

New market dynamics are driving the adoption of DPI and Network Intelligence in Telecoms

Interview with Qosmos CEO Thibaut Bechetoille

Qosmos' own results and forecast corroborate research by leading industry analysts



Thibaut BECHETOILLE, CEO, Qosmos

New market dynamics are driving transformation in critical operational areas for Communications Service Providers (CSPs), such as for billing and charging, revenue assurance and bandwidth management. But network equipment technology and Billing Support Systems (BSSs) have not evolved efficiently to support this transformation according to a recent Yankee Group Anchor Report on how [Network Intelligence Is Key to Profiting From Anywhere Demand](#).

The research performed by Yankee Group VP and report author [Brian Partridge](#) identifies the emergence of Network Intelligence (NI) as a key enabling technology for CSPs and their vendors to exploit the full potential of network investments. The network analytics and intelligent, real-time, event-driven systems made possible by NI as a complement to traditional Deep Packet Inspection (DPI) enable CSPs to quickly respond to new market demands, drive new levels of QoS and QoE for customers, and improve both the operations and revenue of a CSP.

Mr. Partridge's findings corroborate the experiences of Qosmos which is seeing rapid growth in the CSP vendor market for its NI software development kits and intelligent IP probes, as we learn in this interview with Qosmos CEO Thibaut Bechetoille:

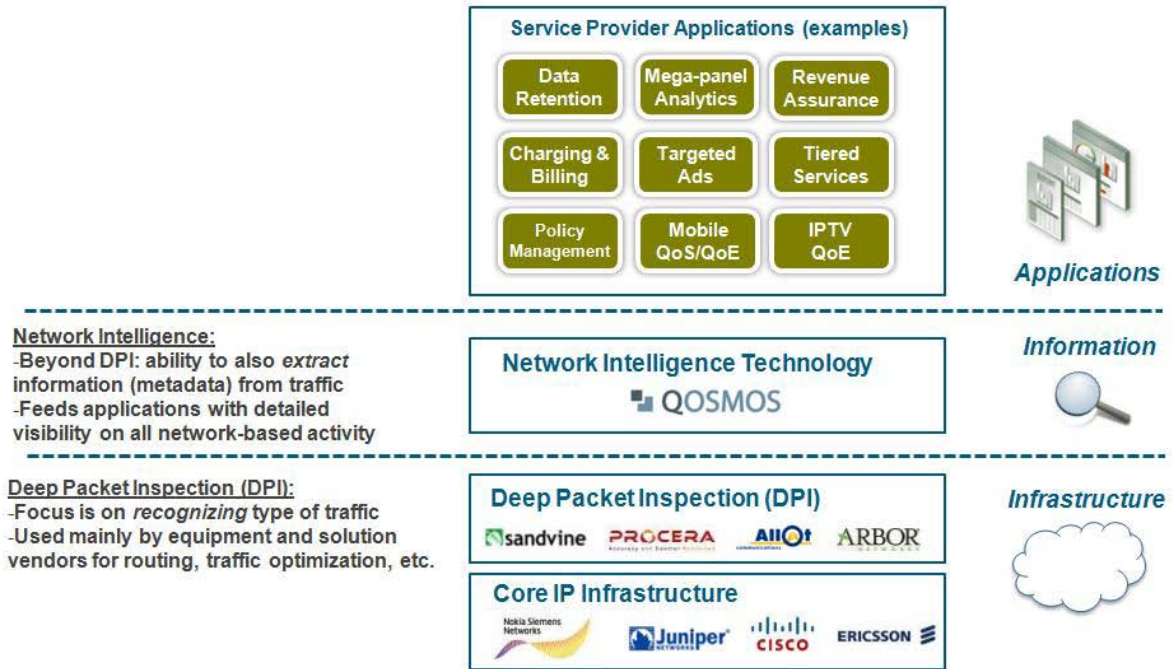
The Yankee Group report makes a clear distinction between Network Intelligence (NI) and Deep Packet Inspection (DPI) and defines the need for both in a CSP's revenue management and operational processes. How do these technologies work together?

Thibaut: *DPI focuses on recognizing different types of IP traffic. It is provided by equipment and solution vendors mainly for traffic routing, traffic optimization and traffic shaping as part of a CSP's infrastructure. NI is more granular; its depth of visibility enables vendors to create an information layer beyond DPI for their CSP customers. NI extracts information—metadata—from traffic to feed applications for detailed visibility into network-based activity.*

CSPs are not going to put 10 different DPI probes on their networks to support 10 different applications. NI provides the means to collect more detailed data once and leverage it for any number of applications.

Here is a good illustration that depicts where NI fits in a service provider's network:

Network Intelligence Technology and DPI Each Play a Role in a Service Provider Network



What are some of the business drivers for NI?

Thibaut: The main business driver is real-time visibility into data activity as it crosses networks. Every time someone accesses their phone or computer, an entire universe of applications, hardware and enabling technologies comes together in order to deliver services and information on demand. There is now an everyday relationship between people and the information carried over networks, which I explained in a recent article on TMCnet.com. This volume of IP traffic and diversity of usage is overwhelming CSPs. They will not survive with just “dumb pipes” for connectivity.

Just this month [June 2010] AT&T announced tiered billing for smartphone services. Only 3% of their customers use smartphones but they account for as much as 40% of data traffic. CSPs today need to have a better understanding of traffic at the user level to plan and manage capacity, as well as to maximize revenue with usage-based billing. We have a customer in Canada, for example, looking into NI for analyzing their customers’ 3G usage to determine which services are the best revenue generators. Another customer, Volubill, uses NI for content-based billing solutions that help CSPs ensure that QoS and QoE are not degraded by high P2P traffic volume. NI provides this type of deep customer visibility that

will in the future drive all CSPs' operational efficiency and profitability. Market leaders will be companies leveraging NI for business models that deliver the right services at the right price.

CSPs also have obligations to government to collect IP data and have it available for intelligence and law enforcement agencies should it be needed for criminal investigations. The increasing IP traffic volume swamps servers and storage devices used for data retention with a lot of unneeded information. NI enables CSPs to collect only the relevant data and have it available in real time, saving both time and resources to comply with this regulatory requirement.

Another interesting area for NI is market research. With media channels so fragmented, advertisers need more precise audience and ad performance measurements to justify placements and costs. Only analysis of data captured by NI, an application for mega panel analytics that our customer GfK is pioneering, can provide the necessary metrics.

Are you seeing an increase in activity for these types of NI-driven applications?

Thibaut: *Yes, a 50% increase year-over-year and we're just at the threshold of a market about to explode. Our rate of growth is more than the current 35% growth projected by [Heavy Reading](#) for DPI in their latest Deep Packet Inspection Semi-Annual Market Tracker, and this difference will widen considerably if the rate of growth for DPI slows after 2010, as predicted by Heavy Reading, while our projections show enormous rate increases for NI as a key enabling technology.*

Technology analysts like Brian Partridge at Yankee Group, [Simon Sherrington](#)—a Heavy Reading Insider—and others have been educating the market on the need for NI, while Qosmos has been working with early adopters and innovators for the past couple of years. High profile situations like AT&T's bandwidth problems have put a spotlight on the challenges from a lack of visibility for end buyers. We're seeing a dramatic increase in interest from the development communities. We conservatively project 80% growth in 2011 and 2012. Within three to five years, expect massive deployments of NI-based solutions.

Qosmos offers huge advantages for time-to-market and NI expertise with its pre-developed technology and experienced technical support, including value-adds such as its Protocol Watch service. Is this persuading more vendors, as the Yankee report recommends, to buy versus build NI technology?

Thibaut: *Yes; more and more vendors prefer to source NI from a specialist like Qosmos. The question they are asking themselves is "do I risk losing an CSP customer and risk diverting resources and money*

for years to develop my own NI technology, which is very complex, or do I significantly reduce time-to-market and risks with Qosmos?" This is how Qosmos plays an essential role in the value chain.

Specifically, what are the issues vendors must consider when deciding buy versus build?

***Thibaut:** Well, a vendor would have to develop their NI software, which as I said is very complex, and continuously update it for new Internet protocols and applications. Many protocols for webmail, peer-to-peer, social networking, gaming and etcetera emerge and change without warning. Livemail, for example, changed several times in 2009. And these protocols are proprietary, which requires reverse engineering. Each time a new protocol version is released, the corresponding NI software has to be redeveloped. All this tracking of protocols in use and continuous reverse engineering requires a particular culture and custom-made tools for rapid response to protocols changes, which is our focus at Qosmos.*

With NI, the structured approach of traditional software development and management methods do not apply. Many web protocols have no known specifications and change without notice, which means development roadmaps cannot be easily controlled. This is counter-cultural for most high-tech companies. Even companies who have already incorporated DPI capabilities into their solutions require a new level of expertise. NI with metadata extraction goes well beyond DPI. Qosmos developed its own meta-programming language, filed several international patents, and put into place specific tools for quality assurance and efficient reverse engineering. We specialize in a core technology for vendors to embed into their applications, which is an order of magnitude removed from a company accustomed to delivering complete solutions. NI is an expertise in itself and vendors realize that. The telecom industry today is moving so rapidly, they really can't afford the time and risks.

How else can NI, the way Qosmos has developed and delivers it, help CSPs to compete more effectively during the ongoing transformation that is taking place in the telecom industry?

***Thibaut:** All big telcos have a new category of "over-the-top" competitors like Google, Facebook and Twitter. A traditional telco must run infrastructure while being a service provider. In contrast, over-the-top companies are just service providers who can get revenue for advertising without having to worry about the pipes. With NI, CSPs can leverage the information in their pipes for more value vis-à-vis a Google. A CSP can know, for example, how a specific user prefers movies over sports programming, which is a competitive advantage for marketing to that user. Content-based billing using NI also will give CSPs more power against the over-the-top companies and even create revenue sharing opportunities with them. We're only three to five years away where NI will be everywhere for CSPs and their vendors to stay competitive.*

About Qosmos

Qosmos specializes in unique network intelligence technology that provides unprecedented visibility into data traffic. The company delivers software development kits and intelligent IP probes which recognize thousands of protocols and metadata attributes for the most accurate picture of network activity. Going beyond traditional Deep Packet Inspection (DPI) technology, Qosmos treats the network as a real-time database, able to identify, query and extract specific data with unparalleled precision and detail.

Qosmos products are used by Network Equipment Providers, Software Vendors and Systems Integrators to build next-generation solutions where real-time intelligence is critical, such as cyber security, lawful interception, traffic optimization, content billing, service assurance, market research and more. They enable applications, services and networks themselves to be more secure, efficient and profitable.
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