The Value of SD-WAN from the Sales Engineer Perspective

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As more and more companies embark on ambitious digital transformation journeys and transition from on-premises workspaces to dispersed, hybrid, or remote workforces, the right network technology is needed to support these pursuits. In the past few years, software-defined wide area networking or SD-WAN has gained popularity as the networking foundation of choice for these objectives. And it's only expected to gain more users – Gartner predicts that **65% of enterprises will use SD-WAN by 2025**.

Essentially, SD-WAN replaces traditional, physical routers with virtual appliances that are controlled by software. This enables greater network flexibility, reduces uptime, offers easier access to the cloud, and, perhaps most importantly, improves the end-user application experience. But with the global **SD-WAN market expected to reach $43 billion by 2030**, there are a lot of SD-WAN solutions on the market.

For this eBook, we asked experts from Telarus and Zayo to unpack the value of an SD-WAN solution, what to look for in an SD-WAN solution, and how Zayo's SD-WAN solution stands out.

Chris Miller has spent the past 30 years in telecommunications working for carriers supporting voice and data networks including MPLS, SIP trunking, data center and cloud services, and security products. Since 2015, Chris has focused on SDN, security, and SD-WAN technologies. Chris holds a Master's in Business Administration with an Information Technology and Project Management concentration and a Bachelor of Science in Business Management. Chris specializes in customers needing high availability security and customers looking to improve their user experience using the latest technology in the marketplace.

Jason Kirby is an optimistic and enthusiastic leader with over 15 years of experience as a solutions engineer. His understanding of what the customers' needs are and what technology is available today allows him to exceed customer expectations and be a trusted advisor. Jason is passionate about developing and maintaining strong relationships centered on trust with each of Zayo's customers.

Joshua Haselhorst has been designing and selling advanced technologies for 23 years. He began his career with IBM in 1996 and has worked for many VARs and integrators as a sales representative as well as a pre-sales engineer. Haselhorst has multiple advanced certifications with data center technologies, voice, WAN/LAN, networking, routing, SD-WAN, and theoretical design. He is currently the dedicated central sales engineer and global SD-WAN overlay for Telarus with disciplines in cybersecurity and SD-WAN technologies.

Q: What are the benefits of SD-WAN?

Chris Miller: From a technical perspective, there are a bunch of benefits to SD-WAN. We take the routing and move it from layer three to the application layer, allowing us to **make routing decisions on an application basis.** In the past, it was pretty much all or nothing: Either we'd let everything go to the Internet or we would send everything back to the data center. There wasn't a lot of customization there. I have to mention **visibility** as well. In the past, we looked at what kind of visibility we had into the network and what was going to the Internet through firewalls. But outside of that, site-to-site communications, what was going to a data center – it was all guesstimation. Now we can find some application that is either using more bandwidth than we ever expected or find an application that nobody's using, which can also be concerning if that's an application that should be important to the company. Before SD-WAN, the technology wasn't there to tell us that. We'd see bandwidth and latency packet loss and that was it. So now we get to see really what's going on deep into the stack. It goes back to the user experience. Users expect to always be on. When users can't get where they're going, trouble starts to happen. Business comes to a screeching halt, there's loss, and there's no happiness involved in downtime.

Jason Kirby: To add to that, in the past, you may have these applications that are sucking that bandwidth out and you're unaware. Now you have visibility to know, for example, this branch is watching a lot of Netflix, using way too much bandwidth at lunchtime. You have that **real-life snapshot**, and that can save money and save your team from just throwing a lot of bandwidth at the problem, as we'd done in the past. If you were lagging or not getting the performance you want, we'd just up the bandwidth and hope it works. Now it's not so much a shot in the dark but rather a calculated setup and design.

Josh Haselhorst: SD-WAN is what I call "freedom technology." It allows a network administrator or firewall administrator to just do their jobs. They don't get called into work on Saturdays anymore. That's what SD-WAN does. It gives organizations and users a **100% perfect application performance** in certain cases, but for the admin, it reduces their job level. SD-WAN puts the network and security stack into a single orchestration and **makes life simple** and elegant. You still have all the advanced toolsets you wanted, but you don't have to manually log into each router, firewall, or network management tool individually to troubleshoot or diagnose. In most cases, there is nothing to troubleshoot as SD-WAN automatically reroutes applications around anomalies so **end users are never aware of Internet issues**.

Q: Chris, can you explain how SD-WAN enables a better user experience a little more?

CM: Once you move to SD-WAN, **you can do what's best for the application**. So Office 365 traffic, Zoom traffic, and Microsoft Teams traffic, for example, we may send directly to the Internet. Other traffic we may send wherever security is being performed, whether that's a traditional data center or in the cloud. We can make those decisions by application for what's best for that application and what's going to give you the best user experience. In previous routing and switching, we lived in an active-passive environment if we had multiple circuits. With SD-WAN, we get away from that. We move into an active-active environment. So whatever circuits we're using, whether that's DIA, MPLS, LTE, or satellite – just about anything you can plug into there – now you have **the availability to be always on**.

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Q: Can you give any examples of SD-WAN working effectively?

JK: I see real-world examples every day. There's a hospital, for example, that has 91 locations. Some of these locations are in very rural areas with limited access options. When they go down, they go down hard. But by beginning a relationship with Zayo and SD-WAN, the hospital also has vendors they can utilize to provide the diversity of access services so they're always on, active-active all the time. From the customer's standpoint, they may not even know that their main line went down because it's routed properly. And that's the end goal – that they don't even know there's a blip. We're **fixing problems before they're even aware of it**, so it enhances the overall user experience.

CM: I was working with a bank and put SD-WAN in for them. They called me up and said, "this is horrible, the network is slow!" And I was like, okay, let's go in and see what's going on. We logged into their orchestration to see what their applications were and three out of the top five applications had nothing to do with banking! It was YouTube, Netflix, and Spotify eating up their bandwidth. They were able to take care of it on their end because there are ways to not block those applications but throttle them. We can make YouTube and Netflix such horrible experiences that you give up. So that's one way around a company policy – if I'm not allowed to block it, let's just make it a horrible experience so **we have the bandwidth for what we need to do**.

JH: There are multiple SD-WAN platforms in the market with multiple methodologies and theoretical designs so it depends on what the customer is ultimately trying to do. And it depends on what somebody considers SD-WAN. Maybe I'm a shoe store and I just need the Internet to failover to 4G automatically. Well, that qualifies as SD-WAN if failover happens automatically without any manual interference. But other customers are different. We have other customers that need layer 2 and layer 3 connectivity, for example, a client with locations in mainland China wants to route around the Great Firewall. They need a global backbone operator that can get them inside and outside of mainland China without a huge latency restriction or packet inspections. When I teach SD-WAN, what I ask is "**do you have business-critical applications that make you money?**" If the answer is yes, whether it's voice, video, or something else – those applications require 100% uptime and 100% stability. If I'm using Internet transport, I need to be able to work around anomalies and instabilities in real time so end users aren't affected.

Q: Why Zayo SD-WAN?

JK: You're pairing an award-winning QOS Networks SD-WAN solution with one of the best fiber networks in the world. Any addition to that is only going to greatly benefit both. When you have industry leaders combining infrastructure solutions, it results in **the best performance offering to the customer**. And it's probably going to be hard to match, to be honest.

CM: There are still some MSPs out there that offer single-platform solutions. Our partners really like that **we offer multiple platforms** and the **flexibility and security** that comes with that. We have flexibility in several places and that's kind of unique. We can talk to customers and figure out which platform is best for them. We also have **flexibility in acquiring equipment**. If your brother-in-law works at CDW, for example, and you can get a good discount there, go ahead and buy the equipment and bring it. Partners like that and customers like the conversation. The same thing with circuits – you can bring the circuits you have or we can acquire circuits for you whether that's through Zayo, LTE, or broadband – again, we're talking about flexibility. That's something that sets us apart from most other vendors.

JK: I agree with Chris – **flexibility is key**. We offer the best solution for the customer or the issue. It might not be the best solution for the next customer, but it's the best solution for you. It shows that we're viewed more as a trusted advisor versus someone just trying to sell you a product because we're looking at the customer holistically and saying this is the best for you – whether it's all Zayo or a mix and match of **whatever best fits your needs**. It shows we look at this holistically and that carries a lot of weight, especially with the partner.

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Q: Josh, from a partner's perspective: do you find you have to educate customers about the value of SD-WAN or do they tend to know what they want?

JH: I educate a ton. We have to talk to the end user and ask things like: how are you connecting and securing corporate users? How are you connecting and securing remote users? We have to teach them the difference between IPSEC, VPN, open Internet, direct connect, and ZTNA, we need to understand on-premises firewalls versus gateways versus cloud with all the pros and cons, for example. But even then, **I still see customers buying the wrong product or the correct product in the wrong sequence**. Plus, SD-WAN is still a networking tool. You still have to program and configure it correctly. Most breaches in the world happen because of misconfigurations so we have to make sure it's done correctly. I think the biggest mistake in SD-WAN is when end users go out and Google something and get a platform on their own based on marketing. There's a big difference between marketecture and architecture in the SD-WAN world. Marketing documents tell me that it's magic – plug it in and you don't have to do anything. But that's not even close to the truth. So if we don't have these conversations, mistakes will happen.

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Q: What do you say to customers that could benefit from SD-WAN but are stuck on legacy technology?

CM: One of the biggest challenges I see is that **customers don't want to give up their MPLS**. They've had that private network for 20 years and they're afraid of what security will look like if they go to Internet circuits and it's not private anymore. It's a matter of understanding what they want to do in the first place. Does it make sense for them to keep their MPLS? And sometimes we can use MPLS as an underlying circuit. If not and we move entirely to DIA from an underlay perspective, it's just to talk through that with them and explain that it's secure and encrypted, it goes through tunnels – it's not just open wild Internet. **Going through that education process, most of them start to feel a lot better about it**. When we look at IPSEC tunnels, I almost guarantee they have that in the network today and it meets all the regulations. So if you're a financial services firm or in the medical field and you're getting audited, you know what you're using for security – it's IPSEC and it will check the box. From the start, we need to look at where users are going. Are they going to the cloud? Well, why do we have MPLS going back to the data center if they're going to a cloud? If they're still a heavy data center customer, then maybe some MPLS and Internet mix does make sense and is a good fit.

JK: It's all about education. The beauty of what Zayo offers with white glove treatment is that we **make sure the customer is comfortable** regardless of their skill level. Whether the customer handles it or Zayo continues to help or work with them, the ability to have a kind of hybrid system eases a little bit of concern. The number one priority is making sure the education is there and we explain how it works. There is a little hesitation, but if you get the audience, the product sells itself.

Q: What opportunities does adopting SD-WAN solutions present for end customers?

CM: When we manage the solution, as Zayo does, with LOA, we'll open a ticket and it doesn't matter if the sale is to AT&T or Bob's Better Telecom in Iowa. We can take that, adjust it, and take that load off. Five or 10 years ago, it was a harder conversation because people were afraid of losing their jobs – that was scary for IT staff. That has changed greatly, it's no longer a scary conversation. IT staff know they have a heavy workload. They can give up managing their SD-WAN solution and there's still plenty to do. When we talk to our customers, that's what we talk about: the transactional stuff that doesn't make you money. Opening up tickets with the carrier doesn't make you money. Doing software upgrades during the night doesn't make you money. So we say: let us do the transactional stuff you don't want to do. **Let your IT team focus on the tactical things** that do make you money so you can figure out ways to **improve your user's performance**. Make us do the things you don't want to do. And if there's some things you just really love and want to hang onto, you can do them.

JK: The beauty of it is even though there may be multiple technology vendors underlying the SD-WAN, **we can still manage it**. We can be that one point of contact that manages everything else and that's huge when customers' IT teams already understaffed and not getting paid to chase rabbits. Once you earn their trust and take on the transactional stuff, you become more of a trusted advisor and can build upon that trust. Customers see the benefits. Any time you can **talk workloads off of the IT folks**, you earn their trust and it's better for everyone.

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Q: What should customers look for in an SD-WAN service provider?

CM: Customers should look for a service provider that offers them the **flexibility to either manage their own solution or have it fully managed** for them, and everything in between. We can absolutely be a fully managed shop to the point where the customer never has to touch anything. There are a lot of customers, though, that come to us and want access to the orchestrator themselves. They want co-management or what we call "custom co-management." We give customers access to the orchestrator with full visibility into the network. During the pilot process, we go over roles and responsibilities but we tell customers if they want to change that, they just have to call us. Some other MSPs out there don't give customers any access at all. Other MSPs have middleware that gives you partial access. We offer a lot more flexibility than some providers are open to.

JK: I would agree, and I think from a network standpoint, Zayo has always been good about thinking outside the box, looking at all of the options, and pairing them with a managed SD-WAN solution. It's going to be hard to beat. Hopefully, they can install the solution and not have to worry about it, depending on their level of management. It ranges from zero-touch to doing as much as they can, but it's nice to have the option. **Agents and partners love the flexibility**.

JH: I would say 90% of end users out there either buy the wrong product or buy the correct product in the wrong sequence. So it's our job to guide customers and protect them from themselves. We need to figure out what they need not just from a technology standpoint, but end-user logistics and operations, too. What kind of staff do they have? Do they have certified security experts and networking experts? Would they be able to detect an anomaly or something malicious going on in the network? Would they know what to do about it step by step? If the answer is no, that pushes us to one kind of platform and if the answer is yes, we would go with a different SD-WAN platform based on that use case. **It depends on the customer's use case**, the level of management they're willing and able to provide, and what they're trying to accomplish.

Q: What are some key differentiators in Zayo's SD-WAN solution?

CM: The biggest thing that Zayo brings to the table is the **intelligent network platform**. That's the ability to use AI and machine learning for monitoring, alerting, and correlation. We have the ability to open up 90% of our tickets proactively with our customers. So 90% of the time or greater we're identifying a problem, opening a ticket, and going into the correlation before they know there's an issue. Additionally, with our technology we can reboot things like modems and routers, things of that nature, remotely and automatically. Compared to what others do, if you need a modem rebooted with a competitor you have to figure out who the contact is for that site, call them, hope they have the keys, what them through what the modem looks like, and pray they pull the right power plug because if not, the whole thing's going down. That's the common scenario. With our intelligent network platform, we take this process down from hours to minutes. That's where our customers start to see their ROI. We have **several different automations** that we can do without any human intervention, and that's our goal. Any time that we can keep the network up or make it change without human intervention, that lowers the mean time to repair, improves the customer experience, keeps productivity high, and makes C-levels happy. Our advancements in AI are way further along than what anybody else is doing.

JK: The first thing that comes to mind for me is these rural, remote locations. They may be fed by a last-mile cable broadband provider and it's just a simple reset on the modem, but being able to do that and assess remotely saves time and brings peace of mind. Customers don't have to worry if it's going to fail, when it's going to fail, knowing someone's keeping a watchful eye on it. **You can't put a price on peace of mind** because there are IT directors that don't sleep at night worrying about what's going to fail next. Hopefully, using Zayo's solution, they can sleep better at night knowing someone's always paying attention and being proactive before issues arise.

Q: What is the value of Zayo as a partner?

JH: Even a few months ago, Zayo to me was just fiber transport. Get me big fat pipes in my data centers, get me transport – that's Zayo. I bet there are still partners out there that don't know everything Zayo does and *still* think it's just fiber transport. Then Zayo decided to do an SD-WAN play and asked "what SD-WAN should Zayo offer?" When we got the news they were going to buy QOS, I thought that was great, you're done, you have **all the SD-WAN platforms you need in one**. So that just made it easier for me because we can get all the transport from Zayo plus pretty much any SD-WAN platform. And the Zayo guys are actually going to fix problems. For me, the last thing we want to hear from an agent is you recommend this solution, we installed it, and it went badly and now I'm expected to fix something but I don't touch people's stuff, I just teach. I don't have to worry about that with a Zayo engagement. **Zayo makes my customers' lives easier and my life easy**, too.

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Q: What does the QOS Networks acquisition mean for customers?

(Note: QOS Networks was acquired by Zayo in January 2022)

CM: When Zayo and QOS Networks came together, we each had part of what we call the three-legged stool – edge, core, and cloud. QOS has always had the edge. That was our specialty. We also had a little bit of cloud because we have different ways we can do things in the cloud when it comes to virtualization and that sort of thing. Zayo, on the flip side, has amazing core infrastructure. When it comes to cloud service providers, Zayo probably goes to more CSPs than anybody else out there, which eliminates the need for other partners. So when you put the two together holistically, we can take care of edge, core, and cloud and get to the data centers. I don't think anybody else has such a robust story around all three.

JK: We have confidence in discussions with partners who may not be aware that Zayo has an industry-leading SD-WAN platform with QOS management. We let them know that our solution is **paired with a world-class network** and then about all the **cloud access points** we have – it's tough to beat. You start to see a twinkle in their eye when they start caring less about how much it's going to cost when they're seeing all the benefits of everything coming together. They're going to get a world-class effort on both the **management and network** side – it's a rarity. We're in a unique situation and have a lot to offer from that standpoint alone. It's just about getting out and evangelizing that with our partners. That's what we're trying to do the most. It's an exciting time, having this option and flexibility. It's going to set us apart, not just by a tad but by leaps and bounds. It's going to be a game-changer for some of our partners and open new markets for them.

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Q: What kinds of emerging technologies does SD-WAN enable?

CM: The cloud is the first technology that comes to mind because we're starting to move to cloud everything or everything as a service. As I talk with customers and we talk about applications, you can get things as a service now that I honestly hadn't even thought about. So we always kind of got used to talking about Office 365 and Zoom and Teams – those are all cloud-based. We get kind of used to talking about the big three with Azure, AWS, and Google Cloud Platform. But now the **"as a service" model** is there for, for example, HR things, very specific financial and medical things – these have all moved into the cloud to be ingested as a service. I think for those CIOs looking at it if you have the infrastructure to support that, it makes the "as a service" model easier to ingest which goes back to a better user experience.

JK: With SD-WAN, you're clearing the path. You're setting customers up for future success. We're building the new freeway they can use and with the right additions or built-ons, it's going to open a lot of doors and it's going to grow with them. Plus **the flexibility of it all** – having the ability to go from 50 sites to 500 sites.

CM: Something else I want to touch on is that most of my customers are making acquisitions regularly. It's really easy for us to take an SD-WAN appliance, put it at the sites they're acquiring and they could instantly be part of a network. It doesn't matter if they still have legacy circuits in place. We can build that into the configuration and ingest them into the mothership so much easier than in the past.

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Explore Zayo's Entire Suite of Edge Network Solutions

Digital transformation begins with network transformation. While SD-WAN is one part of the puzzle, Zayo's edge-to-core-to-cloud network solutions can take businesses to the next level. Check out Zayo's comprehensive suite of edge network solutions today **here**.

For more information about partnering with Zayo reach out to our National Partner Manager, Jonas Lehman: jonas.lehman@zayo.com

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