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ELECTRONIC LODGEMENT

Dear Sir or Madam

Transcript from Telstra Technology Briefing

In accordance with the listing rules, I attach a copy of the transcript from yesterday's Telstra Technology Briefing for release to the market.

Yours sincerely



Douglas Gration
Company Secretary

TELSTRA

TECHNOLOGY BRIEFING

16 NOVEMBER 2005

GREG WINN: I think we going to go ahead and get started absent the packs. They are out in the lobby. So they are going to bring them in and start distributing them? Okay. So we will get started here. And first off, thank you for coming after enduring yesterday. If it was hard on you, it was hard on us because we have heard it a lot and we have been living and breathing it.

I'd like to just make a comment that the people you are going to hear from today are primarily our engineering talent and the people that are going to make all of this happen as well as we were very fortunate to have two of our key strategic partners represented today and I'll speak more about that in a moment. But when we get to questions and the media, I would just like to be clear with everybody that you are talking to the technical team and the engineering team and they all talk technology all day long until they are blue in the face and hopefully answer your questions and satisfy those. But they are not about the politics which are interesting and they are not about the regulatory climate which is even more interesting, but they are about building this new next generation network, both in the mobile space and the fixed space for all of Australia. So I just caution you along those lines.

Secondly, we are in it for the long haul and it's a long/long haul but it's a print and what I mean by that is that we are going to do this faster than anybody else has done it in the past or even attempted to do it. We have a very detailed game plan laid out and we are about execution. So we are not going to react as a senior team to the share price, to the commentary. We are about building this network, getting it done and getting on with it and creating values. So this is a story of transforming Telstra as an incumbent telco into a world class, world leading communications enterprise that helps Australia and its citizens do anything they want to anywhere in the globe.

So, with that, I want to tell you a little bit about who is here today and I'm going to take a few minutes to do that and then the people will - I can't see because of the bright lights other than the first couple of rows. But I am assuming that as I introduce people they will stand up and you'll get an idea of who they are so as we conclude the presentations and we do the initial Q and A, you can tag on to some people for any of the specifics that you're interested in again from an engineering standpoint.

So again, we are going to spend about 60 minutes roughly going through a

thumbnail sketch of the technology. It's a little bit deeper than yesterday, but you will be hearing from the people that actually are designing and working with our strategic vendors on this.

We have with us today Dan Burns. Dan, would you please stand. He has been called various things in the newspaper but he runs our engineering and operations on the technology side. And Dan is a very experienced seasoned telecom exec. He also spent some time with Accenture and has a lot of experience with Sol and I, and he leads the overall engineering technology side of our business.

We have Mick Rocca. Mick is part of the senior leadership team at Telstra, general managing director, and Mick's team builds, maintains and installs our networks. They do the hard work. Sol called me a plumber yesterday, well, Mick is a plumber too and you know, we have the fun job. We actually get to do the work.

With us as well is Hugh Bradlow. Hugh is the chief technology officer of Telstra. One of his responsibilities is Telstra's research labs, and Hugh will be working with all the various strategic vendors over the next few years as we help mould and shape what we are going to be doing here in the future.

Along with that, Ken Benson. Ken runs engineering for Telstra and Ken is a seasoned veteran of both the BT and Telecom New Zealand and Telstra and has been in the industry a long time as well.

We have Lawrence Paratz who runs our new fundamental planning organisation. Lawrence is responsible for the architecture of Telstra's networks and all of the infrastructure associated with it. So where do we have duct work in the streets, interduct where we are laying fibre, power, space planning etc.

We have Andrew Johnson. Andrew is going to be leading - he is to lead our data operations side of the business. Andrew is leading several of the strategic initiatives that we are going to be talking about in terms of the tactical portion of it as well as working with our BigPond organisation on how we are repositioning some of the networking capabilities over at BigPond.

Then just in going down through the organisation, people that you will be hearing from day, Jamie Chard. Jamie, why don't you come on up and take one of the seats. Jamie is going to be talking about the softswitch. He also is a veteran of Telstra labs and Telstra and is the brains behind our softswitch strategy. Bill Felix and Kerby Lyons will be talking to you about the IP core, the multi-service edge that we are putting in and the ethernet, also veterans in the industry. Now, these two gentlemen when you read their bios happen to have a background at both AT&T and then Qwest. I just want a clarifying point. They

were at what we call Classic Qwest. I never had the pleasure of meeting either one of them prior to the merger with US West and I had left at the merger so the first time I encountered either one of these individuals was when I was meeting employees here at Telstra.

Jim More. Jim, come on up. Jim is going to talk to you about the access strategy which is a big chunk of what we are doing so he is going to be able to answer questions about fibre, fibre to the node, fibre to the premise, etc.

Mike Wright, he is our lead engineer in the wireless space and he will be talking to you a little bit about what we are doing with the 3G platform. John McNerney I cannot see. John is a veteran as well and is leading part of our IT transformation. Some of you may ask where our CIO is, and if you understood what we were telling you yesterday, our CIO, Vish, is busy just trying to keep the spaghetti bowl connected together and couldn't take the time to be here.

Stuart Lee, and Stuart would you stand up. Stuart runs the program office. He is a gentlemen you may want to talk to a little bit. He is responsible to me and to the board to make sure that all of the programs that we have going are tracked, on track, delivering the business outcomes and the financial outcomes that we have indicated.

Peta Jurd, Peta is responsible for strategic alliances and works with our various strategic partners and is working with some that we have not yet announced and she manages those relationships for us and works closely with our CTO, Hugh Bradlow.

Ian Wheatley, another one that you may want to corner if you're successful. Ian runs procurement or sourcing as they refer to it here and Ian is responsible for all of the procurement across the big Telstra. That includes our subsidiaries and he is the one that is going to be rationalising the supplier base outside of technology as well inside of technology.

Catherine Payne. I think Catherine may be in the back of the room. Catherine is in our PR organisation and comp person that is responsible for communicating and dealing with the press but also with our employees and how we communicate what we are doing and we are going to be doing a lot of that.

Tarnya Dunning as well is part of Catherine's organisation. She is here and you may want to get a chance to speak with her.

Then we have Damien Coleman, and, Damien, I want to make sure they see you. Damien is my lead attorney and, you know, we have got to have an attorney. They are good to have and particularly in this environment.

John Goner. John, would you stand, wherever you are at. John is a consultant. He has worked with Sol and I in the past. John has built networks in Europe, the US and we are trying to get John to sign up for a short stint here as we deploy 3G, but he is very well known in the wireless world and has built both CDMA and GSM networks. And I believe that's it on that side.

Then our investor relations people, David Anderson and Greg Slade and Anthony O'Brien are here. I believe they are in the back of the room. If you have more financial type questions, I will refer you to IR.

And then we have Andrew Maiden, and I don't know if Michael Grealy made it or Rod Bruem but more of our PR people. From Bain, if you choose to try to track the Bain people down, we have Chris Harrop and Mark Kovac. I'm not sure whether Andrew Klein was able to make it this morning or not and they are here as well. So, I think that's it on the Telstra side of the house and then I'm very pleased that we will have available and they have agreed to make themselves available to the press after - or to the analysts, after we conclude the formal meeting, and Hilary Mine who is the CEO of Alcatel Australia and Hilary joined here in Australia in October and she is responsible for the businesses across Australia and New Zealand and New Guinea. Prior to that, she was the senior vice-president of Alcatel North America and she has got an extensive background in technology, is an outstanding partner and Hilary and I work closely together and she is going to be available for you as well.

Along with Hilary is Phil Tully. Phil is the senior vice-president of operations for Alcatel Asia Pacific and Phil is here today and he also will be responsible for managing this huge Alcatel project. So he will be running all of the Alcatel resources and helping with the project planning all the time and making sure that we stay on schedule, on time under cost, so that we deliver fully functional. So Hilary and Phil are here from Alcatel and they will help you on the Alcatel side of it.

From the Ericsson partners we have Barry Borzillo. Barry is the managing director for Ericsson Australia and Barry and parts of his team will be here as well, and then we are very fortunate that we have Hakan Eriksson. Hakan, would you please stand. He is the worldwide CTO for Ericsson. And I really encourage you to talk to Hakan because he will answer any of your questions regarding the debates about CDMA, GSM but more importantly what a road map is and how there is a very clear plot I believe would be the term you'd use, to move us from 3G to Super 3, to 4G riding on an IP network software defined switching, and it's going to be very very good for all of Australia and how it positions us globally, and he will probably share with you some of the other players in the market that are doing the same thing. So it's not Telstra by itself, we are not out there alone, and I think Hakan will be able to help you with that.

And in addition to that, and I seem to have lost - Alex Sinclair is here. He is the chief technology officer of the GSMA Association. He has years and years of experience with all the mobile operators all around the globe and he also will be available for answering questions.

So, that's the team of people that we have assembled for you today and we will make them available. I will try to stay for a few minutes at the conclusion but I have to get to another commitment and I will be on my way. So to kind of lay out the day or the morning here, and the good news is this doesn't last as long as yesterday did, we are going to start and we are going to work our way from the customer into the core. That's how we are going to talk to you about what we are doing.

So I'm going to start with access and Jim More is going to speak to you about the access part of the network. Then we will get to the backbone and how we carry and aggregate everything in to the softswitch which will be Jamie, and then we will talk about wireless and then we will talk about IT and then we will open it up for a 20 to 30 minute general Q and A and then the people will be available post the formal part of the program. So that with that, I'd like to introduce Jim Moore and, Jim, why don't you take them through the access please.

JIM MORE: Okay, thanks Greg. To kick off the technology discussion, as Greg said I'm talking about access. Let's just first define what I mean by access. It really is the connection between the customer and the core network for which my other colleagues will be talking about after myself.

Access is also one of the biggest pieces of infrastructure that Telstra has in the end-to-end picture of our network. It has got a long history, access. It has been a backbone of Telstra since it formed. It's essentially based on a copper network and also has over time developed a number of other technologies which have enabled us to expand it, enhance it and provide services other than telephony which is really what it was originally designed for. So it's a huge asset we have, and just to give you a sense of its size, at this stage in the copper network alone, we have 21 million pairs, capable pairs available for connection to customers across Australia. So it's a large asset and a key part of what this overall transformation is about.

Before I talk about the technology as such, it's important to really understand what we are trying to deliver over this technology. In a sense, access is enabling a number of different types of future products to be provided. The sort of things that will be available are things like high speed internet, voice over IP which Jamie will talk more about later, the possibility of TV delivery over IP, telecommuting, video conferencing and video delivery of services in general.

So the importance of what the access network can deliver is in twofold. There's two really key dimensions to access. What we will be aiming to do is deliver a capability which is fast so; speed is important. So if we are delivering video content, a high speed content to a customer, getting it quickly is important and getting a lot of information is important. So speed is a critical criteria for access.

The second part of access is really about capacity. As more and more customers use more and more of these sorts of products, they start to demand more and more of the infrastructure and the dimension of their actual core network and the access network. So it's very important for us in access to build enough capacity to deliver what will be a very demanding requirement to satisfy these services. So where are we today? Access, as I said before has got a history. There's a lot of copper network out there. We very much intend to exploit that copper network and leverage it to the best possible use. But as we have developed the access network over the years, it has really been an evolution of technology. We have grown from access from a copper network to a fibre network. We have delivered fibre for a number of reasons. One of those reasons is to enable us to expand our access business. As the communities grow, new estates are built and the redevelopments occur. What we have done is build technology in our access business connected to the exchange by an optic fibre, but we actually put electronics in the field in cabinets that sit on the street side. What they do is enable us to connect to more customers through multi-plex equipment.

As a consequence of doing that over the years, what we call pair gain technology has been a huge benefit for us in expanding the reach of access but it has one drawback in the sense that it was built at a time when telephony reigned supreme and of course it's no longer possible to pass Broadband through some of these technology. So unfortunately, they become a broadband blocker, and a very visible one. Examples of this would be and it has got lots of profile in recent times is our rim technology, remote integrated multi-plexes. They are the ones that are large cabinets that sit in the street. Enabling those for Broadband has been a priority for us. In addition to that we also have very small pair gain systems that simply split one pair into two or four services, a digital multi-plexes as well but they are sprinkled through our distribution network.

So just to put a size around what we have today particularly in the five major cities that were spoken off yesterday. There's 5.4 million PSTN or ISDN services; there's 1.1 million in that footprint alone which is now served by Broadband. What we have been doing as you well know, we have been rolling out Broadband technology now for some time and the technology we have been using is essentially ADSL first generation. And that 1.1 million services there is using that technology in the main.

Data speeds are 1.5 megabits per second out to as far as we can go. One thing about ADSL, it's dependent on the distance as to how far you can reach. At lastly, at this stage, we have a 97 per cent Broadband coverage in the five major cities. The remaining 3 per cent are right down to those Broadband blockers that I mentioned before.

So, what are we transforming access to? Well first of all, we are transforming it to a high speed Broadband capability. As I said before, speed is important and speed is certainly an aspect that we are focussing very heavily on. But I mentioned both dimensions of speed and capacity. To achieve the sort of speeds that we need to achieve using the DSL technology, we really have to get closer and closer to our customers. The defining characteristic of ADSL is it really is dependent on how far you are away from the DSLAM, the technology that serves it.

So our intent is to capture customers within one and a half kilometres of those DSLAMs which means one and a half kilometres around the exchange and any of those customers outside that one and a half kilometre distance will be satisfied with a technology that's deployed in cabinets, in the street and they will be located also within one and a half kilometres.

The benefit we get from that is those customers are all then served with the technology that's capable of delivering 12 megabits per second or higher. The 12 megabits per second I will explain in our next slide what our limitations are around that. The other aspect of this technology is that as we deploy more and more out into the network in cabinets and serving those customers, we will fully populate those cabinets. So our intent is to fully provision. The advantage of that is much faster connection times and much better customer experience. Lastly, the welcome part of all of this evolution to the new Broadband world is we will actually remove the Broadband blockers, those pair gain technologies I mentioned before out of the network.

A little bit of defining what 12 megabits and ADSL means. This is a very telling graph. ADSL is essentially a very high speed multi-plex technology. It's delivered over a copper pair. It's not the world's best transmission medium so it's in a sense as you go further away from the DSLAM, the signal attenuates so it is the speed you get as a customer gets less the further out you are. To ensure we get a uniform and high speed experience for the customers, we have designed the 1.5 kilometre point as being the point at which you can achieve the full maximum 12 megabits per second or higher.

12 megabits per second is effectively the ACIF which is the Australian Communications Industry Forum. The benchmark they set as being the minimum depends on where you are and the circumstances and the degree of

interference that's in the cable at the time. You may get higher than 12 megabits, it may range up to 20. The other aspect of putting technology into cabinets and what we call the fibre to the node technology, is it means that as you will see in those five major cities, two-thirds of those customers will be served by cabinets, one third will be served from the equipment in the exchange. The important criteria around all of this, that 100 per cent of those customers in those footprints will get those speeds as there will be no Broadband blockers in the way and all those customers will be within one and a half kilometres.

Another important technology which we have installed in trial situations in Queensland is fibre to the premises. This was mentioned yesterday by Greg. Fibre to the premise takes the fibre technology all the way beyond the node points to the actual household. It is the most effective way of delivering the highest speed service in a long term. Economically it is the best candidate for deploying in new estates, in greenfield areas where there's no existing infrastructure.

So it is the deployment of fibre to the premise will be in those new estates. It will provide a voice and very high speed services. It has the additional capability of providing video in two different forms. In our current technology we use which is called BPond, Broadpond Passive Optical Network, we either deliver it over an RF equivalent RF network or we can deliver it over IP. The options we have at our disposal. The other important aspect of the technology for fibre to the premise, is that it's free. It's soon migrating or evolving to the GPond technology which is gigabit passive optical network which enables us to get much higher speeds again to customers.

As I mentioned before, pre-positioning is a fundamental part of us getting our best customer experience. The reason it's such a great initiative to do that is because essentially what we have been working with in terms of Broadband up until now, if Broadband services are required, we roll a truck to connect that technology to that customer's line and therefore the connection times take days. With the technology such as what we are talking about and the fact that we are fully populating it into those locations, means that we can reduce that multiple days of connection time down to hours. So it's a much greater experience for the customer and it's certainly better for us.

Another aspect I would also like to mention is that as we transform our network to this fibre base and to this high speed DSL technology base, what also comes with this is a much more effective maintenance regime. It's less costly to maintain. It's less impact on customers. It's a much cleaner environment for Broadband and a much better experience overall.

So what does all this mean in terms of what we are going to do over the next

three years? In that time, we are going to upgrade 450 exchanges within this five city footprint. They will all be upgraded with these IP DSLAMs. We will be installing 20,000 fibre to the node deployments. These are located at the cross-connect point or the pillar point as we call it within the access network. In preparation for delivery of this service, we will be what we call conditioning the network. This is the access network. In doing that, we are removing the Broadband blockers, and the best example of that, we have 7,500 pair gain systems we are taking out.

We will replace those where we need to with clean copper and also we are replacing other blockers that we have in our network which are things like loading coils, bridge tap, those sorts of things that actually interfere with the signal coming from the DSLAM. This is happening over a three year period. What we will end up with is a fully provisioned high speed Broadband to 4 million service addresses. All these PSTN services that currently earn that footprint will be served by the voice on IP technology that Jamie will talk more about and they will be satisfied through what we call a multi-service access network technology.

thank you very much.

GREG WINN: So much for technology. Turn up the mic on the podium please. Anyway, thanks Jim. I can't emphasise enough what this is going to do to our cost structure and what we call bad volumes. Things like truck rolls, fault management, repeat reports, impacting our customer experience and all the associated costs, let alone the enablement of all the new technology and the services that go with it. So next up, now that we have talked about the access, we are going to talk about our backbone. Out at the ethernet aggregation, the service edge and the IP core and Bill Felix and Kerby are going to team on that. We are a little bit behind schedule, guys, so we will need to kind of pick it up. Thanks.

BILL FELIX: Okay, with that prompting, I will be brief. I'll give a very brief overview of the overall transformation program that we are focussing on in the core area and ask Kerby to come up and talk about a few specifics in that area.

Involved in core transformation is a journey to a unified common packet core. There are typically three elements involved there. There is a core itself, service edge and how you distribute packets. The keys to success in this area are going to include meeting rapid growth through scalability options that lower our unit cost, about dramatically increasing our reliability through in part better design, in part new infrastructure, and in part retiring some of our older infrastructure.

Lastly, it's about enabling new services and new service combinations. You may be a little surprised to see the same view graph from Jim as from me. You will

see this view graph later because we want to emphasise the point that what this is about is our customers. From a core standpoint, I'm here to help the gentleman you saw come before and the gentleman you will see come behind effectively do their jobs and deliver our services to our customer. My viewpoint is a little different in that I'm an enabler. So in that enablement set, this is not just about bandwidth. This is about being able to provide on an application basis the quality of service that each customer in their application might need first on a static and then later on a dynamic basis.

Lastly, it's about being able to mix those seamlessly. Where we are today, well, within the core and the distribution area, we have a large number of networks and distribution footprints. There's a variety of reasons why we are there but here is where we are. What I would say about this is one of the fundamental things about the telco business is that it's a scale game and we are at a significant disadvantage at this moment in time. Worse is John will get into later, each one of these platforms also has its own support system infrastructure further exacerbating our scale disadvantage. Equally important to underline here with this kind of architecture, it's very very difficult or impossible to enable the products and the product combinations we would like to do going forward.

So with that, a little bit about what the new world might look like, its three major elements. First is about what we call ethernet distribution. I would underline for all three of these elements, we are also always working on providing additional scale options at a lower unit cost, but there are some key other things for each one of these. For ethernet distribution, it's about integrating voice, video data and mobiles distribution plots into a single plot which we do separately today. It's also equally important about providing for lack of a better term the hooks that will later on allow us to be able to provide that quality of service item that I mentioned earlier.

In the multi-service edge area, this is in part about providing IP base support for our current customer set, things like ATM and Frame which does a number of things. In addition to unit cost advantages it's also been enabling our customers to make decisions about their equipment on their own timeframe independent of what we are doing and allow us continue to migrate away from mature infrastructures at our choosing. Equally important, it's about pushing our core out further into the network which will enable some key reliability activities that I'll talk about in about one second.

In the MPS core, probably three key things right there, medium terms, we have some important site constraint issues which we intend to address, but equally important this initiative is about dramatically increasing our reliability through use of completely modular hardware and software designs as well as redundancy, as well as designed in day one, the ability to seamlessly combine

and add new services. So with that, I'm going to pause and then ask Kerby to come up and talk a little about the key programs.

KIRBY LYONS: Thanks, Bill. So essentially what I hope you got out of that so far is that there's a lot of operational complexity that's in the network. A lot of it was because the technology limitations at the time when we started rolling these product sets out, so what I'm going to walk you through is taking a look at the ethernet aggravation, the multi-service edge and IP core and how our plan is to quickly - four years is quick from a technology perspective - simplify the network, provide a better service to our customer and encourage all the new applications that Jim spoke about. Now, a lot of that you will see is as we reduce the number of platforms, hopefully it becomes obvious that operational complexity continues to decrease.

Ethernet aggregation. What you see is we essentially have nine different types of distribution networks that we use today. As you can imagine, the complexity of trying to manage that and continually offer a reliable service to the customers gets very hard. The whole plan is to, as the technology, use the new technology and our strategic partnerships with Alcatel to be able to reduce that complexity by introducing new technologies and collapsing a lot of these architectures together. And again going back to enable better service to our customers, right.

If you will notice, a lot of the platforms you will see there, that it's really an increase in capacity from the current technology from 40 gigs to 160 gigs, given, you know, a four times increase as far as the capacity of the network which we want to acquire for the access application that's coming on board.

Multi-service edge, same thing. A lot of technology was installed into the network to support different product sets because the technology has continued to collapse and evolve overtime. Now was the appropriate time to go out and start replacing that technology, use the new technology, collapse our product sets, simplify operations, but maintain the scalability that's required to continue to go forward. Our network today is running around on 60 gig platforms. What we are looking to do is increase that up to 400 gig platforms through different strategic partnerships again.

IP/MPLS core again two different networks driven by two different product requirements limited by the technology that we had available. New technology, Cisco CRS 1 allows us to collapse those two different networks into one network but still increasing the overall capacity by 77 times the capability set we have today. It's a huge increase. That increase allows us to meet the access requirements, the Broadband initiatives that we have coming and to continue to grow the network for the next five to ten years.

Now, all that's real good. It's all a lot of puffy charts so when can we get it

done? Bam, Cisco CSR1, March, right; we are going to start putting traffic on that platform in March. We are going to continue to evolve the rest of the network over the next four years, we are going to exit some of the legacy platforms if you will to simplify the network. They have to both be done almost in parallel. We will be a little bit ahead with the new technology. We will migrate and rationalise the network as we continue to put the new stuff in, but this is a very realistic timeframe and it's something that we are going to get done.

GREG WINN: Thanks, Bill and Kerby. I think just so we are clear and I am obviously dual-tasking. As you think of it again from the customer, from the access to the nodes and why do the speeds build and the capacity builds, it's because we are funnelling things into a core so the core has got to have a lot of horsepower to be able to run these next generation networks and all these applications that we are talking about. Again, for the analysts in the room, you know, the reductions of these ethernet platforms, the edge platforms, the amount of router boxes we are going to have, it significantly changes our CAPEX and our OPEX structure, not just immediately as we deploy and decommission, but on a going forward basis because the ability to add capacity, it doesn't take as much effort and it's not as costly in the future. So that's why you see our CAPEX curves change as we get further out in time. So next up, moving into the softswitch now, Jamie Chard.

JAMIE CHARD: In 1999 Telstra launched its first voice and IP product. Since then we have delivered a number of products to market that actually use an IP core to deliver voice capability and carry voice traffic. It's been an exciting ride because the products, the technology and importantly the architectures are maturing. They have reached a point of maturity now where we are taking it to the next stage and going to progressively roll out a softswitching infrastructure to relate large components of our traditional core what we have refer to as the PSTN, the switched voice network. Today I'm going to take you through some of that transition and I'm also going to take you through what we mean when we talk around a digital home and around the delivery of home gateways and those new services that we spoke about earlier into the home.

Jim picked up on these services here. In a voice context, we will continue to deliver the plain old telephony service, what people refer to as the PSTN. The plain old telephony service will be delivered differently with different infrastructure, but that's not as far as it goes. We are looking to deliver enhanced voice services and capabilities. So not only is there voice on IP, there is video on IP. There is also the transition of the plain old telephony service into a more enhanced voice service so not just VOIP but something more - greater than what you would actually expect off a plain old telephony service.

Let us look at our current network. Telstra has a fairly traditional network for

delivery of voice. It's a three layered network based around what is referred to as class 4 and class 5 switching. At the moment we have about 250 odd nodes in our network switches, that is core switches, that actually deliver that capability to our customers. This network is a single application network in the sense that it is primarily there to deliver voice. Yes, we have a lot of voice products that are wrapped around that but that network is optimised for voice. It is not optimised for the sort of multi-services that we have been talking about here today.

Within those the five city areas that we are looking at for the transformation, we have around 5.4 million services in operation. So as Jim picked up earlier, those services for the plain old telephony service will be transitioned over to the new softswitch infrastructure. That will take out 116 of those 250 odd class 5 and class 4 nodes that I spoke of earlier.

The transformed network is moving towards, as we have said, a common core. We just had Bill and Kerby take us through that. Key to that is the centralisation to a smaller number of softswitches so we will be looking at five mated pairs of softswitches. To give you an indication currently we have on most of our class 5 switches we would normally dimension to about 120,000 odd services in operation. These softswitches will take us up to a dimensions of about 2 million services in operation off each softswitch. Those softswitches because of the size of the customer base and because of the centralisation clearly need to be redundant and resilient so we are looking to have five mated pairs of those softswitches within each of the zones that we have designated, and I'll speak to that shortly. The core of the delivery of the voice itself will be switched effectively through the IP core network, so based on the MPLS and IP core.

We will continue to deliver the plain old telephony service so the features and the capabilities people see today will be there. They won't need to change their handset as such. It will still be delivered down the same copper line, the same base-band transmission that you do see today. But should the customers choose to, we will also take them up a level in terms of the voice capability to an enhanced voice services which actually deliver the voice all the way to the customer over the Broadband part of the line. So we deliver over that ADSL connection and we will be delivered as voice on IP and we will touch on that shortly in terms of the digital home.

The transition as you will see here, we have depicted what it means for a customer that is on a traditional plain old telephony service. In effect the copper wire is being taken away from being into a class 5 switch as you see down the bottom with those pictures down the bottom and follow the arrows. They are transitioned up into the multi-service access nodes. These multi-service access nodes are effectively a DSLAMs enabled with voice cards and

voice capability. So at the termination point of the copper, the voice is changed from a base band voice signal into an IP signal and is carried as voice on IP across the core.

Central control is from the softswitches, the five mated pairs of softswitches in the core of the network. The actual transition of those packets and the quality and the delivery of those packets goes across that quality enabled IP core that we spoke of earlier. It comes back again into the core of the net, back into the DSLAMs and delivered back out to the other customer at the second end of the call. We will also be introducing further capabilities as I said around the voice on IP, so as we've depicted there also, certain transmission of voice and the enhanced services will be going IP all the way out to the customer over their Broadband connection.

The softswitches here we have depicted where those softswitches were. We have looked to have those centrally located and fully redundant, full capability to switch over between those nodes. We will also look at geographic diversity on those softswitches as well so should we happen to lose node or we need to lay balance across the various areas, we will do so. In these type of networks it is very important that we maintain that control point because the capabilities are inside that core softswitching unit and that driving the whole of the voice network. So as we are saying, approximately half of Telstra's services will be moved over to this new softswitching core. So the remainder of the network will be continued to be delivered off the class 5 and the class 4 exactly the same as they have now.

I spoke a little bit earlier and mentioned the words "digital home". About 12 months ago Telstra initiated a project around the delivery of these capabilities into the home. It's okay to have those services there but it's not okay if the customer can't use them or doesn't have the capabilities, the technical know-how, can't make them work. At the end of the day, the customer is looking around service and that service to be delivered to them. They don't really care about how the technology is to get to them.

Recently there was a study in the United States looking at people setting up their home networks and the technology involved with that. Currently, over 55 per cent of people actually get somebody else to set up their core network, and bear in mind these are the technology leaders. So the complexity involved in setting up your home network is just way too difficult for most people.

You like to know that of the 55 per cent that they referred to, a large component of that was the spouse, the others are friends and other people around them. But they are definitely looking for somebody to help them set up their home networks and it only gets more complex.

The aim of the digital home and the capabilities that come about through the use of home gateways and things is to allow us to be able to service directly into the home and make it easy for the customers to effectively connect to these devices and should they have any problems, we will be able to be there to assist them through that whole process. That means that we will be able to look into the home gateways and see exactly how they have got their capabilities. Of course, we have to be very mindful of things like privacy etc., but if the customer is seeking assistance, then we will be there to make sure that their home network and their services are delivered in the way that they expect those services to be delivered. In other words, they work, they get what they pay for.

How do we do that? We noted that we have softswitches and a range of application servers which are depicted on the far side of this slide. But the actual capability to deliver into the home is around two key elements, the first of which is the home gateway. That is the central hub which brings the service into the home, delineates between the various service, sets up the configurations, allows the customer's services to be managed in such a way that the actual service is effective and efficient. Back inside of the core of the network we deploy what is referred to as remote management systems. Those allow us to do auto configurations of the devices as required. They also allow us to troubleshoot and to see what is actually happening in a core network.

As I noted earlier, there are key requirements there that of course we are not really looking into customers' networks without their permission. But basically, when there is an issue in place, we will have the capability to assist the customer so that they have that service and that service is delivered. There are a range of other components that are actually wrapped around that, some of which you see, there are authentication service and other things that allow this service to effectively be plug and play. You bring home a unit, you bring home a set-top box or something, you plug it in and off it goes and the network will fully configure it and manage it for you.

The delivery of the softswitching program and the digital home program. The self-switching program is going to take two years for us to deploy the actual softswitches in those five designated areas. Once the softswitching deployment is complete, we will then start to transition over those customers in those footprint areas to the MSANDS. Those MSAND boxes as they get rolled out as Jim noted across the core. At the same time, we will start to as we move over exchanges, we will of course start to take out some of those 116 odd class 5 switches. The ongoing program for that we expect may take up to the end of the year 5, it may be it's done sooner, we will see as the transition goes through, but the core capabilities will be in the network in the end of the two year program. Thank you.

GREG WINN: Thanks, Jamie. I think a couple of key points here is we are

going to move with absolute speed so we intend to try to beat these timelines because time is money. Secondly, in the analysts' community, by the way I was asked to remind everybody either remind you or remind me, I'm not sure what the note was for, but we will have the analysts ask questions first and then the media after. But when you think of these 116 switches, classified switches were taken out, with that in our cost structure comes power and we spend a tremendous amount of money on power every year in terms of upgrading power capability into these locations.

We are not going to have to do the power builds, the UPS back ups, the generators, the fuel storage, all of this stuff that goes with growing these old networks gets collapsed to these new softswitch locations which by the way consume less power, require less cooling. Do the machines run hotter in today's world? For the most part, yes, but they are not as big, they are not multi-floors of equipment. We are going to recover a lot of space from a real estate standpoint, so our total cost of ownership going forward has dramatically changed. Everything from how many locations we have to have people in to surveillance and to work on it, to the utilisation of for the most part space that we own where we have our switches which we can convert to any kind of space we choose to do so. So it's going to again fundamentally change the cost structure. Now we move quickly to the wireless side. Mike Wright will talk about our 3G initiatives.

MIKE WRIGHT: What you will see in this slide is a common theme that has come through all today today and that is we are building a new capability on a common underlying IP/MPLS core, and it is no different to the mobile space where we are going to add 3G functionality and softswitching to that same underlying core to build the next generation network.

What we are planning on doing is delivering a multi-service capability over a single national mobile platform and that platform is going to enable voice calling, video calling, enhanced content and wireless Broadband to our entire national footprint. If you look very, very carefully at the top left of the slide you will see the attractive gentleman we use for the voice calling photograph in our demonstration. He is in the front row.

A quick summary of where we are today. We actually have three mobile networks, particularly since the recent launch of our 3GSM network. We have over 8.3 million mobile customers. They are serviced by over 4,900 GSM towers and that covers around 600,000 square kilometres of the Australian footprint. We have over 2,100, 3GSM towers at the 2.1 gigahertz frequency. They are in the major capitals and they cover around 7,300 square kilometres of coverage and we have 3,480 or more CDMA towers that service 1.6 million square kilometres of footprint. Much of this is overlaid on the top of each other. If you look to the right-hand side of the slide there, you see that what we get out of

having these three networks is a lot of network duplication and a lot of duplication of investment.

Much of the GSM network lays on top of the CDMA so what this does to us, it dilutes our capital, it causes us to roll out replicated network coverage. In addition, we have three core switching networks. If you look at the drawing at the top, you will find all mobile networks look basically the same, all that changes is usually the name of the boxes and sometimes the vendors. But in essence they are basically the same elements. So what we have is a CDMA network with a radio access network and a core MTX switch and some packet elements. We have a replication of that with our GSM network and we are just divulging with our 3G network with R&Cs for the radio access and softswitch core elements for our core switching element.

So we do have a fair amount of network duplication. If we look at this nice simple slide of technology evolution, you also see a bit of the story. The top two rows really show what I call the GSM infrastructure environment. This is a GSM technology standard that has evolved out of the GSM standards group, and the (inaudible) shows the CDMA environment. Now, we have both of these environments. We have a GSM technology environment and a CDMA environment. For perfectly good reasons, when the analogue network closure occurred, the most suitable technology solution to replicate the analogue coverage was CDMA and that got us a start in this position where we had a replication of networks.

What has occurred with that though is each of those technologies evolve and generate new features and functions and it has caused us to replicate our investment as we upgraded them from basic 2G networks to packet capable 2.5G networks to 3G capable, wide band CDMA in the case of 3GSM, and EBDO where it's just starting to deploy in our CDMA network. So this again dilutes our capital and causes us to replicate investment. So our plan is to collapse these into a single GSM technology. So what going with one technology evolution path does for us, is it allows us to follow that evolution strategy. So we have the beginnings of our 3G network in our capital cities now.

We are going to move in next year to build a national 3GSM capability, over 1.6 million square kilometres, so that's increasing our 3G capability with voice, video and high speed data capability from 7,300 square kilometres of coverage to 1.6 million square kilometres of coverage and 98 per cent of the population. On that road map brings us - at the time we are launching this functionality next year, we will also be implementing the second generation of high speed downlink packet access because we like long acronyms which is a Broadband capability on this technology with a peak data throughput of 14.4 megabits per second.

I want to emphasise and you would have seen on the earlier slide that we also like to quote the average user capability and the average user capability over our HSDPA network is in the vicinity of 550 kilobits to around the 1.1 megabits. The 14.4 is our peak throughput capability of the technology and probably belongs mainly on the marketing brochures. But this same technology evolution is already planning a number of extra steps. We have already seen the 3GPP group commence studies on what is called long-term evolution or more particularly known as Super 3G. Super 3G has had three standardisation meetings already. We are yet to see the fine detail which is due to be finished off in 2006. But already we know that it's aiming for peak throughput speeds in the hundred megabits per second range and lower latencies and even the ITU are looking into 4G and there's much debate about the definition of 4G but we are seeing standards being set and discussions around an aimed target speed in the one gigabit per second range.

I re-emphasise these are the peak ranges. The average user speeds and the total throughput capability of this technology is not to be as significant as a fixed network but it certainly is a significant throughput capability. So part of our evolution strategy is to build on this road map so even the infrastructure we are installing now in 2006 will have blade plugging capability in the racks of equipment to take us to the Super 3G capability when that technology is standardised and the equipment is available, built on a common platform, a common transport platform.

So it's an important element of what we are trying to build. So what we will be doing is installing 3GSM equipment into over 5000 base station sites in Australia which is the sum of our existing GSM sites and our CDMA sites including the overlay minus a few minor microcell sites that don't provide any coverage at all. We will be upgrading and migrating to a single softswitch based core system serving our entire GSM ecosystem, which is our 3G and our current 2G network which we will continue to operate. We'll upgrade all of our legacy equipment in our 2G network which at the same time will enable edge capability which is enhanced data for GSM evolution which is a higher data throughput capability for GSM frequency devices. So this will totally deliver us 1.6 million square kilometres of CDMA capability, of 3G capability equal to our current CDMA footprint, and they will deliver collectively voice, video and high speed data.

A significant element of all this is the customer. We have a great amount of experience with where our customers want to use the service and a significant part of this strategy is to ensure that we take nothing away and, if possible, we actually give something more. So, if you look at our technology that we are rolling out into the particularly the rural areas, we have some extended coverage that many customers enjoy services in remote areas. And in fact, what we are looking to replicate is the current coverage of our CDMA network. If we go back

and look at when we launched our CDMA network, that technology itself inherently in the software specification and as with 3GSM has a limit around the 50 to 60 kilometre range of timing written into the software and into the standards. What we did when we launched CDMA to match analogue is have that software changed to remove those limits to give us coverages up to the vicinity of 200 kilometres in timing. So that's one aspect of the coverage range part of the story. For 3GSM, we have also worked with our vendor and arranged to have that same technology timing limit adjusted so we have the equivalence of timing signalling in this new technology.

So having removed the timing difference, what is left then is the fundamental sensitivity of the radio technology itself. As it turns out, 3GSM is based on wideband CDMA technology. It is also a CDMA technology and it can achieve the same radio sensitivities as our CDMA network. So a very important element of what we are doing here is to think about the customer and ensure that we deliver the same or better service and the same configurations for them. So we have put a lot of effort into that and worked with our men to ensure that we do deliver that.

So what we are doing is, summarising, we are upgrading over 5,000 sites to 3GSM at 850 megahertz and it's the move to this 850 megahertz frequency spectrum which gives us the additional coverage range. We are transforming to a single softswitch core architecture, and in addition to that, we are going to make some additional improvements to our network. We will be improving the network by adding additional sites in areas where we currently have had feedback that customers would like better service. We have set aside some additional sites to improve some highway coverage and by the very nature of the 850 megahertz spectrum we will be improving in building coverage.

This is a two year program. By the end of 2006 we will have commenced service capability, and by the end of 2007, the software upgrades that will deliver us the full extended range will be complete and we will have our full 3GSM 850 coverage over the 1.6 million square kilometres. An exciting time, a very tight timeframe but something we are very confident we can deliver. Thanks.

GREG WINN: I know many of you probably have questions around the technology, and again Hakan and Alex will make themselves available to answer questions post this conference. I would like to also remind you, we had a choice. I could have put the guys in the front row up here that lead these, the general managers, general managing directors etc. that run the business. These are the guys that actually run the teams doing the design and the engineering working with our strategic partners. I thought it best for both analysts and the press to see the people that really do the work, don't just administer it. So, Mike, thank you, and last but not least, and one of my hot spots is the whole IT situation because I've lived with it for 35 years in the

industry. It was bad 35 years ago and it hasn't gotten better. And we are going to do something about that, so John McInerney, please.

JOHN McINERNEY: Thank you, Greg. As Greg said, last but certainly not least, I'm going to take you for ten minutes and have a brief overview in terms of what we are going to do in terms of IT transformation. As a starting point, it's important to understand the scope of our work. Our work covers business support systems including areas such as CRM, sales and marketing and billing, also covers areas such as operational support systems, assurance for fulfilment, network inventory, network management, etc, so it's a very large scope of the work that we are trying to cover.

Before I kick off today, I wanted to I guess reinforce some of the items that Greg discussed yesterday. That is that we are going to deliver this capability cost effectively and we are going to deliver considerable and significant simplification of our systems environment at Telstra. These are two underlying drives that we have taken through our review over of the last couple of months to really ensure that we deliver great outcomes. The other item that was discussed yesterday was around scenarios and there were two scenarios presented by Greg yesterday, one around sales order and fulfilment and the other around assurance.

I'm going to be touching on those. I haven't got time to go through them in detail today, but I'm going to reinforce where we are delivering capability to really create a much better scenario going forward for both those areas and for other domains within Telstra as well. It's where I would like to try and kick off the presentation today, really targeting what we have in terms of current capability and where we expect to be in three to five years in terms of the future capability.

It is important to understand that we are not waiting for three years. There's going to be multiple drops along the way starting from early in the new year. The three I've highlighted today, the first one covers a single view of our customer. And there would not be a T1 telco in the world at the moment who isn't targeting a single view of customer. There are really strong drivers as to why this is important.

The first one I'll touch on is from a marketing and sales perspective. Bill Stewart touched on this yesterday in terms of customer behaviour, purchasing patterns, segmentation. There is key data caught up in our systems. It's spread all over a multiple number of systems within the organisation. We need to consolidate from a logical perspective that data so it can be utilised. The other area to look at, a single view customer is a favourite probably of Greg's as well, from a CSR or a customer service rep perspective. We have customers service reps out there working on things such as the account management, fulfilment,

assurance, many areas that are touching the customer.

The scenario as put forward yesterday demonstrated just how difficult, especially from an assurance perspective, it is to satisfy a customer's demands when you've got multiple systems covering multiple products and therefore creating multiple interactions back into our customer base. The second point there is around customer self-service. Customer self-service takes many forms, web based and IVRs, voice recognition, even down to email. You know, what we are looking to do is to make that customer experience a lot more effective, a lot quicker and a lot more efficient from a Telstra perspective as well.

When I think about customer self-service, I think less about a portal on the web and I think more about the back office in automating in the back office. If you consider one of the scenarios put forward yesterday in terms of fulfilment, the sheer number of interactions that a customer has to have with Telstra in terms of product bundling, the sheer number of screens and systems that our CSRs have to work with to take an order, you can understand the frustration and the problems that we face both internally and with our customer base.

What we are looking to do is to significantly automate that process. This very much lines up with the moving into an IP world where the interaction of our customer base is going to increase dramatically over the next three to five years. We are going to be bringing new services to market very quickly and we need the capability to do that effectively. So, you will see that there's a big focus on making sure that we drive out that type of capability and underpinning that is a very strong network inventory plot. A very large backbone of the work we are doing especially down to that OSS level is about defining a much more concise, accurate view of our network imagery to allow that flow through to occur.

The final point down there is in relation to network fault management, yet again covering another one of the scenarios that Greg covered yesterday. Our network fault management really from my perspective covers three areas of capability, the first one being the pure physics of our network, how we are managing the physical network. We have an existing capability out there. It's a very difficult thing for our CSR sales to work with. When we have an issue, we tend to have multiple groups using multiple screens, using multiple systems to resolve an issue and sometimes they can be quite simple issues as well. It comes down to around alarm correlation, route calls analysis, we have a basic capability, we are going to increase that capability significantly.

The second one is around assuring services. In the IP world, we are going to be rolling out a lot of services using the same network and the same bit of cable. So the driver for us to actually understand how those services are performing on our network is a significant driver going forward. First and foremost is the customer experience. That is, the physics of the network may be fine, but what

is the experience of our customer in utilising these services? And therefore we have to understand the performance of applications at the back end of the network on the throughput. They become key drivers for us to actually work with our customers and understand the experience they are having at their end.

How do we get here? The two diagrams you see represented that obviously aren't readable but they tie back into I guess the top one in terms of mapping what is our current systems back to our current network products and our current products, and is able for us to actually look at the history of how these systems are rolled out and they are rolled out very much in alignment with the roll out of products. This means that we have got multiple systems across multiple products, and hence the issues we have in relation to the single view of customer and other items that I've covered.

The other item there is a large portfolio with high complexity, and the little spaghetti diagram you see in front of you is meant to represent complexity and that is complexity in terms of integration. When I talk IT, I talk heavily around integration. When you've got over 1,000 systems, integrating those systems is an extremely difficult task. Integrating those then back into the network, into our parked areas, into customer and sales areas becomes even more difficult.

Extensive custom coding and vendors. I guess the one point that is important to understand is that we are going to be going for commercial off the shelf products. We are going to be increasingly simplifying that environment for us going forward. We are going to stop customising code and we are going to improve the life cycle of our assets as they currently stand.

The final point there is the approach we have taken is very much a hole of customer view approach. It has not been a product or a network view of our technology, it has been very heavily driven by how we need to service our customer.

What are our key drivers? Velocity of change is a term that is used quite a bit in IT, but after you have heard the presentations before me, you will understand the level of change that we are currently going through and we are going to be going through over the next five years. The IT systems need to support that level of change. A great example of velocity of change is probably in terms of service delivery platforms. We have a large focus and a significant focus on how we are going to roll out service delivery platforms to enable quick and effective interactions with Telstra without getting into the detail of our network configuration.

A point raised and two points raised yesterday by Greg, we are going to reduce our 1200 odd BSS, OSS systems significantly over the next three to five years. This is not a wish list. This is something we are going to drive extremely hard.

It underpins the simplicity that we are going to bring into the environment and the capability we are going to drop as well. It's a significant driver going forward. The co-cost of ownership will be driven by that as well. We are going to be dropping the capability, we are going to be also removing cost. The architectural model that we are looking at is one around building a really strong fixed capability upfront, allowing the changes in the future to be more of a variable based change model allowing us to get to market and cost effectively as well.

Aligning with the presentations today is also a migration to the new IP, the new network generation that we are going to be closely working with over the next three to five years. In some sense we have to be leading that process. We need to make sure that as we roll out networks, we can assure them, we can activate them, we can build them. So we are going to be very much at the forefront of that roll out as well.

Finally, it wouldn't be an IT presentation without a transformation blueprint. This takes many shapes and forms and this is meant to be a representative of I guess the scope of the work we are looking at in terms of what we are trying to cover. The other focus of the picture is to really say that this is not being driven around products. This is not being driven around networks, that the focus of this is very much on terms of customer experience. We are covering all aspects of IT. We are covering the integration back into the network and we see it as being all encompassing. The major take away I would like to see is that the simplification is key for IT and the decommissioning path that we have got and we are focussing on is probably the number one key item for us. Thank you.

GREG WINN: Thanks, John. You know, I cannot emphasise enough that this whole IT situation, if it wasn't not being politically correct, I would say it is the root of all evil in the telco industry. But we are going to be absolutely ruthless in our pursuit of decommissioning systems, and the first software developer code writer that even attempts to modify a piece of software will be doing something else for a living, hopefully working for one of our competitors and screwing up their IT platforms.

You know, these things have a life of their own. I have watched it happen for many years and they are hard to take out. The good news and what John didn't go through in detail is we know every single one of those systems. We know how much is working on it, how many lines of code we have. We have a clear path as to how we are going to take them out and I am going to measure people on how we decommission. How are you going to measure us on this? We will read out regularly; we are going to be transparent. There's commercial agreements we are not going to divulge. We are not going to give you all the details of the plans, but we will read out frequently and regularly as to our progress on this transformation.

We have nothing to hide. This is exciting. I've got to tell you, if you are an engineer or an employee of Telstra, it's a very exciting time.

Job cuts are difficult, but I can tell you that most of the employees that I've talked to, they understand. When you work in a large cumbersome business and you see what is happening, intelligent people know what needs to be done and our employees know what needs to be done. I would tell you they are extremely excited. The men and women of Telstra are the finest and match up with anybody anywhere on the globe in this industry. They have not had the tools and they have not had the support to do what is necessary to do. Now, they have it.

Our board has approved it, we announced it, we are taking a beating over what we are doing. This will be a much stronger company going forward and we are going to be one heck of a competitor, and these people get the chance to do something that most people don't get to do in their lifetime, that is truly fundamentally change a business and have the impact on their country the way they will as they transform Telstra.

So, with that said, we are going to open it up for questions from our analysts and we will just direct them wherever. So just line up if you tell us who you are and what you are doing, I'll either answer questions or direct them out.

MIKE McDONALD: My question is about the - - -

GREG WINN: The mic isn't picking up his comments please.

MIKE McDONALD: (BBY). My question is about the transformation process as it affects customers. Yesterday, you talked about the migration for the closure of CDMA. It's not entirely clear to me to what extent a lot of the data products and the fixed network are also implicitly involving a migration or a close down, services like ISDN, Frame Relay, X25, the DDN family. As we heard, a lot of the products that are sold to customers today are sold on the - they are branded by the technology. So my question is, notwithstanding an IP core which largely exists today, to what extent are these edge technologies that are marketed specifically around legacy systems, to what extent are they going to disappear and what are the downstream implications for migration plans, customer disruption, the customer equipment that is located and purchased by the customer as well as the impacts on your own billing and IT systems?

GREG WINN: I'll take that one on. I can't answer all of your marketing questions but having been a former chief marketing officer I fully appreciate what you're implying. Number 1 is the edge devices that we are putting in and the company which - or the companies that we are dealing with that we have

not announced yet. In that space we will have the ability to continue to maintain our X.25, Frame Relay, ATM Technologies and migrated on to the IP core without impacting the customer in their environments. So that's part of the answer. So there will be time to migrate. 2 is that are marketing teams, and Dave Thodey spoke yesterday, they will be contacting all of our customers as we turn up these networks and giving them plenty of advance notice and hopefully this will be a great marketing opportunity - not hopefully, it will be - for Telstra to work with the customers and move them to next generation technology on a timeline and a migration path that works for them. It does not impact what we are doing to the network from our access all the way in.

We actually have looked at the technology to ensure that we can have an easy transition for our customers. That said, if you remember in yesterday's presentation and you looked at amount of growth in the IP platform and what is happening, particularly in the enterprise market space down through our medium sized businesses, the growth is exponential and our customers are planning and wanting to move to VIOP, wanting to move to higher speed data. We think it's going to be a relatively easy transition over the next several years as we build this out. Plenty of advance notice, account teams will be working with the customers and we will migrate them seamlessly. Next. Question.

RICHARD LONG: (Deutsche Bank) A question on the fibre to the node firstly. In relation to the fibre to the node network, you are looking to have ADSL2+ in the network going to two-thirds of homes in the relevant exchange areas. How long is it going to be before the decision is made or what sort of timeline can we expect before it's a decision to oh well, actually we should have put ADSL or VDSL rather in the network and go to 100 per cent of homes in the exchange areas. Is this network going to be depreciated over ten years or less, because what we have seen thus far is that the life cycle of these types of assets is exceedingly short; and the second question on the 3G network. In the regional areas, what were the economic issues that play that made you decide to go through 3G in the bush rather than put the existing CDMA network on the planned IP (indistinct) score?

GREG WINN: Okay. Let's see, first you're asking about - I don't have the answer off the top of my head on what the depreciation cycle is, but the infrastructure that we are putting in place with the fibre to the node architecture is we can upgrade the cards in those cabinets. In fact, in 1998 we were deploying VDSL and we were the first in the world to do that. I personally had it in my home and we were driving 22 meg over that. Last - we called it the last mile or last one and a half kilometres here, delivering 160 digital video channels so it's more of a software and a card plug upgrade. It's not anything to do with our fibre or our infrastructure. So the network that we are putting in place is upgradable. If those speeds become desirable or necessary and if there's a commercial reason to do so, we will be able to do so and it's an easy

forklift if you will and it's also very containable in terms of how you roll it out based on the market demand and what you want to do in that space.

So it's a clear strategy. It also goes beyond the fibre to the node. It gets to your backbone and how you are carrying all of this on the core and the speeds. We are putting in the infrastructure to carry the higher speeds as we go. I'm sorry, on the 3G piece of it - - -

RICHARD LONG: The economics of just migrating the existing CDMA network. It's got EVDO, it's pretty fast on to the IPM core rather than going and doing the forklift upgrade to - - -

GREG WINN: Actually, I think technically 3G is W - wideband CDMA underlying architecture but I showed some economics yesterday and those were actual numbers. The CAPEX costs per subscriber in CDMA is a little over four times the costs of the CAPEX, cost per subscriber in the GSM world and then on the minutes of use, so how much additional capital we are having to spend to maintain this network is three times what we spend on GSM. So the economics are very, very compelling, number 1. Number 2 when you look at it over the five year timeframe, the actual - without getting into specific costs, but the incremental costs we are basically redirecting our CAPEX spend and taking our OPEX cost down dramatically in terms of how we operate the networks.

The economics work very, very well. The HSDPA has when we turned this network up, we have more speed than EVDO has today. We have very carefully thought out this whole issue about the data migration when you get into the issues and our Ericsson, Hakan will probably speak to you afterwards, answer some questions about the spectral efficiency of what we are doing and what the long-term costs of ownership are. So I think you will get some good answers there. Thank you.

SACHIN GUPTA: (Morgan Stanley) Just a general question. How realistic are these timelines given your plans? They sound more extensive and aggressive to what BT and KPN has announced. I mean, what gives you the confidence that you will achieve this transformation in the next three to five years? And a question for Jim, just with the fibre to the node, you said it's two third fibre one third DSLAM. What is the rationale for that and what sort of speeds would you be looking to offer on copper over the next two to three years?

GREG WINN: I can answer parts of your question. Let's start with the transformation piece versus BT. What why do we have the confidence we can do it? Number 1, we have the commitment of our strategic partners. When we went through the evaluation of the people that we were looking at doing this with, one of the key items for me just wasn't the price if you will. It was the speed, it was who were they going to put on the team. We wanted what we call

the A team. We wanted world class people that had experience doing these kinds of roll outs and we wanted to make sure that the companies in this case, your question is around Alcatel, they have committed global resources all the way through their chairman. Serge has basically said to Sol and myself and Hilary and Mike Quigley have confirmed it, any resource we need anywhere on the planet, Telstra will have to get this done.

They have a lot of employees in the region and they are going to help us build this so we are very confident. In fact, I would say as strange as it may seem, they are aggressive timelines. They are very, very doable and there's incentives for our strategic partners and for the people leading internally to get it done even faster. I personally believe we are capable of getting it done faster. So that's the transformation piece.

Also, in comparison I would tell you with BT, they have a whole lot of other issues to do in how they are going to roll out their - I'm sure you've been to London and all that. It's a lot different environment than you have here so some of the cost structures are going to be different and the stuff they have to do to get it done. Now, the other part of your question was the distance issue, one third, two-thirds. Well, the one third is that given the density in these five cities, the one third is within the 1.5 kilometres already, so we don't have to put the node out. The DSLAM can reside in the exchange building if you will.

It reaches all of those customers that are within 1.5 already. The 20,000 nodes that we are going to deploy are for those customers that are beyond the 1.5 footprint where we have to push the fibre out, drop the DSLAM and then do the same kind of ranging. And what was your last part I'm sorry?

SACHIN GUPTA: What sort of speeds would you be looking at on offer on copper? Any changes to that?

GREG WINN: It is copper from the DSLAM to the home unless we do a fibre to the premise build and we are offering a minimum of 12 megabits. The structure is capable of delivering much higher speeds than that. But that's what we are going out with.

JUSTIN CAMERON: (Credit Suisse First Boston) I don't know if this is actually a question for Mike but I'm just trying to get an understanding of how the 3G network will work obviously in regional areas particularly surrounding handset issues. I suppose what I'm trying to understand at the moment is you are talking about running on an 850 megahertz spectrum and obviously you've got the agreement with Hutch which is running over I think 2.1 at the moment. Is there a dual mode handset out there at the moment that will provide that service or what is the dynamics behind that to play?

GREG WINN: I think Mike, he directed the question to you. Go ahead.

MIKE WRIGHT: Initially we will do an overlay of 850 and the 2.1 will continue to operate and multi-mode handsets and multi-frequency devices are coming next year. We don't actually need in the metropolitan areas at day one the 2.1, but it will actually form a complimentary network where the handsets will hand between the two frequency layers and we will use the 2.1 for capacity relief as well as our current ongoing 3G network sale.

JUSTIN CAMERON: Just in relation to the handsets, is there anywhere else in the world that's using the 850 spectrum for 3G and I suppose the reason why I highlight that is if Telstra is the only company globally rolling out on 850, then there's going to be scale issues in relation to pricing handsets and all that. What's the feedback on that I suppose?

MIKE WRIGHT: There's a substantial commitment by Singular in the US who are very substantial operator with over 50 million customers to roll out 850, and there's an excess of ten other operators in the world on the verge of looking at 850 3GSM as well, so there's quite a substantial number of operators looking to roll into that frequency van and as a consequence we will see the availability of handsets. Indeed, the underlying chips today are being built with all the frequency bands in them.

GREG WINN: I want to emphasise, Singular is the largest carrier in the US and one of the world's largest and they are already committed. It's not they're going to commit. They have committed and the manufacturers are already talking to us about handset capability. By the time we get this up, that will be a non-issue.

PATRICK RUSSEL: (Merrill Lynch) First of all, thank you very much for today, very insightful and also thank you for yesterday. Just a couple of things. One in terms of removing the pair gains, just trying to get a view as to how that's going to impact competing providers that take up unconditional local loops, whether it will have an impact on their business plan; and secondly, in relation to the new GSM network on the 850, I just want to be clear, is that different to the 900 spectrum you are currently using in the capital cities? You know, the 900, 1800, 2.1, and also just trying to get some confidence about the ability to fill all the gaps. I mean, there is a very large acreage which is covered by CDMA. You are looking to extend that by GGSM. I'm just wondering how you are going to manage the rest in terms of extending GSM into that footprint. How many more base stations will you need to build to populate that area and what kind of assurances can you get from your equipment supplier about offering an equivalent service because I certainly feel that Barnaby Joyce won't be too happy if people in the rural area are losing their CDMA coverage and they are not obviously being compensated with an equivalent service. I know it's

paramount for you guys but I know from a political point of view it could be a bit of a problem.

GREG WINN: I'll start with your first question on the impact on competitors taking out the pair gain. As network operators, these people up here are agnostic to the retail wholesale issue. The network has - a pair of wires doesn't know whether it's a retail customer or a wholesale customer and it's first come first serve, equal terms and equal conditions. We are adamant about that. Actually the competitors benefit from this because pair gain is a blocker for us. Therefore it is a blocker for them. And as we take the pair gain systems out, that enables broader coverage, more homes that are available to serve and whoever from a marketing standpoint I guess gets to those customers first and wins the hearts and minds of those customers will be the carrier running over that loop.

So it is a good deal for the competitors that we are doing this. They get the advantage once again to ride on our coat tails because I would also like to re-emphasize they can build any infrastructure want to any time they choose to do so and if you - I think you are from Merrill, Patrick, you can look at the financials of Singtel and they have the resources to build where they choose to, when they choose to do so.

Okay on the wireless side, on the coverage, I'm going to leave the spectrum issue to Mike. But we were very clear yesterday and our partners with Ericsson, we have the same or better coverage as CDMA. Our CDMA customers are going to have a better product. They are going to have better roaming capability internationally. They are going to have a clear migration path to the future in terms of Super 3 and 4 and they are going to be move all over Australia and have a seamless service experience and we have equal or better coverage. It's not an issue. It's a non-issue. Ericsson is as committed as we are on that and when we need to build additional towers, we will do so but that is more around existing gaps that we have today in either the GSM or the CDMA coverage that's provided today and we would have had them in our plans eventually anyway. Now, on the spectrum issues, Mike, will you take that.

MIKE WRIGHT: On the spectrum issue, we use 900 and 1800 megahertz for our GSM technology and we also have access to the 850 band where we run CDMA. 3G 850 will plug into that same spectrum band into spare spectrum in that area.

PATRICK RUSSEL: It is a different band to the 900?

MIKE WRIGHT: Yes, it is.

PATRICK RUSSEL: All right, thank you.

TIM SMEARLY: (CitiGroup) Good morning. I just wonder if you could explain to us, there's obviously some regulatory hurdles in relation to the fibre to the node roll out. Could you explain what the potential CAPEX savings are if you don't or aren't successful in terms of your regulatory requirements or concessions, and so that the CAPEX savings and what plan B is, is I guess my first question. The second question in terms of the new Telstra approach of keeping it simple, can you just explain to us in terms of the 3G network sharing in metro areas, obviously running on 2.1 with a network sharing partner, if the further roll out is going to be out on 850, does that mean in terms of network sharing with Hutch has effectively come to an end so they are stuck with the network that you have currently spent or built on 2.1?

GREG WINN: Let's see here. I'll start on the regulatory issue in that there is going to - I think you were informed - I think Stanhope made a comment yesterday that there will be a regulatory session. I believe it's going to be some time early next week, so we will hold that in abeyance and you will have the opportunity to ask all the regulatory questions you choose to do so at that regulatory breakout session. That will be attended by all our regulatory people including Kate McKenzie. As I said at the start, I do have something to do in that space. This is a technical conference on the engineering side and engineers, they are great people. They are fun, they don't have to live with regulators and they don't have to live with the politicians. They just go out and do their job every day and serve customers, so that's the fun part of their business.

Plan B, I think plan B was pretty clear. If the regulator chooses to try to reallocate our investors' capital, then we won't do it, plain and simple. It's no go on that piece of the network. I don't know how to be any more clear than that. What was the last part of your question? I think it was on wireless piece?

TIM SMEALLIE: Hutch, just in terms of Hutch, but just going back to that first issue, doesn't that mean that sort of 50 per cent of what we have talked about today, if it doesn't happen, there is effectively no plan B and you stick with the network as it is and all these new IT agreements and network supply agreements become irrelevant?

GREG WINN: No, I would say there is a plan B. I say it very clearly. The plan B is we don't deploy this technology and there's 4 million households that are not going to have access to it, because you've already heard the competitors' plan. They are selectively choosing where they want to go. They are not saying they are going to ubiquitously deploy across these five cities so plan B is no, we won't. The other part of plan B is that, you know, we will be even more aggressive in the wireless space because that's not regulated to the extent, and as you've seen we are going to push our partners at Ericsson if we get into that

space to have wireless solutions faster and pull up those time lines for Super 3 and 4 so that we get a return on invested capital.

The other part on the Hutch agreement, that's a commercial agreement. We are in good standing with Hutch on that partnership. That partnership remains in place. We have had discussions with Hutch which are commercial in nature. So I won't divulge them and we are doing just fine on the Hutch relationship. No impact.

TIM SMEALLIE: In terms of the build though, if their network is reliant on using 2.1 gig and all your future build is going to be based on 850, does that mean they are now, in terms of the network sharing agreement they decide to go down the 850 path, they're effectively stuck with the same network footprint as they have today and that will be the extent of the network sharing agreement?

GREG WINN: I can't tell you what Hutch's plans will be, that's up to Hutch what they decide to do with their footprint, what they do with spectrum and how they approach the marketplace. The agreement that Telstra has with Hutch is alive and well, will be honoured and is a commercial agreement. I can't be any more succinct or plain than that. There's no impact on it.

TIM SMEALLIE: Thanks.

TIM SMART: (Macquarie) I just wanted to follow up I guess without wanting to bog down too much in regulatory stuff, but in terms of the comment that if there is access required or you have to give up access to that fibre to the node network, then you wouldn't - you probably wouldn't build it. My questions is if you are going to roll out 20,000 nodes, is it even feasible, notwithstanding the regulator's decision on access to that network, is it feasible that competitors would actually be able to co-locate in those cabinets or nodes in any event? I mean is it feasible that some of these competitors, say Singtel can roll out DSLAMs for 20,000 nodes?

GREG WINN: Is it feasible? They have already announced that they are rolling out fibre and nodes I think in their announcement or equipping X amount of exchanges. They have the same capability that we do. They can buy the equipment on the market from the suppliers, hopefully not the same way that we can, you know, but they do have scale in other parts of the world and they have the opportunity to do that. There is nothing that prevents them from deploying a DSLAM. They have already publicly announced and are deploying DSLAMs in the exchanges. To the earlier question, one third of our customer base will be served by exchange based DSLAMs. It's just up to them as to whether they want to go to the next layer, nothing stops the.

TIM SMART: That's my question. Two-thirds of what you put up there was to

say that two-thirds of the customers will be served by these remote nodes and street cabinets. I guess my question is, do you anticipate that if they wanted to and that's - they are only committed to go to a couple of hundred exchanges which have a lot of room in them, as far as I understand, these street cabinets where nodes are going to be sitting are going to be fairly small. My question is, is there sufficient space likely to be in those cabinets for them to co-locate?

GREG WINN: We are not building the network for Optus, Singtel or any other competitor. We are building the network for Telstra's use with Telstra's customers. Like I said again, maybe one of these things we need to do, if you haven't seen one of the cabinets one of our engineering people will arrange or maybe Alcatel can arrange and they are seated right in front of you there, for you to see what they look like. You know, you can generally put one of them on the back end of what we call a pick-up truck, I'm not sure what they are called here, and you can drop it on a sidewalk or a small patch of ground and hook it up and have added from a marketing standpoint. It's not a difficult task. What makes this difficult is the scale of it, how much we are going to do and how fast we are going to do it. But anybody is capable of deploying DSLAMs. There's nothing that prevents them. Next question.

RICHARD EARY: (ABN) Just a couple of questions, just to follow on from Tim is that you've talked a lot about sort of collapsing networks. Can you give us a feel for as a result of going through the process in terms of physical asset sales that may come up, would the regulatory environment preclude you from actually closing down local exchanges as a result of things like legacy issues or operator of last resort, and just if you can just talk about that to see whether we can get a feel whether there is an impact there from ash itself is the term, is it material, is it immaterial, and how quickly that may arise.

The second question was that you talked a lot today in terms of obviously service capabilities from the new networks. I think there was a point made that 55 per cent from the home network is outsourced in terms of obviously getting everything together from a home networking point of view. I mean, if that's the case, how much additional costs to serve need to be employed by Telstra to make sure that they actually capture those revenue opportunities, and is that something that you can give us a tangible number on because I notice that from offshore a lot of the carriers will say that actually a lot of the costs savings they are extracting from the network will be actually put back in to driving revenue opportunities from things like securing home networking agreements by outsourcing. I'm just trying to get a feel for in terms of what costs may come back in to obviously drive those revenues.

GREG WINN: Okay. On the first part regarding decommissioning of the parts of the PSTN, whether it's a next class 5 exchange switch etc. We are going to have like-for-like services and I think Jamie was pretty clear on that that we are

just going to run it over a lower cost infrastructure so there shouldn't be any regulatory issue whatsoever because we are providing like services to what we provide today as far as from an end user viewpoint. If they choose to maintain the same types of services they have with Telstra, or if it's resold through one of the wholesale agreements, it will be the same type of service, we are just going to run it on a lower cost infrastructure. So, there shouldn't be any regulatory issues in that space.

Regarding the home networking devices, that is still work that's underway. We are building all of the core network infrastructure that will enable what you saw. The development of individual applications and services, it's my expectation that you will see that development come from partners, vendors, suppliers and entrepreneurs who, at the edge on these feature servers in a next generation network will be highly incented to develop new products and services because they will have an opportunity to participate either through royalty fees or some sort of revenue sharing agreement in the success of their products and services. So the innovation will come faster to the market.

If you are referring to the gateway device, that is not in the economics that we presented to you because we really view that the cost of the gateways will come down on like Moore's law. They are coming down pretty fast. If you just watch what has happened over the last few years, when you bought your first routers or your first modems and what they cost to what they are today, the home gateway devices will do the same because all the margins and the profit is going to be in the capabilities of the services themselves that we have out there. We look at it in terms of the actual devices themselves. We are not going to equip every home, there will be a take-up rates. It will probably follow somewhat the mobile model that you buy a handset and choose a carrier, that kind of situation even though we are in trial and working with two or three different partners on diversions of the home gateway. I'll leave it at that.

RICHARD EARY: Just to follow up on that is that you talked about partnerships in terms of home gateway. Does that preclude you from actually maybe doing small bolt-on acquisitions to try and obviously try and cement yourself within that space to obviously capture the margin rather than to outsource as you have done with the likes within the sort of like enterprise markets?

GREG WINN: Well, we will always look at any opportunity that comes along if it makes sense for our share owners, but in general I'm not particularly interested in doing that because at the end of the day, this is going to be a game about scale globally. And it's going to be about the application, services, the integration that we provide our customers, that will create this stickiness. The devices themselves will change and there's going to be different people that are capable of doing that. I try to avoid and I would probably be one of the voices

that would say no at the senior table to any kind of an acquisition that got into any kind of manufacturing space. You know, we are a service provider, an applications provider, and we are going to drive - and there's world class people out there that are capable. I mean, look at Cisco, Alcatel and the others. When they want to make an acquisition they have the pockets to do so and Telstra doesn't need to get out there and start banging heads with them trying to do that.

I think that's it from a question standpoint for the analysts and, Andrew, do you want to (inaudible).

DAN WARNE: (APC Magazine) You've made it very clear that the network has been built for Telstra's customers, for Telstra's use, and that your investment is for that purpose but the copper network was built before all this new investment. If a competitor like Optus does choose to put nodes out and locates them near your cabinets, what will be the situation be with access to copper lines into customers' homes?

GREG WINN: If Optus chooses to put their cabinets out there, they will have access to that copper loop. That's pretty clear from a regulatory standpoint, we understand that. They will always have access to the last 1.54 copper kilometres or last mile in the US. That's clear, that's the regulatory bottleneck. They have access to it and it's no big deal for them to cross connect from the node into that local distribution copper network. So we are not - I'm going to be real clear, we are not doing anything that will deny any competitor access to that last portion of the copper.

JENNIFER HEWITT: (Financial Review) Given the many benefits you have talked about of upgrading the whole network, the threat to not do some of that and the fibre to the node investment, if the regulatory framework isn't right, isn't it a case of cutting off your nose to spite your face and that will actually have a big impact on Telstra's future going forward?

GREG WINN: Well, that's an interesting viewpoint. But the fact of the matter is if it was your capital, so, Jennifer, if we were to open your purse and say, "You are going to make the investment", you would expect to get a return on your investment given the alternatives that you have. We are not going to put something out there that the regulator is going to force us to sell at less than cost and in fact our shareholders. We have a fiduciary responsibility to our shareholders, to all of them to do what is in the best interests of this business and throwing money away is not in the best interests of any share owner, to do that. So it's not cutting off our nose as you put it, it's making prudent financial decisions in the best interests of Telstra's share owners.

I also said earlier to one of the analysts' questions was that, you know, we do

have other plans. If it becomes necessary, we would push on our wireless partners to move faster towards Super 3 and 4 to have wireless alternatives where our invested capital, shareholders' capital gets a reasonable return in the marketplace. But, no, we are not going to be forced, nor will we willingly spend shareowner money where we shouldn't. Next question.

MIKE JONES: (The Financial Review). Two years ago Telstra's then says CIO at the time detailed a transformation project that would talk about reducing the number of vendors and suppliers internal, in Telstra's internal IT systems. It seems that, you know, now we are hearing the same sort of bold new transformation project, and isn't this simply a case of the same initiative but being two years later than expected?

GREG WINN: I can't speak to what happened two years ago, I hope you can appreciate that, I wasn't here. I really wasn't interested in it. But I can tell you what is different is that we have taken our board every step of the way since we arrived here in July and I actually started in this job I think it was 11 August, on a very detailed journey as to what needs to be done. Yes, there had been work done in the past that had looked at doing things like this. The difference is in my estimation, so I can't put it in a historical context for you, is that our board clearly understands what these initiatives are about. There has been full transparency. There has been full-buy in. They have had the opportunity to question multiple times particularly over the last week or so as we started to narrow in on are we going to do this or not and what the cost of it would be and what the financial implications would be, and the board has fully funded and fully authorised the spend to do this. So we have launched. We signed the MOUs which will lead to the ultimate contracts. Yesterday morning I want to say in the 7 to 7.30 timeframe we had a board call yesterday morning. The board voted on the resolutions including this transformation and IT space.

So it's fully vetted; it's fully funded. We have selected who we are going to do it with. In this case the piece you are talking about that has been awarded and there's other pieces yet to be awarded, I want to be clear on that, is the Sebel/Keenan/Accenture team and they are already underway. Throughout the night last night, we worked on making sure they had access to the information and we pulled the trigger yesterday as soon as things were official and the work is underway and they have been working all afternoon through the night and today as well and we are launched. It's happening.

MIKE JONES: Two more questions, one, will Telstra be outsourcing any more of its key internal IT systems, and then secondly, on the 3G system, 3G is limited by its ability to send data upstream as well as downstream in a synchronous mode which is important for many future applications that are coming out. How will you address that going forward, and secondly what will you do to address the fact that Telstra doesn't have access to the spectrum for Wi-Max

which is considered to be a successor to 3G?

GREG WINN: Okay. I was listening carefully to your 3G, what was your first question? Then I'll let the - - -

MIKE JONES: Does Telstra plan to outsource any more of its key internal systems?

GREG WINN: You know, we will make the appropriate decisions as we come to that, but in general, we are not - when you say outsource, we have a substantial portion of IT that has been outsourced over the years. I happen to think that there will be portions that remain outsourced but we will have more of an inclination where we need to have intellectual property that's key to running the business, to have it closer to the business or inside the business versus outside. So you will see that kind of movement. All the issues about up-speed, uplink, downlink and all that, I think what we will do on that one, rather than answer it right now is Hakan is sitting in the front row right here and he's the world's expert and we'll let him answer it even though our guys could, so we'll try to get to some other questions, so just grab him and he will be happy to answer your question. Next question.

HOWARD DART: (Computer World) Just two questions to you, John, this is about the systems. Does open source software have a major play in this new architecture of yours? For example, a pros gross database, why and why not? And secondly, what makes off the shelf applications so good? Just yesterday I was hearing some IT director's horror story about a Sebel CRM implementation. So can you just elaborate on why that's going to make it a lot better for you.

JOHN McINERNEY: Open source. I mean if you go into the architectural design of what we are looking at from an IT perspective, opus or architecture, object orientated, service oriented, Parle, J2EE, there's lots of different aspects of the architecture that we are currently looking at. We look at even our involvement currently with TMF, our next trend in OSS strategies that we are working on as well. There's lots of various components of our architecture that will be continuously revisited and revised as this program rolls out, and there's no simple answer ever to an IT perspective in terms of the overall architecture plot from the standards perspective.

However, you will notice, and as an example, a head of architecture was presenting to team this week in terms of our plot from that perspective. So I believe we have got a very strong approach to how we are going to handle it and we are making that approach fairly public as we go forward as well. Second question, you will just have to remind me.

HOWARD DART: You were praising the virtues of off the shelf systems but not

all of them are great and ...

JOHN McINERNEY: The approach we are taking around commercial off the shelf products is one primarily around simplification. That is in the past, we have customised a lot of these products as they have come in the door. We have also built a lot from legacy up. Our view in terms of the commercial off the shelf products, especially those that are best in league around the world is that when we talk about CRM, we talk about billing - these are tried and tested systems. We are not going in there for the first time. We intend to adapt our process to meet those systems rather than the other way around. The recent roll outs of those commercial off the shelf products within Telstra have been very successful.

GREG WINN: I would add to that that when you look at the history of this industry and you are in a unique position to do that research, where you get in trouble on systems is when you modify them. Because you are always moving to the next software release, the next upgrade and when you've customised the software, you have just added tonnes of cost in and Telstra has done that to themselves in spades across the entire infrastructure. That's why we have got the problem we do from a cost standpoint. We can't upgrade. That's why you have the problems, and as far as the Sebel implementation or somebody may have been lamenting one of them, we have done many Sebel implementations in the past as well as Amdox and others, and any implementation can have its problems; it's what the outcome is when you get there and we are going to deal with best in breed world class suppliers and we are going to stick to our knitting and let them stick to theirs.

MICHAEL SAINSBURY: (The Australian). I may have missed something yesterday but the 11 billion or so you are going to spend on this, can you give us a rough breakdown? I think Alcatel said they are a 3.5 of it, you talked about a billion or so on IT, what bits of - how big are the other contracts you have given out, particularly the mobile and the core and how much is left to give out? And the other question is just outside those 4 million homes that you are putting fibre to the node and sort of super DSLAMs to, what happens to the rest - what happens to the rest of Australia and why have you left them out?

GREG WINN: Okay, you want to know. Michael should I pound my fist first?

MICHAEL SAINSBURY: I don't know; it depends if you like the question or not.

GREG WINN: So, first question on the breakout, we are not going to give you the exact numbers but I will give you kind of a hierarchical break out and these numbers can move a couple of hundred million dollars either way, but in general, the Alcatel contract is in excess of \$3.5 billion, I think that's fair to say. The Ericsson contract is well north of \$1 billion plus. The Cisco contract is well

north of \$1 billion, the Accenture/Sebel/Keenan one is much less than that but it's one third of the overall structure. We are going to spend in excess of \$1.5 billion on the IT transformation, and then I'm not going to reveal the other parts of the network because we are in commercial negotiation and I don't want to lose any leverage, and obviously we have a lot of suppliers that are fighting for the right to be one of Telstra's preferred suppliers. So I think that's the best I can do on the first part of your question.

The second part about outside of the five metropolitan areas that we have targeted, I think your question was what happens to the rest of Australia. We will continue to serve them to the best of our ability and our commercial outcomes would dictate that we do further deployment. We will consider that at the time, but for the time being, it is what we announced yesterday. Last question.

STUART KENNEDY: (The Australian), Just one quick question Greg. You indicated this morning that you actually moved faster on this transformation process than has been said before. I was wondering if you could really put the pedal to the metal, how quickly could you get the IT transformation done and how quickly could you get the 3G wireless done?

GREG WINN: Well, you know, it's a series of trade-offs. It's actually a great question. It's one that I have struggled with is how hard should we push this. I would say internally there has been a lot of debate. There are people even sitting up on the stage that feel that we are pressing them pretty hard. I think there is room as you called it, put the pedal to the metal to do it even faster. Our suppliers, strategic partners are pretty well stretched on it. They have committed to what we have shared with you. We will deliver on what we shared but I'm also incenting everybody to build it faster.

The trade off is with speed, and when you think of the spaghetti bowl as it has been referred to, and you saw the complexity of this network and the complexity of the IT, is that when you start to unwind it or untie the gaudion knot or however you want to refer to it, there are going to be things that go don't go well. I'm become perfectly blunt. It's going to be about how fast can we recover, how can we minimise impact to customers and that's where why I keep talking about speed. I want to get to the other side of this mess as fast as possible. But there is reasonable and prudent speed and I would tell you we are in a relatively comfortable zone on being reasonable and prudent. On the 3G, how fast can we do it? We can do it faster than what we are talking about. It's not an issue about how fast do we get it built.

It's an issue of from my perspective how are we going the migration of our CDMA customers? You know, and do it in such a fashion that they always have better capability than they have today and we move them at a reasonable pace

and then decommission the network. So the speed aspect on the wireless side is more of a function of transitioning customers and giving plenty of adequate notice, working obviously with the government on what the licence conditions and the various issues that we have there that we will work through with them, but we are comfortable that they will be very comfortable with where we are headed because the customers, our customers, the rural citizens will have better services than they have today and a clear road map of the future - to the future so that they are not left behind as in other types of deployments.

So that's basically where we are at. One other aspect of the wireless is we are putting it on IP core. You know, so the back haul of all the wireless will take a while to get built, more so than the wireless infrastructure itself.

STUART KENNEDY: Just the case with the IT transformation, what is the earliest you could get that done?

GREG WINN: The IT transformation?

STUART KENNEDY: Yes?

GREG WINN: We have got it on a three to five year timeline. I guess best case, best effort, no headaches, and we will have headaches, you could probably do it at the closer end of that range.

STUART KENNEDY: Three years?

GREG WINN: Yes, that would be absolute best. I think we will probably be in the four year range, particularly three years I think you saw yesterday we have decommissioned a substantial portion of our systems, so I look at the transformation two ways. What is the junk we are getting out or the clutter we are getting out and that we are going to move very fast on because that will take our existing unit costs down rapidly, and the second part of it is the enablement of the next generation services and architectures.

That concludes the questions. Our guests and our strategic partners are available from both Alcatel and Ericsson. The guys will hang out for a little bit but not long, so you better grab them. I've got a plane to catch so I'm going to leave. Thank you for yesterday and thank you for today and thank you for your questions.

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