

**21CN progress and the lessons learnt to date**  
**the keynote speech by**  
**Paul Reynolds, BT Wholesale, chief executive officer**  
**at**  
**IEC 21<sup>st</sup> Century World Fourm, Monday 27 March 2006**

Good afternoon Ladies and Gentlemen.

It is my great pleasure, on behalf of BT, to address you this afternoon at the second annual 21<sup>st</sup> Century Communications World Forum. And a very warm welcome to London. I know that we have delegates here today from every corner of the globe, and from every field of activity in our industry. I'd like to thank John Janowiak and the IEC for their kind invitation to speak here today, and for the great work that the IEC does all year round to further the goals and objectives of our industry.

These three days present each of us with an important opportunity to stop and take stock ... to think ... to review where we are ... and where we're going as an industry ... and to consider what is changing and what that change means for all of us.

Some of you may have heard me speak at this event 12 months ago, when I outlined BT's vision and ambition for our 21<sup>st</sup> century network transformation programme.

Today, 21CN is widely recognised as the most radical, ambitious and far reaching next generation transformation programme in the industry worldwide. And it's still the largest private sector infrastructure investment programme underway in the UK.

So here we are ... one year on from the inaugural event in Hyde Park last year ... and much has happened ... both within BT and our 21CN programme ... and across the industry in which we all work. This afternoon, I'll share some of the lessons we at BT are learning on our 21<sup>st</sup> Century Network journey ... and I'll look forward to some of the key priorities for the programme for the year ahead.

I think it's fair to say that a huge amount has changed in our industry in the last 12 months..... more than many of us would have believed possible.

In the UK market, Cable and Wireless has acquired Energis and the combined business, as you may know, is now in the midst of a radical restructuring.

NTL and Telewest, the UK's cable operators, have completed their merger ... and launched a bid for Virgin Mobile, the UK mobile operator.

BSkyB, the broadcaster, has acquired Easynet, while Carphone Warehouse has bought its former rival OneTel.

Thus has acquired both Your Communications and Legend Communications and just last week Pipex bought Homecall, part of Caudwell communications.

I'm sure there's more activity going to happen in this space in the year ahead.

On the international front, 02, formerly Cellnet and the mobile arm of BT, has been acquired by Telefonica, the Spanish incumbent operator, and the largest operator in Latin America.

And as you know, SBC has acquired AT&T, BT's former partner in Concert, the global alliance that we unwound in recent years, and rebranded the newly merged organisation as at&t. That new AT&T organisation has now launched a \$67 billion bid for BellSouth.

Some view this merger as a regressive step, consolidating the market in the US back to where it was the old days before true competition. For others, it reinforces the view that communications is a high volume, global industry.

Only last weekend, Vodafone, the world's largest mobile operator ... and which is selling its Japanese business for £9 billion to Softbank, has hinted that it's looking to enter the fixed line and broadband markets.

It's all going on ... it's all change ... in the telecommunications industry at the moment.

And this really is change on a massive scale. What we're witnessing is an entire industry entering ... and coming to terms with ... a new era for our industry. This, I believe, is a defining period, for all of us.

And because of that it's turbulent and exciting, uncertain and compelling ... all at the same time – that's because we're all starting to realise that the change ahead of us is real and it's non-refundable, non-exchangeable.

If you just stop and think about it ... what's happening in our market today will take your breath away!

There are a number of reasons for the unprecedented industry consolidation, but two stand out for me.

A number of these headline grabbing mergers are about financial engineering, about bringing two or more businesses together to drive synergy and cost-efficiency ... and to restore health to balance sheets or to improve financial returns.

The Cable and Wireless, Thus and AT&T examples, I think, fall into this category.

And others, like Sky and Easynet and ntl/telewest and Virgin, Pipex and Caudwell and even Vodafone's early plans for fixed and broadband provision, are the start of what I see as organisational preparation for a converged future ... where established service providers are accepting that those that offer a one dimensional service will not have a business ... in the converged, 21<sup>st</sup> century.

Meantime the vendor industry is following suit: with fewer and bigger players purchasing and with the new standards and opportunities of IP weakening the old alliances, the drive for stronger propositions is on.

Ericsson bought Marconi following its success in the BT 21CN contracts last year. And last week Lucent and Alcatel announced their love affair is back on; will they make it to the altar this time?

There's a major change afoot in the UK regulatory environment as well. As some of you will be aware, here in the UK Ofcom, the industry regulator, has recently brokered a radical model for regulation in the 21<sup>st</sup> century.

BT has agreed to create a new business responsible for its first mile, as well as product management responsibility for a range of the most heavily regulated products.

The new BT business is called Openreach and it opened for business in January this year.

Key to the new regime is greater transparency and equivalence in the market between BT and the 600 or more service providers ... that operate here, that interconnect with, depend on and compete with BT.

And BT has agreed to over 250 specific undertakings that combined will provide the equivalence and transparency the industry needs.

In return for the Undertakings, we're starting to see early steps towards a deregulatory agenda in those areas of business where regulation is no longer required.

Only last week Ofcom removed 20 years worth of regulatory controls on BT's retail business.

I believe it is a radical and brave step by everyone in the market in the UK. And I know it's a model that other regulators around the world are looking at very closely indeed. Another big change!

And of course the industry in the UK is just as frightened, intrigued and concerned about the advent of new disruptive technology from disruptive, mostly software-based companies like Google, Skype and others.

They are coming to market with radically different customer propositions ... and very different business models from those which the established players can do.

Google has fewer IT people than we do in BT and it has a market capitalisation of over \$100 billion today. That shows the power of the business models these guys have.

Personally, I believe that all of us in established telcos can learn a lot from these guys ... and we at BT are already doing so. You'll hear much more about our plans in this over the next several months under the banner of BT WEB21C.

One thing that has stayed constant over the last two years is the objectives that BT has set out for its 21<sup>st</sup> Century Network programme. We announced the objectives almost two years ago – on June 9<sup>th</sup>, 2004 - when we announced our 21CN strategy.

Some in the industry, including maybe some of you here in the audience today, were sceptical when we first announced our plans.

Today, I'm delighted to announce that there are manufacturing lines and software development labs buzzing on every continent, working around the clock to deliver 21CN equipment and software to us to help meet our implementation plans.

And 3,000 BT people are busy working full time to make sure we're ready to receive this new equipment when it arrives at thousands of sites across the UK.

BT's 21<sup>st</sup> Century Network is real today. It's happening right now.

So, what are our 21CN objectives?

First, is to radically accelerate the delivery of new products and services to market ... from an average of 18 months today to less than six months.

We will achieve this by adopting a new approach to developing new products with the deployment of common capabilities – capabilities like billing, authentication, presence, and so on, where the capabilities are used and reused ... rather than developed from scratch each time we want to develop a new product.

Secondly is to radically enhance the customer experience – and not just from the service standards that we in the communications industry are used to delivering to customers today ...

... but to a level of service flexibility, choice and control that competes with, or exceeds, the growing expectations that all of us as customers enjoy from other industries. Sounds easy, but it's a big challenge and one that BT is embracing.

And finally, we aim to reduce our cost base radically – by £1 billion per year from 2008/9. Cost is a critical issue for all of us. We need to radically reduce costs. But for a business like BT, we also need to retain the ability to continue to invest – in building and innovating; in maintaining a critical national infrastructure.

So, almost two years in, what are the key lessons we've learned that you may want to think about ... as and when you move towards the deployment of your next generation network strategy?

I can think of five big lessons:

### **Lesson One. Make it carrier class.**

21CN means moving an entire industry in the UK, with 30 million customers lines, over 600 service providers and a critical national infrastructure ... to an all IP network.

IP as a platform has grown up in the enterprise space where it has been used by large corporate businesses to provide services on a 'best efforts' basis.

Carriers like BT, like many of you here, need the flexibility and efficiency that IP will deliver ... but to be successful IP needs to offer the same or better quality, resilience and redundancy that we get from traditional platforms today.

This means that there's an imperative to make IP nothing short of carrier class. And it means remaining carrier class, even when we plug and play equipment from multiple equipment vendors into and around the network.

This means NGN equipment designed to open standards that meet carrier class grades. Crucially it means partnering with vendors who commit to carrier class SLA's...

... who commit to jointly developing reliable interworking with each others' equipment ... and who agree to be paid when it is shown to work and when customers are paying the carrier for the traffic the equipment carries.

The consolidation of the vendor industry promises a world where fewer development dollars are spent on replication and duplication of features in kit that does not interwork ... and more on innovation and reliability. In short, the customer should get a better deal!!

The standards bodies have a key part to play here too.

But the development of new standards in telecommunications doesn't always happen in the commercial timeframes that we'd like it to. There's enormous effort and energy being applied here in the standards arena, but faster is always better. All of us – operators, equipment vendors, regulators and other stakeholders need to do what we can to accelerate the development of Carrier Class IP through our involvement and influence on Standards development.

**Second. be open and transparent.**

Next generation networks are radically changing the nature of our industry, the way it operates, develops and delivers service. Next generation networks also create new opportunities ... but the scale and scope of the change can threaten established businesses and other key stakeholders.

As part of its 21CN transformation, BT is switching off its PSTN ... and we'll be the first communications company in the world to do this.

But a number of alternative service providers in the UK market rely on the BT network, on the BT PSTN, to offer services to their customers. They're understandably concerned when we're taking out the very foundations of their business.

Everyone that interconnects with the BT network wants to understand how they will interconnect in the new world. They want to understand better what commercials will apply in the next generation world.

They want to be reassured that we're allowing sufficient time for comprehensive end to end testing before we move towards mass migration of their customers ... by the way, BT is pretty keen to know that we've tested the new integrated network, systems and products too.

BT was very deliberately been very public with our plans for 21CN.

We've been more open, more transparent ... than we've ever been before. I think more so than any operator in our industry has ever been.

And this commitment to openness is a radical departure for us. It challenges us and sometimes we at BT struggle with the concept.

But we're fully committed to being open, honest and transparent.

We've invited other operators in the UK to engage fully in our programme. We want them to understand ... to influence ... to challenge ... and to input ideas to us.

This open approach is partly about de-risking our 21CN strategy and implementation.

And it's partly commercial – we're changing the basis of our business and that can impact our industry customers who generate billions of pounds of BT revenues every year.

This is why 18 months ago, we established a voluntary consultation programme which we call Consult21.

The programme is managed across a number of specific working groups, from implementation and migration to interconnect and portfolio, and end user communications to conformance testing. Each working group is co-chaired by one person from BT and another from industry.

The level of activity underway is enormous. But sometimes we learn more from our customers in these working groups than they do from us.

This is because no one has even undertaken a programme of the scale, complexity and speed that 21CN requires.

It's all part of what I have referred to several times as the human challenge. Change challenges all of us as people, as individuals.

Had we tried to address this human challenge with the closed methods we applied in the 20<sup>th</sup> century, we would have inhibited our own progress, we'd have reduced speed. I'm not sure that we could have done it at all.

Even our own people in BT – our operational planners and systems folk ... by definition people that want to work in stable environments, sometimes struggle to find stability in a market dynamic that is moving and changing on a monthly, weekly and daily basis. It's tough.

As an example, the regulatory undertakings BT has accepted that I mentioned a few minutes ago – required our designers and planners to review and redesign many aspects of 21CN to ensure it was compliant with the undertakings.

But you won't manage a programme of the complexity of 21CN using closed processes. It just won't work. It's not how business gets done in the 21<sup>st</sup> century.

### **Three. Be fast.**

Any incumbent or established operator implementing a next generation network strategy has, by definition, a significant existing business to manage while it builds and migrates to the new infrastructure.

This means maintaining legacy services and platforms while you build the new stuff. This means incurring significant additional cost for the duration of parallel running ... and creates an imperative to turn off the old platforms and the costs associated with those legacy platforms, as early as possible.

Many think our plan to complete 21CN in just five years is outrageously fast. Or at least that trying to close down all the legacy in that time is just too bold.

Some, including some people across BT, said it couldn't be done. Many of my own people would prefer it we were taking 10 years ... or 15 years to complete the transformation.

But the economics of the business case say that it can't take 10 years. The business case can't sustain an extended period of carrying two sets of costs.

In fact, as I look at the pace of change in our marketplace today, I'm starting to think that maybe five years is too slow. We're already examining whether there are ways that we can accelerate our implementation.

We've looked at this from a variety of angles. We believe the key to making the business case work is to do it fast. Get the rising cost of maintaining legacy out as early as possible ... and introduce the more competitive cost base of running a next generation network benefiting your bottom line as early as possible.

Not be afraid to build your business case on cost reduction. We all know there's significant revenue upside to be had ... but BT's 21CN business case sees that as upside.

And challenge every pound, every euro, dollar or yen you invest in the legacy while you build the future.

Continually ask yourself if there's better, cheaper, less duplicative ways to invest your capital as you do it.

I think most people acknowledge that BT is a year or two ahead of the next nearest incumbent taking on the challenge of implementing a NGN.

Some operators I know are still considering what their strategy should be. How radical an approach should they take? Do they move forward now – can they wait a little longer?

And I know that there are others that haven't started yet.

My advice is just do it.

If you've already started, accelerate your plans.

If you haven't started it yet, you need to build a plan ... and you need that plan on your desk the day before yesterday.

#### **Four: Don't start until you can do it everywhere.**

It's always tempting to take on these big transformation programmes in steps. At one point, we in BT considered taking this approach - start with the cities and metropolitan areas first and see how that goes and move on from there. But that doesn't work either.

As David Lloyd George said: "Don't be afraid to take a big step ... You can't cross a chasm in two small jumps.

The reality is you don't save costs because you close down part of your network, or a platform here and a platform there ... you have to complete the job.

It's here that BT's broadband strategy is particularly important. We have worked extraordinarily hard over the last three or four years to bring broadband to everyone.



We have only a few communities to go and with 99.8% availability the UK has the widest broadband footprint of any major economy..... bar none.  
Broadband everywhere means we can go much faster with national product upgrades and save cost at the same time ... there are no regional or platform exceptions to engineer.

In the last 12 months we have delivered a half meg to 2 meg upgrade nationally... and we just launched up to 8 meg nationally, with even faster national speeds in development today.

We are eliminating the urban / rural digital divide. But our motives are not actually altruistic: they're about sound business logic.

Without standardisation and simplification across a national platform you can't go at the accelerating speed and low cost in the market in which we now operate.

This strategic approach of universal broadband at the edge - focussing on high speeds and standardisation nationally, rather than headline grabbing speeds in restricted geographies - is a very necessary precursor to the 21CN deployment. It gives us the foundation to go extremely quickly for national roll-out and vital experience of rapid national product development, testing and launch.

Telecommunications is a high volume business with big investment numbers and potentially huge cost savings ... but you can't harvest the full benefits if you try to do it piecemeal.

Which leads neatly to my final learning point from our 21<sup>st</sup> century network experience:

### **Be global.**

I've talked a lot today about the UK marketplace. But BT is not a UK business and our 21CN ambitions are global. If doing it everywhere means anything, it means doing it globally.

In many ways, we at BT are more advanced outside the UK than we are here, but we're starting from very different points.

Today, we already have the world's broadest MPLS network and we're adding a city every week and expanding into a further 50 countries this year alone.

In fact, BT's MPLS network will span 170 countries by 2007. Why is this important?

Because many of our customers, no doubt many of your customers too ... are global organisations. And they will expect a global service.

So we have designed the 21CN architecture as a global plan. And we have struck our contracts with our vendors to achieve interoperability and standardisation across our global footprint.

In many ways the massive work underway in the UK will quickly align our domestic and global networks, systems and service capabilities. So that we get the speed and standardisation of a single global product set; a single service and application creation environment; a single network engineering and operating environment. That seems a reasonable vision for the 21<sup>st</sup> century.

When we at BT set out on our journey, there was no manual that we could refer to that would help guide us on our way. That's the challenge of being first. But we're prepared to learn and to move forward at pace.

For the teams across BT, 21CN is very real today. And before the end of this year, it will become real for our customers and our customers' customers.

We will migrate the first customers in Cardiff in South Wales in November – just eight months from now. But there's a lot to do before then.

For the remainder of this year, we will complete the site preparation work that's already underway to ensure we're ready to receive the new core network equipment. The new core network will be complete by late summer.

We will manage the migration of our legacy products to run on the 21CN platform – which in itself is no small task.

We'll put the new systems and network management platforms to work as part of the comprehensive end to end testing to ensure that everything works as we believe it will ... and must ...

... from the transfer engineering and customer migration, to the alarms and fall back positions if problems arise ... to the delivery of a 21<sup>st</sup> century customer experience.

We need to check all manner of end user equipment from handsets to PBXs, from alarm systems to telemetry systems, to ensure that they operate on the new infrastructure the way they do today.

We're heavily dependant on the suppliers we chose and signed contracts with to support us through this phase of the programme and beyond.

We set out to break the old vendor practices of closed and proprietary systems and commercial practices of the past as part of 21CN.

If I'm honest, it was more difficult in the end that we thought it would be to reach final agreement – but now that the agreements are in place, we need the vendors to deliver – not just in isolation but as part of an integrated delivery team – working together.

The next several months are when the rubber really hits the road for 21CN. It's fantastically exciting ... and will be the culmination of thousands of man years of dreaming, planning and discussion ... by BT people and others. But there's a lot of work to do before we get to that point

**So to sum up.**

We **ARE** entering a new era for our industry ...

... and while we can't be specific about exactly how the future will look, we absolutely know it will not be like the past.

There are some very real economic and technical realities driving us all towards the next generation future.

And while getting there is challenging, not taking the major steps forward is even more challenging.

I believe the risk is greater.

But do it fast and be open and transparent about it.

It's not easy. It's fraught with challenges ... and some of those challenges will not be obvious to you at the outset.

But the pace of change in our industry is astounding. I absolutely believe that if you stand still, that change will get you.

Enjoy your time here in London. Enjoy the event. And thank you for your time here this afternoon.

**ENDS**