

Consolidating the cloud through IT automation

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Virtualization promises new levels of automation for IT systems, but it runs on a network needing a lot of manual tinkering - like 70s era management practices. The network automation business had done a poor job of automating itself, and the gap is growing between increasing intervention demands - more IP addresses, more change, more new initiatives - and policies and practices that have been around for decades. Flexibility means complexity, and resulting loss of control



Camille Mendler, Vice President - Global Service Strategies, Yankee Group

Cloud computing promises immense benefits for the enterprise, but if it is to prove reliable, man- ageable and secure the infrastructure will need greater intelligence, agility and automation. Can we rely on plug in devices to upgrade existing networks, or should we build intelligence into the network from the ground up?

With ever more devices (and kinds of devices) connecting to networks these questions become critical to the future of our IT economy. Can our panel agree on the best way forward?

This session was introduced and chaired by Camille Mendler, Vice President - Global Service Strategies , Yankee Group, at NetEvents EMEA Press Summit Istanbul

Panellists: Craig Easley, Vice President of Marketing and Product Management, Accedian; Dirk Marichel, VP of EMEA, Infoblox; David Hill, VP EMEA, Spirent Communications

Camille Mendler

I'm going to navigate you through a discussion about consolidating the cloud through IT information. I'm delighted to have as panellists three very different players in the ecosystem. You've already met Craig. Putting words in Craig's mouth, I think he would say that the unifying thread through each one of you is the need for automation.

And for Craig, I think what you would argue is that there is an absolute need for end to end

intelligence about packet performance is one aspect of the automation story to improve ICT. Correct?

Craig Easley

Absolutely.

Camille Mendler

Am I missing anything?

Craig Easley

No. I think you need that intelligence along with the raw capacity that's there. So as people roll out a gig, 10 gig, 40 gig, 100 gig Ethernet, still making the best use of that and providing the different quality of service levels to support these ever demanding applications is, fundamentally, a requirement. And that's what our company does, the leading provider of business assured services for Ethernet.

Camille Mendler

Okay. And our next panellist is Dirk Marichel. And Dirk is the VP of EMEA for Infoblox. And again, with the thread of automation, I think Infoblox would argue that you need to have holistic visibility, correct, of network infrastructure --

Dirk Marichel

Yes, exactly.

Camille Mendler

And, not least maybe, one of the big issues is orchestration, right?

Dirk Marichel

Yes, exactly.

Camille Mendler

And that's one of the big areas to actually get IT to perform as we would like it to perform. And certainly not least, David Hill, who some of you have met before, who is Vice President of EMEA for Spirent Communications. And perhaps the argument that David would put forward, and I'll ask you to maybe amplify a little bit is whether, on the enterprise side or on the telco side testing is for life. It's part of the life cycle. It's not for Christmas. It's not something you just do one once, and not worry about it, particularly in these type of multi vendor, increasingly virtualized environments. Is that right?

David Hill

Absolutely correct Camille. Certainly it's critical that people continue to test as things change. You can't just test once and say, great, it's going to work under all conditions now. Every time you change a software load on a big server or something like that, or on a big switch, you've got to retest again. So testing is definitely for life.

Camille Mendler

Yes. And the other interesting thing about these three players is that you've each got propositions, both for enterprises and for service providers, even though there might be a different balance in the business. And I have my own personal view, but who's actually got the rawest deal when it comes to making IT work better, or the biggest challenges? Is it the enterprise or is it the telco out there? Maybe each one of you can just give your view on that, and please try not to be guided by the size of the contract and revenues from either side of that business. But, seriously, which side has got the worst deal? Craig.

Craig Easley

I think it's in many cases left up to the enterprise to sort it all out. They have a variety of different services to choose from. You have a variety of different application infrastructures and virtualization solutions to pick and choose from. But at the end of the day it's the enterprise customer that has to stitch it all together somehow and make it work. Putting the intelligence in, using the test tools, at the end of the day it falls to them.

Camille Mendler

So you say enterprise. Dirk, what would you say?

Dirk Marichel

I would definitely say enterprise. And one of the reasons why there is a huge need in automation for enterprise is the growing gap between technology and people running the network. So what do I mean by that? I heard John talking about virtualization, cloud computing --

Camille Mendler

Mobility.

Dirk Marichel

Growing networks, compliancy, growing IPs, etc. So people cannot cope any more by running the network in an old fashioned way. People need to automate. And automate means testing; automate means running a network up to certain rules and complying to certain best practices.

Camille Mendler

Yes. And David what do you think?

David Hill

I would probably stretch it a little further and say that enterprises use all sorts of other organizations like system integrators to help them resolve those problems. So I think they tend to push back and say this is what we want to do, do it for us. Tell us how to do it. And please fix it when it goes wrong.

Camille Mendler

And give us a big bill as well please.

David Hill

Inevitably that happens. I think the service providers provide the raw infrastructure. I don't think they're yet fully into the applications space. And I think that's maybe the next phase that they're looking at right now. And maybe cloud will come into that in a slightly bigger way. I know quite a few of them are looking at that right now.

Camille Mendler

Yes, okay. Well we'll go into a little bit more context on this. I don't know how many of you in this room actually cracked open a similar fortune cookie that says you would do well in the field of computer technology. But I think that if anyone has joined, particularly, the enterprise IT space over the past ten to fifteen years, they've been sold a pup. They've been given a bit of a raw deal. I mean ten to fifteen years ago it looked like the stars were aligned for enterprise IT managers if you think what was going on. Well this client server revolution pretty much happened at that point. So that was one issue that had been, if you will, resolved and understood. So that was within the enterprise network infrastructure. Outside, if we think from a political perspective, twelve thirteen years ago people like the World Trade Organization had secured things like the basic telecommunications agreement,

which meant that there was more competition in communicating, telecoms around the world. The European market liberalized in terms of telecoms competition. So in theory, the enterprise, from a communications perspective, also had more choice. So tick in the box, nice situation.

And perhaps also, not least, I think the C level in many enterprises had been reading a lot of the IT magazines and been reading a lot of those business management books that littered the shelves in the airports. I find them incredibly dull, these types of books, but I think a lot of the C level in enterprises had actually been reading those books that believed this vision about the business value that IT could deliver. And I think lots of those IT managers also believed in this business value of IT. But I think the reality has been a little bit different. If we get on to the next slide, one of the things in these management books was this concept that IT is innovative, that it's very much aligned to the business goals and business execution. If we get on to the next slide, the enterprise IT is highly agile. This is what was in all the management tomes, that it's just-in-time business planning. That it's all about budgetary planning that's highly aligned to business outcomes. And if you get on to the next one -- and not least, of course, that enterprise IT is automated and that lots of transactional tasks are going to be mechanized, automated and, in some cases, externalized to third parties to handle some of that mess. And of course in reality, if you go to the next slide, that's absolute nonsense when you think about today's reality in many, many enterprises. And here you just have a view of some work that we've done, how time is allocated in the typical IT department. And if you look at this, more than two thirds of the time is basically keeping the lights on, maintenance; upgrades, tuning, that type of activity. And so what happened to the business value of IT. It all sort of disappeared didn't it? Do you agree with me on this point? David.

David Hill

I would actually, yes.

Camille Mendler

So it's all been a big myth, hasn't it?

David Hill

No I wouldn't quite say that much. When I think, there are some innovative organizations and some innovative companies who have certainly moved with the times. But I think a lot of IT departments in a lot of industry right now is basically trying to make sure it keeps the lights on. Part of what we've been doing is trying to help them keep the lights on. And we tend to be the kind of 911 service when all else fails. And you look at things like upgrades and tuning, you look at developing new services, in reality they should be spending 80% of their time developing new services.

Camille Mendler

Of course.

Craig Easley

Maybe in the future removed, cloud could actually help them to achieve that.

Camille Mendler

Yes. Dirk, what do you reckon?

Dirk Marichel

Yes I would like to dig a little bit deeper in this maintenance stuff. So I can agree with what David is saying. 40% of the time, and I think it's even higher so --

Camille Mendler

This is an average.

Dirk Marichel

So when I talk to network managers, they say that 75% of the network outages is caused by human errors.

Camille Mendler

Yes, manual processes.

Dirk Marichel

Exactly. People do not automate. And what I see, there is a trend in automation which is supporting the business and which makes the IT division much more valuable. But on the other hand I also see that people have automating tools already in place. But the automating tools they have in place, they just give green lights and red lights. Green lights, let's test it. Okay. It's okay. We can implement it. But they don't know the impacts of this implementation on their network. On the other hand you have the red light which means that network is going down. What's happening?

Okay, let's investigate. So what they do, they go to automation tool to do some remediation, to get the network up and running again. But there is a big need of orange light. So I think we need to build with much more intelligence into the automation tools; intelligence up to best practices, compliancy etc. So when people are trying to launch new versions of software in their network, they should have visibility and control on which impact it will have on the network. And that's a huge trend going on now.

Camille Mendler

And that's not just within the enterprise network, but the broader service provider network. And one thing I noticed, Craig one of the tools that you've got, you've got an SLA policing tool, an SLA meter, right?

Craig Easley

Yes.

Camille Mendler

And that basically sees if the service provider is performing as contracted, correct?

Craig Easley

Absolutely. So I think your slides really underscore an old anecdote, never confuse selling with installing. So your first slide's about the vision and what this can all bring. And just-in-time management planning, that's clearly the vision.

Camille Mendler

It all sounds so fabulous. I know I've written various things about this vision as well.

Craig Easley

And here's what happens when you install it. You're left with this at the end of the day. So having automated tools that can keep your providers of all of these services honest, and providing the business service that you contracted for, that you're relying on so that you can avoid a lot of this, is important.

Camille Mendler

Yes, absolutely. Well let's get on to the next slide. And again this is a reality check. We talk about infrastructure stall. And there's a hell of a lot of that. And this is just a view from the data centre environment, the more servers that you have, the types of device

interactions that need to occur, the packet processing. And that's why there's a lot of discussion. And I think John McHugh of Brocade was hinting at this as well, that you need to have a flatter network fabric if you're going to move to a virtualized environment, a virtualized data centre, to just get over this. And here's the other thing.

We talked about this in the earlier debates as well.

I don't know if it's going to be 40, 50, 60 billion devices that we're going to have in this world over the next few years, pick your [analyst], choose your number, it's going to be big though right? And for the enterprise IT manager, once again they were probably planning for a one to one relationship in terms of the employee and the device, when of course it's not going to be an issue of that at all. Yes maybe an employee will have one or maybe three devices, but then all of these passive, nonpeople connected devices that need to be dealt with as well. And even the whole concept of being on line becomes completely irrelevant in this world of 60 billion devices, right? It's either you're awake, or you're asleep. Right? Would we agree with that? Any comments.

Craig Easley

Yes, I would agree. I mean, if you're awake, you're connected to the cyber fabric. And to the extent that enterprises can virtualize and create that always connected environment in a way that's energy efficient and cost efficient but still meets their business needs, those are the enterprises that are going to come out ahead, increasing their productivity and having the tools that their employees need to help the business grow at their fingertips.

Camille Mendler

Well let's get on to the next slide because then we can talk about whether that is really going to move to the cloud, and what are the different pieces that you need to have working, orchestrated together if you will, to make this work. The physicality of IT is not going to disappear completely. There's still going to be some of that. And if you're going to operate an enterprise class cloud, whether you operate it yourself directly or it's completely externalized, all of these different elements, all these stars, need to be in alignment. You need to have physical and virtual IT service management. You need to have that next generation data centre fabric, which we've talked a little bit about. You need security in various layers. And it had better be audited as well because I don't trust anyone unless they've got an audit. And we can talk about whether that audit should be ISO27k or it should be something else. And then there's IP addressing issues because the cloud is very greedy of IP addresses. And I know that we've been saying for years we're going to run out of IPv4 addresses. But the reality of IPv6 is about to bite us in the bum, I tell you, when it comes to the cloud. And then we've got all these lovely issues around interoperability. And not least, if you want to really move to the cloud you need not only high speed, but pervasive networks and a continuity of experience. So let's hear from each one of you where you play addressing some of these issues. David, shall we start with you?

David Hill

This is meat and potatoes for us.

Camille Mendler

In a good way or a bad way?

David Hill

No, in a good way. I mean the more complex it gets, the more testing you require to do, so the more money we make. So this, to us, is fantastic. And yes, there are some huge challenges in moving forward. Only recently we've been doing quite a bit of testing on security, with Steve over there, in the virtual environment. And no one else has been able to

do that. So we virtualize some security testing and we sit it actually on the server itself. And you can actually test the security between two different virtual machines.

Camille Mendler

So in what sense are you testing the security? [Indiscernible] or what sort of things?

David Hill

You ought to speak to Steve in more detail about that.

Camille Mendler

Well maybe Steve will stand up and tell us a little bit about it in a minute.

Unidentified Speaker

[Indiscernible]. Yes we did run a [indiscernible]. Basically as David said we'll be keeping it there. That assessment we did was the actual test element to test traffic within the virtual machine. So we tested from one server to another which basically hasn't been done before. So typically when you're testing, you're testing from a physical environment into a virtual environment. I've done this many times too. And you don't have any real visibility within the virtual environment. You just have results that come out at the very end and then you have to assess those. It's a very different world when you're actually physically testing traffic in the virtual environment itself. So you're actually [indiscernible] the virtual environment. A very different world.

Camille Mendler

And of course that virtual machine, there will be multiple virtual machines which might --

Unidentified Speaker

That's the point, there are multiple virtual machines.

Camille Mendler

And coming from different service providers and different vendors. Hence the increased complication of being able to track, monitor, test whether those environments work.

David Hill

So security is only one thing. Availability is another crucial aspect of it. And you've got performance as well. And then you've got scalability. And we've done a lot of work with other organizations as well, like the ANTC, to go and test what happens in a public environment, in public clouds. Some are very available. However when you try and scale, then you start to see some huge increases in delay times for example.

So there are still some significant problems.

The other thing I would say is the more complex it gets and the more testing you have to do, the more automation you need, because otherwise it would take you six months to do a fairly simple bunch of tests on a whole range of different things. If you automate it, it's much, much quicker.

Camille Mendler

So how much quicker is it from that six months? Come on, give us a number here.

David Hill

I'm not going to give you any absolute data, but what I will say is that as complexity has increased, then a lot of the test vendors have started to get together and say look we need to be able to be helping our clients. So we need to put together some fabric, some capability for doing testing in an automated fashion which goes across all the different test vendors. And there is an organization called NTAf -- of which obviously we're founders, I wouldn't say

it otherwise. And that organization is currently working on putting together the sort of test fabric in an automated fashion to speed things up dramatically when you've got multiple different test vendors in the same environment.

Camille Mendler

Actually to that point, many people are using this term fabric. Would all of you care to perhaps come up with the definition, what is meant by fabric? There's like network fabrics, testing fabrics. What the hell does that mean?

David Hill

That's an interesting point. I think it means different things to different people. I think, if you look at the test fabric that I'm talking about, it's multiple different vendors of test equipment who do different things in a linked and connected operational environment. If you're looking at other fabrics, it could mean a data entre fabric which is mixed up of storage and virtual machines and so on and so forth. So I'm going to leave that open to everybody else.

Camille Mendler

Okay. Now Dirk, I know one of the main planks for your company is talking about, really, orchestration, right?

Dirk Marichel

Yes, IF-MAP yes.

Camille Mendler

Do you want to talk a little bit about that because whether it's that scheme of orchestration or not, orchestration is fairly critical when you think about all these moving parts, right?

Dirk Marichel

Exactly. It's actually an open standard. I'm not going to dive too deep into it. In the end it's an open standard which provides a way to communicate, transfer, conserve data across the network. Vendor independence, which means that we interoperate with for example companies like F5, Juniper Networks, Microsoft, where we provide a IF-MAP standard where, for example, Juniper firewall can transfer some data to our IF-MAP server and then the IF-MAP server can provide some information, for example, to an access system where an access system can read into our data if, for example, this user has entered the company so he can have access to this application, to that part of the network, etc. So actually it's an open standard. It's really starting to hype now. We see a lot of interest of --

Camille Mendler

And this applies to the cloud environment. Craig, you wanted to say something?

Craig Easley

So my view of the fabric is it's always on, always connected access, that ties everything together. It binds everything together, if you will. I want to go a step further. And beyond just the need for testing and automated testing, I think you actually have to build that intelligence into the fabric because the fabric never sleeps.

And those services always need to be available. So you need to be able to do inservice, constantly, validation that everything is right and so you can get proactive --

Camille Mendler

Yes. Maybe I should have said that because people may be awake or asleep, but the network is always working.

Craig Easley

It's ongoing, absolutely. Yes.

Camille Mendler

And one of the other points I wanted to go back to actually is this, we need to draw it out a little bit more. There are various issues here, but let's go back to this point about IP addressing. Does anyone want to add to that? I think that's underplayed as an issue. And I think also that there are cloud providers that do unsafe things with where they keep their IP address lists and things like that in the same data centre as – would you guys expand a bit on that point?

Dirk Marichel

There's a wave now so people understand that the way they manage the IP address space has to be automated. So we see a huge trend now of people start investing in automated tools. On the other hand it's really becoming a challenge, certainly when we talk about virtualization and cloud computing. Just think about trouble shooting.

How do you know, as an administrator, which virtual service is running on which physical device and which IP address is located behind which board, in which data centre. It's becoming a nightmare. So people start to realize that IP address management -- although it's basic. It's basic. But in the end people start to realize that this needs to be automated. It doesn't run anymore that people can provision a new service in a couple of seconds, and that when they ask for an IP address they have to wait like three days before the administrator can hand out an IP address. So you see what I mean? There is discrepancy between what's happening in the network, new technologies and the basic stuff.

Camille Mendler

Yes. And it's not just about IP addresses; it's about the packets too, right?

Dirk Marichel

Exactly, yes.

Camille Mendler

Do you want to add a bit on that?

Craig Easley

Absolutely. Having visibility and control on what is going on on the network. Where are the super users? Where are new users that you hadn't expected hitting your network, and getting out in front of that so that the fabric can adapt and change to better support the business goals of the enterprise.

Camille Mendler

Now are there any questions from the audience, by the way, on some of these issues? If we go on to the next slide, I think there are some things we ought to look at as well. My assertion, this goes back to I think what John McHugh was talking about, is that each of you are part of the broader ecosystem, but how do you all work together? In fact do vendors of various solutions, do they actually speak the same language to each other and let alone to the enterprise as well. And I think that, yes, we talk a lot about, there's a lot of market [techure] about solution ecosystems. And I do wonder if it's actually ecosystems or ego-systems, particularly as we talk about the cloud environment. But that's my cynical side speaking there perhaps. Dirk's already talked about one, orchestration standards approach, but what language is the most important for people at different parts of the ecosystem to help with some of these IT issues.

What standards are going to be the most important for all of you to work more collaboratively to deliver solutions to enterprises? Does anyone want to talk a little bit about that?

Dirk Marichel

I think it's uniform data flow. Vendor independent data flow.

Camille Mendler

I don't get that, sorry. What does that mean?

Dirk Marichel

Actually I think there's a big need to have an independent, neutral way of making vendor typical applications, vendor typical technologies, work together. I mean this grid thing is a nightmare. And vendors coming out with new services, with new software, if you upgrade the network and if you have to upgrade your firewall infrastructure and it breaks down your network because of it's not interoperable with another vendor, that's a nightmare. So there's a big need of neutral and vendor independent communication technology.

Camille Mendler

And David, in a sense why couldn't someone like Spirent actually just get into the business of just doing live certification interoperability? I mean you do a lot of interoperability testing whether standards are in play or not, interoperability between different vendors. Why couldn't you stand as an independent mediator in this business?

David Hill

Well that's up to the executive body to decide whether that's a good market to go into and how much to invest. But I think you've struck a chord there which says interoperability is crucial and interoperability testing is crucial. And even if you've got standards, the implementation of those standards on different vendors' pieces of equipment could be slightly different and still create significant problems. And that's kind of where we are in the lab area where we do a lot of the interoperability testing.

Camille Mendler

When you think about the different layers of testing that you're involved in, and I know it's an extraordinary list of different layers and types of testing, how much is interoperability versus other types of testing? Is that growing in terms of demand from your side? And in terms of your clients, is it something that's coming from the service provider side or -- [basically] on enterprise as well.

David Hill

Well service providers and enterprise in fact. And what's also interesting is it gets pushed back sometimes onto the vendors themselves. And they say, look you need to be able to interoperate with each other; go work it out. Now certain organizations, certain big service providers, have tried to do that and have actually failed. So they've had to bring it back in again and do it themselves.

Camille Mendler

Why did it fail, do you think?

David Hill

Vendors don't necessarily want to work with each other that closely, and they don't want to give away their closely guarded secrets. So unless you've got a single vendor that provides everything, it's going to be a challenge. But I think we've seen a very significant uptake both in the service provider and in the enterprise space, as networks have got more and more complex and interoperability has become more and more crucial. But what we're also seeing is it's now moved right up the stack in its applications. So it's how do you get an application to work across the network when you're changing network parameters, when you're looking at impairments, etc. How implementations of different standards have taken place; will it

work under load, will it work under all conditions. And that's led to a significant increase now in demand for automation in the testing environment.

Camille Mendler

Right. Craig?

Craig Easley

From the networking side history has proved, without a common language chaos ensues. So you end up with something akin to the Tower of Babel with a bunch of different protocols all trying to speak their own languages. So from a networking perspective, the industry has really rallied behind Carrier Ethernet as that common unifying language, taking a lesson from what happened on the enterprise space where Ethernet had become the common language and --

Camille Mendler

And it is one of the few examples where that has been achieved, and how many years did that take? It's been done in a, I think, commercially orientated way rather than a --

Craig Easley

A techie way. A tech-centric way.

Camille Mendler

A techie way, yes. And we need to see more of that, particularly in the cloud environment, virtual machines and all the rest of it.

If we get on to the last slide, so I think we've made the case that automation is required. But just a quick one before we close, there's all sorts of different types of automation, unfortunately, out there. And I don't know if anyone wants to talk about these different approaches to automation where it's passive, analytical, active or with RunBook which might encompass an entire process, but does anyone want to talk a little bit about these different types of automation, just so we're clear it's not one size fits all.

Craig Easley

No. It's a market basket of measurements and techniques that you're going to need to get your hands on this ever-changing fabric. In fact that's an excellent graphic that you've got there.

Camille Mendler

I do try.

Craig Easley

Yes. So I think you've got to have a variety of tools. You've got to be able to be prepared to normalize the data that you're collecting so it turns into meaningful information to help you guide the evolution of your enterprise's fabric.

Camille Mendler

Right. So we can agree that the network manager, the IT manager, has been having a raw deal because automation's not been there. Is this going to be just an ongoing problem, we're just going to keep moving the goal post in terms of where automation is required? What do you think?

Dirk Marichel

I think it's ongoing, but what I see there's a big wave coming out as services like virtualization and cloud computing are really starting up. I think there's a big wave coming out that people start investing in automation and try to standardize, simplify and get more

visibility and control. And actually you mentioned four different areas, but I think it's like just one area. Automation is just transparent to the complete network. And there is also some interoperability between automation tools for network people, automation tools for service people, for troubleshooting etc. It's like one big thing.

Camille Mendler

Okay. Any other comments? David.

David Hill

No I think I agree with both the other panellists on that.

Camille Mendler

Yes. And if we solve the automation issue, then what happens. Is everyone going to be happy? And where do you guys make money then? You'll still make money won't you?

David Hill

We hope so. Maybe we'll go and do what you suggested we should do in the first place, Camille. I don't know.

Camille Mendler

Maybe. Any questions from the audience? Otherwise I will say thank you very much to the panellists. Thank you very much for your contribution. Thank you.

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