Forgotten Agendas: Broadband Services for Australians

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Introduction

The author of this paper accepts the invitation to present a submission to the Select Committee On The National Broadband Network (NBN) and would be available to present at a public hearing on Wednesday 1 October. I currently have an ARC Research grant on broadband public policy with the ARC Centre of Excellence For Creative Industries and Innovation, have addressed national and international conferences, written commissioned articles for *The Age*, and have presented to industry forums convened by the Australian Telecommunications Users Group (ATUG) and the Telstra Consumer Consultative Council (TCCC). Further details are outlined in Attachment One, and any of those papers can be made available upon request to members of the committee. My presentation to this committee would primarily focus on the implications of the proposed National Broadband Network (NBN) for consumers, especially sections 2 (a), (d), (e) and (j) of the terms of reference.

The presentation would focus on three aspects of the present policy process. First, a positive statement of support of the need for Australia to develop a national fibre based broadband. However, some key problems with the current tender process need to be highlighted in the context of gaining better understanding of the market place related to consumer needs and choices. Second, an analysis will be offered showing that broadband represents a major shift in terms of the relationship between the network itself, the services that can be offered, and the consumers in the evolution from copper wire networks to fibre. Different service categories will be examined, including those likely to need forms of public support. Third, some practical measures will be outlined as to how consumer issues could be better represented and integrated into both the present and on-going public and corporate decision making related to broadband policy in Australia.

So what do we know about the nature of broadband and respective service domains, what related overseas experiences might provide useful insights for Australia, and what are the implications for communications public policy ?

Issues related to consumer take up and needs.

Put simply, the primary evidence of the justification for Australia to invest in a fibre based broadband network is that all of our major trading partners and competitors are doing just that- to ensure that they share in the opportunities to grow and diversify their economies and gain from the associated social benefits. Hence it is to the credit of the Rudd government that it has committed $4.7 billion of government capital to assist in the construction of a new national broadband network

However, the focus to date has primarily been on infrastructure choices, prospective stakeholders, investment and regulatory practices, while issues about consumers have been either neglected or relegated to secondary policy consideration. The present ongoing National Broadband Network (NBN) tender process gives almost no attention to the

complexities of services on the demand side of the broadband equation. Nor do broadband policy makers generally appear to be aware of, or influenced by, significant international research which has examined demand factors, consumer behavior and practices, adoption factors and affordability work concerning the end -users and consumers of broadband. Surely such substantial public expenditure merits systematic investigation into the likely broadband market place trends in Australia. And this ought to include those services that may be of great value to consumers and citizens, but deemed by broadband network operators and service providers to be 'uneconomic' for them. It is surely incongruous for a government to offer such huge capital expenditure to ensure that the new fibre network passes 98% of Australian homes but to ignore the issues of what services will be offered to whom and how?

Broadband is not Internet

The evolution from copper wire to fibre as broadband represents a major shift in terms of the relationship between the network itself, the services that can be offered, and the consumers.

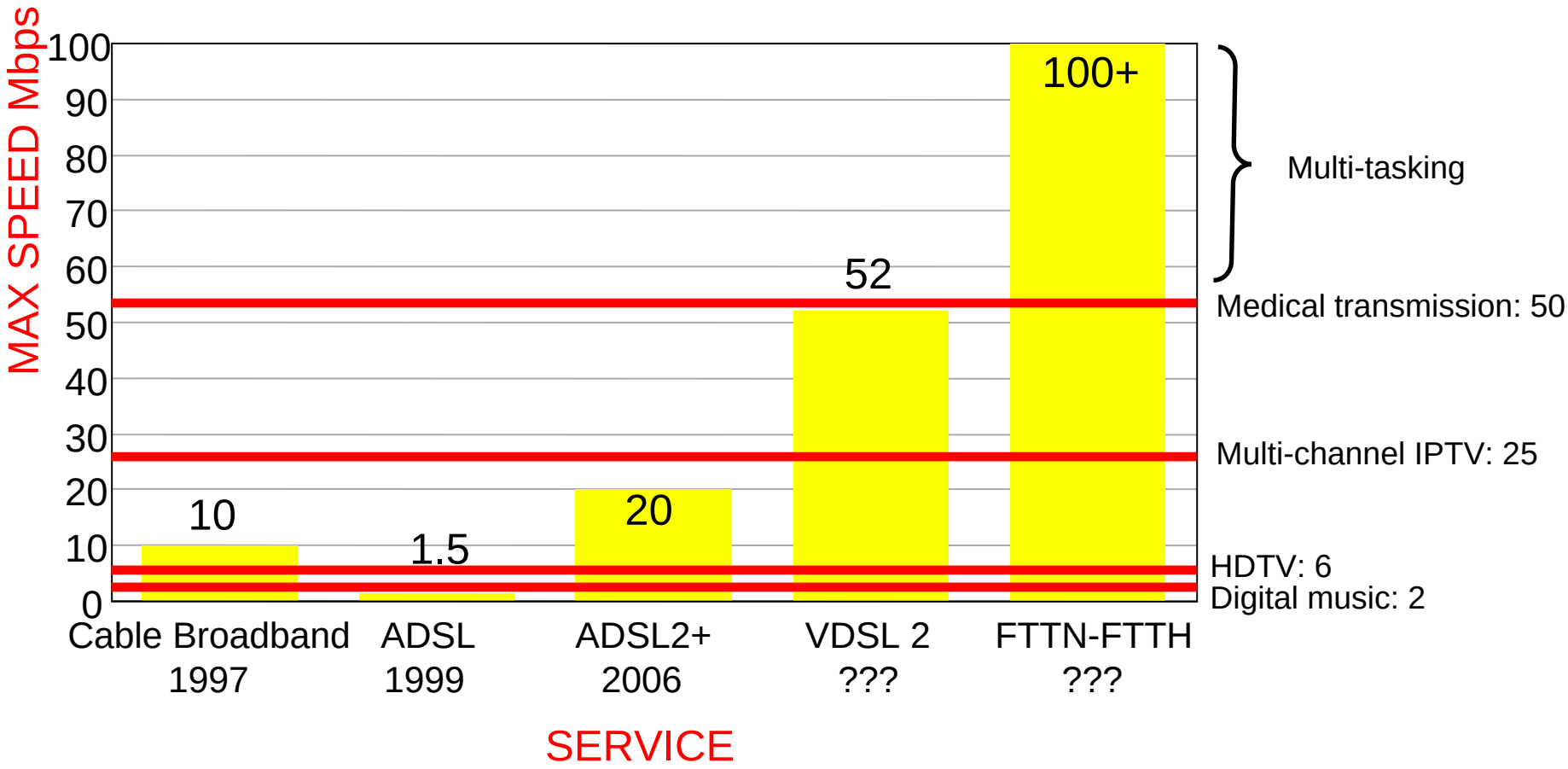
With the early copper networks came the telephone, and consumers were offered one service, and only one- the telephone service. There was direct synergy between the 'dumb' copper network and a telephone voice service, the only application offered initially. So most consumers had pre- awareness of this new technology, and as soon as the copper telephony network became available, the take up of the service came naturally. Broadcasting too, in its early days, could similarly find ready made audiences. And even in the early days of subscription television most consumers knew that it was service that offered dozens of channels, but on a user pay system. Pay television has been referred to as being analogous to being able to buy a fifth wheel on a car – for those who could afford the add on. But with the arrival of the Internet much later, a raft of new consumer choices became available on the new medium as new modes of communication emerged- i.e., e-mail, search, e–commerce, virtual communities. The Internet was the plumbing that facilitated a greater choice of services and diversity of communication through the platform of the World Wide Web.

Broadband platforms have enabled a different service paradigm from all of their predecessors. But broadband is not Internet – though Internet services can be a part of broadband offerings.

Categories of Services

The potential richness of services is enhanced with the new fibre-based platforms because of the increased capacity that comes with broadband. The degree of service options partly depends upon the network capacity of different broadband infrastructures, Fttn v FttH. The Telstra chart below shows major network infrastructures, their relationship to new emerging services and the nexus to broadband speeds. Notice how the possible service options are dependent on different speeds; downloading digital music at 2mbps, multi - channel IPTV at 25 mbps and medical transmission at 50 mbps.

The need for speed : Telstra ...



Broadband platforms have enabled a different service paradigm from all of their predecessors, and three categories of broadband services are discussed here - called managed, unmanaged, and publicly supported services. These three service categories will be better outlined in a formal presentation to the Select Committee.

Briefly, the obvious commercial imperative for the broadband system supplier is to get as many consumers on their system as quickly as possible. But their margins are better where they can create and market as many popular 'managed' services as possible because the 'unmanaged' Internet based services, which are also offered on their network, have limited growth potential for them. So when the new fibre broadband network in Australia becomes operational, the suppliers will be searching for as many services as possible for their subscribers to access, and to download - almost certainly with consumer charges closely related to usage patterns. If Telstra has a premier place within the forthcoming fibre developments, then subscribers to their existing broadband services, delivered through both cable and ADSL, can stand by for a major marketing blitz to encourage them to migrate to the higher speed broadband network.

Some argue that broadband is merely another platform that must find its own way in the market place across all of the domains canvassed in this paper. So best leave it all to the commercial providers to find out about how best to interact with the end-users, and consumers will vote with their feet. Yet contrary approaches have emerged from surprising quarters, notably Jonathon Adelstein, Chairman of the Federal Communications Commission in the USA, a body whose track record has long been to promote free markets and unfettered competition. Adelstein recently agued that the normal rule that the development of 'a technology should be left solely to the market place does not apply in the case of broadband, which promises an array of social and economic benefits, ranging from distance learning, to telemedicine, to public safety to democracy'. [i] Will Australian broadband public policy investigate this advice?

Publicly supported services

Three different end –user domains related to 'uneconomic' broadband services can be briefly outlined, namely eGovernment services, community ownership models that build effective community services, and the vexed eHealth service domain. Examples of related service innovations can be drawn upon from successful overseas broadband models, particularly case studies from the Netherlands and Canada.

(a) eGovernment services- the Canadian way

One of the most innovative international examples of an eGovernment services model is to be to be found with Canada's Alberta SuperNet project. Five years ago Axia, the company that manages that network, constructed its broadband plan with eGovernment

services integral to its business model because of the strong support from the oil rich Alberta provincial government. Axia claims that the Alberta SuperNet is a broadband network now 'linking over 4,000 government, health, library and educations facilities in 429 communities across the province at affordable and sustainable costs to the government of Alberta'… through 'a ten year renewable contract with the government of Alberta to provide managed Real Broadband network to Alberta's schools, hospitals, libraries and government facilities[ii]. The Alberta government has a long term financial commitment to the project and a range of constructive innovative publicly funded services is emerging.

(b) Successful models of collective broadband ownership building community services- the Netherlands way.

An outstanding example of how community services are able to find institutional homes with broadband is well seen with one of the most imaginative pioneers of broadband service innovation in the Netherlands. In 2002 the Netherlands Government, in association with several private corporations, constructed an experimental communications model called Kenniswijk, which translates as somewhere between 'knowledge domain' and 'smart city' and which was seen as a vehicle for further energising Dutch society and commerce. The results from several test beds are now available. Kenniswijk is widely seen internationally as a best practice community service broadband model which can be outlined to the committee.

(c) Problematic eHealth

Electronically based health services (eHealth) are one of the many domains where new and valuable broadband services could usefully be developed. Both the Commonwealth and State governments have initiated a raft of constructive experiments and programs in the eHealth domain during the past decade, but there is currently little sense that important mainstream programs may soon emerge in association with the new broadband initiative. The benefits from eHealth have the potential to flow to everybody: hospitals, medical specialists, and patients. And distant patients could reap particular benefits to overcome serious disadvantages with high speed broadband.

One successful current experiment in eHealth collaboration has been undertaken between intensive health care teams at Nepean Hospital in Sydney's western suburbs and the regional hospital at Katoomba, 60 kilometres away. High speed broadband enables the regional hospital at Katoomba to receive real-time supervision and guidance from specialists at Sydney's Nepean Hospital. With high speed broadband, real-time consultation between several cardiologists and a patient becomes possible, based on accurate transmission of cardiac ultra sound. Below is a photograph of ViCCU, a Virtual Critical Care Unit developed and installed by the CSIRO, in collaboration with Wentworth Area Health Service and NSW Health.

An assessment of the success of this experiment has found that:

> ‘During the first 18months of using VICCU, 503 patients were treated; the hospital discharge rate increased and fewer patients were admitted as inpatients. VICCU saves beds in intensive care units, where each bed costs as much as $500,000. While large programs like the DCITA/ CSIRO CeNTIE progam may be able to fund infrastructure for such pilots, others in the research community cannot – a clear indications that a national facility is required.’ [iii]

To summarize this section. From about 2010 onwards the broadband fibre network operator(s) will have great commercial incentive to generate as much product for consumers with their ‘managed’ services that they can find. However, for those ‘non economic’ public services, such as eGovernment, collaborative partnerships are likely to be needed between commercial broadband providers, community groups, and government to develop and market a more diverse range of broadband benefits to Australians.

Neglected Agendas: inclusive public policy

We need new thinking about how to create effective public policy in communications which draws upon understanding how complex social and cultural factors influence the way end users and consumers interact with a wide range of new communication technologies and services. The best new technologies and services will be those that are created, designed, constructed, and marketed in ways that will be highly ***adaptive*** to human needs in user environments of the future. And there are many complex synergies here related to different choices of infrastructure for fibre based broadband and the likely commercial viability of such capital investments. These complex dynamics are acknowledged by the management of most of the telecommunications carriers, who are also potentially new broadband fibre network suppliers, including Telstra, and who are seeking dialogue with, and advice from, informed consumer advocates and applied researchers.

Some will argue that broadband is merely another platform that must find its own way in the market place. So leave it to the commercial providers to find out about how best to market their broadband services and consumers will vote with their feet. But in the context of the present NBN tender two questions follow. First, how will the promised $4.7 billion of government financial support destined to go to the successful tenderer(s) be allocated, and on what terms? Second, will any of this public capital be used for investigation and development of potentially valuable consumer services, including those ‘uneconomic’ services such as eGovernment and eHealth? Present indications are that of the $4.7 billion of public money all of it is to be invested in broadband *network* investments, but none of it appears to be directed to the investigation of broadband *services.* Why?

And public policy too must also more systematically embrace new understandings of the user environment and adjust policy settings in user and consumer contexts.
In practical advisory terms the following might be explored:

- Create ongoing specialist working groups with expertise in the communications user environment within the principal government department(s) responsible for the development of national broadband policy.
- One such group should develop and refine a White Paper about National Broadband Services Policy, and with special attention to those services that are most likely to need public support.
- Such a group should liaise with comparable bodies such as the Broadband Expert group (2001+) in the Netherlands, the Broadband Stakeholder Group in the U.K (2001+) to be aware of successful services initiatives in other countries.
- Ensure that where tenders are called to build new broadband infrastructure that consumer specialists are well represented on such panels.
- Establish an adequately resourced communications consumer peak body, such as the proposed the Australian Communications Consumer Action Network (ACCAN) with strong expertise in broadband services policy.

This enquiry provides a commendable opportunity to find the best public policy processes for inclusiveness in this major national initiative.

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Attachment One.

Journal Articles

"User Centred Broadband: the Kenniswijk Experiment", Telecommunications Journal of Australia, Vol. 3, No. 6, Summer 2006 (Barr)

"Broadband: Directions and Dilemmas" (Editorial), Telecommunications Journal of Australia, Vol. 3, No. 6, Summer 2006 (Barr)

'Broadband: Towards A Universal Service' Telecommunications Journal of Australia, Vol. 4 Summer 2007 (Barr). Forthcoming.

Conference Papers

"Crisis of Innovation:Looking elsewhere", Communications Policy Research Forum, Sydney, September 25, 2006 (Barr)

"Crisis of Innovation: Broadband", ISR Seminar, Swinburne University, 1 September 2006 (Barr)

'Broadband: Towards A Universal Service' Telecommunications Journal of Australia, Vol. 4 Summer 2007 (Barr).

"Broadband Is Not Internet", World Internet Project Annual Partners meeting, Melbourne July 2007 (Barr)

"Broadband: Towards Understanding Users' Communications Policy Research Forum, Sydney, September 24, 2007 (Barr)

Media/Industry

"Broadband For All", Australian Conference of Optical Fibre, 11 July 2006 (Barr)

"Broadband: Lessons from Overseas", Telstra Consumer Consultative Council, 2 August 2006 (Barr)

'Broadband: So What about the Users?' ATUG Broadband Expert Task Force Review, July 2007

Barr, Trevor, 'Australia Is Way Out Of the Loop With Broadband', The Age, March 9, 2007

At, http://www.theage.com.au/news/business/australia-is-way-out-of-the-loop-with-broadband/2007/03/08/1173166895751.html

Also there is a lead in about broadband being an election issue on the same day which attributes comments to Trevor Barr at:

http://www.theage.com.au/news/business/broadband-looms-as-an-election-issue/2007/03/08/1173166895703.html

Barr, Trevor, 'Telstra must offer broadband trade-off', The Age, February 15, 2008

Government

'Broadband: The Netherlands Model', Government News, Vol 26, no 9, October 2006

'Re-Thinking Universal Service Obligation (USO) Policy' Submission to the Telecommunications Universal Service Obligation (USO) Review, October, 2007

[i] Aspen Institute (2008), 'A Framework for a National Broadband Policy', Washing ton, DC.
[ii] 'Harnessing the SuperNet advantage', Axia booklet, 2008.
[iii] CSIRO ICT Centre, 'The Australian National Collaboration Network', May 2, 2008