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Conference Round-Up

Analyst reflections & predictions for the future

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Panellists:

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Rajesh Ghai

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Alan Zeichick

Good morning everybody. I know that this panel is the only thing standing between you and lunch, so we will make it fun and exciting and make you hungry for food because we'll have fed your brain already.

I'm not going to do a preamble introduction. I'm just going to dive right in and ask our analysts; we have Scott from Futuriom, we have Rajesh from IDC and we have Jerry from GlobalData. Let's just start with the good stuff. What here at NetEvents over the past couple of days has surprised you, said that's an insight I didn't have? Has really

blown you away and made you want to tear up all your analysts' reports? Well, maybe not that.

Scott Raynovich

I'll thrown out a couple of things that I thought were really good; one was the, I think it's been around for a couple of years now, definitely in relation to supporting the potential of the internet of things for businesses. Another area as well that networks are not fit for purpose. I think what I heard really throughout the two days in all sorts of panels and also in individual one on ones is that there's a lot of attention being paid to improving the way networks are built and operated. To make them more application driven and basically invisible to the business, which is what needs to happen.

The other thing that I'll mention real quickly that I thought was really good was security. There's too many different approaches to security. There's too many players probably, but what I heard from almost everybody here is that they're trying to make the impossible possible. There are no easy answers and it's just not physically possible for humans to keep up with the security threat. There has to be an automated way of doing that and different tools.

I do think the market is it's too fragmented, too many different players. It probably drives people crazy in trying to figure out what is different from one solution versus another solution. Nevertheless, the focus from what I heard is correct. A couple of things there.

Alan Zeichick

What I'm hearing for you is the problem of rejigging networks to handle IoT volume to simplify data centres and to unravel this maze of security; point solutions that are just driving everyone crazy.

Scott Raynovich

Exactly yes, but I think what I heard is that there's great work being done to solve those problems.

Alan Zeichick

Rajesh, what do you think about those? Or new things.

Rajesh Ghai

Yes, in terms of anything that's going to surprise me, I don't think anything has really astounded me, but what I'm really excited about is the use of machine learning in so many use cases. In terms of the next progression, in terms of improving technology, improving our lives, the importance of machine learning in terms of improving technology, improving the way we work and the way we live. It's pretty apparent whether it's the transcription process or whether it's network automation, you see it everywhere. That's what I think was interesting.

The second thing that I would say is essentially the whole notion of the importance of data and the fact that you can take data from various sources. You can take data from various layers of infrastructure, use it to analyse it and do a predictive analysis in order to do various things such as automation. Automation obviously the perspective that I come from which is the carrier side, that is in my view the biggest requirement for carriers right now which is to automate the infrastructure, and the softwarization of networks will reduce Capex to some extent.

What's going to really drive the cost per bit for carriers down is automation. Where you do it, automation is through closed loop automation which is the ability to take data, use that to do predictive analysis and then use that insight to take proactive action. If you think about the importance of data, the importance of machine learning then I think that does make me excited about the future.

Alan Zeichick

Okay, so to vastly oversimplify we're talking about many practical applications of artificial intelligence and every layer of networking or the industry and of finding new ways to use data and often using that data to drive automation.

Rajesh Ghai

I would say not just networking, but every aspect of life. Yeah, the transcription of human voice, I think that's obviously one of the features, one of the highlights of this conference in terms of the award that was given out. Think about that. We can take that insight and analysis and apply it to every aspect of life and technology of networks or whatever. It does improve our lives going forward.

Alan Zeichick

Self-driving cars in other words ...

Rajesh Ghai

Yeah.

Alan Zeichick

Scott?

Scott Raynovich

Yeah, I reinforce some of the things we heard. You asked us for the positive things, right? It's only...

Alan Zeichick

We'll get to the negative, don't worry.

Scott Raynovich

That's always a challenging question for analysts. The AI and the machine learning buzz words obviously come up on all the marketing slides. One thing that was clear is Rajesh is pointing out is it's a horizontal technology that everybody is trying to apply in their respective buckets. Whether it's networking or storage. The thing that I took away from all these meetings and briefings is the start up market seems to be incredibly strong compared to the incumbents.

These incumbents are going to have to scramble to make the right acquisitions. I'm very heavily involved in SD-WAN where there's currently a serious rat race going on to buy the right start up and make your bets and hope it turns out right for whether it's Cisco or VMware who have made key acquisitions. The start up market seems to be very robust and packed with talent. I was impressed with a lot of the start ups we met here, whether again going back to the AI theme of applying these principles to their various buckets.

You had JASK in the AI in automation in the security market and Apstra trying to automate data centres in carrier networks and Cohesity trying to reinvent the secondary storage market and NetFoundry with their application specific networks. I'm a start-up guy, so I like start-up technology and it's going to be really interesting to see how that plays out in the next year. A lot of these incumbent markets are on the precipice of massive change. They're going to have to step up their game.

Alan Zeichick

What I'm hearing, again to oversimplify that start-ups have got some good stuff perhaps because they can leverage AI or other software to find everything that gives them some good advantages because they don't have any incumbent products to worry about destroying.

Scott Raynovich

Well, it comes back to the talent. The talent wants to work at hot start ups right now and so that's for the incumbents it's a big recruiting issue.

Rajesh Ghai

If I may just add to that, in Silicon Valley, this is the hot bed of global innovation. The good thing about what Scott just said is that innovation is alive and kicking and what's really driving innovation at this point in time is machine learning, AI and the use of data. That's really where you talk about data science becoming more and more important, data science is the foundation on which AI and machine learning rests. Using that technology and using the talent that's always available at Silicon Valley that's really what's going to drive the next wave of innovation and technology.

Alan Zeichick

What sounds like innovation on one person's slide deck may sound like pure unmitigated garbage from the viewpoint of someone in the audience. Since you're

analysts we know that you do wear the critical hat, and so have you heard anything here that you feel comfortable saying no, no that's just not right? Come on.

Jeremiah Caron

I haven't heard anything that I heard that was just completely obviously incorrect or not proven by what our work in the industry tells us. No, I haven't, but there's a couple of things I'll point out that I was slightly amused or disappointed about. One is the Internet of Things. Actually, the presentation and the discussion that Scott led. Not your part Scott, which was perfect and spot on, but that opportunity is a glorious mess. We're seeing - we have an organic, live database of deployments around the world.

We're constantly adding to it and there's some really interesting stuff and there are investments being made. They tend to be smaller in scale, not global. They tend to be local IoT deployments. Yet, it is building and it is a big opportunity that's going to be a big revenue driver. It's still a mess; very fragmented, I think a point you made several times and really in our view, the value in IoT for the suppliers is in the data, not in the connectivity or the networking. It's in the data and doing something with the data that's of value to the business outcomes of whoever is doing it. Not as much on that as I would have hoped.

The other thing was it was remarkable that 5G was mentioned maybe twice over the entire two days. There's good reasons for that 5G is one of the more overhyped developments. I asked the question at the Huawei analysts conference recently of the CEO of Huawei and the question didn't startle the world, but his answer did. His view was I'm not too bothered about 5G. 4G, 5G whatever doesn't matter. It's a massive development and has great opportunities for unlocking some important new revenue streams for service providers in the enterprise space specifically. We didn't really touch on that too much.

A couple - I heard nothing wrong from anybody, just a couple of things that weren't addressed as full on as I might have expected.

Alan Zeichick

I was hoping for something more critical. Scott, now it's time for you to criticise Jerry's panel.

Scott Raynovich

No, everything Jerry does is perfect as well. I can't possibly. Those were very - I agree with all the insights. IoT we struggle with it because it's so hyped, yet it's so hard to point your finger at something that's gone really well where somebody's making a lot of money. When I always ask the IoT companies how they're doing, they're it's okay, yeah. There's never excitement, though there are a couple like Zebra Technologies and PTC, if you look at their stock charts they're at all time new highs. They're actually older. IoT has actually been around a longer time than we thought. It used to be called M2M. Now we're calling it IoT. They're applying more mature technologies to the market.

I feel like throwing out a fireball, so I'm going to do that.

Alan Zeichick

Please.

Scott Raynovich

One thing, we heard a little bit about China and Jerry mentioned China. I've been spending a lot of time in China in the last three years. I'm always just - my mind is boggled by a lot of the things I see in China. Does anybody know what BAT is?

[Editor's note: BAT refers to Baidu, Alibaba and Tencent.]

Scott Raynovich

Right, so it's the Chinese version of FANG, Facebook, Apple, Netflix, Google. If you look at the acceleration of BAT market capitalisation, investment, money, talent, it's absolutely mind boggling. Then recently the Chinese government made a centralised push towards AI. Just some stats I was looking at earlier, so Baidu pays - this is CB Insights data. Baidu pays an average of 130K-175K for machine learning and AI engineers and Google pays 110K. There was recently a Chinese region that announced a \$5 billion fund to make their region a leader in AI related technologies.

Alibaba recently invested \$600 million in SenseTime, which is the largest AI start up investment today. It's clear to me what's happening is there's this AI arms race, which we're reading about in the paper. I'm also thinking what are the long term implications? We heard also about Cambridge Analytica right; all this stuff is converging at the government or political layer where they're controlling elections with data. That to me is mind boggling what the long term implications of that. A sovereign AI arms race plus political change driven by data. It's going to have large ramifications for society.

I don't really know what they are yet, but it's certainly going to lead to some profound changes in the world in the next 10 years.

Alan Zeichick

In terms of what China is doing with AI, do you see it as that they're weaponizing it or more they're trying to use AI to shore up the great firewall?

Scott Raynovich

Frankly, everybody is weaponizing technology these days. We hack them. They hack us. Russia hacks us. We hack Russia. It's going all directions.

Alan Zeichick

James Bond would be a hacker today probably?

Scott Raynovich

Most certainly.

Alan Zeichick

Rajesh, what do you think? Throw some firebombs.

Rajesh Ghai

No, I agree with what Scott just said about China. The thing that surprises you when you go to China is the desire or intent to lead the world. Whether it's AI or whether it's 5G or whether it's just switching and routing. That is something that you notice a lot over there as well; the fact they are not content with being number two or number three in the world. They are - whether it's AI or 5G or the vendors over there, the telecom giants over there. They have a deep rooted need to lead the world in terms of technology.

Those players are all very nimble. They are all very aggressive. Whether it is the excellent data that he just shared about salaries being paid to key talent. They seem to be doing all the right things in order to lead these races. On 5G for example, I agree with what Jerry has said about the CEO's comment around 5G, 4G not being very important, but I think if you look at the telecom vendors over there. The telecom giants over there they are taking all the right steps in terms of making sure 5G is available in China before anywhere else in the world.

We talk about Huawei gaining six points of share every year in routing and switching or whether it's AI being funded by the government in order to drive public security for example. All railway stations and airports over there have facial recognition which is all fed into a central database which is analysed and that's how people stay safe in China. That desire and intent to lead is startling when you go to China.

Alan Zeichick

Jerry?

Jeremiah Caron

Yeah, just to add something real quick to this discussion. You asked the question, Alan, what's the motivation? I think the motivation for these companies, I'm not sure about the Chinese government from the companies is simply to make money. It's quite, it's very straightforward, very American actually. In terms of the telecom operators, reducing Opex is an existential issue for operators. It's an existential issue. They have to reduce the amount of money they spend to deliver the services they do. Quite frankly, the technology companies from China are out there leading the way in attempting to automate telecom networks using AI and other techniques and everything like that.

That's a good thing. I just wanted to throw that out that it is - I don't think it's a government, it may be, I don't know but we'll leave that up to the politicians and the newspapers. From my perspective it's wanting to generate value for it themselves by helping their customers.

Alan Zeichick

That's a good thing.

Jeremiah Caron

Yeah.

Alan Zeichick

We have time for questions.

Alan Zeichick

Who's got questions for the analysts? Let's play stump the analysts. Let me throw out one final closing question then since we're talking about China. ZTE trade wars; obviously this is going to drive China to want to develop local sources and not be as dependant upon American or other technology. Do you want to make any predictions as to what these potential trade wars are going to mean for our industry which in some ways is increasingly integrated across the globe? In some other ways due to political or other factors we're starting to see possibly fragmenting. Nobody wants to talk about that.

Jeremiah Caron

Sure, I'll make a comment on it. I don't think trade wars are good for anybody. Using ZTE as an example is that ultimately, we may feel the need to punish them for misdeeds or whatever - alleged misdeeds, but at the end of the day it's going to hurt commerce here as well. It becomes a downward spiral that we should be very careful to avoid at all costs.

Alan Zeichick

Rajesh?

Rajesh Ghai

I agree on that, but the other key issue really relates to a level playing field as far as IT protection is concerned. That is where the world needs to be more careful about is that on one hand you're saying yes, you can allow products from any country to be sold anywhere in the world. On the other hand, you don't have any protection over IP when you sell anything in those countries. There needs to be a little bit more emphasis placed on IP protection before we can start claiming that all these vendors should not be allowed here or should be allowed here.

There is a lack of balance in those two issues. That's trade wars or IP protection. We ought to reach appropriate balance on those two issues.

Alan Zeichick

Jerry?

Jeremiah Caron

Just on quick note, I had David Cheriton who didn't mention it during the panel, but he did tell me, he gave an anecdote about this very issue. It was he just wanted to carefully point out that in the 19th century the US manufacturing companies, stole a lot of technology and a lot of ideas from the English and other European entities. Let's be

careful about pointing fingers. It happens throughout history I suppose. It's not good. I'm not endorsing it. I'm just saying let's just be careful.

Alan Zeichick

Real property not just intellectual, like silk worms and so on that were stolen from one company. Scott, I'll give you the final word before Manek drags me off the stage.

Scott Raynovich

Okay, so trade war I've been following it very closely too. I agree with what's been said. It just seems to be a negotiation process that I think will be sorted out. It may be trade war by tweet is probably not the best way to do it.

Alan Zeichick

It's more tactical than anything.

Scott Raynovich

I think it will be sorted out because we - look America and China are the two largest economies in the world right now. If you look at the iPhone, to me the Apple model is the model of what has been produced out of that partnership. I view it as a partnership. Whatever the 50 parts in an iPhone come from all over the world. The software in a lot of the value is generated of course in Apple headquarters but it's largely manufactured in China and then sent back to us. That whole process has built what, a trillion dollars of value for Apple.

Clearly, the partnership is effective in building value in the technology supply chain and that's not going to change. Everybody recognises that value. There's a lot of incentive for us to work out the details.

Rajesh Ghai

Just one point...

Alan Zeichick

We're going to take another last word.

Rajesh Ghai

Just one point I would say that the Apple example is instructive in one sense is that you can continue to lead the world if you continue to innovate. The fact that Apple continues to lead market share and profitability. It's the only vendor in the world that makes cell phones and is profitable. Yes, they have stayed ahead of the curve despite people stealing their IP by being innovative, by being two steps ahead. That's really the name of the game in technology and that will continue to be the game.

Alan Zeichick

On that note I have to say thank you to our panellists and Manek come on back up here.

Manek Dubash

Thank you. Applause for these guys. Thank you very much. Thanks to Alan and yes, thank you all for paying such rapt attention to everything. Now...

[end]