

WEBVTT

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00:03:13.890 --> 00:03:22.590

Alexandra Gates: Hello and thanks everyone for joining. I'm just going to start in about one or two more minutes. Is it looks like there are people still joining to the session.

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00:04:44.550 --> 00:04:49.170

Alexandra Gates: Alright, looks like the participants have leveled off. So I'm going to go ahead and get started.

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Alexandra Gates: My name is Alexandra gates. I am the Director of Product Marketing at extreme networks, but the session today, it's not going to be vendor specific

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00:04:59.910 --> 00:05:06.360

Alexandra Gates: About 90% of it. I'm going to be talking more about what's happening in the industry with relation to networking

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00:05:06.870 --> 00:05:16.080

Alexandra Gates: So I'll be covering Wi Fi 6456 he specifically diving into AI and ML and how we're starting to see that actually come to fruition.

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00:05:16.500 --> 00:05:34.590

Alexandra Gates: Talking about cloud why increasing speed isn't necessarily enough and a few other topics as I pull up the agenda here. Additionally, I will be talking about this kind of new normal that

we're starting to coexist with with the code pandemic and how you can adapt your networking infrastructure.

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00:05:35.700 --> 00:05:54.510

Alexandra Gates: To deal with this unique situation that we're in and I'll wrap up with a live demo of a cloud management application infrastructure you guys do have any questions throughout the session, please enter them into the Q AMP a panel and I will try to get to those at the end.

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00:05:55.650 --> 00:06:08.370

Alexandra Gates: And answer any questions that have come in. Of course, if there are any that I don't get to we'll make sure that we address those after the session either myself or one of our other local territory account reps from extreme networks.

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00:06:09.000 --> 00:06:17.250

Alexandra Gates: I'm going to go ahead and get started. And you know, when you're talking about networking. There's been quite a few changes over the past 10 years

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00:06:17.580 --> 00:06:25.650

Alexandra Gates: with relation to infrastructure and the actual demand that people place on wireless and wired networking infrastructures.

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Alexandra Gates: And really today Wi Fi is as required or as expected as something like electricity or running water in a building, when you walk in somewhere.

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00:06:35.940 --> 00:06:46.770

Alexandra Gates: Whether it be a school or an office building, or a shopping mall or a grocery store, you expect to be able to connect to the wireless network, be able to access the applications, you want

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00:06:47.010 --> 00:06:55.080

Alexandra Gates: And it's something that, again, is kind of seen as a utility today, as you would expect a hotel to have electricity and running water. You also expect to have

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00:06:55.380 --> 00:07:03.930

Alexandra Gates: A working wireless network, or at least a networking infrastructure and that's been quite a bit of a challenge because of the explosive growth in data.

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00:07:04.260 --> 00:07:16.740

Alexandra Gates: And we're predicting that by 2025 so less than five years from now, we're going to be 75 billion devices out there and that's both in the hands of people and also IoT events.

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00:07:17.280 --> 00:07:24.810

Alexandra Gates: devices that are more headless, they're not operated by a person 24 seven and the number of devices that are increasing.

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00:07:25.290 --> 00:07:35.970

Alexandra Gates: Exponentially also relates the amount of data that's being generated by these devices. Right now it's at about 463 exabytes of data generated per day.

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00:07:36.270 --> 00:07:42.690

Alexandra Gates: And the infrastructure is networking infrastructures are having to cope with that but also evolved to meet those needs.

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00:07:43.020 --> 00:07:49.950

Alexandra Gates: And today, as it stands right about 5.1 billion mobile users. And again, that's growing daily

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Alexandra Gates: But unfortunately it teams, especially in education aren't getting more headcount to deal with this massive growth and devices and data and applications and budgets are typically not increasing either

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00:08:04.650 --> 00:08:18.060

Alexandra Gates: To add even more fuel to the fire. There's more cyber attacks and other attacks to your networking infrastructure that you have to deal with. And especially when everyone's remote that's adding even more complexity to the equation.

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00:08:19.380 --> 00:08:25.080

Alexandra Gates: And again, when I'm talking about these different levels of networking and how its evolved. It used to be just about the users.

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00:08:25.410 --> 00:08:34.950

Alexandra Gates: So if you're talking about education, you'd say, you know, my school district has 1200 students. So we need to provision for about 1200 devices.

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00:08:35.310 --> 00:08:40.740

Alexandra Gates: But then that's increased average right now is about four devices per person.

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00:08:40.980 --> 00:08:53.130

Alexandra Gates: So now you're talking about 1200 students and another 400 faculty and staff need to multiply that by four to actually provision for the amount of infrastructure in terms of bandwidth and data that you can provide

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00:08:53.490 --> 00:08:57.960

Alexandra Gates: To those types of devices. And then on top of that layers, the applications.

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00:08:58.230 --> 00:09:08.010

Alexandra Gates: So, whether it be something that's actually facilitating learning and your environment or simply streaming video on YouTube or Hulu or accessing social media networks.

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00:09:08.220 --> 00:09:16.860

Alexandra Gates: Need to be able to have more control until what's happening on the campus right starting even with just having visibility into what applications are being utilized

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00:09:17.520 --> 00:09:20.130

Alexandra Gates: And then we've, you know, in the last three or four years.

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00:09:21.030 --> 00:09:31.290

Alexandra Gates: Gone into this realm of IOT Internet of Things, and that now we're talking about not just user operated devices like laptops or smartphones or tablets.

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00:09:31.500 --> 00:09:41.760

Alexandra Gates: But now we're talking about thermostat thermostats are each back systems are sensors that aren't operated by a human being, but they're still on the network, they're collecting data they're sending data.

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00:09:42.000 --> 00:09:53.700

Alexandra Gates: They sometimes are even more susceptible to attack. So we need to make sure that we can secure all these types of devices, not just the traditional networking devices that were used to in this space.

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00:09:54.450 --> 00:10:04.560

Alexandra Gates: And now, again, I mentioned kind of this new normal and covert the networks are even more distributed than ever. And you need to be able to manage and have visibility into what's happening.

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00:10:04.860 --> 00:10:17.790

Alexandra Gates: And that's kind of where we've pivoted as an industry, particularly the larger networking vendors in the space to adopt cloud networking to be able to evolve as times have changed.

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00:10:18.180 --> 00:10:23.430

Alexandra Gates: And this might be kind of what you're feeling like right now you have an elephant on your back.

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00:10:23.700 --> 00:10:30.480

Alexandra Gates: There are scarce technical resources more network complexity more devices more things more applications more users.

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00:10:30.750 --> 00:10:44.760

Alexandra Gates: And again, you don't have more budget or technical resources to deal with that. So as a vendor. We're trying to figure out how can we simplify that equation or simplify that that caseload for our education customers in particular.

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00:10:45.360 --> 00:10:48.540

Alexandra Gates: And one of the ways is to prepare on the capacity side.

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00:10:48.930 --> 00:10:56.820

Alexandra Gates: Of course just adding speeds and feeds and increasing your bandwidth isn't going to be enough. But it is a good step into providing the

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00:10:57.000 --> 00:11:08.340

Alexandra Gates: Appropriate infrastructure that all of your users need, whether they're the students, the faculty, the guests that are coming on campus or today if you're looking at a more distributed learning type environment.

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00:11:08.580 --> 00:11:12.870

Alexandra Gates: Capacity is still going to be kind of that first step of the equation.

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00:11:13.380 --> 00:11:25.050

Alexandra Gates: This is the the current problem that we're seeing in wireless networking in particular is that, you know, we keep increasing the theoretical speeds, but there's just not enough spectrum to utilize

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00:11:25.380 --> 00:11:33.120

Alexandra Gates: So on the left hand side, you see, you know, there's quite a few lanes, you can compare those to the channels that we utilize and wireless networking

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00:11:33.390 --> 00:11:40.680

Alexandra Gates: But if you have thousands and thousands of people even hundreds trying to use those same lanes, you're still going to lead to traffic.

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00:11:40.980 --> 00:11:49.950

Alexandra Gates: And if there's ever a problem with the network or there's a particular problem user that's hogging all the airspace. It's going to look more similar to what's on the right hand side.

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00:11:50.310 --> 00:12:03.630

Alexandra Gates: And wireless is a shared medium. So if someone is hogging the airspace everyone else has to wait for them to finish their turn. Before there. And in turn, able to utilize a specific wireless access point.

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00:12:04.110 --> 00:12:12.810

Alexandra Gates: So again, over the last 10 years through this wireless evolution. We've been increasing the amount of speed that people can achieve, but no one was really focused on

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00:12:13.050 --> 00:12:21.330



Alexandra Gates: Efficiency, or how people are actually interacting with access points and the the bandwidth or the spectrum that we're able to utilize and that's where

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00:12:22.980 --> 00:12:32.430

Alexandra Gates: Or Wi Fi six came into the equation and then that goes hand in hand with six gigahertz, which is something that the networking industry is looking into right now.

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Alexandra Gates: hopefully going to be in utilization and the next two years or so, I'm going to spend a couple minutes talking about that here.

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00:12:40.290 --> 00:12:48.390

Alexandra Gates: So have mentioned Wi Fi evolution, a couple times this is putting it more into a timeline here, you know, wireless came about.

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00:12:49.260 --> 00:12:56.970

Alexandra Gates: About 1997 and it introduced very low speeds. But that was okay, there weren't a lot of mobile devices.

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00:12:57.180 --> 00:13:05.670

Alexandra Gates: There weren't a lot of people that were trying to take advantage of Wi Fi. It just wasn't something that people were familiar with or anything that they depended on yet.

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Alexandra Gates: However, around 2007 the birth of the smartphone came about. And with that, there were thousands and thousands of people

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00:13:14.220 --> 00:13:23.250

Alexandra Gates: With these devices in their hands that they wanted to connect to wireless because it was typically cheaper than cellular the plans that were being offered and that day.

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00:13:23.490 --> 00:13:30.210

Alexandra Gates: And they wanted to be able to access things like video streaming or social media networks anywhere they were

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00:13:30.510 --> 00:13:41.820

Alexandra Gates: And that was what they were depending on and that's when we saw a big shift in the wireless networking evolution, where we saw a large increase in speed so 300 megabits per second 600

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00:13:42.120 --> 00:13:48.690

Alexandra Gates: Up to gigabit per second, theoretically, with 802 11 AC and that just kept increasing

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00:13:49.110 --> 00:14:00.060

Alexandra Gates: However, now about two years ago 802 11 x or Wi Fi six was finally ratified and that brought about theoretical speeds of 10 gigabits per second.

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00:14:00.600 --> 00:14:04.290

Alexandra Gates: per seconds, but the main focus was actually on efficiency.

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00:14:04.650 --> 00:14:09.150

Alexandra Gates: And now we couple that with six gigahertz that's going to add more spectrum.

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00:14:09.330 --> 00:14:22.740

Alexandra Gates: So yes, it is going to increase speeds, but it's also going to make our communications more efficient. There's not going to be as many traffic collisions or backups. I have a couple of slides that can represent that a little bit more visually.

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00:14:23.040 --> 00:14:39.990

Alexandra Gates: And as we look out into the future maybe 2023 or 2024 that's when the Wi Fi seven or 802 11 G is going to start entering the equation. There's not a lot of details on that yet, but stay tuned for more information as we get closer to that timeframe.

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00:14:41.040 --> 00:14:41.190

Alexandra Gates: So,

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00:14:42.630 --> 00:14:57.840

Alexandra Gates: Again, or Wi Fi six. They both mean the same thing. This was introduced, about two years ago and just now we're starting to see more devices that are actually as capable coming out into the marketplace and us into the hands of users.

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00:14:58.140 --> 00:15:07.770

Alexandra Gates: So these are kind of the high level features that 802 11 X introduced. There is of course a 1200 page report that talks about it in detail.

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00:15:07.950 --> 00:15:17.460

Alexandra Gates: But this is a great technology poster again vendor neutral. I just talks about. It's the seven seven or eight most important features that came out in the standard

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00:15:17.850 --> 00:15:29.940

Alexandra Gates: Target wait times and interesting one. That means that any device that's 802 11am capable and you have 802 11 X access points are actually going to achieve a better battery life.

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Alexandra Gates: So it negotiate some more beneficial sleep and wake time with the AP and it extends the battery in that device. So that's one of the driving forces behind getting consumers to adopt X smartphones or tablets or laptops, because they want an extended battery life.

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00:15:46.740 --> 00:15:59.880

Alexandra Gates: There's other things that clean up the airspace and more efficiency like 256 to 1024 bomb. There's some interesting stuff and the OB SS space, but really the most important feature is left DMA

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00:16:00.150 --> 00:16:16.290

Alexandra Gates: For the top left hand corner of this poster orthogonal frequency division multiple access and I'm going to spend a couple minutes on here because I really think it's important to understand how it operates, but also talk about this big shift in wireless networking in general.

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00:16:17.340 --> 00:16:20.220

Alexandra Gates: So how Wi Fi existed before.

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00:16:21.840 --> 00:16:32.910

Alexandra Gates: Was oof DM and that means that no matter how much data particular client is trying to send or receive they take up the entire channel at one time.

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00:16:33.210 --> 00:16:37.290

Alexandra Gates: So you can see I've kind of broken it out into different colors assigned to each client.

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00:16:37.590 --> 00:16:48.240

Alexandra Gates: But client one gets the airspace and then client 234 and so forth. And they hog that entire airspace, no one else can communicate with the access point or that radio

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00:16:48.420 --> 00:16:56.940

Alexandra Gates: When they're already utilizing that airspace. So visually. It's going to look something like this. And if you're watching the slide. This is going kind of slow

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00:16:57.150 --> 00:17:13.080

Alexandra Gates: The access point talks to each device in order. If there's a mesh link between the access points. It also has to wait in line to get that communication and it serves those clients, one at a time. Now what oof DMA does with the introduction of

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00:17:14.850 --> 00:17:21.180

Alexandra Gates: That can actually break up the channel with to serve multiple clients at a time. So client one and two.

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00:17:21.390 --> 00:17:30.210

Alexandra Gates: And be served at the same time and maybe for clients at a time. And if there's a client that has a really big data payload that they want to share, maybe they get the entire channel.

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00:17:30.420 --> 00:17:47.070

Alexandra Gates: For a couple seconds or milliseconds, more likely, and then to clients back to one maybe three and it's doing this via resource units. So the access point actually decides how it's going to serve those customers and that's why it's important to look at the processor that's within the

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00:17:48.930 --> 00:18:03.420

Alexandra Gates: Access Point. So now I have a new visualization here, you got to look at it really quick because all the clients can be served simultaneously. And then it comes back to the access point. So again, this is being

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00:18:04.830 --> 00:18:11.460

Alexandra Gates: You know operated with resource units you can break up a 20 megahertz channel to serve multiple clients.

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00:18:11.730 --> 00:18:24.960

Alexandra Gates: So between one and nine people in the real world on a single 20 megahertz channel again and again the access point is going to allocate how they serve those clients. So it's something that is decided by the access point and it

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00:18:25.380 --> 00:18:30.690

Alexandra Gates: Can identify as clients and then it can serve them differently than it would like to see clients.

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00:18:30.930 --> 00:18:36.360

Alexandra Gates: So it is backwards compatible, but it's really changing the way that wireless operates, quite honestly.

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00:18:36.600 --> 00:18:42.210

Alexandra Gates: And it's really exciting. It's a lot more efficient. It's going to clean up the airspace, it's going to make things a lot easier.

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00:18:42.390 --> 00:18:55.080

Alexandra Gates: But we need more as devices to be able to take advantage of that. So as those start getting into the hands of the users in a little bit higher quantities. That's going to be a big improvement for everyone in the networking space.

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00:18:55.770 --> 00:19:04.980

Alexandra Gates: You can kind of see, I know this is an eye chart, but the evolution of Wi Fi four to five to six and then as we're getting into six he, that just means that it's

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00:19:06.720 --> 00:19:11.430

Alexandra Gates: Coupled with the access to the six gigahertz spectrum.

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00:19:12.000 --> 00:19:23.370

Alexandra Gates: So you can see that Wi Fi six that utilizes the 2.4 and five gigahertz spectrum. There's only three non overlapping channels and 2.4 there's up to 25

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00:19:23.610 --> 00:19:38.940

Alexandra Gates: And five gigahertz that can be taken down by DFS or other interference issues. What six gigahertz is doing is introducing a new unlicensed spectrum that vendors can take advantage of and operate in. And it's also introducing

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00:19:39.810 --> 00:20:01.170

Alexandra Gates: Are enforcing the WPA three wireless security standard as well. It is important to note that six gigahertz devices aren't necessarily backwards compatible, but the Wi Fi six he AP would serve those six gigahertz devices and then sort of the other ex clients or AC or and and so forth.

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00:20:02.310 --> 00:20:06.540

Alexandra Gates: So this is kind of what it looks like broken out into what the actual spectrum is

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00:20:06.840 --> 00:20:22.440

Alexandra Gates: So six gigahertz Wi Fi channels will add another 1.2 gigahertz of spectrum in the US about 500 megahertz in Europe, but again it's unlicensed so there is still debates going on about how this is actually going to work, what it's going to look like.

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Alexandra Gates: But we're expecting to see some consumer access points maybe at the very tail end of this year into next year and then more

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Alexandra Gates: Enterprise grade vendors releasing six gigahertz capable access points in the space. It's kind of the rough estimate right now.



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Alexandra Gates: So what are the, what's the value in the six gigahertz play

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Alexandra Gates: Is doubling the bandwidth. So that is a good thing. There's more channels that you can operate on there's not going to be quite as much interference.

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00:20:53.370 --> 00:20:58.560

Alexandra Gates: And it's going to be cleaner spectrum. There's no DFS to worry about in six gigahertz.

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Alexandra Gates: And there's going to be higher performance clients. Again, you would have to have a six he client to take advantage of us might be slow to come out in terms of the marketplace.

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00:21:10.350 --> 00:21:24.240

Alexandra Gates: But anything that's Wi Fi six or six, he is going to clean up your airspace, that's going to be a very positive thing for education institutions. Once things go back and there's people returning to campus and in full numbers.

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00:21:24.480 --> 00:21:27.540

Alexandra Gates: So luckily, you know, we're going to have some time to adopt to this.

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00:21:27.870 --> 00:21:32.880

Alexandra Gates: But it is going to be a positive thing to look forward to. From an IT administrator perspective.

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00:21:33.090 --> 00:21:47.250

Alexandra Gates: Or even if you're a user, if you're a teacher or a faculty member, this is going to make the Wi Fi network better and hopefully improve educational experiences and decrease some of that that pain that can be caused by wireless networks that don't work.

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Alexandra Gates: So, hand in hand with that has another security protocol. So with 802 11 AC. So now four to six years ago WPA two was the standard with the introduction of

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00:22:03.690 --> 00:22:25.800

Alexandra Gates: WPA three was made mandatory there's two different categories enterprise and personal. It made protected management frames mandatory and then it changed a couple other things. The most notable change is that they're replacing TSK with SAE so PS K is pre shared key, you know,

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00:22:26.820 --> 00:22:35.520

Alexandra Gates: A lot of sub susceptibility to attacks or people knowing the password getting access to your network. You can also do things like offline dictionary attacks to

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00:22:35.880 --> 00:22:45.090

Alexandra Gates: To obtain the key SAE is simultaneous authentication of equals, and use a different uses a different communication.

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00:22:45.480 --> 00:22:57.540

Alexandra Gates: With the access points in the users and it never explicitly exposes the key. So, it is much more resistant to attacks and again this is replacing PS k. So, that is going to be a big shift.

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00:22:57.990 --> 00:23:05.700

Alexandra Gates: It's only mandatory. If you have new devices and a lot of vendors are starting to release their SAE type authentication protocols.

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00:23:05.940 --> 00:23:14.430

Alexandra Gates: So if you are looking to upgrade to a x and you have a ex clients, make sure you talk to your vendor about their essays support and their WPA three support.

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Alexandra Gates: And there's a couple other things that have come out that are optional, but again the WPA three is what's mandatory with 802 11 x but there is a two year or so.

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Alexandra Gates: A period where you can up update or upgrade your network to be WPA three compliant. A lot of good things happening, both in terms of security and efficiency and bandwidth in the wireless space.

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00:23:39.450 --> 00:23:49.830

Alexandra Gates: So moving on from that topic now shifting gears a little bit, talking about how to prepare in terms of increased visibility, but also the control that you have over your network.

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00:23:50.400 --> 00:23:56.280

Alexandra Gates: And that's typically where you talk about centralized management. So you have a single pane of glass, you can log into

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00:23:56.550 --> 00:24:02.550

Alexandra Gates: Not only to onboard and deploy infrastructure devices like access points routers and switches

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00:24:02.820 --> 00:24:13.170

Alexandra Gates: But also, where you can go to to see exactly what's happening on the network at any given time. Also things like troubleshooting remotely. That's where centralized management comes into play.

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00:24:13.530 --> 00:24:19.950

Alexandra Gates: I think most schools today do have a form of centralized management, five years ago that was a lot different.

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Alexandra Gates: But things have evolved quite rapidly over the past couple years.

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Alexandra Gates: Whether that is a controller based model or a cloud based model, you know, the fact that you have centralized management is the most important thing

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00:24:31.980 --> 00:24:39.390

Alexandra Gates: However, now with today's changing infrastructure changing trends with code and the distributed networking

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Alexandra Gates: That's when a lot of vendors are starting to push cloud driven networking and making that even more important than it has been in the past.

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00:24:47.970 --> 00:24:53.880

Alexandra Gates: And that's where you can couple of things like automation tools, machine learning AI I'll touch on those

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Alexandra Gates: In the coming slides, but it is an exciting space and even the big vendors that used to be you know those solid controller based networks.

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Alexandra Gates: Are now pushing cloud because they know that the network's evolving. They know that the customers are evolving and they need to switch up their, their offerings in order to meet those needs.

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00:25:15.660 --> 00:25:28.440

Alexandra Gates: So distributed connectivity requires centralized management and visibility, but you also want it to be simple smart and secure. So you need to make sure again that the vendor you're talking to, as a robust

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00:25:28.860 --> 00:25:41.610

Alexandra Gates: cloud offering whether you want to utilize on premises or cloud, you know, that is, of course, up to you but you want to be able to make sure that you can migrate. If your needs change. And that's something that a few vendors are offering today.

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00:25:42.030 --> 00:25:51.840

Alexandra Gates: Of course, with more control and more insights you also get more Analytics. So again, trying to keep this vendor neutral. I will show you an example of what our tool looks like at the end.

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00:25:52.110 --> 00:25:59.580

Alexandra Gates: But if you are already working with another vendor, make sure you talk to them about the insights, the analytics what they're doing with machine learning and AI.

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00:25:59.820 --> 00:26:07.620

Alexandra Gates: There's quite a bit that you can do to simplify your life using these systems that are being built out by the major networking vendors in the space.

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00:26:08.460 --> 00:26:20.160

Alexandra Gates: And when you know vendors are talking about cloud. We all kind of have these same conversations that we based the benefits around and I've kind of broken it out into six main values.

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Alexandra Gates: They all start with the letter S. So hopefully, easy to remember. But simplicity speed service scale security savings, just to touch on each briefly the simplicity

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00:26:32.100 --> 00:26:41.400

Alexandra Gates: Really cloud networking platforms management applications in particular do make the management and the ongoing support of your network quite a bit easier.

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00:26:41.670 --> 00:26:47.760

Alexandra Gates: You don't necessarily have to be on site to make any changes you can pre provision or update devices remotely.

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00:26:48.060 --> 00:26:57.960

Alexandra Gates: You can have someone on site plug a device into an Ethernet cable automatically pull it on its configuration. So you don't have as many truck rolls or hands on.

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00:26:58.530 --> 00:27:05.400

Alexandra Gates: Interactions with the devices and that's especially important when you know there's not a lot of people out on campuses today.

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00:27:05.670 --> 00:27:13.860

Alexandra Gates: To enforce social distancing. You want to be able to do everything remotely and you want it to be simple. So there's a lot of streamlined workflows.

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00:27:14.130 --> 00:27:24.780

Alexandra Gates: And configuration wizards. Now that can walk you through the process of getting something up and running or fixed if you're running into a problem that's kind of the simplicity piece speed.

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00:27:25.770 --> 00:27:33.390

Alexandra Gates: There's a lot of benefits of having a modern cloud infrastructure, particularly fourth generation cloud.

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00:27:33.750 --> 00:27:46.860

Alexandra Gates: It's continuous innovation continuous delivery, which means that features are constantly being added to the cloud. You can choose to utilize them or not, but it never affects your deployment, we'd never push out an update to your

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00:27:47.250 --> 00:27:53.010

Alexandra Gates: End User devices or your infrastructure devices APS routers or switches

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00:27:53.370 --> 00:28:03.570

Alexandra Gates: And of course, if there's a bug fix that can be done very quickly as well. So there are different vendors sitting in different cloud generations, starting from first to second to third

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00:28:03.780 --> 00:28:11.040

Alexandra Gates: Fourth, is the latest iteration. So talk to your vendor have a conversation about what their infrastructure looks like and what

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00:28:11.700 --> 00:28:18.420

Alexandra Gates: What they are supporting you with. So that is an important thing to talk about moving on to service.

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00:28:19.230 --> 00:28:25.140

Alexandra Gates: There are different cloud infrastructure vendors that networking companies utilize



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00:28:25.440 --> 00:28:35.700

Alexandra Gates: So, for example, extreme, we can deploy our management application on AWS. So Amazon Web Services assure or Google Cloud

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00:28:35.940 --> 00:28:45.570

Alexandra Gates: And the customer can actually choose what cloud vendor they want as their underlying platform. Most of our customers go with Amazon. That's our largest public cloud deployment.

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00:28:45.810 --> 00:28:51.240

Alexandra Gates: But again, it's up to you if you're more comfortable comfortable or familiar with Google or Microsoft

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00:28:51.480 --> 00:28:58.290

Alexandra Gates: You can choose. And then most cloud systems are built on a fully open and RESTful API platform.

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00:28:58.500 --> 00:29:05.040

Alexandra Gates: So you can export or import any data that's moving through your network into a third party application or

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00:29:05.190 --> 00:29:12.930

Alexandra Gates: Simply something that you want to take a closer look at that might not be accessible through the gooey. So there's lots of different ways to interact with these systems today.

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00:29:13.500 --> 00:29:16.020

Alexandra Gates: That you couldn't even maybe four or five years ago.

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00:29:16.980 --> 00:29:28.710

Alexandra Gates: Moving on to the bottom row scale. That's one of the biggest inherent values of cloud is that you can scale up or down depending on your needs and you can actually adapt as your needs change as well.

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00:29:28.980 --> 00:29:39.840

Alexandra Gates: So with cloud, especially the modern platforms third or fourth generation, you can have someone that has one access point or you can have a customer that has 10s of millions

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00:29:40.050 --> 00:29:48.750

Alexandra Gates: It's theoretically infinite, the number of devices that you can support you would just roll out another regional or global data center to be able to support that customer

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00:29:49.110 --> 00:29:55.260

Alexandra Gates: So again, you're not going to hit a maximum on a box and then have to buy another one. It's a lot easier to scale up and down.

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00:29:55.950 --> 00:30:05.850

Alexandra Gates: One of the things that we do is we don't tie our licenses to a device either, so you can upgrade your access points a new apply a license you already have to those

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00:30:06.120 --> 00:30:12.810

Alexandra Gates: And move them between systems. There's a lot of different ways that you can be flexible with cloud applications in particular.

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00:30:13.710 --> 00:30:19.470

Alexandra Gates: Moving on to security. This is something that back in the first generation clouds 10 years ago.

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00:30:19.770 --> 00:30:30.420

Alexandra Gates: They weren't quite as secure as they needed to be. But as more people started to adopt cloud became even more important to focus on security of the cloud, but also the clients data.

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00:30:30.780 --> 00:30:41.430

Alexandra Gates: So extreme, for example, has achieved our ISO 27,001 certification is the highest level of cloud security compliance that vendors can reach

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00:30:41.730 --> 00:30:47.910

Alexandra Gates: And of course the the Google's the Amazons, the Microsoft's of the world. They also have to comply.

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00:30:48.420 --> 00:30:57.150

Alexandra Gates: With hundreds if not thousands of different checklist items in order to have cloud networking applications hosted within their infrastructure.

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00:30:57.750 --> 00:31:06.540

Alexandra Gates: And there's also different things that you can look at like the security that's built into the network itself whips with full line rate encryption.

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00:31:06.930 --> 00:31:20.160

Alexandra Gates: Dedicated firewalls on different access points. So make sure, again, you bring up the conversation of security, but there has been a big shift and a big focus on security specifically related to cloud in the last couple years.

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00:31:20.970 --> 00:31:32.130

Alexandra Gates: Then the last value here on the slide is savings and again I'm, I'm not in sales. I'm more on the product side so you do have questions about the cost of Cloud versus on premises.

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00:31:32.370 --> 00:31:37.560

Alexandra Gates: Would be a good thing to reach out to an account representative from whatever vendor you're working with.

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00:31:37.770 --> 00:31:51.420

Alexandra Gates: The typically as opposed to on premises, you will see some value and savings and money saved because you're not hosting all that hardware on site, you're able to share compute power and with other customers that might be utilizing public cloud.

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00:31:51.930 --> 00:32:01.770

Alexandra Gates: There are other deployment methods as well. Typically cloud vendors will have an on premises or a public cloud. We also offer a private cloud that gives you more of a gated off.

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00:32:02.040 --> 00:32:08.550

Alexandra Gates: An iteration of the cloud. So again, talk to your vendor about how they offer these services and what makes the most sense to you.

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00:32:09.870 --> 00:32:14.340

Alexandra Gates: So now talking more about visibility. So the one of the benefits of

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00:32:15.360 --> 00:32:20.610

Alexandra Gates: Cloud management in particular, you can see exactly what's going on on the network at any given time.

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00:32:20.850 --> 00:32:31.200

Alexandra Gates: Whether that be from a user perspective device perspective security clients. There's a lot of different ways that you can access the data sets and I'll show you that when we get into the interface.

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00:32:31.590 --> 00:32:42.390

Alexandra Gates: But based on what you see, you can then make relevant networking decisions that might improve the performance of your network, maybe even improve the performance of your students or the

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00:32:42.990 --> 00:32:54.090

Alexandra Gates: You know the attention, they're paying in class. There's a lot of different ways that Wi-Fi isn't just for connectivity anymore. You can actually increase the ROI, or of course the educational experience that

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00:32:54.660 --> 00:33:00.870

Alexandra Gates: Is expected on campus, just based on the data you're seeing or the decisions you're making based on what you see

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00:33:01.470 --> 00:33:09.270

Alexandra Gates: There's lots of other tools that vendors are starting to integrate, or maybe already have integrated things like client monitoring troubleshooting tools.

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00:33:09.480 --> 00:33:18.540

Alexandra Gates: That will tell you if a particular clients, having an issue will call out what that issue is even give you a suggested remedy on how to fix that problem.

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00:33:18.720 --> 00:33:23.580

Alexandra Gates: So things like client trail and roaming issues if there's any authentication problems.

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00:33:23.820 --> 00:33:25.920

Alexandra Gates: Things like D HTTP DNS.

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00:33:26.130 --> 00:33:40.350

Alexandra Gates: Those can all be flagged in the system. And if it can't fix it itself, it will give you an alert and say, you know, this person's having a problem. Here's the suggested remedy. Maybe you can go and quickly assess that. Make sure they're having the best experience they can

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00:33:40.650 --> 00:33:46.800

Alexandra Gates: So they use a real time and historical troubleshooting tools are getting better literally by the month.

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00:33:47.100 --> 00:33:57.030

Alexandra Gates: There's also other tools that vendors are starting to work in things like client 360 views or application 360 again. If someone comes to you and says, I'm having a problem.

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00:33:57.240 --> 00:34:05.340

Alexandra Gates: Especially in a situation like testing. You want to make sure that everyone has the best experience so that they have the outcome that they that they want.

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00:34:05.670 --> 00:34:14.640

Alexandra Gates: And being able to display that data access it really quickly, is a very important component of cloud networking and cloud management in particular.

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00:34:15.390 --> 00:34:21.360

Alexandra Gates: There's another tool and network 360 again the naming conventions might be different among vendors

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00:34:21.870 --> 00:34:35.730

Alexandra Gates: But the, the goal is the same give you very quick access to data. We do some of the calculations and algorithms on the back end we display. What a health score is, for example, and then you can make decisions based on what you see

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00:34:37.650 --> 00:34:43.530

Alexandra Gates: So how does ML and AI play into this and these are pretty big buzz words in the

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00:34:43.800 --> 00:34:55.560

Alexandra Gates: Silicon Valley or technology space right now so wanted to break them down. Talk about what they actually are and how they're starting to be implemented and maybe what we have to look forward to in the industry as well.

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00:34:56.070 --> 00:34:59.100

Alexandra Gates: So there's a machine learning and AI paradigm

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00:34:59.430 --> 00:35:07.680

Alexandra Gates: And it starts with data. And once you organize that data turns into information when you learn from that information, it turns into knowledge.

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00:35:07.860 --> 00:35:17.040

Alexandra Gates: And when you apply that knowledge, it turns into intelligence that's the goal with our systems. Right now we're collecting data we're organizing it. We're learning from it.

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00:35:17.250 --> 00:35:26.130

Alexandra Gates: And the goal is to apply that knowledge so that your network management system can actually troubleshoot and fix problems for you before you even have to log in.

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00:35:26.430 --> 00:35:36.960



Alexandra Gates: Or maybe make a small change to an access point channel setting or power setting before a problem even occurs. So that from a network perspective. No one even knows anything is happening.

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00:35:37.620 --> 00:35:50.910

Alexandra Gates: So machine learning, getting back to the definition of it. It's the process of acquiring knowledge are processing data sets, trying to maximize data accuracy and it's a subset of AI. So it's under the AI umbrella.

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00:35:51.270 --> 00:35:56.130

Alexandra Gates: An example of machine learning would be like your email flagging something as spam.

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00:35:56.490 --> 00:36:05.100

Alexandra Gates: It sees your emails on a daily basis. You know, those look normal. Those look normal. Oh, this looks different. I'm going to flag that that would be an example of machine learning.

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00:36:05.430 --> 00:36:18.600

Alexandra Gates: Taking that a step further. Artificial Intelligence intelligently applies knowledge mimics cognitive functioning makes informed decisions. And again, it's a broader concept than MLS taking it a step further.

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00:36:19.080 --> 00:36:27.270

Alexandra Gates: An example of true AI would be something like the Watson bot competing on Jeopardy or self driving cars.

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00:36:27.780 --> 00:36:39.510

Alexandra Gates: They're taking data and they're applying it in a human like way they're gaining intelligence from it and they're operating independently from a human. That's true AI.

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00:36:40.320 --> 00:36:44.610

Alexandra Gates: But there are some inherent problems and this is here, just kind of as a joke.

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00:36:44.910 --> 00:36:52.740

Alexandra Gates: You know, computers aren't necessarily going to have the nuances that a human does. So this was a common thing that came up in the beginning.

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00:36:52.980 --> 00:36:57.780

Alexandra Gates: When a computer is trying to quickly assess images or problems sometimes it has problem.

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00:36:58.050 --> 00:37:08.100

Alexandra Gates: trouble differentiating between things. So then this little diagram here on the right, you know, if you look at this very quickly. It is hard to tell which one is a dog and which one is a muffin.

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00:37:08.520 --> 00:37:18.510

Alexandra Gates: And this is, again, we're not asking our computers or network management systems to take over the world and replace humans, it's just going to be there to aid and hopefully

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00:37:18.900 --> 00:37:29.010

Alexandra Gates: Take some of the more mundane day to day tasks off your plate and act in a more intelligent manner. So why does machine learning or AI matter.

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00:37:29.550 --> 00:37:40.860

Alexandra Gates: Of alluded to some of these points, but we want to be able to make smarter decisions based on a wide and diverse data set, either from an IT administrators perspective, or from the application itself.

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00:37:41.220 --> 00:37:51.300

Alexandra Gates: So it doesn't matter if the machine is doing that or the humans doing that. We want to be able to make smarter decisions make more intelligent decisions that are going to affect our users in a positive way.

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00:37:51.780 --> 00:38:01.380

Alexandra Gates: You can talk about self optimizing self healing network second make changes themselves before the network even crashes. That's something that vendors are working towards right now.

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00:38:01.890 --> 00:38:10.860

Alexandra Gates: But again, small problems can be solved before they come widespread, you know, easier interaction or shorter interactions with your network management system.

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00:38:11.310 --> 00:38:16.140

Alexandra Gates: And again, building more intelligent dashboards and tools that you can gather intelligence from

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00:38:16.800 --> 00:38:22.950

Alexandra Gates: That's kind of where we are today in terms of how this matters, we're going to be building out more systems.

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00:38:23.790 --> 00:38:31.950

Alexandra Gates: And operations in the future that are going to be even more beneficial hopefully to network administrators and I mentioned before.

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00:38:32.850 --> 00:38:38.940

Alexandra Gates: AI and ML, they require massive amounts of data. And that's where cloud networking comes into play.

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00:38:39.270 --> 00:38:58.650

Alexandra Gates: We typically see about six petabytes of daily data traffic your cloud. We're not, you know, collecting individual customer data bits. But this is all anonymous and we're able to process all that data and make intelligent predictions based on what we see. So for example, if we are tracking

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00:38:59.850 --> 00:39:10.650

Alexandra Gates: You know access points and we see an access point failing and a couple of different customers. Maybe we go back and we look at the temperature of that access point in the weeks preceding

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00:39:11.160 --> 00:39:18.240

Alexandra Gates: When it fails, we're able to then create an algorithm that says if your AP increases by X amount

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00:39:18.420 --> 00:39:28.800

Alexandra Gates: Temperature we predict, it's going to fail in the future. We're actually going to send you an access point before it fails, so that you can go and replace that before the problem even comes into existence.

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00:39:29.070 --> 00:39:45.510

Alexandra Gates: There's a lot of cool things that are coming about auto RMA is one of those, but just processing even user behavior management events also will allow us to make our networks and our management application smarter as as we keep collecting that type of data.

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00:39:46.770 --> 00:39:49.560

Alexandra Gates: And again talking about data analytics.

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00:39:50.730 --> 00:40:01.470

Alexandra Gates: Some of the value here is you know insights into customer behavior even just in within your own network to have quicker, easier engagement or fixes with a particular device.

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00:40:01.650 --> 00:40:12.150

Alexandra Gates: Simplified onboarding insights into your employees or your students time and attendance type analytics, really, the possibilities are endless. What you can do with these types of applications.

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00:40:12.360 --> 00:40:20.730

Alexandra Gates: We simply provide the data and you can choose to utilize it or not, but that's kind of where we're moving towards as an industry with ML an AI.

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00:40:21.990 --> 00:40:33.510

Alexandra Gates: So last couple of slides and before I jump into the brief demo wanted to address, of course cover because it has drastically affected the world and how we operate.

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00:40:34.140 --> 00:40:43.320

Alexandra Gates: Both with remote networking, but also in the education space with distance learning and as we kind of adapt to what's happening as we as we try to

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00:40:43.710 --> 00:40:56.160

Alexandra Gates: Transform or migrate back to normal, but it's going to be different than it was before. But you are going to need probably more devices, whether their handheld or sensors to keep track of what's going on.

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00:40:56.460 --> 00:41:05.370

Alexandra Gates: And you need more agile environments cloud applications video security measures and in order to do that you again need

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00:41:05.850 --> 00:41:14.850

Alexandra Gates: You know, we think cloud fourth generation cloud something that you can depend on something that scales up or down with you and something that exposes that visibility.

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00:41:15.120 --> 00:41:22.440

Alexandra Gates: She's kind of that key message that I'm trying to convey today an agile working solutions might look different.

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00:41:23.040 --> 00:41:30.150

Alexandra Gates: So you might have your main campus are your different schools and right now everyone's probably at their homes.

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00:41:30.390 --> 00:41:40.200

Alexandra Gates: Whether it be the students or the teachers. There's different ways, you know, some districts are depending on what students already have in their homes, but sometimes they're not able to connect to the internet.

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00:41:40.860 --> 00:41:48.120

Alexandra Gates: So we have a lot of different situations happening with our customers. Some of them are providing wireless via buses.

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00:41:48.300 --> 00:41:58.200

Alexandra Gates: They go out and they park them in different neighborhoods, so students can come and connect to those Wi Fi networks to learn, or even just go online and download things

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00:41:58.740 --> 00:42:09.810

Alexandra Gates: Sometimes in school parking lots, and libraries or even sending out networking devices to students homes, things like a pluggable access point that lets the network, get up and running really quickly.

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00:42:10.260 --> 00:42:17.610

Alexandra Gates: Or giving a more robust network to your teachers to make sure that they're still able to serve their students. There's a lot of different ways that you can adapt.

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00:42:17.940 --> 00:42:23.700

Alexandra Gates: A lot of vendors are putting together curated packages. So again, talk to your vendors about what they're offering

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00:42:24.030 --> 00:42:34.230

Alexandra Gates: But there's also going to be differences when people do start coming back on campus, whether that's in, you know, different shifts, or you're not allowing everyone back at the same time.

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00:42:34.620 --> 00:42:42.930

Alexandra Gates: There's been talk of having more IoT and robotics automation, things like a robot that go around and make sure that people are

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00:42:43.680 --> 00:42:56.310

Alexandra Gates: An appropriate distance apart or, you know, cleaning operations sensors to see how many people have been in a given room. So the onboarding and the management of IOT or robotics type devices are quite different.

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00:42:56.970 --> 00:43:08.550

Alexandra Gates: So vendors are starting to put together different solutions to make that a lot easier, both on the connection side authentication validation registering those devices and being able to have the ongoing tracking

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00:43:08.820 --> 00:43:17.070

Alexandra Gates: Of those as well while you're on campus provisioning certain rules are restrictions and then, you know, setting the sending them out into the environment.

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00:43:17.610 --> 00:43:26.520



Alexandra Gates: So that's kind of the, the second category we had remote access. First, it says IoT and robotics management. Next one is occupancy management.

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00:43:27.270 --> 00:43:33.810

Alexandra Gates: The visual here is a grocery store, but the same the same thought and the practice can be applied on a campus.

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00:43:34.170 --> 00:43:42.600

Alexandra Gates: Identifying associated users and devices tracking congregation areas, seeing if there's too many people in one room or one area.

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00:43:42.840 --> 00:43:54.420

Alexandra Gates: That's pretty easy to track with devices, especially kids, they're all trailing around with their, their smartphones are smart watches. So you can do things to tie identity to devices.

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00:43:54.900 --> 00:44:02.970

Alexandra Gates: Or even just basically track you know there's 15 people in this room that's getting a little bit too congested maybe send someone out there to to break up the group.

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00:44:03.420 --> 00:44:15.300

Alexandra Gates: And also integrate with notification apps, that's another one of those benefits of being built on an open API platform you can expose and export quite a bit of data from the crowd management systems.

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00:44:15.600 --> 00:44:22.140

Alexandra Gates: You might have something that you're working with on campus and you can funnel that data into that notification out, for example.

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00:44:23.130 --> 00:44:25.620

Alexandra Gates: And kind of the fourth pillar contact tracing

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00:44:26.100 --> 00:44:34.410

Alexandra Gates: This is very different, whether you're talking about a community a campus or a building. But again, the vendors that are providing contact tracing

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00:44:34.680 --> 00:44:44.640

Alexandra Gates: People like Apple and Google they need data in order to run those solutions and Wi Fi is a lot of raw data that you can pull out of systems.

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00:44:44.970 --> 00:44:52.860

Alexandra Gates: And, you know, we're not doing contact tracing specifically. Well, we can provide the data provide the data to our customers to export.

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00:44:53.130 --> 00:45:06.270

Alexandra Gates: And then coexist with the contact tracing solution. So, it is a good starting point to make sure that you know maybe if someone does test positive you're able to go back and see, you know, who were they around

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00:45:06.540 --> 00:45:17.580

Alexandra Gates: Based on their devices, who might they have come in contact with, who do we need to reach out to or let's just funnel all that raw data into a contact tracing app and it will do the notifications for you.

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00:45:17.910 --> 00:45:26.820

Alexandra Gates: There's a lot of interesting things happening right now in the networking space vendors are trying to adapt and be agile, to make sure that we're serving our customers.

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00:45:27.300 --> 00:45:38.340

Alexandra Gates: Things are obviously changing very rapidly, but reach out to your vendor to ask about these specific type of solutions and see if it's something that you can integrate or implement on your campus.

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00:45:39.090 --> 00:45:41.940

Alexandra Gates: And again, because we're driving with cloud.

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00:45:42.360 --> 00:45:49.470

Alexandra Gates: We do say it starts with a better cloud. So again, talk to your vendor about the availability. The durability duration and security.

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00:45:49.710 --> 00:45:59.790

Alexandra Gates: That's associated with their particular cloud to make sure that it can achieve these these new features and functionalities that are starting to be released into the marketplace.

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00:46:00.780 --> 00:46:15.900

Alexandra Gates: So I'm going to jump into a quick demo. So I'm going to move out of my PowerPoint and move over to cloud management application. So this is extreme cloud IQ. So this, again, is this part is vendor specific

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00:46:17.190 --> 00:46:27.600

Alexandra Gates: Talk to your vendors. If you see a feature that you like ask if they have something similar, or how you can implement it in your own location and move into one of our education networks here.

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00:46:28.260 --> 00:46:41.430

Alexandra Gates: So as I log in, you'll see there's different tabs across the top where I have different categories of information that I want to access this is a particular school districts. So there's not a lot of users here right now.

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00:46:42.300 --> 00:46:48.240

Alexandra Gates: But I can show you some of the features and functionality that a cloud management application can achieve.

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00:46:49.050 --> 00:47:00.060

Alexandra Gates: So I moved over to our ML insights page to start, I'm on the monitor section. This is where I can see all of my different deployments, whether I have, you know, a single campus.

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00:47:00.300 --> 00:47:11.370

Alexandra Gates: Or I have, you know, elementary, middle school, high school higher education, you'd be able to see them all visually on a map, you can log into our particular location or even a specific building

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00:47:11.640 --> 00:47:25.470

Alexandra Gates: And the health scores on the top or know if you guys caught that they dynamically update based on where what I'm clicking on in terms of the filters, if I'm on the global view or particular school or particular classroom and this example.

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00:47:25.770 --> 00:47:35.430

Alexandra Gates: We have color coding to quickly show you know everything looks like it's working well if it's orange, maybe you're in the middle. If it's red, there's a problem and you want to go in and see what's happening.

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00:47:35.760 --> 00:47:43.050

Alexandra Gates: But even on the map, there's quite a bit of information you can get, again, we don't have a lot of people here because most schools are shut down.

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00:47:43.590 --> 00:47:49.530

Alexandra Gates: But you can see these blooms. Here you can see how many people are connected to a particular access point.

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00:47:49.770 --> 00:48:00.210

Alexandra Gates: Right now it's just one in one, but if you saw a particular AP blooming with maybe 20 people you might want to go in there and enforce social distancing to make sure people aren't too close to one another.

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00:48:00.390 --> 00:48:11.430

Alexandra Gates: You can look at that, over a period of time. I did the time lapse feature, but you can change the timeframe. If you need to look at something or you can do it in real time. So it's up to roughly a minute.

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00:48:11.850 --> 00:48:21.150

Alexandra Gates: In terms of how quickly you can access the data from this portal. I can also quickly click on an access point, see who's connected. They're having any health problems.

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00:48:21.480 --> 00:48:27.120

Alexandra Gates: And you can view that from this particular portal. You can also track individual clients.

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00:48:27.330 --> 00:48:37.440

Alexandra Gates: Probably don't have anyone enabled right now. But if I were to click on a client, it would actually show me a little dotted blue line where a particular user moved within the facility.

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00:48:37.680 --> 00:48:45.330

Alexandra Gates: So that's great to see maybe where you need to clean at the end of a day, or if you had an infected user, you could track them via location.

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00:48:45.690 --> 00:48:53.880

Alexandra Gates: And again at the top we have these health scores. So my client health score. It's doing well right now. Let me click in here and get even more information.

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00:48:54.330 --> 00:49:01.500

Alexandra Gates: I can change the timeframe that I'm looking at right now we can go up to 30 days in our system for changing that to 90

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00:49:01.740 --> 00:49:11.130

Alexandra Gates: And we're actually moving towards an unlimited data horizon for all of our customers, starting in July, just to give you even more data and intelligence based on what you see

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00:49:11.610 --> 00:49:23.430

Alexandra Gates: But I can track client health scores over time, the number of clients I can look at my wife I versus network versus application health scores channel distribution. What channels are being utilized

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00:49:23.700 --> 00:49:26.760

Alexandra Gates: Client capabilities of the people in my environment.

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00:49:27.090 --> 00:49:34.350

Alexandra Gates: That's a good one. If you see a lot of a x devices start popping up. Maybe you want to upgrade your access point infrastructure.

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00:49:34.560 --> 00:49:42.240

Alexandra Gates: So this actually sees what the clients are capable of via the pings to the network and then it will display this in a graphical manner.

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00:49:43.200 --> 00:49:47.250

Alexandra Gates: I know an education application visibility is very important. So I'll

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00:49:47.640 --> 00:49:56.490

Alexandra Gates: Give you a brief look at that. You can see benchmark of what applications are being utilized how much bandwidth. How many clients are using it.

287

00:49:56.790 --> 00:50:00.570

Alexandra Gates: And if I click on a hyperlink. I can open up a 360 view.

288

00:50:00.780 --> 00:50:16.410

Alexandra Gates: So I can look at, you know, who is using this, the amount of bandwidth associated based on what I see I can then go into configure and make an application rule, maybe to throttle. Some users back or block certain applications that I don't want being used on my campus.

289

00:50:16.650 --> 00:50:21.480

Alexandra Gates: So there's a lot of ways that you can interact with the data within these systems.

290

00:50:22.620 --> 00:50:35.220

Alexandra Gates: Let me move over to configure know we only have a couple of minutes left, just wanted to give you a quick look at what configuration looks like. So if I go into an elementary school, for example.

291

00:50:36.270 --> 00:50:37.470

Alexandra Gates: Let me open it up.



292

00:50:40.380 --> 00:50:49.890

Alexandra Gates: Refresh, refresh my page, you can create different network policies, you can configure access points switches and routers all from the single tool.

293

00:50:50.610 --> 00:50:57.930

Alexandra Gates: There we go. And then it will walk you through the process, setting up your SS ID, how you want your users to authenticate.

294

00:50:58.590 --> 00:51:09.150

Alexandra Gates: We do again WPA two and WPA three through the system you can do radius authentication set up user profiles, do the same thing for switches

295

00:51:09.480 --> 00:51:24.150

Alexandra Gates: And routers and show you an example template of what this looks like, and do different port configurations create templates apply those across all of your, your devices, you don't have a router in this particular network, you would do the same thing, they're

296

00:51:25.260 --> 00:51:39.150

Alexandra Gates: Very large amount of changes, you can make to the network or you can get a basic one setup in 10 to 15 minutes all the way to deploy policy. So again, you choose what you want to push out to your infrastructure devices.

297

00:51:39.480 --> 00:51:45.000

Alexandra Gates: If we add a feature to the cloud. It's just that a feature you can choose it choose to use it or not.

298

00:51:45.420 --> 00:51:51.900

Alexandra Gates: But that's one of the benefits of cloud networking is we constantly add more capabilities, whether it be an update.

299

00:51:52.500 --> 00:52:02.520

Alexandra Gates: Or a new you know regulation that's come about our data privacy. We can continuously update that without affecting your, your deployments. And if I go to manage

300

00:52:03.480 --> 00:52:11.790

Alexandra Gates: There's quite a few ways I can interact with different categories and see it's broken out into devices reports clients users.

301

00:52:12.120 --> 00:52:26.880

Alexandra Gates: We have filters usually run on each page. So if you want to jump into a specific location network policy device type. There's a lot of different ways you can set up filters you can save them also and apply them across pages.

302

00:52:27.180 --> 00:52:33.330

Alexandra Gates: So that if you want to quickly jump into a specific switch out of school, you can find that information quite rapidly.

303

00:52:34.170 --> 00:52:42.600

Alexandra Gates: On the client side wanted to show off one of those tools. The gone Mike for now this is going to be client 360

304

00:52:42.900 --> 00:52:49.830

Alexandra Gates: So this shows me you know who this device belongs to how long they've been connected what location there at

305

00:52:50.160 --> 00:52:55.740

Alexandra Gates: The top I see a mini topology view this Chromebooks connected to this access point to the switch.

306

00:52:56.010 --> 00:53:07.710

Alexandra Gates: Back to the internet. I can see his RSI his usage on the right hand side, the noise floor, and then we do things like benchmark performance of individual clients against other people near them.

307

00:53:08.070 --> 00:53:18.480

Alexandra Gates: If you have a user that's complaining, you can quickly open up a client 360 VIEW LOOK AT THEIR our society signal to noise compared to other people on that access point or on that floor.

308

00:53:18.720 --> 00:53:31.890

Alexandra Gates: And we color coded and to make it pretty easy to quickly see you know your SNR looks pretty good your RSS, it looks good, your Wi Fi health that's lacking a little bit, let me go over here and see exactly why.

309

00:53:32.340 --> 00:53:37.230

Alexandra Gates: You're, you know, moving into the yellow zone in terms of your, your speeds or channel with

310

00:53:37.470 --> 00:53:45.540

Alexandra Gates: Are negotiated data rates are having any problems roaming, you can go down here again color coded. I can see if there's any problems with

311

00:53:45.780 --> 00:53:50.820

Alexandra Gates: The response time or the IP address isn't working as you're roaming between devices.

312

00:53:51.120 --> 00:54:05.880

Alexandra Gates: So that's one of those 360 tools where we're collecting all this data and we're exposing what we think is most important. And then based on what you see, you can go in and you know make changes or troubleshoot a particular device that one's client 360

313

00:54:07.350 --> 00:54:21.450

Alexandra Gates: I let me just show you a cloud view as the last thing here. This is where we show anonymously, some of the data we're connecting to the number of accounts, the Manage devices users this we are using our proprietary PPS K

314

00:54:22.050 --> 00:54:29.550

Alexandra Gates: Any alarms that are running on customers networks. You can see the cloud infrastructure management events over time.

315

00:54:29.790 --> 00:54:45.270

Alexandra Gates: Device updates per day. So again, this is what we're basing all of our ML and AI on this data. So you can just get a quick glimpse into what's happening across the world in terms of people that are utilizing our crowd out tools.

316

00:54:46.230 --> 00:54:54.480

Alexandra Gates: We jump back into the slides can wrap up, make sure we have time or questions, actually, that is the last slide.

317

00:54:55.380 --> 00:55:05.610

Alexandra Gates: So there have been any questions that have come in. Not sure if our moderator. I don't see the question pane at the bottom if there have been any if you can read those out to me.

318

00:55:06.240 --> 00:55:14.070

Alexandra Gates: I do have access to the chat. So anyone that is still on. If you want to send it in the chat, that's fine as well. I can address those.

319

00:55:16.560 --> 00:55:18.390

Famis Florida5: Nothing coming before

320

00:55:19.260 --> 00:55:19.530

Okay.

321

00:55:22.170 --> 00:55:25.080

Alexandra Gates: All right, we'll give it a another 30 seconds or so.

322

00:55:25.590 --> 00:55:33.120

Alexandra Gates: But again, if you saw something that you're interested in, feel free to reach out and we can connect you to a local extreme networks rep.

323

00:55:33.420 --> 00:55:46.860

Alexandra Gates: I will make this presentation available on the website as well. And again, if you are working with another vendor, please feel free to ask them questions as well about some of the trends for things that are shifting in the industry that I talked about today.

324

00:55:48.900 --> 00:55:52.440

Famis Florida5: Do you have a Roku device to give away. How would you like to do that.

325

00:55:54.330 --> 00:55:56.070

Alexandra Gates: I didn't even know we were given one away.

326

00:55:58.020 --> 00:56:06.060

Alexandra Gates: Let's see. I'll open the participants and I'll just move my cursor down at random and pick someone

327

00:56:07.740 --> 00:56:13.170

Alexandra Gates: Okay, so I just moved it down the list and I picked Jacob Willis.

328

00:56:16.680 --> 00:56:21.630

Alexandra Gates: So will facilitate that on the back end is famous shipping that out, or we shipping that out.

329

00:56:24.000 --> 00:56:24.330

Alexandra Gates: Okay.

330

00:56:26.850 --> 00:56:29.340

Famis Florida5: Give me just a second. And I'll put my screen.

331

00:56:36.150 --> 00:56:38.970

Alexandra Gates: Right, I'll stop my share you can share yours.

332

00:57:07.290 --> 00:57:08.580

Alexandra Gates: There we go. We see it.

333

00:57:09.450 --> 00:57:25.350

Famis Florida5: So Jacob leads to send his name and address. Make sure that he notes that he was in the extreme networking session and send it to famous florida@gmail.com we will ship it to him. New mailing address and all

334

00:57:27.720 --> 00:57:31.590

Alexandra Gates: Alright, well thank you guys for attending. I know this is a lot different than attending

335

00:57:32.310 --> 00:57:47.220

Alexandra Gates: A live event, but I appreciate everyone for for sticking with us remotely hopefully you learned a couple of things, or at least got some questions that you can talk to your, your vendor about. But again, thank you so much for attending. Thank you.