

**Make your next network
decision your last**

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Do you want to be the person who actively drives your business's information needs over the next five years, or are you content to play costly catch up without daring to look ahead for years to come?

“The IT network decisions you make this year could affect your company's success for the rest of this decade.”

It's that simple; today's changes in IT networking technologies will affect the way that most companies are able to do business for years to come. And the future of IT management will lie more in active business change leadership.

Why you deserve better

The rate of change of the 21st century technology revolution continues to accelerate. Our thirst for data, our need to be online 24/7 and our desire for instant gratification are driving a continuous demand for more speed, bandwidth and network availability. As the rate of technological change keeps accelerating, we will see more change in the next three years than we've seen in the last ten!

Consider where we were in the year 2000 – mobile phones were relatively new and clunky devices with few features, credit card transactions were authorised on the phone, broadband roll-out was just gathering pace and most people still used dial-up internet access; laptops cost more than £2000 and were so heavy that they'd break your lap as well as your bank balance! Youtube, the iPod and Xbox were not yet invented.

Today's mobile devices now combine an HD camera, a computing device (with more processing power and memory than desktop computers in 2000!), a communications portal, a games machine and also the phone. Consumer technology now overlaps with the business day; it looks increasingly certain that changes to consumer technology and life/working styles will have ever greater impact on business networking.

Imagine this scale of change to business and consumer technology over the last ten years, being condensed into the next three years.

Then try to imagine the changes you will have to implement in your networks, applications and equipment to take full advantage of this.

This is the world which your business is now entering. Employees and customers will expect the same applications, connectivity and ease of use of communications at work and in their personal lives; the boundaries are blurring. But most business network users are stuck with what has been available for 20 years or more, based on a mosaic of updated pieces stitched into the old legacy core.

And there lies the problem – and the solution.

Is the state of your current network the real barrier to your business development?

Making your next network decision your last

The technology to enable your business to take the next step in the evolution of your business information technology is available now. Thousands of businesses have revolutionised their business operations and reduced their IT running costs while making their networks more efficient, flexible, manageable and most importantly, future proofed. These companies have already made the simple transition to a network operation which frees up their future.

So, what can you do in these uncertain and changing times to address today's issues while helping prepare your company to take advantage of the business-liberating technologies which are around the corner?

Shouldn't your strategy give your company benefit today and also open the right doors at optimum moments in the future?

By adopting the available technologies currently embedded in true Next Generation Networks (NGNs), you can open the path to future profitable growth. A true NGN is very different from the legacy networks we have had to rely on for years.

Legacy networks are based historically on carrying telephone calls; some parts date back 100 years. The patchwork of equipment and infrastructure has been built and upgraded over many years and many of the high speed data services we run today operate over technologies developed years ago to carry telephone calls. Is there any surprise when this fails to meet expectations?

While these networks make the best of a difficult situation, they are trying to do things they were not designed for. In essence, they are a poor substitute for the true NGNs designed and built from the ground up in the last few years. True NGNs can take full advantage of the latest IP network technologies and are optimised to deliver the services and quality users will want today and in the future.

Why you need a Next Generation Network

An NGN is based on high speed, optical fibre cabling at its core, delivering an ultra high capacity and fully transparent national IP-based network. While the technology has been proven for years, the best NGNs benefit from continuous investment to deliver the highest functionality at the lowest operating costs.

Continuous high quality across all formats

The NGN offers the seamless high quality you demand whether for data, voice or video – you can forget the interruptions, slowdowns and jerky streaming that are the best that patchwork legacy networks can provide.

Wherever you are in the UK, the best NGNs deliver the same homogenous high standards edge-to-edge. Regionality and inter-network barriers are a problem of the past and, as it is based on Internet Protocol (IP) standards, the NGN is fully compatible across the world. Using the latest technology throughout enables you to access the future; scalability is inherent.

Increasingly, all communications services are moving to IP which allows them to be converged onto the same network. By treating data, voice and video communications as IP packet data services, IP provides the quality, availability and assured speeds these services need. Now IT communications are no longer the limitation to business strategy that they used to be with copper networks.

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No barriers to network flow

IP standardisation means multiple services can be converged and run side-by-side on the same network. This enables all your applications and work flow to be integrated, removing the historical barriers created by separate networks for different services in the legacy world. Open standards and a transparent network platform mean that different services can be aggregated from a wide range of providers for delivery across a single network. As a true NGN is service and application neutral and does not insist on proprietary systems, the options are as wide as the market availability.

Total site manageability and cost control

The manageability of your network from your desk allows its capacity to be adjusted incrementally to meet demand instantly, under your direct control and to your exact needs. For example, phone lines and internet bandwidth can be increased or rerouted immediately to meet demand in sales, then scaled down just as rapidly when demand slackens. Budget control can be as transparent and instantly manageable as the capacity.

Centralisation of services enables economies of scale and management time, and reduces heavy hardware capital costs.

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Unlocking the “Cloud”

As well as being able to offer improved operability and capacity, with lower operating costs on your existing platforms, effective and reliable NGNs are the key to making cloud services an affordable and realistic option.

Server virtualisation and network-hosted services have been available for some time. However, many users have been nervous of committing their data and applications to off-site solutions for fear of losing either the connection or the data. In addition, the high cost of reliable fast network connections used to cancel out the financial benefits of moving to the cloud.

The introduction of cost-effective, scalable NGNs, backed by guarantees on reliability and capacity, open a wealth of opportunities to advanced data and application strategies. The phenomenal success of the iPhone has moved users’ perceptions of hosted services to the point where they are an accepted norm.

Lower costs, more choice

NGNs (good ones at least) open doors. They operate entirely to international standards and ensure the capacity and quality you need – regardless of your changing circumstances. This ensures that NGNs are the ideal platform onto which to consolidate all your communications services.

The direct opposite of putting all your eggs in one basket, open-standards NGN networks allow you to work with a wide range of service and application providers confident in the knowledge the NGN can support these different services in an intelligent way. This includes network services like IP telephony and a wide range of cloud-based services and applications.

The future is as unlimited as your network.

Your NGN roadmap

So how do you devise a strategy that will take your business Information Services (IS) infrastructure to a future where the technology change is controlled but not constrained and adds value to your business? And, as important, how can you ensure that you capture short-term cost and performance benefits while building this path to the future?

To achieve both immediate and longer term benefits, you need a three stage plan of evolution which, at every step, captures value and sets the direction for the next stage. **We call these three stages Migration, Convergence and Transformation.**

Migration – the first step modernises your network, saves money and improves uptime

The first step is to migrate away from your legacy network and onto an NGN. Working with the right NGN partner, you will immediately have many more connectivity options to choose from. This enables you to customise your network more closely to your business needs and to benefit from the significantly lower delivery and operating costs built into the new technologies in NGNs.

IPVPNs can today cater for all kinds of users and site requirements. Speeds start from 1Mbps for lone workers (at home or mobile), through small sites connected over xDSL. Medium sized sites can use new technologies such as EFM or NGA (both “ethernet over copper” technologies) or more traditional fibre-ethernet at 10Mbps; large sites are increasingly connected using 100Mbps or even moving into gigabit connection speeds.

Never before have you been able to build networks with such a variety of transparent interconnections at their core. In addition to the connection options, you should expect options and tools to oversee and manage your network including portals where you can monitor performance, request upgrades and control the deployment process itself.

But network migration brings risks and challenges; and you need to ensure your new provider is capable of managing the migration with the minimum of disruption to your business. Your new supplier must fully understand the issues unique to your business and work closely with you. Your current set-up should be exhaustively surveyed, and the migration to your new network needs to be planned and project-managed to ensure trouble-free progress with experts on call to cover unforeseen issues.

For a multi-sited business, a site-by-site cross-over is normal practice to reduce risk exposure. Head-ends are likely to be connected first and satellite sites cut-over gradually with the ability to roll-back in the event of problems.

Immediate savings can be realised from the Migration process.

EFM – Ethernet First Mile – using multiple xDSL lines bonded together to produce an Ethernet service operating typically from 2Mbps to 10Mbps

NGA – Next Generation Access – second generation broadband offering speeds of up to 40Mbps delivered over fibre – being rolled out across the UK from 2010 to 2012.

Convergence – realigning your services to your business needs

The IP-protocol underlying all NGNs is the foundation which allows multiple different services to use the same network infrastructure creating the opportunity for services and applications to share data.

The first Convergence benefit comes at the point of NGN deployment where voice and data networks are converged onto the same infrastructure. Virtually all of today's PBX phone systems can operate over the LAN and use IP to connect the handset to the switchboard. Many can be further upgraded to use IP in the WAN (often as SIP) and to interconnect to the PSTN.

Running voice over IP (VoIP) brings many further benefits. Since VoIP doesn't rely on strict supplier allocation of circuits to your network, it is quick and easy to reduce and increase capacity. The value for contact centres is immediate through enabling simple routing to and between centres to meet demand. The IT manager's direct control of resources, switched in and out on demand, facilitates sales day planning and avoids incremental long-term commitments on line rentals required for short term campaigns.

As your business progresses with an NGN, meeting your business goals will no longer be constrained by network capability and speed. At the same time, running and capital costs are much easier to control and reduce through centralisation of services.

With all your communications services running independently over an IP-based NGN, it is the only network you will need. By providing a single management point for capacity, prioritisation, interworking, security and allocation of resources, effective seamless working between different services is the reality.

“Convergence – realigning your services to your business needs.”

A major benefit lies in the introduction of Unified Communications and Collaboration services, UCC for short. By combining different communications services to meet the demands of your business and its executives, UCC can provide you with the versatile mix your business needs.

“Have your desk phone, voice mail, mobile, laptop, email, video all feeding into one message service for you to access at home, the office or abroad!”

UCC happens today at home – a video chat room for example. Many teenagers regard e-mail as slow and old fashioned. Collaboration tools such as web conferencing and telepresence services can significantly increase communications and collaboration improving relationships and speeding business change without the need for costly and time wasting travel between sites.

Over an IP-based network, today's telepresence systems offer life-sized HD video with genuine realism for real-time conferencing, transcending the jerky, time-lag defeated communications available through legacy cabling networks. Real time multi-site collaboration on documents and presentations will become standard best practice, reducing costs and time-wasting travel between business sites. These converged services can transform the way employees work, for example by dramatically reducing the needs for non-customer facing travel and by providing quicker, more effective communication for dramatic improvements in business efficiency.

With your services converged onto a single reliable network, the time is ripe to commence the migration to cloud-based services – indeed many of the services offered by your service provider will be delivered to you from within their cloud.

Transformation – ready for easy future change

With these building blocks in place, and your communications systems tuned to your needs, your business can look confidently towards the future.

You will now have the speed and flexibility to adapt rapidly to how your customers want to do business, whether via SMS text messaging, Facebook, iPhone app or even in person.

Travel delays, crises or emergency changes of plan will no longer cause the disruption in communications and information flow that it could once.

Web 2.0 technologies enable you (and your applications) to know much more about your colleagues and customers using the services. Web 2.0 technologies can let you know where people are, what services are available to them, who else they know that you know and a myriad more points of information. Cloud-hosted applications enable complex relationships to be built between data and applications and will allow you to create exciting and compelling new ways to communicate. In turn, these can transform the way you do business by making it easier for you to reach more customers and for them to do more business with you.

Access is now available to online services once possible only for large corporations with the scale and controlled environment to justify the massive investment. These could include (in today's world) Google docs and Amazon's virtual online computing environment; the latest 3D solid modelling services for engineering and design are available from central services. In the future, with cloud-based services due to grow exponentially, who could say what services and applications would be available from the Cloud.

To ensure your business is on the right trajectory to reach the future without falling short, you will need to move it to an NGN; it is important to ensure your new network is one with the quality, reliability, capacity, security and flexibility to drive your business, not hold it back.

“Access computing power that few individual businesses could once afford or justify.”

Finding the right partner to take your business forward

Moving networks is a big step, moving technology is another. You need to be reassured that your NGN provider can support you now and help you grow.

Not only that, your business requirements must be treated with the individual attention that they deserve. A take-it-or-leave-it package that requires your business to adapt to its constraints will be unlikely to enhance the potential you know your business has.

These are some of the key questions you need to ask:

What is the network provider's track record and history?

How long have they been in business and how financially secure are they?

How is it regarded by its customers?

Who is on its network?

What are their experiences?

What sort of technology does it have, what is it investing in?

How big is its network, what is its capacity speed and geographic coverage?

How does it interface with others and internationally?

How will this network develop, what are the NGN provider's plans?

What sort of support does it offer locally to you and centrally?

What services does it currently offer, and how are these going to change?

What are their emergency back-up provisions?

“How has my Information Strategy been shaped by my current network capability?”

Your next steps

The benefits of NGNs for your business could be huge, but they are for you and your business to evaluate.

This means you should decide what you want from your business strategy and how this impinges on, or is affected by your Information Strategy. In particular, ask yourself:

If you find that the future looks less exciting with your existing network, perhaps it is time to start making the moves.

TalkTalk Business

Who we are:

TalkTalk Business is the business to business division of the TalkTalk Group and UK's leading provider of next generation communications technology for business. We serve the needs of over 180,000 business and public sector customers and work with over 400 wholesale partners nationwide. TalkTalk Business has more than 15 years' experience supporting UK business through its team of over 800 dedicated business specialists and extensive infrastructure.

We have the largest and most connected NGN in the UK, with over 1800 exchanges, covering more than 80% of the UK's population. TalkTalk Business's core network offers 800 GB/s capacity, with more than 1GB/s across its exchanges. Our recent acquisition and integration of Tiscali has given us the capability to accelerate major developments in IP networks with a carefully planned development strategy and roadmap; our structure allows us to increase capacity easily and at low cost.

We are proud to hold numerous major industry awards including Network Operator of the Year 2009 and the Cisco Customer Service Excellence Awards 2007 and 2009.