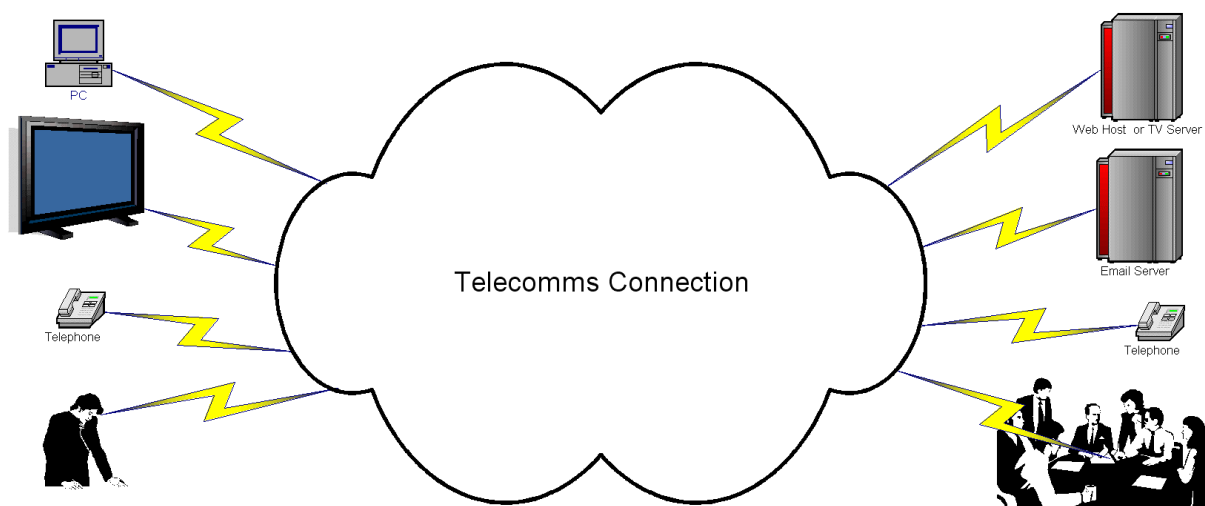


NBN Opening Address

I have well over 35 years expertise in the telecoms industry in the technical, engineering and management areas. I have been a technician in virtually every arrangement, an engineer in virtually every arrangement and I have been a manager in several areas. I have physically worked in virtually every technology and every business unit or area in the telecoms industry. My experience extends well past project supervision, occupational health and safety, project management, bids, tenders, analysis, product management, senior management, business development and I have also worked with technical and fundamental analysis of the stock market. I am intensely interested in the wellbeing of Australia's broadband future. Over the past decade I have produced several submissions to provide answers to questions that would be asked if they had the right frame of reference.

When I was a young school kid my father, who was a lawyer, gave me some very sound advice; it went along these lines: if you are trying to solve a problem and you find the answer are very complex and very difficult then you are using the wrong frame of reference. Step back and change your frame of reference with the right frame of reference and the problem will easily be resolved. Over the years I have found this advice to be absolutely invaluable to me. This is part of the reason for this submission.

Simplified End-to-End Telecomms Network Overview

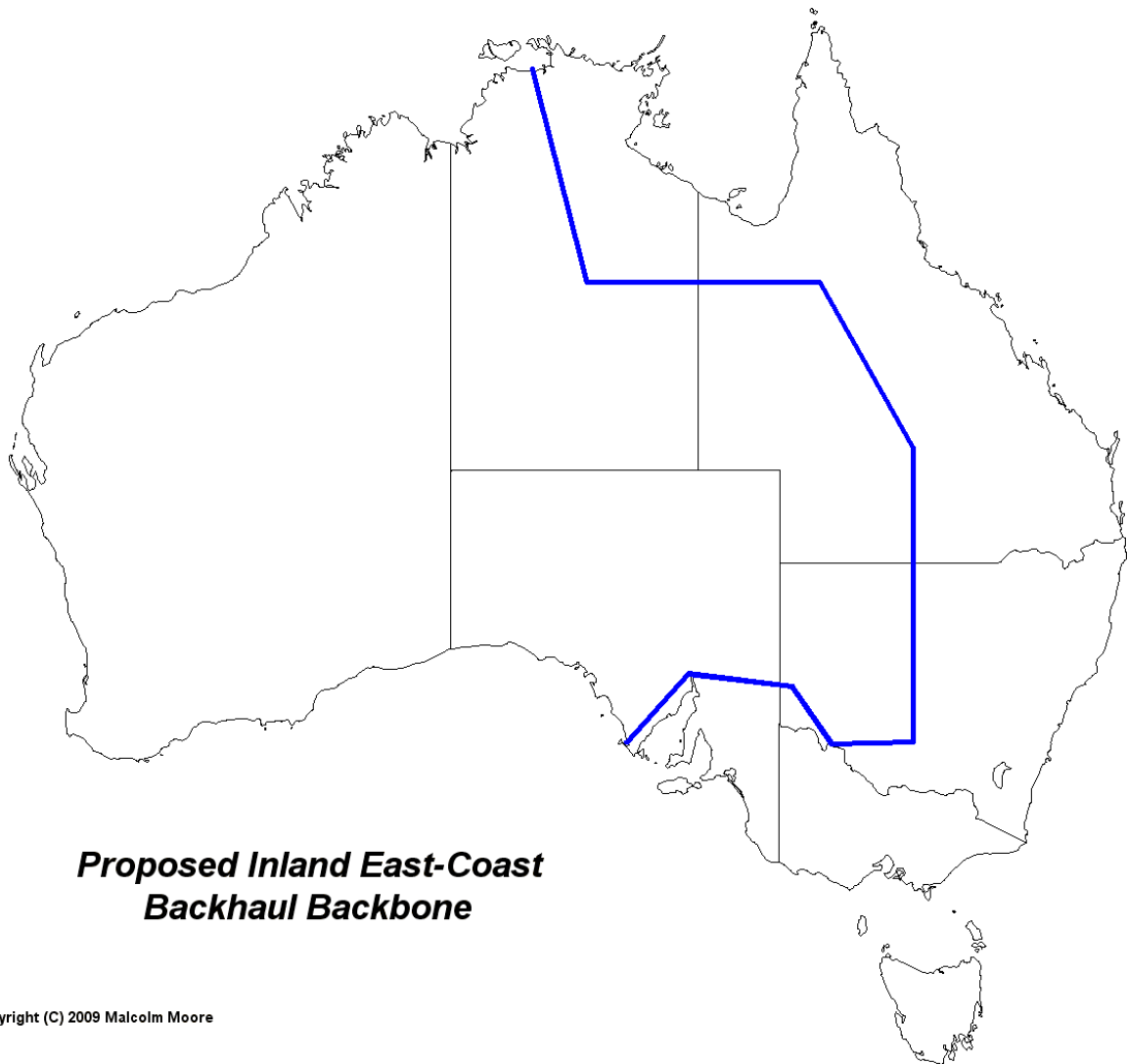


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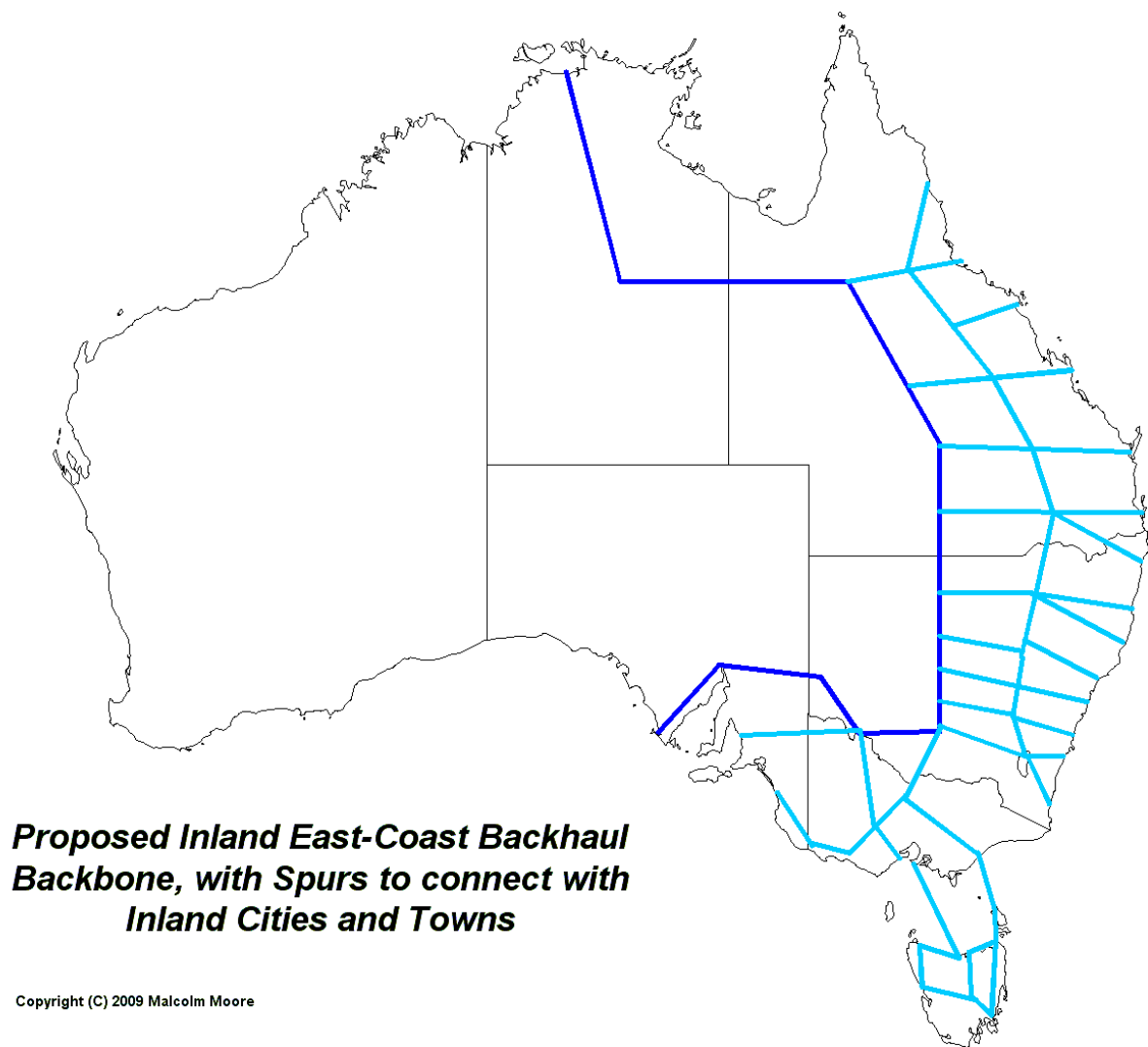
In March 2008 I made a submission to the expert panel on broadband. That submission showed that the Telstra and Optus HFC footprints cover almost all of the major metro areas, which is about 65 per cent of the total Australian population. You may not be aware that Telstra's HFC technology was re-engineered in 2006 and 2007—I was actually the project supervisor in Sydney on that one—making it capable of servicing more than 4.5 million premises, or about 60 per cent of the metro population, with broadband speeds greater than 20 megabits. This is where ADSL will not reach. That submission also explained why paired copper ADSL has a useful reach of about 37 per cent of the metro CAN and a reach of about 13 per cent of the non-metro CAN. Optical fibre has a reach of about 60 kilometres and a bandwidth of about 1,000 times that of paired copper. This is a no-brainer for any real expert

committee to resolve in one day, let alone months. The submission also explained how to implement some technology to virtually double the reach of paired copper ADSL in some areas.

The submission also proposed that the expert committee think inside out and define the inland coast backhaul system providing high-capacity diversity for more than 90 cities and towns. I will just do a quick show on this to show what I am talking about.



The first slide shows the little thing I gave before. The next slide shows what I am proposing as the inland backhaul—high capacity—and that would pick up an amazingly large amount of the inland. There is nothing from Darwin down to Cloncurry it sort of exists but it is not high enough capacity, and the rest does not exist at all.



Proposed Inland East-Coast Backhaul Backbone, with Spurs to connect with Inland Cities and Towns

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If you extend that slightly, you can put a whole grid on there. Most of the ones off the coast going in exist; the rest does not. I know the network like the back of my hand.

This backhaul would also provide the necessary backbone feeders for fibre to the premises and radio CAN technology in regional, rural and remote areas and provide major backhaul capacity towards the South Coast and East Asia through Darwin. This is the missing backhaul link to provide the backhaul infrastructure that regional and remote Australia desperately needs. Unfortunately, that submission to the expert panel is now somewhere in the archives of the DBCDE. I hope the select committee takes notice of the contents of this submission to economically restructure the Australian telecoms industry before rolling out the NBN on a large scale.

Having worked in almost every area in the telecoms industry, I now believe that I have the wisdom to understand Australia's main telecom businesses are a combination of two diametrically opposing imperatives, and that is the basis of this submission. One of these imperatives is that which the wholesale infrastructure provider is focused on: maximising services and maximising service standards. The second diametric business imperative is that which the retail reseller is focused on: maximising profits for its shareholders and minimising overhead costs.

These imperatives (in Telstra and all other privatised telecoms businesses) diametrically oppose each other. This cannot work; it does not function. These two imperatives make

Telstra and others highly dysfunctional, and the slowly dying share price over several years reflects that problem. This is bad for Telstra, bad for the ASX, bad for the financial industry, bad for the government and bad for almost all Australians. There has to be microeconomic reform in Australia's telecoms industry before the NBN program is rolled out.

In 1956, two economists, Australian-American Kelvin Lancaster and Canadian Richard Lipsey, came up with the theory of the second best, which in simple English states that, when businesses work in synergy, they will always give the most efficient outcome for the economy. Putting this in a more brutal form, the privatised, competitive regime is clearly a very poor second best to any synergetic infrastructure regime. The Cold War was in its throes when this theory came out, and economics lecturers found this theory very difficult—I will put that very nicely—in that political climate. So the theory has sat quietly for several decades.

Over the past 30 years, the Australian telecoms industry has become riddled with massive legal complexities, swathes of laws and regulations to restrict competition involving infrastructure, with the intention to level the playing field. It is obvious to me that the current competitive regime frame of reference is wrong, so I changed my frame of reference and queried the need for competition where infrastructure is involved.

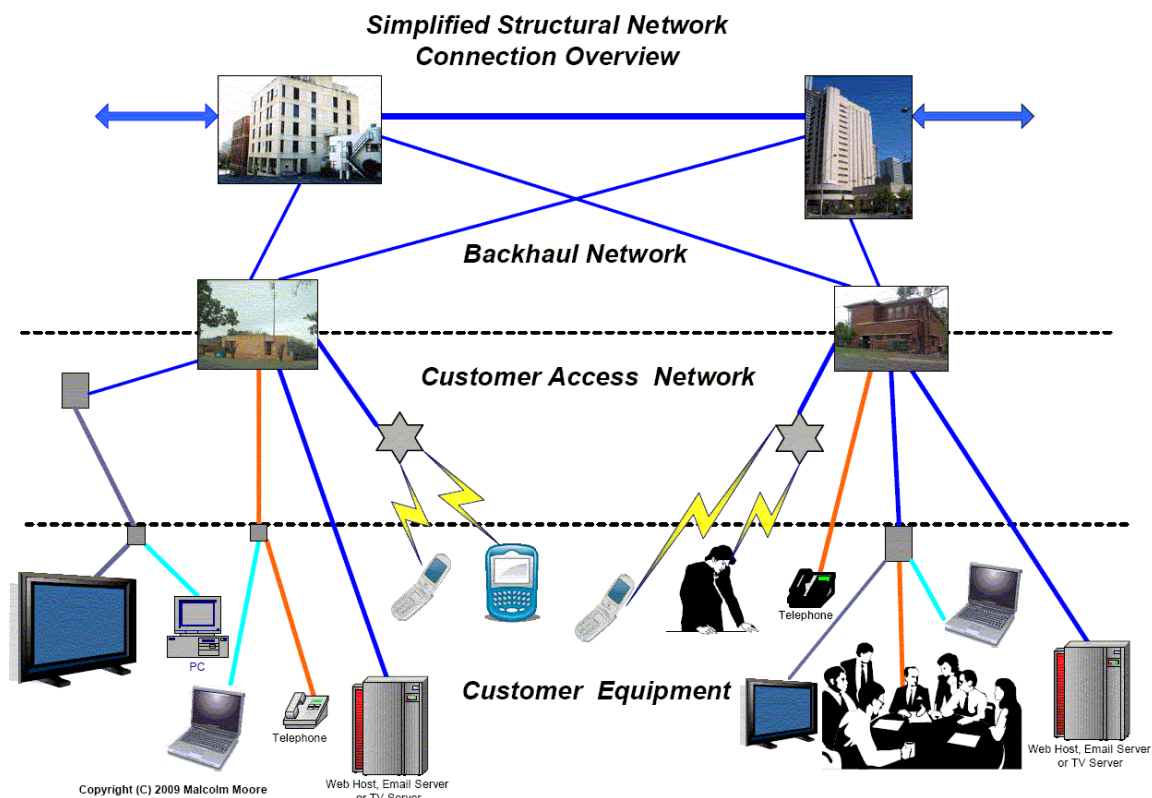
Professor Sharon Beder from the University of Wollongong has recently published several books on historical business economics clearly showing the lengths that USA based capitalists have gone to systematically pushing their brand of laissez-faire competitive regime on the rest of the developed world over a century, primarily to benefit themselves. It has to be realised that a competitive regime is inherently very inefficient, or second best, compared to any cooperative arrangement, like an infrastructure regime. And, by the way, departments in governments are infrastructure regimes. They are not fighting against each other to do it better; they are doing it by themselves. Countries like Sweden, which is socialist, have many very efficient government businesses which are infrastructure regimes, proving that the theory of the second best is highly credible. It is unliked by wealthy capitalists, and it is obvious why.

Governments like to support the competitive regime philosophy because there are huge money velocities involved in infrastructure businesses, like the \$42 billion for the NBN. Competing businesses with multiple managers and multiple boards are very inefficient and consume considerable revenues in the fight against each other for market dominance so they can maximise profits through monopoly control. The prime focus of an infrastructure business is to maximise services through their critical mass and decrease end-user costs, because the profit comes from the other areas making a benefit, and they put the money back to the government. This should fit very comfortably with the competitive regime because this offers to maximise the retail profits, if they use the structure I am putting forward.

We have all witnessed over the last few years the results of the unregulated, uncompetitive business, and this is the ugly end of the competitive regime. The general population in the economy always comes off second best, supporting the premise that the competitive regime operating major infrastructure is a seriously flawed economic strategy. Since the privatisation of telcos in the late 1970s, Australia has now got multi-duplicated infrastructures that are competitively pitted against one another, and this has proven to be highly inefficient. Even though a plethora of new products and services have come in, thanks basically to the digital era, end-user prices have not come down as projected and we do not have to look very far to

identify the high level of complaints and general dissatisfaction with the high end-user costs especially for broadband services.

Other eminent people have pressed for change also, and have been doing so for quite some time. In 2004 Dr Peter Gerrand from the Telecommunications Society of Australia, working at Melbourne university, in his paper *Revisiting the structural separation of Telstra* showed how Telstra could be structurally separated at the backhaul, and I generally agree with his strategy. But having worked in a large number of telecom facilities, I know that the backhaul and CAN infrastructure is a continuum, and I will just show you a piece on that.



Here is the typical structure showing how you would see the network connecting. You would go from one side of the bottom up through a local exchange, through the major ones and then come back. That is the basic structure, a very simplified version of how that goes. This is the stupidity of cutting the CAN off from the backhaul. No person who knows anything about telecoms would ever do that unless they are trying to kneecap the competitive other side, and that does not make sense because it does not help the society.

So I strongly favour moving all the network infrastructures including the CAN into one sub-government infrastructure business focused on maximising the availability of service and maximising the service standards of telecom wholesale services everywhere. And I do not mean just coastal areas; I mean everywhere. My submission also supports the economic restructuring of the telecom industry so that private retail resellers can operate robust competitive businesses and be listed on the ASX.

I will go just one little step on this one here. If you go across the top of this little diagram here, it shows where the backhaul sits. You have got the CAN on either end and you have got your customer premises equipment on either end, effectively. If you take out the hybrid fibre,

which is about two-thirds the way down the left, the HFC, you have got to have the routers and the optical fibre backhaul connected to it or it does not connect. So as for taking off the CAN at the end, the hybrid fibre, and whether we should separate that, only a person who is totally inept would think along those lines. It has to be structured so that you have a continuum.

Simplified Systems End-to-End Network Overview

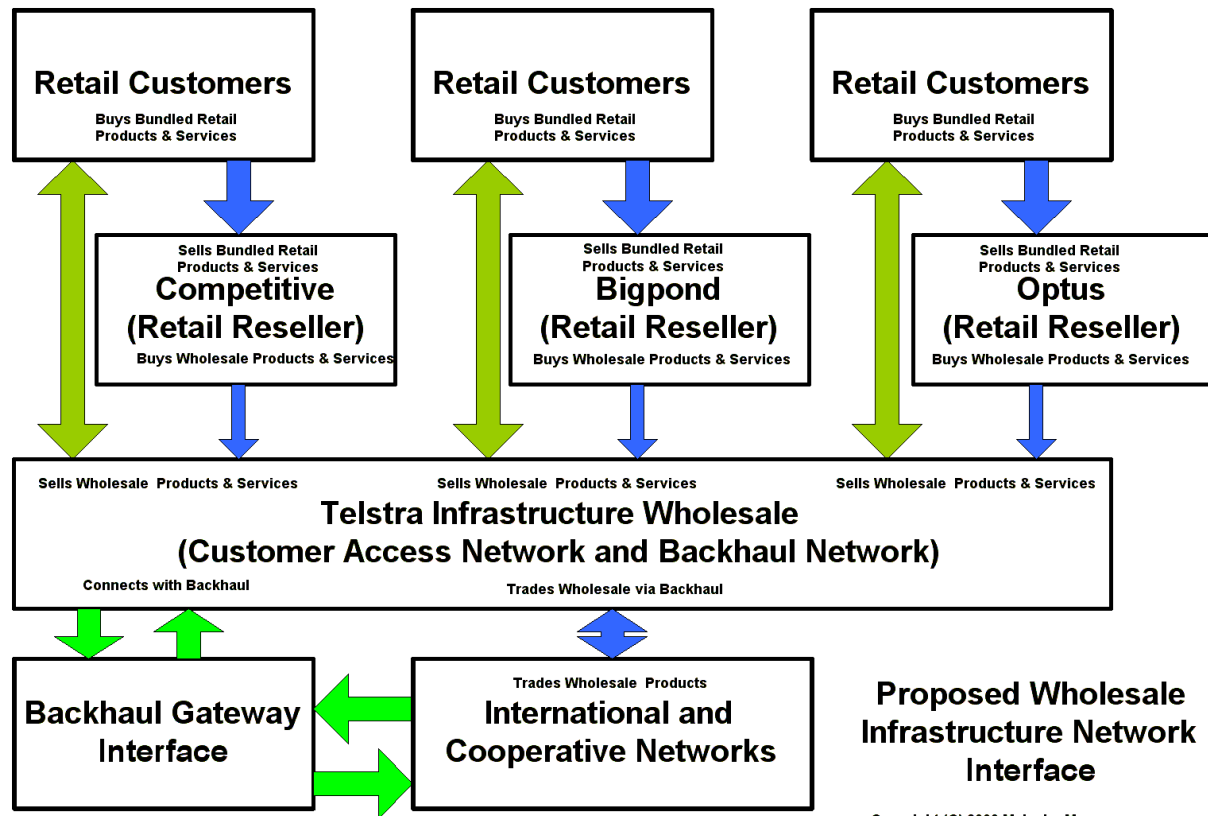
CPE	CAN		Backhaul						CAN		CPE
Tel	Copper	Switch	Optical Fibre	Switch	Optical Fibre	Switch	Optical Fibre	Switch	Copper	Tel	
				Switch		Switch					
Tel	P-P Radio	Switch	Optical Fibre	Switch	Optical Fibre	Switch	Optical Fibre	Switch	Copper	Tel	
				Switch		Switch					
Mobile	Radio	Switch	Optical Fibre	Switch	Optical Fibre	Switch	Optical Fibre	Switch	Copper	Tel	
				Switch		Switch					
Mobile	Radio	Switch	Optical Fibre	Switch	Optical Fibre	Switch	Optical Fibre	Switch	Radio	Mobile	
				Switch		Switch					
PC	Cu ADSL	DSLAM	Optical Fibre	Switch	Optical Fibre	Switch	Optical Fibre	Router	FTTP	Server	
				Switch		Switch					
Mobile	Radio	Router	Optical Fibre	Switch	Optical Fibre	Switch	Optical Fibre	Router	FTTP	Server	
				Switch		Switch					
PC	Radio	Router	Optical Fibre	Switch	Optical Fibre	Switch	Optical Fibre	Router	FTTP	Server	
				Switch		Switch					
TV	HFC	Router	Optical Fibre	Switch	Optical Fibre	Switch	Optical Fibre	Router	FTTP	Server	
				Switch		Switch					
PC	HFC	Router	Optical Fibre	Switch	Optical Fibre	Switch	Optical Fibre	Router	FTTP	Server	
				Switch		Switch					
PC	FTTP	Router	Optical Fibre	Switch	Optical Fibre	Switch	Optical Fibre	Router	FTTP	Server	
				Switch		Switch					
TV/PC	FTTP	Router	Optical Fibre	Switch	Optical Fibre	Switch	Optical Fibre	Router	FTTP	TV/PC	
				Switch		Switch					
TV/PC	Radio	Router	Optical Fibre	Switch	Backhaul	Switch	Backhaul	Router	FTTP	TV/PC	

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This submission shows that using a different frame of reference removes competition from the infrastructures and positions competition at the retail resellers, and that is what I am putting up there. This removes the need for the Trade Practices Act to include heavy-handed regulation, removes the ACCC from managing a continuum of very complex rulings, removes the need for hundreds and probably thousands of lawyers to fight legal battles, and removes a huge load of service complaints from the TIO—problem solved.

Telstra is apparently internally separated but it has one board with diametrically opposing business initiatives—as I indicated at the front. No formal Telstra split will be successful if a single board remains at the top. So this means a second board or a committee needs to be created, and Telstra needs to have BigPond spun off as a totally privatised retail reselling business with its current board. BigPond will be highly successful because it is a very well-known brand name. It has a very large customer base; it would be totally focused on shareholder value, which they want; and it is reselling wholesale product as bundled retail services together with its online businesses and its pay TV business. If GM can restructure in 40 days, I cannot see why we cannot do this in under 30 days, really.

With BigPond retail spun off from Telstra, this gives Telstra Infrastructure Wholesale, TIW, a mandate to maximise profit and availability and maximise the service standards of telecoms wholesale services everywhere in Australia, not just on the coast. This is where the NBN fits in, this is where it should be, not as a competitive business. That would minimise the wholesale prices over time.



It is interesting to note that the Optus submission favours the structural split of Telstra. Optus has also offered to sell its hybrid fibre coaxial infrastructure to the NBN. But you also need to have the backhaul that goes with it, or you will not be getting anything. I asked the question: why do they want to sell the HFC anyway? Maybe it is not making money; I do not know. It leads to the consideration that Optus could spin off its entire telecommunications infrastructure to be consolidated with that of Telstra Infrastructure Wholesale. This would focus Optus retail on reselling wholesale telecoms products as retail services in robust competition with BigPond. That has to be good for the Australian economy, it has to be good for the ASX and it has to be good for Australian financial institutions. Other telecoms ISPs should follow suit. All these infrastructures could perhaps be merged into one synergistic, highly efficient telecommunications infrastructure, creating tremendous savings in Australia's capital expenditure. The productivity of this would be immense. We are looking at at least \$20 billion being saved.

With regard to the inland east coast backhaul system that I mentioned in my submission to the expert committee, no competitive telecoms business would provide the backhaul. It does not matter which government you look at; neither of them would do it. That is because they use internal profit and loss accounting. That is the problem: accounting. They see it as commercially unviable. Even the USO incentive of about \$150 million a year did not make a difference. This shows the immense flaws in the competitive regime strategy. Several DBCDE documents expressed the imperative for savings in rural and remote health and education. This is where a government commissioned telecoms infrastructure business would be using external profit and loss accounting procedures that would make this business a prime imperative. That is what the NBN is, is it not? External accounting is saying it should be there. It is a prime business case to connect broadband to as much of the inland population as possible. This is where I think that Senator Conroy has it wrong and the previous government

had it wrong. They were looking for a competitive solution, when it should be an infrastructure solution.

It is high time that parliaments realised the gravity of Australia's very inefficient competitive infrastructure situation and understood that Australia cannot afford to continue promoting the competitive regime strategy with infrastructures. The competitive regime has its place in retail reselling, and this is where a competitive regime should be positioned. Look at Coles, Myer and Woolworths. That is what they are doing. With the spinning off of big Pond finalised, Telstra Infrastructure will be the ideal platform for NBN to be grafted on to. This will, as I said before, save Australia at least \$20 billion in non-duplicated infrastructure.

Thank you very much.