Response to the Inquiry into the Performance of the Australian Telecommunications Regulatory Regime.

By

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April 2005

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Inquiry into the performance of the Australian telecommunications regulatory regime

Terms of Reference

The Senate has referred the following matters to the Committee for inquiry and report by **23 June 2005**:

(1) Whether the current telecommunications regulatory regime promotes competition, encourages investment in the sector and protects consumers to the fullest extent practicable, with particular reference to:

(a) whether Part XIB of the *Trade Practices Act 1974* deals effectively with instances of the abuse of market power by participants in the Australian Telecommunications sector, and, if not, the implications of any inadequacy for participants, consumers and the competitive process;

(b) whether Part XIC of the *Trade Practices Act 1974* allows access providers to receive a sufficient return on investment and access seekers to obtain commercially viable access to declared services in practice, and whether there are any flaws in the operation of this regime;

(c) whether there are any structural issues in the Australian telecommunications sector inhibiting the effectiveness of the current regulatory regime;

(d) whether consumer protection safeguards in the current regime provide effective and comprehensive protection for users of services;

(e) whether regulators of the Australian telecommunications sector are currently provided with the powers and resources required in order to perform their role in the regulatory regime;

(f) the impact that the potential privatisation of Telstra would have on the effectiveness of the current regulatory regime;

(g) whether the Universal Service Obligation (USO) is effectively ensuring that all Australians have access to reasonable telecommunications services and, in particular, whether the USO needs to be amended in order to ensure that all Australians receive access to adequate telecommunications services reflective of changes in technology requirements;

(h) whether the current regulatory environment provides participants with adequate certainty to promote investment, most particularly in infrastructure such as optical fibre cable networks;

(i) whether the current regulatory regime promotes the emergence of innovative technologies;

(j) whether it is possible to achieve the objectives of the current regulatory regime in a way that does not require the scale and scope of regulation currently present in the sector; and

(k) whether there are any other changes that could be made to the current regulatory regime in order to better promote competition, encourage investment or protect consumers.

(2) That the committee make recommendations for legislative amendments to rectify any weaknesses in the current regulatory regime identified by the committee's inquiry.

The Committee invites **written submissions** from interested individuals and organisations, preferably in electronic form sent by email, to ecita.sen@aph.gov.au. The email must include full postal address and contact details.

Alternatively, submissions may be sent to The Secretary, Senate Environment, Communications Information Technology and the Arts References Committee Parliament House, CANBERRA ACT 2600, or faxed to 02 6277 5818.

Submissions must be received by no later than **Friday, 8 April 2005.**

Submissions become committee documents and are made public only after a decision by the Committee. Persons making submissions must not release them without the approval of the Committee. Submissions are covered by parliamentary privilege but the unauthorised release of them is not.

Inquiries from hearing and speech impaired people should be directed to the Parliament House TTY number (02) 6277 7799. Adobe also provides tools for the blind and visually impaired to access PDF documents. These tools are available at: http://access.adobe.com/. If you require any special arrangements in order to enable you to participate in a committee inquiry, please contact the committee secretary.

For further information, contact:
Committee Secretary
Senate Environment, Communications, Information Technology and the Arts References Committee
Department of the Senate
Parliament House
Canberra ACT 2600
Australia

Regulatory Regime - Responses

(1) Whether the current telecommunications regulatory regime promotes competition, encourages investment in the sector and protects consumers to the fullest extent practicable, with particular reference to:

(a) whether Part XIB of the *Trade Practices Act 1974* deals effectively with instances of the abuse of market power by participants in the Australian Telecommunications sector, and, if not, the implications of any inadequacy for participants, consumers and the competitive process;

Abuse of Political Power

There seems no doubt that the Trade Practices Act was initiated in good faith to prevent monopoly competitive businesses from abusing their market position to abuse fair competition, and further, Part XIB of this Act has been specifically targeted Telstra to prevent Telstra from using an apparent monopoly competitive business position.

It seems very strange that the Trade Practices Act includes a large section (Part XIB) that is specifically targeted on Telstra and specifically does not target other participants. This leaves other participatants to actively abuse both Telstra and the consumer market and it seems that this is a gaping omission/inadequacy of the legislation.

With the hindsight knowledge that Telstra was (in its Telecom Australia form) primarily an ***infrastructure business***, and ***not a competitive business***, and that international corporate / competitive businesses have, on a global basis, persistently undermined Government infrastructures through a wide range of unethical business and political practices; it seems obvious that this extra legislation has been 'planted' to destabilise Telstra's infrastructure business position for the benefit of multi-national business corporate takeovers and 'peel-off' Australia's telecommunications infrastructure for their corporate businesses interests.

Optus – The Failed "Competitive Process" Experiment

The competitive process has been totally inappropriate and the ongoing proof is the "Optus experiment" that (strangely) no official report has been produced to show just how much better a competitive carrier it is than the incumbent Telstra. Optus was born from a series of 'planted' reports that sighted the then Telecom Australia as inefficient and unable to move with the market – ultimately recommending that a sizable chunk of the then Telecom Australia be made available to a new (efficient) carrier so that competition would be the prime driver to bring down costs.

The "Optus experiment" was an abject failure with Optus having virtually identical conflicts of interests (wholesale infrastructure versus retail sales) that were positioned to shackle Telstra, and worse, the prices were not driven down because of competition but because of technology advances, and worse again, Optus is now foreign owned – to SingTel in 2001.

Reviewing the 'Competitive Process'

Clearly, the theoretically based over-simplistic whole-of-business 'competitive process' model, needs a complete review as this economic model in no way fits Telstra, Optus and several other large bodies that have ***a high percentage infrastructure business*** as well as a ***sizable competitive business component*** in their structures.

The issue here is that the prime foci of a competitive business is very different in almost every management aspect to the prime foci of an infrastructure business. This topic is introduced in **Appendix A "Understanding Infrastructure Businesses"** and it very clearly shows that the competitive model is in no way suitable for a business with a high proportion of

infrastructure; like a telecommunications carrier, and that ***an infrastructure model is far more appropriate for the infrastructure part of that business.***

Telstra is in the unfortunate position where it is both a "sub-government and private ***infrastructure business***" and a "sub-government and private ***competitive business***" and it has Telstra's infrastructure participation firmly abused by Part XIB of the Trade Practices Act. Its inclusion is unethical, as it blatantly bullies and abuses the staff and management a semi-sub-government infrastructure business with a competitive business front that was forced into a no-win position with this legislation.

With this in mind it then Part XIB should be another Act all together, and/or totally repealed.

(b) whether Part XIC of the *Trade Practices Act 1974* allows access providers to receive a sufficient return on investment and access seekers to obtain commercially viable access to declared services in practice, and whether there are any flaws in the operation of this regime;

Access Provision is a misnomer in that it really refers to Service Provision. The cost of Service Provision is therefore misunderstood as the Access Component of the network infrastructure. This misunderstanding is then usually continued through (and seriously underestimated) as the cost of the physical CAN and not the cost of the physical CAN, plus associated inter-exchange networks including infrastructure life-cycle management, and including total network equipment replacement.

Commercial (competitive) interests wishing to seek access (wholesale service) and on-sell this infrastructure product for financial gain, therefore usually underestimate the access provision costs because they have a lack of comprehension of the overall infrastructure inter-working and associated life-cycle costs.

The regime was established long ago when Telecom Australia / Telstra was the only service access provider, and all the legislation for the regime was structured to give any competitive service provider every opportunity to enter the market (at Telstra's expense).

Unfortunately, the serious flaw with the whole legislation (Part XIC) is that it is built around competition (competitive business) and not in the knowledge of infrastructure (infrastructure business). While the intent may have been to level the competitive playing field, it seriously impacted on the infrastructure playing field, resulting in massive unnecessary infrastructure expenditures that are still continuing today (in the name of 'competition'). This flawed legislation has seriously impacted on the ability for Telstra to be commercially viable in providing competitive access for declared services and receive sufficient return on their investments. Consequently 'access seekers' are caught in a bind where the major players (Telstra and Optus) are selling both wholesale and retail access services, and their pricing directly conflicts with their competitive market positioning.

Infrastructure Economics

This clause and the associated legislation is seriously flawed in that it incorrectly assumes that the telecommunications infrastructure can be physically broken up into component parts and proportionately valued like products in a supermarket shelf. The facts are that various sets of components of this infrastructure work in conjunction with each other to produce 'declared services'. Customer access comes in many forms and structures, and is engineered on known customer usage rates, (traffic densities) which directly impact on the operating costs and life-cycle, quantity and service availability of elsewhere associated infrastructure components.

From a Competitive Business perspective: ROI from access provision comes from including specific associated infrastructure component sets, so that usage of the access component then provides as high an ROI as possible from the total infrastructure.

From an Infrastructure Business perspective: ROI from access provision comes from the end users being able to cost-effectively use all available associated infrastructure component sets so that society and corporate/competitive business prosper.

An 'access provider' is in effect a real organisation that provides the access ***as part of the infrastructure***, where the telecommunications infrastructure also requires at least the network switches and transmission network to be an effective infrastructure. An 'access seeker' is therefore a mythological organisation seeking to provide the access part of the infrastructure to end-users by on selling existing access infrastructure at an inflated price. This 'access seeker' would take out a part of the cash flow as profit for supposed part infrastructure management, driving the prices up. Access provision is part of the overall infrastructure provision, and it cannot be isolated as it is suggested – unless the 'access seekers' intention is to provide no service at all – hence the myth! (***Highways to nowhere!***)

(c) whether there are any structural issues in the Australian telecommunications sector inhibiting the effectiveness of the current regulatory regime;

Flawed Simplistic "Competitive Model"

There are massive structural issues in the Australian telecommunications sector inhibiting the effectiveness of the current regulatory regime, and most of these issues stem from an economic **'simplistic' model** put forward by those lacking in practical industry experience, knowledge, expertise (and probably honesty); being that ***competition is good for business and therefore that all businesses should be run in full competition***.

The fundamental failure here is that there ***is no differentiation between an infrastructure business and a competitive business***, which have diametrically opposing; business agendas, business drivers, staffing practices, guru sourcing, lifecycle management, employment terms, corporate memory, community association, research approach, development approach, quality process, and maintenance strategies for a start! A brief insight to the ***prime focus differences*** between a competitive business and an infrastructure business is included in Appendix A of this response document.

Appendix B "Efficiencies in Telecommunications" clearly shows that at least over the last 40 years; it is ***advances in technology that have driven prices down and not competition.***

In the ***competitive process, what is not said*** is that the law of diminishing returns must have a minimal effect on competition, meaning that both demand and supply is continually high and that product differentiation (advertising and marketing) affect sales. Another unmentionable is that large businesses work most efficiently when competition is 'managed' (eliminated) and these then operate in a 'business non-competitive monopoly' situation, and ***that completely contradicts the competitive process model***.

For several decades – at least back to about 1880 industrialists have compromised several generations of politicians, economists and teaching establishments, and this has resulted in a string of reports that all advocate competition as the panacea for apparently poorly managed infrastructures. The efficient management styles of competitive business management are akin to 'school bullies' but efficient infrastructure management is similar to managing 'school

nerds', and the two bodies need to be kept well apart, and infrastructure needs government protection from the bully tactics of competitive business!

Before the digital era of about 1985 onwards, telecommunications was fundamentally an infrastructure business with a very limited product range, and customer service focussed at the personal level. In 1987 the Davidson report into the telecommunications sector (who apparently was a Banker/Economist having 'limited' telecommunications industry knowledge or experience), fundamentally recommended full competition to remove the infrastructure monopoly position that had been forced on Telecom Australia through earlier legislation.

Structural Separation of Telstra

More recently, several papers have been written and published that decry the current simplistic raiding of the Australian telecommunications sector by financiers and industrialists through using the full competition model. Most of these papers have put forward a common solution that moves Telstra's telecommunications infrastructure business, back under sub-Government control (as a Commission) and proposes that Telstra's retail/reselling areas be fully privatised (on the ASX). This structural separation takes the 'lolly' away from the industrialists and places it back in safe hands with the wholesale prices fully transparent; and places the reselling/retail part squarely in a very level and open competitive playing field.

Large chunks of ineffective Regulatory/Trade Practices administration laws could then be dropped as they would then be seen as obsolete and inappropriate, leaving the remaining ACCC to focus on competitive issues and the ACMA to focus on regulatory issues – in collaboration – not conflict – with the dominant infrastructure management.

The current Telstra leaves itself to be split down business units – with all Sales and Marketing, Commercial and Consumer, Retail, and HR (part) reselling going over to become the new Privatised brand (possibly as Bigpond) and the remaining NDC, Technology / Network Management, Planning, Engineering, Contracts, HR (part) Wholesale, etc staying as Telstra and becoming a sub-Government Commission. This is not 'rocket science' stuff and it should all be resolved internally (consultants unnecessary) to get the required split in a very short time frame – a few months.

This structural separation would then open the doors for other carriers to shed their infrastructures and associated staff if they desired to, and also give them the chances to be truly competitive without conflicts of interest between pricing and infrastructure maintenance.

The result would then be a sub-Government telecommunications infrastructure business providing a relatively small range of wholesale-based services at transparent wholesale prices. It does not stop alternate infrastructure providers from programming, operating, and selling their own infrastructures, but economies of scale could be a key factor. As the infrastructure side is focussed on providing the highest service standards, and introducing new technology infrastructures that could then be programmed without bureaucratic delays.

On the commercial / competitive side there would be several competitive telco reselling organisations to repackage these wholesale services as a wide range of 'value added' retail bundles with a wide range of competitive pricing structures to match a wide range of customer requirements, including Government, Corporate, Business, and Consumer; National, Regional, Local, Non-Metropolitan and Urban based, and all of these would be resellers, unrestricted by holding and managing long-term infrastructures. Resellers are only bound by their existing wholesale contracts, which leaves them free to drop old technologies at will, and introduce new products as soon as the infrastructure side implements technologies.

Re-positioning Regulation

This then places a small part of the regulatory regime in a prize position to manage the competition squabbles between reselling competitors. As the infrastructure side would then not require extensive regulation – because its natural prime focus is to provide consistently high service standards, and it would be working in collaboration with the remaining regulatory regime – not against it! This is a Win-Win situation for Australian legislation.

(d) whether consumer protection safeguards in the current regime provide effective and comprehensive protection for users of services;

The Trades Practices Act is a legal backstop to try and prevent unethical competitive businesses practices (*which is an oxymoron*). The legislation (Part XIC) for the current regime spells out the terms and conditions of telecommunications access provision and the resolution of disputes involving the pricing of these services. This legislation is impacted by the legislation in Part XIB that specifically targets Telstra's infrastructure as fair competitive game, and not as a very highly valuable Australian infrastructure.

Clearly, this awkward position could be resolved by removing the extension XIB containing punitive laws focussed on Telstra within the telecommunications sector. With Telstra being structurally separated, its infrastructure part can lead and collaboratively work with regulation regime requirements – instead of the cart leading the horse, and the reselling-competitive part can focus on customer sales. This then provides the answer for consumer protection safeguards as the reselling-competitive part is then the focus for even, and comprehensive protection for users of services, and the infrastructure part, working collaboratively would never allow situations where punitive laws are required.

It is the Trade Practices Act without the telecommunications extensions that should be addressing consumer protection safeguards – not the telecommunications Telstra specific extensions.

(e) whether regulators of the Australian telecommunications sector are currently provided with the powers and resources required in order to perform their role in the regulatory regime;

Times have Changed

I believe that at that time, the regime's powers were provided in good (blind) faith to follow the instructions of the Davidson report and since then the telecommunications infrastructure and competitive businesses have radically changed.

The complexity of the Trade Practices Act – with particular emphasis on Telstra spells out very clearly that the Regulators of the Australian telecommunications sector are innocently acting in a siege position on behalf of multi-national infrastructure raiders, and not on behalf of the Australian citizens. This is a very awkward political position.

All telecommunications carriers that have substantial existing infrastructure and retail sales have a direct conflict of interests that results in the stifling of new products and services. In the competitive mode, investing in new products conflicts with existing products using older existing infrastructure.

I believe that Davidson had a 'very limited' knowledge about telecommunications business infrastructure management, and that he and his advisors had extensive experience in economics and banking: theoretical competitive business management. My reasoning is quite

simple as almost any person with competitive business competence would naturally see a telecommunications infrastructure as grossly inefficient and naturally use all the competitive business tools in their arsenal to bring it into line with competitive business management practices, not knowing that these activities crippled infrastructure business efficiency.

Incorrect Powers and Resources

Some of the latent competitive efficiency tools included the artificial pruning of an infrastructure monopoly through questionable extensions on Acts of Parliament, and the establishment of competitive telecommunications businesses (and not with the foresight knowledge or understanding that these too – eg Optus, would become similar telecommunications infrastructures in less than a decade of their existences).

With this hindsight and the fact that now that Optus is foreign owned, and is a comparative infrastructure / competitive business just like Telstra, with similar conflicts of interest, it is obvious that the regulatory regime is unjust, does not have the best interests of Australian citizens, is not up to date with vastly different telecommunications applications, and is actually stifling (not supporting) the development of the backbone of our information-based economy – which is our future.

(f) the impact that the potential privatisation of Telstra would have on the effectiveness of the current regulatory regime;

The Legal Nightmare

Potentially, if Telstra was fully privatised, and parts XIB and XIC of the Trade Practices Act legislation stayed in place, then the Board of the privatised Telstra would have a long legal battle in the High Court to either have this draconian (punitive) addendums repealed, or have similar draconian laws drafted up to punitively attack all other telecommunications carriers, just as the Federal Government has attacked its citizens working in Telstra.

In essence, if Telstra is fully privatised, then the current regulatory regime will have to be bolstered about 100-fold to be somewhat effective; and that is stupidity. Also, the whole sector would suffer badly as punitive laws would then have to be drafted and served out on all other competitive carriers. The political backlash would be damning, as the regulatory regime would also impinge on all other players in the telecommunications sector, and beyond.

Alternatively, if Telstra is fully privatised and the punitive XIB and XIC addendums to the Trade Practices Act are coincidentally repealed, then the regulatory regime has no position to work from and that will lead to anarchy, as has been shown in every country where the regulators have left it to the market. This would mean that the regulators would have had to come in again – proving that corporate competitive businesses have to be regulated or they will naturally move to unethical competitive business practices.

Innovative Strategic Positioning

So, if the regulatory regime wishes to be effective, with the potential privatisation of Telstra, this regime needs to move away from the Trade Practices Act, firstly by repealing the addendums XIB and XIC, then by establishing an industry-wide Act that specifically focuses on the "Telecommunications and Information Technology" ***infrastructure business practices*** (**not competitive business practices**) and this needs to be administered by the ACMA. This correctly positions the ACCC to focus on unethical competitive business practices and also positions the ACMA to focus on inappropriate infrastructure business practices, as these two sets of practices have diametrically opposing prime foci.

Even if Telstra were not fully privatised, this move would be astute as it focuses the ACCC where it should be, without lopsided legislation to resolve unethical competitive business

practices. Also this focus on appropriate ***infrastructure business*** practices is largely the intent of the ACMA with regards to broadcasting, telecommunications and IT, so it correctly positions the ACMA to be effective in this alternate situation.

(g) whether the Universal Service Obligation (USO) is effectively ensuring that all Australians have access to reasonable telecommunications services and, in particular, whether the USO needs to be amended in order to ensure that all Australians receive access to adequate telecommunications services reflective of changes in technology requirements;

Continually Changing Goalposts

When the USO was introduced in about 1987 (Davidson Report), relay-based Crossbar had been installed for about 20 years and all transmission was analogue (see earlier). Transmission standards were State-based and becoming Nationally-based and CAN specifications allowed for typically 6 dB but up to 18 dB loss – depending on the State in question. Most regional and remote areas had much less than satisfactory switching and transmission performance compared to most urban situations. (I know, – I worked in these areas; Nationally on these specific problems!)

By 1990 most PSTN/IEN/IDN transmission and switching problems were minimised by the use of digital exchanges and digital/optical fibre transmission technologies – not competition. This mitigated CAN transmission issues, and a national CAN engineering specification along with easy to perform commissioning process standards almost eliminated call connection phase issues – again this had nothing to do with competition. But fax and modem usage had increased and in no way did the rural and remote areas compare with urban connections as all these services were connected by pair gain systems (PGS) and these systems severely limited the comparative available data rates available in urban areas. Mobile phone coverage was reasonably good in most urban areas but deplorable in anything less than highway access and major metropolitan cities in country Australia.

By 2000 Internet was in full swing and dial-up services worked effectively in most urban / metropolitan areas, but not in non-metropolitan / rural and remote areas. This was because of pair gain systems (PGS) are in place to virtually all premises beyond 4 km from local telephone exchanges. (In many country areas, most local telephone exchanges had been replaced with PGS – providing reasonable voice/telephony services but unsatisfactory data/Internet services.) To compound matters many major urban areas had CATV on HFC (see earlier), Cable Internet and ADSL was on the horizon.

By 2005 the international expectation is at least 1 Mbits/sec both-way Internet, and Australia has ADSL which typically works with 0.256 Mbits/sec downstream and 0.128 Mbits/sec upstream, providing you are within 3.5 km of the digital Services Line Access Multiplexer (DSLAM), and that counts out most country towns, let alone regional and remote – which are given the 'satellite' option (downstream 0.256 Mbits/sec and 0.024 Mbit/sec upstream)! Meanwhile urban with cable including CATV can also carry Internet at about 1 Mbit/sec downstream and about 0.128 Mbit/sec upstream – and nothing in non-metropolitan areas!

Moving with the Goalposts

Now that we have digital transmission and optical fibre technologies to provide very cheap and long distance access and network infrastructures, it is very clear to me that the USO should be a moving target to provide comparative telecommunication services irrespective of location. It is also very clear to me that Australia needs to have a sub-Government managed telecommunications infrastructure body to implement and manage these technologies to foster Australia's business wealth – not hinder it – as competition has done.

The USO has been partially effective in ensuring that all Australians have some access to reasonable telecommunications services, but the USO needs to be regularly (annually) amended to reflect the respective changes in technology requirements to be in line with those in major capital cities.

(h) whether the current regulatory environment provides participants with adequate certainty to promote investment, most particularly in infrastructure such as optical fibre cable networks;

Strategic Investment Conflicts

The infrastructure investment scenario in the USA and some other parts of the world is a very different from the infrastructure investment scenario in the Australia. In the USA, for more than the last century, merchant bankers / industrialists have financed (rolled) 'Utility' companies and these companies are in-effect the infrastructure that most other business rely on for their essential (infrastructure) services. Those merchant / investment bankers / brokers / industrialists have compromised all levels of governments to ensure that they have a high return for their investments.

In Australia, for more than a century, the vast majority of infrastructure was provided and managed through the British Government in the early years and then provided and managed through the Australian Federal Government. The Australian citizens through their payment of their taxes have financed this entire infrastructure. It is only in the last few decades that merchant/investment bankers and industrialists have compromised Australian politicians, and infrastructure belonging to the Australian citizens has been sold off to business interests not proportionally representative of the Australian citizens and businesses.

There is an investment conflict of interests in that Australian citizens and businesses have already paid for the telecommunications infrastructure through their taxes. The Australian Government's conflict of interest is that a large portion of Telstra (notionally as an infrastructure) has been sold from the Australian citizens and businesses, primarily to investment companies for the purposes of increased profit by those investment companies.

These increased profits for those investment companies will only come by increasing user rates, and minimising service standards. These policies directly align with competitive business policies that coincidentally directly conflict with infrastructure business policies, which are to minimise user rates and maximise service standards (for the Australian citizens, and businesses).

The State of the Infrastructure

As pointed out in earlier documentation (*Australian Senate References Committee, response to Broadband Competition, Number 19 (Malcolm Moore), 27-Sep-2003*), that document pointed out that the Inter Exchange Network (IEN) and Customer Access Network (CAN) had convergent transmission technologies, and that the IEN was then virtually all optical fibre, but the CAN was almost all copper pair, and totally unsuitable for Broadband take-up. In other words, there is a telecommunications infrastructure crisis happening. For those with a 'limited knowledge' about telecommunications infrastructure business and a wealth of knowledge in competitive business, the apparently obvious solution is to promote investment, most particularly in infrastructure, such as optical fibre cable networks.

That document also highlighted that when Cable Television was introduced into Australia circa 1992, it was done so under a competitive business environment, and the result was nothing short of a financial and engineering disaster for Australia, and the catalyst for this was

competitive business itself. It appears that nothing has been learned from this monumental mistake and that another episode of competitive investment is being promoted, and this time in optical fibre networks – in particular the Broadband CAN.

The proposed CAN infrastructure would provide true bidirectional Broadband, multiple telephony and data channels, bothway video-conferencing, and CATV – but the problem is that ***this CAN infrastructure will be information highways to nowhere***, as this infrastructure requires thick inter-exchange IP network infrastructure to work with it.

None of these incumbents are looking to plough at least $8 Bn into CAN infrastructure, as it would severely impinge on their current chare price listing values (and the regulatory regime / environment would place competitive business restrictions on the then dominant infrastructure business, as it has to Telstra).

As this CAN infrastructure is programmed, so too, the existing inter exchange network (IEN) needs to have a thick Internet Protocol (IP) infrastructure to be engineered over it and the investment cost will be in the order of at least $16 Bn. Very little imagination is required to realise that no incumbent is looking to plough in at least $24 Bn and have a continually positive growth to their share price. Consequently; limited Website hosting is just about as far as any incumbent has dared to venture, and the thought of passive optical network (PON) fibre to the premises (FTTP) is simply too daunting a project to consider.

Optical Fibre Risks

Participants wishing to invest in Australian infrastructure (for example Optical Fibre) should know that because the population density is comparatively very low, any positive return on investment (ROI) is a long-odds risk and a long-term (several years) investment. A case in example is the NextGen project, which laid high capacity Optical Fibre system down the east coast of Australia, and across to Adelaide and Perth, and then was wound up at considerable loss and was eventually bought back by Leighton's, the engineering project management company that installed the cable and associated infrastructure. This was a classic case of a financial investment initiative without a solid business case for utilisation of the proposed infrastructure.

In the light of fairly recent Optical Fibre technologies being used in Broadband Internet using passive optical fibre networks (PON), fibre to the premises (FTTP) as the CAN component (without the associated necessary thick Internet Protocol Network (IPN) infrastructure); this would be seen by some less than scrupulous (dishonest) financiers / investment bankers etc as an opportunity to promote investment into telecommunications infrastructure.

This would also be seen as an opportunity to promote investments into Telstra for less than scrupulous (dishonest) governments (and oppositions), as these politicians know that they are also responsible for the current overbearing regulatory environment which directly conflicts with both Telstra's infrastructure business, and Telstra's competitive business which both have totally divergent prime foci.

Telstra is partially investment business owned and wanting a maximum ROI, and in government hands wanting high service standards and minimised user costs – and these are direct conflicts of business foci. Optus and the few others are either foreign and/or investment business owned, looking to maximise their ROI, and have a tail of infrastructure that impinges on their market agility. None of the telcos are looking to be in a dominant infrastructure business position (as highly desirable in competitive business) because the current regulatory environment will then stifle that infrastructure business arm.

Strategic Investment Solutions

There is a simple solution to this investment issue, and it is to 'look outside the square' and look to invest in reselling, not infrastructure. This approach can be achieved with consummate ease by initially separating the structure of Telstra so that there are two distinct bodies: Reselling and Infrastructure. By aligning the current Telstra 'public' share portfolio with the now separate Reselling body, this body now becomes the totally privatised (Bigpond?) body just like any large retail store with a very big cash flow and a wide range of 'bundled' retail products. Again, just like any retail store the base products are purchased at a standard wholesale rate from the totally separate infrastructure commission (Telstra?) and other telecoms infrastructure providers.

This approach keeps the investment bankers in the competitive business environment in which they are familiar and out of Australia's essential infrastructure business environment in which they have already done immense damage. With the reselling operation separate and privatised the new Reseller (Bigpond) can then be agile and move with/ahead of the market, as it is then not encumbered with infrastructure business, so the share price will hold and be strong. This proposed investment approach with Telstra being structurally separated is the perfect environment to provide participatants with adequate certainty to invest in the reselling arm, and not in infrastructure – particularly not in optical fibre.

(i) whether the current regulatory regime promotes the emergence of innovative technologies;

Research's Demise in Australia

This is a global phenomenon in that with standardisation of telecommunications switching, transmission and signalling protocols since the early 1990s, global competitive telecommunications manufacturing businesses have focussed their research into a select few universities and focussed their manufacturing developments into a few leading factories. The remaining assembly (not manufacture) factories have virtually no development facilities.

Concurrently, since the current regulatory environment has taken grip, my understanding is that: Telstra Research Labs have all but closed doors, Ericsson has virtually ceased its development work in Australia, Siemens and Alcatel have reduced their development work to straight assembly production. Optical fibre production has all but ceased and research leading to development in optical fibre technologies has ground down to a small establishment in Redfern (Sydney). So, yes, in my opinion in the last eight to 12 years, the regulatory regime has heavily assisted in devastating a once thriving Australian innovation based industry, and it has assisted in driving the Australian economy back to the era of mining / primary produce with a currently huge negative BOP.

Telstra Research Labs was the catalyst for a plethora of R&D projects that inevitably lead to Australian technology innovation being heralded around the world. It stands to reason that because the infrastructure side of Telstra has been so brutally bashed it will take some years to and assistance to recover.

Rebirthing Innovative Technologies

There is no overnight political solution, but the first stages of technology innovation recovery include pulling back the draconian regulatory regime and instead, providing political assistance in creating the structural separations of Telstra (and later, Optus), to create a major telecommunications infrastructure that is a sub-Government Commission, and political support of the reselling concept as the competitive arena.

The current regulatory regime is the unwitting catalyst that has demoted and stifled a wide range of possible innovative telecommunications technologies. This is because the research side needs a telecoms infrastructure to nurture it and this has all but been exterminated. Other areas of innovation – eg accounting software, have emerged and thankfully the regulation regime has not extended and stifled that too.

With a structural separation of Telstra, the regulation regime can then work in cooperation with the infrastructure side, and that takes the pressure off the regulation regime to 'control' and takes the pressure off Telstra-Infrastructure so that it no longer need to be secretive about its proposed infrastructure innovations.

(j) whether it is possible to achieve the objectives of the current regulatory regime in a way that does not require the scale and scope of regulation currently present in the sector; and

Current Regulatory Objectives

My understanding is that the objectives of the current regulatory regime are in effect a rigid template to prevent Telstra from being competitively dominant in any field of telecommunications, either by having the necessary infrastructure in place and using it, using differential pricing techniques to block competition, and/or any other behaviour to monopolise the market, fair or not.

My understanding of the regulation side of the telecommunications sector is to prevent any competitor from introducing equipment products and/or services that do not meet the minimum engineering / safety specifications, and enable that the retail pricing be favourable compared to that of Telstra.

The extensive scale and scope of the current legislation I believe has come about by a draconian mentality of control instead of an affirmative mentality of cooperation and support. This control/monopoly mentality was born from 19th century management styles to crush before discussion that are totally out of place in today's society and fair business practice.

The objectives of the current regulatory regime requires considerably much more than the scale and scope of current regulations to cater for all other competitors in the same manner that has been dealt out to Telstra. When a broad reaching punitive set of regulations are introduced and enforced, the commercial backlash would easily depose a Government.

Future Regulatory Objectives

An alternative to this fascial situation of the current regulatory regime is to repeal the punitive competitive legislation (Part XIB) against Telstra, and structurally separate Telstra so that its reselling interests are totally privatised, (maybe called 'Bigpond'!) and a separate infrastructure side that is then made a sub-Government Commission, (maybe called 'Telstra'!)

With the structural separation of Telstra, this move repositions the regulatory regime so that its scale and scope are likewise separated. The ACCC then works with the Trade Practices Act in relations to issues involving unethical competitive business practices – related with telecommunications and IT reselling, and the ACMA would work with issues involving broadcast, telecommunications and IT infrastructure access and service standards.

(k) whether there are any other changes that could be made to the current regulatory regime in order to better promote competition, encourage investment or protect consumers.

Why Promote Competition?

This statement appears to be a contradiction or tort in terminology, and locked in the proven myth that competition is the panacea for all businesses, be they competitive businesses, infrastructure businesses, corporate business or any other category of business. The facts are that competitive business has a **totally different prime focus** than infrastructure business, and that ***competition in infrastructure is extremely inefficient and very expensive.***

Case in Example: If competition is so good then why is the equivalent electrical power to light The International Bridge (Canada – USA) have such a wide retail differential? From the Canadian Power Commission (an infrastructure business) the rate is $8.43 per month and by a private US power company (a competitive business) the rate paid for the same equivalent power is $43.10 pr month (both retail rates). [Reference: PowerPlay pages 61-62]

If this ratio was applied in Australia with telephony charges, then the if using a competitive rate of about 25c per call, then the equivalent infrastructure-based retail rate would be about 4.9c per call. It should be profoundly clear that full-scale competition drives prices up (not down) and it puts the customer at peril of being forced to pay the highest possible price.

Protecting Consumers from Competition

The practice of competition (and marketing) - competitive business - is the very reason why consumers need protection. The aim of marketing is to provide a range of similar products that give the consumer choice – just enough choice so they become confused and buy the product and/or service. With competition, the range of similar products is increased, causing more confusion and the opportunity bundle product 'features' at higher prices.

Investment Favourites

Investment in broadcast, telecommunications and IT resellers should be encouraged, just like investment is encouraged with resellers in other market sectors like CML, WOW, HVN, HWL, IGA etc. There is no difference! It is really up to the investors to decide where to invest their funds. If they think that they see value with investing in resellers, which are independent competitive businesses, then that is their choice, and if they see greater value with investing in other sectors then again it is their competitive business choice.

Investment in telecommunications (and other sector) infrastructure businesses should be discouraged, as these are already owned by taxpaying Australian citizens, and should be managed by sub-Government Commissions. The Governments should be encouraged to invest in infrastructures managed by sub-Government Commissions. Competitive businesses and the Australian society will benefit and profit from using those infrastructures managed via the Governments.

(2) That the committee make recommendations for legislative amendments to rectify any weaknesses in the current regulatory regime identified by the committee's inquiry.

Recommended Legislative Amendments

My recommendations are already covered in the preceding responses to the inquiry, and the background for these responses is covered in the following chapters that position competitive businesses and infrastructure businesses as separate but co-existing interests.

The issue of weakness in the current regulatory regime is that local and international competitive businesses are severely impacting on Australia's telecommunications infrastructure business. Consequently this activity directly impinges on the Australian economy, as competition is stifling the Australian telecommunications infrastructure from developing in a cost-effective manner.

To correct this fundamental legislative weakness, the Trade Practices Act needs to be an Act unto itself – free of Parts XIB and XIC that relate totally to the telecommunications sector. Any other parts in the remaining Trade Practices Act that target telecommunications (and/or specifically Telstra) needs to be removed so that this Act is without bias.

Part XIC needs to be totally revised and set up as a separate Act – possibly as the Telecommunications and Information Technology Act. In this revision, the new Act should be focussed as an infrastructure provision and not a competitive provision, and this is a major mindset change. This Act would then be the foundation for (wholesale) infrastructure businesses – not the competitive (reselling) business – as competitive businesses are already catered for in the Trade Practices Act – without XIB and/or XIC.

Part XIB initially needs to be extracted from the Trade Practices Act, as it is specific to the telecommunications industry, and possibly repositioned under the new Telecommunications and Information Technology Act. Just as with Part XIC, the focus of Part XIB is based on unethical competitive practices in the telecommunications industry – specifically targeting Telstra – as it was then the dominant telecommunications infrastructure provider.

With the proposed structural separation of Telstra into two bodies, one an infrastructure business as a sub-Government commission, and the other a fully privatised retail reselling competitive business, the legislation in Part XIB is largely obsolete, and a critical review of the contents of this Part is imperative as there is no place for competition in infrastructure provision.

As the new telecommunications commission is an infrastructure service provider at the wholesale level, and not at the reselling level, there is no conflict of pricing interests. In Part XIB with the mindset of infrastructure business replacing competitive business, the rewritten legislation of Part XIB is then dramatically simplified as it stops attacking the infrastructure and starts supporting the infrastructure, and this aligns with the intent of infrastructure businesses of providing complete wholesale pricing disclosure.

Standard Terminology Act

Having been involved in software development for several years, it is standard practice to have a list of definitions at the front of source code, and in projects, it is common to have a standard set of definitions in a data dictionary, and those definitions applied identically everywhere. The same approach could be applied to Federal (and State) law through the creation of a Standard Terminology Act.

Currently each act has within it a section specifically describing the terms in that Act and there are variations in terminology between Acts leading to confusion and misinterpretation. With the creation of the Standard Terminology Act, this Act would essentially be a dictionary of standard terms used in writing law, and ***each of these terms shall be described in concise English, leaving no room for interpretation***. This would be a major departure for legislative writing there would then become one standard reference for terminology – saving a huge amount of rework, and each term would be precisely defined, greatly improving the Quality of the Acts.

Each new Act that is to be read and passed through Parliament shall, in the first section, refer to the Standard Terminology Act for all definitions of all terms used in that Act.

Each Act referred and passed through Parliament shall specifically refer to the Standard Terminology Act as the absolute reference for all terminology in that Act.

Laws are Specifications

The systematic weakness that needs to be rectified is that the laws are so complex that they need interpretation to be understood. If a law is complex then it is either inappropriate or has been surgically 'adjusted' to favour or suppress a particular group of people or business interests – and those laws need to be removed (repealed).

The inclusion of words such as 'substantial', 'reasonable' and 'convenient' 'deemed' 'considered' etc. are blatant loopholes that are unforgivable. Laws are specifications, and they must be put through a decision flow chart to prove that there are no loopholes or loosely specified areas before being passed and implemented.

Before each Act is to be read, and after amendments before finalisation, each Act is to be described in a flow chart and every instance of interpretation (or lack of clarity) is to be removed and reworded so that there is no room for interpretation.

Appendix A

Understanding Infrastructure Business

Infrastructures are those products and services that underpin an economy. They are the foundations on which a country builds its commercial/economic businesses wealth and supports/develops its societies. Australia has three levels of infrastructure management, at the Local Government Area (LGA) level, the State Government (SG) Level and the Federal Government level. The infrastructures of Transport and Communications (data/information transport) come under the Federal level.

What has to be realised is that for several decades, at least back to the 1950s, in the more industrialised areas of the globe, Government based infrastructures have been under increasing attack by commercially driven corporate businesses enterprises to 'liberate' Government infrastructures into the hands of international corporate businesses. Most of this is because major 'Utility' companies in the USA (that have monopoly grips on governments and infrastructures there) are continually looking to expand their commercial interests.

The reasoning is almost too simple to comprehend: Various Government bodies inject massive capital investments into infrastructures, and industrialists, investment bankers and brokers; controlling commercially driven competitive businesses, incorrectly visualise the infrastructure products and services as a simple fit to the supply/demand economic rationale. With that embedded simplistic economic logic, in corporate business terms, this spells massive profits for competitive businesses that can unseat and 'commercialise' Government infrastructure bodies – and this always outcomes at the expense of that Government's economy.

Subtly, infrastructures and competitive businesses have very different approaches, outlooks and structures, and this spelt out in the following table. It should be obvious that competitive businesses are in effect business units, armed and all to ready to fight to the end with any threat or opportunity. On the other hand, infrastructure units are service oriented and look to provide support at all levels, and in fighting terms, are no match when confronted with any corporate/competitive unit. These two entities work together but should never be compared in terms of similarities.

Having see the content on the following table it is profoundly obvious that corporate / commercial businesses and infrastructure businesses are 'poles apart', in almost every conceivable area – but they indirectly need each other. Corporate Competitive Businesses are natural bullies that take at every opportunity and they naturally see the Infrastructure Businesses as easy targets – with an apparent wealth that is just asking to be plundered. The Infrastructure Businesses are natural nerds that have built up a wealth of business services; priced as already paid for, making them virtually indefensible targets for corporate savages.

It is up to the ongoing Governments and Oppositions to recognise and acknowledge that Australia's assets are supported by Government-based infrastructures, already paid for by the Australian citizens, and these infrastructures have to be protected from ongoing (international) corporate business raids. These raids come in many forms but are usually initiated by Ministers being compromised by association with corporate business leaders – followed by investigations and reports suggesting that 'efficiencies' can be gained by privatising or outsourcing parts of government infrastructure into business corporations. This is usually followed by outright sale of Government assets to eventual international business organisations in the name of 'competition' as the key driver to provide 'better service'.

Prime Focus	Competitive Business	Infrastructure Business
Agenda	Maximum ROI for shareholders, through trading at the highest price that the consumer can tolerate.	Reliably provide the necessary goods/services so that other business and society can flourish.
Business Drivers	Sales Driven: Focussed on driving sales targets ever higher by advertising and product differentiation.	Project driven: Focussed on implementing ongoing projects to improve service standards.
Promotion Strategies	High Level: Marketing and Advertising, Sponsorship, Radio and TV, Building Naming, Billboards, Product Placement, 'News'.	Low level: Site-based management details, Special occasion speeches, Factual Website,
Return On Investment ROI	Investment costs usually recovered within 3 to 6 months of product launch – the remaining is profit giving high ROI.	Investment costs usually recovered by 75% to 100% of product life cycle, and this may be some decades giving low ROI.
Staff Orientation	Has a very high proportion of marketing and sales, promotional staff, lawyers.	High proportion of Engineers, Project Managers, technical and trades, staff.
Staffing Practices	Usually out-sources/contracts Engineers, IT, Accountants, Consultants, Technical, Trades staff.	Usually in-sources Engineers, Project Managers, technical and trades, staff.
Guru Value	Sales and Marketing, Sponsorship, Lawyers, Accountants.	Programme Management, Specialist Engineering, Technical, Trades, and Communications and IT people.
Product Life-Cycle	Long-term is 5 years, medium term is 2 years and short term is about 6 months	Long-term is about 25 years or more, medium-term is about 5 to 10 years and short term is 2 to 5 years.
Employment Term	Employment is usually 1 to 3 years – and people often change competitive company business.	Employment is usually 10 to 40 years – and people usually move around within the organisation.
Business Memory	Short-term memory of typically 5 years maximum – need for external consultants usually called in to give business directions.	Long-term memory is typically 20 to 50 years, and in-house expertise provides the project development direction.
Business Associations	Highly associated with sales, marketing and advertising, and apparent community bonding through sponsoring and advertising.	Low association with sales, marketing, advertising, and sponsoring, but highly community bonded through families, schools and Universities.
Product Research	Usually has a very limited research area, relying on other sources (sales) to provide the 'leads'.	Usually has an internationally recognised research area, usually working with Universities, and manufacturing companies.
Product Development	Development is usually simplistic – usually related to reselling, repackaging, assembly processes	Complex development of (usually) highly associated products and services.
Quality Processes	Used to improve corporate image and drive up return on investment (ROI) for shareholders.	Extensively uses Standards and Industry Recommendations, Standard Operating Procedures to drive down costs.
Maintenance Strategies	Usually minimum-planned, reactive maintenance and often outsourced. Products run-down towards end of life.	Usually proactive maintenance (a stich in time saves nine) programmed over the life cycle of the product.

Appendix B

'Efficiencies' in Telecommunications

This mindset has to be one of the biggest all time lies in the push for corporate business takeover of the telecommunications infrastructures on a global scale! I have had more than 35 years experience in the telecommunications industry, and from my very extensive experience ***the only improvements to efficiencies in the telecommunications industry have been through technological advances and nothing else - nothing!***

Corporate business has provided some appearance of efficiency improvements in telecommunications services – primarily through so-called competitive retailing, but ***the hidden costs of advertising, marketing and sponsoring and competition itself, have driven retail prices up – not down!*** The following paragraphs give an historical footprint of many of the technological advances in the last 50 or so years, and in each case these advances gave rise to dramatic efficiencies in telecommunications services.

With commercial developments in transistor technologies in the early 1950's, frequency division multiplex (FDM) came of age replacing the earlier 3-Channel systems that took 3 racks of equipment at each end, with a single rack to carry 12 channels and later 60 and then 120 channels per single rack. Not only did the new technology equipment draw much less power than the valve predecessors, but the footprint was much smaller making efficiencies in telephone exchange building economies too.

With signalling technological developments in the late 1950's; the far less secure 1VF (single tone in-band Voice Frequency signalling) was enhanced into 2VF, and then with newer magnetic ferrite based passive filter technologies; both-way out of band signalling was introduced, and this channel associated signalling (CAS) technology became the became the analogue signalling standard medium for the next 30 years.

With developments in switching technologies, (relay switched) Crossbar technology was introduced from 1960 provided automatic alternate routing. This provided a cost-effective replacement for the now ageing Strowger and SE52 step-by-step technologies, and produced an exit for manually connected calls using Sylvester cord connected switchboards and an army of switchboard operators. A wide range of interfacing relay sets was developed to connect Crossbar technology to virtually every telephony-based signalling protocol.

The bugbear of analogue transmission is that temperature directly affects attenuation through the bearers (open wire, cable, radio, coax), which required continual adjustment and regular calibration. This equipment required relatively high maintenance. It was not until the early 1980s that developments in digital transmission technologies caused the overhaul of the entire analogue-based inter-exchange network to be replaced with digital transmission equipment and this was completed in about 1994. This technology development reduced transmission maintenance staffing needs by at least an order of magnitude.

International developments in digital switching in the mid-late 1070's heralded the introduction of digitally switched telephony and tress (telex) exchanges in the 1980's. The enormous comparative efficiencies of this technology came through non-mechanical switching, and from that, switching maintenance staff was reduced by at least an order of magnitude in the years following this technology introduction.

In the late 1980s optical fibre technology began to replace cable, radio and coax between all telephone exchanges and simultaneously, the technology of Plesiosynchronous Digital

Hierarchy (PDH) and Asynchronous Transfer Mode (ATM) began to replace the analogue standard FDM. These three technologies brought with them incredible cost efficiencies that literally made long distance calls no more expensive than local calls (on a national basis). (*A common saying is that the most expensive thing about installing and commissioning optical fibre is digging the trench to lay the cable!*) This is a stark financial contrast to copper based analogue transmission bearer technology running expenses.

Another order of magnitude in efficiencies came in early the 1990s with the introduction of common channel signalling (CCS7) that replaced CAS and with that, call metering became automated and mobile access networks were connected to provide geographically wide area coverage with comparatively little expense – other than the purchase of spectrum bandwidth (which forced mobile costs up).

CCS7 had a wealth of information in it that took several years to mature and in the process; a new technology of Synchronous Digital Hierarchy (SDH) was introduced to better connect earlier PDH based transmission networks. SDH includes a Network Management overhead that almost removed the need for national 24-hour network surveillance and provides internal network healing in almost all cases of network damage. CCS7 also included the Small Message Service (SMS) component that many use everyday.

With the rapid deployment of Internet Protocol (IP) in the mid-late 1990s the internal telecommunications network had taken another technology step in cost-effectiveness and this included voice over IP (VoIP) to gain at least double the traffic density (throughput) on existing transmission networks.

In the early 2000's cost efficiencies came through restructuring the internal telecoms network to be fully IP based, and this means re-engineering the telephony switched network and the current optical fibre network to move from major telephony based switching exchanges into IP switch exchanges, and connected with CCS7 to provide SMS, metering, and network management functions of network self repair and healing/reporting.

Sadly lacking in the background, the Customer Access Network (CAN) had gone through little infrastructure development since the mid 1940's; when cable started to replace open wire (OW) technology. In the mid 1980's, competitive practices caused the forced introduction of Pair Gain Systems (PGS) to apparently drive down the costs of customer connections through sharing switched lines to customer areas, rationalised use of copper to 0.4 mm and 0.64 mm only, introducing Voice Frequency Hybrid Amplifiers (VFHA) and remote digital multiplexers – including Remote Integrated Multiplexers (RIMs).

This forced competitive practice (in cutting costs) backfired with the later introduction of ADSL in about 2003 and beyond to provide a stopgap solution to customers requiring a form of Broadband connection on their existing lines as all rural and remote services come via PGS and a good 20% urban are also connected by PGS technology. (*So much for competition cutting costs.*)

In the early 1990s, competitive hybrid fibre coax (HFC) was rushed into most major urban areas to provide (competitive) community access television (CATV) and the results were disastrous. Not only was CATV duplicated in a large number of areas, but also the rush of installation from competing infrastructure businesses meant that these costs were far higher than an ordered (infrastructure) approach. Now, with these cables being used for Internet too, (high frequency end spectrum use) it has become obvious that the commissioning was at the

least, suspect; with a majority of faults these days attributed to poor network alignment, and badly corroded cables as this network is now nearing the end of its low-maintenance life.

The dormant issue is that of replacing the ageing copper based CAN with optical fibre, as this is the next technology driven step to drive down prices. In an infrastructure-based organisation this would not be an issue, as this is ongoing investment to improve services; but in a competitively based organisation, this is seen as spending funds that can otherwise be seen as profit for shareholders.

Further, by introducing optical Fibre To The Premises (FTTP) – an internationally existing technology – this provides a perfect technology match to switched IP, CATV, Broadband Internet, and Telephony; and its service range extends well past 6 km, making it an ideal candidate to resolve the urban versus rural and remote comparative technology arguments.

Needless to say there is a huge conflict of interests here for competitively based organisations as most of their CAN based products will have their service standards compromised to the point that everybody will be wanting optical fibre and nobody will want copper wire or HFC, or satellite based access. If this were an infrastructure based organisation implementing this technology then it probably would be in its last stages, as the prime agenda of any infrastructure is to provide the best service standard possible.

In the past few years some form of sense has happened in the so-called competitive Australian telecommunications market, where competing carriers (infrastructure providers that also retail products) have finally realised that one of the basic laws of economics (the law of diminishing returns) heavily impacts on their ability to make profits. As a consequence Telstra leases IP switching and transmission infrastructures on the 'Golden Boomerang' (Melbourne – Sydney – Brisbane route) to and from Optus, and Orange leases 3G mobile Access infrastructures to Telstra. This makes interesting philosophy: Competition at the customer level and cohesion at various infrastructure levels below!

The problem is that commercially driven businesses see 'inefficiencies' in infrastructures, as the entry points for commercial infrastructure takeovers. The natural ploy is to see the target infrastructure as a commercial business that has several areas that make it non-competitive and by removing these areas the infrastructure then becomes competitive – for a while!

The underlying problem is that an infrastructure is by its very nature not a competitive entity, and through that, the push for competition to make an infrastructure efficient simply defies economic logic. Refer to Appendix A "Understanding Infrastructure Business".