RAPAD

Incorporating Central Western
Regional Organisation of Councils

Remote Area Planning & Development Board

25 February 2011

Committee Secretary
House of Representatives Standing Committee on
Infrastructure and Communications
PO Box 6021
Parliament House
CANBERRA ACT 2600
AUSTRALIA

 E-Mail: ic.reps@aph.gov.au

Subject: Inquiry into the role and potential of the National Broadband Network

Dear Sir / Madam

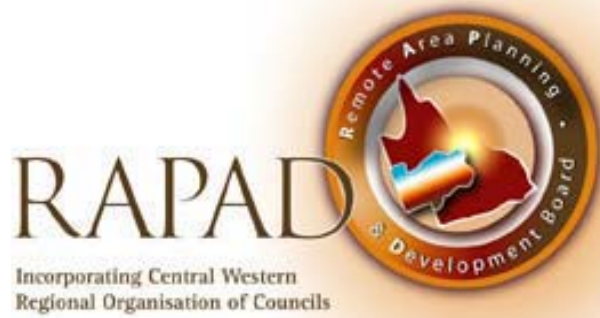Please find our response to the Inquiry into the role and potential of the National Broadband Network.

For further information please contact me, the undersigned, on   .

Yours Sincerely

David Arnold
General Manager

outback
QUEENSLAND
LEGENDary!

RAPAD SUBMISSION

House of Representatives

Standing Committee on Infrastructure and Communications

**INQUIRY INTO THE ROLE AND POTENTIAL OF THE NATIONAL
BROADBAND NETWORK**

25 February 2011

About RAPAD

The Remote Area Planning and Development Board (RAPAD) is a not for profit, regional economic development agency and regional organization of councils, owned by and representing the seven Local Governments of Central Western Queensland. Governance and strategic direction of RAPAD is via a Board of Directors who are elected by the member Local Governments. Currently the Board consists of the seven Mayors of the member Local Governments: Cr Palmer, Cr Warren, Cr Ross, Cr Britton, Cr Scott, Cr Chandler and Cr Dare.

The region covered by RAPAD encompasses an area of some 385,000km², with 19 towns in seven local government areas including: Barcaldine Regional Council, Barcoo Shire Council, Blackall-Tambo Regional Council, Boulia Shire Council, Diamantina Shire Council, Longreach Regional Council, and Winton Shire Council.

The regional population is approximately 12,256 people spread between townships and approximately 1,300 rural properties which in turn represent approximately 58% of the regions registered businesses. Agriculture (fisheries and forestry) accounts for approximately 30% of the RAPAD regions employment. The composition of nominal gross value added (GVA) for the RAPAD region is also dominated by agriculture (fisheries and forestry) which accounts for 41.4 per cent of nominal GVA. The other major industries in the region are tourism, government related services and mining exploration, which, if current public information suggests, will convert into significant developments over the coming years.
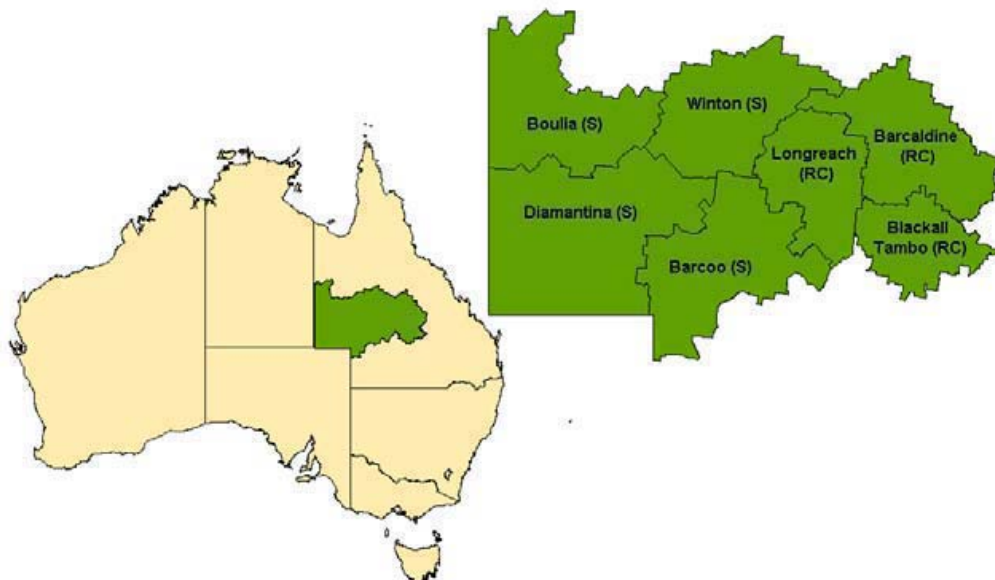
Central Western Queensland

The RAPAD region consists of nineteen medium to small communities, being:

1. Windorah
2. Jundah
3. Stonehenge
4. Longreach
5. Ilfracombe
6. Isisford
7. Yaraka
8. Winton
9. Birdsville
10. Bedourie
11. Boulia
12. Urandangi
13. Blackall
14. Tambo
15. Barcaldine
16. Alpha
17. Jericho
18. Muttaburra
19. Aramac

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Overview

This submission has been prepared by RAPAD, the regional economic development agency, owned by and representing the seven Local Governments of Central Western Queensland. The region is designated *remote*, covering an area of some 385,000km and a population of approximately 12,256 people.

RAPAD has been active in the digital infrastructure and digital economy arena through its submission to various government papers, presentations to Ministers, commitment to broadband infrastructure investments and a leading voice in remote Qld amongst local government associations. Much of the Central Western region of Queensland will be part of the seven percent of Australia denied metropolitan equivalent NBN speeds and potentially access to services and telecommunications (and ISP) competition enjoyed by most Australians. The performance of the proposed satellite and wireless networks for Australia's seven percent are unknown at this stage as limited public information is available.

Whilst RAPAD has strongly advocated for change to the broadband policy and program throughout its phases of development, the arguments advanced by RAPAD have had no impact on the government framework. Its advocacy raised the economic and social impacts to communities with no or inferior broadband infrastructure and reduced digital services to rural and remote regions. International studies on the impacts of access to improved broadband across developed nations have shown a clear and strong connection between telecommunication investments and economic growth[1].

People who have all of the best of social and business services at hand and as close as catching multi-forms of public transport will have the best broadband – while people living and working in regional and remote areas who would benefit most from the digital economy will have the least / or lowest quality broadband service.

If remote and rural regions are to grow the population of young professionals (our digital natives) we must offer a modern society with all the incumbent social networks (wireless access to facebook, twitter, video calls from 4G application devices, ability to communicate via SMS).

In this submission RAPAD has focussed primarily on the use of the NBN (although infrastructure concerns are also expressed). The focus is supported by the OECD findings in the paper, Broadband and the Economy, where it states:

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[1] NSW Standing Committee on Broadband in Rural and Regional Communities Transforming life outside cities
The potential of broadband services for rural and regional communities; paragraph 3.2

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> *Broadband is also increasingly important as an enabling technology for structural changes in the economy, most notably via its impact on productivity growth, but also by raising product market competition in many sectors, especially in services.*

> *The evidence suggests that the largest productivity gains come increasingly from the use, rather than the production, of ICTs.[2]*

> *The move to fully ICT-enabled economies will have direct and indirect implications, and many areas of policy are involved, going well beyond the roll-out of the physical infrastructure.[3]*

RAPAD would welcome the opportunity to address the Committee and expand on its submission.

In summary, RAPAD has expressed its opinion on the economic and social sustainable developments the community can (reasonability) expect to experience post NBN infrastructure deployment and digital economy initiatives. The major points are:

1. Collaboration (unbiased and effective) and engagement with government, industry and organisations is essential to achieve sustainable value.
2. Strong and effective leadership is required to develop the vision, set priorities and address challenges to realise the goals.
3. Doing the same better will not improve the nation's productivity, economic development and social position. Risks will be necessary.
4. Communication strategies that inform the community and seeks input throughout the journey is essential.
5. For business and the publics participation in digital technologies it is critical that an education and training program, to cater for the broad spectrum of participation, is delivered.

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[2] Broadband and the Economy, OECD Ministerial Background Report DSTI/ICCP/IE(2007)3/Final, page 3.
[3] Ibid, page 49.

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Sustainability and value.

Collaboration (unbiased and effective) and engagement with government, industry and organisations is essential to achieve sustainable value.

Remote regions face challenges to maintain population and develop economically. Yet they are often Australia's food or resource centres. Digital technologies have been embraced by country people as evidenced by cattle tagging (radio frequency identification tags - RFID), online auctions or auctions via videoconference and improving farming and vegetation management via using GPS and GIS technologies to name a few.

Past State Government delivery of telemedicine and online education has been trialled or has been limited due to budget restrictions and priorities. Australian Government programs (Clever Networks and Digital regions) have acted as stimuli for more action in digital government service delivery, however mainstream delivery of many government programs and services has not been realised.   The full power of technology and telecommunications has not been embedded into core government activities and processes. The propensity for government is to close down schools and hospital and centralise services to achieve perceived cost efficiencies. The removal of government personnel from country towns has a devastating economic effect of these towns and residents access to services.

As an infrastructure platform the optic fibre capability of the NBN underpins development of options to deliver health, education and government services to remote regions. The video capability of the NBN for government service delivery to remote and rural regions is exponential. During the GFC many companies invoked travel restrictions using (low bandwidth) video capabilities to conduct business. The development of high bandwidth video communication (telepresence and OptIPortal video) applications has enormous potential for health and education (and training) delivery. And whilst mass high broadband access through the NBN will be a catalyst other platforms such as mobile (3G or 4G [Long Term Evolution]) platforms, technology devices (games consoles, iphones, HD screens, internet enabled white goods) will be the tools that deliver value.

The OECD notes that relative to other general purpose technologies (railways, power networks) 'the impacts of broadband may be larger and materialise more rapidly'[4]. As noted by the OECD the direct economic impact of broadband is difficult to measure. It notes:

> *However, very few studies have examined the economic impact of*

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[4] Broadband and the Economy, OECD Ministerial Background Report
DSTI/ICCP/IE(2007)3/Final, page 5

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broadband directly, partly because it is relatively recent and the technologies are evolving rapidly, and also because it is difficult to disentangle its impact from that of ICTs more generally[5]

Sustainable value from the NBN is possible for government service delivery if all levels of government take committed actions. Collaboration at the policy and program level will be essential. The responsibility for driving Australian leadership in the digital economy must rest with all departments and not consigned as the prime responsibility of the Department of Broadband Communications and Digital Economy. It has ramifications across transport, climate change, health, education, water management, defence, arts, in the same way web pages and social media have permutated across government services, business activity and social lifestyle.

In the book Broadband Economics, Creating the Community of the 21st century, John Kao wrote, 'Robert Solow won the Nobel Prize in economics for among other things, demonstrating that as much as 80 per cent of GPD growth comes through the introduction of new technology'. And Boston Consulting Group, in a study conducted for Business Week, concluded that innovative companies achieved median profit margin growth of 3.4% as compared with 0.4% for median S&P Global 1200.[6]

In terms of sustainability and value RAPAD has argued, in previous papers submitted to government, that 4G (LTE) or similar wireless technology should be deployed to communities targeted as satellite/wireless regions.   Satellite broadband access for remote homesteads is not disputed from an economical prospective and realistically the only available platform. 4G deployed as a fixed wireless platform (as opposed to a mobile platform) will give rural and remote communities far greater broadband performance (bandwidth and latency) than satellite.

 RAPAD also expresses grave reservations on the costs rural and remote users are likely to bear. This combined with the high likelihood of no (or restricted) bundled service offerings will again disadvantage RAPAD communities.

A comparison of the price and data performance under existing Australian Government Broadband Guarantee (ABG) program demonstrates the disadvantage placed on rural and remote communities under current government policies.   A glance at the ABG providers[7] offerings reveals commonality between offerings. For

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[5] Ibid
[6] Broadband Economics, *Creating the Community of the 21st Century*, Robert Bell, John Jung and Louis Zacharilla, P108
[7] http://www.dbcde.gov.au/broadband/australian_broadband_guarantee/australian_broadband_guarantee_providers

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download to upload speeds of 1Mbps/256Kbps (and usually a peak to off-peak use of 4MB/4MB) cost vary between $63 and $69 with some half monthly fee options for the first 3 months on a 12 month plan.   By contrast the ISP internode's wireless ABG plan is a 12Mbps/1Mbps with 10GB monthly use for $59.95 per month. The satellite price and capability disadvantage under the government's ABG program is clearly evident.   The Telstra ABG service offers the ABG minimum speeds of 512/128 Kbps and 1GB usage for $64.95 per month.[8]

NBN Co has not announced pricing, capacity and performance parameters of its satellite service. RAPAD has grave concerns on:

- price/performance comparison rural/remote satellite services to metropolitan services;
- the limitations of a double bounce service (data transfer between two Council locations will incur a 1second delay severely restricting applications and Council efficiencies);
- bandwidth growth limitations (already NBN Co has foreshadowed 1GB services for FTTP services);
- limited service bundling offerings (the number of ISP is expected to be limited as is the case for the ABG); and
- the intensity of competition restricting innovation, pricing, packages and partnerships.

The concern remote regions have on the NBN proposal to deliver high speed broadband to their towns via a satellite service is based on current experiences. The next generation NBN satellite is yet to be manufactured, tested and deployed.

Mayor Bruce Scott, Barcoo Shire Council said,

> "*Barcoo Shire has offices in its three communities and it is extremely difficulty to have these offices interacting with our main office and impossible to access the main server over satellite. VPN over satellite for councillors and staff to access the main office server is also impossible and further increases the dislocation of staff and councillors and will not allow for tele-working as an optional employment benefit.*

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[8] http://telstra.com.au/customer-terms/download/document/bp-part-e.pdf, page 7.

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Strong and effective leadership

Strong and effective leadership is required to develop the vision, set priorities and address challenges to realise the goals.

The digital economy represents an uncharted area for modern society. Human nature resists change if there is uncertainty on the value of the change and the effect of the change is unknown. However if a strong vision is communicated those barriers break down. The role of politicians, government, business and community leaders is to communicate the digital economy vision and create an environment that reduces fear of the unknown. Great leaders paint inspiring pictures to communicate a vision involving unknown elements and high risk.   President Kennedy took his nation on a journey to put a man on the moon at a time when the technology wasn't developed and risks were high.

Australia has the leadership talent to inspire innovation and motivation to drive sustainable value from the NBN. Acquiring an innovative digital economy will require investment from government, business, individuals and the community. Risks are inevitable. Realisation of some failure should not be considered foolishness, rather a learning experience to build better outcomes.

Australians might question the call by remote and rural regions for greater public money to be invested to give their communities NBN infrastructure equivalency. These communities produce much of Australia's wealth. Their ability to attract and hold educational, health and safety personnel is at severe risk if the digital economy services are restricted, not available or cost prohibitive in these areas. Without the essential government services of health, education and police communities will die. The economic leverage of government personnel living in the community and the service they provide contribute to community sustainability.

Two factors must be considered by leaders.   Metro equivalent access to the service that underpins the digital economy will facilitate essential service personnel attraction to live and work in rural and remote communities. Second to retain staff (and families) metro equivalent broadband links and services are crucial if they are to maintain and upgrade their skills and qualifications to retain their employability and professionalism. Doctors want to discuss latest development with colleagues, teachers want access to new curriculum and student management, police need the capability to search criminal databases and use latest techniques. High definition video dolby audio quality systems will reduce remoteness and assist realise better communication flows.

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The shortage of general practitioners and the inability to attract general practitioners to rural and remote community is well documented. It is reported that at the 2010 National Rural Health Alliance's annual dinner, independents were told that the number one issue for rural health is affordable access to broadband, and that it needs to have reach into remote areas, where the need is greatest. Broadband is not only important for delivering health and education services; if communities don't have it, they will struggle to attract health professionals (and probably other workers too).[9]

Equally governments have challenges retaining teachers in these communities. The NBN offers government a new incentive element to improve essential service delivery (in terms of staff attraction), if correctly leveraged and incorporated into employment packages.

Leadership is required to maintain motivation and purpose across government digital service delivery or else priorities will be influenced by external and internal factors which may derail optimum outcomes. Leaders must find ways to remove barriers and ensure the value of a digital economy is delivered across all government service portfolios. The Government needs to change its thinking and actions. The government's report on Web 2.0 technology stated:

> *Government pervades some of the most important aspects of our lives. Government 2.0 can harness the wealth of local and expert knowledge, ideas and enthusiasm of Australians to improve schools, hospitals, workplaces, to enrich our democracy and to improve its own policies, regulation and service delivery*.[10]

Recognising the importance of rural areas as a priority for broadband infrastructure is recognised across the world. In June 2010 the British Secretary of State for Environment, Food and Rural Affairs, Caroline Spelman, said "Providing effective broadband connections for rural communities is one of my top priorities. Broadband access for rural communities is essential if we are to provide the means for their economies and businesses to grow and to minimise the social digital divide for people living in rural areas. I will work closely with colleagues across Government to make this happen."[11]

Britain is showing the type of leadership and commitment that RAPAD is seeking from the Australian Government.

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[9] http://blogs.crikey.com.au/croakey/2010/08/31/broadband-is-the-critical-rural-health-issue-the-independents-are-told/ August 2010
[10] Engage Getting on with Government 2.0, Report of the Government 2.0 Taskforce, 2009, page x
[11] http://www.culture.gov.uk/news/media_releases/7137.aspx

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The Australian Government $402.2 million investment in government funding over four years to provide Medicare rebates for some 495,000 online consultations to patients in rural, remote and outer metropolitan areas is a sign of leadership and reflects a desire to change from traditional practices. The funding will provide $50 million in funding to provide online triage and basic medical advice through videoconferencing.   National Health Rural Alliance (NHRA) chairman, Jenny May, said connectivity remained "very patchy" and inconsistent between regional practices.   "Some GPs are extremely IT-literate and have a very high level of connectivity and existing broadband and some of our rural and remote areas are already using an internet-based health record and putting in video conferencing and that sort of thing," she said. "In other places the level of IT knowledge and capability is low."   Bill Heddles, president of the Australian Association of Consultant Physicians, agreed that IT capability remained low among the practices of colleagues in the field. He stated that "in terms of formal online consultants with GPs, we haven't got ourselves set up to do that."   RAPAD would urge that implementation technologies leap above current telehealth video technologies and adopt newer video technologies that provide 'real life' video quality, high fidelity voice quality and facilitate a host of vital signs monitoring devices.[12]

RAPAD also see's leadership and collaboration with business and community as a government responsibility.   Remote and rural communities will potentially gain access to more markets and opportunities to improve business practices. Government needs to 'paint the picture' of the emerging NBN possibilities from a remote and rural environment prospective to stimulate support and action.   A program of consultation and discussion and early adopter assistance over the NBN project may be appropriate. The NBN platform will introduce new business process and systems therefore it is important that country businesses have the opportunity full appreciate its potential. A message from Ministers of the government vision on business and life in remote and rural Australia in an NBN age should be part of the government's broadband agenda.

Private sector investment in new technologies and applications will result in national value being realised from the NBN. Companies are investing in broadband technologies such as infrastructure (cloud computing), connected device and software applications.   Rural and remote Local Governments are likely to need assistance to adopt broadband technologies due to numerous factors.   These include low rateable base, higher age profiles, low average income per capita and capability to immerse technologies into their infrastructure and systems.

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[12]

http://www.computerworld.com.au/article/375578/connectivity_remains_key_telehealth_success/ February 2011.

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RAPAD suggest a program to incentivise and assist remote and rural Councils gain value from the NBN, be investigated.

Change management

Doing the same better will not improve the nation's productivity, economic development and social position. Risks will be necessary

> *According to Access Economics survey of 540 firms, 'more than half of those surveyed expect that the way in which they do business in general will change under the NBN'.*[13]

Without broad scale adoption of new business practices/opportunities and social participation in the digital economy, the value of the NBN infrastructure is questionable. The Australian Government must aggressively introduce policies and programs that drive value from the NBN investment that would not otherwise be realisable with the current telecommunications infrastructure and software.

Leadership and policy and governance changes are needed to: shift public sector culture and practice to make government information more accessible and usable; make government more consultative, participatory and transparent; build a culture of online innovation within Government; and promote collaboration across agencies. [14]

Professor Lesley Barclay, head of the Northern Rivers University Department of Rural Health says the importance of broadband for rural health and rural communities cannot be overstated. What is needed is a redesign of rural health services. She says 'improving rural health is not all about having "more", whether doctors, nurses or dollars. It's also about doing differently and better'. For the 30% of Australians who are long distances from highly skilled specialists, health service redesign, better delivery of services and building rural capacity requires new thinking and innovation that is different from urban areas where most of the limited amount of health service research gets done'[15].

In the Access Economics report cites comments from health management services provider, Healthways, on the potential of the NBN for patient chronic disease management.   In the report it states:

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[13] Access Economics, Australian Business Expectations for the National Broadband Network, 16 November 2010

[14] Engage Getting on with Government 2.0, Report of the Government 2.0 Taskforce, 2009, page x.

[15] **http://blogs.crikey.com.au/croakey/2010/08/23/what-rural-health-needs-broadband-and-health-service-redesign/** 23 August 2010.

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> *Healthways' primary method of support to patients is currently via telephone. Good communication with patients is critical to program success. Under the NBN, Healthways expects to be able to use televisual services that are not supported by the current network, both for individuals and via webinars. Use of audio-visual communication would provide an increased quality of service through greater carer-patient interaction, and would likely lead to improved patient outcomes.[16]*

The propensity of successive government programs is towards trials. For instance the $60 million program Australian Government Broadband for Health Program (1 July 2004–30 June 2007) and the Managed Health Network Grants to assist in the development of Managed Health Networks across Australia (December 2005–April 2007).

Recently video conferencing and telehealth services between regional and urban centres have already undergone trials in several areas, with Victoria's Loddon Mallee Rural Health Alliance extending its initial $5.2 million trial to all 16 regional hospitals in the area. NSW Health will also conduct a $4 million trial of telehealth monitoring units and video conferencing systems among critical care patients in the NBN-connected sites of Armidale and Kiama Downs this year.[17]

Video communication presents massive opportunity for efficiency and staff benefits. In June 2010, the NSW Department of Justice and Attorney-General in its response to questions on notice from the potential of broadband service inquiry, stated, in relation to its use of video conferencing, that:

> *Reduced OH&S risks from assault during transport and from fatigue caused by excessive hours on the road. Police, in remote areas particularly, can spend as much as 10 hours a day on transport duties.[18]*

The NBN is a catalyst for change. The Australian Government must implement policies and programs to drive change as quickly as possible to realise the investment.   Business is forecasting opportunities for marketing, customer relationship management and work practices.

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[16] Access Economics, Australian Business Expectations for the National Broadband Network, 16 November 2010, page 24.
[17]
http://www.computerworld.com.au/article/375578/connectivity_remains_key_telehealth_success/ February 2011
[18]
http://www.parliament.nsw.gov.au/Prod/parlment/committee.nsf/0/30851c281776b104ca25779a001be680/$FILE/AGD%20answers%20to%20QON.pdf

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Change is expected to come via
- *enhanced online capabilities (55%);*
- *new product and service offerings (50%);*
- *more diverse ways of communicating with consumers and suppliers (67%); and*
- *changed employment models, especially an increase in telecommuting (20%).*

By industry, health, education, utilities and information, media and telecommunications have the greatest expectations at present.[19]

RAPAD would suggest that urgent policy be adopted (with funded programs) that quickly move from this trial mentality to implementing 21st century digital delivery to imbedding leading edge technology into core health practices and processes. The RAPAD region would be willing to become Australia's first remote region to have high speed (100Mbps), advanced technology applications for health, education and government services delivery.

Government assistance in remote and rural areas should not be restricted to government services. Efficiency and effectiveness should be considered for the SME industry, the industry most predominate in remote regions. A NSW Parliament report on broadband affect to rural and regional communities found:

Incorporating e-commerce into the way that SMEs do business has brought efficiencies and increased productivity especially for businesses and commercial activity in rural and regional New South Wales. With the use of web-based marketing and commercial transactions, and business support software for finance and workflow management, SMEs are becoming more competitive and sustainable longer term.[20]

Furthermore the NSW Parliament submission to the enquiry stated:

Broadband can play a critical role in reducing business costs and improving efficiency and productivity, which in turn underpins longer-term viability and ongoing job generation.[21]

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[19] Access Economics Australian Business Expectations for the National Broadband Network, 16 November 2010, page i-ii.

[20] NSW Standing Committee on Broadband in Rural and Regional Communities Transforming life outside cities, The potential of broadband services for rural and regional communities; paragraph 3.16
[21] Ibid

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Already the empowering affect of current generation broadband access over rural and remote communities and people is evident as they access newspapers online (instant access to news, events and commentary) and have greater access to government information services.   However for smaller communities struggling with satellite or poor terrestrial communications system the restrictive nature of these systems is too evident.   For example although Diamantina Shire Council has moved (March 2010) to a paperless distribution of minutes to Councillors it feels disenfranchised because of poor telecommunications infrastructure inhibiting its ability to utilise video conferencing for staff meetings (Boudrie to Birdsville).   A number of other digital initiatives Council wishes to implement are not possible because the satellite system will not support them. Remote communities want to adopt changes in processes and practices but the government NBN policy is creating further disadvantage.

This region is targeted for the NBN satellite infrastructure. The community has major concern on the capability of the NBN to facilitate advanced video interactive applications metropolitan communities will receive. This in turn will lead to a far less informed and participative community.

The OECD Broadband and the Economy paper states, 'Policies and practices encouraging innovation, investment and competition in the development of infrastructures and the delivery of services are necessary. Moreover, some barriers to advanced uptake and use may not yet have been resolved and would benefit from supporting policies. These policies should aim at reaching complete diffusion and mainstreaming of ICTs and broadband where this has not already taken place.

This position is consistent with the RAPAD position. RAPAD seeks a better NBN infrastructure deal so that their smaller towns have the telecommunication services (and access to applications) that will ensure communities can retain and attract professionals and their families to remote and rural communities. To ask skilled personnel to relocate to communities with inferior broadband services will contribute to a further decline in remote and rural populations.

Communication

A communication strategy that informs the community and seek input throughout the journey is essential.

At this early stage of the NBN implementation, signs are emerging of a failure by the government to engage in effective community consultation.   Rushed timeframes for responses to government telecommunications papers, uncertainty on roll out and technologies and timeframes for remote regions, absence of a clear USO direction and failure to consult on the Digital TV program are areas of concern for RAPAD.

The Australian Government publication, Australia's Digital Economy: Future Directions identifies two generations of users.

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·   'digital natives'—those who do not know life without a computer, the internet and MP3s. Digital natives first log-on earlier in their lives than previous generations and rarely log-off. They participate online differently than older generations: '" *[digital natives" almost never distinguish between the online and offline version of themselves*'; and

·   'digital immigrants'—those who learn and adopt the internet and related technologies later in life. Digital natives may be more confident online and less aware of or concerned by risks, whereas digital immigrants may be less confident and more concerned about risks.[22]

It is reasonable to assume the aged population in the less populated areas of the nation, holds a larger proportion of digital immigrants. If the government is to build confidence in the NBN and promote broad based participation in the digital economy in remote and rural Australia, it must develop a community and business engagement strategy. An inclusive policy will ensure that government is able to communicate its agenda in unambiguous and common language, that the community has the opportunity to air its concerns; to be able to question government on its programs, provide detail on issues facing remote and rural communities and voice alternative options.

For example, communities have advocated more wireless coverage, connection of communities and communication towers to backhaul fibre (being installed under the government Backbone Blackspots program) and the implications of the copper retention strategy for those on wireless USO services. This infrastructure (HCRCS and analogue radio systems) is aging (or beyond the capacity to support a digital economy) and anecdotal evidence exists of cannibalisation of parts by Telstra technicians to keep services operating. What can remote users expect for their USO service?

RAPAD representatives have made representation to governments on a range of strategies to improve their telecommunications infrastructure and await productive discussion. Diamantina and Barcoo Shires place such a high priority on optic infrastructure, community investment is proposed. The balance of the $400m telecommunications fund directed toward extending broadband enabling fibre backhaul is another strategy proposed.

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[22] Australia's Digital Economy: Future Directions, page 40

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Local Government is the first level of government service delivery in the community. For such an important national project as the NBN the Australian Government should consider greater collaboration with remote and rural Councils. Additionally it should carefully consider the views of remote Councils and provide comprehensive analysis of dissenting views when disagreeing with alternate positions. This would substantially assist communicate reasons for the lower levels of telecommunications being proposed. Greater Local Government involvement in telecommunications is consistent with the findings of the Regional Telecommunications Independent Review Committee Report (2008).

Recommendation 1.6.1 states:

> *There is scope for more effective collaboration between all levels of government to deliver telecommunications services for a local government.[23]*

Education and training

For business and the public participation in digital technologies it is critical that an education and training program, to cater for the broad spectrum of participation, is delivered.

> *The Australian Telecommunications User Group Future Forums, Developing Australia's digital economy 'A broadband way of doing things', under the heading skills need updating for a digital economy found:*

- Developing skills to enable small and medium businesses and consumers to effectively participate in the e-commerce world is just as important as the development of professional and practitioner skills through University and TAFE courses.
- Consumers need education on what "best practice" for information online – being confident about how personal information will be accessed and used, and how it will be protected. The EU's eYouGuide to consumer rights in a Digital substitutes concrete rights for "best endeavours" but there are no absolute cures, only control measures to reduce risk and increase confidence

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[23] Regional Telecommunications Independent Review Committee Report (2008), page 84.

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- Digital Media Literacy is important to ensure the benefits of a Digital Economy are available to all; to give end users the confidence, knowledge and understanding needed to participate in digital media and communications environments.[24]

RAPAD supports the view that user confidence, knowledge and understanding are key elements in realising value from an Australian high speed broadband network. The risk RAPAD identifies is how remote users appropriately access training and education for the digital world and the programs to continuously update those skills.

A host of research material heralds the revolutionary impact of the internet and web technology as a tool for education and training. Blackboard is an application in common use in compulsory education that provides a rich depository of curriculum material as well as offering parents greater exposure to school activity. Tertiary online learning has offered a 'learn anywhere, anytime' pedagogy as well as access to curriculum resources. Recent broadband availability and pricing has greatly increased educational use of digital applications. But richer experiences and enhanced learning opportunities will be available with a national broadband infrastructure. Virtual classes with the look and feel of physical presence allowing greater student collaboration and sharing are possible. Search and retrieval of resources will improve as digital technologies develop.

However rural and remote communities face the risk of being unable to employ these digital techniques because the applications required will not operate on lower speeds proposed for these communities. Furthermore if service providers choose not to service rural and remote regions or apply price premiums, communities will be financially disadvantaged. These communities currently cannot access bundled service options (or products) available to metropolitan communities because they are not offered or they are cost prohibitive.

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[24] ATUG Future Forums, Developing Australia's digital economy 'A broadband way of doing things, June 2010, http://atug.org.au/NBNForums/Report060910.pdf

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Police, teachers and health workers in remote and rural towns need to attain professional development status, participate in peer interaction and seek ongoing study options.   Experience shows that many government agencies limit the corporate broadband infrastructure in rural and remote region because of cost constraints and/or availability. Metro equivalent access is unlikely for rural and remote offices post NBN implementation without intervention. Whether workers seek NBN broadband speed digital interaction at the workplace or home environment intervention through government policy and programs is required to ensure equivalence to that enjoyed by metropolitan staff. This intervention could take many forms. Concepts could include direct subsidy for home services to equalise remote service costs, access from residences to government (corporate) networks with resident rights of use privileges (not corporate use constraints) or tax concession for telecommunications services.

The Royal Australian College of General Practitioners (RACGP), which noted the lack of technical capability among GPs in a submission to the discussion paper (Department of Health & Aging, Connecting Health Services with the future:

Modernising Medicare by providing rebates for online consultations) on the suitability of the government's e-health records, reaffirmed its measure of caution in its response to the government's telehealth paper. "*Rural and remote areas stand to benefit most from telehealth consultations yet they are **likely to have the poorest infrastructure, resources, and capacity** for successful adoption of this service option*," the association's report reads.[25]

But the power of telemedicine is not restricted to patient care, or decreasing travel frequency to medical specialist, or the expense to the medical practitioner of travel or being away from his or her home, business or practice. A realisable outcome is the learning process that happens as the patient and GP enter into three way video consultation with a medical specialist.

Dr William Glasson (AO MBBS FRANZCO, FRAC, FROphth - a Brisbane based Ophthalmologist and surgeon providing specialist services to regional and remote eye patients) in commenting on remote ophthalmology consultations said:

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[25]

http://www.computerworld.com.au/article/375578/connectivity_remains_key_telehealth_success/

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> *'having the GP as part of the ehealth consultation with the patient is a very powerful tool, both from the perspective of the patient and the GP. Unlike a normal specialist consultation which is an interaction between the specialist and the patient, without the GP. In an ehealth scenario where the GP is also included an interaction occurs between the three participants (specialist, GP and patient). This allows the GP to hear what questions raises with the patient and then be asked by the specialist to examine the patient and elicit per specific signs. Once the diagnosis has been made and the management plan put in place the GP fully understand the logic of how the diagnosis was made and why the management plan is needed to meet the specific medical condition that has been diagnosed. When that GP is next faced with a patient of the same condition he most likely will not need to consult the specialist as they have seen, discussed and managed this condition before. This builds confidence in the GP and ultimately leads to a lower need for specialist referral'.[26]*

 A key area for education and training is digital privacy and to ensure that users are, and maintain, an awareness of the types of intrusion they may encounter, the risks and migration strategies.   RAPAD expects that higher order digital intrusion and fraud is likely to evolve with the NBN and digital economy developments.   The Federal Communication Commission in its broadband paper, American Plan paper states,

> *'Innovation will suffer if a lack of trust exists between users and the entities with which they interact over the Internet. Policies therefore must reflect consumers' desire to protect sensitive data and to control dissemination and use of what has become essentially their "digital identity." Ensuring customer control of personal data and digital profiles can help address privacy concerns and foster innovation.[27]*

Ends

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[26] Dr William Glasson AO, Ophthalmologist and surgeon and Chair Regional Telecommunications Independent Review Committee
[27] American Plan, (Chapter 4 - Broadband Policy and Innovation) page 53.

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This submission to the Australian Government, House of Representative, Inquiry into the National Broadband Network has been prepared by Aston House Consulting Services. In preparing the submission Aston House reviewed published government and industry materials and undertook direction from RAPAD

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