



[Networking & Communications](#)

Is ‘intent-based networking’ the next big thing?

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The first thing that pops up when you type ‘intent-based networking’ into Google is a sponsored advert from Veriflow – labelling it ‘The Next Big Thing’ - but is this true? And if so, what might it mean for your business?

At last week’s [NetEvents press and analyst summit](#) in Silicon Valley the potential future of intent-based networking systems (IBNS) was discussed at length. This included insight from wide range of experts and vendors in the space – I’ve attempted to summarise (and simplify) the important points below.

What is intent-based networking?

Rajesh Ghai, research director of Telecom Network Infrastructure at IDC says IBNS boils down to “networking automation”. Or as [Gartner put it in a report back in February](#): “In essence, IBNS provides networking middleware to replace intelligence that was previously only available from networking engineers/architects.”

How does it work in practice?

It is software that sits on top of the infrastructure and ultimately gives each application its own network (so the applications and network merge). This could have big implications for securing the Internet of Things.

[*The IoT “time bomb” report: 49 security experts share their views*](#)

Where are we at with this?

Gartner describes it as “nascent” but potentially the next big thing “as it promises to improve network availability and agility, which are key as organisations transition to digital business”.

Jeff Baher, a senior director at Dell EMC adds that this is not necessarily new, it is evolutionary best practice and is a symptom of all the things large scale networks can’t do with people alone.

Why might be the time right now?

The technology finally appears to have lined up to make this approach viable. This comes down to three main factors. Firstly, the availability of programmable switches via APIs – to better manage the network. Secondly, the rise of streaming telemetry – to continuously monitor the data from a range of devices. And thirdly the benefits of machine learning – to process the data and discern patterns. The upshot of all this is it is now easier to automate networks at scale.

People were talking about these kind of capabilities during the first generation of software-defined networking (SDN) and they didn’t materialise Is there a possibility this might this not work at all?

JR Rivers, CTO and co-founder of Cumulus Networks points out that the promise was there with SDN 1.0 but the technology couldn't solve it. He believes this is less heralded but more practical.

However, it is still early days for this technology and Gartner says it might not deliver properly in practice. The analyst firm also adds that the history of the networking space has been dominated by mostly small, incremental changes which means a big shift still might be too much to expect.

Who are the market players?

Gartner lists six main vendors in the space. These include Apstra, Juniper Networks, Forward Networks, Veriflow, Waltz Networks, and of course, the ubiquitous Cisco. It also broadly points to SD-WAN vendors, network management players and communication service providers.

Why might this add immediate value to businesses?

Prashanth Shenoy, VP of marketing for the Enterprise Networking Group at Cisco breaks the real-world value down as follows. Firstly, when customers install new things on the network they will be recognised. Secondly, it makes the network fundamentally more secure because the network itself can understand the intent and automate any predetermined policies. Thirdly, it provides visibility into the network to reveal exactly what is connected – this would help secure the Internet of Things. Fourthly, it can become truly predictive based on the use cases.

Mansour Karam, CEO and founder of Apstra – which already has a product in the field and has been monetising for over a year – adds it makes for a more agile network and reduces outages by cutting down on human error. This means engineers can refocus on the tasks that are most critical to the business.

How ready is the market?

As always with new technologies a shortage of skills creates a bit of a problem. Rivers from Cumulus Networks suggests that many individuals in the networking space may need to gain a broader understanding of computer science.

While Shenoy adds: “Talent transformation will be an adoption barrier.”

“The companies need to evolve and not all of them will.”

What challenges lie ahead over the next two years?

Galeal Zino, founder of NetFoundry stresses that this is very new and at the start of a long adoption journey. As a result it is also very proprietary – although this is likely to provide a base for the technology to mature upon.

Rivers adds that many businesses have been dissatisfied with the existing offerings on the market because they haven't worked very well to date.

More fundamentally though Baher of Dell EMC, concludes: “Networks on a certain scale cannot be managed by people” and automation is needed to make them work. However, this could equally backfire – like in personal car maintenance where complex computing systems make it impossible to tinker. In the end this could result in a lack of visibility and control which is the exact opposite of the desired effect.