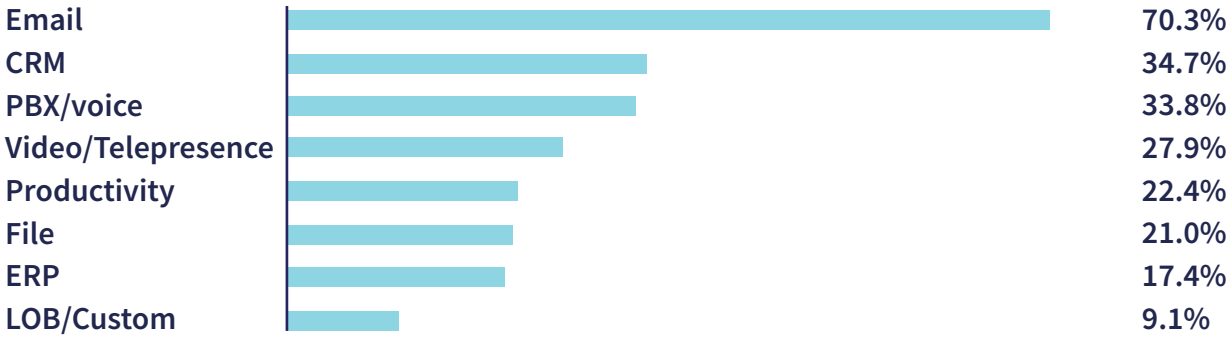
Which apps are hosted in the cloud?

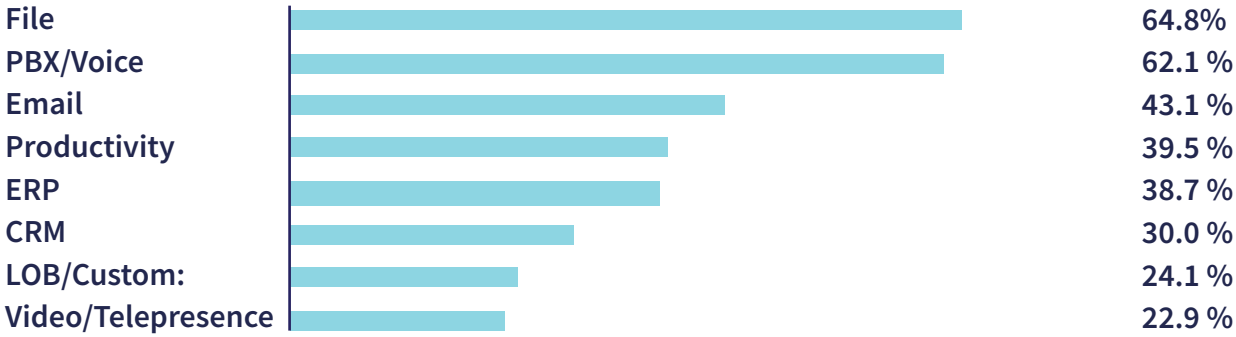
(By percentage of 219 respondents)



Source: AVANT Research & Analytics, August 2019

Which apps are hosted in the data center?

(By percentage of 253 respondents)



Source: AVANT Research & Analytics, August 2019

As shown in the charts, different companies often have a very different approach to whether specific applications are stored in a data center or in the cloud. However, the movement towards cloud and the "as-a-service" phenomenon continues unabated, and the right SD-WAN solution can be an enabling tool.

With all these disruptive capabilities packaged into a single solution, it is not surprising that many traditional router and software companies have recently made acquisitions of startup SD-WAN providers such as Talari by Oracle, Velocloud by VMWare and Viptela by Cisco, often for very high multiples.

Although SD-WAN delivers on much of the promise of next generation networking, buyers are also well advised to select their SD-WAN solutions carefully, given that SD-WAN products are not yet interoperable among vendors.

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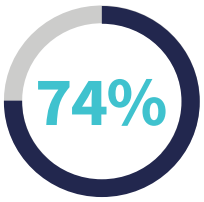
Security

Like everything in this world of technology, effective security needs to be baked in to virtually every value proposition put on the table. This is important to today's enterprise technology buyers who evaluate different offerings and build the internal consensus to either accept or decline and offered solution.



fear a cyberattack will cost them their job.

Source: AVANT State of Disruption Report 2019

According to AVANT's State of Disruption Report, 74 percent of surveyed technology decision makers fear that a successful cyberattack could cost them their jobs. Fewer than half believed that their companies were well prepared to handle an attack and mitigate the results.

SD-WAN solutions typically include their own security protections, such as stateful firewall capabilities, site-to-site encryption, application policy control, segmentation for VLANs and split tunneling, and authentication between edge devices and the controller. How SD-WAN companies deliver security solutions varies widely, with some becoming security technology providers with their own technology and development as a core part of their SD-WAN value proposition, while others are partnering with market leaders to embed security solutions within their product. Most will interoperate effectively with third-party security tools and services, although some may interoperate better than others. Therefore, your current set up of firewalls and other security gear may not need to be displaced with the advent of SD-WAN, but it does make sense to review the technical notes of the specific SD-WAN company for their preferred recommendations.

The addition of new technologies and infrastructure almost always expands the attack surface. Thus, technology buyers as well as technology sellers need to be keenly aware of their level of exposure. This is especially true of companies leveraging local Internet breakout, rather than backhauling through a data center. As the data travels across the Internet, protections for layer 4 through layer 7 of the OSI stack will likely be necessary. Security technologies of particular focus should include next-generation firewall with intrusion prevention, web filtering, and DNS security. These, however, can become quite costly when being applied to a large number of remote facilities. Looking at the other side of the coin, it's also true that a successful breach at a remote office can often be used as an effective bridgehead to gain access to central corporate resources.

"Security continues to be the number one concern that IT decision makers have when considering migration to SD-WAN," said Ray Watson, Vice President of Innovation at Masergy. "This ultimately favors solutions which tightly integrate and support unified threat management as well as managed detection and response."

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According to AVANT's Assessment Data, 54 percent of customers entering the SD-WAN decision discussion are uncertain of how to approach security, while 22 percent are planning to install a next-generation firewall at each site. Another 14 percent are planning to use a cloud-based firewall service. Those who are uncertain would be well advised to work closely with her Trusted Advisor to ascertain the best solution for their needs.

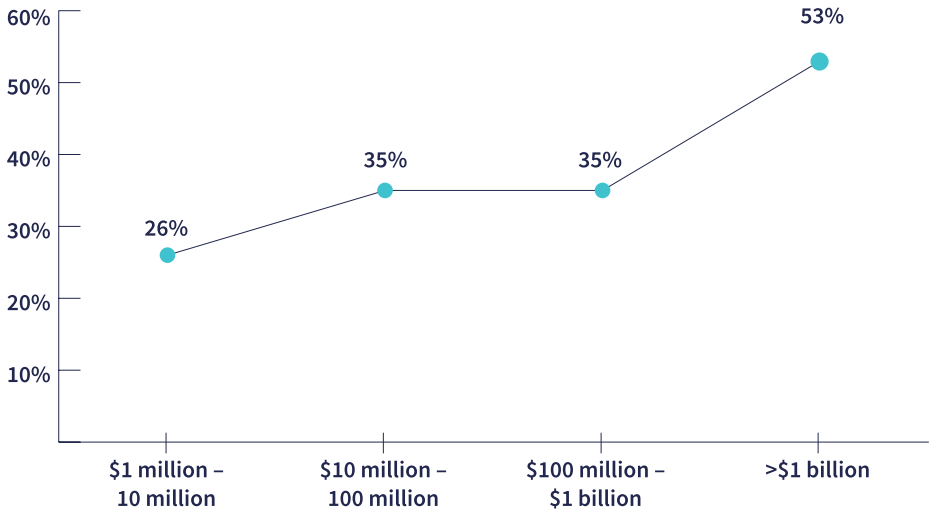
Source: AVANT Research & Analytics, August 2019

Competing Technologies

SD-WAN is widely viewed as being in the slow-motion process of displacing multiprotocol label switching (MPLS), a routing technology that uses abbreviated labels, as opposed to lengthy network addresses, accelerating traffic flows by avoiding the need to use conventional routing tables. MPLS supports a wide variety of network technologies, including T1/E1, Frame Relay, and DSL.

Having gotten its start in the early 2000s, MPLS is widely deployed, and continues to have a strong position in enterprise networks, particularly, though not exclusively, in the cores of those networks. In fact, according to AVANT's 2019 State of Disruption survey, 40% percent of overall respondents that have already deployed MPLS planned to meaningfully increase their use of MPLS in 2019. Just under 15 percent expected their position with MPLS to remain about the same. 53% of companies with revenues in excess of a billion dollars plan to meaningfully increase their MPLS usage. Among companies with under $1 million in revenues, that stat dropped substantially to 26%, while 25 percent expected to transition away from MPLS.

Significant invesement in MPLS in 2019, by company size (revenue)



Source: AVANT State of Disruption Report 2019

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Share of Broadband in SD-WAN Networks

Source: AVANT State of Disruption Report 2019

The continued significant investment in MPLS by 40% of companies is not surprising given that SD-WAN networks can continue to leverage already deployed MPLS networks without the need for replacement by SD-WAN enabled broadband connectivity or other lower cost solutions. However, the addition of broadband to SD-WAN enabled networks is also increasing. AVANT's State of Disruption Report finds the average share of Broadband traffic in an SD-WAN network is about 63% in 2018 growing to 70% by 2019, and some of this growth will be at the expense of MPLS networks. SD-WAN's ability to co-exist with already deployed networks demonstrates one of the strengths of SD-WAN and a key reason for its rapid adoption.

"The thing to understand is what size of enterprise is using MPLS, and for what applications," said Nate Grinnell, VP of Global Sales at Cybraics, who until recently worked extensively with SD-WAN. "Smaller enterprises are quicker to go to the cloud with their mission critical applications, meaning they will more quickly move away from MPLS at the edge. Instead, they're adopting SD-WAN much faster than what we're seeing at the larger enterprise where the decline of MPLS is slower."

MPLS is generally regarded as more expensive than SD-WAN, though much of those savings tends to be linked to SD-WAN's ability to leverage the public network in a secure manner; a path that is typically simpler and less expensive than the private networks necessary to support MPLS.

For companies planning to move from MPLS to SD-WAN, it's important to review your existing contract in advance of the renewal – especially given the fact that many of these contracts default to an auto-renewal setting that requires 30 to 90 days' notice in advance of the end of the current contract. Similarly, punitive terms for early termination are also very common. If your company is not quite ready to terminate by the contract's end date, it is usually possible to move to a month-to-month arrangement, albeit at higher cost per month than would usually be the case with a longer-term contract. Or, you may choose to run MPLS and SD-WAN concurrently, as illustrated above by the State of Disruption data. In such circumstances, carriers are sometimes willing to allow you to shift your bandwidth consumption and resulting fees from one service to another, assuming of course that both services are coming from the same provider.

Key Players in the World of SD-WAN

SD-WAN involves a number of key players who come to the table with different portions of the value proposition. The general categories listed below are not necessarily mutually exclusive, but the correct choice or choices largely depend on your needs, your budget, the direction you want to take, and the degree to which you need help with the selection and technical aspects.

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Product Vendors

These are the companies that develop the software, products and solutions that deliver the technology of SD-WAN. These entities fall into two basic camps: those which are "pure-play" SD-WAN vendors and entered the market directly from start-up mode; and those which have their roots in some other related technology, typically networking or security. Though neither group carries a distinct advantage against the other, it's important to keep in mind that the latter category comes to SD-WAN as an extension of their previous strategy. Buyers will therefore want to evaluate these offerings based on their specific functionality, and further remember that SD-WAN products and solutions are rarely fully interoperable between one vendor and another. Vendors of the technology often rely upon MSPs and Carriers to manage and offer their products, though some also have their own professional services arms. Buying a vendor's native technology solution may often require deployment and management of the SD-WAN network.

MSPs

This category may, in many respects, function in a model very similar to the carrier, except that MSPs are not likely to have their own network beyond, perhaps bundling third-party on-ramps to the network of a much larger service provider. MSPs use vendor products mentioned above, sometimes with a portfolio of vendors to choose from, to deliver a turn-key SD-WAN solution and are not themselves the technology developer of SD-WAN. MSPs will argue that they are the best choice for SD-WAN implementations because some offer the ability to aggregate billing and support of circuits from various carriers and serve as a single throat to choke, or back to pat, with no finger pointing. However, to some extent this is something a carrier can offer as well. MSPs can often optimize a given solution to your needs and be able to function in a mode very similar to consultants (see below).

Carriers

Carriers typically offer SD-WAN as an add-on service to their data circuits and related offerings, and act as an MSP. Most carrier providers have taken the step of selling SD-WAN without requiring any of their circuits as part of the solution, however about one-in-five require at least some portion of the SD-WAN network to run over their own data network. This is a smart approach to combat one of the standalone SD-WAN solution providers key differentiators – the independence of network providers. Carriers will argue that owning the network provides them a better end-to-end experience of the implementation. The SD-WAN solutions are based on the vendor technologies mentioned above. This may come as a one-size-fits-all type of proposition; in which case you won't be able to make vendor selections or choose among other options for the underlying technology. But what you give up in terms of choices may be counterbalanced through greatly enhanced simplicity, plus the ability to negotiate lower rates by signing up for a more expansive service package. On the other hand, the more your communications needs are met by any one single source, the more you become susceptible to outages, carrier-targeted security breaches, and other issues.

Consultant/Agent/Reseller/Trusted Advisor

This segment of the industry typically does not have an internally developed product or technology. They instead are designed to function as independent entities that can help you sort through the available options based on the specifics needs, budgets, and legacy infrastructure of your company. Their role is to do the necessary legwork, understanding the differentiators among the various offerings as well as those of the vendors that provide them. Aside from helping with the pre-sales phase of the engagement, they can also play a key role in deployment, optimization, support, training, and other facets of technology.

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Where to Look

AVANT works with a variety of vendors and service providers from all three camps. Information from a number of these vendors is attached as an addendum to this report. This is not represented as an exhaustive list of key companies competing in the SD-WAN space but is submitted for the perusal of interested buyers.

Standalone Product Vendors:

aryaka	Proprietary WAN-as-a-Service over private backbone
bigleaf network	Proprietary SD-WAN-as-a-Service
CATO NETWORKS	WAN-as-a-service; private network backbone
cisco viptela	Proprietary SD-WAN via Viptela, Meraki acquisitions
CLOUDGENIX	Proprietary SD-WAN; management via Wipro
FORTINET	Proprietary SD-WAN
open systems	Proprietary SD-WAN
ORACLE Communications	Proprietary SD-WAN via Talari acquisition
silver peak	Proprietary SD-WAN
VERSA NETWORKS	Proprietary SD-WAN
velocloud vmware	Proprietary SD-WAN via VeloCloud acquisition

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Participating Carriers/Aggregators:

AT&T Business	Uses VMware SD-WAN via VeloCloud
Atlantic Metro	Uses VMware SD-WAN by VeloCloud
BCN	Uses VMware SD-WAN by VeloCloud
BULLSEYE TELECOM	Uses VMware SD-WAN by VeloCloud
中国电信 CHINA TELECOM	Uses Versa, Silver Peak
aptum	Uses Nuage
CenturyLink™	Uses Versa, Cisco Meraki, Cisco Viptela
COMCAST BUSINESS	Uses Versa Networks
gtt	Uses VMware SD-WAN by VeloCloud
MASERGY	Uses Fortinet, Silver Peak, and others
SPECTROTEL	Uses VeloCloud, Fortinet, Cisco Meraki, Bigleaf
TATA	Uses proprietary technologies, Cisco, Versa
TPX COMMUNICATIONS	Uses VMware SD-WAN by VeloCloud
verizon	Uses Cisco Viptela, Versa Networks
WINDSTREAM ENTERPRISE	Uses VMware SD-WAN by VeloCloud, Fortinet
zayo	Uses Versa Networks

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MSPs:

cbts	Offers VMware SD-WAN by VeloCloud, Cisco Meraki and Viptela
COEO	Offers Versa Networks
CISSDM SOFTWARE DEFINED MANAGEMENT	Offers Cisco Meraki, VMware SD-WAN by VeloCloud, Cisco iWAN, Cisco Viptela, Silver Peak, Oracle Talari
expereo	Aggregator offering Cisco Viptela, Silver Peak, Aryaka, VMware SD-WAN by VeloCloud
Granite	Aggregator offering Cisco Meraki, VMware SD-WAN by VeloCloud, Cisco iWAN, Cisco Viptela, Fortinet and others
hypercore networks	Resale of multiple carriers and cable companies
ignyte	Offers Talari, Cisco Meraki, Cisco Viptela, Fortinet, Silver Peak
MetTel	Aggregator offering VeloCloud over private backbone
NetFortris	Offers VMware SD-WAN by VeloCloud
NETRIO	Offers Versa, Cato, InfoVista, Silver Peak, VeloCloud
NetWolves	Offers Cisco Meraki, BigLeaf, Riverbed, and proprietary solutions
nitel	Offers Versa Networks, Barracuda, Cisco Viptela
RapidScale A Cox Business Company	Offers VeloCloud, Citrix
THRIVE	Offers Fortinet, Silver Peak

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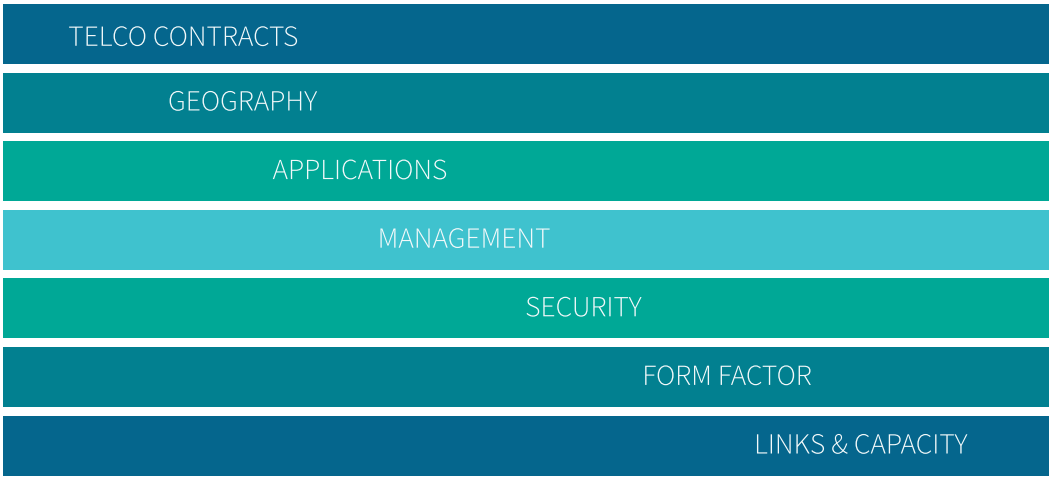
Criteria to Consider when making an SD-WAN Technology Decision:



The move towards SD-WAN is often a detailed decision-making process that takes into account a variety of facets and may cross the boundaries of multiple organizations within your company, including management, IT, security, and finance. Also, given the variety of available options we recommend you consult with third party Trusted Advisors familiar with the SD-WAN landscape to help you make a well-informed choice. Factors to consider when choosing an SD-WAN partner can be visualized as a series of tracks or "swim lanes" for greater organizational purposes.

For example, you will likely want to review your existing telco contracts to determine when those contracts are up for renewal, and what the terms might be for early withdrawal. In many cases, enterprise customers are moving to SD-WAN from MPLS, either in whole or in part. In this case, it is often advantageous to explore whether the current contracted telco also provides SD-WAN. This may be your easiest option for transition, but it is useful to review your business needs and understand what alternative providers may offer the best solution for your company especially since SD-WAN is inherently connectivity agnostic, and may be delivered in different form factors, either on-premises or cloud-based. Similarly, some telcos may have stronger positions in some geographies as opposed to others. In this case, the locations of your remote sites become a more prominent factor in your decision-making process. In addition, some solutions work better in a global environment based on the types of networks in use.

As we've already discussed, applications, management, and security are also among the fundamentals worthy of consideration. You should ask yourself the question:

- What applications will be running over the network and where are they located?
- Are the any highly network sensitive applications to consider?
- Am I equipped to manage the SD-WAN network myself or do I want a full turnkey solution?
- What are the security requirements for the solution and is there an opportunity for enhancing my security posture depending on the chosen solution?

In addition, the adoption of SD-WAN is part of an overarching WAN modernization strategy that includes choosing the links best suited to delivering the necessary capacity.

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Points to Ponder

- SD-WAN is showing rapid market uptake, meaning that many of your competitors may be taking advantage of its benefits.
- If you're doing UCaaS or CCaaS, office 365, salesforce.com, AWS, Azure, Google, or cybersecurity, SD-WAN may in effect be a necessary network upgrade.
- Costs versus value: Bear in mind that some estimates for cost reduction associated with SD-WAN may be overstated. Your mileage may vary. However, the fundamental reason to explore SD-WAN is based on the network performance and the latency-sensitive applications that are enabled by it.
- SD-WAN will not immediately displace MPLS across the broad market. But the continued use of MPLS should not delay trialing or even implementing SD-WAN along with it.
- Many carriers are adopting SD-WAN, even though they can often make more money by selling MPLS. They do so out of recognition of the direction of the market plus their own need to evolve.
- Firewalls and routers will potentially be displaced by multi-function SD-WAN boxes, meaning that your current infrastructure mix is likely to change over the course of time.

Questions to ask when exploring SD-WAN

- How do you expect your security posture to change with SD-WAN?
- What are your current throughput requirements?
- What are your most critical applications, and where are they hosted?
- Are you considering hosting SD-WAN appliances in the cloud, and/or connecting via private circuits?
- To what extent is your technical team familiar with SD WAN, and what level of assistance are they likely to require?
- For more information on SD WAN, on the applications supported by SD WAN, or on any other technology issue, please consult your Trusted Advisor.
- Do you prefer a do-it-yourself technology, installation support or fully managed support? Note that some options only come fully managed or require a third installation or management.

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SD-WAN Industry Roster

The Value Propositions of Key SD-WAN Vendors & Providers

SD-WAN TECHNOLOGY: Uses VMware SD-WAN via VeloCloud

OVERVIEW

AT&T provides an SD-WAN offering that promises the flexibility to support a combination of SD-WAN sites and non-SD-WAN sites. The offering is targeted at businesses that want to augment their MPLS VPN and provide end-to-end encryption using a static network-based solution.

SERVICES SOLD

- AT&T SD-WAN Service
- MPLS VPN
- AT&T FlexWare orchestrated virtualization platform

ELEVATOR PITCH

The AT&T SD-WAN solution provides easy access to third-party cloud applications, robust cloud security, and intelligent network traffic management with onsite AT&T FlexWare devices—also for redundancy support. By virtualizing their network with AT&T SD-WAN and AT&T FlexWare, customers can more easily add bandwidth to individual sites. This is critical, because network flexibility is a key driver of ROI on their technology investment. Site-type-optimized hardware options allow users to choose the best technology, speed, and other attributes needed for each site. With the increased quality and high reliability of their network connectivity, the company can implement cutting-edge retail technologies that require low latency and greater bandwidth—which is exactly what they need to provide exciting customer experiences that align with their global brand image.

KEY FEATURES & DIFFERENTIATORS

- Core MPLS features
- Provides ability to select network technologies on a site-by-site basis for maximum flexibility
- Supports both private and public links
- Pre-loaded VNF (Virtual Network Function) on edge device.
- Centralized management
- International footprint
- Ability to support multiple models
- uCPE

SD-WAN TECHNOLOGY: Proprietary WAN-as-a-Service over private backbone

OVERVIEW

Aryaka's global SD-WAN solution provides optimized, software-defined network connectivity and application acceleration to globally distributed enterprises. Aryaka's services have over 10 million users across more than 4,000 sites. Leading brands such as Skullcandy, Air China, Freescale Semiconductor and ThoughtWorks, as well as partners such as Microsoft Azure, AWS, and SK Broadband, have all chosen Aryaka for their enterprise-grade networking needs.

SERVICES SOLD

Smart Connect

- WAN Optimization as a Service (Regional, Global, and Hybrid)

SmartCDN

- IP App Acceleration
- Web App Acceleration

Cloud VPN

ELEVATOR PITCH

Aryaka integrates the benefits of WAN optimization (MPLS + WAN optimization like connectivity), application delivery (CDN) and optimized cloud access with reliable, secure and dedicated connectivity into a single intelligent network. Aryaka's solution is a unique platform that not just solves the issue of global connectivity but provides a holistic solution to an organization's core network. The Aryaka platform is built from a global private network that includes WAN optimization, SMARTEdge and SMARTLink, and can accelerate cloud and SaaS applications.

KEY FEATURES & DIFFERENTIATORS

- We replace MPLS and piece-mealed networks
- Aryaka provides the entire middle mile, connecting via the Internet to the customer location at the first and last mile only
- Elimination of First- and Last-Mile congestion. By performing TCP termination and other optimization functions, TCP connections between enterprise locations and Aryaka POPs are optimized to use available bandwidth and quickly re-transmit packets in the face of packet loss.
- Aryaka uses proprietary, highly improved TCP proxies to provide customers with MAXIMUM performance
- Better/consistent throughout, especially for bandwidth-hungry applications
- Aryaka can deploy any site within 24 hours without WAN Optimization and within a week with Wan Optimization!
- Aryaka can help with fewer router hops, router convergences, less loss, FLAT latencies and a much more stable service
- Enterprise-grade Security. Enterprise-grade IPSec VPNs connect customer locations and Aryaka POPs. IPSec VPNs also connect traffic between POPs, and they connect to cloud service providers, securing your traffic through the entire network
- Guaranteed QoS. Aryaka supports industry-standard QoS to protect voice, video, and VDI traffic and deliver predictable performance of key applications

Atlantic Metro

SD-WAN TECHNOLOGY: VeloCloud

OVERVIEW

- Headquarters: Parsippany, New Jersey
- Nationwide Fiber Network Backbone
- 50+ Points of Presence
- 35+ Data Centers with 10 cloud nodes worldwide
- Over 800 customers

SERVICES SOLD

- Business Internet Access
- Metro Ethernet Transport
- Dedicated Wavelengths & Dark Fiber
- Data Center Colocation
- Network Management – Managed Firewall, Switch, etc.
- System Administration – Monitor and Manage for Cloud and Colocation-based environments
- Virtual Private Data Center - Enterprise Cloud/ IaaS
- Cloud Migration (including AWS and Azure)
- Dedicated / Bare Metal Servers
- Application Hosting
- Hosted Voice
- Cloud Backup/DR
- Cloud Storage
- SD-WAN

ELEVATOR PITCH

Atlantic Metro is a different kind of Infrastructure provider. Most managed service providers are incentivized and engineered to offer one service, and they will push that approach regardless of the customers' needs and place in the IT lifecycle.

Atlantic Metro's approach to infrastructure allows them to listen first, and then get the customer where they want to be. Atlantic Metro can design and host a customer's hybrid, public, or private cloud solution, get them onto AWS or Azure, migrate to or from bare-metal servers, colocate servers in their data centers, OR connect customer offices seamlessly in one MPLS fiber ring. Whatever makes the most sense for the customer now, is precisely what Atlantic Metro will recommend and deliver. No excuses. No compromises.

KEY FEATURES & DIFFERENTIATORS

- ONE provider for all infrastructure needs
- Faster, more reliable network connections.
- Peering agreements with hundreds of carriers.
- True network diversity and no single points of failure.
- Never oversubscribed infrastructure.
- Smarter, more flexible cloud solutions (Public, Private, and Hybrid).
- Migration Assistance
- Monitoring and Management
- Colocation and connectivity in data centers nationwide.
- 55 Points-of-Presence and data center facilities worldwide
- Unbeatable Service and Support
- 24/7/365 Network Operations Center
- Experienced Cloud and Network Architects

SD-WAN TECHNOLOGY: VeloCloud

OVERVIEW

- Headquartered in Morristown, NJ
- Founded in 1994
- Privately held, debt-free, management operated
- 100% Channel Focused
- Non-facilities based / 50-state CLEC
- Domestic & International Reach
- 25,000 Business Customers

SERVICES SOLD

- Local POTS & PRI
- Cable Internet
- DSL Internet
- Wireless Internet
- Dedicated Internet
- Long Distance
- Integrated Voice & Data
- Private Line
- Toll-Free
- MPLS
- SD-WAN
- SIP Trunking
- Hosted PBX
- Managed Equipment
- Network Monitoring

ELEVATOR PITCH

BCN sees through complex opportunities to eliminate obstacles that prevent customers from achieving key business objectives. Based on the portfolios of 75+ underlying carriers, BCN designs and deploys customized solutions from POTS, PRI and Broadband, to SD-WAN, 4G Wireless Back-up, and full Managed Equipment and Network Monitoring services. BCN excels at multi-location, multi-carrier, multi-service opportunities in key verticals including Retail, Hospitality, Healthcare, Manufacturing and more. Whether for a single site or thousands of sites, BCN crafts solutions that consolidate services, carriers, and invoices. BCN can provide complimentary side-by-side audits of qualified opportunities to help determine the best and most effective path forward.

KEY FEATURES & DIFFERENTIATORS

Depth/Breadth

- 75+ Underlying Carrier Options / Robust Product/Solution Portfolio including a Broadband
- Service offering with nationwide coverage in all the primary MSAs and major business corridors
- across the country, many secondary markets as well as some tertiary areas in certain regions.
- Coverage area includes service availability in all the major and secondary CableCo territories
- as well as all RBOC and major ILEC network footprintsIPSec VPNs also connect traffic between POPs, and they connect to cloud service providers, securing your traffic through the entire network
- Guaranteed QoS. Aryaka supports industry-standard QoS to protect voice, video, and VDI traffic and deliver predictable performance of key applications

Transparency/Efficiency

- With no network facilities to push and no commitments on carrier contracts, BCN delivers total
- transparency within every solution.
- BCN is electronically bonded with ALL our wholesale network partners ensuring timely and accurate processing from pricing and ordering to provisioning, repair, and billing.

Focus

- 100% Channel / NO Channel Conflict
- 100% Business

SD-WAN TECHNOLOGY: VeloCloud

OVERVIEW

Expert at helping Partners close multi-location telecom opportunities from 5 to 5,000 locations. We will stop the hassle of dealing with multiple carriers and the nightmare of processing multiple invoices. Our proven process and ability to provide all the latest Analog Voice, VoIP, Broadband, SD-WAN and UCaaS/Mobility solutions will help you future-proof your client and your commissions as their needs change

SERVICES SOLD

- VoIP - Hosted PBX, Integrated Voice, IP PRI, SIP Trunking
- POTS & TDM PRI Analog Voice
- Broadband – Cable, Ethernet, Fiber, DSL, T1, Fixed Wireless & Satellite
- Managed Network Security & Monitoring
- SD-WAN and Broadband Aggregation
- Unified Communications/Mobility
- Auto-Attendant
- Virtual Telephone Number
- CradlePoint Wireless Failover
- Rebilling/Invoice Integration

ELEVATOR PITCH

BullsEye will do more than just deliver the necessary connections, hardware, and software across multi-location facilities—we make telecom management easier by consolidating invoices and points of contact, containing costs, optimizing performance and continually evolving your multi-location communications systems. Our approach makes it possible for us to deliver the advanced technology, strategic processes, robust management platforms and comprehensive support your telecom initiatives require.

SD-WAN TECHNOLOGY:

OVERVIEW

- Headquarters: Chicago, Illinois
- 27 years in business; 125+ Employees
- $60+ Million Annual Revenue and growing
- Nationwide facilities-based CLEC with 6 data center POP's in the US
- Call One owned and operated UCaaS and SD-WAN platforms
- Specialize in high touch discovery, design, and delivery of solutions

SERVICES SOLD

- UCaaS / Hosted PBX / Cloud Contact Center
- Primary / Backup Managed Network Services
- DIA, MPLS, Cable, 4G LTE, DSL, Fixed Wireless, Satellite
- SD-WAN with embedded security and Next Generation Firewall
- SIP-Trunking
- POTS and PRI (as needed for multi-service accounts)

ELEVATOR PITCH

Call One is a nationwide, facilities-based carrier providing custom communication solutions to help companies across North America serve customers, collaborate, and stay connected. We combine innovative Voice, Data, Internet, and SD-WAN technologies and hands-on support to help our clients do what they do, better. Call One combines the high network quality of the global carriers with the highly personalized service and support of a mid-size provider resulting in superior customer experience.

KEY FEATURES & DIFFERENTIATORS

- **Single Source Solution** for all their voice, data, internet, and SD-WAN needs
- **Call One owned** and operated VoIP switch and network
- **Custom designed** wireless internet, data, and security solutions combining any connection types across locations nationwide
- **Expert Sales Engineering** to design and develop resilient network solutions
- **Call One owned and operated SD-WAN platform** with fully embedded security including next-gen firewall
- **Customer Support** - 24x7 US-based technical support and dedicated account management
- **Implementation** - Call One's professional Project Managers to provide continuity and communications from kick-off to successful activation
- **Easy to do business with** - in the world of giant providers where it can be difficult to be treated as anything other than a number, Call One offers highly personalized services for both partners and their clients

SD-WAN TECHNOLOGY: WAN-as-a-Service; private network backbone

OVERVIEW

- Cato Networks is a well-funded networking and security company, led by Shlomo Kramer, co-founder of security giant Check Point Software.
- Founded in 2015 and has **hundreds of customers with global locations** on its secure SD-WAN service.
- Cato operates a global network of **40 points of presence (PoP)** worldwide, connected with multiple Tier-1 providers. The PoPs run a proprietary software stack of networking and security capabilities developed by Cato (no 3rd party appliances).

SERVICES SOLD

The Cato Cloud: Global connectivity and security solution that provides an affordable alternative to MPLS and network security appliances.

- **One Network** - Global SLA-backed backbone that carries Internet and WAN traffic, and can augment or replace MPLS.
- **One Security** - A full suite of cloud-based network security services built directly into the network and protecting all traffic.
- **One Policy** - Cato enforces a unified policy for all traffic and across all users, locations, and applications

ELEVATOR PITCH

Cato provides organizations with a cloud-based and secure global SD-WAN. Cato converges global networking, advanced security, cloud access and optimized mobility into a single platform. Cato Cloud is simple, agile, and self-service solution built from the ground up as a cloud service. Unlike their competitors, they do not bundle multiple non-integrated point products and services that lead to complex, costly and rigid service.

KEY FEATURES & DIFFERENTIATORS

- **Cuts MPLS connectivity costs** by augmenting or fully replacing MPLS with affordable, global SD-WAN.
- **Improves performance between global locations**, including China, with SLA-backed backbone, not available with edge SD-WAN appliances.
- Eliminates branch appliancessuch as UTMs and Firewalls, using built-in cloud-based network security.
- **Provides secure Internet access everywhere** without deploying edge security appliances. MPLS customers moving to Internet services must secure the branch as part of deploying SD-WAN.
- **Optimally connects cloud datacenters** into the WAN with fast and secure access for any user or location according to a unified policy.
- **Optimize and secure global mobile users access** to physical and cloud data centers, and cloud applications

SD-WAN TECHNOLOGY: Offers VMware SD-WAN by VeloCloud, Cisco Meraki, and Viptela

OVERVIEW

CBTS is billion dollar national managed services provider and value-added reseller of Cincinnati Bell, the 140+ year old ILEC headquartered in Cincinnati, Ohio. Over the last 20 years, CBTS has transformed itself into a multi-solution provider who specializes in "CPEaaS" around Cisco, Cisco Meraki, Velocloud, and Broadsoft.

SERVICES SOLD

CBTS does make their entire portfolio available to all partners, however, their focus is primarily on:

- Cisco UCaaS (+300 users) and Cisco Meraki "aaS"
- Connected Office Voice (Broadsoft 5-1000 users)
- Cisco Meraki Network as a Service (NaaS) bundles, include: firewall, switch and WiFi access
- point for LAN/WAN, Security, WiFi and IoT
- SD-WAN (Velocloud/Viptela)
- Cincinnati, Ohio area fiber-CBTS has over 7,000 lit buildings in Cincinnati, Ohio

ELEVATOR PITCH

As clients, with one site to many, look to migrate away from aging PBX's, MPLS networks, or migrate their applications to the cloud, CBTS can assist. Their current CPEaaS utility based offerings, coupled with their long history and deep engineering bench, are an asset when looking to you, their trusted advisor, for expertise and guidance.

CBTS's nimble size and financial strength, their domestic-based network operating centers, and day-2 support allow them to create utility-based solution offerings around SD-WAN, NaaS, and UCaaS. They take their relationships with major vendors and transform their purchasing power into total "aaS" solutions which allows your client to pay a predictably low monthly fixed amount for service and support.

KEY FEATURES & DIFFERENTIATORS

- **24x7x365** domestic-based network operating center and day-2 support
- **Employees** - 700+ certified engineers on staff
- **Experience** - 140+ years of providing solutions and solving business challenges; including thousands of clients to date from many Fortune 1000 companies
- **Financial stability and nimble position** - CBTS, as a large managed services provider, can purchase at the highest levels and transform that advantage into a low predictable fixed monthly service
- **Integration expertise** - CBTS has the engineering and support expertise to work on complex, multi-solution integration projects
- **Bandwidth agnostic** - CBTS can price, deliver, and support bandwidth needed, however, the client is encouraged to work with their partner to bring the best bandwidth solution to each site.

SD-WAN TECHNOLOGY: Versa Networks, Silver Peak

OVERVIEW

China Telecom is the largest broadband operator in the world, reaching over 130 million subscribers, and the largest CDMA mobile operator with 255 million subscribers. We offer a comprehensive portfolio of global telecom services, including MPLS, Cloud, Colocation, CDN, Ethernet and Managed Services

SERVICES SOLD

- ChinaNet access to Voice & International
- Global Wavelength
- Toll-Free / 4008
- Managed Services (WAN, Security, CPE)
- Colocation
- MPLS VPN / IPSEC VPN
- Content Delivery (CDN)
- Public, Private and Hybrid Cloud
- Global Ethernet (VLL/VPLS, IEPL)
- SD WAN / SDN
- Global Internet
- Unified Communications
- Global IP Transit

ELEVATOR PITCH

China Telecom (CT) is the largest broadband operator and 10th largest telecommunications company in the world with $55 billion in annual revenue. CT owns and operates 70% of China's fixed-line infrastructure and a leading Tier-1 global network reaching over 110 countries through a network of over 500 data centers and 48 international cable systems. CT's overseas subsidiaries are trusted by leading Global 2000 customers for delivering exceptional value, innovative solutions, and customer support. As CT's largest subsidiary, China Telecom Americas (CTA) simplifies IT operations across China by providing custom, end-to-end enterprise networking solutions from eight offices across North and South America. CTA offers US-based MSAs, billing in multiple currencies, local account and project management teams, well-developed partner ecosystem, 45 days average service delivery and 24x7 global customer service.

KEY FEATURES & DIFFERENTIATORS

- Ownership of 70% of China's fiber and internet resources
- 84 Global Points of Presence (PoPs), 110 countries in network, 48 international subsea cable
- routes and more than 120 carrier partners
- Ownership of 300+ Mainland Data Centers and presence in 180 Global Data Centers
- Largest fixed-line service and third-largest mobile operator in China
- Ownership of AS 4131, China's largest internet backbone, and AS 4809, China's largest
- carrier/MPLS network
- MIIT licensed provider of IPsec VPN for SD-WAN Architectures
- Only authorized seller of China Telcom domestic service in the United States

CLOUDGENIX

SD-WAN TECHNOLOGY: Proprietary SD-WAN; management via Wipro

OVERVIEW

- Headquarters: San Jose, CA
- Founded in 2013, pioneered the SD-WAN market
- Core team of renown experts in networking, SDN, cloud, security and web-scale applications
- Customers include world-class financial services, legal, retail and technology organizations
- Backed by Bain Capital Ventures, Charles River Ventures and the Mayfield Fund

SERVICES SOLD

Instant-On Network (ION):

- Central controller
- ION 7000: data center appliance
- ION 3000/3000v: edge appliance/software

Typical use cases:

- Hybrid WAN: combine broadband Internet, MPLS, and wireless
- Secure and fast connection to cloud/SaaS
- Replace legacy WAN routers with simple, x86-based solutions

ELEVATOR PITCH

1. Cloud without Compromise: For the very first time, you can go directly to cloud from the remote office while maintaining the security, visibility, and performance-SLA's that were traditionally only available for data center applications

2. Simple & Cost Effective Hybrid WAN: Without configuring complex routing, VPNs, ACL rules you can create an active-active hybrid WAN with any Internet, LTE, MPLS that uniquely optimizes application availability and performance, while reducing WAN costs by 70%

3. SW-Defined Branch Office: Dramatically reduce remote office hardware footprint by eliminating proprietary hardware including; routers, firewalls, performance management, and visibility devices. CloudGenix SD-WAN delivers an application-defined fabric with no investment in remote office hardware.

KEY FEATURES & DIFFERENTIATORS

- **Application-defined Fabric** - CloudGenix uses application-sessions, rather than packets as its base unit of operation. The network is managed through app-SLAs policies, which dynamically enforce security, performance, and compliance. This unique L7 approach (vs. legacy L3) for networking delivers the best performance for apps, including voice, video and cloud/SaaS apps.
- **Eliminate Routers** - CloudGenix eliminates the need for complex routing protocols and arcane CLI programming. Legacy WAN routers and proprietary hardware are replaced with x86 based software. All network management is done through centralized control, with zero latencies and no failure points.
- **Cloud without Compromise** - CloudGenix enables high-performance cloud/SaaS access without compromising security. It supports per-application controls for "direct to cloud" access. No need for additional hardware at remote sites to implement cloud facing security, compliance, and visibility. And no dependency on extra agents or virtual appliances on the cloud vendor end.
- **Native Application Visibility and Performance** - CloudGenix CLARITY™ utilizes machine-learning to offer native, actionable analytics. Individual apps are automatically recognized and measured - including voice and video. Administrators gain full visibility into applications & network performance, with no extra agents or devices. Troubleshooting performance problems, including brownouts, becomes easier - saving resources and improving uptime

SD-WAN TECHNOLOGY: Offers Versa Networks

OVERVIEW

- Headquarters: Philadelphia, PA
- The Comcast network is the largest facilities-based last mile alternative to the phone company.
- We currently serve 20 of the top 25 MSAs in the U.S. and provide service to customers in 39 states and the District of Columbia.
- Comcast Business provides end-to-end solutions that help enable businesses of all sizes to meet their growing technology needs.

SERVICES SOLD

- **Network/Cloud** – SD-WAN, Cloud Connectivity to AWS/Azure/IBM, Ethernet Network Service (ENS), Ethernet Private Line (EPL), Ethernet Dedicated Internet (EDI), Ethernet Virtual Private Line (EVPL)
- **Security** - DDoS Mitigation Services, SmartOffice - Video Surveillance
- **Colo** – Datacenter connectivity
- **Full Business Portfolio** – Ethernet, Business Internet, Business Voice, Business TV, Business Voice Portfolio, Connection Pro (4G LTE wireless backup for Internet), SD-WAN

ELEVATOR PITCH

Comcast Business has the largest IP network in the nation, serving the needs of small business through large enterprise customers. Technology solutions range from fast, reliable Ethernet and Internet connectivity to voice and video. Comcast Business is powered by an advanced Gig-ready network and 24/7 technical support. Comcast Business offers robust Ethernet, SD-WAN and voice solutions that provide a high-performance backbone that helps organizations securely manage growth and drive application performance.

KEY FEATURES & DIFFERENTIATORS

- Campus environments can rest easy knowing emergency responders can locate employees and clients; they offer out-pulsed e911 as a service.
- COEO offers a wide variety of codecs and compression levels to accommodate different bandwidth environments and compatibility with modem tones/legacy fax equipment.
- Their network handles intelligent call routing in the event of a failure. They direct traffic over different bandwidth legs to help their customers with DR strategy.

SD-WAN TECHNOLOGY: Nuage

OVERVIEW

- Headquarters: Toronto, Canada
- Established in 1999
- 630+ employees
- 16 Data Centers and over 50 network POPs globally
- 48,000+ kms in FastFiber Network
- Over 5,000 customers

SERVICES SOLD

Managed and professional services spanning:

- Colocation
- Managed Hosting
- Connectivity (global network providing MPLS, SD WAN and Cloud On-Ramp services)
- Cloud (including Managed Private, design, build and management of Microsoft Azure solutions, and Microsoft Office 365)
- Security and compliance (including DDoS protection, application protection, threat detection, and PCI DSS compliance)

ELEVATOR PITCH

Aptum is a global provider of managed services spanning data center, cloud, network, and security. The breadth and flexibility of their services, their deep technical expertise, and global reach allow us to design, build and manage hybrid solutions that enable customers to focus on their business and unlock their potential.

KEY FEATURES & DIFFERENTIATORS

- Core infrastructure (cloud, colocation, hosting) delivered from their 16 global data centers which are underpinned by their security and compliance services. They wrap managed services around this, extending these to the hyperscale cloud while providing design, build and management services that help customers cut through complexity and make the right IT decisions for their business
- Connectivity solutions delivered over CP1's global network, linking off-premise customer environments seamlessly with data center and cloud infrastructure. CP1 provides dedicated, secure, ultra-fast data transfer maximizing the performance of applications in the cloud or hosted environments
- Provides customers with location-based solutions to address clients data residency requirements
- Teams distributed across core markets in Europe and North America, which provide local touch and direct access to the technical expertise

SD-WAN TECHNOLOGY: Uses Versa Networks

OVERVIEW

- Corporate Offices in Downers Grove, IL (HQ) and Columbus Ohio
- Physical points of presence in Chicago, Denver, LA, and New York
- 450% CGAR SINCE '14
- Customers in 38 of 52 States with coverage of 95% of the Domestic United States
- Focus on UCaaS, SD WAN, Managed SIP for the Enterprise
- Best of Breed Infrastructure and People

SERVICES SOLD

- MPLS
- SD WAN
- Hosted VOIP
- Analog Trunk
- PRI
- DIA
- Enterprise SIP

ELEVATOR PITCH

There are companies that provide quality SIP trunking services. There are companies that provide quality managed bandwidth networks. We have yet to see one company combine both into one powerful high availability environment until now. Clients can accept services from a cloud-based Session Boarder Controller on a privatized tunnel that delivers voice, or if over the public internet, COEO can manage an appliance that provides these benefits.

KEY FEATURES & DIFFERENTIATORS

Reliable, Resilient Design
High network availability, minimal latency, and low packet loss

Fully Scalable Solutions
Symmetrical dedicated bandwidth configurable from 2Mbps to 10Gbp

Broad & Diverse Network
Your information travels across our own enhanced fiber network with 149,000 national route miles of fiber

Redundant Core Architecture
Rapid recovery time from network incidences

SD-WAN TECHNOLOGY: Offers Cisco Meraki, VMware SD-WAN by VeloCloud, Cisco iWAN, Cisco Viptela. SilverPeak, Oracle Talari

OVERVIEW

- Headquartered in Aliso Viejo, CA
- Founded in 2008
- 15,000+ Devices Supported
- US Based Support Centers
- Hardware Platform Agnostic
- Transport Agnostic

SERVICES SOLD

- Customized Network Design
- Project Management
- Transport Procurement
- Network and Device Management
- Field Technician Support
- Hosted IP Telephony

ELEVATOR PITCH

Corporate IT Solutions combines years of experience in the telecom and broadband space with a highly talented group of engineers, a focused and diligent support staff, and an experienced project management team. Together, these groups work cohesively to design, deploy, and proactively support next generation wide area network and hosted IP telephony solutions for our clients.

KEY FEATURES & DIFFERENTIATORS

Comprehensive Offering

Provides a fully turn-key network and voice solution for upgrades, green field installations, and full deployments. All technology and support are CIS and SimpleVoIP owned and managed in-house, ensuring a consistent provisioning and support experience.

Managed VoIP over Broadband

The only managed service provider with a fully integrated Hosted VoIP offering. No more finger pointing: network issues affecting voice are proactively and efficiently addressed by one integrated support organization.

Flexible Architecture

Transport and hardware agnostic, supporting traditional WAN, hybrid WAN, and SD-WAN.

World Class Support

Use a proven 6-15-60 model for handling outages and performance issues. 6 minutes to initial problem notification, 15 minutes to level 1 engagement, and 60 minutes to identify a path to resolution.

Best in Breed Design

Corporate IT Solutions is a PCI compliant managed services provider and designs networks with appropriate redundancy, security, and performance characteristics.

SD-WAN TECHNOLOGY: Non-disclosed

OVERVIEW

- Headquarters: Wayne, PA
- Platform powered by VMWare, Cisco, EMC (V+C+E) and Broadsoft
- Nationwide footprint with customers in 48 states as well as two Canadian provinces.
- UCaaS service availability in US and Canada and international countries that speak English, Spanish, French, German, Dutch, and Italian.
- Gartner Honors
  - UCaaS – Magic Quadrant - Best-of-breed, North America
  - DaaS – DaaS Market Guide
  - DRaaS - Magic Quadrant Participant
- End-to-End 24/7 Support

SERVICES SOLD

- IaaS Virtual Data Center and vServer
- DaaS powered by VMware
- Hosted PBX / Unified Communications with Cloud Call Center
- Hosted Exchange
- Data Back-Up (EMC Avamar) and DRaaS Solutions
- ITaaS including RMM, HelpDesk, Managed IT, and Mobile Device Management (MDM)

ELEVATOR PITCH

Evolve IP was built to provide a unified option for cloud services. They include virtual servers, virtual desktops, disaster recovery, unified communications, contact centers, and more. The Evolve IP platform integrates world-class technologies from EMC, VMware, Cisco, and Broadsoft with their proprietary OSSmosis cloud management system. Evolve IP's nationwide data centers are geographically redundant, active-active, and SSAE 16 SOC II/III compliant with N+1 network connectivity to provide complete survivability.

KEY FEATURES & DIFFERENTIATORS

OneCloud - Single source provider for all things cloud- Server, Desktop, Storage, Security, UC, ContactCenter, Help Desk, Remote Management, Mobile Device Management, and unique network services.
Flexibility - Evolve IP's products have been developed to meet specific customer demand, simplify complex environments, and leverage the full capabilities of the unified cloud offering.
Mid Market Expertise

- Over 1300 customers and 120K managed endpoints in the mid-market enterprise who require the scalability, redundancy, flexibility of technology outsourcing. Evolve IP delivers a brand that is big enough to make a difference but still agile enough to react quickly to rapidly changing needs, new products, and new market opportunities.
- Largest Broadsoft Contact Center deployment with over 12,000 seats.
- Evolve IP's platform processes over ½ a billion calls every year.

Cloud Connect - A cost-effective alternative to MPLS with bi-directional QoS over public networks dramatically increased network speed and automatic failover.
Integration - Integration with 19+ CRM databases and other applications including Microsoft Lync, Google Apps, Clio, SFDC, Zendesk, Microsoft Office 365
Compliance - PCI, HIPAA, FFIEC
Vendor Incentive Programs - Cisco, EMC

SD-WAN TECHNOLOGY: Aggregator offering Cisco Viptela, Silver Peak, Aryaka, VMware SD-WAN by VeloCloud

OVERVIEW

- Founded in 2004
- 8 offices globally
- Largest Internet aggregator globally with coverage and live customers in 200+ countries
- SD-WAN coverage to 200+ countries

SERVICES SOLD

- Internet Access (any broadband or dedicated internet)
- SD-WAN (Cisco, Citrix, Silver Peak, VeloCloud, Viptela)
- Professional Service (local smart hands, rack and stack, cabling, site survey globally)

ELEVATOR PITCH

Expereo is the global leader in providing internet access and SD-WAN aggregation to 200+ countries globally all in a single bill, currency, contract, and support for any size customers for any internet access speeds, technology and more than 3 SD-WAN offerings to fit all your customer's' unique needs.

KEY FEATURES & DIFFERENTIATORS

- Global coverage, with 200+ countries available
- One company for all Internet & SD-WAN needs with agnostic options to choose from 3000+ Internet providers and 3+ different SD-WAN options
- Offers free SD-WAN audit to show you cost savings and ROI

SD-WAN TECHNOLOGY: Uses VMware SD-WAN via VeloCloud

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SD-WAN TECHNOLOGY: Resale of multiple carriers and cable companies

OVERVIEW

- HQ: Austin, TX with offices throughout the U.S.
- Named one of the most innovative Network Aggregators in the U.S. market
- Hypercore is nimble & flexible enough to make decisions on the fly, but large enough to support the largest of corporations
- Known throughout the industry as one of the most user-friendly providers to work with. From (1) page contracts to single flat SLA

SERVICES SOLD

Network Aggregation

- Agreements with 150+ service providers with a unique specialization in the execution of agreements within days. If you need a specific provider that no one else can source... Hypercore is your provider of choice
- Traditional Network -- DIA, MPLS, P2P
- Wireless -- Fixed Wireless & 4G Wireless
- Broadband -- Coax & DSL

SD-WAN

- VeloCloud, Viptella, Big Leaf
- Zero Outages & Simple WAN

VoiceCore

- SIP, Hosted VoIP, PRI, LD & TF

SecurityCore

- Fully Managed UTM Internet Security Solution

ELEVATOR PITCH

Hypercore Networks is a best-in-class nationwide provider of managed services that combine cutting edge, custom designed solutions with dramatic cost efficiencies. Their record speaks for itself...for more than ten years their team has consistently provided customers with the most exceptional product and services in the industry. Together, their core of engineers and voice and security experts work to streamline your managed services, reduce costs, and improve productivity.

KEY FEATURES & DIFFERENTIATORS

Network Aggregation

- Internet to MPLS & fiber to wireless, Hypercore has the deepest product portfolio & vendor agreements in the industry. This depth provides clients the peace of mind that Hypercore can deliver on their critical infrastructure needs, however unique they may be

SD-WAN

- With multiple direct SD-WAN agreements, Hypercore's early recognition of the next market changing technology has put us at the crossroads of next great migration path. Moreover, with our breadth of provider agreements, we can offer a genuinely single source managed solution by supporting not only the SD-WAN portion of the network but also the network components. We truly own the solution from start to finish which in turn allows you, the partner a unique position.

Monitoring

- 24/7 Proactive monitoring of ALL circuits including broadband

Single Source

- Hypercore provides a single source for your client's needs. IT Departments universally struggle with Vendor Management due to today's option-rich environment. Hypercore's Go to Market model mitigates these challenges by providing a single source solution; from invoicing to NOC services

White Glove Provisioning

- Dedicated Project Management for all orders, including broadband

SD-WAN TECHNOLOGY: Offers Talari, Cisco Meraki, Cisco Viptela, Fortinet, Silver Peak

OVERVIEW

- HQ in Chicago, IL
- Certified networking engineers on staff
- Vendor-agnostic
- Local NOC based in the US that can provide 24x7x365 Tier 1 and 2 support, with Tier 3 support being escalated to ignyte engineering team when necessary

SERVICES SOLD

SD-WAN

- Essential
- Enhanced
- Elite

Connectivity Solutions

- Customized Billing
- Carrier Management Options

ELEVATOR PITCH

Organizations are quickly shifting focus due to rampant growth in real-time applications, cloud computing, and remote office locations. The ability to empower an always-on organization is imperative as business-critical applications continue to move to the cloud. Organizations deserve the ability to build resiliency, boost throughput across the WAN, prioritize critical network traffic, and leverage the latest in technology, all while controlling costs.

Clients can discover peace of mind with ignyte. Their highly trained and certified network experts provide not only recommendations for specific business needs, but also comprehensive installation, monitoring, and management for the solution that best fits the requirements. They also help clients define the Quality of Service that works specifically for them so that they dictate what traffic takes priority. ignyte prides themselves on being vendor-agnostic in order to assess each environment, pain points, and requirements to develop the most effective and efficient solution for their clients. Their offered Service Tiers are right-sized for each individual business and will allow clients to meet and exceed their goals.

KEY FEATURES & DIFFERENTIATORS

- Certified networking engineers on staff to help vet out IT solutions
- Deep understanding of Cisco-based technologies and advanced networking plays
- Partnership with CLEC to provide several connectivity options and carrier management
- Vendor-agnostic SD-WAN solutions that tailor to customer's specific needs
- Local NOC based in the United States that can provide 24x7x365 Tier 1 and 2 Support, with Tier 3 support being escalated to ignyte engineering team when necessary
- Scalable solutions that can grow and adapt with your business needs over time

SD-WAN TECHNOLOGY: Uses Fortinet, Silver Peak, and others

OVERVIEW

- Headquarters: Dallas, TX with customers in 85+ countries
- Global availability of enterprise networking, UCaaS, cloud contact center, and cybersecurity services
- Patented technologies and intellectual property in software-defined networking, machine learning, and advanced analytics
- Strong customer loyalty with industry best Net Promoter Score of 74 and very high customer retention rate

SERVICES SOLD

- **Global Cloud Networking** (SD-WAN, MPLS, VPLS, Cloud Connectivity, Network Analyst, Managed Router, WAN Encryption)
- **Advanced Managed Security** (Managed Detection and Response services, Managed Firewalls & Security Professional Services)
- **Cloud Unified Communications** (Fully-Hosted Cloud UC, Intelligent SIP Trunking, Cloud Contact Center)

ELEVATOR PITCH

Masergy delivers global networking, advanced managed security and cloud UC to medium and large enterprises. Each of our solutions is fully customizable and we help global companies transition from legacy technologies to our agile, cloud-based secure solutions. Unlike our competitors, we custom design each of our solutions and guarantee to meet our client's desired business outcomes. Our solution engineers and technical support staff are best in the industry. That is why we have the industry's best Net Promoter Score of 74 compared to the average B2B technology industry benchmark of 24.

KEY FEATURES & DIFFERENTIATORS

Global Networking

- Fully-managed next-generation hybrid, software-defined WANs with unsurpassed agility and performance
- Industry-leading global SLA with <1ms jitter and 100% in-sequence packet delivery Global on-demand bandwidth, embedded real-time analytics, and self-provisioning tools
- Multiple virtual connections on a single circuit, QoS-enabled connections, and industry-unique SLAs when connected to Amazon AWS, Microsoft Azure, Google Cloud Platform, and IBM Bluemix cloud services

Cloud Unified Communications

- Customizable deployment models with fully-hosted cloud UC, SIP trunking, contact center, and hybrid options
- Global coverage with in-country origination and termination in over 23 countries
- Built-in disaster recovery and real-time visibility and control
- Rolling releases of enhancements of leading-edge technologies like WebRTC, Visual Auto Attendant, Virtual Meeting Room and Business Process Integration

Managed Security with Detection and Response

- Integrated security ecosystem supporting premise/cloud/hybrid deployments Advanced Machine Learning with Patented Network Behavioral Analysis enabling early detection of Advanced Persistent Threats
- Continuous monitoring from security experts who provide actionable intelligence to detect and prevent threats
- Professional services w/ security audits, compliance and penetration testing & risk management

SD-WAN TECHNOLOGY: Aggregator offering VeloCloud over private backbone

OVERVIEW

Overview Enterprises today need increased bandwidth, centralized management, in-depth analytics, and highly secured access to their network no matter where they are doing business. An SD-WAN solution can be a big help but not all companies' SD-WAN offerings are the same.

SERVICES SOLD

- MetTel SD-WAN Service

ELEVATOR PITCH

MetTel's SD-WAN combines MPLS, broadband internet circuits, and 4G-LTE to bring you a better network and give you optimal performance for demanding applications including real-time voice and video, all from one cloud-controlled branch device. Increase bandwidth by combining existing and available circuits such as DSL, Cable, and 4G LTE for increased speeds while maintaining secure, enterprise-grade WAN connectivity. Consolidate branch equipment into a single, cloud-controlled device and lower your hardware and maintenance costs. Automate policy management for all branch gateways by setting easy to use business rules in the web portal where you can also monitor usage. Route traffic via private gateways into cloud services such as Amazon AWS, Microsoft Azure and others. Plug into MetTel's private MPLS to boost encryption levels and utilize cloud and hybrid VPN functionality.

KEY FEATURES & DIFFERENTIATORS

- Central orchestration of Edge devices
- Next-generation Cloud Firewall
- No upfront investment in hardware required
- MPLS + Broadband link aggregation
- Diverse MPLS provider network (integrated into our private backbone) with six fully redundant SD-WAN gateways
- NNIs (Network-to-Network Interface) agreements with majority IXCs and ISPs
- Private cloud connectivity from the network (not VPN) to AWS, Google Cloud, Microsoft Azure and others
- Diverse broadband, mobile and line of sight carrier options from a single provider
- Single point of contact for billing and support of the entire SD-WAN solution (Broadband, MPLS, 4G, SD-WAN, Line of Sight Broadband, Firewall, etc.)

SD-WAN TECHNOLOGY: VeloCloud

OVERVIEW

- 10 to 250 seat sweet spot
- Full unified communications
- International (big differentiator!)
- Private cloud, not a cluster
- Lowest churn in the industry
- 285 employees, 12% in sales

SERVICES SOLD

- Fully hosted IP phone system
- Polycom and Yealink phones
- Presence, chat, file sharing
- Drag-and-drop call control
- Audio conferencing
- Video collaboration
- Call center

ELEVATOR PITCH

NetFortris is a business phone system that's more than just talk. Unlike other providers, NetFortris offers the reliability of our dedicated Private Cloud. Their customers depend upon our VoIP service while using our proprietary Heads Up Display all day, every day for unified communications: employee presence, chat, file sharing, conferencing, call center, video meetings, screen sharing, and more

KEY FEATURES & DIFFERENTIATORS

Experience: 10 years, 83K users with hosted voice, 220K with hybrid cloud.
Private Cloud: every customer gets their own high-availability instance.

- No clusters means no cluster outages. Problems with one customer don't domino and take down others.
- Dedicated resources. Because resources aren't shared among other customers, when they have a busy day, you stay up.
- Internet or MPLS choice. In the Private Cloud, you can bring your own bandwidth or MPLS provider if you choose, or just use the public internet to save on costs.

HUD: Heads Up Display provides single-pane-of-glass to all UC features, including:

- Built-in, Free Softphone
- Company Directory/Presence
- Live Chat/Instant Messaging
- HD Video Collaboration with Screen Sharing
- Call Center Dashboards and Barge/Monitor/Whisper
- Call Control: hold, transfer, conference, and move calls between your devices
- Call Recording
- Audio Conferencing
- File Sharing

Mobility is included: Calls (carrier or data) plus full HUD on iPhone and Android
Call Center is built-in, not a bolt-on: full call center features for only +$10/user/mo.
CRM integration: Salesforce.com native AppExchange integration, plus generic screen pop and click-to-dial integration for any web page, included for no charge.
International: International service with US-based DIDs over the Internet or any DID with BYOtelecom outside the US. Customers in 99 countries today. Unlimited long distance calls to the US + 9 other countries include-with every seat.

SD-WAN TECHNOLOGY: Versa, Cato, InfoVista, Silver Peak, VeloCloud

OVERVIEW

- HQ: McKinney, TX
- Redundant NOCs (DFW/Austin)
- Globally Servicing: Enterprise, Mid-Market, SMB, MSP/VAR, Telco/Carriers
- Aggressive SLAs
- Equipment & Vendor Agnostic

SERVICES SOLD

- NOC: Network Monitoring & Management Services
- Surveillance/Monitoring
- Alert Notifications/Escalation Mgmt
- Reporting/Trending/Log Analysis
- Vendor Management & Scorecards /Event Correlation
- Service Desk (Tier 1 & 2) – TAC
- Remediation/Resolution
- Trouble Ticket Mgmt & Escalation
- World-class NMS & TMS Tools
- Project Management
- Tier 3 Support offered as T&M
- Server & Application Monitoring
- Desktop Support
- 24/7/365 (US-Based Personnel)
- Proven Methodology & Process
- 15+ Years providing NOC Services

ELEVATOR PITCH

NETRIO provides comprehensive network monitoring and remediation services for your data and voice elements, servers, and applications. NETRIO strengthens your network monitoring capabilities, giving you greater visibility without requiring you to hire additional staff or make large financial investments in deployment and setup of NOC tools and technologies.

KEY FEATURES & DIFFERENTIATORS

- WHITE LABEL: All NOC services can be white-labeled for partner rebrand or client rebrand to enable greater value & revenue
- CUSTOMER SATISFACTION: Improved service levels; backed by SLAs; efficient & detailed onboarding process with Project Management approach
- GENERATE MORE REVENUE: Focus on your core business and we will focus on your network; Whitespace opportunity for new and existing clients
- IMPROVED SAVINGS: Shared resource model; Flexible pricing options
- EXPERIENCED & TENURED STAFF: Majority of Leadership and NOC techs have been together since 2003
- CUSTOMIZATION: We realize that no two clients are the same and most have very specific requirements when it comes to support. This is why we work with our clients to customize the areas that matter most while still holding to our core methodology and processes.
- SECURITY & COMPLIANCE: Secure transmission of data using secure VPN access or on-site appliance or virtual probe

SD-WAN TECHNOLOGY: Offers Cisco Meraki, BigLeaf, Riverbed, and proprietary solutions

OVERVIEW

- Managed Network Provider, delivering consolidated and secure network services from leading facility providers, network management, monitoring and professional services
- Founded in 1998, headquartered in Tampa, FL
- Vendor relationships with 175+ facility providers
- FCC Licensed Common Carrier in all 50 states with international reach
- Patented technology: Secure Remote Monitoring and Management® (SRM2)
- World Class Engineering/Architect team for network design, all CCNP and above
- Security solutions with exclusive partnerships that include IBM Security Services
- WAN Optimization solutions
- Professional services including technology reviews and network health assessments

SERVICES SOLD

- Managed Services
- Managed Security
- WAN Optimization
- MPLS
- DIA
- Ethernet Access
- Managed Failover
- Monitoring
- Managed VPN

ELEVATOR PITCH

NetWolves' principal activities are to custom design, deliver and manage intelligent communications products and services that enable companies to focus on their business, not their network. Utilizing multiple facility providers and proprietary processes and technology, NetWolves can engineer, install, monitor and manage rock solid primary networks and backup/failover solutions to give customers 100% service availability. NetWolves will be your single source for network connectivity and management, with all services and locations aggregated into one bill.

KEY FEATURES & DIFFERENTIATORS

- We simplify network design, support and billing.
- NetWolves' agreements with over 175 facility providers allow us to aggregate multiple networking sources through a single bill.
- Our monitoring and management solutions provide real time visibility into all locations and devises, providing powerful network management and control.
- Our custom designed primary and backup network solutions allow companies to control their data communication investment without compromising service quality or redundancy
- Secure and diverse automatic failover solutions
- Overhaul WAN, Internet security and equipment deployment strategies reducing monthly costs and enabling better control of data communications
- Implement robust, scalable enterprise quality platforms with management and monitoring tools that provide significant savings

SD-WAN TECHNOLOGY: Offers Versa Networks, Barracuda, Cisco Viptela

OVERVIEW

- Headquarters: Chicago, IL
- 170 Employees
- Nationwide IP network
- 24x7 U.S. based NOC

SERVICES SOLD

- SD-WAN
- MPLS
- DIA
- 4G Wireless Internet
- Ethernet
- Broadband
- Next-Generation Managed Firewall
- SIP Trunking
- Cloud Connection Service
- Device Management and Monitoring

ELEVATOR PITCH

Nitel operates the largest interconnected network platform in North America, delivering hybrid networking, managed security, voice, and cloud enablement solutions to multi-national enterprises. Leveraging a broad array of service offerings, including MPLS, SD-WAN, Internet, wireless, SIP trunking, private cloud connection, next-generation firewall, and unified threat protection, Nitel provides enterprise IT organizations both scale and reliability, as well as visibility via application-aware software and analytics. Headquartered in Chicago, Nitel has built a reputation for customer service, boasting a net promoter score of 72; unparalleled in the industry.

KEY FEATURES & DIFFERENTIATORS

- **Multi-Location Networks**

Nitel's network platform integrates more than 1,100 of the best-performing local, regional and global access vendors to give your customers greater flexibility, resiliency and geographic reach than any traditional network provider.

- **SD-WAN**

Nitel helps enterprises capitalize on the power of the cloud with adaptive, hybrid networks that leverage Nitel's global software-defined platform to deliver greater flexibility and application performance.

- **Next-Generation Security**

We bulletproof our clients' IT environments with Nitel's next-generation security solutions. Seamlessly integrated with Nitel SD-WAN service, our software-defined security provides peace of mind along with robust management and analytics capabilities through a single online interface.

- **Customized Solutions**

Our solutions are calibrated and responsive to the precise needs of each client's business. Our team draws from Nitel's robust portfolio of service offerings — from SD-WAN to managed security services — to custom design a dynamic network solution that is efficient, reliable and cost-effective.

- **A Better Customer Experience**

Positive, deliberate, repeatable customer journey that has resulted in a 99% retention rate and 72% net promoter score.

SD-WAN TECHNOLOGY: Versa Networks

OVERVIEW

- Headquarters: Rochester, NY
- 80,000+ End-Points Globally
- 10+ Years of Profitable Growth, debt free
- Geo-Redundant, Worldwide Data Centers
- Broadsoft and Microsoft Skype for Business platforms
- Service Coverage in over 63 countries with Country Localization
- In-country Origination and Termination with Number Portability
- Avaya/Cisco/Microsoft and others SIP Trunking Certifications
- End-to-End 24/7 Support

SERVICES SOLD

- Global, Localized Hosted PBX / Unified Communications (Broadsoft and Skype for Business)
- Global SIP Trunking (63+ countries)
- Global Traditional TDM telephony
- Global MPLS Networks; Bring-Your-Own-MPLS
- NNI; and public Internet Connectivity
- Global DID/DDI Numbers and Number Porting
- In-country Call Termination

ELEVATOR PITCH

OneStream Networks is purpose-built for enterprise-grade cloud-based SIP trunking, hosted UC/PBX, IVR and Contact Center services. With availability in 63+ countries, global strategic peering networks, geo-redundant POPs and multi-provider MPLS transport options, OneStream delivers unparalleled scope and reach for SIP trunking and hosted PBX/UC services, including both Broadsoft and Skype for Business. OneStream creates cost-savings, consolidation, vendor reduction and simplified management for single and multi-site, multi-national voice applications. Customers count on OneStream for certified solutions (Avaya, Cisco, Microsoft and others) and best-in-class performance, reliability and support.

KEY FEATURES & DIFFERENTIATORS

- **Global Presence**: Global data centers and local peering relationships globally (63+ countries)
- **Global Termination**: In-country toll free and other special digit localization.
- **Global Origin/ Localization**: Hosted PBX end points and SIP trunks are customized to the country of deployment; i.e. in Germany, expect German text on display and German prompts in voicemail. Also expect to “hear” the appropriate ring tones when calling out or when being called.
- **Meshed for Reliability**: Multiple core data centers are fully meshed on both the customer-facing and the supply-chain sides for resiliency and maximum reliability.
- **Migration Strategies**: Crawl-Walk-Run strategies that enable customers to migrate painlessly from TDM PRI circuits to SIP trunks or between Hosted PBX and SIP trunking as business needs evolve.
- **Disaster-Proof Design**: Five high-availability, geographically redundant Super-POP data centers located in NYC, LA, London, Frankfurt and Hong Kong.

SD-WAN TECHNOLOGY: Proprietary SD-WAN

OVERVIEW

Open Systems is the world's most mature and complete technology overlay for the enterprise WAN. Period. Through a relentless commitment to customer success, Open Systems has emerged as the leading unified SD-WAN Platform. For over 20 years, Open Systems has delivered to clients a platform designed for growth, and without compromise or difficult caveats. Open Systems' unified SD-WAN Platform has already integrated dozens of security, routing and performance features into a simple to deploy and administer service, backed by 24x7 Monitoring and Support.

SERVICES SOLD

Everything You Want in One Platform. A single, unified SD-WAN platform – including networking, security, around-the-clock operations, and monitoring portal - that integrates best-of-breed features and technologies for maximum flexibility, performance and cost optimization. AI-assisted automation and highly-trained engineers ensure network performance and control.

Built Secure From Day One – Security is in our DNA – we integrate effective security functions at every layer of the network – at the edge and in the cloud. By delivering a complete security architecture, we minimize the need for orchestration and management of third-party solutions that stretch IT resources and increase enterprise risk.

Our Experts Are Your Experts – We work closely with our customers' IT teams to define network, security and connectivity requirements and design solutions to simplify network and security operations. Our e ngineers become an extension of IT teams, managing the network to ensure maximum performance and control. Our expert engineers collaborate with customers every step of the way – from developing new features to enhancing service delivery.

Includes – SD-WAN, Next Generation Security, Internet Proxy, Cloud & SaaS enablement, Detection & Incident Response, Identity Management, Web SSO, App Acceleration, Managed Services, Global NOCs (Zurich, Sydney, Silicon Valley) with 24x7 Support and more.

ELEVATOR PITCH

Open Systems gives customers the confidence to grow and transform with a secure, unified SD-WAN platform that powers disruption. They help customers create new growth models enabled by the disruptive power of technologies like the cloud, Internet of Things (IoT), big data and mobility. The Open Systems SD-WAN Platform is purpose-built to simplify network and security operations to help enterprises increase business agility, optimize resources and improve customer experiences and employee productivity. Rooted in a culture of engineering excellence and a relentless dedication to customer success, Open Systems has earned the trust of hundreds of world-class enterprises.

KEY FEATURES & DIFFERENTIATORS

- Minimize Complexity
- Confidence to Move Quickly
- Access to Innovation
- Carrier and Connection Type Agnostic
- Provides secure Internet proxy and filtering from the edge
- The largest set of fully integrated features and servies

SD-WAN TECHNOLOGY: Proprietary SD-WAN via Talari acquisition

OVERVIEW

- Founded in 2007, now running its 7th generation SD-WAN platform
- 500+ customers and over 9,000 site deployments worldwide
- Best-in-class failsafe* SD-WAN technology
- Built for physical, virtual or cloud nodes
- Headquarters in San Jose, CA; dev and support teams in Raleigh, NC
- Industry-leading NPS: 90+

SERVICES SOLD

- **SD-WAN**: A Talari Software-Defined WAN solution creates a failsafe network to cost-effectively deliver highly-resilient networks and reliable applications in the data center or cloud. A Talari SD-WAN requires minimal staff management while simplifying administration and reducing costs.
- **Bandwidth Liquidity**: centrally orchestrated solution that consolidates legacy equipment

ELEVATOR PITCH

Oracle is the original innovator of SD-WAN (Software-Defined WAN) technology and the leader in offering carrier-agnostic, failsafe SD-WANs. Oracle delivers advanced MPLS-class reliability and application QoE (Quality of Experience) for both hybrid and all-Internet WANs. Talari's patented solutions – hardware, virtual and cloud – have proven so effective at delivering failsafe WANs that Oracle is uniquely trusted to handle real-time VoIP traffic in large metro EMS-911 and public safety unified contact centers.

KEY FEATURES & DIFFERENTIATORS

Continuous, unidirectional measurement of packet loss, latency, jitter and bandwidth utilization across all possible paths between any two locations...

- ...enabling sub-second response to adapt to network issues – link/device failures and congestion-based "brownouts" affecting application performance on the WAN
- Intelligent link aggregation – use all bandwidth across disparate links, even for a single TCP flow
- Optional packet replication, delivering platinum-quality real-time app support
- Inbound Multisource QoS, enabling real-time applications to run over shared inbound WAN links and sustained 90%+ link utilization without impacting QoE
- Centralized orchestration, delivering ease of mgmt with unprecedented, highly granular WAN visibility

Ease of Purchase and Deployment

- Agile, non-disruptive deployment with existing MPLS and WAN Opt solutions
- Acquisition and budget flexibility for subscription (OpEx) consumption
- License portability offers customers the ability to move software licenses between different physical, virtual or cloud devices or instances as their infrastructures evolve
- Pay-as-You-Grow consumption allows customers to "right-size" the performance level of a Talari device by initially purchasing only the amount of bandwidth required, with the understanding that they can easily upgrade when needed
- Highly granular WAN-wide reporting capabilities provide the details required for capacity planning and troubleshooting from a single, central management console

Talari SD-WAN Benefits

- 50x -150x bandwidth/$ versus MPLS
- Monthly WAN costs reduced 40% - 80%
- Greater reliability and app QoE than any single MPLS network
- Radically reduced WAN troubleshooting costs – reduced OpEx management costs
- Superior support for real-time apps like UCaaS and video conferencing
- Reliable, high QoE access to SaaS and public/hybrid cloud computing
- Zero-touch IT perimeter management

SD-WAN TECHNOLOGY: VeloCloud, Citrix

OVERVIEW

RapidScale, a Cox Business Company, is a global provider of managed cloud computing and application delivery solutions for the SMB and mid-enterprise markets. RapidScale offers a unique co-managed cloud approach that complements any organization's current IT efforts. With a global presence, a 100 G based enterprise-grade infrastructure, and a team of highly knowledgeable cloud experts, RapidScale specializes in cloud-based solutions that solve common IT challenges through the "as-a-service" model.

SERVICES SOLD

- Desktop as a Service (DaaS)
- Infrastructure as a Service (IaaS)
- Disaster Recovery as a Service (DRaaS)
- Backup as a Service (BaaS)
- Managed Office 365 (O365)
- SD-WAN
- Security as a Service (SECaaS)
- Remote Monitoring

ELEVATOR PITCH

As a managed cloud computing provider, RapidScale provides a world-class, secure and reliable suite of cloud solutions that optimizes application performance and digital workspace delivery in an enterprise environment. RapidScale designs, hosts and manages application delivery environments in a secure, fully-redundant and responsive cloud ecosystem. And RapidScale's team of support engineers can manage it all. Cloud solutions powered and managed by RapidScale enable companies to scale, increase employee productivity, and free IT leaders to focus on strategy and innovation.

KEY FEATURES & DIFFERENTIATORS

- AVANT 'Most Responsive Vendor' Award
- Fully Managed Cloud Services
- Offer Co-management of IT Resources
- Specialize in DaaS & Digital Workspace Delivery as a Service
- Citrix Partner of the Year
- First DaaS and SD-WAN Certified Global Citrix CSP
- 24x7x365 White-Glove Global Support and Help Desk Tickets
- 100% Uptime SLA
- 100 G Cloud Backbone

SD-WAN TECHNOLOGY: VeloCloud, Fortinet, Cisco Meraki, Bigleaf

OVERVIEW

- HQ: Neptune, NJ
- Fastest growing nationwide aggregator of Voice, Internet, Cloud, and Managed Services
- US Based Customer Service

SERVICES SOLD

CLOUD

PBX Cloud | Unified Communications | Sip Lines, Trunks, and PRI's

INTERNET OVER ANYTHING

Fiber | Cable | Wireless | T1 | Ethernet | EOC | DSL

PROJECT MANAGEMENT

Premier Account Management | Award Winning Portal

MANAGED SERVICES

SD-WAN | Managed Security | Network Monitoring | Point-to-Point | Virtual Network Solutions | Device Management

VOICE

Traditional Wire Line Services | Business & Centrex Lines | Remote Call Forward | Toll-Free Voice T1 & PRI | Dynamic Integrated T1 | Channel Bank | Web Conferencing | Conference Calling

ELEVATOR PITCH

Spectrotel's high-touch and high-tech solutions enable enterprise customers to transform the way they manage their business. Their fanatical commitment to personalized service, combined with their innovative technology solutions is unparalleled in the industry. While they all provide individual services to meet customer requests, their ability, and proven expertise to deliver a complete management solution of Voice, Internet, Cloud, and Managed services, at competitive pricing is what draws agents and their enterprise customers to Spectrotel.

KEY FEATURES & DIFFERENTIATORS

HEY PROVIDE CHOICES

Package hundreds of disparate networks into one cohesive, affordable solution.

THEY CUSTOMIZE SOLUTIONS

A comprehensive consultative process allows tailored solutions to your business needs.

THEY MANAGE IT ALL

Simplifying your life by taking the headache out of managing multiple providers, bills, and service calls.

THEY ARE YOUR PARTNER

An extension of your business from day one.

SD-WAN TECHNOLOGY: Uses proprietary technologies, Cisco, Versa

OVERVIEW

- Tata Communications is a global infrastructure provider that offers a wide array of Network, Connectivity, Voice, Messaging, Cloud, Collaboration and Security solutions that help enterprise customers:
  - Simplify operations
  - Provide a consistent user experience
  - Reduce trouble tickets
  - Increase their reach and access
- Their global network, which they own and operate with more than 400 Points of Presence on 5 continents. Their Global Tier 1 IP network handles 25% of all internet traffic.
- Part of the IZO (Cloud Enablement) Platform – an ecosystem of ISP's and CSP's, it provides reach for managed and unmanaged multi-site, multi-geo, multi-platform hybrid WAN, SD-WAN, and Cloud deployments.
- Local market presence, knowledge, and expertise around the world including many developing markets, especially India, APAC and the Middle East
- Provide a Single Service Level Agreement (SLA) for solutions as well as infrastructure for better visibility, control, and improved user experience.
- Save customers over 30% on all telephony spend by utilizing their SIP capabilities

SERVICES SOLD

- Global Network & Connectivity
- Global Collaboration and UCaaS
- Global Data Center and Cloud Services
- Managed Security Services
- Media & Entertainment - Media aggregation, storage, and delivery

ELEVATOR PITCH

As a managed cloud computing provider, RapidScale provides a world-class, secure and reliable suite of cloud solutions that optimizes application performance and digital workspace delivery in an enterprise environment. RapidScale designs, hosts and manages application delivery environments in a secure, fully-redundant and responsive cloud ecosystem. And RapidScale's team of support engineers can manage it all. Cloud solutions powered and managed by RapidScale enable companies to scale, increase employee productivity, and free IT leaders to focus on strategy and innovation.

KEY FEATURES & DIFFERENTIATORS

- Global network reach and voice/SIP services on net coverage and leadership positions
- Local market presence, knowledge, expertise around the world incl many developing markets
- Global hosted collaboration platforms deployed across the US, Europe, India, APAC for speed to service and consistent experience
- Ability to offer comprehensive global solutions including multiple solutions -data center, network, SIP, collaboration platforms – One-Stop Shop providing ease of business, operational efficiencies, and unparallel QoS and service experience
- Global Reach - 8k employees and offices in over 30 countries

SD-WAN TECHNOLOGY: Offers Fortinet, Silver Peak

OVERVIEW

- Corporate Headquarters: Foxborough, MA
- Total Employees: 200+
- Technical Engineers: 175+
- Technical Certifications: ~470
- Customers: 500+
- End-User Machines Supported: ~30,000
- Total Devices Supported: ~55,000 (includes server, routers, switches, firewalls etc.)
- SOC 2 Type 2 Certified

SERVICES SOLD

- Cloud
- Cyber Security
- Disaster Recovery as a Service (DRaaS)
- WAN Optimization & Management
- Compliance as a Service
- Managed IT

ELEVATOR PITCH

Thrive is a leading provider of next-generation managed services, specializing in providing compliance-driven solutions for the Financial Services, Healthcare, Biotech, Life Sciences and Regional Banking verticals. The Thrive technology ecosystem utilizes Cloud, Cyber Security, Networking, Disaster Recovery and other pioneering managed services to help small, medium and enterprise businesses solve today's complex IT issues.

KEY FEATURES & DIFFERENTIATORS

Thrive delivers a powerful technology platform with a superior dedication to customer service. In today's market, businesses are under increasing pressure to enhance their security posture while migrating their applications to the Cloud. Given the complexity of this undertaking, customers are increasingly turning to partners like Thrive for guidance on this journey.

How Are We Doing it?

- By building a corporate culture dedicated to customer success.
- Hiring talented, dedicated engineers with a thirst for knowledge and a mandate to serve our clients' needs first
- Evaluating, architecting and delivering the most advanced and beneficial technology solutions available in the market-place today
- Investing heavily in our Customer Account Management Model – vCIO's, Principal Consultants, Customer Account Managers and Account Executives
- Working as a cohesive unit...Teamwork, Teamwork, Teamwork
- Demonstrating integrity, honor, and discipline in our daily practice

SD-WAN TECHNOLOGY: Uses VMWare SD-WAN by VeloCloud

SERVICES SOLD

Communications and Collaboration

- Unified Communications
- Call Center
- SIP Trunking
- Audio Conferencing
- Web Conferencing

Managed IT

- Managed WAN
- Managed LAN
- Managed Firewalls
- Managed Office 365
- Datacenter Solutions
- Managed Servers
- Managed Backup
- Managed Work Stations

Network Services

- SD-WAN
- Private Networking
- Internet Access
- Ethernet Transport
- Wireless

KEY FEATURES & DIFFERENTIATORS

- 100% service availability SLA available on any network
- Expertise – TPx has a nationwide team of network experts at your service
- Guaranteed performance delivered over the cloud that creates seamless enterprise connectedness
- Flexible enterprise-class technologies, applications, and solutions provide the platform to keep customer's workforce communicating and collaborating with secure network connectivity
- All features of UCx service are fully cloud-based
- Professional installation is available
- TPx offers more than just UC. Our Managed IT and Microsoft Office 365 services will ensure that all of your customer's IT assets – not just the phone system – are healthy and strong.
- Transport flexibility/OTT
- Provide best-class service and support

SD-WAN TECHNOLOGY: VeloCloud

OVERVIEW

- Support application growth
- Network agility
- Simplified branch implementations
- High-performance, reliable branch access to cloud services, private data centers and SaaS-based enterprise applications.

SERVICES SOLD

VMware SD-WAN by VeloCloud

- Orchestrator
- SD-WAN gateways
- Branch solutions
- Products for hybrid WAN cloud WAN, branch office, MPLS

ELEVATOR PITCH

VMware SD-WAN by VeloCloud enables enterprises to securely support application growth, network agility, and simplified branch implementations while delivering high-performance, reliable branch access to cloud services, private data centers and SaaS-based enterprise applications. VMware SD-WAN by VeloCloud is built on the principles and flexibility of SDN and expands VMware's virtualization vision and networking portfolio even further to address end-to-end automation, application continuity, branch transformation, and security from the data center to cloud to the edge.

KEY FEATURES & DIFFERENTIATORS

- Hybrid WAN
- PCI Compliance
- Outcome-Driven Networking
- Segmentation
- Industry Solutions for Retail, Architecture, Engineering & Construction, Healthcare Financial services
- Scalability
- Security
- Cloud Applications

SD-WAN TECHNOLOGY: Cisco Viptela

OVERVIEW

Cisco solidified its position through the acquisition of Viptela Inc. in August 2017. Viptela SD-WAN's key differentiator is that it is an open, software-based solution that is flexible and easy to deploy. Customers have the freedom to implement it as an on-premises workload or in the cloud—giving customers a simple, cloud-managed Viptela SD-WAN solution that leverages existing hardware.

SERVICES SOLD

- vSmart Controller for management of traffic flow and to assist with authentication
- Cisco vEdge Cloud: A software router platform delivered as a virtual machine
- Cisco ENCS
- SD-Branch
- CSR 1000v cloud router
- Cloud onRamp for Office 365
- vEdge Cloud data sheet
- Cloud onRamp for Colocation
- Meraki SD-WAN

ELEVATOR PITCH

Cisco SD-WAN is a cloud-first architecture that separates data and control planes, managed through the Cisco vManage console. You can quickly establish an SD-WAN overlay fabric to connect data centers, branches, campuses, and colocation facilities to improve network speed, security, and efficiency.

KEY FEATURES & DIFFERENTIATORS

- Predictable application experience
- Real-time analytics, visibility, and control.
- Protect users, devices, and applications by deploying embedded or cloud security with threat intelligence.
- Centralize cloud management to make it easy to deploy SD-WAN and security while maintaining policy across thousands of sites.
- Cloud-first architecture to connect any user, to any application, across any cloud

SD-WAN TECHNOLOGY: Uses Cisco Viptela, Versa Networks

OVERVIEW

- Verizon has 57+ world-class data centers globally
- Leader - Gartner Magic Quadrant for Public Cloud IaaS; Managed Hosting; Managed Security
- Global network of data centers and a comprehensive portfolio of secure solutions based in the cloud
- Enterprise-class IT platform and standards-based approach.
- Connectivity from >170 global network carriers.

SERVICES SOLD

- Cloud Compute - Enterprise Cloud/IaaS
- Cloud Backup & DR-as-a-Service
- Cloud Storage
- Managed Hosting & Apps - (SharePoint, SQL, Oracle)
- Hosted & Dedicated Exchange
- Colocation
- Add-ons from Verizon:
    - Security Services
    - Professional Services
    - Network & Connectivity from Verizon

ELEVATOR PITCH

Verizon teams with partners to offer: Colocation Services, Managed Hosting, Virtual Disaster Recovery and Enterprise Cloud™ to any of their customers worldwide. Verizon is a Gartner Magic Quadrant leader for Public Cloud IaaS, Managed Hosting and Managed Security encompassing a Global network of data centers and a comprehensive portfolio of secure solutions based in the cloud.Verizon has 57+ world-class data centers globally plus massive connectivity from more than 170 global network carriers. They offer an Enterprise-class IT platform and standards-based approach focused on Enterprise, Medium and Small business across the globe.

KEY FEATURES & DIFFERENTIATORS

- Built on Enterprise-class equipment from major manufacturers like Cisco, HP, NetApp, and EMC
- Deployed in Network Access Points and Cloud-Enabled Data Centers across the United States, Latin America, EMEA and APAC
- Delivered with a sophisticated web-based management console AND a comprehensive set of RESTful APIs
- Virtual private cloud architecture, including private compute pools with guaranteed resource availability and meaningful SLAs
- Support for Hybrid Solutions, including dedicated devices, integration of IT and Security services, and connections to private clouds, internal data centers, and other cloud providers
- Secure cloud architecture with proven ability to meet critical commercial and government compliance standards
- Provided on VMware-based products, insuring support for the broadest range of operating systems and business applications

SD-WAN TECHNOLOGY: Proprietary SD-WAN

OVERVIEW

- Corporate HQ located in San Jose, the heart of Silicon Valley
- VC funded by the best – including Sequoia Capital and Mayfield
- 300+ Employees; 1,000+ Enterprise Customers
- Rated Top **Visionary** in 2018 Gartner WAN Edge Infrastructure MQ
- Rated #1 in SD-WAN and #1 overall for **all** enterprise use-cases
- Versa's Security solution is NSS Labs recommended for enterprise-class software-defined security features like NGFW and UTM

SERVICES SOLD

Versa Titan

Cloud-managed Secure SD-WAN. Includes branch hardware with optional Wi-Fi and LTE + SD-WAN software with NGFW and UTM

ELEVATOR PITCH

Versa's Enterprise-class Secure SD-WAN offering is now available as a cloud-managed solution. Versa Titan provides unprecedented ease of deployment and management, combined with integrated award-winning security at the most cost-effective price point in the market. Titan is the next-gen WAN solution for the mid-market and SMB.

KEY FEATURES & DIFFERENTIATORS

- Up and running in minutes
- The industries only integrated secure SD-WAN appliance - includes integrated NGFW and (optional) UTM capability
- Cloud-managed – from your desktop or via the Titan Mobile App
- Extensive application visibility – see what and who is running on your network
- Integrated Enterprise class Wi-Fi, plus LTE for rapid WAN fail-over
- Cloud-managed portal and mobile application for zero-touch provisioning, configuration, App-QoS policy and security management and monitoring – with default "Easy" options to aid set-up
- Versa's Titan NOC provides 24x7 trouble ticket opening/tracking via telephone or live chat as well as an online portal for self-help, how-to videos and technical training and end-user community support
- Optional Next Business Day hardware replacement support

SD-WAN TECHNOLOGY: Uses VMware SD-WAN by VeloCloud, Fortinet

OVERVIEW

Windstream is a nationwide provider of advanced network communications. We are committed to empowering enterprise businesses with the reliable, scalable and secure network that today's business-critical applications demand.

- Fortune 500 company
- $6 billion in annual revenue
- 125,000 fiber route miles
- 4 out of 5 Fortune 500 customers rely on our services
- 13,000 employees
- Dedicated channel support
- 150 sales offices across the US
- 24x7 network operations
- 100 Gig Network Core

SERVICES SOLD

- Established position in all major markets for IP solutions, unified communications & cloud connectivity
- Data: MPLS-WAN, Dedicated Internet, and Integrated Voice across a variety of transports including Fiber, Fixed Wireless, EoHFC, T1, EoC, and High Capacity Wave service
- Unified Communications: Avaya UCaaS, Mitel UCaaS, Allworx IP Simple, CCaaS Solutions
- Cloud Connect: Dedicated Express Routes to Amazon, Azure, and other top Cloud content providers
- Managed Services: Full Security Portfolio and Managed LAN/WAN

ELEVATOR PITCH

Windstream is a nationwide provider of advanced network communications. We are committed to empowering enterprise businesses with the reliable, scalable and secure network that today's business-critical applications demand.

- Fiber ready, exceptional personalized service, smart and secure solutions, proven track record

KEY FEATURES & DIFFERENTIATORS

Experts in the following verticals: Healthcare, Financial Services, Hospitality, Government, Education & Retail

- Engineering Excellence: Highly skilled engineers experienced in crafting customer solutions based on the customer's specific needs. A consistent & standardized process ensures quality designs & timely executions.
- UCaaS: Designed, Delivered, and Managed by Windstream, Windstream's UC offering is 100% operated by Windstream with no outsourcing of key components. All UC solutions feature on- site training and installation.
- Strong Testimonials in All Major Verticals.
- Customer Care: A team of more than 400 US-Based customer care reps dedicated to customer needs while aiming for first call resolution.
- Network Operations: Highly trained enterprise repair team troubleshoots service issues & provides a status update on trouble tickets. 24 x 7 Network Operations Center.

SD-WAN TECHNOLOGY: Versa Networks

OVERVIEW

Zayo was founded in 2007 in response to favorable technology trends driving the demand for bandwidth infrastructure. The company has evolved through organic growth and network acquisitions to become an innovative global bandwidth infrastructure services provider. Leading firms leverage its fiber network and carrier-neutral colocation facilities at 16,000 locations across the United States and Europe.

SERVICES SOLD

Physical Infrastructure

- Colocation & Interconnections: Presence in 43 data centers in major markets and carrier-neutral access to domestic and international networks, with redundant fiber connections
- Dark Fiber: Virtually unlimited bandwidth with a single pair of fibers on existing Zayo fiber infrastructure and customer-driven new construction
- Mobile Infrastructure: Backhaul, small cells and DAS on a dense network connected to cell towers, small cells, mobile switching centers and central offices

Cloud and Connectivity

- Cloud: Cloud, hosting and managed services, enabling on-demand scaling and virtual computing in hybrid environments
- Ethernet: Options for E-LINE, E-LAN or Private Dedicated Network, with speeds of 10 Mbps-100 Gbps, reserved bandwidth availability and multiple interface options
- IP Services: Tier-1 IP backbone, ranked 5th for global peering, is connected to Zayo's global fiber network and provides services of 10 Mbps-100 Gbps through IP Transit, Dedicated Internet Access and IP-VPN
- Live Video: Transport of real-time, contributions-quality video, audio and data over Zayo's Live Video Network, providing low latency and 100% QoS
- SONET: Transport services from DS3-OC192 in point-to-point

ELEVATOR PITCH

Zayo is a global bandwidth infrastructure provider. Zayo's network serves eight countries and 46 states, plus Washington D.C. The network connects the largest U.S. and European cities, as well as many Tier 2-5 U.S. markets. Zayo's network reaches over 17,400 buildings, including 827 data centers, 488 carrier POPs, and over 10,500 enterprise buildings. Zayo also has 503,000 finishedbillable square feet of colocation and interconnection space.

KEY FEATURES & DIFFERENTIATORS

Fiber-Based Services

- Unlimited scalable bandwidth available in the metro and on intercity routes. Tier 1 IP network with settlement-free peering. Options for physical security. 24/7 NOC.

Global Ethernet and IP Reach

- 72,800 route miles and 5.1 M fiber miles. 283 markets in 7 countries, 45 states, and Washington, D.C.

Extensive Connectivity

- 11,800 on-net buildings. 550 carrier hotels/data centers. 513 carrier POPs. 3,000 cell towers. 6,000 enterprise buildings. Diversity to the LEC.

Colocation Platform

- 21 facilities in 18 markets. Carrier-neutral connections to 700 other networks. 150,000 square feet of billable space

Download your copy at **goavant.net/sdwan-report**

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