



SD-WAN Analyst Outlook

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Transcript

Featured Speakers

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Shin Umeda, Vice President and Analyst, Dell'Oro Group

Brandon Butler, Senior Research Analyst, Enterprise Networks, IDC

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Welcome everybody. This is Mark Fox CEO of NetEvents. Delighted you could join us today I'd like to introduce you to our chairperson, Scott Raynovich, who's the chief technology analyst for Futuriom, who in turn will introduce you to the rest of the panel for today's SD-WAN. broadcast. Thank you.

Scott Raynovich, Chief Technology Analyst, Futuriom

Great, thanks a lot, Mark. Welcome, everybody. I'm happy to be here for another NetEvents event. I wish we could be doing them live in Portugal or San Jose as we have in the past. But unfortunately, we're in this new reality, which we're going to talk about quite a bit today, beyond the ongoing pandemic and people retreating to virtual events and the move to the cloud. It's, it's actually fueling a lot of acceleration and digital transformation. On the SD-WAN analysts outlook today I have a collection of the industry's best and brightest analysts. I'd like to say, we have Erin Dunne, Director of Research Services with Vertical Systems Group. We have Shin Umeda who's Vice President and Analyst with Dell'Oro Group. And we have Brandon Butler, Senior Research Analyst for Enterprise Networks with IDC. Now, the format is we're going to each give a presentation and have a few quick comments and discussion after each presentation. And then we're gonna open it up to a media Q&A, and then we're going to have a, a further roundtable after that. And this is expected to the last about an hour and 15



- 1 -

minutes. So thanks, everybody for joining. I'm going to get on with the with the content in which we're going to talk about everything that we found as analysts As we dig into this SD-WAN market that's just the slide again, you know who I am. I'm Scott rate of itch. Since we have a lot of analysts on this panel, there's quite a bit of interesting research, both qualitative and quantitative. I'm just going to give a quick overview of SD-WAN. And why I think it's important. The interesting thing about is, as the cloud has evolved, we've kind of developed this system of almost like parallel networks, if you will. You know, we've gone through kind of several generations of networking, you know, we started with client server, and then there was the explosion of the internet. And then we went to data center, and then cloud and so you have kind of remnants of each generation. As you can see, some people still have MPLS networks, which are private secure lines that they use to connect to, you know, headquarters to data centers or branch sites to headquarters, you can see that in the grey cloud. So there's an MPLS network out there. There's the internet out there, you know, so people are connecting either from their home, or from the office to the internet. And then you have cloud services, people are trying to get to cloud services. So what you have is all these different, this kind of these parallel networking systems and different ways of getting to these clouds, if you will, or these data centers. And what SD-WAN does really is it kind of arbitrates between these, and it finds the best way to get you where you need to go. So in the example of MPLS, you know what happened, as SAS and cloud services exploded, what a lot of enterprises found As they were backhauling, the cloud traffic over MPLS to their data centers, and then sending them out to the SAS, the cloud network. I'd say one of the most important use cases of SD-WAN, especially the early case, was internet breakout or detecting on your home broadband or you're at a branch site, you're going to a cloud service SD-WAN knows that it just takes you straight there, over a private, you know, a private VPN like connection and often connects you to the closest pop to get you there even faster. So that's an example of how as SD-WAN is helping us in this modern world. It's also helping you know, one thing that's happened with the COVID-19 is it's emphasized the need for VPN. You can see there's a VPN gateway there. There's often a VPN concentrator, you know, people log on to their VPN to get to their corporate network or get to the cloud. SD-WAN is a sort of a built in VPN overlay. So that is coming in handy at branch sites and especially when people work at home. So yeah, as you can see there's many different applications and use cases for SD-WAN. But the generally the way I think of it is, is optimizing the way we get to the applications we need from wherever we are, whether that's at a branch, or a headquarters, or as many of us are now working in our home. So let's go to the next slide. So, Futuriom concentrates. We try to gather end user data constantly, you know, we're doing one or two surveys a month and I'm interviewing and users every day, and on various topics of which SD-WAN is one and we recently completed our annual SD-WAN infrastructure survey. which we've This is our fourth year. And we try to nail down exactly why people are buying SD-WAN and what they see the benefit of where they see the benefits. And this year, you know, some of the same themes emerge. I would say some things strengthened, you know, SD-WAN is seen increasingly as a security tool. You can see 64% said the main benefit was to improve security tools and orchestration of security. The next one was improved management and automation. And the third are tied for second was better utilization, utilization of bandwidth and lowering the cost. As I mentioned at the outset, SD-WAN is also is often seen as a way to compliment MPLS circuits or other private circuits and give you kind of a cheaper way to leverage broadband or internet in a secure fashion and lower Cost overall of your bandwidth so that that's an important feature. And then higher performance of cloud applications, really, right there at



the top as well. As I said, if you're trying to get to the cloud, you want to do that in the in the most efficient way. And SD-WAN has kind of a built in intelligence to get you to the closest cloud server. And that is seen, obviously very important in this era of where, you know, most of our applications are going to the cloud. And then finally, another feature is improved analytics to understand network behavior. The network managers like the fact that SD-WAN is has, you know, layer seven intelligence and can detect what applications are being used and how they're being used and it helps them manage the network. We asked a number of questions in our survey and you can get the highlights for free on the Futuriom website. But our subscribers get the full report. But we are trying to detect the buying patterns in SD-WAN and where people are in the cycle. And what's interesting, there are a couple questions that kind of reinforce this. But this was a very interesting one. The majority of the vast majority 62% said they started using SD-WAN. And they expect more deployments, which is kind of reinforced by many of the end users I talked to they, they've been, you know, doing pilot projects, or did kind of the first phase of a rollout and say 50 sites out of 200 sites or 100 sites out of 500 and they expect to deploy it throughout the organization. And we're kind of in the, you know, with the early stages of kind of a lot Running deployment, I expect it to last for years. 29% so they're Yvette still evaluating the technology. They're not sure 8% so they have SD-WAN and they don't need to deploy anymore. And 1% only 1% so they don't need the technology. So across the board and then we saw this in other survey results, kind of widespread adoption of SD-WAN, the market starting to mature and a lot of people. They, they know what it is. The biggest hurdle of the market kind of educating people is done with and now it's about evaluating and buying the technology. So that's all of my slides. I'm curious as you know, if the other analysts have any questions or you know, if they saw similar things, agree, disagree. What do you what do you folks think?

Brandon Butler, Senior Research Analyst, Enterprise Networks, IDC

Yes, this is Brandon and I would say the survey results that you showed are consistent with surveys that we've done at IDC. And I think the thing that strikes me about the SD-WAN market is the conversation, at least the ones that I'm having with enterprises have shifted from a couple years ago, I think a lot of the driver for SD-WAN was around cost optimization. And now it's really being turned into a broader thinking about how can I optimize my connection to the cloud? How can I optimize connections between branch offices in the data center, wherever those applications are hosted? So I think that speaks to the maturity of the market. And as you mentioned, I think security is going to increasingly play an important role in esteem and as we move forward.

Scott Raynovich, Chief Technology Analyst, Futuriom

That's great. Thanks.

Erin Dunne, Director of Research Services, Vertical Systems Group

It's not enough. I have a question for you it well, maybe two. First is you said that this is an annual survey that you've done, I think for four years. Is there anything that jumps out to you that's changed over the last four years and myself. Second question is when you refer to when you're asking the questions about SDN. Is it any kind of SDN meaning? Are they dropping in a DIY? You're doing it themselves or a carrier managed network? Or do you differentiate that?



Scott Raynovich, Chief Technology Analyst, Futuriom

A good question. Erin, I would, first of all, No, we didn't differentiate it. We do. We do have a managed services survey we do in the fall, which is slightly different that's targeted at people that are strictly adopting it as a managed service. And this this was either or DIY managed service or hybrid. I think, I think what I'd say over the over the years is the use cases have been expanding and whereas, you know, SD-WAN is was solving a few particular use cases in the beginning, you know, particularly that optimizing the broadband links thing or offloading MPLS it's kind of evolved into to a more broader based solution now, because you're seeing this tie in with, you know what our friends at the analyst firm beginning with GE, refer to as sassy, you know, secure access services edge, which was, you know, what I described as security orchestration is really using SD-WAN as a security orchestration platform. And then you throw in analytics, and then you throw in cloud acceleration. And then you throw in, you know, these, these deals that many of the SD-WAN players have with the cloud players, Google, Microsoft, and Amazon, you know, for these kind of accelerated cloud pops. It's, it's becoming broader based, it's more it's being seen more as a generalized networking platform rather than a than a point solution, which I think is important.

Shin Umeda, Vice President and Analyst, Dell'Oro Group

Hey Scott Very interesting result of your survey there, I noticed that you're the top reasons for going with SD-WAN there seems to be a lot of commonality that you know, I think two thirds are selecting multiple reasons. I guess I'm wondering what is the path that a lot of these enterprises are using? There are many reasons but it often is driven by the need to upgrade their existing infrastructure. Is it security? Is there anything that really stands out as to what's pushing these enterprises over? If you will, to move into the direction of SD-WAN?

Scott Raynovich, Chief Technology Analyst, Futuriom

Yeah, great question. Shin. I think the commonality when I talk to and this is where I use kind of individual interviews or surveys to get some color, the general theme when I talk to people is the automation in the cloud orchestration it really saves them time. I mean, if you're, they used to be, you know, the old school way would be you had 100 sites and you had branch routers, and they all had to be configured. And you often had to have a certified engineer on staff there, who was plugging in chords and getting into the COI and, and kind of, you know, getting really individual attention on a specific router or branch device and now, you know, they can deploy and manage and orchestrate all this stuff, whether it's a router, you know, Cisco's adding SD-WAN capabilities to their routers or it's an open CPE device. You can orchestrate and manage that all over the cloud, you know, so that that seems to be you know, one of the core drivers is just management and saving people. manager's time. But you know, on that note, I'm going to jump to Erin, because we'll have time for more questions later. And we want to get through everybody's presentations first. So, Erin, why don't you talk about your work in the SD-WAN space?

Erin Dunne, Director of Research Services, Vertical Systems Group

Thanks, Scott. And as Scott said, my name is Erin Dunne, I direct the research practice for Vertical Systems Group. We're a market research and consulting firm. We're based in Boston Mass in the USA. We're a boutique firm, and we have a hyper focus on wireline data networking on the service with a specific focus on the services perspective. Someone could flip to the next slide, please. And I make that point because it has to do with the question that I just asked Scott is that we're going to hear from all of these analysts and each of us are focusing on a little bit different aspect of Have this SD-WAN market. It's this is a huge market. It incorporates everything. From the networking aspect of services to infrastructure to security to analytics, and all those types of technologies. I am focused and my firm is focused on carrier managed SD-WAN services. And we define that as a carrier grade offering for business customers that's managed by a network operator, meaning you are paying a bill to a to a network services operator on a monthly basis. It also utilizes SDN architecture enables dynamic customer edge site connectivity, and provides centralized network control and visibility end to end. So a couple of important points here that I wanted to make. First of all, Scott mentioned about, you know, all the wonderful things you can do at layer seven. Well, we all know if layers One, two and three aren't working, it doesn't matter what layers 70 doing. And so we are really focusing on the networking aspect or should we say the underlay that powers, the carrier managed SD-WAN services. And this is how we look at this market. And so a little more detail on that we don't need to go into it a lot. But the SDN service based SDN architecture, carrier grade network services, and it was centralized operations and controllers, the dynamic edge site connectivity, very important going back to what Scott was talking about, which is some of the applications of offloading, broadband directing secure or very highly sensitive or secure traffic to the MPLS network. That does not work unless you have end to end control over this type of a network. So there has to be a device from our definition sitting at the enterprise customer from that can controller has to control more than one, when access link, whether or not that link is in play is up to the enterprise customer. But at that point, then it can direct traffic between those two or three or more. The network control and visibility, not gonna spend a lot of time on because the other folks after me are going to hit that. And the other services capabilities like security, like analytics, like direct Cloud Connect, again, very, very important, but I'm not going to spend a lot of time on them because Brandon Shin certainly will.

One of the things that a lot of the press know about my company, Vertical Systems Group, is we publish these lovely things called leaderboards. And they are the ranking of the top providers in a certain network in a certain services technology here, you're seeing the year in 2019. us carrier manage SD-WAN services leaderboard. These top seven providers that you see here. Are the top providers and they have 2% or more of market share for carrier SD-WAN sites within the US that challenged here you see in gray, they have between 1 & 2%. Those are shown in alphabetical order, the top seven are shown in rank order. A couple important things about this. First of all, it's based on sites meeting and there's a UI that sits at the customer Prem that is terminating the SD-WAN service. On number two. This was done as of Year End 2019. So this was pre the strangeness that we've had over the last couple of months. This is unaffected by anything that's happening. Third thing I wanted to point out here is that you see here a list of the top infrastructure providers that are powering these SDN services. What we're seeing and I think some of the analysts might be some of the other estimates might can validate this You're seeing a



lot of these service providers now start to add what they call their SDN 2.0, or a second or third or even fourth technology provider to power different SD-WAN offerings for their enterprise customers. We're seeing a lot of movement in the type of technologies that these service providers are offering. I did want to make a point here, too, that this is us based. We are currently working on a global version of this for mid-2019. That was a much easier job a couple of months ago, than it is right now. We as any analyst can attest. But so yeah, so this is a this is the leaderboards ranking the top providers in that service. If we can flip to the next slide, please. And as I mentioned, the title of this is kind of what's happening here with SD-WAN With, you know as COVID has hit. This is a timeline that my organization has generated, showing almost on a monthly basis, what's happening in the SD-WAN carrier managed services market. First thing was look back to 2019. For the revenue, we saw triple digit growth in 2019. For SD-WAN services, we also saw almost triple digit growth for sites. This is a very healthy and robust market. Now it's also early, so it's easy to get healthy and robust when things are ramping up. We saw that continue into January and February. And with no end in sight, unless something happens in March, which did so some of the some of the interesting things that we're seeing here starting in March, we saw we start To see the demand side stifle due to the pandemic, a sales stopped abruptly, you know, installations couldn't get into the building, enterprise customers were all went home work from home starts to jump, the implementations are starting to either be deferred or cancelled. Um, you're seeing commercial buildings close. And supply chains are starting to be interrupted. As we moved into May to August, and things started to shift, right. Some restrictions started to lift and some restrictions started to get a little more detailed and a little more tight. based on where you were in the country or in the world. Some businesses are starting to resume operations and others. There's no end in sight. Work from Home is still continuing. And again, with some industries, a lot more folks are staying at home, maybe they'll never go back into an office. And some industries are starting to make their way back. We're seeing some of the service providers offer some forgiveness, for SDN billing. And that impacts revenue, their revenue going forward. It also impacts the enterprise customers ability to keep that service, whether or not it's going to be cancelled or interrupted or continued. What we saw is a, the SDN implementations for this timeframe dropped to about half of what we saw at the January baseline. It's a significant drop. September, October, we're looking out I mean, a lot of this is based on what we're seeing from government entities from the CDC. But we're starting to see some adjustment into a new operations reality. This is changing for everybody. And we're starting to see hope to see a little bit of demand start to increase A little bit of the pipeline, start to fill up maybe a little bit and some work from home employees start to shift back November in December, we can just hope that this is a holiday bump. What do you have? Well, I'll let the other analysts jump in on that when we do some QA, but that that's what we're looking for here. Again, this is a very robust market, the flexibility of SD LAN allows it to be, I think, a lot more resilient in this market, you know, in in this crazy market. So that's what it was designed for. I'm going forward. Again, the hope for is a rebound and some of the building forgiveness to end and we'll start to see some revenue kick back up. pipelines start to recover. And hopefully we'll see some revenue increases and support increases a couple of again, I'm not going to spend a lot of time On what the Enterprise's are seeing here, because the other gentleman will, but we are seeing some of these issues, you got high rise buildings. And if you have to socially distance in an elevator, it's really hard to get to the 16th floor. We're also seeing building damage and disruptions from not just COVID. But from some of the other issues that are happening today. And you're talking thousands of buildings that

have been damaged and are going to take some time to recover. So lay that on top of COVID. And we're talking about a very volatile market here. So I think I'll end on that and shoot back to Scott.

Scott Raynovich, Chief Technology Analyst, Futuriom

Excellent. Thank you, Erin. And we're going to, we're getting a little bit behind on time here. So I'm going to jump to Shin and if we have let's, let's hold our questions for Erin at the at the end. We do have a 15 minute wrap up where we can talk more I do have a question for you, Erin, so remind me to ask it Shin let's hear what you're doing Dell'Oro attracts a lot of the quantitative revenue. So I want to hear all about this.

Shin Umeda, Vice President and Analyst, Dell'Oro Group

Right? Yeah. Thanks Scott. And yes, I'm Shin Umeda and I'm the analyst at Dell'Oro group responsible for IP routing and SD-WAN research. So we do regarding SD-WAN we publish quarterly reports now with market share tracking. I think one of the things that I'll focus on today is what we saw in the first quarter, as Erin pointed out, and we've seen definitely seen the impact of covid-19 on the market. And we'll talk about it from the standpoint of the infrastructure what is selling into the market for SD-WAN technology. Can we move to the next slide please? Next slide after that. So just to kind of lay the groundwork here as to kind of how you know Dell'Oro group is looking at the SD-WAN market. We know that SD-WAN is a set of technologies that are outlined in terms of what goes into the SD-WAN solutions. From the standpoint of tracking this market could look at it from many different angles. We kind of look at the different technologies involved in kind of our SD-WAN itself is growing and where this business is coming from. And we started with looking at this access router market, really big branch office devices that go on to the all these different locations to form the wide area networks. That has traditionally been a device the extraction device that is highly functional in the branch office, a lot of hardware based technology and it's been dominated by a single vendor Cisco, from our tracking of the enterprise routing market is generally in this 70% market share range for a very long time. Now, what we're seeing is that SD-WAN with this software centric approach, with many new vendors is starting to become an alternative. So rather than just going with hardware device at the branch office, enterprises are starting to more and more look at SD-WAN, as using a hardware device but really focusing in on the benefits of using this centralized software centric model. on gaining more control of their network, really attacking the way the traffic is, has changed. traffic patterns have changed and so it's become an alternative. The point here is that SD-WAN is not something that just emerged out of the out of thin air, but it's really an alternative to a technology instead of technologies that existed in the past. So we look at it from that perspective how the access routing market, which had been two and a half to \$3 billion market is now in a lot of ways under attack under pressure from SD-WAN, in the new year, many new vendors there. You know, the last point I want to make on this slide here is that network security is becoming a more and more important aspect of SD-WAN. And we're seeing that manifest in several ways. On one hand, we have the traditional NT firewall, vendors moving into this space, using their position, their installed base as the entry point into SD-WAN and also we're seeing other vendors On the SD-WAN and access router side starting to implement and add security functionality to their solution. SD-WAN continues to evolve. It's becoming a broader and broader set of technologies, activity related, security related, and even more so as well, analytics related, so brilliant, a moving target. But I think in the long run, that's



really where vendors will make their differentiation, their solutions. And that SD-WAN is really going to be a competitive marketplace. And I'll talk about that offline. If we can move to the next slide. On this next slide, I'll talk a little bit here about what we saw happen in the first quarter. Now obviously, the dynamic that we're under now had some impact. These are the SD-WAN infrastructure Revenue so the vendors selling equipment selling software into the marketplace, and the trends we've seen over the last eight quarters. And you can see that in the first calendar quarter on the red line here, showing the year over year growth rate that we saw pretty significant dip in the growth rate, it was still very positive. It was over 20% year on year, but considerably lower than we've probably seen in recent history. As we looked into this market and talk to the different vendors, it was clear that the COVID-19 caused some problems in getting equipment to the market, partly from supply chain disruptions in in equipment, but also from the ability to get out to sites as Varian pointed out that people just weren't able to install and move forward with any project. Now, keep in mind that most of the COVID in the first quarter really didn't start until the latter part of the quarter in March. Interestingly, of course, where COVID started in Asia, that particular region was impacted from a hardware and deployment standpoint. But SD-WAN currently is not significantly large in, say China. But we did see that the some of the equipment coming from that part of the world was somewhat disrupted. So, one of the things that we see in SD-WAN as it is a subscription revenue technology, meaning that the end users pay for a hardware device up front, but in the long run, they pay periodic fees for the subscription of the software or service related SD-WAN. That's important because what we saw in the in the first quarter was that while new deployments slowed, most of the vendors have established and created a customer base for the customers. revenue for these services and subscriptions continues regardless of new installation. On one hand, we know that there is a revenue base for SD-WAN that just keeps chugging along. It may not grow as fast, but it's still kind of the base support of the financial model of a lot of the SD-WAN players. So on one hand, we're seeing a slowdown in new deployments. This subscription revenue really gives this base for the companies when they have a fairly good-sized installed base. Know kind of looking forward a little bit here for the rest of the year. You A lot of the points that Erin made about progression of recovery, it's really going to be difficult, I think, to judge how this is going to turn out. But at this point, you know, we're expecting this the white market to grow in double digits this year, but considerably lower than we've seen in recent history. Last year, for example, the market grew over 60% year on year, we don't think that it's gonna be anything near that there will be growth. But you know, at this point, it's really going to be tempered a bit. But still, we think that the market is still on track for a pretty solid year. Um, maybe we can go to the next slide here. So this is the last slide that I have here is really just a kind of a high level view of kind of where I was market is shaping up in terms of market share. On the left hand side is the Combined access routing and SD-WAN market. On a four quarter trailing basis over the last four quarters, you can see that SD-WAN represents just over a third of that market. So it is growing and becoming a pretty substantial part of that market. And as I mentioned early that access router market is really dominated by Cisco. On the left hand side of this chart, the access grabbing market has really one vendor dominates that space. But as we move to the right, we can see that the SD-WAN market and the breakout of the spy market is really dominated and concentrated in a relatively small number of vendors. Now, you know, this list of vendors doesn't necessarily mean that that's these are all the top players in the market. It's we think it's gonna be quite fluid to some degree. But still, when we look at the market results, recent history here, eight vendors accounted for over three quarters of the market. And

we know just from looking at vendors, products, their spec sheets and their offerings, that they're probably something along the lines of 50 or more vendors with SD-WAN solutions in the world. So, I guess the takeaway that we're seeing here, and you know, I think it's something we've expected to some degree, is that the market is consolidating around a smaller number of vendors. And I think one of the things that we are anticipating is that as the market slows down, you know, next year or so, you know, created by this pandemic that we're facing, that there's potentially an opportunity for consolidations. And industry are amongst the vendors, right? So the consolidation can be for many reasons. For example, we recently saw an acquisition of Palo Alto Networks, Bill cryogenics, which will put them right into the list of vendors here with competing technology. We've seen other vendors acquire other components to enhance their SD-WAN portfolio, particularly around analytics, and security. So I think you'll be interesting in terms of what we think could happen here, perhaps even accelerated by the pandemic, as you can either see an opportunity to expand their portfolios or other companies perhaps start to see the market tightening up and being forced to make some decisions around how to move forward. So that's the what I got to show today. Amen. questions if we have time for that.

Scott Raynovich, Chief Technology Analyst, Futuriom

That's great. Should we're running just a few minutes behind it. I want to give Brandon his airtime. So I wrote down some questions that we'll put in the wrap up if that's okay. Yeah, no problem. Anybody else has it. Brandon, let's, let's hear what you got, man.

Brandon Butler, Senior Research Analyst, Enterprise Networks, IDC

Great. Thanks, Scott. And thanks to NetEvents for including me here. My name is Brandon Butler. I'm a Senior Research Analyst at IDC, we have a handful of analysts who are covering the SEO and market for multiple perspectives. I specifically covered from the enterprise networking perspective, we have other folks who are looking at it from the data center from the carrier side, from the managed services side as well. But I can talk to you about some of the overall trends that we see from the enterprise side so we can move on to the next slide. In terms of the COVID impact on this market, and this is how IDC is thinking about the impact of COVID on the entire market not typically testy when. But that's you man does fall into that. And you know, you hear a lot about flattening the curve with respect to the virus. But we are thinking about flattening the curve in terms of business investments in technology right now. And you can see at the bottom the economic situation, we expect in this journey that we're going to be going on and Erin spoke to this a little bit. In terms of the economic situation, the macro environment that enterprises are in right now is going to go on this journey from a crisis mode into the slowdown, which we've seen into a recession and then somewhat of a return to growth and then and then a new normal. And then at the same time, you can see at the top enterprises have different levels of focus as they go through this journey as well. The initial phase was around business continuity and cost optimization. Now we're getting into the era of Business resiliency. And this is a really important one, it was targeted investments. So, you know from surveys that we've done, are showing that investments in IQ spending are dropping because of COVID. But there are targeted investments that are going to be made for important technologies. And, and one of those is going to be around St. Lan, so we can go to the next slide. We have been surveying enterprises on a bi monthly basis at IDT since March, and this is going to continue to August. Every two weeks we're doing a global survey. And this is actually a survey



data point that was taken from June. So the first part of June where we asked how organizations investment plans for wide area networking, including SD-WAN have been impacted by the COVID situation. And the big takeaway for me from this is that SD-WAN is a relatively resilient market. You can see almost half of respondents were saying that they don't expect any changes, or they're actually going to be accelerating their investments. As we talked about with the opportunity for some targeted investments in technology, we believe that SD-WAN could be one of those areas that could see targeted investments. Now, why is that? It's because then some of the other panelists have mentioned this, but there's really an opportunity for enterprises through SD-WAN to optimize the connections that they make across their wide area network. So whether those are connections between the branch office and the data center, or between their data center in the cloud or their branch offices in the cloud, Software Defined Wide Area networking really allows enterprises to not only ensure experience and quality of experience across those links, it also represents a cost optimization tool for those enterprises. So as organizations are increasingly relying on cloud based applications to ensure business continuity and to ensure Remote Management and not having to rely on applications that are hosted in data center that they have to manage if they can't go into that data center. We expect increased investment in cloud services. And in turn, we expect enterprises to increasingly invest in software defined Wide Area networking to be able to enable those connections to the cloud and to the data center. And we can move on to the next slide. So this is really showing the evolution of the SD-WAN market and some of the other panelists touched on this as well. The way that IDC thinks about this evolution is what we're calling the software defined branch arrestee branch and so we think about this evolution of the market, really starting in a when optimization, technology. And then moving on to the idea of having a hybrid land that would incorporate maybe broadband with MPLS or with cellular and then moving into the software defined management of that hybrid wide area network, which would be SD-WAN that's having a centralized policy controller for being able to optimize the traffic across those links. The next major phase that we expect the SD-WAN market to go into is what we're calling SD branch. And this is really the idea of incorporating additional network and security functionality directly into the SD-WAN offering. And it's something the other panelists had touched on this in terms of the some of the security functionality that we're seeing integrated directly in with SD-WAN. And you can see some of the other functions that we expect to be deployed with SD-WAN to create an SD branch. So a virtualized router would be sort of the base level technology that we would expect to see in SD branch to enable SD LAN but also a next generation firewall, maybe a secure web gateway or wireless controller. We're seeing intrusion prevention Intrusion Detection Services being integrated directly in with SD-WAN capability. And so as SD-WAN vendors and the manner service providers who are offering SD-WAN, as a service, increasingly offer these additional network and security functions that are packaged and integrated in with that as you win offering, that's what we call a software defined branch. And we really expect this to drive the SD-WAN market into the future. You know, I would say in the first couple of years of SD-WAN market, it was really a conversation about routing, how do I optimize the connections between the various points in my network between the branch off in the data center or the data center in the cloud? Now it's a broader discussion about how do I manage what's happening at the edge of my network. And when you get into that broader discussion, then there are multiple other scenarios that enterprises need to consider they need to consider what is the security? What is the visibility and the analytics that they need at the edge of their network? What is the gateway that they have for getting

into the cloud? And so that's why we're seeing these SD-WAN vendors increasingly package these, these functions together. Or they're looking to partner with third parties who can who can offer these as an integrated solution that they can bring to enterprises. And you can see the survey data point we have here. We asked what enterprises believe are the top benefits that they would get some an SD branch deployment. The ability to have cloud like scale ability to scale up and down the capacity of these functions as needed. And the ability to get new versions of these features quickly, was important as well and being able to centrally manage them. I will say that we are in the early days of the transition to SD branch. We're starting to see vendors come out with these integrated platforms that we call a branch. But there are still some management challenges. And we expect those two those to smooth out. And we expect enterprises to continue to adopt at the branch into the future. With that all I'll hand it back to Scott. Thanks very much.

Scott Raynovich, Chief Technology Analyst, Futuriom

Great Thanks, Brandon. I'll start you know, let's, let's do a couple questions with the analysts. Since we didn't have time to get after each presentation, then we'll go to the media Q&A in about five minutes if that's okay. But I have a real quick question for all the analysts if somebody wants to pipe up first, maybe Shin first cuz I should mention this thing that I'm always perplexed by that there's people saying they're 50 plus SD-WAN vendors or 60 plus SD-WAN vendors and I run into the same thing that shouldn't explain what Which is really it's, it's really 10 to 12 of them controlling most of the revenue. Has anybody run into the obscure SD-WAN startup that actually is doing something completely different? I mean, how are these, these other 40? SD-WAN. Vendors going to survive?

Shin Umeda, Vice President and Analyst, Dell'Oro Group

Yeah, I think I can start with that. Scott. Yeah, I think, you know, the kind of, as I pointed out on my first slide there that we have really different aspects of where the technologies are coming from, whether it's routing companies, whether they're security companies or startups, right. It's such a mix of companies, right. Some are just software based, some are analytics based moving into SD-WAN. It's really hard to sometimes decipher exactly what companies are doing. Other than that. Seeing themselves in this market? So, I use maybe, to your question, you know, how are these? How can they what's going to happen is, you know, it's hard to say, but it's really difficult to gain momentum to gain the installed base to be able to sustain the business. I think that's kind of what we're starting to see, is this consolidation around a relatively small number, it becomes a financial question, not necessarily a technology question, right? You can only go as far as the money coming in. So we're now you know, four or five years into SD-WAN kind of as a as a market and not every company is going to be able to keep moving along developing products unless they start to see some of the returns on that investment.

Scott Raynovich, Chief Technology Analyst, Futuriom

Great.

Brandon Butler, Senior Research Analyst, Enterprise Networks, IDC

Yeah Scott and I, I can answer that just by saying that we have seen some merger and acquisition activity and SEO and market share and mentioned the recent acquisition of Cloud Genix by Palo Alto



Networks. And we expect that that's a continue with this long tail of SD-WAN vendors. We've seen some other m&a in this market as well, obviously, a couple years ago, VMware, buying Velo Cloud and, and Cisco was tele so we expect that to continue and we also expect to see some other vendors move into this market increasingly, for example, HP, Aruba is a company that's increasingly talking about the st (inaudible) branch market and building these integrations between the enterprise campus and Wi-Fi environments out to the branch. This is a competitive environment. We expect some m&a to happen. But it's also a market where we expect to see more vendors talk about their, the networking opportunities that they can enable for enterprises at the edge of their networks.

Scott Raynovich, Chief Technology Analyst, Futurium

Great. Erin, what do you see from the services perspective in terms of the vendor layout? It's still fairly concentrated even at the service providers. Correct?

Erin Dunne, Director of Research Services, Vertical Systems Group

Right. So that that one mention that I had on the leaderboard slide, can be distilled down is that Cisco was not huge into this market at the beginning, right, there was an acquisition, as Brandon just talked about, with the tele (inaudible) their Meraki portfolio, depending on how you define SD-WAN could or could not be considered an SD-WAN technologies now. But what we saw is that a lot of the enterprises would beat on their service provider and say I'm a Cisco shop. I want to stay with Cisco. I want you to offer for me, a Cisco SD-WAN solution, and that was I think the primary driver that we saw for a lot of the Cisco ads on the service provider side that was strictly enterprise driven. And then you saw the next wave. The next wave, which was the service providers wanted to offer two very distinct type of SD-WAN services, one that was maybe highly managed, and one that was maybe less or more into more for co-managed more went up more something like that. So those were the two drivers Cisco plus diversity. I would love to hear from my colleagues here if you saw something different.

Scott Raynovich, Chief Technology Analyst, Futurium

Yeah know, like I said, I keep seeing the same 10 to 12 players I don't love for new love to see something new and interesting. I'm also surprised. I mean every mention of consolidation and m&a. GE that's fine and dandy but one per year ain't gonna do it man if there's 40 companies trying to be bought out or have an exit and there's one happening per year it's gonna take us 40 years right so I don't know a lot of these guys are gonna get failed fail. Anyway, let's move on again we can we can do more analysts questions after the media Q&A but I want to give the media a chance to, to pipe up here and say, so George

George Rickman - NetEvents

I'm just gonna step in here and just remind anyone in the media that if they raise their hand, I will unmute their microphone and allow them to ask their question. Just on that note, I've seen in the Q&A chat function Alfonso de Castañeda, from Zonamovilidad, is asking what levels Input implementation does STM have in Europe compared to other markets such as the USA or China? And he's not put that to anyone. He's just put that to the whole panel.



Scott Raynovich, Chief Technology Analyst, Futuriom

Yeah, go ahead. No, I don't I don't have an answer. I'm going to hand it over to you Shin as you probably have better numbers.

Shin Umeda, Vice President and Analyst, Dell'Oro Group

Yeah. We look at the overall market. So the some of the slides I showed was really a global picture. But if we kind of break it down by the regions, we estimate and based on different feedback in some of our modeling that Europe, I think you said Europe here is less than 20% of the overall SDM market. And yeah, but the big area or big region is in North America where we see anywhere from depending on the time paying them 60 to 70% of the market is very concentrated in North America. Europe is 10 build the smaller the one to one difference here to point out around you, how are these different companies go to market in these different regions. And one of the things that will be different about Europe compared to North America is that the service prior to the telecom operators there tend to have much greater control of that entire productivity market, with fewer businesses actually doing it themselves. And so a big part of the North American market for spy is been driven by large enterprises or enterprise to the point yet SD-WAN by themselves. So that's been kind of a big reason why SD-WAN is much larger in North America.

Erin Dunne, Director of Research Services, Vertical Systems Group

I can jump in quickly and echo some of what Shin was saying from the services perspective. First of all, we'll have a lot more detail after mid-year, when we are coming out with a global leaderboard for SDN services, but echoing what you just said about the European region, much larger issue on the regulatory front. And so that hinders some of some newer technologies. One of the interesting drivers in the Asia Pac region is they have such a high density and deep footprint of fiber to the premise fiber to the home fiber to the business, that the initial driver for a for SD-WAN, which is hey, I want cheap broadband to offload really didn't impact them as much because they had these big pipes that were very, that that were that were priced competitively, so you saw a little bit less on the APAC side because of that specific driver, but I would agree on the US side. That's where we're seeing the bulk of the connectivity at this point most of the services at this point.

Brandon Butler, Senior Research Analyst, Enterprise Networks, IDC

Yeah, I need to say, you know, I'd say tracks the market on a regional basis as well. We expect that and that about half of the market is in North America. So Europe would be about 30% of the market. A smaller proportion of the market. We've seen PJ revenues increase over the last number of quarters. And they're growing up to, to about 15% of global revenues as well. So yeah, we track this at a regional and even down to a country level detail as well. But we expect that those faster growing markets in Asia and somewhat in Latin America as well, to have some of the higher growth rates but from a smaller base. Agree.

Scott Raynovich, Chief Technology Analyst, Futuriom

Great. Thanks a lot. So we have a question?

George Rickman - NetEvents

Yes. We have a question from Guy Matthews from AI Business.

Guy Matthews, AI Business

Go ahead. Hi there. I hope you can hear me. And yeah, in spite of all that I've, I've heard and read, including in today's session, I still can't make up my mind whether the COVID crisis has been incredible. The good timing for us spy on the sensitive people who invested in it before the crisis hit. Will they be the first to emerge from the crisis, whether it's amazingly bad timing in the sense that as Erin pointed out, just as SDRAM is reaching liftoff, the crisis hits and to some extent, sort of crushed a bit of its life out. So is the glass half full or half empty? That's for anyone ready?

Brandon Butler, Senior Research Analyst, Enterprise Networks, IDC

Let me I start that.

Scott Raynovich, Chief Technology Analyst, Futuriom

Good - go first Brandon.

Brandon Butler, Senior Research Analyst, Enterprise Networks, IDC

Okay. Well, I'm an optimist. I'd say glass half full. This has been one of the SU and has been fastest growing markets. Yes. One of the fastest growing markets within the enterprise networking market that we've been tracking it IDC over the last couple of years. And while 2020 I think will dampen the market because of COVID, we at IDC, believe that growth will return towards the end of this year. And then back to a fairly robust growth next year. I think some of the drivers that we see in terms of how businesses are responding in COVID times, relying more on cloud-based applications, for example, will also help to drive SD-WAN adoption into the future. A lot of this is gray area, though. So some businesses, you know, like the survey slide that I showed, some businesses are actually going to be accelerating their investments with SD-WAN, because maybe they do want to ensure those, those connections to cloud based applications, other businesses, they're, they're delaying or maybe postponing their investments as well. It's hard to say, you know, at a broad level, you know, all businesses are doing this or all are doing that. But generally speaking, SD-WAN is one of the markets that we expect will be more resilient. You know, especially if you compare it to something like the enterprise wireless LAN market, for example, the Wi Fi market, we expect that to be hit harder this year, with less, fewer people in an enterprise campus environment, maybe less of a need for a Wi Fi installment. So there. Again, I think this will be a fairly resilient market, both through COVID and then and then certainly into next year.

Scott Raynovich, Chief Technology Analyst, Futuriom

Yeah, I like to say I think the current world will definitely benefit from SD-WAN in the long term. And the reason for that is that if you heard what a lot of the analysts were speaking of it and Erin's interesting slide showing the dip and then kind of the return to normality, which Shin and Brandon also discussed, the major problem was not the demand side, not the demand for the technology. Everybody is demanding more of these virtualization technologies as we get on zoom. We were concerned about



privacy and security. We all want a more secure virtualized network which is what SD-WAN delivers. The problem was the physical supply either supply chain or delivering device to a customer or installing it and all the qualities that I discussed that the managers like about it. When it's easier to manage, virtually from the cloud. Now you do have to sometimes get a device to the customer. And I'll give you two examples. I actually have been struggling with my broadband in the last two weeks, it's been going out a lot and there is a, an issue with a CPE. And the, the service provider who I shall not name was doing everything they could possibly do to evolve to avoid a physical visit, of course, because we know a truck roll cost money, but I was convinced that the CPE device had a problem, there was a physical problem of the connection. They finally came out, you know, and had a whole COVID protocol, but they, they fixed it. And, you know, my point is that that's one of the things that SD-WAN solves with cloud orchestration. using templates, you can deploy hundreds of sites, you know from the cloud without a lot of No physical interaction. And Recently I was on the phone - I can't name the customer or the vendor - but it was thousands of sites. They were deploying for work from home situations. And what they're doing is they were stacking these the only the only challenge in the delivery of the service was the CPE device. And the in the employees were driving into the parking lot, and picking up their device and then taking it home. And then plugging it in. And then it was all orchestrated from the cloud. This was an SD-WAN service and device, they got eat, they got VPN, they got you know, business quality broadband, they got a segmented network that segmented their work traffic from, their, you know, kids doing Netflix, which is the problem we already do. So, you know, SD-WAN plays right into, you know, kind of the challenges of this environment. Not only that, whole work from home Tran, which is going to increase the need for more secure, virtualized, you know, connections in the home? I don't know. Does everybody agree with me or maybe disagree?

Hmm, I guess that's a yes!

Shin Umeda, Vice President and Analyst, Dell'Oro Group

And not that I disagree or agree, but I just yeah, I think those are good points. And interestingly, one of the things in is I made the rounds after the first quarter with the different vendors. On the land vendors, there was almost unanimous feedback, that VPN functionality that was incorporated into their solutions. You saw a big spike in the quarter and the subsequent months all in academic. But interestingly, also unanimously Pretty close enough, the, the vendors really didn't have a way of monetizing that. While they saw this rush of home work from home driving VPN instances, it wasn't a be an aspect of this of their service where they had, you know, expected it to become a revenue driver. It was almost an add on feature that is available. But you know, but that said, I think what this will do is really create some innovation around SD-WAN solutions where the vendors and service providers will start to think about how do we implement SD-WAN at home, or some form of SD-WAN? Right. I mean the true definition of SD-WAN is to have multiple links and not many homes are going to have multiple links. But perhaps You know, some wireless technology or something like that comes into play. So I think the innovation there will be innovation around you know, how some of these technologies are that we think of as SDN evolve and become, you know, part of a work from home or enterprise class work from home solution.

Scott Raynovich, Chief Technology Analyst, Futuriom

So don't worry about what about 5G should (inaudible). Don't you see 5G becoming a natural complement to SD-WAN, though?

Shin Umeda, Vice President and Analyst, Dell'Oro Group

Right? I mean, that's, it will it could be most definitely right. But it's it is a second. You it is a second connection right. And, you know, the difference with SD Lan, say in a branch where you have a density, our density of people is set the cost gets amortized across a larger base of people in a work from home environment. You have one person requiring some resources All right. So it's, you know, these new solutions we'll have to consider how do we make this SD-WAN like functionality available but not have to spend so much. You know, solving a mouse can make it happen right so it's not unsolvable 5g potentially is our that solution every year it's like innovation and creativity, I think is something we can look forward to in an activism future.

Erin Dunne, Director of Research Services, Vertical Systems Group

Yeah. Interesting 5G comment is that just missed the window. The pandemic window was missed by this month. If 5g was pervasive right now everywhere, the 5G plus SD-WAN to get it to your home with that second link. It would be an excellent technology and one that would be achievable. The problem is, you know, echoing what, what a lot of the folks who sit here it's just too SD-WAN to thousands of work from home sites, it has to be, in my, in our perspective, a very highly managed solution, a DIY solution where your IT manager says, Hey, here you go, that's just not gonna work. So, so now you're dependent on the service provider to roll it out, you're dependent on the equipment vendor to have the solution. And those things take time. And we're seeing it, you know, you've seen these announcements by CenturyLink by Comcast, by a lot of the top providers that says, hey, here's your work from home solution, and all attracted differently. You know, some say, Hey, we're gonna roll in a second broadband to your home, and we're gonna attach a device to it and there's your SD-WAN, and others are balancing traffic and this and that. So this is it. It's an interesting issue, but one that I think a lot of enterprises are a little hesitant to jump into, because they're not quite sure if these work from home is going to be work from home forever. So now you incur this cost. Cost of lighting them up. And it might change again. It's a tough one work from home. It's tough.

Scott Raynovich, Chief Technology Analyst, Futuriom

Yeah, I don't I mean, it's a great point about 5G. And I've actually been experimenting. Can't name the vendors because then it gets way too political but I actually have a couple SD LAN devices in my, in my home I've been experimenting with and trying to get a 5G SIM card into an SD-WAN device. And it's actually really hard. Now I don't live in a big metropolitan area. I live in Bozeman, Montana, which you know, we have a university here we have 50,000 people and there's been LTE for quite a long time, but there aren't a lot of 5G options. But to your point, if I could just plug a 5G SIM card into that SD-WAN CPE device right now. And they figure it out from the cloud. And they, it has automatic failover, which they say they do in their partnership with the server service provider, which is how this box is being offered. I mean, I'd be all over it whether or not I mean, I have my own business. So I whether or not a corporation

pays for it or pay for it personally. Personally, I would pay the extra I think they're charging, charging something like 80 bucks a month for

Scott Raynovich, Chief Technology Analyst, Futuriom

I want to say unlimited data. I don't I don't want to say that it, but let's call it you know, 50 gigabits or whatever, but I would do that instantly. I have automatic failover dual links.

Brandon Butler, Senior Research Analyst, Enterprise Networks, IDC

Mm hmm. Yeah, just to respond to a point that Erin made Erin I agree then extending an SD WAN to, to remote workers homes. Such a tall task that it would likely require a man the service accepted. If you have some sort of like AV software, software enabled way to pull this out as well, and I think we're starting to hear from some SDN vendors to sort of offer some baseline capability, i.e. not a fully fledged SD-WAN, that would require a fully fledged router to enable. But if you're able to be able to have VPN capability extended to devices in homes, maybe there's a way to, to offer a sort of lessened, or less feature rich offering software only that can be extended as well. I'll be interested to see if those become popular and for the rest of this.

Scott Raynovich, Chief Technology Analyst, Futuriom

Well yeah, I'm gonna I'm actually gonna push back a little because I'm involved in a project on this right now with a company that's actually doing this. They're rolling it out to, I think, 4000 people, they're rolling out SD-WAN devices. And one rationale is that just to give an example I'm not gonna have the numbers exactly right. But say they have 10,000 employees, they said before the pandemic, they had 10% of the workforce at home. Then they went to 90% temporarily, right? If they said, going back, they did a survey, a company-wide survey, and over 50% of the people working at home temporarily, so they want to stay there. So they think going back, even, like, let's say we have even like a vaccine next year, they think they're that half their workforce is going to be at home, you know, they're going to go from 10% to 50%. And then when they calculate the real estate savings, now they can't get out of these leases, but the average lease cost per employee from some numbers we ran is anywhere from 10 to \$15,000 a year per employee. So if you take that money that \$15,000 I mean, I'm sure the IT spend is a lot lower now. I'm

George Rickman - NetEvents

just gonna jump in. We've just in the interest of time, we've got three more questions. So I thought I'd get, get some other questions out there and say

Scott Raynovich, Chief Technology Analyst, Futuriom

we're gonna get a new argument, George.

Erin Dunne, Director of Research Services, Vertical Systems Group

I was gonna argue with you, George cut me off..

George Rickman - NetEvents

So next up, we have a Guy Kindermans from Data news, Belgium. And guys got a question about COVID and SD branch at home.

Guy Kindermans, Data News Belgium

Actually, Guy Kindermans from Belgium and also freelancing in regard to security and privacy. And actually, the question to an extent already has been partly answered because actually it was asking about is the one at home because clearly, security will be an extremely important element to provide a secure way of access to your core IQ applications from at home. Particularly with a view to the fact that those networks at home are polluted with plenty of unauthorized devices, probably very dangerous it products and devices as well. So to an extent, even if you have any kind of SD-WAN light SD-WAN branch light, it seems to me that it will be very challenging to indeed to conceive, produce and provide a truly secure service. Starting from that much of an insecure starting point. I will be debt doable, affordable. Also, for smaller companies.

Scott Raynovich, Chief Technology Analyst, Futuriom

Oh, great, so we can continue our discussion. And Erin, you well let you address, you know, that's a great question that can SD-WAN address security in the home.

Erin Dunne, Director of Research Services, Vertical Systems Group

Right. So let's just drop that software based solution, Scott that you're talking about. onto my 2012 MacBook Pro that's going to choke and not be able to handle the processor, and then have the other 18 devices that are floating around my house. Try, you know, as the gentleman just asked, polluted possibly. I just feel like this work from home is a tough environment, not only from the security aspect which I will happily offload to somebody else. But from the networking aspect of if you don't roll a second pipe to that house, it's really hard to separate the traffic. Because if I'm working on my work-based laptop, and that's the one with the VPN on it. And then I want to here's the classic example, sir Facebook, what do I do swivel to my other laptop that's not secure, or run that over the corporate traffic, corporate VPN. So, so there's just a whole bunch of a bunch of issues out there about where that box sits, where the software sense does it secure every device you have second. Do you have another? Do you have another pipe coming into the home? It's fraught.

Scott Raynovich, Chief Technology Analyst, Futuriom

Why Yeah, I would say they just do it with the CPE device. But you know, I've been asking for the SD-WAN the as an example the on the box that I've used testing, the vendor unnamed vendor is not provided by my service provider, which does not offer a CPE device. Let's face a CPE device should just be like a mini router for your home you know, wireless access point combo router, which is most people have DSL modem fiber de Pon (inaudible), whatever it is, put the SD-WAN on that device and deliver that to the home and it can do all the things you talked about. No, my service provider doesn't offer that but I want it.

Erin Dunne, Director of Research Services, Vertical Systems Group

Yeah, but then what happens when your kids start doing 12 streams of HD Video?

Scott Raynovich, Chief Technology Analyst, Futuriom

throttles them, as I've programmed them to throttle them.

Erin Dunne, Director of Research Services, Vertical Systems Group

That means your traffic is dropped over the corporate SD when is dropped as input into the corporate box.

Scott Raynovich, Chief Technology Analyst, Futuriom

For traffic, there's a way to say,

Brandon Butler, Senior Research Analyst, Enterprise Networks, IDC

Well, how are you gonna say, Erin, I completely agree with you that it's gonna be messy, extending that to home users, but I think there could be a certain level of benefit that you do get out of it, even if you're able to get the white SD-WAN functionality out of it. If you're able to encrypt traffic if you're able to ensure a higher percentage of employees are using a VPN, that's a win for enterprises, you know, even if you only have one connection that that's being able to serve it. If you're going to lose functionality compared to you know, what sort of Su and functionality you get from a you know, a Cisco router in your branch office, but it's better than nothing, right? Sure.

Scott Raynovich, Chief Technology Analyst, Futuriom

Shin, you're quiet?

Erin Dunne, Director of Research Services, Vertical Systems Group

You're quiet. Yeah, come on!

Shin Umeda, Vice President and Analyst, Dell'Oro Group

Yeah, I think my point earlier is that we're gonna have to see really a shift in the solutions, right? I think we really can't apply to these SD-WAN solutions for branch locations into the home. Right? It's this evolution and figure out how to make this work to some degree and maybe it's Brandon, call it spy on life, but then is it SD-WAN anymore? And so it's, it's partly technical. It's partly you know, what we want to what we want to put into as clean pockets. But obviously there is going to be a need for secure connectivity to homes and whether it needs to be optimized for you know, that in the way the sky and optimizes training Maybe that doesn't happen, maybe it happens in a different way. I think it's still early, early days on this. It's, it's, I think it is a whole new branch. Pun intended here off of SD-WAN. Right. We know SD-WAN is still involved, we know that SQL is still changing today. What we see today is completely different than three years ago. I think in the next year or so, well, we'll see a lot of different solutions being thrown out into the marketplace. I haven't what sticks. Who knows, but I think it's going to be interesting. I think the market has already started to split in terms in Erin alluded to this in terms of a high-end type of SDN functionality to kind of a lower mid highly managed functionality. I think we see this split

off Again into the work from home category of technology and user so it's going to happen. Yeah, how it happens, I think is the interesting part. Pretty well. In fact.

George Rickman - NetEvents

Scott one, we've got two more questions. We've got Hector Pizarro from Diario TI.

Hector Pizarro, Diario TI

Hello, everybody. And I have a question for Scott. You mentioned that 29% of respondents to your survey say they are evaluating as the one but not sure yet. The only 1% are sure they don't need it. Given all the advantages described by Shane and yourself and the other analysts, it's so obvious that they would benefit from its adoption. The question is, then what is missing? holding them back, because that's those the third of respondents. In other words, the main reason?

Scott Raynovich, Chief Technology Analyst, Futurium

Um, it's probably money, right? I mean, most technology investment cycles are driven by it's an upgrade. Most of the people I've talked to, who are implementing SD-WAN are evaluating their branch office routers. And they're saying we have all these branches connected with this routing device. And a lot of the SD-WAN implementations are triggered by this upgrade slash evaluation cycle, this equipment stalled. What do we do next? Do we buy a new router? Oh, there's this thing called SD-WAN, which does routing and by the way, it does a bunch of other stuff too. And we can cloud orchestrate it. I would say that the people that are stuck are probably you know, looking for budget to go through this evaluate this this upgrade cycle. I don't know. What do the other analysts think?

Erin Dunne, Director of Research Services, Vertical Systems Group

Inertia. It's just hard to change is hard.

Brandon Butler, Senior Research Analyst, Enterprise Networks, IDC

Yeah, I completely agree. I completely agree. Erin. I was gonna say the power of inertia. And you know, I could see enterprises who have a fat MPLS connection between their branch office and their data center. And they're not heavily using cloud services. This this relatively a legacy architecture, if that's how they've been doing it for a long time, and they don't have a huge need for additional cloud services. there for security reasons not looking to adopt broadband or cellular connection as a secondary Link, when you know, we get similar survey data of single digits, have responded to or not interested in SD-WAN. And that's, that's sort of why think of the profile. When I think about data, and it's, you know, this is the same, we've seen cloud managed networking across multiple areas, including SD-WAN and enterprise networking as well. You know, it's a subset of the market now, but it provides a lot of advantages for folks, but there's still going to be a certain class of the market. And that's just not willing to move on to a cloud-based management of their enterprise networking technology. So, you know, these enterprise markets are big, these are multi-billion dollar market. You're gonna have a lot of different approaches that enterprises take across those different swaths of the market.



Scott Raynovich, Chief Technology Analyst, Futuriom

Excellent.

George Rickman, NetEvents

We've got Vladimir Vladkov from ICT, Bulgaria. And his question is, will SDN accelerate 5g adoption at the enterprise market? As the Telco's and cloud service providers are the biggest customers. And that's to the whole panel. So anyone can answer that.

Brandon Butler, Senior Research Analyst, Enterprise Networks, IDC

Yeah, well, I can start off and say that one of the trends that we've seen over the last couple of years has been the increased use of cellular technology in general, from LTE and 4g as primarily a backup connectivity option to augment MPLS or a broadband connection. So we expect that to continue and I would expect that as you see 5g initially coming to the enterprise market, we'll see 5g use cases in a number of areas. within the enterprise, and I think the big shifts that you could see is migrating 5g into a primary connectivity. And then you would augment that 5g connectivity with a broadband or an MPLS for certain traffic. So, yes, I believe SD-WAN could be an enabler for 5g into the enterprise. Specifically, I think it could represent a cost optimization compared to, to an MPLS. And, and so it would provide an opportunity for enterprises to bring that that cellular connectivity and but a lot of enterprises are fairly happy with broadband and MPLS as their two connections. Now.

Shin Umeda, Vice President and Analyst, Dell'Oro Group

I can add to that a bit. I agree that it's an enabler for 5g will be an enabler here. I think that over time, what we're going to see is that wireless connectivity will actually expand the opportunity for SD-WAN right. All the discussion or most of the implementations and discuss today around multiple wired connection types diagram MPLS and internet. Well, the internet is really the kind of the backbone, if you will, how you get to the internet will evolve right and it can see 5g become more prevalent than, then this is prime instead, it's going to become a an alternative form of conductivity. Particularly in places where maybe there isn't fiber, maybe there isn't a good second broadband option. It's just going to make it much more attractive to go in that direction. So kind of like the question earlier about why, you know, like, some enterprises aren't moving as quickly.

Erin Dunne, Director of Research Services, Vertical Systems Group

I think the question as you just said, such as is probably backwards. Because if you look at the very first driver for 5G - it's first you know, brought in arbitrage then maybe, you know, cellular connectivity. It has to roll out first before, you know SD-WAN could even drive. I just think it's a little bit backwards because I live in Boston. I can see though, I can see the 5G box from my window, and I still can't get it. So they're just gonna get it.

Scott Raynovich, Chief Technology Analyst, Futuriom

Interesting. Okay, great questions, everybody. We're out of time. I'm going to wrap it up. Thanks, everybody, for joining us, and it was a pleasure. I want to thank NetEvents for including all of us and check out our research. And this is a fun market to watch. And I'm sure it's going to be more fun. And I



think Mark you have some remarks on where people can get slides and on the series going forward, because there's gonna be more of these, right?

Mark Fox, CEO, NetEvents

Yes, there's a hidden area that Helen's sent all the press a link to, on the website and the password to download all of the analyst's info. So, so that's all available to also you'll be getting an email from Helen as well with a full transcript of the session today. So as well as all the endless data that's been provided, and some of these reports, as you probably aware of very new all of the press, there's also the speaker BIOS and so on, available and we within the next seven days, we're putting together a webcast and podcast of this session as well. Any of the media, like some of our media partners around the world, if you want to make use of those podcasts and webcasts linking to them from your stories, and your obviously very welcome to that. And we will be sending you the embed codes as well for that. The next events coming up, George Next slide. You can see there some of the events that are coming up shortly. We've got a CIO Roundtable, mid-July, with Omdia chairing that particular session. And then after the summer holidays we've then got Trends in Multi-Cloud and Cloud Native Networking. We've got another event that we're doing on a new survey that's just about to come out from GlobalData. It's a survey they do once a year and this is a fifth year of the survey. surveying CIOs within 4200 Enterprises, on buying trends. So that's, we're doing a whole session on that. And then we've got new cloud edge, which Scott will be chairing. So that's a nice little follow on to this session, especially considering last question from media, they're talking about 5G, follow on with SD-WAN session, etc. And then sessions on security and an automation in the network. So those are the next sessions. And thanks very much for joining us from all different parts of the world from Latin America, US, Europe, etc. I don't think we had any folks from Asia today. I know I'm the last one we did. Some folks got up very early in the morning, middle of the night to attend. But thanks, everybody for attending. We appreciate your support. And thanks to a great panel today. So thanks, Scott for chairing the session. Shin. Thanks for your Time Brandon and Erin. And thanks very much for participating today and hope to do some future events with you as well. So, thank you. Thank you. Cheers. Bye

All speakers

Thank you

