

2004 – 2005

Response to the

Australian Senate's

Inquiry into the Proposed Australian

Communications and Media Authority

(ACMA)

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ACMA Bill Response

The course of this Bill Response originated from an earlier paper based in the knowledge that the economic competitive model for Australia's telecommunications industry has failed. The reference for this proof of failure is Optus, as is Telstra, are both encumbered by internal pricing structure conflicts between their wholesale and retail sectors and it is this nexus that is the continually failing link that proves that in anything larger than small the business model – competition simply does not work.

Telecommunications Industry leaders are now making representations to the Australian Government to make structural changes to Australia's telecommunications industry, and Telstra is in the process of making internal structural changes to isolate the wholesale and retail (reselling) parts of its business. With the amicable joining of Telstra's Wholesale and Infrastructure business units, this then provides the migration path for Australia's telecommunications industry to structurally change for the better – making the retail (reselling) component the competitive sales arm and the Infrastructure component into a non-competitive infrastructure provision.

With this agreed structural change, the role of the ACA moves back from being regulatory to advisory in the case of the infrastructure management, and well forward into regulatory in the area of competitive retail reselling. The ACA is already well positioned, but needs some of the functions of the ABA to be truly effective, and this then leaves the ABA remnants, in effect as a lame duck, and these remains need to be repositioned nearer the ACCC and merged with the Australian Censorship Board.

It is therefore timely that the future role of the ACA and ABA be reviewed and this response addresses parts of the issues provided to me by Dr Jacquie Dewar:

"As discussed, a submission from you to the Committee's current inquiry into the new Australian Communications and Media Authority would be most welcome. The inquiry's terms of reference are:

(a) The provisions of the Australian Communications and Media Authority Bill 2004 and the Australian Communications and Media Authority (Consequential and Transitional Provisions) Bill 2004 and related bills;

(b) Whether the powers of the proposed Australian Communications and Media Authority and the Australian Competition and Consumer Commission will be sufficient to deal with emerging market and technical issues in the telecommunications, media and broadcasting sectors; and

(c) Whether the powers of Australia's competition and communications regulators meet world best practice, with particular reference to the United Kingdom regulator Ofcom and regulators in the United States of America and Europe.

The Committee is to report to the Senate on 10 March 2005, and submissions to the inquiry are asked to be lodged by 31 January 2005.

I look forward to hearing from you.

Kind regards

Jacqui

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Bill Response

As my background covers more than 35 years in telecommunications in areas including telephony, transmission, signalling, metering and billing, internet, network performance, customer service, service standards, television and radio broadcasting, mobile phone technologies and management at all levels; I feel that my experience, knowledge and wisdom has a lot to offer to this response.

Before responding to the actual paragraphs in question, I have drafted out a brief synopsis of the interaction of some of the various bodies involved with regulation of the broadcasting and telecommunications industries, and this then sets a clear path to respond to the paragraphs in question.

Introduction

The Australian Communications and Media Authority Bill (the ACMA Bill) addresses two existing authorities; the Australian Communications Authority (ACA) and the Australian Broadcasting Authority (ABA), with the direction to merge these two and form one authority called the Australian Communications and Media Authority (ACMA) by 1 July 2005.

It appears that the given reason for this merge is to better manage commercial business initiatives that would otherwise fall between these two existing authorities – rendering both regulatory authorities ineffective and/or irrelevant.

In the past 25 or so years, major engineering technology developments have been introduced and include at the least; optical fibre transmission, digital transmission standards, digital switching for telephony, common channel signalling (CCS7), the transmission control protocol/Internet protocol (TCP/IP) signalling suite, and massive advances in semiconductor production techniques. This area was well covered in my response to the Australian Telecommunications Network Inquiry regarding Broadband Competition, dated 27-Sep-2003 and the details are in [Ref 1], and it shows that as a consequence, technical engineering developments in telecommunications have converged the physical medium (bearer) aspects.

With this digitally based switching, signalling and transmission convergence process; more recent techniques have greatly simplified and expanded the interconnection capabilities between a very wide range of human interface devices including and not limited to; telephones, mobile telephones, personal interface devices, personal and laptop computers, computer mainframes, televisions, set-tops, radios, digital cameras and projectors, printers, geographic positions systems, visual surveillance and remote monitoring equipment.

It has become very apparent that Australia's network telecommunications sector has in no way lived up to the incredible predictions *that prices would have been driven down by competitive efficiencies*, postulated by those that rode (and still keep riding, whipping and feeding) the dead horse called 'Full Competition'. Several points of view were provided in the document 'Maximising Australia's Telecommunications Efficiencies', which is referenced [Ref 2] and appended to this document as Appendix A. The Government of the day is still blindly pushing ahead with the same seriously flawed agenda, and the dead horse is beginning to smell rather badly.

The failed experiment that was Optus as an agile competitive force has now shown that Optus has also moved into the same lethargic mould as Telstra, as it too has internal conflicts of (infrastructure / resales) interests! (And that is the nexus of this failed experiment!) In establishing this supposedly competitive model, the fair competition rules were relaxed (bent) to give Optus considerable market share, including the gift of Aussat to Optus Ref [18], for

about \$180 Million (including the ABC distribution network to 'make' it profitable – at the expense of Telstra), restrictions on Telstra mobile services to give Optus more than a good fair share of the then growing mobile market Ref [19], and in several cases interconnect expenses loaded onto Telstra – for example providing Gateway exchanges, space in Telstra buildings and artificial . This is yet another glaring example that clearly demonstrates that full and open infrastructure based competition simply does not work and it is high time that this dead horse was removed and buried.

It is now more than obvious that Australia's telecommunications industry needs leadership with wisdom (which only comes from experience) to get it out of this malaise, and the consensus between several eminent people in this field is that the full sell-off of Telstra will perpetuate the catastrophe and that an entirely different approach is required (and that comes from within Australia). A document titled 'Steering Australia's Telecommunications Future' [Ref 3] and attached as Annex B, was produced by me and emailed to Senators Helen Coonan, and Stephen Conroy on 07-Nov-2004. An Advisor to Senator Coonan (Mr Matthew Stafford) replied on 20-Dec-2004 that; *"...the Government does not support the break-up and transfer of Telstra's infrastructure into Government ownership. The Government does not believe that the forced structural separation of Telstra would outweigh the significant costs and risks. While keeping the structurally separated company in public control would preclude the benefits of private ownership. ... To this end, the Government is seeking to realise its long-held policy to fully privatise Telstra. ..."*

In a speech presented to the Australian Financial Review Telecommunications Summit on 15 November 2004, the Government outlined its intention to review the current regulatory regime in light of the recent changes within the market, development of future next generation networks, and possible sale of Telstra. The issues raised in your submission may be considered as part of this review"

The WTO also has a long-held Global policy to privatise all Government held infrastructures and have these privatised infrastructures placed on stock markets, so that the long-term ownership of these infrastructures will ultimately become North American. As the USCIB and the WTO work closely together, it is now plain to see why Australian Governments and Oppositions both have a 'long-held' policy to "privatise or perish"! The WTO has runs on its board with Optus – now overseas controlled, and has Telstra in its sights. Cynically, I see the "significant costs and risks" actually do not refer to Telstra's infrastructure, but to the Liberal Party keeping in power. So much for the Australian Government working for Australians! A review and new course cannot be set fast enough before we lose all infrastructures to Global privatisation and become a truly third world country (i.e. banana republic).

There has been no response from The Opposition – and that screams volumes in silence.

Hot on the trail behind these convergent telecommunication interconnect technology developments, a wide range of predominantly interactive business initiatives have now surfaced as the next generation of business generated from the information revolution. Some of these business initiatives include; remote (international) and/or distributed call centres providing services including customer assistance, sexual arousal, product purchasing and customer referral. Website hosting, providing services including product information, stocks and share prices and advice, track and field pricing and gambling, online gambling (gaming) facilities, sexual arousal facilities, real estate / vehicles / second hand goods - sales support/product purchasing, and these are available through a wide range of personal interface devices, which is ever increasing with technology developments.

These more recent business initiatives that have been developed from applying the information revolution fly in the face of traditional over/under the counter business transactions and there is a natural resistance to change from traditional businesses and the people associated with these more traditional businesses. This is the nexus of the real issue!

The Role of the ACA and ABA

As a follow-on from this now wide range of interconnectivity of human interface devices, an ever widening array of business products are being developed and take full advantage to maximise returns on investments (read profits). Whereas the ACA takes its role in regulating the technologies for interconnectivity, the ABA would like to see its role in regulating the content of what is carried between various interconnecting technologies. By combining the two, the idea therefore is that a single body (the ACMA) is there to regulate the technologies for interconnectivity and also regulate what content is allowed!

Although I believe the intention of the ACA/ABA is seen as honourable in a small portion of the more conservative Australian society, it also appears that this body has been placed to be the 'Police' in an internationally competitive environment, where the rules/laws are highly inconsistent. A clearer picture can be taken from the ACA Website [Ref 4]:

“What is the role of the ACA and the Australian Broadcasting Authority?”

The ACA has responsibility for ensuring industry compliance with the restricted access arrangements contained in the Consumer Act. It can use its powers to request a view from the Australian Broadcasting Authority (ABA) about whether a particular service is a telephone sex service and can institute legal proceedings against a telephone company or telephone sex service provider which supplies a telephone sex service in breach of the requirements.

The ABA is responsible for issues relating to the content of broadcasting services and internet sites. It has a role under the Consumer Act to assess whether a service is a telephone sex service and issue an evidentiary certificate to the ACA, if requested. Where the ABA issues a certificate, it will state that a particular service is, or was a telephone sex service. Further information about the ABA's role is available from the ABA's website at www.aba.gov.au or by contacting the ABA on freecall number 1800 226 667

The restricted access arrangements only apply to telephone sex services that are voice calls made from a standard telephone service. They do not apply to visual images or content accessed via premium rate services through the Internet. Information about Internet dumping is provided below.”

You don't have to look too hard into the Website's own wording to realise that the role of the ABA is in effect a sexual censorship regulator for (potential) Australian based business – in an environment that globally has virtually no censorship. With this in mind I believe that the ABA may have had some relevance in Australia in some bygone era, but with global interactive telecommunications well entrenched for several years, that era has long gone.

The ACA is also like a duck out of water, as it has focussed on customer impacting telephony based telecommunications service performance standards and safety for telecommunications premises equipment, while in the last decade global interactive telecommunications businesses have moved to actively track and target potential customers by their user habits. Global telecommunication service standards, equipment safety standards and connectivity have allowed customers to vote with their feet (fingers). While in more recent years the ACA

has moved to regulate the ISP and Website hosting industries – more for (sexual) content than performance standards, their role as seen globally is becoming irrelevant.

In a competitive environment, any regulatory body is effectively irrelevant, as their rulings only apply to honest criminals/business people, and those that cannot dispute the resolutions. That leaves a much higher proportion of ‘colourful characters’ or ‘business people’ that will not comply with rulings, or will change their business structures to avoid the rulings. The farcical rulings for the “Phone Sex Industry” in Australia were a classic example.

The Phone Sex Industry

Apart from struggling to survive in a life-ending situation, sexual arousal/gratification is without doubt the strongest mental force that guides and shapes our lives. It is everywhere in our lives from the (fashion) clothes we buy, make-up, language that we speak, cars, houses, holidays, career positions, families and other relationships, and right through all forms of entertainment. Everybody pays for sex/love in some form or another, either informally (by holding a relationship, career, family, etc.) or formally (paid sex/love, women’s and men’s magazines, books, songs, films, telecommunications, special clothing, holidays, devices etc.).

Talking and/or listening on a telephone or other remote form of conversation highly sexually can arouse many people and naturally they are quite willing to pay for this service, which then usually solves the problem of their sexual urges. Business minded people took the opportunity to develop this service into a well paying arrangement where by calling a particular number range, the call costs could be split between the telephony service provider (TSP) and the sexual service provider (SSP), and the call costs raised to make the deal highly profitable.

Consequently, Australia developed a thriving “190” business, where thousands of otherwise unemployed predominantly female housebound women could receive these calls and make a good living doing what they excel in (talking sexy on the phone). This solved several problems concurrently. Those that desired sexually suggestive calls for their gratification were able to pay for these and their needs were met. Those that answered these calls and ‘talked sexy’ were paid for their timed services, relieving their burden on social security services – through being paid for their time. Those that wanted to track both ends of the conversations had technology at their fingertips through Common Channel Signalling (CCS7) so they could identify the calling and called parties as desired. So what was the problem?

From the book **Brain Sex** [Ref 5], it is very obvious that the male and female brains are ‘wired’ very differently from before birth. Females naturally take on the nurturing role in a family situation, and because their sexual gratification is basically built on relationships and not career moves as generally in males, any form of relationship intrusion is very harshly dealt with from females in general. At school dances the girls are usually consumed on who is with whom, and the boys in general don’t have a clue (or care too much) till the last few days – or hours! Women’s magazines are filled with relationship news, stories and clips about a huge range of various human (and also pet) based relationships, and social ‘climbing’ pictures. In one sense it could be construed that ‘Womens Magazines’ are in effect pornography, as there is no doubt that in general females are sexually stimulated from viewing and reading these.

Conversely, in general, the male brain is focussed on hunting, killing and providing food and a safe environment for the female; hence in general the male brain is dominated with sporting and team activities (which are training grounds for hunting and killing) career, domination and strategic business deals, company takeovers (which are again hunting and providing a

safe environment for a female – family). Men’s magazines are filled with trophies of various sorts including cars, women, businesses, sport, trucks/bikes, corporations, sport equipment, finance, and women (again). In general these magazines leave little to the imagination and spell it as it is, as in general men deal in facts, and not fiction. Some women take offence to see other women seen explicitly as “trophies” as these do not fit their ‘relationship’ moulds.

It is common in Family Court cases for females to fight (beyond male reason) for ownership of everything physical following a marriage/relationship breakdown and then isolate the children to leave their ex-partner destitute. In male terms this is equivalent to having a ‘scorched earth’ policy when having a company takeover, or war where the losing side is annulated or reduced to slavery till death, and women saved for crossbreeding. So the wiring differences are vast, but the consequences if fighting are almost identical – and final.

Everybody prostitutes himself or herself in whatever job they do, (they get paid in some form for whatever service they provide in that job) it is just that in general, many females in Australia in a family or personal situation have vilified the term (sexual) prostitute as an added sting to prevent intrusion into their personal/family relationships.

So here is the dilemma where a portion of the Australian (and international/global) society requires sexual services from a formal paid arrangement, and a relatively small portion of the Australian society has potently vilified this situation in fear that their own sexual relationships may be compromised. Added to that dilemma; it is predominantly another portion of the same Australian female society that actually provides the paid formal sexually oriented services. The standoff on physical sexual prostitution has been in the human races from before history was recorded, and with this variation in service delivery where it is communicated via telecommunications of some form or another instead of physical contact, the spite factor is like a firestorm attached to a time-bomb, and it is very difficult to extinguish the fury of these uneducated, unenlightened and/or misguided females, as it is in their “brain wiring”! Reasoning in these situations is often totally irrational and can be detrimental, causing trigger situations from seemingly safe points in discussions.

To compound matters even further, most females in the Australian workforce are very fashion conscious and dress provocatively in many work occasions, and the unwitting message being sent out by these same females is a big “I am available (for sex)” when in fact they are not. Over the past 30 or so years there has been a very strong push to tell males that responding to female generated sexual signals is not acceptable in the workplace – but is OK elsewhere!

Over the past 30 years there has also been a major cultural change in Australian society where women in the workforce - in management positions is now reasonably commonplace, and this has directly impinged on the career paths of males in their traditional roles as (career) hunters. One of the key factors that females find attractive about males is their healthy financial standing as it solves a key issue in providing for a future family. In reverse, one of the prizes ‘trophies’ for males in having a high profile and well paying position is a much wider choice of females as future partners.

Business is war, and in war, territory, maiming, killing, trophy stealing and restructure is the order of the day. Property forcibly changes hands, people are retrenched, dismissed or otherwise is a natural course of events where workers are ‘killed off’ and this extends to all levels – except the top – where these people do not have to work to exist. Some years ago the Australian Defence Force did a study to critically analyse the option of having females in the front lines. The results were a resounding ‘NO’ because of several reasons that I believe included; females over time fail to use/wear camouflage and compromising everybody, when

in groups of more than 30 they tend to form sub-groups of 4 to 6 and develop in-fighting between these sub-groups, again compromising everybody, when shot/injured, everybody immediately comes to the female's assistance instead of firstly securing the area, then coming to assistance – again compromising everybody. In business (as in war), these findings must not be ignored, and it explains why females should not expect to be in high profile business positions unless that business can expect to consistently take a high casualty rate.

The next set of dilemmas comes from politics; where the art in politics is to please most people most of the time, and do as little as possible; and in business where the art is to make the hard decisions and implement what provides the best return on investment.

Regarding the 'phone sex' industry in Australia, this industry had grown into several multi-million dollar businesses, was providing continuous employment for several thousands of people (particularly middle aged women working from their own homes), and the services were being provided internationally, making a strong positive BOP for the Australian Government. Having several thousands of people with ongoing income that they would never have otherwise was another very strong point for the Government to support this industry and this meant that these people then did not lean on the social services budget for their support, and because they had something gainful to do, their mental health would be substantially better, so their strain on medical services would also be substantially reduced.

On the receiving end, the clients would have 'controlled sexual stimulus' (gratification as per the phone connection) and have their anxieties resolved. This would then 'keep them off the streets' but it would cost them (as expected) – nothing is free – not even the air that we breathe! The cost was in the form of a laundered phone bill, where the high cost for timed '190' calls paid the SSP and TSP respectively.

In business terms this makes a whole lot of sense, but politically the emotive fury of potentially scorned women have obviously taken their toll and the result is a complete back down from a very promising industry to one that is costing Australia dearly and the ACA Website spells out the prohibitive terms and conditions that cause the industry to pack up and move offshore. From the ACA Website it reads:

“What is a telephone sex service?

A telephone sex service is a voice service supplied using a standard telephone service (i.e. a fixed line or mobile telephone service). It is a service where, taking into account any advertisement or promotion of the service and the content of the service, it is likely that the majority of persons who call the service would do so with the sole or principal object of obtaining sexual gratification.

Other adult information services, such as introductory or dating services and chat services, do not fall within the definition of a telephone sex service.

What are premium rates for telephone sex services?

Telephone sex services and most other information services, are generally supplied on premium rate numbers that begin with the prefix 190X. These services are known as premium rate services because they are charged for at a premium rate for the content of the call.

Premium rate services (including telephone sex services) are subject to an industry code of practice that contains rules about how such services are to be advertised and supplied. The code of practice was set up by the Telephone Information Services Standards Council

(TISSC), which is an independent regulatory body that sets standards for the message content and advertising of any Australian telecommunication service with the prefix 190. Consumers can make an enquiry or lodge a complaint about the message content and/or advertising of any 190 service by contacting TISSC on 1300 139 955 or visiting its website at www.tissc.com.au.

How do I control access to my telephone with call barring?

Consumers can restrict access to a range of services on their telephones through call barring. Bars can be placed on almost all kinds of outgoing calls.

There are two types of call barring that provide different levels of security. They are:

- barring access to a class of numbers from your phone, such as 190X numbers. This is called an exchange bar as it is activated and controlled by your telephone company at the exchange; and*
- barring access to the handset via a PIN. Handset bars can be installed and removed as needed by the telephone account holder (on a call-by-call basis), so they are especially useful for temporary call control. However, you must remember to reactivate the bar once you have removed it to make a call.*

The difficulty with barring access at the exchange to a class of numbers is that the bar will only work on the network of your telephone company for those numbers-services may still be accessed via another telephone company using an override code. For example, you may bar access to 190X numbers with your telephone company but it is still possible for someone to use your phone to access 190X services provided by another telephone company on its network by dialling an override code. As a result, the best way of preventing access to particular services is to restrict access at your handset. A handset bar will not affect your ability to make emergency calls.

When considering barring, consumers need to carefully assess their information needs as barring access to 190X services will mean that access to any other useful information services, such as the weather, sports news etc. will not be available. If you are considering barring, you should contact your telephone company to discuss your barring options. Consumers should keep in mind that it is not possible to bar incoming calls. Also, consumers should note that it is not possible to bar access to individual services.”

The problem was seen to be solved by a political solution of placing prohibitive business restrictions on it so that everybody that called an Australian-based phone sex number/business would openly give their anonymity away. Politically this solved the problem of squeaky wheels arguing against the phone-sex industry being profitable (or even existing) in Australia. What this (inept) legislation did was merely pick up the industry and move it off shore. So now, instead of people in Australia (and Internationally) calling and paying to Australian-based phone-sex workers, they are now calling beyond Australia and getting the equivalent service, but at an expense to our BOP instead of an asset to our BOP. The following wording shows this from the ACA Website [Ref 4].

“Introduction

Information services are generally supplied on premium rate numbers that begin with the prefix 190X. The range of information available is diverse-from weather reports to clairvoyant readings, sports results and quiz show competitions-with many of these services playing a valuable role in servicing the community.

Telephone sex services are a type of information service that has historically been available on the 190X number range and which are now subject to tighter government controls under [Part 9A of the Telecommunications \(Consumer Protection and Service Standards\) Act 1999](#) (the Consumer Act). These controls were introduced in February 2000 because of concerns about unauthorised access to telephone sex services.

Under the restricted access arrangements, a telephone company can only bill calls for a telephone sex service if the:

- customer has agreed in writing to the supply of telephone sex services;*
- customer has been issued with a Personal Identification Number (PIN) by the telephone company for accessing the service; and*
- telephone sex service is supplied on a number with an approved prefix, (which is 1901).*

These arrangements do not apply if the telephone sex services are not charged for on a telephone bill (for example, if the services are charged for on a credit card). You should also note that the controls only apply to services provided in Australia and will not include overseas services provided on 0011 (international numbers).”

As I see it these rulings are very reactionary and as far from a proactive approach as could be possible and in that light it gives me no pleasure to consider what other draconian rulings will; in future come from this body – no matter what form it is in. Not only have these rulings closed down a thriving Australian industry that had substantial export earnings, they have now created a failed Australian industry with substantial import costs.

These rulings have swept the apparent problem away by effectively closing down one side of the industry in Australia, but in its total inept and arrogant attitude, has done nothing to resolve the problem for the clients, other than they now will be calling to overseas phone sex numbers and in this process be paying funds internationally instead of internally, the consequences of higher social services costs and higher medical costs has obviously not been considered and that reeks of a political failure at a very high level.

In business circles, (comparative to political appointments as head of a Department) the President of that business division would be sacked for dereliction of duty, inept arrogance and gross incompetence. But this is politics and not business, and the transfer of this head to another part of the world – the UK for example – could be a prudent management decision before forced retirement!

Last Things First – Paragraph C

I have chosen to answer this paragraph first as to me it carries the most importance – that of ‘best practice’.

(c) Whether the powers of Australia’s competition and communications regulators meet world best practice, with particular reference to the United Kingdom regulator Ofcom and regulators in the United States of America and Europe.

World’s Best Practice

The cliché “World’s Best Practice” was originated in North America in the 1970’s with the view of comparing like practices in business and ‘cherry picking’ what was considered to be the most appropriate to minimise the workload (labour expense) and minimise the adverse

impact on management. In other words by studying business opposition work practices, then identify the process to re-engineer your own business existing work practices to make your own business once again competitive.

Apart from North Americans in general not looking beyond North America and calling that the World – World Series Baseball, World Series Basketball, World Best Practice etc. The concept of ‘World’ in these situations was a misnomer. *(When engineering analogue modems in the 1980s I used a USA engineered “World Modem” silicon chip that worked to North American telecommunications standards and there was no associated documentation referring to the ITU-T (World) standards as used in Australia. It took some ingenuity to change the chips operating conditions to make it work an ITU-T recommendation.)* North American businesses still refer to the World – meaning North America to them (but nobody else), and they commonly refer ‘Global’ to the world where North America is not their mindset limit!

(When working in Nortel (a North American based multinational company), many of their products referred ‘World’ as inferring North American standards, and ‘International’ as anything beyond North America. When engineering the interfacing between their Telephony on CATV system through their Meridian PABX into the Australian telephony network, I utilised the standard Meridian ‘World’ cards were North American 800 ohms resistive standard – totally incompatible with the Australian / ITU-T complex impedance structure. The solution that I chose was to import ‘International’ cards that were complex impedance, to match the ITU-T (Australian) standard!)

That aside, to ‘meet best practice’ is an arbitrary goal where the natural assumption that the terms of telecommunications and broadcasting business in all other parts of the world up for comparison are identical, and that is a fundamental business simplistic flaw.

Regulation in a Competitive Market

As I understand it, the UK business model is one where the business structure is in full competition, and the regulator (Ofcom) is in the process (December 2004) of a strategic review and possible re-engineering and the link given in Ref [6] refers to this.

With this in mind, and now realising that many other regulators are re-inventing themselves to remain relevant, the term ‘World Best Practice’ pales to insignificance, and it is time to ask the purpose of a regulator in a competitive market.

In the same way that within an infrastructure environment, competition is the damaging element that must be removed, so too in a competitive environment a regulatory element is also damaging and must also be removed.

It appears to me that the Australian Government’s initiative to merge the ACA and ABA into the ACMA is such an effort to re-invent the relevance of both regulatory organisations and minimise their overheads inasmuch as technical engineering standards, bearer content and capitalise on the commercial demand for electromagnetic spectrum demand and supply.

Historical Ties

On 27 October 1997 the Australian Telecommunications Authority (AUSTEL) closed its doors and became the Australian Communications Authority (ACA), merging the Spectrum Management Agency (SMA) into it as from 1 July 1997. Ref [7] carries this information.

The SMA was borne out of Telecom’s Radio Branch, the Post Master General’s (PMG) Department and the Department of Communications (DOC) to manage the usage of unbound

media (radio transmission) in Australia. Strategically the SMA is a sub-Government body that is not biased by commercial (competitive) interests, and therefore was intended as an independent Authority.

Since the development of mobile phone technology, management in the SMA have become aware that carriers need spectrum and geographic space to operate their services and this is the critical imperative to their mobile network operations. Because of limited bandwidth supply, and more than one prospective network provider, an artificial demand had been created causing a monopoly sale situation and the Government of the day crippled the competitive nature of telecommunications in Australia by setting unrealistic prices for spectrum usage by carriers – which they of course had to pass back onto their customers. Ref [8] relating the Radiocommunications Amendment Bill 1996 outlines this seriously flawed legislative action that ultimately caused mobile service costs to be substantially inflated.

Had these spectrum allocations been provided free on a needs basis and not an auction to the highest bidder basis then mobile telephony would have been very considerably cheaper, driving down costs of line based telephony. (*The spectrum bidding costs approached 50% of the total network equipment costs.*) This is an example of ‘world’s **worst** practice’ where those in authority have openly preyed on their end customers in a feast of greed for money through abysmal management of scarce resources.

AUSTEL was borne out of the Telecom Australia HQ Regulatory Branch, and the DOC to also be an independent regulatory sub-Government body. In this move, all customer premises equipment had to be passed for safety via AUSTEL, removing the problem with conflicts of interest for Telecom and its new competitors. Although Telecom Australia had managed the national numbering scheme and virtually finalised the current 10-digit plan in about 1985, AUSTEL took on this role, and gave the numbering plan a degree of independency not possible under Telecom Australia/Telstra. As a further block to driving down costs the Telecommunications (Numbering Fees) Amendment Bill 1996 Ref [8] was presented by Mr Warwick Smith in Parliament to charge carriers for the incidental usage of ‘blocks’ of telephony numbers.

Because full competition was in place and Technical Training was primarily carried out through Telecom Australia, AUSTEL then took on the role of specifying the course content for technical training and this provided another degree of competitive freedom for both Telecom Australia and competitive carriers and premises installation staff. This is now a TAFE course having no Telstra involvement, and Ref [9] is an example.

In about 1996/7, Telstra’s Network Management Unit was cut and an area involved with network performance and service standards was moved into AUSTEL, while AUSTEL changed its name into the Australian Communications Authority (ACA). As I understand it, the purpose was that all carriers would then be under the same common scrutiny standards for network performance and customer satisfaction ratings, with the ACA as the independent arbiter.

Reactive or Proactive – Paragraph B

The paragraph below is fascinating for several reasons as it blueprints a certain mindset that is totally irrelevant in today’s society.

(b) Whether the powers of the proposed Australian Communications and Media Authority and the Australian Competition and Consumer Commission will be

sufficient to deal with emerging market and technical issues in the telecommunications, media and broadcasting sectors.

The above quoted paragraph (b) is at the least alarming as it speaks of ‘powers of proposed ... authorities’ and ‘deal with’ as these are disturbing as they bleat of reactive (draconian) control as opposed to proactive (recommendation) guidance, and that tells me that those in power are not in touch with what has happened, what is happening and what is proposed.

If the positioning of the laws are correct, then the powers required will be minimal, as the authority will be recommending industry approaches as opposed to oppressing industry movements in the existing and emerging markets.

Existing and Emerging Markets

The following sub-topics give a little background knowledge and wisdom that will then address several aspects of existing and emerging markets, and maybe through this enough light may be shed on the topics so that a proactive approach may be invoked involving a complete restructure of the telecommunications industry in Australia, so that Australia can efficiently and effectively manage the telecommunications infrastructure, and leave competitive retail resellers to listed ASX based ‘private’ companies – in most cases!

Telecommunications

As briefly described in the Introduction of this response paper, developments in the last 35 years or so in the field of telecommunications have converged a wide range of transmission, switching and signalling technologies and provided a divergent range of personal interface devices, making it possible to communicate interactively like never before.

Basic Carriage Service

This is a well-established standard that is now taken for granted in that nationally; dial tone access, network switching, network congestion, voice quality, network termination, metering and billing, meet and exceed specifications now held by the ACA. These specifications were developed by Telstra from recommendations to date, referenced from the International Telecommunication Union – Telecommunications Standardisation Sector (ITU-T) and over handed to AUSTEL, which publicly aired these through the Australian Communications Interface Forum (ACIF) to become public Australian telecommunications minimum industry standards, (ACIF C519:2004 refers to that current document) and Ref [11] holds the internet address / reference.

On a side issue; it is interesting to note that the documentation that now is under the ACIF on their Website, is almost entirely drawn from Telstra’s now extinct Network Management Unit (where I worked for several years in this area). Since then (about 1996) telecommunications network usage has dramatically changed to include data (Internet based) transport as a major factor. In my professional opinion, the ACIF has seriously lagged the industry, this continues, telling us all that the ACIF is reactive and therefore poorly positioned in the industry, but as Australia has almost privatised its telecommunications infrastructure, the ACIF really has no place to be useful (and be proactive).

To date, the ACA has had a virtually passive role and as far as I am aware, done virtually nothing to develop an ongoing Basic Carriage Service Standard, which should now (January 2005) include minimum Internet bidirectional access speeds of at least 24,000 bits/sec for dial up modem technologies, and bi-directional 500 kbits/sec for Broadband Internet for all customers – irrespective of physical premises location within Australia.

The basic carriage service standard is an infrastructure issue, not a regulation issue, and the Government should own the infrastructure, and lease the usage out to retail resellers, and it is those resellers that should be on the ASX, not the infrastructure provider. If this was the case, then the basic carriage standard would have been proactively developed, and at least align with the paragraph above. Refs [2, 3] already cover this area.

Mobile Phone Networks

Just like the competitive duplicated installations of HFC access networks for CATV and Broadband Internet services, Australia's mobile phone networks are multi-duplicated, over-servicing all major capital cities, and to a much lesser degree in non-major urban (country urban) areas, where these areas are typically under-serviced.

When Telstra introduced its first mobile phone network using analogue handsets, the strategy was to position high power antennas at the highest vantage points to provide the largest footprint coverage per mobile base station. Although this technology worked, because of the electromagnetic spectrum set aside for this service was in the super high radio frequency range, transmission and reception was somewhat intermittent due to 'black areas'. This strategy was mitigated by placing several smaller radio base stations near these 'black areas' to minimise drop out on call connections.

It was also realised that digitally encoded Global System for Mobiles (GSM) offers a large degree of isolation between customers so that privacy issues between customers was effectively resolved. Telstra then introduced a second (GSM based) mobile network of base stations to provide this service and these were limited to the major cities.

With 'competition' Optus, then Hutchison (Orange) and others have since set up GSM based mobile base station networks to fully duplicate the mobile base station footprints of each other, and Telstra was then charged to provide new 'Gateway' exchanges so that calls between the various carriers could be connected and metered for usage.

With yet another technology advance, it was then realised that because of the narrow radio channel bandwidths in GSM, this resulted in very low unencoded bit rates. The first implementation of Code Excited Linear Predictive (CELP) encoding caused considerable distortion to the voice such that with mobile to mobile, many connections were nearly unintelligible, and a modification to CELP (to Vector Sum Excited Linear Prediction VSELP?) Ref [12] was recommended by the ITU-T which somewhat clarified the speech intelligibility. This was initially (partially) implemented by altering the encoders at the radio base stations for clearer speech intelligibility.

Soon virtually every major capital city had at least four (4) infrastructure duplicated GSM radio base station networks, all with relatively thin footprint coverages (so call dropouts were common), and all networks connected through Gateway exchanges to resolve network connection and metering issues. The retail billing cost of calls via mobiles was far more expensive than comparative landlines, (primarily because of the massive network setup costs including the extortion to utilise spectrum bandwidth) and it took several massively expensive advertising and marketing campaigns to initially move people into using mobile phones and then to churn their preferences from competing mobile network carriers. The reality is the stupidity of competition, and competitive policies, and again the Australian public are the losers, as all this telecommunications equipment is imported and is therefore a direct negative impact to the Australian BOP through the import-purchasing of very expensive telecoms equipment to be installed in making these competitive infrastructure networks.

So then, not only did Australia have at least four different mobile carriers, each with duplicated mobile networks, each infighting for a larger share of limited resources; but because their finances are very limited, the footprint coverage was at the best thin, resulting in an unacceptably high number of call dropouts. One uncomfortable (and very expensive) solution was that each carrier bolstered their network coverage to manage black spots – and this is what happened. The network structures changed so that the mobile cell sizes in urban areas were dramatically reduced, and mobile base station towers/antennas placed in the valleys so the geographic horizons were much closer, greatly reducing inter-cell spillover.

As if that was not stupid enough, the whole procedure was again repeated! The next wave of competitive mobile networks surfaced with the advent of Code Division Multiple Access (CDMA) technology, where the bandwidths are considerably wider and the speech signal is distributed over several channels. This technology has the advantage that because the channel is in effect a spread spectrum – where with GSM it is a narrow spectrum, signal cancellation by diverse route paths (as is common in GSM) causing connection dropout, is to a very large degree avoided with CDMA transmissions. So in about 2000, CDMA networks replaced Analogue networks and competitive carriers also introduced CDMA based mobile network. So now we had another technology of multiple duplicated mobile base stations, with all the same problems and an ever-increasing BOP issue due to import-purchasing.

In 2003/4 broadband CDMA (G3) was introduced along with a range of internet/data service not possible with earlier CDMA and GSM (which were particularly poor for data transmission). This was pioneered by Orange (Hutchison) and at least Telstra had the sense not to build yet another competitive mobile network. So as I understand it, Telstra has signed a treaty of co-operation with Orange in that they both share the G3 broadband radio mobile access network, and this is the second sign of sanity in this multiple duplicated network of mobile base station access networks debacle.

The first sign of competitive sanity was that Vodafone signed a mobile network access share agreement with Telstra so that Vodafone users beyond the main capital cities would switch to the Telstra base station network for their access. Reading between the lines, it made no financial sense for Vodafone executives to layout a massive mobile network footprint that would have a very limited usage for their limited number of customers. This option made a huge amount of sense as the network was not duplicated, but outsourced to a major network infrastructure provider, (Telstra in this case) and with that, it set the sensible path for all future network infrastructures in Australia – and probably the World/Globe!

To date the ACA and ABA have had a passive interest in mobile phone usage – until it was shown that some mobiles could carry video of unsuspecting and unsolicited subjects, and show images that could be considered to be sexually explicit. Ref [13] gives a simple example of how easy this can be done and the consequences. In line with the disaster of the handling of “Phone Sex” by the ABA/ACA, it appears to me that the recalcitrant ‘elephant’s foot’ is again about to slam down on an irrelevant area.

Again this is simple management of circumstances and a Local Court ruling in Sydney in December 2004 Ref [13] has already covered this area, and in my opinion the ABA had no relevance here – if at all!

Network Numbering

Although Telecom Australia had managed the national numbering scheme and virtually finalised the current 10-digit plan in about 1985, AUSTEL took on this role, and gave the numbering plan a degree of independency not possible under Telecom Australia/Telstra. This is now with the ACA – which was AUSTEL!

Australia's national numbering scheme is part of the infrastructure, so when the infrastructure part is removed from Telstra (*I know – I was working on the National Numbering Project in Telstra in about 1984*) and positioned correctly back as a sub-Government Commission (or Authority) for Telecommunications, the numbering scheme and the people involved should be moved from the ACA to the ATA (Australian Telecommunications Authority).

Concurrently, the Internet in Australia should have its network and server infrastructure moved into this same infrastructure body, and then the management of the DNS (Domain Name Server) component would be an infrastructure issue – free from the meddling of business and other cheating concerns.

Network Reference

Another of the ills of competition is that alternative carriers duplicate networks to provide competitive services, and as these networks are expensive to engineer, install, commission and maintain. These duplicated infrastructures do nothing to drive down user costs – in fact they do the opposite, as they introduce 'diminishing returns' and that is economic proof alone that competition of infrastructure is an unhealthy policy that must be avoided.

One way to minimise this expensive economic madness is to introduce a common network registry of all network components so that a single regulatory body has a solid knowledge of the overall telecommunications network in Australia. This is a proactive management initiative that is an imperative if the overall infrastructure is to be utilised to its most effective potential, and the savings through this amount to several \$ Billion every year in funds that would otherwise become negative balance of payments (BOP).

The reasoning for this is simple to understand but hard to palate. If a duplicate network is engineered installed and commissioned that network cannot run at full capacity unless the original network was so badly under-dimensioned that a second network could put the available services out of network congestion and into full service. In any case, if the networks are competitive, then there is even less chance of either becoming fully utilised in the short term (less than a few years), and the return of investment (ROI) for both networks is then compromised – leading to compromised profits and less funding for ongoing maintenance and associated customer services. Compounding the issue is that the second network has very significant establishment and much lower operational costs, and as Australia has now virtually no telecommunications manufacturing facilities then virtually all the equipment is imported and that means money is exported in the form of BOP – deepening Australia's financial debit position.

It is the realisation that Australia has virtually no telecommunication manufacturing facilities, and that virtually all telecommunication manufacture done in Australia is in fact component assembly using imported components and this is a lose-lose financial situation for Australia and that is hard to palate primarily because present and previous Governments have not and do not know how to actively support the **development** part of R&D, so in general Australian research sells out to overseas interests to maintain (mainly university based) research.

Narrowband Internet

Practical narrowband Internet services became possible through a number of technology-based improvements in telecommunications in Australia, where the analogue based Inter-Exchange Network (IEN) was replaced by the digitally based IEN resulting in very consistent switched connection performance standards.

The engineering programme for this started in 1980 with the introduction of Ericsson AXE digital exchanges, and was completed in about 1994 with the last analogue based transmission links retired from service. Virtually all inter-exchange transmission links longer than a few hundred metres are now optical fibre or radio bearers utilising digital transmission based on industry standard ITU-T and ITU-R recommendations respectively.

Concurrent with this massive re-engineering programme, the Customer Access Network (CAN) went through a rationalisation process. In 1988 Telecom Australia had a massive internal change in structure where the Engineering and Administration (Sales) areas that then were State based were joined and repositioned as Districts under Regions and the State boundaries/managements eliminated. A single Headquarters was also firmly established in Melbourne. One of the follow-ons from that restructure was that one standard was adopted for a common set of CAN electrical / transmission specifications, Telstra's physical CAN wiring was rationalised into passive and active structures, and because of cost cutting competitive pressures, Pair Gain Systems (PGS) were widely adopted into urban situations on a national basis.

As the Basic Carriage Standard was (and apparently still is) to provide basic voice frequency telephony services, PGSs met these criteria, and in a large amount of cases the active circuitry involved additional pairs of analogue/digital conversions in the voiceband frequency range. These extra analogue/digital conversions in the PGS equipment have virtually no effect on voice, but severely impact on data modem training and data transfer rates.

V.34 modem pairs on a passive CAN lines and via a digital IEN can expect to train and run at 28.8 kbits/sec. A V.34 modem connected to a passive CAN and via a digital IEN connecting to a V.130 (2 Mbit/s interface) modem can expect to train and operate above 32 kbits/sec and possibly up to 56 kbits/sec if the customer line is positioned on less than (say) 1500 metres of 0.40 mm copper pair with no PGS. By adding an active PGS in either instance the maximum data speed is usually crippled to less than 24 kbits/sec and can be crippled down to 1.2 kbits/sec in bad PGS cases.

Clearly the Basic Carriage Standard needs to be dramatically changed from a voice based clarity issue into a voice clarity and data speed issue. Alternatively, the Basic Carriage Standards needs to be radically reviewed and include Broadband Internet as an essential part.

This Basic Carriage Service Standard is a pivotal role of the ACA to proactively develop, document, administer, measure and enforce. If the ACA has any difficulty in this role then it is symptomatic that the ACA should not have any part of this role – as the ACA would be ill positioned. It seems to me that the ACA is traumatised by the Government in power to do nothing proactive and apply severely outdated standards as the normal and by this, assist the Government of the day to sell off Australia's telecommunications infrastructures.

Broadband Internet – HFC Access

It appears to me that the Australian telecommunications industry has been brought into Broadband Internet like a reluctant child – wailing, complaining, and generally retarding from the obvious direction. The cause of the problem is not the Industry players, but the playing condition of the Industry – and that comes down to very poor Government management.

The endemic problem here is that 'free market forces' and 'open competition' do not provide anything like an ideal environment for 'market development' and/or 'industry re-engineering' and included with 'rational economic growth'. Commonly, those that cite military advances and/or developments especially during wars as prize examples do so totally excluding the financial burden (of extreme competition) thus cavitating their argument.

Broadband Internet had its first introduction in about 1997 as CATV channel space and the backward channel within this hybrid fibre/coax (HFC) form of customer access network. In relative terms, this was not a difficult technology to introduce – if the CATV coax cable existed to the premises, and the signal level was sufficient. All that was then required was a passive signal splitter at the customers premises to attach a premises cable modem, and a Cable Modem Termination System (CMTS) / router at the head end to talk through the hybrid fibre/coax (HFC) access network to the cable modems.

Consequent to the endemic ‘open competition’ policy, major capital cities were largely double infrastructured with HFC access in many suburbs to provide CATV services, and more than \$2 Billion was wasted (as negative Balance of Payments (BOP)) in competitively installing an unnecessary geographically duplicated CATV network infrastructure.

A direct quote from the Senate Committee on Broadband Competition 2004, Ref [14] is;
“[251] While the Committee did not receive any detailed evidence on the cost of rolling out fixed line networks the cost per home passed can be estimated from the evidence received. In its submission Optus stated that its HFC network had cost over \$4 billion to install since 1994 (Optus, Submission 36, p 7) and that the network passes 1.4 million addressable homes (Optus, Submission 36, p 6). On this basis the cost of rolling out the network can be estimated to be over \$2800 per home. The cost obviously depends on the type of network being rolled out and the availability of access to existing infrastructure.”

If this figure of \$4 billion were doubled (at least to cover the Telstra rollout), then my estimation of \$2 billion as wasted BOP funds through competition is very conservative.

So much for ‘free market forces’ being economic, and this is enormous infrastructure cost one of the reasons that Broadband Internet was and still is so expensive! Unfortunately, because of the competitive environment, the engineering was so poorly (cheaply) executed that most customer premises set back from the nominal street-front building alignment were in general not able to be connected without incurring massive connection fees to provide extra amplification then required.

Broadband Internet – ADSL on Copper Pair Access

In a bid to reduce complaints of slow Internet via dial-up modems, utilising ADSL over existing copper pair access lines was the next minimal technology incremental evolutionary step. This is again a cheap technology and the results are less than exciting. As copper pair is not an ideal medium for frequencies above (say) 0.2 MHz, and ADSL usually works up to just beyond 1.1 MHz, virtually every physical constraint is pushed to its limit and performance beyond 3.5 km distance is questionable at best. Transmit power levels have to be extremely high because of the huge attenuation of the copper pairs and this in turn raises the overall noise floor – compromising other ADSL pairs and voice circuits in the same customer access cables. This is a very ugly technology – a misfit cancerous growth!

These customer access cables were never engineered for use above voice frequencies and it should be very obvious that this is a very ill fitting technology. However Telstra is now run on full commercial business lines with about 49% officially sold off – as ‘privatised’ – into the stocks and share market, and consequently the Telstra’s Board is critically aware of shareholder return, with the result that doing nothing gives the best return and doing as little as possible prevents Telstra from going bankrupt, so the move to ADSL on existing copper pairs in the existing CAN was pitiful – but expected.

More information on how PGSs are incompatible with ADSL, and how ADSL should be considered at the best as a very short-term stopgap knee-jerk solution to an endemic situation. Ref [15] (Senate Hearing on Broadband Competition, Submission 19) provided some insight to this problem and the associated submission (19a) did not have a linked Internet reference, and so it is included here as Appendix C, and it provides the insight to a long-term technology/engineering solution and a long-term political solution. This Appendix spells out the problems of ADSL on voice grade copper pair technology, and compounding with that, competitive factors have combined to make this a far more expensive technology to roll out because of the political constraints included with competition, and the fact that ADSL on copper pair will not work in regional or remote situations.

Some serious consideration (beyond Telstra, Optus etc) has been given to providing ADSL over radio (point to point) CAN access, but because the major infrastructure providers already have ADSL via copper pair (<3.5 km only) and Satellite as retail sales options, ADSL via point- to-point Radio has been actively suppressed (by Telstra etc) from infrastructure development (as it has a line of sight limit of about 30 km) and this technology would directly conflict with the existing and limited access options available. This is a blatant example of internal conflict of interests caused when the same body manages both infrastructure and retail sales and marketing.

As a follow-on from the National Broadband Strategy (Ref [16]) The Higher Bandwidth Incentive Scheme (HBIS) unwittingly unearthed this and the majority of new funds were then channelled back into Telstra (at the expense of the initiators) to do what Telstra was not willing to do in the first case. I have a very strong doubt that ADSL via point-to-point Radio will ever materialise from Telstra and it is no wonder that I despair at the inept handling of our telecommunications infrastructure funding in Australia!

Broadband Internet – PON

This is the way of the future of Australia and all the focus should be moved to here, as this is where the next big move will be – but again its progress is bound by competition resulting in bodies that have substantial infrastructure unwilling to introduce a new product that will internally conflict with retail sales products that they already have on the market. This is a dramatic change and it heralds the inclusion of; telephony, Broadband Internet and CATV together as the new basic carriage service standard.

Appendix C gives a simple overview of the proposed technologies and the services that are capable of being provided. It does not take too much intelligence to realise that copper pair access will become virtual ancient history in a very short time and all services including digital CATV, true Broadband Internet, multi-channel telephony and datacasting will be the services that will grow and develop on this access network.

As distance is not really a problem, rural and remote services will also use Passive Optical Network (PON) technology, and this will wipe out earlier access technologies including copper pair, satellite, PGS, ADSL, HFC and in most cases point-to-point Radio.

With this in mind ACIF and the ACA need wake-up calls to rewrite their code specifications, and the ABA really should start to rethink its relevance – in any case. The ABA should have close (sexual) ties with the Australian Censorship Board and merging these two should be a far more rational approach than bedding down the ACA with the ABA.

Website Industry

In line with the move to very common use of the Internet in Australia (2004), every business must have a website as a part of their advertising, contact, point of sales, and marketing strategies.

Websites grew out of Intranet data banks, where larger corporations moved their documentation from paper onto computer files, and then made these data files available internally on their corporate LANs. The common process was to use File Transfer Protocol (FTP) and load the files onto a local computer, then open and read the files as required.

With developments in presentation through the development of Hyper Text Media Language (HTML) documents could be immediately displayed and include graphics, and through the use of Hyper Text Transmission Protocol (HTTP) related documents could be virtually immediately displayed. The problem was that graphics (pictures) are memory intensive (they are very large data files in comparison to simple text data files) and because of that, wider bandwidths are required so that a communication system can have a similar response times when pictures are transmitted – hence one reason for Broadband Internet.

To secure transactions so that point of sales (POS) could exist on the Internet, encryption and extended mark-up language (XML) was developed, along with encapsulated point-to-point protocols (PPP) to and other security measures. These all combined to make financial based transactions safe via the Internet – much safer than street banking!

In line with every business needing a Website as an essential part of their business strategies, the growth in Websites was phenomenal, and with it came an army of new careers in Website management including and not limited to – building, hosting, mastering, editing, logging, tracking and hijacking.

In the telecommunications field, this has meant a complete rethink of the network structure away from telephone based communications and towards Website based hosting, the deployment of Website mirrors (regionalised Website virtual hosts that store and forward recent data, and update themselves automatically) and radically changed global traffic patterns to match Internet requirements. The beauty of Website mirrors is that only the latest data is updated from the parent website and no more – so the parent website is not bombarded with high traffic requirements – which inevitably slows the traffic flow to a crawl as it is in server and/or network congestion mode. So when the prospective user calls for that website address, they are re-directed to the local mirror and the download is much faster (at least 10 times faster) than to the parent website, and the long distance network is not congested. This is a win-win situation for the user, the website owner, and the service provider, so it makes compelling sense to mirror websites regionally wherever possible.

Websites are managed by addresses under the Domain Numbering System (DNS) which is a distributed library database that links website names to Internet based addresses. These addresses come in several forms and usually have the acronym ‘com’ or ‘org’ or other to designate their business grouping, and then often have a country of origin designator like ‘uk’ or ‘au’ etc to identify their geographic basis. Interestingly enough, the USA seems not to have a country identifier – but their conception of the ‘world’ is the USA in any case!

One of the biggest volume traffic Website topics is sexually implicit and/or explicit material which in some more prudent minds is considered to be abhorrent and therefore is to be restricted at any cost – and this is termed by others as censorship.

In line with this the Australian Government of the day has placed restrictive (draconian) laws on the use of Web hosting in Australia, stipulating that explicit 'sex sites' must not use the country identifier 'au' and through this ruling, inept as it is, the Australian Government has 'washed its hands' of sex sites in Australia – as if they are not here! In almost the same stupidity as the 'Phone Sex' laws the 'Web Sex' laws have crippled an otherwise thriving market that – surprise, surprise – is thriving in Australia, but Australians are exporting funds when they could be importing funds at a far greater scale.

The workaround is almost too simple! The Sex Sites operators simply do not include the '.au' as part of the DNS and the operators simply use overseas sites – at the expense of the Australian Government. The Internet is a global market – not an Australian bounded market, and having draconian laws like these in place to 'deal with' emerging markets is akin to cutting off your nose to spite your face. The ACA/ABA should be working with this Web industry to see how it can foster telecommunications businesses of any sort, not restrict it.

Dating Services are apparently not restricted as Sex Sites apparently are, yet the line is so fine, and the sexual arousal factors are intermingled, depending on sexual orientations and these are highly interactive between prospective users. I know of clients that have used these dating sites and their dates have been persistent 'no-shows' which loudly tells me that a high percentage of these respondents have sexual fantasies but remain anonymous – and this is virtually no different in sexual arousal factors that explicit sex sites for others. Again the draconian laws for 'Sex Sites' need revisiting, and it appears to me that the ABA is involved in an area that is part of self-censorship – and that again makes the role of the ABA totally irrelevant in today's global culture.

In another draconian move, the push to 'deal with' (eliminate) on-line gambling from Australian based Internet sites is nothing short of laughable, (where overseas interests are laughing at the Australian laws) and overseas sites have already capitalised on this stupidity of law making. Those Australians that are inclined to waste their earnings on gambling – without attending a registered (State-based) club with 'poker' machines simply log onto a foreign-owned Website and do so. The smack in the face (from the Australian Government) is at Australian poker machine manufacturers who employ Australian programmers to develop the gambling programs. Australia is, I am sure, because of its innovative nature of people, are the best programmers in this industry on a global scale.

In the case of horse or dog based gambling, the rules are virtually the same with as I understand it, a Darwin based company in a commanding position and from that all bets become overseas based – and the bookie always wins – because it is a numbers game.

The Australian Government needs to look again on a global scale and realise that its draconian law approach is actually crippling Australia from capitalising in on a global market that is simply worth \$ Billions every year as a positive BOP into Australia. The Australian Government should be fostering this on-line business at the expense of every other somewhat developed country on the globe. The flow-on effect is that international telecommunications costs would be far cheaper because far more people would be calling into Australia than those calling out of Australia, as the centre for global on-line gambling would be Australian based.

Media

Community Access Television (CATV) has already heralded its footprint into the interactive world (like Internet), and I believe that it is in its juvenile state with pay for view on particular programs, gaming (gambling), and 'voting' as the first round of developments to directly compete with the 'entertainment' available from the Internet - which already has pay to view sites, on-line gambling, and 'voting' on topics along with on-line forums.

People choose what they want to view and interact with, and with minimum Government interference. I have no doubt that in the next phase of interaction level the set top box will include a mouse pointer and keyboard top provide the next level of interaction and this will directly compete with Internet for forums and menu selections, including a wider range of pay for view options.

The big problem for CATV is the access medium, which is HFC (hybrid fibre- coax), and coax is the killer because of its poor transmission characteristics compared to optical fibre. Some of the limitations of HFC are described in Appendix A and C and it seems fairly obvious to me that with the inevitable change to FTTP (Fibre to the Premises) that the distribution of both Broadband Internet and CATV will extend to almost every Australian premises before 2008, and the Australian Government has to realise that repressive laws to deal with emerging technologies is the wrong way to manage technology and social change.

In a recent conversation I have it on good authority that in 'green fields' applications (installing cabling into new sub-divisions) the break even on return on investment (BEROI) is currently about 2.5 years and in 'brown fields' applications (installing cabling into existing suburban areas) the break even on return on investment (BEROI) is currently about 4.5 years. In other words the green fields situation has about a 40% payback per year, making it very difficult to explain why to continue with copper. In brown fields situations have about a 22% payback per year placing copper as a par – but why install obsolete technology?

The only answer that I can think of is that Telstra is under intense shareholder pressure to keep doing what it has been doing so that the share price will not fall any further, and by moving to optical fibre (FTTP) this could be seen as a change in direction and that could drop the share price, and that could make it much harder for Telstra to be sold with a falling share price. But why would a Government even contemplate selling off the finance and control of its main infrastructure for the future – that is ludicrous.

Broadcasting

News Broadcasting

In the last decade news broadcasting has changed from general news to 'advertisement news' – where virtually every item for news has a price tag attached to it and those with the biggest price tags get the biggest spaces. The reason for this is simple economics in that the value of the news timeslot was not fully recognised – until corporate forces offered to pay top dollar for advertising space, and then went over that untouchable edge, and manufactured stories for the news complete with their corporate twist (spin) on the stories to get the extra advertising.

News is usually split into a few segments – International (overseas politics), National (politics), "Accidents" (corporate and personal failures), Business (always positive), Sport (professional business), and Weather (including spot advertising). Sometimes the segments cross over with business appearing as political decisions, and sport advertising as international news. In short it is very difficult to get a level news report, that is; a news report that has a sporting chance of not being part of a paid advertorial!

Once in tune with the advertorial segments – it is far easier to spot the rot and discard content en masse and that alone makes news into entertainment – but not the way that the sponsors and station management would wish it to be viewed!

News reporting like oil, is a slick business, and with competition in commercial channels this process is destined to be more covert, making a Government independent body (the

Australian Broadcasting Commission (ABC)) a vitally essential part of the Australian broadcasting industry to stop the rot and set the minimum standard that most commercially based broadcasting organisations find difficult to attain.

DataCasting

Free to air analogue based TV transmission signals have a large proportion of synchronisation signals in them that are repetitive and constant in value. Data casters have realised this potential and have raised the technology to insert data into the vertical synchronising lines that are not seen in a TV transmission. Consequently data can be broadcast via TV transmissions and this data can be used for a variety of purposes on a commercial basis – and hence the fight to have it outlawed by those that can do the same by other means in bounded media – i.e. CATV HFC, and Internet service providers and infrastructure service providers – operating at a commercial / retail level – not a wholesale level.

The two that I am aware of include the TELETEXT screens that come in on the back of particular free to air TV channels and stock exchange data by a similar method.

Through my personal experience I have found that both Narrowband and Broadband Internet suffer from network breakdowns – commonly during the business day and these breakdowns can be at times for hours – to residential sites. On commercial levels the duration of these breakdowns is much tighter controlled – in the knowledge that lost time is lost contracts. All equipment has a mean time to failure (MTTF) figure or rating that can be both engineered and calculated and it is known and that is the basis for setting service contracts – plus human error! In line with that, data casting comparatively does not have a very complex structure, meaning that there are far less components that can fail within a specified time, but usually there is very little backup / diverse routing to compliment the low equipment-based MTTF figure, so in reality all network based distribution systems commonly suffer from network connection and equipment failures, all of which come back to suitable reliability engineering, network outage planning and commissioning processes.

Mobiles and Palm Pilots for News Broadcasting

With the spread of interconnecting personal interface devices the concept of these devices receiving TV data casts, Internet and cellular mobile transmissions as required is in political terms a definite probability, and business censoring of news already happens meaning that media companies make it their business to inform their clientele, so that their clientele maximise the future use of their products – like TV shows, and sports programs.

Akin to this will be the distribution of news headlines to mobiles, with the follow up on request, and palm pilots and Internet will and do have these same ‘services’. In the same way Web hosts that insisted on including advertising found that they lost their clientele in droves, so too the public will vote with their feet on other information based products. So the need to bring in laws to ‘deal with’ the businesses is totally irrational and out of synch with the information revolution, but ‘control’ was the way of the law during the industrial revolution some 150 years ago!

First Last - Provisions

(a) The provisions of the Australian Communications and Media Authority Bill 2004 and the Australian Communications and Media Authority (Consequential and Transitional Provisions) Bill 2004 and related bills;

The term ‘provisions’ in this clause (a) as I understand it, means to ‘provide changes in naming titles’ so that the existing laws in being slightly altered such that the changes in names in effect reflects the name of the new authority, or body.

From what I have comprehended in reading through the explanatory memorandums associated with this ABA / ACA >> ABCMA structural change, my understanding is that the ABA and ACA are two di-separate bodies both under the one Ministerial heading, and the plan to combine these two bodies appears to be more about resolving issues the could otherwise fall between the two areas – and by having them as one body – it apparently leaves that new body delegated to come up with the resolution. It therefore in effect sweeps the problems that the Minister (and advisors) is/are inept in resolution, and passes the problems onto a broad range committee that will then procrastinate and also give no result.

It seems to me that this Bill actually is intending to close a whole lot of little gaps that were not tidied up when the Spectrum Management Authority (SMA) was established and since then various licensing fees and other pieces that were attributed (incorrectly) to the ABA.

*With this in mind, my thoughts tend to go along the lines of keeping the ACA as the established communications authority, and moving the technical and licence gathering parts out of the ABA into the ACA, and **not renaming** the ACA to the ACMA. This leaves the content part of the ABA out by itself and I believe that this part should be merged with the Australian Censorship Board (ACB).*

This then clearly defines the role of the ACB as the body for media content recommendations, and if people, associations, incorporations, businesses, companies, and/or corporations do not abide by these recommendations, then the ACB can ‘recommend’ to the ACA that the licenses be immediately revoked – and it will happen!

Not only does this greatly simplify the changes in structure and changes to the existing laws, but the bodies have clear and directly associated delegations – leaving virtually nothing to fall between the cracks, leaving two bodies that are in no way irrelevant in today’s society.

Conclusions

After reading through the paragraphs in question and reading the associated documentation pertaining to the ACMA Bill, and through the knowledge and experience that I have it telecommunications and in my life, it strikes me that the joining of these two authorities (the ACA and ABA into the ABMA) is yet another reactive attempt to keep on top of regulating telecommunication technology advances and the broadcasted sexual content to the Australian public, in isolation of the global interconnectivity advancements in telecommunications technologies, the role of the Australian Censorship Board, and the far more liberated attitudes that is prevalent in the Australian society.

It appears to me that the previous Minister (Senator Richard Alston) was an unfortunate qualifier of the (Laurence) 'Peter Principle', which is a reasonably well-known situation but often unrecognised till too late. *The Peter Principle* Ref [17] *can be paraphrased as 'people tend to get promoted into a position where they are incompetent'*. In that light I believe that Senator Alston may have been driven into this proposed legislation for purposes that I believe are out of step with large majority consensus of the Australian populations wishes and business directions. By merging these two di-separate authorities (the ABA and the ACA into the ABMA), this would appear to bring common control and regulation in the form of extended censorship across the broadcasting and telecommunications arenas (inside Australia), but why is the Australian Censorship board is separate?

It therefore appears to me that this proposed legislation has not yet been dropped with the change in Ministers, but the new minister (Senator Helen Coonan) may see yet the light and realise that this proposed and inept legislation was probably championed by a small (possibly religious) minority of highly financial people with powerful business ties, who are living in a bygone era that has long left the general Australian community. In dropping this repeated attempt to repress peoples choices; an alternate approach that is provided in this response is in step with the large majority of Australian culture, and will lead the Australian Government out of an increasing negative downward spiralling of Australia's BOP, caused by the implementation of full competition in the Australian telecommunications sector some two decades before.

If there is to be any convergence of bodies then it seems to me that the Australian Censorship Board and the ABA have a lot in common, and a merge here would and should be a complete and comfortable fit, except that naming it the Australian Broadcasting Censorship Authority (ABCA) could be seen as too precise as that is exactly their apparent involvement! In any case this naming would cause direct confusion with the Australian Broadcasting Commission (ABC). As this newly proposed combined body would be focussed on providing recommendations of acceptable public display content for all forms of public entertainment at a Federal level, then the ABA could rightly be absorbed into the Australian Censorship Board, (ACB) and the Board's role slightly re-defined to include media content.

In the case of the ACA; it is isolated but has the technical standards / recommendations and licensing as its backbone. The ACA needs to have its technical standards updated in several areas including the basic carriage standard to include bi-directional Broadband Internet and CATV, Websites and Email service standards. Currently the service quality standards seem to have stagnated at about 1995, and a decade of information revolution has happened since.

The ACA needs to be tied into a Government Commission to be effective through being truly independent, and proactive – not reactive. Australia's telecommunication's sector has been largely privatised and it has proven to be a dismal failure, (with the failed experiment of

Optus Singtel already overseas owned) but nobody in Government is prepared to accept that there is a major problem, not blame any earlier political situation and move on to fix the mess.

In Appendix B of this reply, I have provided a skeleton blueprint of how to move forward and fix this mess and it involves the amicable restructuring of Telstra to become two separate bodies. The first is Telstra 'sales, financial and marketing arms' as the fully privatised services resellers, and a sub-Government Commission that is fully Government owned, incorporates the infrastructure part of Australia's Telstra as a start, and in the ensuing years as other carriers 'unbundle' themselves of infrastructure, the Australian telecommunications sector.

This proposal has industry support from highly eminent people that obviously share my views, so this proposal should not be taken lightly and discarded. It provides an out for several companies in full competition and gives them a chance to divest their infrastructure to the Commission, which frees them up to be resellers that can run with their own retail products, all based from common wholesale pricing of the base infrastructure.

What is probably not understood is that wholesale infrastructure service pricing has a different 'bottom line equation' to it than a commercial retail service – which has ROI (return On Investment) and PAT&E (profit after taxes and expenses). For wholesale infrastructure services, the bottom line is measured in terms of the increases in productivity made by the businesses that use infrastructure services to generate their monetary profits – not the monetary profits made to provide infrastructure services to those businesses!

With this in mind, it then becomes blatantly obvious that charging obscenely high auction prices for mobile cellular spectrum bandwidth (infrastructure service) flies in the face of increasing productivity as this directly cuts into the monetary profits obtainable by the 'competitive' carrier companies, and this in turn increases the amount of unnecessary advertising and both combine to substantially increase the retail usage costs, which in turn does nothing to increase productivity.

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