

Setting trends in 2012

Whether it's being one of the first to enter an emerging market or to deploy the latest next-generation backbone technology, NTT America has built a firm name for itself as a market trendsetter. Here **Michael Wheeler**, VP of Global IP Network at NTT Communications, identifies his major trends for the carrier industry during 2012.



Michael Wheeler, vice president, NTT Communications
Global IP Network, NTT America

NTT America is expecting 2012 to be another fast-paced year in the development of the wholesale telecoms market. The wholly owned US subsidiary of Tier 1 Global IP Network services provider NTT Communications experienced a busy 2011, having deployed a new PoP in Sao Paulo and achieved record growth on its Global IP Network.

With over 15 years of sales management and operational experience in the internet and data communications industry, NTT America's VP of Global IP Network, Michael Wheeler has become a prominent voice in the carrier community, and here he shares his top trends for the market in 2012 and beyond.

2012: the year of 100G?

2012 could well be the year that starts the ball rolling towards the mass adoption of 100G. Wheeler estimates that the first customers to adopt 100G will start appearing in the second half of 2012. "The cost of the actual hardware is continuing to drop in price and the hardware vendors will only try to accelerate

that, giving the industry more momentum towards adopting 100G," he says.

While the increasing maturity and affordability of 100G technology will only help drive adoption, there is also a clear advantage for customers to utilise the technology for growing capacity requirements: "Many customers are now using what the industry calls 'bundles' of 10G services. This means customers could consume as much as up to six bundles of four 10G in one market alone, totalling some 240G," says Wheeler. "That's when the adoption of a single 100G port for customers really starts to make sense, offering a more cost-effective option than 10x10G ports."

NTT America has experience in leading the way with next-generation backbone technology, having been one of the first to make the leap of faith with 10G in 2006. At the time, this marked a brave move into the unknown, with very few customers actually having the technology in place to interconnect with 10G high performance networks.

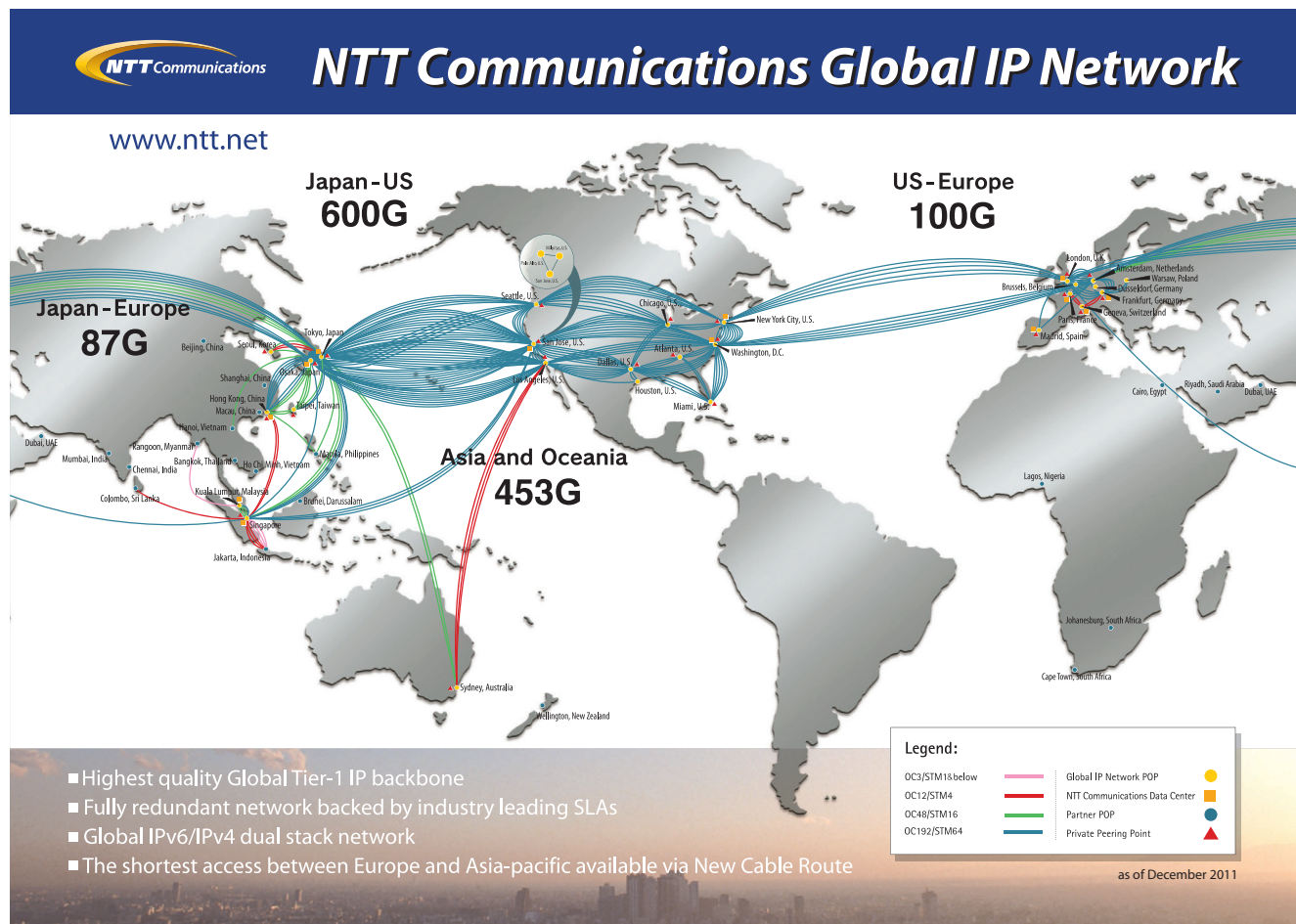
Within the first 18 months, a small amount of customers had made the transition to 10G. By 2009, however, customer demand for 10G had fiercely surged and with mass adoption just around the corner, NTT America found itself in the comfortable position of having a high-performance backbone in place to support requirements.

Wheeler admits that only in hindsight has NTT America recognised what an early pacesetter it was with 10G. "Having

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had an opportunity to reflect on our move to 10G, it turned out to be a great opportunity for us in terms of revenues and attracting new customers," says Wheeler. "Therefore as soon as we saw people within the industry were starting to talk about 100G, we made a strategic decision to ensure we were in the best position to leverage that technology when the time comes."



Over the last few years, as well as gearing its network backbone towards the arrival of 100G, Wheeler and his team have been advocating the merits of the technology at various conferences and events. “We have done as much as we can in the last 12 months to be recognised as ‘part of that conversation’ and to ensure we have a leadership role in the marketplace,” says Wheeler.

Indeed, during 2012, NTT America could again find itself in the comfortable position of catering to the first buds of customer demand for the next-generation backbone technology. “We have the infrastructure in place so it’s just a matter of our customers asking for 100G technology and we will be able to help them,” says Wheeler.

“We expect to see some customer demand in 2012, but not on a large scale. As always, there will be the early adopters, which will create a buzz with the media and help generate interest across the industry as a whole. But we don’t expect to see mass adoption from the larger carriers until the middle of 2015.”

Securing the future

More of an ongoing industry concern than a particularly new trend for 2012, Wheeler identifies this year as being another vital one for carriers to focus on network security. “The reality is as more and more devices are connected to the internet, the potential for these devices to be exposed to security risks only

increases,” says Wheeler. “In the last year and a half, DDoS attacks have become more and more sophisticated and this poses a huge risk to enterprises.”

The advent of the digital age is placing both businesses and consumers in an increasingly precarious position, and the need for network security is far more poignant now than it has ever been in the past.

Wheeler points to the scale of recent attacks on networks as early warning signs for the industry. Major consumer brands have increasingly found themselves at risk, with reports coming in over the last few years of concentrated DDoS attacks on the likes of Google, Facebook and Twitter.

“We have seen some very large scale attacks and we have seen them happen over a prolonged period of time,” says Wheeler. “The attacks come in waves, and so while it might be possible to defend against that first attack, the party initiating the attack will be able to see what mechanisms are being used to defend the network. What tends to happen next, is the attacks become more precise and they know exactly what infrastructure they are going after.”

As Wheeler is quick to concede, there is no one single solution. “In any internet-centric business of any type, multiple layers of protection must be in place to defend these attacks across numerous areas of the network,” he says.

To help combat the threat of unauthorised information leakage

Looking at Latam

Latin America is a top priority for many Tier 1 carriers but very few have actually managed to effectively infiltrate this vast region.

NTT America, however, has experienced huge success in the market and last fall engaged with its sister company NTT do Brasil to expand the reach of its Tier 1 global network by launching a PoP in Sao Paulo. The new infrastructure has helped enable global players to connect to Latin American, in addition to supporting smaller players identify how to meet broadband growth demands.

"Sao Paulo is the ideal location to establish our first Global IP Network PoP in South America – it's the epicentre of Latin America's emerging marketplace and

holds many opportunities for companies looking to increase their global footprint and drive the market forward," says Wheeler.

Wheeler says the development of the company's first PoP in Latin America was the logical next step for its operations in the region. While in the past NTT America's operations in Latin America had been predominantly driven by customers from the US, Wheeler has noticed that demand for the company's services from regional players has been growing at an exponential rate.

"The PoP in Sao Paulo is just the first step," says Wheeler. "After that is complete, we will look at possibilities in Rio de Janeiro, Buenos Aires and Santiago."

and data theft, NTT Communications offers a global internal security control service that monitors and logs data access by client PCs being used anywhere around the world. "A full set of security protocols are needed and the reality is some organisations will need little exposure to become a target," says Wheeler. "Security is a very challenging issue and it won't get any less challenging."

Delivering content for generation Y

The overwhelming global thirst for internet access has positioned carriers with the vital role of ensuring bandwidth is in place to meet demand. Pivotal also in that equation is the development of CDNs, and Wheeler points to several changes occurring in the CDN space in the short-term future. "As far as CDNs go, we have seen them grow significantly over the last several years both in terms of volume of traffic and geographical distribution," says Wheeler. Delivering content, Wheeler continues, will benefit from greater collaboration between the carrier community, CDNs and content providers.

As well as being a regular on panel sessions at Capacity conferences worldwide, last October Wheeler spoke at Digital Hollywood; a semi-annual trade conference on the entertainment industry and related technology. During the event, he noted how executives from across the film, television, music and IT sectors, were voicing strong concerns about the expectations for content from the next generation of internet users.

"I have been speaking on a number of panels recently and one of the issues continuously raised is about catering to the demand for generation Y. This age range will have incredibly high expectations for digital content, and in particular will be demanding a more interactive experience."

"It will be CDNs supporting the growing trend towards more interactive content in all areas of the network – from Wifi to the IP backbone – will need to be as robust as possible to support that kind of user experience."

In looking to sustain the vast quantities of IP traffic expected in the future, NTT America and its parent company NTT Communications have been raising the industry benchmark with its Global IP Network. Last year, the network achieved three major industry milestones, first by surpassing 400Gbps of

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lit capacity on its transpacific network, then 500Gbps in August and again 600Gbps in December. According to Renesys, NTT Communications has a consistent 70% CAGR of network capacity, and now holds the lofty position of being the third largest network in the world.

"The future of digital content will rely on bandwidth and while CDNs will always have value, we need to ensure that we have an IP backbone on a global level which has the quality to support a very stringent set of SLAs," says Wheeler.

"The quality of the content delivered depends largely on the strength of the last mile network delivering it. More and more focus will be placed on developing high-speed local access – particularly through the roll-out of FTTH or the development of internet exchanges."

Ultimately, Wheeler feels that while the carrier community's priority should be on providing infrastructure and networks to support the growth of new forms of content, they can also benefit from understanding some of the issues facing content providers.

"Demand for capacity isn't going away and the application challenges that are ahead will be fierce. Our industry tends to see it from the point of view of the 'plumber', and not necessarily from the side of the content providers. The reality is the concerns of the content developers will really shape bandwidth demand across all areas of the network – everything from local access, metro and backhaul networks." 



NTT America

About the Author

Michael Wheeler is the vice president, Global IP Network Business Unit of NTT America. Wheeler brings more than 15 years of sales management and operational experience in the internet/data communications industry to NTT America. In his role, Mr. Wheeler is responsible for all financial, engineering, operational and customer relationship activities for the business unit.