

## **Next Generation Networks and the migration towards convergence**

*The advantages of converged voice and data networks have been talked about for more than a decade. However, it hasn't been a reality, until now. The recent emergence of Next Generation Networks (NGNs), which combine data, voice and other applications onto a single platform, can now be a key differentiator between how you and your competitors provide services. Fortunately, the transition to NGNs needn't mean ripping out and replacing the legacy networks you've already invested in. It can be done inexpensively and in stages, ensuring that your migration towards a converged environment goes smoothly. Yet, navigating the next generation minefield requires the support of a service provider with the Telecoms 2.0 attributes of a collaborative and flexible partnership approach. This next generation mindset in your telecoms provider will support a risk-free transition from a legacy communications architecture to a NGN one. So why wait for BT's 21CN when there's already one available today?*

### **Why hasn't convergence been a reality until now?**

Voice and data convergence has been a hot topic in the telecoms industry for many years. A single network, reduced costs, innovative, converged, IP-based applications and increased competitive advantage are just some of the benefits of NGNs. Despite this, next generation technology has only recently emerged as a viable alternative to disparate legacy networks. There are a number of reasons for this. The fact is, many organisations have invested heavily in their legacy data networks; such as Point-to-Point, Frame Relay, ATM, Leased Line and Dedicated Line, as well as a separate voice infrastructure. No surprise then that they feel daunted by the prospect of having to 'rip and replace' the expensive, existing networks that they know and understand. For many it can be a case of 'better the devil you know'. Despite this, the commercial case for migrating to a converged environment has become much clearer.

In recent years many businesses have discovered that they have no choice but to upgrade their networks in order to meet their growing bandwidth and connectivity requirements. Multimedia and other high-bandwidth converged applications are now being used on a much broader basis and analysts predict that there will be an explosive growth in demand. Legacy networks just aren't built to run these applications effectively. Not only that, but they are expensive to manage because you are essentially paying to maintain a number of different infrastructures. Running separate voice and data platforms is clearly more expensive than running a single converged one.

Another issue that has held back the adoption of convergence is the lack of faith in voice quality in a converged environment. Many businesses see the benefits of improved quality of service, scalability and reduced costs on the data side, but issues around voice quality have been a thorn in the side of network convergence. Thankfully, those problems have since been resolved with improved performance guarantees and independent testers like the Metro Ethernet Forum (MEF) demonstrating that these networks meet the demands of converged voice, data and video.

So now that some of the technical issues have been resolved, organisations can fully embrace convergence and embark on the migration path. But what is a NGN and what is the best way to present the commercial case to key decision makers within your organisation?

### **What are the advantages of a converged Next Generation Network?**

Essentially, NGNs are networks based on packet switched technology rather than traditional circuit switched platforms. This means that any traffic made up of packets, such as Internet Protocol (IP), can run across them. The concept is that one network transports all information and services (voice, data, and all sorts of media such as video) by encapsulating them into packets.

Next generation VPNs (Virtual Private Networks) have evolved because they offer a number of benefits. They are much more flexible for routing traffic and addressing changes in demand. Therefore people can be more flexible in the way they log on and access the network. Furthermore, NGNs enable businesses to run new and innovative IP applications over their network – a huge advantage over legacy platforms. UK businesses have shown a strong appetite for new communications services. New converged applications are now being developed and launched. These include, for example, IP Multimedia – an integrated communications technology package enabling users to benefit from advanced IP based voice, data, video and messaging capabilities. This smarter use of technology is the promise of convergence. In fact, according to ntl:Telewest Business research, if every employee used smarter converged technology such as IP Multimedia, they could save up to 24 days a year in the workplace<sup>1</sup>.

NGNs can also scale much more easily than legacy networks to support the expansion and changes of your organisation. The ease by which NGNs can be upgraded means that they are far more adaptable to business change requirements. In particular, environments based on any-to-any architectures, such as Ethernet IPVPNs, make adding/moving site locations, or changing bandwidth requirements relatively simple, and cost effective, compared to legacy environments like ATM or Frame Relay.

Moving office with a next generation VPN can also be far simpler than with legacy networks. With an IPVPN service, altering bandwidth involves a relatively minor reconfiguration of some network equipment without the need to discontinue services and set up new ones. Rather than being tied to employees' physical locations, NGNs enable telecoms services to be planned and managed in alignment with staff needs. Workers can log on anywhere on the network and access their resources. These 'any-to-any networks' enable wide area private networks to function like a 'giant' office infrastructure. Businesses, as a result, have far greater control over how their communication services are delivered to support their employees in doing their jobs every day.

NGNs can also help businesses contribute towards their Corporate Responsibility. In a nutshell, Corporate Responsibility is about how an organisation impacts the world around it, and how it can become more completely and directly accountable for the consequences.

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<sup>1</sup> ntl:Telewest Business research via TNS Dec 2005 - Jan 2006

Corporate Responsibility isn't just about supporting charity initiatives and the green agenda. It's also about how you source and use your suppliers and services, including telecoms services, in a way that's responsible to your stakeholders. NGNs can enhance your approach to Corporate Responsibility in a number of ways. For example, a responsible organisation needs to be able to provide a reliable and consistent service to its customers. NGNs can help with this as they are highly resilient when compared to legacy networks. NGNs enable information to be rerouted quickly and easily down diverse routes should an emergency arise.

Although Corporate Responsibility isn't just about the green agenda, telecoms can actually make a positive contribution in this area too. Unsurprisingly, once it is built, a sizeable telecoms network consumes a vast amount of power. However, NGNs are more efficient as they use less power and generate less heat. This in turn reduces the demand on cooling equipment in equipment rooms.

One further area in which NGNs can provide benefits is by supporting the work-life balance of employees and providing better tools for enhancing staff productivity during office hours. NGNs enable businesses to provide staff with access to information from any location and on any device. Furthermore, collaborative tools such as IP Multimedia enable people to work away from the office, but have access to the same resources that they have in it. Services such as these can have a rapid and positive impact on the happiness, well-being and productivity of the workforce.

#### **The easiest way to migrate to a next-generation network?**

Telecoms service providers have recognised that organisations need intricate support in making a smooth and risk-free transition to a NGN environment. UK telecoms service providers have responded to these changing customer requirements by investing billions of pounds in NGNs to move away from the limitations of the legacy networks.

21CN, BT's next generation core network, is currently under construction. However, UK business telecoms purchasers are concerned that BT will not deliver its £10 billion NGN to its deadline<sup>2</sup>. Of the network and telecom managers questioned who were aware of 21CN, nearly 40 per cent believe BT will be one to five years late in switching its customers from its legacy network to its NGN.

Fortunately for UK organisations ntl:Telewest Business has already completed its UK-wide Next Generation Network which reaches cities and towns the length and breadth of the country. Not only does it have a next generation fibre core, but it also has the largest fibre access network in the UK. With more than 38,000 street cabinets directly connecting more than 190 cities and towns, ntl:Telewest Business' NGN can reach most commercial premises in the UK, without resorting to third parties for the last mile.

However, the next generation infrastructure on its own is not enough to ensure an effective transition to a converged network. Companies need the support of a provider that puts customer service at the core of its offering. As part of the Telecoms 2.0 mindset, customer service is now all about delivering much more flexible solutions, for example modifying contract terms throughout an agreement or providing transparent online billing to give customers a more personalised customer service. ntl:Telewest Business also believes in delivering a 'local everywhere' service. This means the

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<sup>2</sup> Research conducted by Vanson Bourne, April 2008

company places key pre-sales, account and service management teams on the doorsteps of businesses across the UK. It is this combination of next generation capability and next generation mindset that is leading a revolution in attitude which we call Telecoms 2.0. Working hand in hand, telecoms providers and their customers can now plan a smooth risk-free migration to convergence.

For more about ntl:Telewest Business and next generation telecoms, please visit [www.telecoms2.info](http://www.telecoms2.info) or call 0800 953 0180.