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Abstract

Based on the subject matter canvassed in this issue of the TJA, three initiatives are proposed to stimulate early and wide take-up of the NBN and accelerate its economic and social dividend.

Introduction

The Australian Prime Minister?s announcement of the federal election on 14 September will ensure more interest by voters in comparing the policies of the major political parties. Will broadband be the defining policy decider for victory in 2013 as it was in 2010 [5]?

Quite unlikely. The Liberal Party?s manifesto ?Our plan: Real solutions for all Australians [6]?, launched on 27 January, has carefully minimised its electoral vulnerability by reducing its broadband policy to four dot-points of fairly general principles that can be summed up as ?we?ll do it better?. The electorate is being reassured that the NBN is here to stay, and the Liberals? promise is that it will be cheaper and quicker (presumably not in user bandwidth but in installation times). They will ?roll out super-fast broadband to priority areas?, and ?end billions of dollars of wasteful expenditure?. No details, but good intentions.

In a spirit of evenhandedness, the purpose of this editorial is to offer all the major political parties ? now they are finally all wedded in principle to supporting the National Broadband Network ? three ideas for improving the benefits of the NBN. Even better, these three ideas can be implemented at negligible additional cost to the government in power.

1. Reduce the digital divide by extending the future-proof benefit of optical fibre access to much more than 93% of the population ? by co-investment.

NBN Co announced on 6 February [7] the welcome news that it will double its satellite and terrestrial wireless access offerings to speeds of 25/5 Mbps downstream/upstream as well as its current 12/1 Mbps offering: the satellite offering in 2015 but its new fixed wireless offering (using 4G wireless technology) by as soon as June 2013. And the new wholesale prices will be pegged to the same prices as the equivalent fibre-based access offerings. NBN Co should be warmly congratulated.

For those living in the more sparsely populated areas of the country, these new broadband speeds will initially be a tremendous boon, especially where broadband services are currently non-existent. Indeed the 25/5 Mbps service will exceed the current pre-NBN maximum speeds available (using ADLS2+) to most premises in the metropolitan areas. But in eight to ten years? time, when a majority of the population will be taking for granted their daily access to 100/40 Mbps services for teleworking, tele-education, community participation and entertainment ? as well as enjoying access to symmetric high definition video telehealth consultations requiring a bandwidth of 10 Mbps each way ? the ?digital divide? will re-emerge between the areas blessed with optical fibre access and those without it. This new digital divide will significantly limit the benefits of the digital economy to many of those living in rural and remote Australia. Rivalry will inevitably emerge between towns with only fixed wireless and those with superior fibre access, in order to grow their local economies.

It is worth remembering that the Government?s initial NBN announcement allowed for FTTP (Fibre to the Premises) to only 90% of the population; within two years, advances in optical fibre technology enabled NBN Co to increase its FTTP target to 93%. Any further geographical extension of the NBN fibre footprint will presumably reduce the NBN?s Return on Investment to less than the commercially prudent target of 7% ? in the absence of co-investment by other parties.

The outcry in mid-2012 by town mayors and even state premiers, who believed their constituents to be inadequately included in NBN Co?s first Three Year Rollout Plan, continues into the present [8], and will be echoed in another five years? time by those who have good reason to believe they have been excluded from the benefits available to those with 100 Mbps (and 1 Gbps) access to services via FTTP. And FTTP is the world trend: Stuart Corner?s article [9] in this issue reports that globally an estimated 82% of fibre access solutions during the period 2012-17 will be FTTP, with only 18% being Fibre to the Node.

So the first idea is for the federal government to allow municipalities and state governments (and regional banks and other financiers) to co-invest in the NBN so that their constituents (or clients) can receive 100 Mbps or 1 Gbps fibre access instead of 25 Mbps radio access, thus greatly improving their long-term business opportunities in the new high-speed digital economy. The co-investment amounts to paying the net difference in the cost of supplying FTTH rather than NBN?s fixed radio solution to the target area ? which will be small if the town in question is close to an existing transit or backhaul fibre network. Furthermore, in-kind contributions could be included, such as carrying out the necessary earthworks prior to cable laying, under NBN Co supervision.

There are good precedents overseas for co-investment in broadband infrastructure by municipal and regional governments: e.g. in the Netherlands ? see (Barr 2006 [10]) ? and in France (e.g. in the Department de la Manche). Many shire councils in Australia will be motivated to co-invest in NBN infrastructure in order to bring the longer-term benefits of FTTP to their towns and townships rather than the NBN?s lower-bandwidth radio solution. A flexible set of investment guidelines by NBN Co would enable it to increase the penetration of FTTP potentially to 95% or even higher, without sacrificing its overall Return on Investment.

A co-investment policy would increase the utility of the NBN in the second and third decades of its lifetime, benefiting the survival and growth of remote towns and rural businesses, taking further demographic pressure off the large cities. Equally importantly, it will reduce future resentment from those finding themselves on the downside of the digital divide.

Given that the economic life of the FTTP solution is conservatively estimated to be at least 30 years, it would be generally more cost-effective to encourage co-investment at the beginning of an NBN rollout to a new area than to pay to replace radio access by fibre access at a later stage.

2. Upgrade the Universal Service Obligation to include a basic broadband Internet access service, with subsidies to low income households

The Rudd and Gillard governments have made a number of important policy decisions, including ACCC-administered price control of the NBN?s wholesale products, to make the NBN at least as affordable as the current range of medium-speed broadband services, e.g. ADSL2+, available in metropolitan areas.

But the full potential of the NBN to increase social inclusiveness ? and to facilitate entry to the workforce via teleworking for unemployed citizens living far from their potential employers ? will be hampered if the affordability factor excludes 10% or more of the potentially capable users of the NBN.

Over the past decades there has been bipartisan support for regional subsidisation of the Standard Telephony Service (STS) ? and of a telephony-based teletypewriting service (TTY) for the hearing-impaired anywhere in Australia? as well as payphones, via the Universal Service Obligation (USO). Together with the availability of Telstra?s ?Access for Everyone? services for people on low incomes, this has ensured a very high level of penetration of telephony across Australia.

Since the Internet became mainstream, there have been calls to recognise the equivalent importance of a basic Internet service to allow full participation in today?s society and in the national (and international) economy, by upgrading the USO to include a basic Internet access service. However submissions of this kind to government reviews in 2003 and 2007 were not persuasive enough to cause any significant upgrade of the USO. Indeed Section 123 of the 2012 TUSMA legislation allows the Minister up to year 2017 before calling for a fresh review of the Standard Telephone Service and other services supported by the USO ? even though the underpinning network technology of the NBN is Internet Protocol based.

It is obvious that a basic telephony service alone is no longer sufficient as a communication medium to enable one to fully participate in society, let alone the economy; one needs Internet access. Since 2008 Switzerland, Finland and Spain have legislated for the provision of a Universal Broadband Service, usually at the ?entry level? broadband access speed of 1 Mbps.

We need this safety-net option here too, to ensure Internet access is available to all citizens, irrespective of their means. A means test can be applied to ensure this option targets those who otherwise cannot afford to use the Internet at home. Once users have access to such a basic broadband service via a tablet or other terminal device, they can immediately take advantage of very cheap Internet telephone services such as Skype. In this ways a Universal Broadband Service (UBS) will simply absorb and replace the Standard Telephone Service (STS) ? and will offer far greater utility.

Furthermore the hearing-impaired can use sign language via the screen of any standard terminal ? as well as email and other useful text communication services. Thus the Universal Broadband Service can automatically subsume not just the STS but also provide a great improvement on the currently subsidised TTY service.

The economists Joshua Gans and Stephen King have suggested that by making a basic 1 Mbps broadband service available to all households, together with a basic terminal device (connectable to the NBN?s Network Termination Unit) to low income households, the government could use the NBN to reduce its own costs in providing public services.

The service could potentially pay for itself by lowering government costs in areas such as social security and taxation. (Gans & King 2010 [11]: 183)

So the second idea is for the government in power to commission a cost-benefit study by a competent social economic research group to rapidly check out the Gans-King hypothesis. If Gans and King are right, the provision of a means-tested Universal Broadband Service, including appropriate mass-produced terminal equipment (e.g. a tablet device with WiFi router), could be partly or wholly subsidised by extracting funding from the government departments and agencies expected to reap the tangible savings achieved if the large majority of their clients can become accessible online.

Of course the national benefit from getting most of the nation?s poorest households online will be far greater. They will thereby have cheaper access to community organisations, extended families and other support networks; to online education, training and health services; and to potential employers.

It should be pointed out that whereas the current USO has been based on achieving geographic equity of access to standard telephony services between rural and metropolitan Australia, this new proposal for an entry-level Universal Broadband Service is about ensuring that citizens are not excluded from broadband services by poverty, *no matter where they live*. After all, the NBN itself will be providing universal broadband *access*: as a free infrastructure connection, but not of course with a free or subsidised broadband service to go with it.

This idea will be fleshed out further at the Australian Communications Consumer Action Network?s Affordability Seminar in Melbourne on 27 March.

3. Accelerate broadband uptake through a national awards scheme to recognise community participation

Marcus Bowles? paper [12] in this issue, reviewing the results of early field trials of the NBN in Tasmania, Victoria and NSW, highlights the importance of teaching ?e-skills?, i.e. the essential ICT and digital literacy skills needed to readily access and utilise the Internet, in ensuring that end users can make good use of the Internet to assist both their careers and (where relevant) their businesses.

The Australian Government?s $15.2 million Digital Hubs and Enterprise [13] program, announced in July 2012, is commendably designed to address the current deficiency in e-skills, especially in the regions and amongst older age groups, as well as demonstrating the potential benefits of using the NBN.

One also notes NBN Co?s incentive scheme to increase take-up, whereby Retail Service Providers migrating will be paid $108 for each retail customer that they migrate from the copper-access telephone network to the NBN: a win-win-win situation for the RSPs, NBN Co and the end users.

There is however one potential benefit that seems to have been overlooked in policies aimed at deriving the maximum benefit from the NBN, whether it is the ALP?s large scale project with a 30+ year horizon or the Coalition?s shorter term, smaller budget project with greater emphasis on catch-up: i.e. rectifying market failure in the supply of broadband at current (pre-NBN) speeds. That is the national benefit to be derived from achieving greater social inclusiveness and social cohesion across the nation.

Social cohesion and inclusiveness, as well as economic growth, can be stimulated by greater levels of community participation via high-speed broadband in community projects ? whether they be support networks, heritage projects, local history societies, websites for exchanging skills or local produce, or simply encouraging greater use of existing community facilities. Online communication and information flow can augment the precious face-to-face contact and participation that builds a community, especially for those community members who find themselves isolated by either distance, physical or economic disability, linguistic barriers or simply time-poorness through having to give greater priority to family and work commitments.

So the third idea is to augment the current range of Australia Day awards, currently confined to individuals, with national awards for the best online initiatives by community groups that serve to grow their communities and bring them productively together.

In summary, will the major political parties be open to new ideas such as these, seven months out from an election? One lives in hope. Let?s not give up on achieving better outcomes from our world-leading NBN infrastructure project ? what the guest editors for this issue [14] have suggested is another ?great wonder of the world?.

This issue of TJA has as its major theme, that of ?early experience with high speed broadband?. We?ve taken a broad perspective (as usual), beginning with two papers on global developments, then a close look at the cross-Tasman experience, before focussing on the emerging Australian NBN-related experiences with a further five papers.   TJA is grateful to John Costa and Mike Miller for serving as guest editors for this important theme; thanks to their efforts, we are expecting a further three papers on early experience with the NBN to appear in our May 2013 issue.

Lastly I want to draw your attention to Liz Fell?s fascinating interview [15] with the ABC?s chairman Jim Spigelman (this Journal devotes a lot of attention to digital media), and to perhaps the most valuable reference paper in this issue, Giles Tanner?s account [16] of the historical evolution of policy on spectrum re-farming in Australia to achieve the hoped for ?digital dividend?.

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