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*Debate VIII:
From SDN /NRV to Fibre Cut Protection,
the Hottest Trends for Global Telco Providers*

Chaired by: Jeremiah Caron

Senior Vice President Analysis - Current Analysis

Panellists:

Matt Allcoat	Chief Architect, Asia, Middle East, Africa & Turkey, BT Global Services
Frank Wiener	Head of Marketing, Wedge Networks
Andy Solterbeck	Regional Director - APAC, Cylance
Helen Wong	Director, Partner & Product Strategy Asia Pacific, Verizon
Stephen Tsang	Head of Managed Services & Enterprise Architects, Telstra
Gint Atkinson	VP Head, Technology Asia, Colt Technology Services

I think we're ready to go here. Hi, everybody. Actually, we're almost winding down on the discussion part of the NetEvents program here and we had a meeting a little bit earlier on just to get to know each other and talk about we were going to discuss, and I have a sneaky feeling that this is not going to be a dry, dull discussion. A very, very lively interaction, and why not? The subject is -- shall I stop moving? The paparazzi, it's crazy. It's like the old --

Yes, it's just that the subject, it's -- I read the synopsis and it really is -- it's so broad, what are the challenges faced by network-owning operators, is what I call them, telcos is the traditional term. And this is something that has been hotly debated since really the mid-1990s, in a lot of ways. What is the play, regulated or deregulated, or Internet world, and what are the prospects and what challenges do they have to face? So it's incredibly broad and complex.

But I want to make one point. We tend to really worry about telcos. We worry about these companies. They're so important to us and, gosh, they're just going to go out of business. They're going to die. They can't make money. It's awful.

A couple of years ago I had the privilege of -- I was asked to chair an SDN panel at this thing called 24 Hours, which is hosted by the CEO of Deutsche Telekom, and it's like the World Economic Forum of telecoms. It was CEOs of all the major operators in the world, as well as the CEOs of most of the top technology companies. It was quite a privilege to be there and to host this two-and-a-half-hour session on SDN. But the -- it was Chatham House rules, so I can't really talk about what was discussed, but I will say this. The amount of whining and complaining by these people about how they were so set upon by the OTTs and how it was awful and it had to change, and all this sort of thing. I was almost crying. I was like, this is awful. I was left just, there's a lot of whining going on in this industry.

So, just last year -- let me read off a few results. BT, EBITDA up 5% to GBP6.6b. Vodafone, EBITDA up 2.7% to GBP11.6b. NTT EBITDA up 24.6%. Okay, Telstra, EBITDA up 9.1% in just a half year. AT&T income up 22%. Singtel -- oh, they actually, EBITDA went down 1%, oh, but profit, overall profit went up 4%. So I don't know. We don't know if we really need to be crying too much about the network only operators. But there are challenges, without a doubt, and we're going to explore some of the issues in a second.

But just let me -- some of the things that are top of the agenda with the operators who work with them and primarily focusing on the B2B side, not necessarily the consumer side at the moment.

A lot has been discussed today already, and yesterday as well, about software defined networking and network functions virtualisation, and the idea of open, the use of open standards, to deploy some of this stuff. What we've observed is that almost every operator understands the importance of this. They know that they must. It's extremely important to their business models, going forward. But is there a near term business imperative vis-a-vis other pressing issues? Not really. They're happy to take their time with it. We've seen this. We've studied this over the last five years and it's an accurate description of what's going on.

However, there is a healthy focus on commercial, the commercial side of this. It's not just about cutting costs. It's about how to make money, how to grow the top line rather than just lowering the operations cost.

Hard to read. It didn't really render very well. I apologise for that. But in terms of the challenges for commercial deployments of virtualised network functions and SDN as well, it really comes down to a lack of corporate focus. It's a non-technical thing. It's about -- it is can you really justify the ROI? There is a realisation now, far from cutting costs, SDN actually is going to cost a hell of a lot of money, up front. And then what is the ROI? So these are the big challenges, is really making the business case, so that's quite interesting.

Another one is analytics you hear a lot about. In some corners you hear about analytics and big data and the fact that as network operators they have access to the most amazing amount of data, and gosh, we're going to use that and we're going to make a ton of money and this is going to be what being an operator is all about. It's the crown jewels, if you will.

Well, there is a valid case there. It's key to end user quality of experience, which is -- can be extremely valuable. It's key to supporting SDN and NFV. And it's about -- it's central to monetising the network. However, the sad part, or the unfortunate part, is we haven't seen a lot of really interesting money-making cases yet. I do think we will, but it's very, very early days.

The multi-cloud environments. We discussed this a lot this morning so I'm not going to belabour it, and I think we're going to touch on this as well, but from a B2B factor. For a number of years now, in the cloud area, we've been what's the role of the telco? What's the role of the network operator? Intuitively you'd say it's absolutely central, but when we did our first cloud prioritisation and study of enterprises, global study of enterprises, when we asked about who do you think about as your cloud provider, we gave them about 12 options, different types of companies, ISB, software companies, etc. Telcos, network providers were dead last, absolutely dead last. And that was interesting. But at the time it made sense, but now, as we've -- as the types of applications that are moving to cloud are becoming more sophisticated, more mission critical, and also, when you talk about the need to manage multiple cloud environments and connect them in a secure way, the network really becomes extremely important.

And so here's a number of reasons why they do matter. There's a lot of different models for supporting multiple cloud, and again, a good opportunity for network operators on the B2B side.

Mobility. Today mobility is taken for granted. Very interesting comment made by -- I won't mention the company, but the CEO of one of the largest networking companies, so you can probably guess who that is, said, actually, their experience with operators today is there's less focus on mobility. They've played that out a bit, and -- the consumer mobility, I'm talking about, and they're going to run their investment in 4G and LTE, and all of that. And yes, they're looking -- they're preparing for 5G and all that. But really, it's mellow now, in consumer mobility. And the real interest is back on the B2B side of things, in terms of driving revenue. I thought it was a very interesting comment.

Nevertheless, there is a next wave coming and it's not like the other waves before. It's a good point here. I didn't write this. My -- Peter [Jarrod], some of you might know him, an analyst at Current Analysis, did this, but it was 2G to 3G more data, 3G to 4G more data. 4G to 5G is more everything. It's quite an interesting transition that's going to come. But the important thing is that it's a long way off. No one is talking about 4G standards being ready before 2020. Nevertheless, you have companies like Verizon in the US, you have Docomo, in Japan, who are talking about 5G next year,

and that's because they're going to do it their own way, pretty standard, all that sort of thing. And so there are some interesting developments here too.

Also very important for Internet of Things, in terms of supporting Internet of Things, by the way.

So, with Internet of Things it's a -- the challenge for network earning operators is there's tons of opportunities to make money with Internet of Things. It's not just about connectivity, or it shouldn't be, but where do you start? Where do you -- what do you do? What do you focus on? And it's a real challenge there. So the bottom line on all this is there is a lot of challenge but a lot of opportunity, but where to go? There's this sense of confusion.

So, I want to throw a few questions at the panellists we have here. And first I'm going to let you quickly introduce yourselves, starting with you, Matt, on this side.

Matt Allcoat

Thanks, Jerry. Hi everybody. My name's Matt Allcoat. I'm the Chief Architect at BT Global Services, for Asia, the Middle East, Africa and Turkey.

Frank Wiener

And I'm Frank Wiener, Head of Marketing for Wedge. I've spoken a few times.

Andy Solterbeck

Hi, Andy Solterbeck. You may wonder what a security guy is doing up on this panel. For my sins I spent 12 years in telco until December, so I'm a free agent up here. I don't work for a telco any more. So let's see what happens.

Helen Wong

Hi, I'm Helen Wong. I work for Verizon. I actually look after the Network Product and the Partner Strategy for the Asia Pacific region.

Stephen Tsang

Hi, my name's Stephen Tsang. I work for Telstra Global. I look after their Global Managed Network Services and Enterprise Architects.

Gint Atkinson

I'm Gint Atkinson. I head up the technology team for Colt across all of APAC.

Jeremiah Caron

Okay, so, Andy, let's start with you.

Andy Solterbeck

Sure.

Jeremiah Caron

We will get around to the security question, I promise, because it is extremely important, but first I want to start with this concept of telcos and where they go from where they are now. And I guess the way I'll phrase it is, can telcos truly innovate, given their status as owning infrastructure, owning CapEx burden and owning regulatory burden as well? Is it possible to innovate?

Andy Solterbeck

It's a fantastic question. So -- and I think this is really at the core of this entire discussion, right. So, for me it's not a question of underpinning technology and opening (inaudible) up. They're enablers for something and the thing that they're enabling are new business models. So the real question is, what are the new business models that a telco's going to participate in?

Well, fundamentally, what that looks like. And honestly, even you put up the IOT slide up there, that's interesting, but that's just interesting. No one really knows what these business models are going to look like, how we're actually going to make money here. So how does an organisation that historically has been one that relies on long term investment in capital assets and sweating those and getting returns in those, work in an environment where all of a sudden you have to be nimble and you have to change your business model quickly. I think that's at the core of the challenge of the business model question for me.

Jeremiah Caron

Matt, you wanted to chime in?

Matt Allcoat

Yes, thanks, Jerry. I think I have the answer to this, and our innovation comes in what we do for our customers' business models. And I'll give you an example on Internet of Things. So we work trackside with Williams Martini Racing, so it's one of the top formula one houses and we go with them around the world to every race. We're running the LAN and data processing for them in the pits. We're doing big data analytics in real time. And then we're uploading stuff to their big data processing back in Oxford in the UK, where they crunch it and they tweet the performance of the car across the course of the race weekend.

This is where we're delivering value. This is where we're delivering innovation. It's within what it is our customers are doing. We have a big operation, back at the house, but I think there's a few guys on the front of the panel with me here that I hope will agree, if you're a front of house, it's about doing it for the customers.

Jeremiah Caron

Okay, anybody else want to comment on that, on that general opening issue there?

Helen Wong

Well, I guess --

Jeremiah Caron

Helen.

Helen Wong

Matt hit it right. It is about the customer at the end of the day. For us, if we're not connecting the customer to their applications -- our line is, we've got to do that reliably, simply and securely. So we can -- it's not about us, the telco providers, necessarily producing the application. It's about us, how do we enable the customer?

So the discussion with our customers is no longer just even at the CIO level. It's got to be at the business level as well. So what it means for the users they're extra that they're customers and customer. So it's looking at all that together on the solution and not just the networking piece on its own.

Jeremiah Caron

Right. Okay. Yes, and on the business model thing, I was being a bit cheeky, earlier, by talking about the good numbers of the companies, because some of them -- BT's numbers, for example, were directly attributed, mainly, to the success of their TV business. And they got the rights to the UEFA Champions League and all that, and they really did a fantastic job with that. AT&T of course benefited from the acquisition of Direct TV. So it's becoming what you can do besides offering network services, on top of that, in a lot of cases.

So, moving it to the B2B side of things, but first of all, before I do that, Gint, at Colt, just, I think that a lot of operators are still burdened by what to do about the over the top players and how to deal with them and I know you have some interesting points about the need for capacity, need for network capacity, and the stress that puts on the operators.

Gint Atkinson

Yes, and so Colt in Europe, KBH, historically, in Asia, we were a unified set of companies and under one portfolio, and being in APAC the big difference with KBH's evolution was we were able to focus very, very intensely on niche markets. And the niche market we had the greatest success with was high frequency traders needing ultra-low latency connectivity, needing compute and storage at the hot exchanges across APAC and the ability to spin up an entire trading environment and put their own execution engines in there, in the compute, at the stock exchanges and talking to their other execution environments on the other side of the network that we spin up for them.

So, this is a very focused niche. It is very capital intensive. We also grew into adjacent industries that needed similar high performance networking capabilities. We

ended up with a very focused capability and we ended up quickly going into beyond ultra-low latency and going into ultra-high capacity services.

So we were the first company in APAC to launch a licensed 100-gig network service. That was in Japan. And now we're offering up to terabits of managed network services and that's not for consumer, it's not for enterprise. That's predominantly on the cloud provider side.

So, the cloud providers and the OTTs, they need to be at all of these data centres. They need to land at multiple landing stations in all these countries across APAC. They need to quickly get to the data centres with massive capacity. And then, once they get in the data centre, they're driving other traffic that's going to the consumption side, which is inevitably enterprises and a massive amount of mobile users consuming those services and traffic.

But I think the -- being an innovative service provider, we're still burdened with the classical problem that telcos have, massive, massive investment in physical resources. If you want your own dark fibre you're going to have to get it or build it. You then virtualise it with lambdas. 98 lambdas virtualises a fibre. Then you want to have it higher capacity. Then you can have another layer of virtualisation at two and three and so forth.

But still, that doesn't solve that painful problem that makes telcos, for example, invest a great deal of effort in protecting and squeezing every bit of revenue and capability out of their CapEx.

Jeremiah Caron

How is it possible to get the cloud providers or the over the top providers, whether they be a Netflix or even a Google, to pony up more money, to fund (multiple speakers).

Gint Atkinson

Do something meaningful. So let me give you a good example. Use Netflix and let me toss in one more. Let's go to a gaming company or a huge gaming exchange. They have the common need that they're going to have content servers or gaming servers at different data centres. Especially on the gaming side, the gamers don't build their own servers. They tend to, when they launch a new game, they need to spin up. They might get 100,000 new users, gamers, in one night. They have to spin up so many servers across many locations.

The other thing that they need is they need a high quality network experience for those gamers. If you just run them straight across the Internet they're not going to get quality gaming. They're not going to get the real time low latency experience that many of these games require.

So what that gaming provider needs is a set of service providers, compute, connectivity, going all the way out to the mobile network, with the mobile carriers, to try and deliver the best gaming experience for those end users. So you might build a

redundant [e-tree] service, better quality of service for the gamers, based on which game is being played.

Similarly, with a lot of other cloud based applications, content based applications, you may have different kinds of content, different kinds of application, and you need to -- the connectivity provider needs to reach all the way into the cloud. Port-to-port is not enough. You've got to take that traffic, layer two or layer three traffic, and groom it, all the way from inside the cloud, as far out to the mobile network as possible.

So the telcos have those peering arrangements on the Internet with the mobile carriers, but there's more work to be done. We have to dig deep into the cloud providers and start working together, calling their APIs, so that we can build this kind of a service experience across the whole ecosystem.

Jeremiah Caron

Sounds ambitious.

Stephen, let's turn the focus to the B2B side of things. I think everyone on this panel really is focused on the enterprise or the B2B market, so let's do that. Because, as I mentioned, there is a swing among operators to focus more on the B2B side of things in the current climate. A lot of talk about software-defined wide area networking and the impact that's going to have. Clearly there seems to be a lot of interest among the enterprise customer, community. What's the impact today, and what do you think it's going to be, on the buyers, but also on companies like yourselves?

Stephen Tsang

Right. I mean, let me bring a segue into this. We've heard about the [wanter] a lot, and there's a real need now, and I want to be -- just talk a little bit more pragmatically about this, going back to Andy's comment on how do we monetise it? So, as you know, Telstra's an Australian company. As you said, EBITDA is very good. Our investors are very happy, so it's very -- which is good. But the reality is a lot of our companies are in a business today which is extremely volatile. These are the mining companies. The two largest mining companies in Australia have lost \$10b this year, announced \$10b of loss, so that has been an absolute catalyst of change. They have gone back to every supplier to look at their cost models.

Now that has kicked off a series of discussions. In the short term, obviously, you've got to reduce the costs. You've got to get their investors back in line. \$10b loss in a year is not a good thing.

Now, what that's done is kicked off a series of discussions for us where things like SD-WAN and SDN and NFV, these things that people talk about for the next five years are being pulled forward very, very quickly, and the overall business view and the CFO's view on how to break certain models has been very open now. Previously, when things were good, commodities have been in the last 10 years, when you don't have that need there's lip service to it. Now the need is there they're trying to accelerate this very fast, and which is helping us, as a provider, look at different models.

So the technology is one thing. How we wrap that into a viable business model is really the driver and how that's sustainable, going forward. So the opportunity to use things like software defined line, I mean, the cost savings there are really not around the CapEx and the consolidation of your edge type of enterprise products. It's really -- the opportunity there is really about the operations and that's where all the breaks are starting to happen.

So, to get to the level of cost reduction they are looking for, doing just a simple, linear cost savings it will never work in this period of time. How do we replace a third of our operations staff efficiently? Still give them predictability? Give them the ability to work into very hostile environments. If you look at the new areas of mining that they're going into, it's particularly hostile. Being able to ramp that up fast. And also, working with them, together. Although we're the service provider, as a telecom provider, the reality is most of the

And we've seen this also on the finance side, our finance customers. If you look at three out of five investment banks today, if you look at their annual reports, three out of five of them will say they are technology companies, they're not finance companies. So their whole ethos of how they value us is starting to change, which is a great opportunity for all of us.

Now, how do we [weave] the technologies. We've always really been leading by technology rather than any outcome of what the business is going to get, and that's why it's taken so long. And actually, a bit of cynicism, I would say, from the industry, of adopting this.

Jeremiah Caron

Frank, if I could swing it over to you?

Frank Wiener

Sure.

Jeremiah Caron

I think, so, as we just heard, there's a lot of interest in new ways of interacting with the network and there's a lot of reasons for doing that, whether it's the need to save costs or to diversify their applications and workloads in the different multiple type of environments etc. That, coupled with an interest in almost every industry in exploring what they can do with Internet of Things, and what they should be doing, is creating a lot of interest, but security, in our studies, is always the number one concern, the number one barrier. Top of mind.

Who, ultimately, in this environment, is responsible for security? Should the network operators, the service providers, your colleagues on your table here, BT, Telstra, Verizon, are they responsible, or who? Where does this really sit?

Frank Wiener

I think security of the network is -- the responsibility comes back to the user in the network or the organisation that's allowing them to use it, in the context of, you can't just assume your service provider's going to give you security, right.

Jeremiah Caron

Why not?

Frank Wiener

Why?

Jeremiah Caron

Yes.

Frank Wiener

Because --

Jeremiah Caron

I buy a car; it has safety belts.

Frank Wiener

Exactly, right. But just because you get a broadband service -- Well, I mean, let's talk about cloud for example. If you're accessing cloud content the cloud provider will give you security to guarantee that a customer who's coming in to the cloud can't come in and see another customer's traffic. But the connection to that cloud is outside of their domain, and who's responsible for that? It's really the service provider who offers that connectivity can offer that as a value add service. But it shouldn't be viewed as a default, at least not yet today.

One of the things that we're finding, when we talk to a lot of our broadband service provider customers, their big concern is their revenues dropping rapidly on the broadband connections fees, and the revenue. So many of them are saying, should I add security to it to create more stickiness? And the answer is yes, but you should also be thinking about it as incremental revenue. Don't give it away for free. And that's the reason I responded to your question of, should the service provider just provide it? The answer is, I think they should make it available, but it should be an incremental revenue opportunity for the service provider.

Andy Solterbeck

This is a bit of a bugbear of mine. It is absolutely logical that the owners of the managed security offerings that exist in most countries should predominantly come from the carrier.

Jeremiah Caron

Absolutely.

Andy Solterbeck

So why is that? It's because they have the visibility that nobody else does. If there's one area where you can use data, where you can use those kind of capabilities within a walled garden and in an appropriate fashion, it's to offer appropriate security services back to their customers. So it's driven me nuts for a while that in many regions the security should have.

Now, let's be clear. That's not just a nice thing to have. It's a money making opportunity for the carriers, for goodness sake. And as I said, it just surprises me a little bit that it hasn't happened. It's starting to happen, we heard -- there are some announcements coming out now about people moving more aggressively in this space. Verizon's been there a long time. You did early investments in this space. But again, it's one of those areas where they really should be stepping up.

Jeremiah Caron

Helen, so what's clearly emerging is that the -- a lot of the opportunities in this self-defined world are -- really are -- imply an ecosystem, and even Gint's point about how to monetise, get more money from the OTTs, implied some sort of ecosystem. What partners, what partnerships are required to make the most of this opportunity?

Helen Wong

Well, I guess in the software-defined side, all the activity going on, SCN is a pretty big -- is a big [work] for everything, but what we've been able to do in Verizon is actually refine that and be more focused on what we're offering under that umbrella. So you obviously have the SD-WAN that Stephen talked about that you mentioned component, and we are moving into what the VNS, the virtual functions services offerings that we will put on a private cloud environment, to be able to give customers to move -- basically to consolidate what you traditionally, where you have many boxes.

So looking at the [IWAN] side, we've got two vendors that we partner with. But on the VNS side what's interesting, less than three months ago we had 15 vendors running three-hour sessions with our whole engineering team, so that we evaluate each one of them, and then basically shortlist them, score them, and we come down to there's two, basically, more the VNS services we're looking at launching soon. So that's one of them is security. So the top one is actually security. So we've got six vendors on the security side that we actually shortlisted and down to two that we're about to launch.

And then there's the WAN optimisation. The WAN optimisation is the other bit that we're coming second behind security that we want to offer across the network, to help

our customer with. So in follow of that you're going to have your strict monitoring, your workload balance applications in that level that we will be offering.

But looking at that I can easily name 15 partners that we work with and that's only probably about 20% of the total amount that we will be - have evaluated at some stage.

Jeremiah Caron

Okay. Matt, you wanted to chime in there.

Matt Allcoat

Yes. First of all, I agree with what Helen is saying, and also with Frank and Andy as well. I think there's a great opportunity for us to provide, effectively over the top services like a security overlay.

I think there's another thing as well. I'll come back to the comment you made about all of our money recently coming from television. Yes, so this was (multiple speakers).

Jeremiah Caron

I didn't say it was all of the money. I said it was the major contributor to the increase in profitability.

Matt Allcoat

And we did launch the world's first ultra 4 K sports channel. There was a very conscious reason for that. We got a new CEO. The first thing he did was he went to our institutional investors, and we're 11% owned by Investec, and they said, you've completely saturated all of your markets. You're not going to hit any more domestic broadband. You're not going to hit any more voice minutes. So you need to go out. We responded by doing television and mobile. We've re-entered the mobile market in the UK, where we now have 30m subscribers.

And I think we need to do the same thing in B2B. We need to look at how we can value add on top of the products we have. We also need to look at new marketplaces where we can enter. And I would say that in addition to competing with my colleagues on the table here, we also need to look at how we can collaborate. Because if you're really serious about doing global software-defined networking, no one of us here has a wire that goes to every single building in the world, and we've got to work out how to work together so we can make those networks that actually hit the sites that customers want and use all of our capabilities, and that's a market that I don't think we're active enough in right now.

Jeremiah Caron

Comment?

Frank Wiener

I'd actually like to follow up on the observation of video and the video acquisition. If you think about it, it's really a logical adjacency of a business. When they've got that, not only is there incremental revenue out of that new service, but they could also drive that content over the broadband and those types of things.

Jeremiah Caron

Oh yes.

Frank Wiener

Right, so any time you can have a logical adjacency, where you can leverage your incumbency, it's a great advantage, and security's a perfect example. You've got a logical adjacency to extend from data to security and you can start out in your own infrastructure base, leveraging all that CapEx you've made. But once you established prominence there you can take security into an over the top offering and go offer it to people who aren't going through your mobile or broadband connectivity.

So that's a key part of transitioning and expanding into new businesses and new revenue streams. It's leveraging core competencies in your infrastructure and resources as much as possible. So that's one of the reasons we're so excited about security for the service providers and their ability to expand.

Jeremiah Caron

Okay. I'm conscious of time. Does anybody have a question for anybody on this panel? We do have one in the back.

From the floor

So I have a question at cloud across all the panellists is that I think is cloud expected that because you are telco you have that larger than life control with your customers and therefore you want to value add as much as you can to increase your stickiness. And we talked about security of that, right. But the observation I had and maybe that's just my personal view, is that not all telcos can do all things. We think we can, so we go into manage security. We go into cloud. We turn ourselves into CRM and SRM. Is telco really to do everything to everybody?

Jeremiah Caron

That's a good point. I mean, we saw a lot of telcos go off and think they were going to be cloud providers, and most have pulled back from that now, and are now cloud aggregators, but any comments from somebody?

Stephen Tsang

I'll start with the answer to that. I think Helen alluded to it. The partnerships, the number of partnerships that are being made are increasing. Can a telco do everything? I think -- I mean, the word telco will probably be extinct in about five years. We

really shouldn't be talking about ourselves as a telco, because we have a customer base, okay, and a community. And really, right now, I think, in the enterprise space, we're probably in a best position where we know our customers. Although we -- on the most of the time, we provide them just connectivity, if you compare us to any other type of -- I hate to say this, but utility company, our intimate nature of our customers, we're probably best placed to spearhead that with the partners behind.

So I don't think we own everything, but actually, do we conduct it? Probably yes.

Matt Allcoat

Yes, I think telcos are actually in a unique space to do exactly what Stephen's saying, because the very nature of our business is connecting more than one set of people together. That's fundamentally what we do. I mean, our -- Jeremiah's right - we went into the cloud compute market. We got waxed by the hyper scale people and we retrenched into one or two niches where we're very comfortable, and one of those is our cloud proposition is called Cloud of Clouds and it's actually about linking everybody else's clouds together. So yes, this is -- we -- no, we can't do everything, you're absolutely right.

Jeremiah Caron

Any other questions?

We got everybody to talk. It's a big panel and everyone got to contribute, so I'm actually pleased that that happened. Thank you very much. Excellent comments. Thanks everybody. Cheers.

Manek Dubash

Thank you.

[End]