‘Evaluating future opportunities for incumbents - VoIP vs. PSTN’

speech by

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at

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Good morning ladies and gentlemen. It is a great pleasure to be here in Berlin at this 2nd VOIP Conference, and for me to have the opportunity to talk to you about BT’s 21st century network programme, what we at BT believe is the enabling infrastructure for growth.

I’m Debra Covey, I’m Managing Director of BT Wholesale Operations.

BT Wholesale is the part of BT that runs the UK’s telecommunications network infrastructure for all the service providers in our market.

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People ask me – “is Voice over IP the future?”

And absolutely – yes it is
Because Voice is an application.
In an IP world, services are applications – so voice becomes one of many applications running on a common platform and the systems, services and management processes are shared.

Up until now, voice has been embedded in a network infrastructure, the PSTN. It has also been terminated on telephone devices which may have visually changed over time but access the same voice connection.

But now IP Infrastructure and VoIP allow us to change our thinking…. We can consider voice as an application running on a network, this enables us to innovate in how we develop future voice services - we can utilise different access mediums using IP, connect to many different devices and inter-work with many other applications , and do this over both fixed and wireless networks.

This innovative thinking allows us to develop new exciting services which will break the shackles of the PSTN for voice services, making the user see them as crucial survival tools, just as the mobile phone has become over the past decade.
VOIP will be one of the many applications that will hang off the next generation of networks that are going to be built.

But lots of providers can build applications – the big issue is that at some point someone has to make the infrastructure investment on a huge scale to ensure that new products and applications can get to market quickly and profitably for service providers.

In 1997 BT started to explore the applications of VOIP in Spain and in its old joint venture with AT&T called Concert.

This new approach to voice services has driven the next steps in service and technology development over the last few years – with the promise of complete mobility of services over fixed and wireless networks over next generation network platforms.

And BT is the first major incumbent to take this on.

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The communications industry worldwide finds itself at a crossroads today, at the start of the 21st century, and the direction we take will, I believe, have important strategic implications for our industry for decades beyond.

Recent developments in new technology, and the changing economics that underpin our industry, have combined to create new opportunities and new risks for all of us. The rules of the game have changed and are changing.

How we react to these new economic and technical realities will create the foundations for the industry for decades to come, and it will help shape who succeeds and who fails in the future.

If we look back 100 years, to the beginning of the 20th century, everything in this room would be different. The year would be 1905. The telephone would have been invented less than 30 years earlier but getting here would have been difficult and there would be little possibility to keep in touch with your office, wherever that is. It was the halcyon days, the experimental days, of the telecommunications industry. But it was a time of unbridled opportunity and hope. I think that is the common characteristic with where we are today.

Telecommunications was a fixed line, single service industry … and it was the preserve of the privileged. The old telegraph system would recently have been replaced by telephone operators. But that was just the first of many waves of industry-changing innovation; like the advent of electro-mechanical switching and later, the arrival of electronics.

In the 1970s, we would witness the first steps towards the digital world. Nothing would be the same again. Today, we're witnessing the birth of a fourth wave, the IP revolution. Like the others before it, it will change everything. Much has already changed.

The traditional barriers of geography, of technology and difference have begun to fade away. The landscape is decisively different.

The distinction between the fixed and mobile worlds has blurred and the division between IT …..information technology …..and the network is rapidly eroding. Today we live, work and play in the digital networked economy.

True convergence, long talked about, is gaining rapid momentum. It's with us today and will become an increasing feature of our world in the 21st century. It's an exciting and interesting time … to be in the communications industry.

The fourth wave became inevitable the day we learned how to fully digitise our industry. Digitised voice, data and video can now be combined, changed, merged and manipulated on a single digital platform. And if the ability to merge multiple information formats on a single platform is driving the pace of convergence at a device level, the availability of carrier-class, multi-service, IP networks and software-driven switching, are fuelling the agenda for fundamental change in our industry. And the widespread availability of Broadband in the UK has laid the foundation for the full transformation of our network and our industry in the UK.

Everyone is looking for better productivity and greater efficiency. Technical innovation tries to meet this demand, as it has always done. Often it succeeds. Sometimes it misses the target and creates a different, unexpected demand. Think about the growth of text messaging or ring tone downloads - big revenue and profit generators for the mobile industries today, but not central elements of the mobile operators' strategic business plans when they were conceived. Whole new content industries have emerged as a result.

The transmission of voice calls over IP is a reality today – and I have no doubt that it will replace narrowband switched traffic as the preferred medium of communications. And make no mistake: it poses a very real threat to established telcos like BT and others. But it also offers new possibilities.

For any incumbent operator the future strategic direction is the key issue and we all have positives and negatives to consider.

The 21st century brings the possibility of new businesses and new business models and the ability to create compelling new services for people to use. I'm sure it will also create winners and losers in the industry.

Critical to achieving our vision of a "digital networked economy" is the ability to easily integrate applications and devices into this new world, VoIP enables Voice as an application which free from the shackles of the PSTN enables easy integration onto the desktop, unified with video and appearing just where it is required in an e-commerce world, with customers choosing when and how they want to communicate.

Ultimately, the opportunity of the 21st century is to bring about a step change in the way our industry creates and delivers services to customers, and to transform the role we play at the heart of economies and societies around the world.

Embracing the IP future requires large scale investment, the adoption of new skills, it poses a gargantuan operational challenge and will require new behaviours. The size of the financial, technical and operational challenge is enormous. At the same time, it enables many smaller players to enter the market, just as the availability of PCs, Browsers and dial-up access led to many new companies entering the market with innovative internet based services. These will be both opportunities and threats for BT.

But in many ways, and as always in times of great change, the human challenge, I believe, is even greater.

BT, has the size, the scale and experience to manage the major asset deployments necessary to bring about this new world. We have already deployed, at smaller scale, virtually all the components, like MPLS, Voice & Multimedia platforms, core, of 21CN, but doing them all at the same time and very fast is the new challenge.

We have the investment strength to upgrade our networks and systems, to migrate customers to new platforms, and to exploit new opportunities.

But companies with the scale that BT has also have downside – our legacy built up over decades can slow us down. Size can be a barrier.

The economics that underpin our industry are changing with traditional revenues declining.

Massive cost reductions or significant new revenue growth have to be achieved just to keep our heads above water. It's hard work just to stand still. Our market is tough.

As seen in our industry, size, scale and continuity are no guarantee of success in the IP future and what brought any business success in the past could cause its downfall tomorrow.

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At BT, we looked at the issue and decided that we need to invest, we need to be radical to capitalise fully on the opportunities. BT's strategic response is 21CN, the 21st century network

21CN is a multi-service IP network end to end with an integrated systems stack to support it. And we're deploying common capabilities as the basis for future product development.

The life cycle for new technology is reducing all the time and, in this environment, reducing time to market for new applications, because communications services are applications in an all IP world, is critical. 21CN will help us achieve this.

There will be thousands of opportunities as 21CN is a multi-dimensional infrastructure where any device, any applications can potentially do many things.

21CN is a converged world where customers' experiences are simple and complete, where customers have direct control over the way they choose, use and change the services they use, when they want to.

Simplicity is the key.

It also helps us to reduce costs and grow cash cost savings - expected to amount to £1 billion per annum by 2008/9 – the quicker the transformation the quicker the return on investment

And it's a huge investment - £10bn over 5 years.

And that's scary.

But think about what this new world can offer to our customers….

- you could access voice messages, data or video on any device at any time

- you could move seamlessly between the written and the spoken word on the same call

- you could share your personal contact directory across your home phone, PC, mobile & PDA

- you never have to think about bandwidth – because it's as wide as you need it, all of the time

And already these services are becoming a reality - services based on the convergence of voice, mobility, video, data and content are now being developed and launched. For example:

BT Fusion is a service that is a fixed line phone when you're at home or office, and a mobile when your away. And the service will switch seamlessly between the two if you're making a call on the move. This product launches later this year (2005). In fact, you can pre-order it today.

BT Livetime delivers live television and radio broadcast direct to your mobile telephone over the digital audio broadcasting, or DAB, platform. It's in trial today in the London area and we expect to launch that service later this year too.

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The ability to communicate without boundaries and a world where everybody has access to modern communications. That's the vision of BT's 21st century network.

BT's 21CN transformation will accelerate and enable the arrival of this new world.

It is, I believe, the most complete, exciting and ambitious business transformation programme underway anywhere in the telecommunications world today. It's also a bit scary, exciting and ambitious.

This means BT will be the first incumbent operator in the world to switch off the PSTN, we're going to pull the plugs – gone - to go all IP end to end. And it's actually happening today.

10 years ago, the IT and communications industries were largely discrete worlds. But IP and the internet changed everything. Today, it's already difficult to differentiate between the two.

Think about broadband connections over DSL, about voice over IP accessed over the PC connection. The world has become irreversibly network centric.

All electronic equipment today has the potential to be a network device – from your television or hi-fi to your camcorder or fridge.

The network will sit at the heart of society. It will be the nervous system that fuels the economy, government, business and human relationships in a way it never has before.

All of this is a vision for the market to exploit – the question is who wins?

The answer is whoever can create and deliver smart applications that the market wants and is willing to pay for. And ICT-oriented, networking companies will be well-placed to succeed.

21CN is designed to embed the potential of the future IN the network, not on the network.

Of course, being an IP platform based on open standards, 21CN will offer others the opportunity to compete too. Other operators will have access to the functionality and intelligence of BT's 21CN network.

And as an IP domain, 21CN will enable anyone to build applications, not restricting creativity to the traditional players. In the IT-centric, IP communications world, it will be cheap to experiment … and many will.

I think opening the ability to create applications to others will help bring about the elusive killer applications we all desire … and I believe many will come from unexpected places. But all will need the power of the network to function and deliver the experience.

Think about end users of communications services.

Large corporate businesses are looking to communications to expand their customer base, to improve top and bottom line revenue growth, and to reduce costs – big corporates now are investing in their own discrete Voice over IP networks to increase efficiencies.

But they need more; they have dispersed workforces who need effective communications infrastructures, security is becoming a much bigger factor, as is improved access to service information for customers and so on.

They want to deploy integrated networked IT solutions all the way across their supply chains. But they want to be able to do this in a unique way. They may want to tailor network services … easily, quickly and cheaply.

What about smaller businesses? Think about competition in the business world. It's easier and cheaper to enter new markets with ubiquitous IP across the world.

Small and medium size enterprises will have the ability to act like corporate businesses with scale. They will be able to project a global business presence and compete with bigger competitors.

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A big change programme like the IP revolution also challenge large parts of our industry. It is part of the human challenge I mentioned earlier.

BT has made a decision to break with the practices of the past and we're taking a transparent, wholly inclusive approach to this new revolution. We've consulted widely with operators and vendors around the world, here in Europe, in the US and in Asia, with customers and policy makers and we continue to do so.

Our strategy is an unprecedented partnership approach.

As an example, building the network requires the support and engagement of the vendor community, and there has been intense competition in the vendor community to work with BT on 21CN.

The first mover experience is seen as valuable.

For BT, our requirement from our partners, the vendors, was open interfaces and radical commercials. We were looking for a focus on whole life costs and asking vendors to challenge their traditional approach.

Radical industry and behavioural change.

We have selected our eight preferred suppliers.

This has been the largest single procurement programme ever undertaken in the communications industry.

We've also created a programme called Consult21, an industry platform that provides a basis for all operators in the UK to understand, challenge and participate in 21CN.

It's an important element in addressing the human challenge.

I absolutely believe that if we get it right, our industry will move together to a truly open future, breaking with the closed traditions of the past.

It's a great example of how we can win in the human challenge if we focus and bring people together, and take an open, inclusive approach.

That's a key message for everyone here – openness and transparency are critical to success in the 21st century.

So looking forward to the task ahead and to give you a full idea of the scale of what we are setting out to do in the next 18 months – let me run you through some of the key things in our plans….

We have a huge task ahead of us.

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So what does the infrastructure transformation and simplification look like?
Today, BT's network looks something like this. If you look closely, you will find 16 discrete but related networks, each designed support a service. This is a network that has developed over many years and reflects the numerous new technology waves. As new technologies emerged, it was usually more efficient to overlay network capability.

It comprises tens of thousands of network elements including switches, routers and concentrators.

Maintaining this type of network, with the associated services, support and training it requires, is expensive and a significant source of operating costs.

Our 21CN network is a single platform that is multi-service and future proof on IP.
You can see that 21CN is much simpler. There will be a radical reduction in the number of components resulting in physically a simpler network with enhanced reliability.

The 21CN network is multi-service. This means that a single network infrastructure will be able to support voice, data, internet and video services. If you like, it's a single platform supporting multiple services … rather than multiple platforms, each supporting single services.

And it's based on IP technology in the core.

In the traditional world, services … voice, for example, require their own discrete networks … with discrete infrastructure, systems, management and services to support them. In an IP world, services are applications – so voice becomes one of many applications running on a common platform and the systems, services and management processes are shared.

21CN is a massive challenge.

What we are going to do is test all of the plans with one major trial. A form of dress rehearsal.

Next year, we will switch 350,000 customers over to a single IP network.

We announced that this would be in the Cardiff area where we have a good cross section of customers, representing the UK customer base.

We will run this "dress rehearsal" by testing the full 21CN infrastructure focusing on all aspects, network, services and systems.

This major trial will be the forerunner of mass migration where we will start the conversion of over 20 million customers, representing just under 30 million lines at a rate of some 144,000 every week, with no more than 30 seconds of outage.

It's massive. The transfer engineering programme alone is unprecedented.

We also need to get the right people in the right place at the right time, with the right skills.

And of course keep our promises to customers while we do all of this.

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The question that players in our industry are asking is "where will the future revenue stream for mass voice come from?" As I have said earlier voice is an application which within an all IP infrastructure can connect to any other IP device. So you could click on a name on your PC and be connected through, for example; a landline, PDA, Mobile handset.

With improved quality, added flexibility, new features all with lower maintenance costs, service providers can benefit along with an improved experience of the end user customer

With BT's 21CN, communications are sent over a high quality, secure network using IP as the transport protocol. To maximise efficiency a technique called Multi-Protocol Label Switching (MPLS) prioritises voice, audio and video calls. This is an essential protocol for converged IP networks since it ensures, for example, that voice is prioritised over less time-critical data. MPLS will be used in BT's 21CN to ensure that voice quality is comparable to today's PSTN.

The interesting aspect is that VoIP might also change the balance again between calls on fixed and mobile networks, as more and more traffic might go back to the fixed line.

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BT's 21CN infrastructure will enable many players from the fixed and mobile world to create new applications and products that hang off this new network infrastructure.

Many will develop services based on very little infrastructure and requiring relatively small investments, with the benefits of global coverage through new IP based networks.

We are facing the fourth major wave of innovation in our industry and it will require change on a massive scale. There are real opportunities … and threats. However, we at BT believe the risk of doing nothing is even greater.

21CN will move BT from an incumbent telephone company to a networked IT services and solutions company fit for the 21st century.

21CN will shift BT decisively from a narrowband to a broadband company, from a product to a customer focus and away from selling capacity to selling solutions. We already have nearly 6m lines in the UK – the best coverage in any of the G7 countries.

Building 21CN is an awesome technical, logistical and operational challenge , but I believe BT has the capability to deliver.

21CN is a fundamental infrastructure investment to the UK economy, and will require around £10 billion over the next five years to deliver.

21CN will help businesses to complete, at home and in overseas markets.

Widespread availability of broadband means the time is right to deliver convergence of IT and communications. Advances on service delivery platform technology means that we can now accelerate the delivery of applications that use this convergence to deliver true business benefits to our customers, and make people's lives richer and safer.

Massive investments in networks and systems will further accelerate the trend allowing us to be at the cutting edge in the digital networked economy

It will help those tasked with attracting and retaining inward investment to the UK and help make the UK a compelling business location of choice in the global marketplace.

For society, what we in the communications industry do really matters to everyone.

The change is already with us. In communications you innovate and invest … or die.

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