

REPORT OF PROCEEDINGS BEFORE

**STANDING COMMITTEE ON BROADBAND IN RURAL AND REGIONAL
COMMUNITIES**

**INQUIRY INTO TRANSFORMING LIFE OUTSIDE CITIES: THE POTENTIAL OF
BROADBAND SERVICES**

and

**ARE YOU CONNECTED?: TELECOMMUNICATIONS AVAILABLE IN RURAL
AND REGIONAL COMMUNITIES**

At Sydney on Friday 23 April 2010

The Committee met at 9.45 a.m.

PRESENT

Ms S. K. Hornery (Chair)
Mr G. F. Martin (Deputy Chair)
Mr D. R. Harris
Mr G. K. Provest

GARRY BEVAN STYLES, General Manager, Orange City Council, 87 Sampson Street, Orange, sworn and examined:

JENNIFER ANNE BENNETT, Lithgow City Council, Post Office Box 19, Lithgow, affirmed and examined:

CHAIR: I welcome representatives from the Central Region Organisation of Councils [CENTROC]. Thank you for appearing today. I understand you both met with the Committee when it visited Orange in 2007 and that you have made several submissions. Thank you for your keen interest. I am advised that you have been issued with a copy of the Committee's terms of reference and also a copy of the Legislative Assembly's standing orders that relate to the examination of witnesses. Is that correct.

Mr STYLES: Yes.

Ms BENNETT: Yes.

CHAIR: In what capacity do you appear before the Committee?

Mr STYLES: I am the General Manager of Orange City council. Orange is a member of CENTROC, and I am the sponsoring general manager for the telecommunications project.

Ms BENNETT: I am appearing as the Executive Officer of seven New South Wales councils.

CHAIR: I draw your attention to the fact that your evidence is given under parliamentary privilege and you are generally protected from legal or administrative actions that might otherwise result in relation to the information you provide. I point out also that any deliberate misleading of the Committee may constitute a contempt of Parliament and an offence under the Parliamentary Evidence Act 1901. Would you like to make a brief opening statement before we proceed with questions about what you would like to achieve?

Mr STYLES: Yes, we would. I will probably cover some of the generalities of the CENTROC view on telecommunications and Ms Jennifer Bennett will provide some case study information. Essentially, CENTROC has been very alive to the comparative disadvantage that our area undergoes with non-metro comparable telecommunications. When the Howard Government was in power, it came up with a nationwide proposal, which is where we got closely involved. We actually went to the trouble of doing an audit of all the telecommunications in our region across 17 councils. We are in strong command of that information on what might be the gap and what might be a very straightforward way of significantly lifting the telecommunications services in our areas.

For example, in the city of Orange, which is a small geographic area, but a fairly substantial regional city, there are 4,800 homes that do not have fast broadband. If Orange has the best of it, you can imagine what happens for the towns and villages. The reason that Orange has 4,800 homes without fast broadband is because of the gridlock that has been developed over the years with the uncertainty over the future of telecommunications. We have 99 per cent of our exchanges fibre-enabled. If they were enabled, we could get well above 90 per cent fast broadband in Orange. However, until there is some sort of reconciliation at the Federal level with the NBN and the main carrier in our areas which is Telstra, we do not get that. That is an enormous impact on business and lifestyle in our community.

CENTROC decided to get involved so that we could put forward a case on why there should be fast broadband in our area and why it should be early roll-out days in the NBN. As I mentioned, there is enormous comparative disadvantage. If you look at the more current growth projections, we are very well placed, not far from Sydney, to assist with some of the demands that will be placed in future. But if you are a person with a family looking to relocate to a tree change, if you like, one of the key factors will be, amongst other things, telecommunications education.

Also, there is a very good case for broadband in our area. We have lots of very stable, very established businesses. We have large mines, a large agricultural sector. Orange and Bathurst are university towns. There is lots of government presence in our regional cities. We can present high tele-density in the regional cities and a balanced case of safety net opportunities across the rest of our region. Thinking of business, education and medicine, Orange has a major development of a hospital at the minute, which will be the largest campus outside the metropolitan area in the State. Between Bathurst, and us we are the regional centres for a very large area of

New South Wales, with great capacity and proximity to Sydney to take on growth. With that, I will finish up and pass over to some of the real hard information of case studies.

Ms BENNETT: Last time we spoke, the Committee was very interested in hearing about actual case studies on the ground. The pitch we are doing at the moment, with you and with the Federal Government, is that the area is not only broadband ready in terms of the amount of backbone and capacity we have, but also we are slathering at the bit to get broadband. We hear frequently that there are so many people, and we did SurveyMonkey to get some feedback across the region around broadband. We got a good response from people. Based on that we have started to put together some of this case study material that you will see in the document that I handed around. We have divided it up into a series of sections; for example, e-transport with the Parkes hub, especially if we get the rail going through the centre of the country that will be very important to our situation.

Mr GERARD MARTIN: Is that the Melbourne to Brisbane line?

Ms BENNETT: That is correct. With e-tourism, we have been working quite closely with the Central New South Wales Tourism Board, which provided information. It is doing a lot of education at the moment around web development and that type of thing. I put in one case study that shows the enormous result following the web-based campaign from a group called Amazing Escapes. Basically, we are trying to give the Committee the impression that the whole region is working together and very positively around this. We are keen to get broadband happening. I could tell some negative stories, that is the terrible things, but I have pulled them out of that particular submission—some of the terrible things that people have had as a result of not having broadband. They cannot sell their cattle off because they have broadband failure. Those stories are pretty consistent out there at the moment.

Instead we put in a story about Norm Mann, a former mayor of Bathurst, and how, now that he has finally worked it out—and I should say it has taken him two years—he now has a six-foot pole on the front of his house and he gets fantastic broadband. It makes an enormous difference to his business and life. It does not matter who, but it is also ubiquitous; and that is the impression we want to give to the Committee. The whole way across central New South Wales, I can talk to all my members of the board, or to Garry Styles, or I can look in my own backyard. I am married to a doctor. I can look at how that affects the lack of broadband, and the opportunities it makes. There are plenty of really good stories. On a personal note, my medical practitioner husband is able to check the latest medical information, so when he talks to a specialist about a patient he is well armed and understands. That is a really powerful thing for medical people in the bush. The better the broadband we have, the better the level of service we can provide.

Mr STYLES: I will talk about what we see as the State's role with the new Federal program for NBN. The State Government owns quite a bit of fibre across the State and it is also the government in charge of the electricity providers. There is a role for the State in terms of negotiating inclusion of that broadband within the NBN. We also believe there is a role for the electricity authorities. If they enabled all the exchanges in Orange, everyone within 1.5 kilometres would have fast broadband. However, the NBN involves rolling it out to the premises. The electricity authority has a lot of experience in cabling, overhead and so on. We could probably seamlessly pull together something that works much more effectively if we could engage the electricity authorities. Of course, where there is no overhead cabling, it would have to be buried.

It could be a fairly fast rollout if we could get everyone working to get that cabling done. We also believe there is a role with regard to the planning provisions. When cable TV was rolled out in Sydney a few years ago there was lots of grizzling about cables. If we look at the social and economic benefit of the NBN, we might need some sort of SEPP, or something like that, to facilitate the rollout in our areas. We think there is a role there. Of course, there is a clear role for the State in engaging the Federal Government on what they want and what they think should happen. I am not sure of the State's plans for its continuing involvement in having fibre and telecommunications. However, if there is a future budget to roll it out here or there, it is obvious that to avoid overbuild we should be working in with the NBN company at a federal level.

Mr GEOFF PROVEST: With the exchanges being enabled, is it a commercial decision by Telstra not to turn them on or to activate them?

Mr STYLES: The trouble for Telstra is that the minute it turns it on it has to sell access to the other companies. That is the reason for the gridlock.

Mr GEOFF PROVEST: You mentioned planning laws. One of the issues we are looking at is inserting in the planning laws that any future residential or commercial areas are capable. I think the current requirement is copper.

Mr STYLES: We put that forward to the Federal Government in our earlier submissions going right back to the Howard Government. We have also raised it in previous submissions to the State Government. At one stage we volunteered to assist with a policy that councils could use to ensure that the bare minimum nowadays is fast broadband, even if it is just the pipes under the ground for the cabling to go in.

Mr GEOFF PROVEST: One of the Committee's concerns about that policy is that it may involve a certain provider and if you live in that area you have to use that provider. Have you taken that on board?

Mr STYLES: That is complex. If it comes to the NBN, it will be a wholesaler, which will solve that problem. If you could cut forward to the delivery of the NBN by the Federal Government, it is a wholesale network. We are hoping that Telstra, the Federal Government and some of the other carriers will be able to negotiate a deal where they all fit in and the NBN is the prime network. It is obvious to us that Telstra could offer an assets record in the NBN and then there would not be a heap of overbuild. If that happens, it is a wholesale company that holds it and that would provide access rules for all the different carriers.

Mr GEOFF PROVEST: We have had success in rolling out community towers. The Department of Commerce and the community get involved. In your area of CENTROC there will be some little areas that whatever way you look at it there are no economies.

Mr STYLES: There is a percentage of our people who will only ever get satellite and a percentage who might get wireless for a while. We have seen some wireless rollouts, and that is fine. Our suggestion would be that as the State continues with those wireless installations that it does not get at cross purposes with the NBN. If there is to be a huge delay, and it is going to be five years down the track, you might look at an interim installation. Some of that has been quite successful. We have had some wireless in Orange with mixed success. We have rural residential subdivisions just outside the city. There is still a role, but that is why we are suggesting that the State engage with the Federal Government so that it does not end up duplicating or overbuilding. Some of the small villages with a population of fewer than 1,000—

Ms BENNETT: It was fewer than 20. However, from what I can understand about the NBN, it is up to 60 kilometres from an exchange. The distances between all the exchanges in central New South Wales is less than 100 kilometres. At the end of the day it depends on the technology and how much they are prepared to invest. Obviously we are keen for a solid investment in the region. We would like to see all of our exchanges able to run fibre out to the premise. However, that will not be financially viable with some of the smaller ones.

Mr GERARD MARTIN: You spoke about fast broadband. What do you see as acceptable?

Mr STYLES: We have pitched it at the international case. If you look at the United Kingdom and Singapore and places like that they have very large rollout programs. It is not happening now but they are talking of speeds up to 1,000 in the longer term. If we are going to be part of this sort of global set-up our people need to be competitive. It needs to be scaleable; it is never going to be that to start with.

Mr GERARD MARTIN: A hundred would be great.

Mr STYLES: A hundred would be fantastic at the start. They started with Next G on 12 and they are talking about it going to 24 or 44, I cannot remember which, but 100 would be fantastic if we could get it to start with. The important thing is it needs to be scaleable so that you can keep up with international trends.

Mr GERARD MARTIN: In relation to the scheme we have got through the Office of Rural Affairs getting broadband capability to smaller places such as Hill End, which is a village in my area—we have funding to do that—are you suggesting that that would be at odds with what the national broadband is going to do?

Mr STYLES: I do not know why, if the Feds are going to build it—I remember the press release about that; it was about \$11 million or something—

Mr GERARD MARTIN: That is in the total fund, yes.

Mr STYLES: I do not know why you would spend that money without checking with the Feds whether they are going to do it soon anyway. If I put myself in the State's shoes I could save \$11 million if the Feds are going to do it. It is only if the timing is so long that those people are going to wither on the vine and you have a compassionate case, so you get in and do it early. Perhaps you could go to the Feds and ask them whether they would do a joint venture on a particular bit. I do not see why there could not be that cooperation.

Mr GERARD MARTIN: That is something we can take on board. As I said, we have 11 around the State that are being funded and work is being done now on the basis that it will be a while, if ever, before they get fixed up through the NBN.

Mr STYLES: In our experience with Telstra—I know you guys are not wedded to one or the other but Telstra is the predominant carrier in our area—you could possibly pull on a joint venture with them or another carrier.

Mr GERARD MARTIN: We have been there and tried that!

Mr STYLES: Fair enough.

Mr GERARD MARTIN: In relation to what is happening in the central west, looking at the new hospital at Orange and the sheer size of it and what is happening with tele-medicine and the need for that, it will be catered for by the network that we have run out. Is it your understanding that Orange, with that sort of development, will reach capacity any time soon?

Mr STYLES: There are some localised limitations in different parts of Orange. There is a case study about Cadia in our industrial area in Leewood Park doing a remote operation with diggers at Telfer in Western Australia and looking to do it at their other installations in Indonesia. That eats up a great amount of capacity so that there is not capacity elsewhere. I am not aware of what the specifics of the hospital are but the issue of telecommunications and medicine in a spoke and hub arrangement with Orange and Bathurst serving an area of about 250,000 in the central west and far west is enormous. Jenny talked about mentoring for junior doctors out west so that they are able to have live information from a specialist in Orange. The potential is enormous. It is not just in Orange, it is the outreach elsewhere.

Mr GERARD MARTIN: We will have witnesses from Royal Prince Alfred and NSW Health today talking about what they are doing with the pilot schemes on tele-medicine.

Mr STYLES: There is a fantastic case study with the Cancer Care Centre of Excellence.

Mr GERARD MARTIN: The real issue is being able to have the capacity to send diagnostic X-rays down the line. You need plenty of capacity to do that.

Ms BENNETT: Absolutely. Doctors living in central New South Wales have to keep their registration levels up and that involves doing a lot of work online. You have to have a level of broadband to do your education online. On a good day it is good and on a bad day you are on dial-up speeds, and it does not work.

Mr GERARD MARTIN: Do emergency services in your area have problems familiar to everywhere else? Where do you see them fitting into the overall NBN?

Mr STYLES: I see it as a very powerful tool for them. Look at some of the fires around Orange in recent times and the fact that while there was a disconnect with the broad system of emergency services our boys could locally update their website to tell everyone what was going on. The radio could access that. If they needed to access it by wireless they could, as well as by ordinary phone communication and things like that. The recent strategy to make the ABC everyone's emergency network so they would listen to that to find out if the roads were closed and that sort of thing worked very well in concert with that. There is a bit of a disconnect with the emergency staff in the field being able to update their website when there is an emergency and it being more up to date and different from the main website where lots of other people are going. That can be tidied up over time.

Mr GERARD MARTIN: Is the issue with Telstra not switching on the exchanges resolvable through the NBN process? Telstra has missed the boat with that, have it not?

Mr STYLES: I do not think they have. When the tenders or the expressions of interest went in they never rolled anywhere. There were lots of tenders but I think the Federal Government came to the realisation that there is going to be a great amount of overbuild unless they can get everyone into the tent. We are still hopeful that negotiation will occur because in my view it would be a sin to build all this extra infrastructure and have two lots, because we will not be getting as much bang for our buck out of that. It is a multi-billion dollar scheme. The obvious thing is that the carriers, whoever they may be, have an opportunity to get equity for assets, and to have a wholesale network that is the bulk of it.

Mr GERARD MARTIN: Putting on your general manager's hat, in attracting business to a city like Orange you tick off the criteria and the things you have got, but would broadband communication be a disincentive at the moment?

Mr STYLES: It could be substantially better. It is vastly different from metro comparable and if we are trying to present Orange as a place for business to come to it makes life very difficult. It is important as a locational preference factor for people wanting to move there because it affects lifestyle, education and the performance of our medical sector. Charles Sturt University, which does a lot of teaching from outreach, such as in Dubbo, has an enormous need for high-scale broadband as does, say, Canobolas High School. It is becoming bigger and bigger as the Internet, broadband and telecommunications become more powerful. We would view it as one of the major locational preference factors.

Mr GERARD MARTIN: I know you have been very effective over the years in lobbying and preparing documentation. Do you feel you are getting a positive response from the doors you knock on?

Mr STYLES: The reason we have shimmied across to being really optimistic about this is because the Feds are telling us they are engaged with us and they are saying, "Go for the positive stuff. Lobby on that." That is where we are heading. We got a really good reception back in the days—I cannot remember the name of the program when it was the OPEL thing—but we were not happy with the solution because the wireless technology would eventually clag up and was not internationally competitive. We were very happy when the Federal Government went to fibre to the premises. We have been engaged with the Federal agency ever since then. I have personally had two or three sessions with Senator Conroy. Unfortunately for him, but perhaps fortunately for me, we got stranded at Coffs Harbour airport for an hour, so we had a good yarn about it then. We have certainly been well received.

Mr GERARD MARTIN: If a developer wants to put in a residential subdivision, what do you ask them to do?

Mr STYLES: We are not able by law to require them to do it. There is a Telstra program—I cannot remember the name—where there is a fee of about \$1,500 and Telstra guarantees to provide fast broadband. We encourage them to do that because it is a big selling point. More recently quite a few of them have been doing that. They will not do it with a nine-lot subdivision but they tend to do it if there is a 200-lot subdivision. It is still hit and miss. We want that consistent opportunity for our people with fast broadband.

Ms BENNETT: I think Senator Conroy said that it was Federal policy. That answers the question of how it filters through the Council of Australian Governments [COAG], or whatever. Senator Conroy did say that greenfield sites were Federal policy.

Mr GERARD MARTIN: That was also my understanding.

Mr STYLES: They are yet to put the mechanics in place.

Mr GERARD MARTIN: There would have to be a role for the State in that, would there not?

Mr STYLES: Absolutely.

Ms BENNETT: I would think so.

Mr GERARD MARTIN: Perhaps that is something we should take up.

CHAIR: There is an instrument to facilitate that, but it has not yet been approved.

Mr STYLES: It is underway.

Mr GEOFF PROVEST: We have received a great many submissions that lead down the path of the greater utilisation of existing government fibre networks. I think later this year, or thereabouts, the Soul contract comes up for renewal. Do you see that as an alternative?

Mr STYLES: That is why we have suggested that, as an owner of fibre, we are aware of the Soul contract. That can somehow be facilitated into the National Broadband Network [NBN] so that you have a holistic solution. You have stuff up railway corridors out in our area, heading west and all that. If there is spare capacity within that fibre system—and I understand that there is—there is an opportunity to avoid some overbuild and to have that in the great big picture of things. If you are the owner of that you are no different to a Telstra, to a Soul, or whatever. Perhaps there is an opportunity for equity, for assets within the NBN there.

Mr GEOFF PROVEST: Do you see it as a partnership?

Mr STYLES: Absolutely. You have some pretty serious stuff out west that could save the NBN program quite a bit of overbuild. It does not make sense not to consider that in the overall framework.

Ms BENNETT: Another point obviously is that if negotiations are still being undertaken between the Federal Government and Telstra, and they do not prove fruitful, you guys—if you are ready for it—are in a powerful position on behalf of the State to step in and say, "We have significant backbone across the State. Let us talk turkey with the Federal Government about this." I am hoping that you are doing that in the background now anyway. You could say, "Now that Telstra is out of the room, let us talk turkey about what we can do to make things happen." We are certainly keen to help any way, shape or form, should that become the case. From what I can gather, they are closer together than they were, but they are still not yet through the door.

Mr STYLES: As a bit of an aside, we put in a submission on the regulatory framework when the Federal Government called for it. I guess that we have some views on the level of divergence effectively to have Telstra in the tent. We are happy to provide that submission if you require it.

CHAIR: Is that on their website?

Ms BENNETT: I think it might be up on our website.

CHAIR: No, I am referring to the Federal Government website.

Ms BENNETT: Quite possibly. It is probably also on ours. I am happy to get it to you.

Mr STYLES: The Federal Government has taken the first step in seeking a degree of separation of wholesale and retail for Telstra as a carrot and stick with, I guess, full structural separation mandated as the stick. As that happens, I suggest it will make it much easier to get Telstra into the tent.

CHAIR: Thank you for giving evidence to the Committee this morning. It was very enlightening.

(The witnesses withdrew)

(Short adjournment)

PETER JOHN HITCHINER, Telecommunications Engineer, Insight Telecommunications Consulting, P.O. Box 930, Pennant Hills, New South Wales, 1715, sworn and examined:

DEPUTY CHAIR: I apologise for the absence of our Chair, who has been called away. I welcome Mr Peter Hitchiner, an expert in communications planning from Insight Telecommunications Consulting. Thank you for appearing before the Committee to provide evidence today. I am advised that you have been issued with a copy of the Committee's terms of reference and also a copy of the Legislative Assembly's Standing Orders 291, 292 and 293 that relate to the examination of witnesses, is that correct?

Mr HITCHINER: Yes, I have.

DEPUTY CHAIR: What is your occupation and in what capacity do you appear before the Committee?

Mr HITCHINER: I am a telecommunications engineer. I am the Principal of Insight Telecommunications Consulting, and that is the capacity in which I appear before the Committee.

DEPUTY CHAIR: I draw your attention to the fact that your evidence today is given under parliamentary privilege and that you are generally protected from legal or administrative action that might otherwise result from the information you provide. I point out also that any deliberate misleading of the Committee may constitute a contempt of the Parliament and an offence under the Parliamentary Evidence Act 1901. Would you like to make an opening statement before we proceed to questions?

Mr HITCHINER: Yes, if I may. Thank you very much for the opportunity to be here. I have a statement, which, hopefully, is not more than five minutes.

DEPUTY CHAIR: That is fine. We are in your hands.

Mr HITCHINER: To members of the Standing Committee on Broadband in Rural and Regional Communities, my interest and passion for the implementation of telecommunications services for rural and regional communities dates back to my time at the Overseas Telecommunications Commission [OTC]—some of you may still remember that—when not only was I involved in planning services to some very remote locations, but perhaps more importantly I was a member of the secretariat supporting the National Satellite Task Force [NSTF]. The National Satellite Task Force became aware of many telecommunications deficiencies, which create challenges to those living in rural areas. These include education, health, commerce, government services—indeed, a variety of services that the urban population typically takes for granted.

These broad issues have not changed much in 30 years. Great advances have been made in that time and certainly telecommunications services in regional and rural areas are a good deal better than they were, yet gaps between urban and rural areas remain. Perhaps one should not expect any gaps to be completely closed; nevertheless, affordability and access represent gaps, which, where they remain, represent a particular barrier. For the record I was also heavily involved in the first project to deliver ABC television by satellite to remote areas and also the trial delivery of School of the Air by satellite, which happened to be in Queensland. The lesson learnt here is that there is limited value in a trial that creates expectations and does not lead to an ability to replicate the experience across the target market—it is about affordability.

My recent experiences in relation to electronic services include the formation of the Smart Services Cooperative Research Centre in which the New South Wales Government is a participant. This has given me a services view rather than merely an infrastructure view to the likely needs of rural and regional communities, as well as other users. Ultimately, broadband telecommunications are a means to an end, the end being to deliver services the community and individuals need. The \$43 billion for the proposed NBN is a facilitator for the services that are the end game. The NBN is good news, it presents a great opportunity for nation building, but we should not be preoccupied with 100Mbps or even 12 Mbps to every premise. I agree, yes, that 100Mbps should be provided to most schools, hospitals, libraries and various community facilities. The important issues are affordability and reliable access. It is better to have affordable 12Mbps than unaffordable 100Mbps. Of course, affordable 100Mbps is even better. It is to be noted that the pipe is only part of the cost; a major component of the cost is what is connected to the pipe. That means \$43 billion and then you have to add the bits to actually make it work.

The NBN should deliver affordable broadband access with a performance that allows rural and regional communities to participate fully in the digital economy and enable a sustainable future. Affordable broadband access should facilitate organisations delivering services by wireless, including broadband using mobile technologies—3G, long-term evolution [LTE] and potentially WiMax. The NBN should provide fibre deep into rural areas and facilitate provision of capacity for wireless network operators to deliver wireless broadband services—fixed and mobile. I understand that opening up the provision of backhaul services for wireless broadband is broadly an objective of the Federal Government for NBN. Terrestrial wireless is preferable to satellite wherever affordable in meeting bandwidth requirements. The latency introduced in satellite links can be an issue in delivery of some electronic services.

It has now become fashionable to add the new buzzword "smart" to various infrastructure services to attract attention. Not that there was nothing smart previously, rather that the capability for using resources more efficiently and sustainably is greatly enhanced by electronic services. We now have Smart Infrastructure, Smart Buildings, Smart Water, Smart Grids and Smart Transport. Intelligent transport systems deliver more efficient and safer use of roads, more efficient use of freight transport by coordination among modes and coordination among carriers, more efficient passenger transport and all address the real demands for transport by understanding the underlying needs of users rather than being conditioned by current use. It is not a prerequisite for "smart" applications that high capacity broadband services are available. Smart can be achieved in general with relatively low bandwidths.

The exception to that is perhaps health and education, but that can be covered as well. Broadband and high performance computing nevertheless are essential enablers for achieving smart outcomes. Integrated infrastructure planning, which covers buildings, power, water and transport, can be brought together to support improved rural and regional planning, which means sustainable and efficient outcomes.

Cloud computing and Software as a Service solutions are of increasing interest to both individuals and organisations and will be enabled by the national broadband network. Cloud computing essentially relies on the availability of the resources of software and information through the Internet when using a computer. It ensures that the most up-to-date resources are available to the user. It is essential that such capabilities can be provided as readily in rural communities as they are in urban areas. Social media facilitate the formation of communities in a virtual domain. Communities can form around issues of common interest. Such communities would seem to be invaluable for rural and regional communities.

Members of the Committee may be familiar with the Federal Government's Gov2.0 Taskforce, which strongly advocates access to government information when there are no privacy, national security or similar bases for restricting access. Effective access to such information will rely on broadband. Such information is as vitally important to rural communities and those working in those communities, if not more so, than it is to people in urban areas. The ability to use, for instance, geospatial information and current location opens up opportunities for more efficiency on the land: without broadband and access to information, this may not be effective. I should mention that in New South Wales, the Land and Property Management Authority provides valuable services that need to be accessible by rural and regional communities.

Many users are finding that the capabilities supported by mobile phones provide more than adequate Internet capabilities when they are away from the desktop. I would expect an increase in the trend for people to rely increasingly on mobile, or smart, telephones for their immediate telecommunications needs. The availability of such capabilities seems to be increasingly more important than is fixed wire or optical fibre access. The opportunity exists to provide increasingly capable broadband by wireless. I note that the Committee was addressed late last year of by Dr Zelinsky from the CSIRO, among others, on this issue. Mobile telephone enabled services increasingly will become important in addressing the needs of regional and rural communities.

Finally I would like to note that skills to enable greatest benefit of the digital economy are required. These skills can be effectively delivered where broadband services are available. Attention to issues of skills is essential to effective use of services exploiting broadband. This concludes my supporting statement.

Mr DAVID HARRIS: You make a very important point in your submission that has been made by other witnesses. It is all well and good having the infrastructure in place, but until people understand some of the end users of this technology, there will not be a large take-up rate. Do you have any suggestions about how the New South Wales Government could help to provide education and examples so that people understand the benefits of taking up this type of technology?

Mr HITCHINER: I am a great believer in example being a way of promoting opportunities. My view would be that trials are very valuable, but the trials need to be done in such a way that they can, as I said a moment ago, be expanded to the total market that is addressable. Obviously, that is very desirable. If you make something that is unaffordable for the majority, that is not of much use. The idea of viral marketing is that people see the opportunity and see the benefit, so they want it as well. Getting people to want things is the thing. Setting up trials is very valuable way of proceeding. Does that address your question?

Mr DAVID HARRIS: Yes.

Mr GEOFF PROVEST: Currently the State has a backbone network in the Soul system.

Mr HITCHINER: Yes.

Mr GEOFF PROVEST: We also have, as part of the bigger picture perspective, private providers. What is the best way forward of blending what we have and what they have to get the best outcome for the people?

Mr HITCHINER: It is very complex and I guess the NBN is an effort in fact to try to do that. I am also a great advocate of having opportunities for alternatives. Of course, with several networks there, that does in fact give it opportunity for alternatives. It helps people sharpen their pencils to make things affordable. It is not to say that they will not be affordable if you just have a monopoly. I mean, you look at the power sector; you have a single infrastructure. Access rules are there to make sure that there are no bottlenecks and people do not try to exercise monopoly capabilities. So it can work with a single provider. But I think in telecommunications a lot of it is of course owned privately or by companies which are owned by shareholders, and there become other pressures on them that we do not have with other parts of our infrastructure. Maybe NBN will solve that.

Mr GEOFF PROVEST: Do you see the State taking a greater role with its current assets? For example, we have fibre to a school. Other presenters have said that the school only uses that fibre between 8.00 a.m. and 3.00 p.m. and it goes to a community where it is probably not economically viable for a private provider. Should there be some access to that resource?

Mr HITCHINER: Within the school so that people can use the school facilities?

Mr GEOFF PROVEST: I suppose in a simplistic form, yes, in the school.

Mr HITCHINER: I think it would be wonderful to facilitate that, particularly in rural and regional areas where those facilities may not be so readily available. But I think by the same token that if you can extend those facilities using wireless techniques, which is quite possible, that is one way of the high capacity going into schools and hospitals. Of course, hospitals would be used 24 hours a day, but certainly with schools used outside school hours would be very valuable. I am sure there are some regulatory issues to look at there but in principle it is a good idea to try to make some means of reusing resources as best can be.

Mr GEOFF PROVEST: We often get told by other presenters that a lot of the private providers have not enabled their exchanges because of the competitive issues; if they enable it they will have to allow other providers access to it. From my way of looking at it, it is like at times some of these regional areas are being held to ransom, and this has been going on for a number of years.

Mr HITCHINER: I am sure you would be familiar with the work that Professor Fred Hilmer did on competition policy.

CHAIR: Very familiar.

Mr HITCHINER: Professor Hilmer very astutely observed the importance of regulating access to bottleneck facilities. That really is the problem; whether or not they are bottleneck facilities, one needs to regulate them so that they can be opened up for access. If you do not do that or you do not have effective ability to do that, you necessarily will have problems. I guess that you are probably alluding to the monopoly powers of Telstra. Telstra's behaviour is to some extent defended by corporations law. When you have access and corporations law fighting each other you have a difficult problem. I am not a lawyer so I will not try to go down that track very far, but it is a real challenge.

CHAIR: It would appear to us that it is fairly important for the stand-off between the Federal Government through the NBN and Telstra to be resolved somewhere along the line or we end up with exchanges not turned on, as we have now, when we could be providing service, and of course the possibility of parallel or duplicating broadband services. Do you see that as a major problem? Are you confident that the parties might get together on that?

Mr HITCHINER: I think from a national perspective it is very important that there is a coming to the party of NBN and Telstra. I think that will be to the benefit of everybody. NBN has a big task because ultimately they are delivering services to customers, most of whom are Telstra's customers at the moment. That becomes a major challenge for the NBN to break into that. From Telstra's perspective, to be able to continue to give them a good service they need NBN, so I think there is a need for the two parties to get together. The question of course is what value each one puts on being part of the party, and I think that is the sticking point in the end. I should mention I suppose that from my perspective Telstra does tend to get a lot of criticism. However, they are the provider of last resort. If anything goes wrong they are the ones who get criticised. They understand that, and of course for a large part they provide a very, very reliable network, a very reliable service. That costs money. Providing a reliable network is not a trivial thing. When it is all working everyone is happy, but when it goes wrong everybody knows about it, and it is so important that the reliable network gets—

CHAIR: One marketing commitment seems to be the speed. Everyone seems to be engrossed with having the quickest and so on. I think in your introductory remarks you said that about 12 megabytes per second might be suitable but most people would be aghast, I would think, from the evidence we have heard.

Mr HITCHINER: The more bandwidth you have, obviously the better it is. I would not dispute that. But if it is going to cost you an arm and a leg to provide 100 megabits per second it is far better to have 12 megabits. I remember going back to the days of the national satellite task force. People in rural areas who were putting in submissions were basically saying, "First of all, we want a telephone. Next, we want a telephone that works. Then we want a telephone that works all the time." There are some very basic needs out there and I think that problem has been solved, largely. But when it comes to broadband clearly there are great deficiencies. But to try to say that everyone should have 100 megabits per second, if it is at the expense of people having to pay an awful lot of money for it, or nationally having to pay an awful lot of money for it, it does not seem to be necessary.

I was, some years ago, involved in a small trial that looked at how to provide access from a major hospital to a rural country hospital. They were using the old CDMA's GPRS and providing very adequate images for a doctor to make an assessment as to whether a patient should be evacuated or be treated where they are under remote supervision. You do not actually need very large bandwidths to do a lot of these things. Okay, more bandwidth is better. In the health sector, radiology and images can help an awful lot, and if you can transmit those between hospitals that is great. Certainly, 100 megabits into hospitals, maybe even one gigabit into hospitals, is obviously something that is highly desirable, but the important thing is to get something which is affordable, so everybody can get access to the services even if they cannot get quite the highest bit rate.

CHAIR: You also mentioned that more use should be made of mobile phones and mobile networks. Do you agree that they tend to be fairly expensive in terms of broadband access?

Mr HITCHINER: Certainly under current tariffs with mobile phones, yes, but of course wireless broadband, as in fixed broadband, that should not be necessary. It often depends upon the tariff you are getting. If you get a tariff which combines a significant amount of data download with a tariff you can get very attractive rates. It is when you go above the thresholds that they start charging.

Mr DAVID HARRIS: In terms of mobile phone coverage, I was talking to some people from Telstra last night, and they were saying they were getting their new integrated IP phones, which have video conferencing and IP telephony built into it. From your technical knowledge, with the infrastructure that is currently in rural areas, if Telstra went to a system where it stopped giving out landlines, the normal phones, and went over to a whole IP network for telecommunications, would that free up a lot of their current infrastructure for broadband use, or is it already shared? Are there two separate networks or are they always going to be shared?

Mr HITCHINER: It is already fairly heavily integrated. In fact, the newer IP telephones already just by adding additional capabilities to them, additional applications is what they are doing. One of the things which is important from a rural and regional area is they do not have to rely on one provider. At the moment it can be

quite expensive for providers that do not have access to their own backhaul to provide high capacity in their base stations. NBN hopefully will relieve that bottle neck and those organisations which currently are dependent upon another provider for that backhaul will be able to get access to more adequate backhaul and, therefore, be able to provide better services on their networks. This hopefully will also raise the level of service of all those providers.

Mobile does not provide the band width that you would expect for high definition television and that sort of thing but, of course, you are only using a smaller screen for the purpose. A lot of people are quite happy with doing that for the mobile, and I think that is probably one of the issues that people are prepared to go with a lower grade of service when it is convenient for them and a mobile is a classic example of that. We put up with a voice quality on a mobile phone which is significantly less than sometimes will become unacceptable on a fixed phone.

Mr GEOFF PROVEST: In relation to the big push with 3G in your professional opinion is that the right way to go? In other words before the NBN is rolled out will technology overtake us again?

Mr HITCHINER: I think that wireless is very important but one has to remember that as wireless capacities increase you need more and more optical fibre to access to base stations. The two go hand in hand. You cannot have one really without the other. A wireless base station, of course, gives you so much more flexibility but as the capacity of the network and the number of users increases you just need more capacity into the base stations and more base stations. It is not an either/or you have got to have a mixture.

Mr DAVID HARRIS: A few years ago I attended the Technology Seabed where it showed that if a shop owned a broadband connection a stand-alone system could hang off that to which the public could access with a billing system that was totally separate. If a person opened their laptop when outside the shop, they could log on and pay the fee and it goes through the system to that company but the shop owner would receive a percentage. If a school in a small rural town had a similar system and made some money by providing wireless access through its broadband connection available, is that technology effective? What is the range of access?

Mr HITCHINER: It is certainly very effective. If we go into Gloria Jeans or hotels have it often for people who want broadband access. The technology is certainly there. In terms of providing a service, as long as it is done within the regulations there is no issue technically why it cannot be done and collecting money using a similar sort of systems that are used in some hotels and coffee shops. Some coffee shops will provide the service for free but they often also do that with a voucher that you have got to actually put in an access number. Those sort of technologies are available.

Mr DAVID HARRIS: What is the maximum range with that setup?

Mr HITCHINER: With Wifi which is typically what is used it is somewhat limited when we are talking about 100 metres. If you have got a directional antenna you can get more range. But there are other technologies such as WiMax which is coming available. WiMax capability would be able to go for multiple kilometres but, again, a lot of factors affect the distance that they will cover.

(The witness withdrew)

KATHLEEN MELEADY, Director, Statewide Services Development, NSW Health, of 73 Miller Street, North Sydney, and

CRAIG SMITH, Acting Chief Information Officer, NSW Health, of 73 Miller Street, North Sydney, and

ROBERT HERKES, ICU Consultant, Royal Prince Alfred Hospital and Co-chair Intensive Care Taskforce, sworn and examined:

CHAIR: In what capacity do you appear before the committee?

Ms MELEADY: As Director of Statewide Services Development branch which has responsibility in regard to rural health service planning.

Ms BENNETT: As Acting Chief Information Officer for NSW Health.

CHAIR: I have been advised that you have been issued with a copy of the committee's terms of reference and standing orders 291, 292 and 293 of the Legislative Assembly that relate to the examination of witnesses. Is that correct?

Ms MELEADY: Yes.

Mr SMITH: Yes.

Dr HERKES: Yes.

CHAIR: I also draw your attention to the fact that your evidence is given under parliamentary privilege and you are generally protected from legal or administrative action that might otherwise result in relation to the information that you provide. I also point out that any deliberate misleading of the committee may constitute a contempt of the Parliament and is an offence under the Parliamentary Evidence Act 1901. Do you want to make an opening statement before we commence questions?

Ms MELEADY: We would be happy to take questions.

CHAIR: You do not want to talk to the submission at this stage?

Ms MELEADY: No.

Mr DAVID HARRIS: You probably saw a story in the United Kingdom where information has entered the public domain that should not have been there and that it is causing significant issues. When developing a system like you are with Telehealth what levels of security are required? Are you confident that security of the system will be maintained?

Mr SMITH: Within NSW Health, with regards to all systems, not just Telehealth, we have a particular focus on security. The Telehealth rollout is contained within our own health network. I do not believe that we have any issues known or expected with regards to security breaches.

Ms MELEADY: In addition, when patient images are being used as part of the process of clinical service delivery, all efforts in regard to privacy are taken. There is no identifying components of photographs or otherwise to link that wound for example, or other issue to that patient.

Dr HERKES: At a clinical level, clearly one of the important things is governance around the process. Clinically a lot of effort has gone into making sure that both the staff and the patient's privacy are protected. When we first started rolling out Telehealth, one of the issues that I had not anticipated was nurses in remote sites being concerned that Big Brother would be spying on them. Quite a lot of process has been put in place to try to make sure that the peripheral clinician has control of the process, so it is not just a Sydney-centric thing.

Mr DAVID HARRIS: I know this is an evolving model as it is being developed, but do you see in the longer term that you will be able to integrate with, say, aged care facilities and other things so that there is

information sharing? Recently I met with a group whose vision is that basically if a patient turns up, whether it is mental health, aged care, local GP, or whatever, that the process of going through their whole medical history and trying to rely on their word-of-mouth medical history, which often has a lot of blanks, even with Corrective Services, could be an issue. Is that the model you are working towards, so that there is an effective health picture for all people in New South Wales?

Mr SMITH: Yes, it is. Obviously NSW Health has a particular focus on the services that we provide. However, that said, to recognise the rest of the continuum that you are talking about, we work with the Commonwealth to ensure that we have the right continuity of services between our responsibilities for delivery and the broader health continuum.

Mr GEOFF PROVEST: The Committee understands that the Ambulance Service of New South Wales will receive \$1.7 million for its clinical outreach program phase two. It aims to implement a new medical record administration and e-learning system at 190 ambulance stations. How does NSW Health have involvement with that? I have seen it; I have been out in the ambulance and seen a trial in Tweed Heads.

Mr SMITH: NSW Health, with regards to the ambulance EMR this is part of the NSW Health solution. The electronic medical record for ambulance is looking for integration between their record and the electronic medical record that is being rolled out in hospital facilities. My branch is working to integrate those two solutions, much like the conversation we just had about access to information in different parts of the continuum, so that can be achieved.

Mr GEOFF PROVEST: On e-records, during the Garling inquiry, particularly with reference to the Tweed Heads hospital, evidence was given that they have been able to go back only two or three years. They did not have the staff or the resources to go back further, in terms of taking the patient's records and putting them into electronic format. Is that an issue, that fact that when a patient had long-term medical history, they have been able to put on only the last couple of years, rather than if they had been a patient for 10 years because they did not have enough resources allocated to transforming physical records to electronic records?

Mr SMITH: Sorry, I could not comment on that. I am not aware of that particular instance. I am happy to take that on notice and provide an answer.

Dr HERKES: From a clinical point of view, clearly as investigations of patients and testing of patients and the capacity for new and novel investigations have developed—X-rays, MRIs, scans—as clinicians we are faced with overwhelming amounts of data. In truth, we mostly only look over the last six or 12 months of data. It is sometimes very important to get a chest X-ray from 15 years ago for someone who has tuberculosis or something. But for lots of things, it is really the recent history that is the most important. When you do not have an electronic form of historical data, it is still a very viable proposition to get the notes out of medical records and go and look backwards through the physical paper notes.

Mr GEOFF PROVEST: The Health, Education and Learning Network, HEALNet, the online professional development for health professionals is another project that has received \$800,000 in funding under the Digital Regions Initiative. That is a TAFE NSW project to enable nurses and allied health professionals to complete professional development online. How will that course work? Will it be compulsory for medical professionals who will utilise the new technologies? Or, is it just another course that professionals can take to add to their overall qualifications?

Ms MELEADY: I am not familiar with that particular initiative, I apologise. I could take that on notice and provide an answer. It would be fair to comment that Telehealth facilities in NSW Health are significantly used for education, training and medical and nursing up-skilling. We estimate that up to 80 per cent of the capacity of these systems are used for clinical services and training and education. It would be expected that it would be part of a suite available to the clinical workforce. I could get that information.

Mr GEOFF PROVEST: Thank you, it is interesting for the regional areas, to save travel times.

Dr HERKES: From a clinical point of view, being a representative at a teaching hospital, we do lots of education to our doctors and nurses, physiotherapists, speech pathologists, et cetera. For us, it is pretty easy to get a nurse or a doctor to go to an education session. We found that Telehealth has enabled us to transmit those sessions out to Tamworth, Dubbo and Orange and have the nurses up there. Instead of having to take two days off and travel to Sydney and pay for accommodation and arrange babysitting, they can join us electronically.

Certainly, our feedback from our nursing colleagues in Tamworth, Orange and Dubbo has been that that has been fantastic from their point of view. We do medical rounds, virtual ward rounds, where we discuss difficult clinical cases.

My view from my ivory tower is that doing that allows people who do not have colleagues to chew the fat with, are probably doing exactly the right thing, but often as doctors we need reassurance that we are doing the right thing. For me it is easy. I go into the next office and say, "Hey, Richard, come and have a look at this. What do you think?" My colleague at Orange, John Lambert, does that by videoconferencing with us and discussing a case, and us looking at the X-rays with him, and looking at the biochemistry with him. That, hopefully, will mean that in 10 years time he is still in Orange and has not felt the isolation of isolated practice and given up. It is really important from that point of view.

Mr GEOFF PROVEST: Is there interplay between the States? For example, in Tweed Heads we have medical records, but often the patient is treated across the border. Does NSW Health have an ongoing transfer of information with Queensland Health, Victoria Health, or the Australian Capital Territory Health? People do travel.

Mr SMITH: I can answer from the perspective of ICT and what we see in the systems that we are implementing. Yes, there is no doubt that there is information that crosses borders at Tweed Heads and between New South Wales and the Australian Capital Territory. The systems we are putting in place are considerate of the need for that process to continue.

Mr GEOFF PROVEST: In Queensland the police system is incompatible with the New South Wales Police system and many other systems are incompatible.

Mr SMITH: I understand. Let me be specific. I work with a national forum that includes the National E-Health Transition Authority [NEHTA] and all jurisdictional chief information officers across health in Australia. Using that forum we consider points of integration between our own jurisdictional work effort and the national agenda and work program that is in place through NEHTA. We certainly have an approach to share some of the information. I know personally that we have shared information about New South Wales Health's electronic medical record program with Victoria for such purposes as integration considerations, and in the imaging space we have shared information with the ACT and Queensland, given the points of interaction that we just touched on.

DEPUTY CHAIR: In November last year the Committee heard from Telstra that the virtual critical care unit was introduced in the South West Area Health Service from 2007 as a way of providing high-speed critical care tele-medicine services to regional and rural New South Wales. Do you know whether the project is still active and whether it has been evaluated for effectiveness?

Ms MELEADY: I might answer that and then ask Dr Herkes to comment. That system was certainly in place for a small part of New South Wales. We now have a more comprehensive connecting critical care project, which connects major Sydney hospitals with a number of rural centres, that is being rolled out on the basis of a strong evaluation model so that not only are we getting active support for regional and rural centres for critical care through ICU and more recently through ED with the rollout of this service to North Coast through the two emergency departments, but also we are evaluating as we go. I can speak more about that but Dr Herkes has had a lead role and a significant role in the clinical use of this project.

Dr HERKES: The project you are alluding to connected two hospitals. We are trying to build a network that connects all the regional hospitals into hubs in Sydney so that we can form a collaborative process. At the moment within Sydney the connecting critical care process connects the retrieval service, ambulance service, and Royal Prince Alfred and Royal North Shore, and the trial of the first initiative of this then connected Tamworth, Moree, Dubbo, Orange and Bathurst. I think the major spin-off has been in supporting remote clinicians as opposed to bringing any extra or different medicine to those clinicians. I think the patients in those areas are already extraordinarily well served by what are fairly scarce resources, but those resources are doing an extraordinary job. The lesson for me in the connecting critical care process to date has been that collegiate support at a nursing and medical level is very important when you perceive yourself, rightly or wrongly, to be isolated. Having someone to chew the fat with and discuss a difficult patient and reassure you that you are doing the right thing, and having educational services, helps immensely.

As a spin-off from that—clearly that helps major regional hospitals; Tamworth Hospital is a big hospital—we then started to look at connecting emergency departments with the trial Kathy referred to, the second trial in EDs where hub emergency departments at, say, Coffs Harbour, are connected to Bellingen and smaller solo-practice GP-run hospitals where, again in that setting, the clinician in the isolated setting gets huge clinical benefit from having the advice of their regional hub emergency department. We believe that the evaluations, which are not yet completed, will show that this model works. The model you are alluding to connected Nepean and Blue Mountains Hospital at Katoomba. That model undoubtedly allowed Blue Mountains Hospital to function at a level that it could not have without the model. It was very resource intensive at Nepean and I believe by having multiple hospitals as the resources we will get better penetration.

DEPUTY CHAIR: Is the limiting factor in having this operate universally around the State lack of technical resources or lack of time to do it? Are you happy with the way it is evolving? What, if anything, is a limiting factor?

Dr HERKES: I think it is evolving. It has to evolve and there are a whole heap of cultural things that need to happen. Some of my colleagues have no idea what Dubbo is like. I guess it is a function of the city-centric view of the world where they have not been over the Blue Mountains. That is a terrible thing for me to say, but it is the truth. The process of linking with Dubbo has been an education for them and it has been interesting for us because there is a whole heap of techniques that they are able to do in Dubbo that I cannot do at Royal Prince Alfred Hospital. So it is a two-way learning street and I think that model will perpetuate and spread, but if we pushed it too hard I think it would fall over because people would get uncomfortable.

DEPUTY CHAIR: Are there any technology limitations, such as broadband width in terms of sending intensive data such as X-rays? Is that a problem or is it just a matter of getting the money to do it?

Mr SMITH: If we are talking about the issues and constraints, it is access and availability—being able to rely on something, a technical component that can be there 24/7, because we are talking about clinical services. It is access, reliance on the availability and the appropriate level of bandwidth required—the speed of the services that can go into those remote facilities. Geography sometimes is a limiting factor on the amount of bandwidth we can put in those facilities.

DEPUTY CHAIR: I was pleased to hear you say you want to distil this system down to the very small hospitals. What about into private practices? Has any thought been given to that and is there any advantage to doing that?

Ms MELEADY: The program that we are looking at obviously is focused on the public hospital system, but as was raised earlier there is certainly strong merit in making sure that we look across the sectors. For the moment our emphasis is on trying to expand the capacity of Telehealth availability in the New South Wales public health system. In doing that, as Dr Herkes said, there are a number of limitations, not necessarily to do with the technology itself but with making the clinicians more comfortable with using the technology and also dealing with remote consultations. One of the equally important things to look at, we think, is the development of clinical guidelines that would support the specific use and provision of service by Telehealth. It is not the same as our experience in mental health and many practitioners say you need some guidance and assistance in using this new form of service delivery. We would say that as well as those other factors you have to make sure the Telehealth model is working to support the services that are needed in such a way that clinicians feel well supported and educated; that is also an important factor in making it all work.

We are looking increasingly to move Telehealth across other public systems at the moment. We would say that, in addition to those other factors, we would have to ensure that we have this telehealth model was working to support the services that were needed in such a way that the clinicians felt well supported and educated. That is also an important factor to make it all work. At the moment we are looking to increase telehealth across other public systems.

DEPUTY CHAIR: From a clinical treatment point of view would there be any advantage in big private practices being able to link in and transmit images?

Dr HERKES: Yes, it can be used. One of the things that we have not highlighted is that a lot of suppliers to NSW Health are already private sector suppliers. For instance, the one at Moree is linked to Tamworth and the radiology service in Moree is a private radiology service that hooks into the State infrastructure to service the needs of that community. At a cognitive medical level, once we sort out the privacy

issues that were discussed earlier, it should not matter that you have your blood test at Dubbo private pathology service or at Dubbo Public Hospital. That blood test should be available to the clinicians who need to see that blood test.

There is no philosophical problem about linking across the sectors. There is a practical problem, which has to do with working to ensure that the privacy issues and the governance around who can see the test are appropriately sorted out. In principle, it should be completely transparent. If you have your testing in Mudgee or at Royal Prince Alfred Hospital it should still be the same test, and that test should be available to the clinicians who need it.

Mr GEOFF PROVEST: On Monday the Committee heard from Justice Health, which said that its organisation was out of scope for the electronic record system. Why is that the case? Will the agency eventually be integrated into the main system?

Mr SMITH: Sorry?

Mr GEOFF PROVEST: I am referring to Justice Health.

Mr SMITH: Which system?

Mr GEOFF PROVEST: Electronic medical records. Justice Health said that it had been out of scope, or out of the loop.

Mr SMITH: I am sorry; I would have to that question on notice and provide you with a response. I do not believe that to be the case.

DEPUTY CHAIR: Justice Health is part of NSW Health, is it not?

Mr SMITH: It is part of NSW Health. For example, if you asked me about medical imaging I know for a fact that it is part of the medical imaging solution that we are rolling out across the State for its patients. Just like the rest of New South Wales we would be able to see those images and to share those results, regardless of where they were created—much like the conversation that we are having.

Mr GEOFF PROVEST: That is what Justice Health told us on Monday.

Mr DAVID HARRIS: Are you basing the current rollout on a particular model elsewhere in Australia or overseas, or is this a New South Wales developed model?

Mr SMITH: For telehealth?

Mr DAVID HARRIS: For telehealth.

Ms MELEADY: I suppose that there are two components. There is the rollout of the technology side of things and the move from ISDN into VOIP. But in relation to the model of telehealth, we take good information from our interstate colleagues in particular. We have had a lot of dialogue with Queensland, for example, about models that have worked there. A similar situation applies overseas but I think this is more from an Australian point of view. That has helped us. Other States have also found that some of our teleoncology service models have worked well for them.

We are looking at an evidence-based rollout of our telehealth model for service delivery. For example, currently we are looking to do a literature review around what will work best in rolling out the model for education and training. We would take an evidence-based approach; we would look at what was available in literature and also from other health agencies to ensure that we got the best approach. Again, looking at the particular circumstances, as Dr Herkes said, what will work for Royal Prince Alfred might not necessarily work for Bellingen. We need to ensure that the model is right for the nature of that service.

Mr DAVID HARRIS: At this stage do any States have a good model that is running, or are they all developing in a similar fashion?

Ms MELEADY: Referring to the service delivery side, I think Queensland would be acknowledged as having a significantly advanced service. Some types of services are being delivered in Western Australia for particular specialities that would also be regarded highly. Queensland probably has had an integrated and focused approach to telehealth for some years.

Mr GEOFF PROVEST: In December the Federal Government announced that, under the digital regional initiative, NSW Health would receive \$5 million in funding for the chronic disease management systems in the Hunter and New England region. This project aims to increase the coverage of facility-based telehealth services. Could you tell us how it will do that and how the funding will be used?

Ms MELEADY: I do not have the fine detail on that particular project. However, I can say that the Hunter and New England region is quite advanced in its use of telehealth. In fact, it is one of the significant area health services that has looked at this rollout of services. My understanding of that submission was that it was made to complement what they already have and to ensure that there is an integrated approach. Chronic disease management is also being rolled out across the State because of its importance for the regular users of the system. That submission was fairly strongly supported in that State. Referring to the detail for the \$5 million package, I could provide that out of session.

DEPUTY CHAIR: Do you have any parting comments?

Ms MELEADY: I would like to re-emphasise Dr Herkes' comments about improving access to service delivery for people in rural and regional areas, which has been quite significant. We have some good examples of how services might not otherwise have been so accessible. I refer to the issue of the retention of our rural and regional staff. It has been said many times by those clinicians that being able to get that support, not just on the phone but by sending an image or by talking through a particular patient profile, has been significant to them feeling supported when they provide their services.

DEPUTY CHAIR: Do you talk to organisations such as the Australian Medical Association or to any of the peak bodies on issues such as this?

Ms MELEADY: We would through the clinical input rather than through the formal organisational input. A number of advisory groups that are clinically based help us to work on these models of care.

Mr SMITH: I wish to make a statement in regard to technology implementation. In summary the broadband services NSW Health requires to support the services that we have discussed today will need high-speed, affordable, secure and available services. That is what we need to ensure all those services can deliver all those criteria, otherwise we will have trouble relying on them for clinical services.

Mr GEOFF PROVEST: Do you concede that there is an issue relating to supplier-based services, such as the current Soul contract?

Mr SMITH: Yes. In the past we have had concerns about the services that are being provided by those third parties, in particular Soul. I believe that a great deal of work has been done to resolve those service delivery issues. I think that the focus should be on providing something that can give us the services that are affordable and secure and that deliver those high-speed capabilities.

DEPUTY CHAIR: What would you see as being necessary to deliver the services that the clinicians would need for telemedicine? Do you have a minimum?

Mr SMITH: A large number of the applications and services that we are putting across are data, voice and images, which are bandwidth hungry. We are looking at 100 megabits a second as a minimum for the delivery of all our systems across that network.

CHAIR: That is what the NBN believes it will deliver?

Mr SMITH: I believe so, yes.

Dr HERKES: The other thing that needs to be said is that once the services are there, people start using them. Once they start using them, demand will grow. Certainly, if you look at medical imaging, the network capacity to download to send MRIs and CTs and what have you across the State is not insignificant.

You do not want the x-ray department to decide it will send the MRI just when you are having a difficult conversation about a remote patient and the system slows down and shuts down. That is why reliability and bandwidth are so important.

CHAIR: Thank you for your information and your valuable time today. We appreciate it.

Ms MELEADY: Thank you.

Mr SMITH: Thank you.

(The witnesses withdrew)

[The proceedings continued via teleconference.]

JOHN EDWARD NEWCOMBE, Director, Education Planning and Private Forestry, Primary Industries Business Group, Industry and Investment NSW, Locked Bag 21, Orange, 2800, and

FRANCIS MARY SCHONBERG, Manager, Office of Rural Affairs, Industry and Investment NSW, P. O. Box 1314 Orange, New South Wales 2800, sworn and examined:

CHAIR: John, thank you for agreeing to give evidence today in response to the Committee's invitation. We have a formal process to follow before we commence. Ms Schonberg has met the Committee several times and we are grateful that she is able to speak with us again. I am advised that you both have been issued with a copy of the Committee's terms of reference and also a copy of the Legislative Assembly's Standing Orders 291, 292 and 293 that relate to the examination of witnesses, is that correct?

Mr NEWCOMBE: That is correct.

CHAIR: I draw your attention to the fact that your evidence is given under parliamentary privilege and you are generally protected from legal or administrative action that might otherwise result in relation to the information you provide. I point out also that any deliberate misleading of the Committee may constitute a contempt of the Parliament and an offence under the Parliamentary Evidence Act 1901. Would you like to make a brief opening statement in relation to your submission before we proceed to questions from Committee members?

Ms SCHONBERG: Yes. This is more of an update of the Community Broadband Development Program. As the Committee is aware, the program is based on regional development outcomes for smaller communities to help them diversify their economic base and manage their resources more efficiently. We have undertaken the community engagement component of the program, which is looking at individual communities' economic, social and education needs for broadband use, and then getting the consultants to provide back to the program management technical plans that reflect and address their needs now and in the future. As per the press release, there were 11 pilot communities chosen. I think you have a copy of which communities they were.

CHAIR: We do.

Ms SCHONBERG: The consultants have been out to all 11 of those communities. They provided us with a range of technical options to deliver under the principles of the Community Broadband Development Program. Again, those principles are to global standard; an open access wholesale network provided with a social and community benefit for the communities for which we are providing the program. Within those technical plans there has been an analysis undertaken by the program management and external technicians and experts within the industry area. The program management has decided on a model and a technical specification option for delivery of this program to those communities.

CHAIR: John, did you have any opening comments?

Mr NEWCOMBE: Probably the only one from my point of view is that the Office of Rural Affairs, with Fran and her group, has been reporting to me for about two weeks. Fran is much more able to answer any of your queries relating to the technical side of things than I.

CHAIR: With me I have Mr David Harris, the member for Wyong, and Mr Geoff Provest, the member for Tweed, who are the other Committee members who will be asking questions of you. Mr Provest is ready to commence.

Mr GEOFF PROVEST: Good morning Fran and John. Given that there has been some rearrangement of government agencies, could you please let us know which area will be administering the Community Broadband Development Program in the future? Will the progress of this program be reported in any of the agencies' annual reports?

Mr NEWCOMBE: As I mentioned earlier, Fran and her group, the Office of Rural Affairs, recently has been brought into the agency of Industry and Investment NSW. That reporting will be to Minister Whan. Any future reporting from this time forward will appear in the Industry and Investment NSW annual report.

Mr GEOFF PROVEST: The whole-of-government submission noted that the program will be accelerated to extend it to a further 20 towns this financial year. Are you able to tell the Committee which towns are likely to be selected and when that is likely to happen?

Ms SCHONBERG: Yes. The model we ended up adopting was providing high-speed alternate infrastructure that could be delivered on a cluster basis. Where we had 11 pilot communities, the tactical option identified that if we provide a microwave backhaul link to deliver to an individual community, that link would allow additional communities to opt into the program, which is technically feasible connecting to that backhaul link. For example, if we are delivering high-speed broadband and putting up a microwave backhaul link to Dalgety, an additional 11 or 12 communities within that cluster radius of Dalgety will be able to opt into the program.

Mr GEOFF PROVEST: What is the distance of that cluster? You referred to additional communities being able to access into it. Are we talking about 20, 30 or 40 kilometres?

Ms SCHONBERG: There is a 30-kilometre radius because the technology which is identified as the best for this model is delivering WiFi over WiMax, and there is a WiMax radius of about 30 kilometres around each WiMax box.

Mr GEOFF PROVEST: That would have to be line of sight, would it not?

Ms SCHONBERG: Yes, it is.

Mr DAVID HARRIS: The Committee notes that the Community Broadband Development program was designed to promote competition through wholesale access to infrastructure. Have you been able to develop any relationships with service providers to run off the back of the new infrastructure?

Ms SCHONBERG: Yes, we have. The principles of the program that we have adopted in looking at wholesale access mean that we have had negotiations with a lot of the major agencies, local Internet service providers [ISPs] within the area and the pilot community as well as with all the commercial carriers who have made an approach to us.

DEPUTY-CHAIR: How does this program relate to the planned national broadband network? Is there any coordination with the relevant Federal Government agencies and NBN?

Ms SCHONBERG: There will be. We have negotiated and held discussions with different entities within the department that is administering the initial part of the program. As well as that, we are about to go down and meet the National Broadband Board's members. Originally the program as it was developed was to put high speed broadband into these communities. What became evident, as changes occurred to the NBN, was that we had to look at the technical options for this New South Wales program.

We decided to put in the infrastructure which is comparable to, if not in excess of, the NBN commitment under that program. We have put in a technical solution that is totally inter-operable with the NBN. Where we now deliver to a cluster of communities, as the NBN gets rolled out—we do not have a timeframe of the New South Wales yet, so it could be within four or five years—the equipment and infrastructure we are putting in will be totally compatible to the NBN.

DEPUTY-CHAIR: That is good. Earlier today a witness thought there might have been potential for duplication or parallel services, but obviously you have that base covered.

Ms SCHONBERG: Absolutely. Basically what we will look at is having the infrastructure that New South Wales is investing in these communities now being able to be vested into the NBN as a benefit to those regional areas. I would like to highlight one more really important issue that has come up; it is a technical solution. When we looked at delivering compatible capability—if not capability additional to what the NBN is offering—it provided the opportunity to digitise and provide electricity to sites up on mountains which we will be using for WiMax and/or a microwave backhaul link. But by doing that, even though it is an additional higher cost, it is going to allow the commercial carriers to now offer mobile telephony services to all the communities where this program is going.

Mr GEOFF PROVEST: Have you done any work with the other government agencies, such as National Parks and Crown lands? Even in my electorate of Tweed, there is always major angst about the positioning of towers. I believe that national parks have been a no-go zone as well as certain tracts of Crown land. Have you done any work in relation to that?

Ms SCHONBERG: In relation to every site we have gone to so far, we have negotiated with Crown lands and National Parks. We have verbal agreement as per the program guidelines that we would access all government infrastructure. What we have also found is that the government radio network is currently being digitised. Some of these sites are not site-specific. Under a program, if we are able to digitise them, that gives an added benefit in that all emergency services—the police, National Parks, and every other agency that uses the government radio network—will have an IT service in their area. So it is absolutely the case that for all State infrastructure—whether it is Health, National Parks, or Crown land—there is a continuously operating reference stations [CORS] network, which is used for spatial identification and laser positioning of tractors and things like that. We have all of that, which needs to be identified and enhanced. Where our program goes, it is in partnership, and is also sharing resources with those other agencies.

Mr GEOFF PROVEST: In response to the Committee's report, "Beyond the Bush Telegraph", in March 2010 the Government advised that it had completed a review of methodology, deployment and community satisfaction for the first round of the Community Broadband Development program. Could you explain what the review involved and tell the Committee its findings?

Ms SCHONBERG: The review involved looking at what came back from the community engagement and technical plan consultants. As I said before, that gave a whole range of options for delivering high speed broadband to the pilot communities. Some of the options that came back ranged from limited subsidies to indigenous communities to accessing existing broadband service providers to models that we have ended up adopting, which is putting in a high speed alternate backhaul network that will deliver not only to that community but also to a broader surrounding area. The review was a highly technical review, but the satisfaction came in the form of, for example, the Jubullum community, which is up near Tabulam.

At the back end of Tabulam, there is a Corrective Services facility that is looking at having high speed broadband delivered to their facilities so that they can do videoconferencing, telemedicine and telepsychiatry for their inmates or clients. We developed a model by which we offer them the capacity that those sorts of programs can provide for now, but also give them opportunities for expanding their technology uses to that facility.

Mr GEOFF PROVEST: We heard evidence from Corrective Services and Justice Health on Monday. One of the issues they highlighted to us was the capacity of the current systems. They highlighted that at one facility out west, you wait 45 minutes for it to boot up or to connect to the system.

Ms SCHONBERG: Exactly. You could put WiFi or WiMax boxes on poles or on towers in any country town, but if its backhaul is not up to the appropriate capacity, or has a high contention rate, you are still delivering a lower service than service providers or business and industry need. We have gone to the holistic or alternate model so that we can guarantee the lower contention rate, which will give you that immediate connectivity that businesses, industries and service providers are requiring.

Mr GEOFF PROVEST: In that Tabulam case, you are actually approached Corrective Services.

Ms SCHONBERG: We have had discussions with Corrective Services, yes.

Mr GEOFF PROVEST: So in any of those areas, you contact the government agencies involved.

Ms SCHONBERG: Yes. Part of community engagement is looking at their current and future technology needs. As we had decided to go to a cluster build, that is where we come back to community engagement. We have a range of additional towns. We need to have discussions because we know what we can provide. We know the bandwidth, we know the capacity, we know the guarantee that we can provide to the service providers, so now those discussions will be held on a regional and State basis with those agencies.

Mr GEOFF PROVEST: What is the normal capacity you speak about?

Ms SCHONBERG: The capacity that we have in the NBN goes from 12 megabits to 100. The technical specifications that we have been given of what we are about to deliver show that it is within that range, or exceeds that range.

CHAIR: In relation to the 11 sites in the first round—

Ms SCHONBERG: Yes.

CHAIR: What state are they at the moment? Are any of those actually physically implemented yet?

Ms SCHONBERG: No. The first implementation is going to be delivered in the southern area of the State. That was dictated by the technical option which was decided on, which would give the communities the best infrastructure and also, too, the most cost-effective infrastructure by building on a cluster basis required spectrum. The ACMA, the Federal authority that looks after the spectrum, did not release the spectrum band that we required until last November and they only released it for the southern area of the State. So we have gone through a purchasing process to actually access the licence for the spectrum for not only Dalgety and Delegate but all of those other cluster communities that we can deliver this program for in that area. So we are about to initiate the first roll-out, which is expected within the next two to three months in the southern area of the State based on that is where we have the licences. Also, too, there is a weather condition called snow. If you do not get thing up on poles or on the top of mountains now you will not do it until after winter.

CHAIR: Being a bit parochial, Hill End in my electorate is one of those 11 so it would still be some time down the track, I imagine, from what you have just said.

Ms SCHONBERG: The whole delivery of the network to the communities is based on, of course, there is a physical component of going out and physically putting these things in place. But the back-house infrastructure that drives and operates the network so it can be wholesale available to any commercial carrier will be in place in the next two months. So the time frame, even though there is a 2½ months time frame for the first cluster build, it is expected that the next round to deliver to all of those other communities will have only a three-week to four-week time frame for it to be delivered.

CHAIR: In relating to the siting of the towers, have you been able to co-locate with any other providers or services?

Ms SCHONBERG: Absolutely. They are on a site-by-site basis. Wherever there is a tower, whether it is State owned, whether it is local government owned, which is a number of those, or it is a commercial tower, those discussions have all been had. Also, too, we do have a number of issues because the towns that we are going to, the reason why they have been underserved is the high cost of putting the core infrastructure in. So some towers on some sites actually are not fit for purpose, so we have had additional cost to make those towers fit for purpose. Once we do that we have agreements from all other agencies, whether they are State and Federal, and commercial operators who are just waiting to actually deliver other services on those towers.

CHAIR: Thank you very much. That has been comprehensive. The Committee has no more questions. Is there any closing statement you would like to make or anything you would like to add?

Ms SCHONBERG: Only that after going out and visiting all these communities and looking at their holistic needs, I can say that there is going to be a significant impact and changes in those communities. To actually identify that better, we have undertaken a partnership with the Western Research Institute and we have gone for a research grant to identify in Wilcannia and Balranald, once we have broadband services into those communities, they will do a 12-month study looking at what are the impacts and what are the benefits and how the three levels of government and community can better utilise the infrastructure. That 12-month study will then form the basis for a more longitudinal five-year study for all of the communities that are participating in this program.

CHAIR: Thank you. Mr Newcombe, do you have anything to add?

Mr NEWCOMBE: No. As I mentioned earlier, I have had very little background in it but I am finding it a very exciting prospect.

CHAIR: It certainly is. Thank you. Your information has been very helpful, and we look forward to following the progress of the program.

Ms SCHONBERG: Thank you.

Mr NEWCOMBE: Thank you for your time.

[Hearing via teleconference concluded.]

STEPHEN NOEL WILSON, Chief Information Officer, Department of Education and Training of level 17, 9 Hunter Street Sydney, affirmed and examined:

CHAIR: In what capacity do you appear before this committee?

Mr WILSON: As chief information officer of the Department of Education and Training.

CHAIR: I am advised that you have been issued with a copy of the committee's terms of reference and standing orders 291, 292 and 293 of the Legislative Assembly that relate to the examination of witnesses. Is that correct?

Mr WILSON: That is correct.

CHAIR: Do you want to make an opening statement?

Mr WILSON: Thank you very much for giving me the opportunity to appear before this committee. I think that the New South Wales Department of Education and Training has done much in recent years in order to make broadband services both available and utilised in remote and regional Australia. I think the Department have some great programs that have been detailed in the submission that we have already put forward which was done on behalf of the New South Wales Government. I am happy to appear here today to answer any questions.

Mr GEOFF PROVEST: The department has been involved in ways to deliver educational programs to students in rural and remote areas. Given that the technology has advanced so much in recent years, what ways in particular do you think access to education for these students will change?

Mr WILSON: We are seeing access already changing with the utilisation of the Connected Classrooms program which is a program to put a video conferencing facility and data sharing capability in every public school in New South Wales. We are seeing connections between rural and remote communities and outside agencies like the Marine Park Authority, conferences with overseas experts. We had Michael Dell host a video conference which was attended by 10 schools right across New South Wales. This program is opening up the world to students within our education system. Also, it allows schools to collaborate amongst themselves. We have many examples of where schools are working together to deliver a curriculum and enrolling students to provide access to courses which they otherwise would not have been able to take if they had stayed in their own home school.

Mr GEOFF PROVEST: I have been to Tweed River High School in my electorate when it teleconferenced with Kingscliff High School.

Mr WILSON: Yes, they are both in the same area.

Mr GEOFF PROVEST: I noticed the slowness of the system and the frustration it caused both end users.

Mr WILSON: When was that?

Mr GEOFF PROVEST: September 2009.

Mr WILSON: Recently we carried out a fairly major upgrade to the network capacity of Kingscliff High School. Last year we signed a contract with Telstra to upgrade almost all of our broadband facilities—98.6 per cent we will reach—and Kingscliff school previously only had access to slow broadband. It has since been upgraded dramatically, I would think.

Mr GEOFF PROVEST: Does the same apply to TAFE colleges?

Mr WILSON: Yes, it does, every site for New South Wales Department of Education and Training.

Mr GEOFF PROVEST: How do you describe your satisfaction with the current Soul network?

Mr WILSON: No. We were previously on the Sol network. This deal that we did with Telstra was announced on 20 November 2009 was to upgrade the last 771 sites that were not already on Telstra to Telstra GWIP fibre—that is its product name. We are 70 per cent of the way through that upgrade. Sites like Kingscliff were on that list. I believe they were at two megabits a second and they would have gone to substantially more—a minimum of 10 I would suggest.

Mr GEOFF PROVEST: Do you have a target?

Mr WILSON: Yes, we have a target for every school, and that target moves over time. It is based on their enrolments, on the activity that is taking place within the school and over a period of time we intend to increase many of the schools to a higher bandwidth throughout the life of that contract.

CHAIR: What sort of minimum speed is needed to effectively operate the Smart classroom concept?

Mr WILSON: It depends on many factors—on the number of students or people who are accessing the network, on the number of video conferencing systems that they have and the utilisation that they make. But the minimum that we will have for a fibre connection is 4 megabits and the maximum is far higher than that. For regional and Sydney based schools usually the maximum today would be 200 megabits. But many high schools, for example, would be on 20 megabits today and we would be transitioning them through to 50 within the next two to three years, as we roll out the digital education revolution. That is within the context of that contract in its terms and conditions.

CHAIR: In relation to the connected classroom program that commenced in 2007 what is your general prognosis on how it has performed to date? What sort of interactive technologies are being used?

Mr WILSON: That includes video conferencing, interactive whiteboards in every school and desktop sharing software, so two schools can collaborate with each other on an interactive whiteboard. That means that essentially they can have a video picture of the class, students or teacher and share data and activity via the interactive whiteboard. The benefit of this is that two schools interacting with each other or a teacher based in one location who is actually interacting with a class at another location. She or he can say "Go to the board and write these things down" or answer these questions and you can see the result of it at both locations simultaneously. It is very heavily utilised and we are right on schedule for that roll out.

CHAIR: Is the access program that assists senior students in some targeted rural and remote schools—I think 20-plus schools have been linked using a whole range of technologies that allow the students to work together in real-time classes—working? Do you have any feedback about that program to date?

Mr WILSON: Absolutely, that is in our submission. There are 22 access program schools that offer a broad diverse curriculum through 54 subjects. They have common timetabling between the schools as necessary. This supports 353 full-time equivalent students in years 11 and 12. It offers subject choice where otherwise there would not be that choice for a student in a remote school. There is an additional program that started this year in western New South Wales that we call xsSel, which is a virtual selective high school. Thirty students are participating in this, and the students had to sit an examination in order to be accepted. They are doing advanced, courses starting in year 7, in English and Mathematics.

The way they do that is, they have a laptop that is the same as the Digital Education Revolution laptop, and via their home school they will attend classes with centralised teachers in another location. They will use the wireless network that is within their school to connect to lessons that have been given to them and curriculum that is given to them by a teacher who is in a central location.

DEPUTY CHAIR: In terms of the technology being used, how have you been able to ensure that the teachers are up to speed? Earlier there was some criticism from the federation such that this is all very good, but unless the teachers were savvy with it and on top of it, it would be a bit counterproductive. Is that not an issue now?

Mr WILSON: Professional development of teachers is always something that we try to do the best we possibly can. It is an ongoing issue, because of staff turnover and new systems and so on. We are training every school that gets videoconferencing facilities. We have an accredited course so that they do that training. With the Digital Education Revolution we have set aside \$28 million in order to develop teachers in digital literacy and curriculum skills. The first of that was completed last year, when we allocated \$6 million.

DEPUTY CHAIR: Generally, would the teachers be enthusiastic?

Mr WILSON: They are extremely enthusiastic. It is absolutely heartening to see. It is more of a team environment than an environment where they are sitting and waiting to get instruction. Many teachers work with their students. Leading students help the teachers and they work with other teachers within the school and form communities of best practice. We also provide a fixed course, when we rollout certain major programs .

Mr GEOFF PROVEST: With that Digital Education Revolution and its funding of \$442 million through the National Secondary Schools Computer Fund to provide laptops and associated infrastructure for students in years 9 to 12 by 2012, what is the current progress of that scheme? Is it on track to hit 2012? Has there been any problem with its implementation?

Mr WILSON: We are on track to hit the numbers by 2012. As with any large program such as this, there are always challenges to overcome. I do not think any of the things we have run into so far are major problems, just teething problems. Change management challenges, if you like. It is a revolution and it is sweeping across the school system and making a tremendous difference. We are certainly very proud of the way we are doing it. We are on track to rollout 60,000-plus computers by the end of May this year on top of 83,000 we rolled out last year. We have employed over 400 technical support staff. The wireless network, which is being built by IBM, is on track for completion in July this year.

We increased the scope of that wireless network to include demountable classrooms and that is on track for completion in July or August this year at the latest. The loss and theft rates of the devices are exceptionally low by anyone's standards. The security measures that we have put in place are working well in that respect. We have had some devices that have been damaged and part of that is a management issue concerning cultural change. The way I like to put it is: When you have one-sixth of the backpacks in a school containing a computer, you have a one in six chance of picking up a computer. When you have four-sixths or five-sixths, you are almost certainly going to have a computer in every backpack. That is an issue with playground behaviour that will change over time.

Mr GEOFF PROVEST: I understand that a school computer is prohibited from accessing certain websites.

Mr WILSON: Yes.

Mr GEOFF PROVEST: It has been reported to me, and I am sure I read it somewhere, that that has been breached and there are ways to hack into that computer by getting onto YouTube or Facebook, or things like that. Is that correct?

Mr WILSON: I will explain the way the system works. Within our very huge environment, as you can imagine, we have a centralised filtering policy, a protocol. There are very few holes in that protocol. When we find them, we block them. When students are at school the likelihood of them gaining access to inappropriate websites or material is very low. It does happen, and when it does we try to deal with it as fast and effectively as possible. We have processes in place for when a website is blocked and it should not be blocked, for example, to unblock that. There is a process where a teacher can request, for educational reasons, that that be unblocked.

When a student takes a laptop home, we have filtering software on the device that mimics the role that they would have had when they were at school. It is a very low level, and in order to bypass that you have to have administrative privileges to the device; in other words you have to have elevated user privileges. There are ways around that, to get administrative privileges, but it is a very minor percentage of students. There is a user charter that the student signs, along with their parent. That document says, "I understand my rights and responsibilities regarding this computer. One of them is that I will not try to hack the computer and I will not disassemble the computer. If I do, I violate the user charter".

If a student does that, and some have, he or she is in violation of their user charter. The actions that we can take as a result of that include freezing the device and then having to bring it back into the school; losing access temporarily to a computer; it is dealt with school-by-school . If it is a multiple offence, the school would involve the parent in the discussion. Regarding the rumours, yes, it happens. They are 15-year-olds and it is possible. But I can tell you that in order to do it they have to be very sophisticated and have to physically alter the device , and we can pick it up—and have done so.

Mr GEOFF PROVEST: TAFE NSW has installed interactive distance learning facilities for 15 remote, mostly Aboriginal, communities. There are plans to install two further facilities. As indigenous communities traditionally have a low access or adoption of technology, what has been the success of those facilities? What has been the feedback from the communities? Are you planning more access into remote communities?

Mr WILSON: I will take that question on notice, because I am not familiar with the detail of that program. I can certainly get you an answer.

Mr GEOFF PROVEST: I note in your submission the feedback from the education community has been positive. How do you collect that information? Do you run surveys with students and teachers? How does it all fit in?

Mr WILSON: Yes, we conduct surveys. For example, with the Digital Education Revolution there is a current survey going out along with the provision of the device. We conducted a survey last year as well on the Digital Education Revolution and we do surveys on the Connected Classrooms Program. We also get lots of feedback from the collaboration initiatives that we undertake with schools. We produce newsletters and material on the website where people often comment and as much as we can we get out and visit schools to see things at first hand. I, personally try to do this at least once a term. I visit schools and regions to get feedback. We are going to do a longitudinal study of the Digital Education Revolution in association with Wollongong University, so that will inform the success of that program.

Mr GEOFF PROVEST: Where do you see it going from here? Obviously you will hit your targets in 2012, the computers and the electronic whiteboards and so on are out, so what is the next step? What is the department planning after that? I mean 2012 is not far away.

Mr WILSON: In my official capacity—

Mr GEOFF PROVEST: I am just interested to hear your views.

Mr WILSON: The way you put that it was a logical step forward. I think strategically, looking into the future, our view is that the increase in the number of devices and access to computers is only going to go up. We knew that before the Digital Education Revolution and I think that will continue. People, particularly in TAFE, will bring their own equipment onto campuses and start to utilise that equipment. I think the National Broadband Network is also going to offer us, hopefully, cheaper pricing so that we will be able to scale up the network. We can see forward for the next two or three years and we have planned for growth in the network, but beyond that I think growth could be a two or three times factor and we will need the NBN to have a service on which multiple carriers can compete so that we can get greater bandwidth in the 98.6-plus per cent of locations in New South Wales.

Students are becoming much more engaged as a result of learning in the way they are used to interacting at home. They are using technology in new and innovative ways all the time. As the department rolls out its learning tools, which are part of the Connected Classrooms program, we will get more interaction, collaboration and creation of content that will be really meaningful on our own network. The quality of this content will increase as a result and those teachers that are perhaps not inclined today to share or collaborate as much will be drawn in along with this wave. I hope we will be able to apply the things we have learnt as a result of the Digital Education Revolution to years 7 and 8 and also to primary school. We have learnt a lot about managing a school environment and how to do that for a very low total cost of ownership (TCO), which allows us to deliver more for less money. I hope those learnings will go through into other areas of the school system and TAFE.

Mr GEOFF PROVEST: We have been visiting regional New South Wales and a view was put forward by local government that the schools that have access to broadband, particularly in smaller communities, are a great resource that appears to the council, from the other side of the fence, to be used only from 8 o'clock in the morning to 4 o'clock in the afternoon. We have had other evidence about places such as hotels that have a fibre connection and a local wireless system that people can pay to use. The Department of Rural Affairs is working on 11 towers in regional areas at the moment to provide a facility. One view is that the school has a great resource and it could be an income stream for the school and would also allow greater access to broadband for really remote regional areas.

Mr WILSON: The wireless network that we put in a school does not have a very large range. It is meant to be in a room no bigger than this particular one even if it is a library. In this room we would probably have two access points and each access point is capable of supporting 30 to 50-plus users but the range does not extend far beyond the school. We have not thought yet of sharing outside the school grounds. I believe there are regulatory and legal matters that you would have to go through in order to have that take place. Certainly I think if you are going to make income out of selling a service you have to be a registered telecommunications vendor.

Mr GEOFF PROVEST: I am working from experience. If I stay here at the Hilton hotel I can plug in my laptop and when I check out I get charged a certain amount on my bill.

Mr WILSON: The access while you are in a school is free to anyone in that school. There is no charge.

Mr GEOFF PROVEST: I am probably looking at a different system, a wireless system but not the same one as the school.

Mr WILSON: Yes, I think so, and the example you gave is a broadcast type of facility.

Mr GEOFF PROVEST: The parents and citizens associations would love that income stream!

Mr WILSON: I have to take that on notice because, as I mentioned, I think there are legal and regulatory things that you would need to do and the department has never investigated that avenue. While we utilise the network between 8 o'clock and 4 o'clock, we also use it at night. It is a myth to think it is not in use. In every school we have a cache server that has learning material and content on it and during the evening hours we push information out and refresh those servers. The network is utilised in a backward fashion at night and on the weekend, so it is not sitting completely idle. Some regions use downtime—out of school hours—to perform a backup service for the school's local data. They are pulling the data that is on a school's server back to a central backup facility, so the network is utilised in that way.

DEPUTY CHAIR: Thank you very much. It has been very informative.

(The witness withdrew)

(The Committee adjourned at 12.58 p.m.)
