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Inside the NGN Toolbox: Power Tools for Service Providers

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Consumers and carriers alike are excited at the pace of advancement of the Next Generation Network (NGN), but the buzz surrounding the evolution has far outshined the challenges with migration from legacy networks to offering next generation network based services. Convergence in the telecom industry has also left many service providers scrambling to handle the increased complexity of their own operations. However, help is on the way. There are enterprise solutions paving the way for service providers to more efficiently roll out services and become industry leaders – or Next Generation Service Providers (NGSPs).

Steve Kruse, V.P. of IT Solutions for Comcast's New Global Telecom subsidiary, highlights the key actions every NSGP needs to do to sustain a business. "First, they need to be able to acquire new customers. But beyond that, they need to be able to package new service offerings, deliver those services quickly, and then manage changes to the network on an ongoing basis. Market share, customer satisfaction, churn and profitability are key metrics that are carefully measured and monitored."

There are a number of critical challenges facing service providers today. For the purposes of this article, we will examine a couple of areas. In a highly deregulated environment, the NGSP has a wide choice of service provider partners that they rely on to carry traffic. Each of these route choices has an impact on the bottom line. Working with a larger number of partners requires automation as opposed to relying on manual processes that were adopted in the world of legacy networks. As another example, high-value enterprise customers expect a concierge level of differentiated service – they expect guaranteed service levels and QoS. This is typical of many cable MSOs, such as Comcast, that offer enterprise voice services. In order to differentiate levels of service offered, the NGSP must know who their customers are, where they are, and how their services are delivered; not only within their own network, but the choice of partners that they in turn need to work with. There are a plethora of enterprise solutions on the market today that can enable NGSPs to realize many of these objectives. This article focuses on a number of solutions that can deliver immediate return on investment (ROI).

Intelligent Routing – Enhancing Your Bottom Line

Intelligent Routing (IR) platforms offer advanced analytics into supplier diversity, margins, and profitability. They enable real-time margin assurance by centralizing and automating routing policies and network control. Typically, they address unique requirements of the Interconnect team to negotiate better rates, increase the number of suppliers, lower costs, and improve operating margins.

Many of the emerging next generation service providers require multi-protocol solutions that support Intelligent Networking (IN) as well as NGN solutions. IN applications must enable seamless migration to SIP/IMS or SIP to IMS transitions in the future. Gateway functions in many IN applications available on the market today enable service providers to rapidly integrate existing network infrastructure with evolving, next generation IMS network architectures without having to incur disruptive forklift upgrades and large capital outlay.

For the network operations team, an Intelligent Routing platform can deliver the ability to translate several hundred rate decks from one or more suppliers, in disparate formats, into real-time switch routing actions. It can also help prevent revenue leakage by providing the ability to apply routing policies in real-time, bypassing or overriding low quality routes, or diverting suspected incoming traffic for specialized handling.

Other IR functions include routing automation for Number Portability (NP), Peering, Toll-Free routing and route automation based on QoS. Note that the terms IR, Intelligent Network Platform (INP) and Least Cost Routing (LCR) seem to be interchangeably used by vendors in the marketplace. Soft Switch, Session Border Controller (SBC) and other network element vendors are also beginning to offer similar basic capabilities in their products, albeit to a somewhat limited degree.

Workflow Automation – Eliminate Swivel Chair

Ever since the assembly line model revolutionized productivity, companies have been seeking better and faster ways to fulfill production needs. Workflow automation solutions deliver the ability to automate the end-to-end order lifecycle, tying in many disparate processes whether they be internal to the service provider, or processes that relate to other partners, including support for advanced IMS and M2M transactions.

Services in the Cloud – Stretching the Dollar

NGSPs are increasingly looking towards managed and cloud service offerings. Solutions available on the market range from enabling a service provider's complete VoIP network infrastructure to enterprise voice platforms, managed hosting, colocation, cloud-based email, billing solutions, workflow management, intelligent routing, and provisioning to name just a few! Many software application platform vendors, such as Microsoft among others, now offer software development capabilities through providers like Amazon's cloud services. Start-up NGSPs can avoid upfront capital outlay and focus on rapidly building their NGN infrastructure, service delivery hardware and software platforms. Likewise, mature operators are also looking to hosted and cloud solutions with a view to reducing operating costs while focusing on customer acquisition and retention strategies.

Visual Intelligence – The Fourth Dimension

What kind of information enables you to actually see ahead and visualize your expansion plans? How can you efficiently design and track network rollout? How can you identify pitfalls before they become issues, and allocate resources accordingly? Who are your key customers? Who should be your profitable prospective customers?

"There are only six things I need to do to keep my business running…The tools helping me accomplish this are crucial for us to keep our competitive edge."

"This is very exciting, because now that we have the option to actually see our data, we can drive better business decisions. Solutions like this are what we imagine when we think of the possibilities of the NGN and what NGSPs should be able to do," says Patrick Case, Managing Director of CCI Systems.

Business intelligence enabled by "big data" is no longer a buzz word. It is known by many flavours that are being pitched by vendors today, namely, data warehousing, predictive analytics, data mining, data mash up, and so on. An area that has been finding significant traction within the industry lately is the ability to visualize, analyze, as well as provide the capability to easily disseminate this information across the organization in support of critical decision-making. This data integration, analysis and dissemination is increasingly being enabled by geospatial intelligence. Think of Google Earth for a moment – the possibilities and applicability of this technology and others like it are seemingly endless. Organizations that have adopted GIS technologies now seem to have that competitive edge with real-time/dynamic access to their past, present and future networks. This technology in the past has enabled network engineering departments to design their networks, review rights of ways, design cable routes within structures such as trenches, or overhead on poles, and then trace network assets in the field. This also extended to tracing end-to-end connectivity in real-time, plus many other network design, engineering and operations functions.

Today, the term GIS has many other connotations. Back on the topic of big data again! External third party data providers collect, manage and sell data that can be "mashed" together to provide a comprehensive visual perspective of your network. Data available from third parties includes demographic data, wire-centre locations, tower locations, underserved areas, and more. Some of this data is freely available, e.g.

from the US census bureau and the FCC, while other specialized data can be purchased based on either a one-time fee or a subscription model. Mashing up disparate data sources, such as as-built network data, proposed network design, customer billing data, demographic data, and underserved areas using a GIS platform such as Esri, the world leading GIS vendor, can deliver visual, real-time business intelligence – answering, "How should I expand my network? What new services can I deliver? Where are my prospective profitable customers?"

As the NGN becomes a tangible reality, there are many solutions out there for service providers to enhance their product offerings and their ROI. The examples included here are just a few solutions being offered by Enghouse Networks Limited that are shaking up the status quo around the world. To find out more about solutions described in this article, please visit www.enghousenetworks.com or via email at networks@enghouse.com.

A service provider operating across an aging network can prevent losses from snowballing by tracing the source of connectivity problems in real-time.

This article is sponsored by Enghouse Networks Ltd.

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