

## NGN Strategies: Why One Size Doesn't Fit All

by Justin Norris

As true Next Generation Networks (NGNs) and services are finally becoming a reality, service providers are required to carefully define their strategies and technology roadmap in order to adapt to the new environment.

So what do we know about NGNs today?

We know that NGNs support single signalling and transport architecture for multiple multimedia services, including voice and video, messaging and presence, integrated communications and IT applications. This is achieved by the SIP session control and RTP media transport. Service providers are then able to overlay that network with value-added applications that can be rapidly introduced (and removed if required) across any type of network, fixed, wireless, or mobile. NGNs are being developed and deployed now. There may still be technical issues to resolve – either at the design or at the implementation and integration level – but the fundamentals are already in place.

The specific technical choices may vary depending on the network operator or service provider in question. Large European incumbents like BT, France Telecom, Telecom Italia, and Norway's Telenor, for example, have committed to large-scale IMS network architectures. As the dominant fixed-line operators in their respective markets, they face a number of challenges: reducing infrastructure costs, competing with the influx of new and agile competitors, countering fixed-mobile substitution with fixed-mobile convergence, and re-creating themselves as content players, either as aggregators or ultimately as owners. The aim of the game here is long-term viability, not short-term returns.

Mid-tier operators, meanwhile, are likely to be more cautious on their commitment to major NGN and IMS investments, though equally keen to exploit the cost and revenue benefits of IP. Local market conditions will determine their particular requirements, but a common factor behind mid-tier operators migrating to NGN is the declining revenues of voice minutes, which are quickly becoming a commodity thanks to VoIP. This threat, spearheaded by VoIP providers such as Skype, may have once been limited to fixed-line but is now appearing in the mobile environment too.

Mobile operators are already tied to an existing separation between their circuit-switched and packet data access networks. The principle migration path is to follow the 3GPP route from R4 circuit-switched and packet data access, to R5 IMS, and ultimately to the all-IP R6 network. Mobile operators are trialling IMS networks, but there remains a short-term investment challenge between rolling out the new infrastructure and launching new self-contained services, such as mobile TV.

Smaller service providers will focus on their specific markets, such as prepaid or business services, and will look for immediate cost minimisation and immediate revenue returns. A single multi-service platform supporting PSTN and IP carrier interconnection with least-cost routing, service access, validation and control, real-time rating and charging, service creation and web-based customer self-care, provides the ideal basis on which to enter a market. Such a solution supports the SIP signalling and multimedia capabilities of NGNs, but also directly addresses the integration overheads of multi-vendor solutions.



But no matter what the size of the operator in question, it will need to deal with the fact that IP has been able to break open the tightly constrained communications market at all levels. New infrastructure solutions have become available from alternative vendors, dramatically reducing network costs. Network integration models have changed from PSTN interconnects to internet peering, opening up networks to new players and new value chains. New application providers are able to enter consumer and business markets to challenge traditional telcos with different communications models and a diverse range of services. IP also underpins the World-wide Web and the Service-Oriented Architecture (SOA) for application development, integration, and delivery. So, while the investment community may have initially over-heated the valuations of companies working in this new arena, there is no denying the radical impact of the technology.

### **Unknown quantities**

While it is important to acknowledge the various different considerations and motivations behind different types of NGN implementations, there remains

uncertainty over precisely how the new technology will disrupt the status quo.

In fact, there are a myriad of unanswered questions. Which services, applications, and features will connect with users and generate the biggest returns? Which stakeholders in the value-chain stand to reap the greatest benefits? Will customers opt for service bundles or “pick ‘n’ mix” solutions? Which access technologies will come to dominate: cable, DSL or fibre, mobile or wireless? Only time will answer such questions, but it is useful to look closely at two of them: the uncertainties over service demand and the new service value chain.

Service demand is about delivering value. In the consumer market, for example, value is both personal and social: to teenagers, it’s about being new and cool; to their parents it’s about being simple and reliable. To deliver true value, therefore, you have to know your customers intimately and respond to their demands instantly. The first requirement is pure marketing; the second requires the platform capability and business processes that can support, for example, a new feature success rate as low as 10%. The costs of rolling out new services and features will include enabling the network capabilities, integrating operations and business support, promoting the services, and acquiring the customers. By minimising the service implementation costs, including operations and business support, the operator is freed to do more than repackage existing services, and can directly address the uncertain demand for new services.

In regards to the value chain, different models may apply depending on the relative power of the content and network providers and on the accessibility of the target market to the content provider: a strong content provider may command premium value and so may opt to sell exclusive rights to a major service provider that wants to attract the maximum number of subscribers; other content providers may look to provide services directly; and others will want to buy into multiple channels (e.g. via a mobile content aggregator). Similarly, network services may be offered directly, via VNOs, or through sales and services channels. For example, a hosted business communications service, such as IP Centrex, may be offered via local partners that provide a range of IT and communications services to their customers. To maximise value from the relationship, those services partners may want to offer an own-branded service with their own pricing models. The network operator, therefore, must offer both the most appropriate service features for the end-users but also the management and charging flexibility for the channels.

It is likely that the NGN will consolidate into a small number of new business models over the next few years. Operators expecting to exploit this change – at whatever level and position in the market – must be ready with a platform that enables rapid, low cost service rollout with well-targeted new features and services encompassing all types of network and multimedia. Whether this requires an IMS solution, an NGN or softswitch architecture, or a standalone IP platform, will depend on their role in the value chain and the range of services they intend to offer.

## **About DIGITALK**

DIGITALK is a world leading developer of intelligent voice switching platforms and NGN Media Application Servers for Telecommunications Service Providers. Over 400 leading Carriers and value-added Service Providers around the world depend on the DIGITALK Multiservice Platform (MSP) to deploy innovative, scaleable and enhanced voice services, including Broadband Telephony, VoIP, CPS, Intelligent Number Services and Prepaid services.

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