World Class Network Assurance Strategies Emerge as Critical Success Factor in How the Cable and Telecom Sector Engages with Customers

It is, by now, a cliché to point out that we live in a connected society. Every sector of the economy now depends on connecting systems to the customers, partners and employees that make it possible for value to be created and consumed. Nowhere is this truer than in the network service provider (NSP) community.

Cable companies and telecommunications providers have for decades depended on developing and maintaining communications links with the consumers they serve. Today, however, things are different. The market has never been more competitive as sectors converge, new entrants introduce innovative business models for content and service delivery, and the complexity of network infrastructures soar.

In this context, the concept of network assurance is evolving beyond the measurement of infrastructure performance; it is now a key factor in delivering a consumer experience that captures and retains customers.

To better understand the current trends in network assurance and the impact it is having on the NSP community, we caught up with:

- Charlotte Patrick, an independent analyst who has launched her own practice after spending 13 years at Gartner covering the analytics, artificial intelligence and automation space; and

- Chris Menier, general manager and transformation strategist at Vitria, a provider of a wide-scope AIOps platform that unifies real-time streaming analytics, historical analytics, predictive analytics, prescriptive analytics, and intelligent actions.

Here is what they had to say:

Q: The topic today is network assurance strategies in the cable and telecom sector. Charlotte, let me start with you. After spending so much time researching the analytics, artificial intelligence, and automation space, can you give me your view of the market as you see it. What is network assurance and how have you seen it evolve over the last 12 to 18 months?

Charlotte Patrick: For about the past five or six years, the concept of network assurance evolved to focus on customer experience rather than on the speeds and feeds of performance — monitoring which boxes on the network has red lights.

Over the last year or so, this focus has intensified among network service providers (NSPs) who have understood the importance of examining what the customer is actually experiencing with their network, their services, devices, and the apps.

As a result, we have seen a parallel shift in the way that NSPs analyze their operations. We are beginning to see a shift from a descriptive and diagnostic approach to analytics in which NSPs seek to understand what the problem is and why it is occurring, towards more predictive and prescriptive capabilities.

They want to anticipate issues that can come up in the future and determine how they can automate the process of fixing problems before they affect the customer experience.

Eventually, I believe the arrival of 5G networks will contribute further to this trend because 5G is set to be transformative in the network assurance market for a number of reasons. One of the reasons is that it is just too complex to run a 5G network without significant automation around the concept of the self-healing network — which depends on predictive and prescriptive analytics. As a result, assurance data is going to be right at the center of these initiatives.

Q: Chris, what is your view on the level of importance that is being attributed to network assurance in terms of accomplishing mission critical objectives if you are a network service provider?

Chris Menier: This is a continuation of an important trend that has picked up momentum over the past year or so in which NSPs of have started caring more about customer-centric metrics instead of those traditional network performance metrics around uptime, network congestion, etc.

Customer experience is the defining factor today. Everything contributes to the customer experience. Because the network is so key to delivering value, we have to understand much more than the technical characteristics. We have to understand how the network makes people feel about the brand that is delivering a critical service to consumers — and businesses.

With new technologies — like 5G — coming online, operationalizing this will become more complex. It will require further correlation across all of the layers of service delivery to enable the kind of analytics that then drive the automation that ensures network assurance — which in reality is a consistent high-quality experience. More than this, it is an experience that is consistently improving.

This is much easier said than done, because as consumers demand more services across a more complicated infrastructure (at home, at work and on the go), in a completely integrated manner, there are a lot of moving parts that interact and affect each other.

I was recently working with a large operator who told me:

"If I had a nickel for every time a great piece of software never got deployed, I'd be a rich man."

He made this point in the context of how difficult it is to deploy new applications given the network complexity that exists today. Since the network is not getting any simpler, we have to develop ways to analyze more data, more quickly and with more context. This requires forward thinking analytics —and if we are going to scale — it requires enterprise-wide automation.

Q: So what are some of the new directions that you see for network assurance taking over the next 12 months, given the groundwork that you've just laid?

Chris: As the network becomes virtualized, DevOps and strategic change management have to be embraced.

This is the key to enabling operators to roll out new products and services more quickly, which is great for the consumer. It is how they will be able to flex their network dynamically in response to major shifts in the market — which happens all the time now.

However, it is important to keep in mind that constant adjustments to the network can introduce issues that impact the customer experience. So we're starting to see a bigger focus on identifying fallout from constant influence of the DevOps teams.

At Vitria, one of our most important missions is to help operators dynamically detect these constant changes and monitor the implications in real time to determine how it is affecting the customer experience.

We're looking at detecting this directly from Kubernetes and other DevOps tools. Once a complete picture comes into view, the question is whether operators can start to implement real automation and orchestration strategies, which I think we will start to see mature at a rapid pace over the next three years or so.

Q: Is that consistent, Charlotte, with the research that you've been doing to understand both the qualitative and quantitative impact of assurance on business strategies for network service providers?

Charlotte: Yes it is...and it is fascinating. I absolutely see a lot of talk about and action taking place in the areas Chris has been talking about.

The challenge — and opportunity — at this particular moment in time is that there's still a real immaturity in quite a lot of the predictive and prescriptive capabilities on the traditional physical networks.

They're sort of in trial phase, a lot of them. For example, while calculating a score for an individual's customer experience has kind of been trialed over the last few years, it is only just now getting moved into mainstream production.

With the advent of 5G, suddenly there are a lot of new reasons to use this strategy. As a result, I think we will see all of those predictive/prescriptive initiatives that have been moving forward slowly begin to move at a quicker pace in the next few years.

These initiatives will have to work across all kinds of infrastructures and environments — from 4G and 5G to SDN and NFV. In so doing, they are going to need higher order KPIs — such as service quality and customer experience and so on — which will inform how network assurance is managed at the orchestrator level. And then we will also have distributed assurance covering inter-domain issues, and intra-domain issues, with a lot of the focus here being about fault isolation.

All of this will have to be rolled up and made available on an end-to-end basis across multiple networks. So there's a real large number of network assurance capabilities we're going to see coming into the market in the next few years.

Q: Chris, how mature is the industry's understanding of these issues and how urgent do they see the imperative to put together these foundational pieces for network assurance?

Chris: Many of executives are very aware. Others not as much. I think most are ready in the sense that they realize that they have to put these silos together. It is important to remember that there are already great tools out there for network performance monitoring, for IT infrastructure monitoring at the security layers and application performance monitoring.

But now there is a requirement to pull all of those together, because you need visibility across all layers of the service delivery stack. So at Vitria, our AIOps platform really looks at signals across all of these layers, and then uses machine learning and AI — and sometimes just simple statistics — to

correlate this signal, so we can create something actionable, or an activity that can be automated. If this ability to correlate isn't in place, then automation may have unknown or unintended consequences with other layers.

So what are some of the other barriers to making progress rapidly?

The big one is: interdisciplinary cooperation. NSP executives have to seek cooperation across all key business units or you will never get out of those silos that I just mentioned.

The good news is that effective, customer-centric network assurance issues are very solvable. The organizational change, that's solvable. The technology is there. The data is there. So if organizations can align around customer experience as their differentiator, which many of them are now doing, then they can use this as a driver for these projects. ◊

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