Towards a digital strategy for the NT

Introduction

The Broadband for the Bush Alliance (B4BA) welcomes the opportunity to comment on the NT Government's discussion paper, *Towards a digital strategy for the NT*. The paper clearly outlines many of the benefits that increased connectivity for Territorians, and innovation in the ICT sector can offer. However, B4BA strongly believes that before a digital strategy can be successfully implemented, current barriers to affordability, accessibility and reliability of telecommunications services must be addressed.

Background

The Broadband for the Bush Alliance (B4BA) is an alliance of organisations that seeks to advance the digital capacity and capability of remote Australians (http://broadbandforthebush.com.au). B4BA seeks the best possible communication outcomes for Australians not currently scheduled to receive fibre to the premise through the National Broadband Network and to advance unmet communication needs, as a significant related issue.

The key focus of the Alliance is:

1. The expansion of mobile coverage.
2. Getting digital infrastructure right – both the rational use of existing infrastructure and expanding infrastructure.
3. Smart last mile solutions for small towns and communities.
4. Affordable pricing for telecommunications.
5. Improved digital literacy.
6. Good research to underpin remote communications policy.
7. Improving Indigenous communications programs.

Summary of recommendations

1. Although the Census has some information pertaining to Internet access and usage, the NT Government should commission an analysis of the varying levels of access across the Territory and make this information available through Open Government data access protocols.
2. B4BA recommends the strategy should address getting basic levels of access for all Territorians as the first priority.
3. The NT Government should prioritise providing reliable and affordable broadband Internet in the 44 communities where it is not yet available, and mobile services in the 30 communities where it is not yet available. Providing these services is essential if all Territorians are to actively participate in the digital economy.
4. B4BA recommends a shift from satellite based services to terrestrial infrastructure by expansion of fibre access, leveraging existing fibre to reach further into remote areas and using solutions such as microwave to expand service delivery.
5. B4BA recommends a cost analysis of telecommunications services across the NT.
6. The B4BA has called for a Remote Telecommunications Strategy to be developed to address a number of these issues in remote Australia (see

Appendix A) and suggests the NT Digital Strategy also specifically address telecommunications issues in remote areas including remote Indigenous communities.

7. B4BA suggests that specific recognition of digital inclusion issues in remote Indigenous communities be addressed in the strategy.
8. Mobile telecommunications services tend to be more expensive and are very limited in distribution across the NT. The NT government should support and increase the availability of community based Wi-Fi services through existing high bandwidth arrangements (eg schools, libraries, health centres, tourist information outlets, ranger stations, police stations and allied health services such as environmental health) and support additional access to shared Wi-Fi through other supported programs.
9. B4BA agrees with the Committee's position that all Australians should be able to access a reliable high quality NBN connection, and that the NBN should prioritise community facilities (libraries, hospitals, health centres, community centres, ranger services, allied health services) for receiving a fixed wireless service instead of a satellite service.
10. B4BA suggests that NBN tie the maximum Sky Muster data allowance to the national average rate of data usage, so that it increases in line with average national usage.
11. B4BA suggests a coordinated approach in the NT to proactively identify locations that deserve and are in need of PIP classification and establishment.
12. With the assistance of NBN and the education port available to school aged children, this approach demonstrates a way forward in the development of Telehealth in the NT. Currently, remote health clinics are able to host Telehealth consultations with the right technology solutions, however, these are very expensive. The NBN and NT based technologists should begin to develop a similar approach to health based solutions.
13. The NT government needs a policy agenda to keep pace with emerging technology and innovation. For example, facilitating employees working from home and decentralised locations, recognising GP consultations via video conferencing as a legitimate billing item for Medicare; and offering alternative access to services apart from Internet to remote Territorians.
14. The strategy has indicated the need to preserve data and privacy of individuals and organisations and we strongly recommend that any data linkages need to be carefully managed using consultative governance approaches that involve and educate. Governments need to ensure privacy legislation is considered and adhered to when developing new processes, procedures and programs.
15. Cyber security needs to be given the same priority, endorsement and employer responsibility as OH&S. It should be treated as a core requirement at the enterprise, community and individual level.

Opening remarks

According to the ABS 21% of NT households did not have a member of that household access the Internet. This, however, is not uniform across the NT. When the

census data is broken down to more granular areas, a large difference can be seen.[1] There are areas that have extremely low levels of Internet access from home, such as only 23% of households in Yuendumu – Anmatjere had at least one person access the Internet from the home.

Geographical area[2]	*Rate of households who have a member access the internet from the house*
Australia average	***83.2%***
State - NT	***79%***
Darwin City (SA3)	***86.1%***
Palmerstown (SA3)	***85.3%***
Darwin Surburbs (SA3)	***84.4%***
Litchfield (SA3)	***83.2%***
Humpty Doo	***84.6%***
Weddell	***78.6%***
Virginia	***84.2%***
Howard Springs	***84.6%***
Alice Springs (SA3)	***72.4%***
Petermann - Simpson	***55.7%***
Sandover - Plenty	***50.2%***
Tanami	***34.6%***
Ross	***71.8%***
Mount Johns	***84.8%***
Larapinta	***83.4%***
Charles	***77.1%***
East Side	***81.8%***
Yuendumu - Anmatjere	***23.4%***
Flynn	***78.1%***
East Arnhem (SA3)	***67.5%***
East Arnhem	***60.9%***
Anindilyakwa	***51.6%***
Nhulunbuy	***83.6%***
Barkly (SA3)	***60.1%***
Barkly	***44.4%***
Tennant Creek	***68.6%***
Katherine (SA3)	***65.4%***
Victoria River	***47.3%***
Gulf	***51.3%***
Elsey	***50.5%***

[1] In Northern Territory, 79.0% of households had at least one person access the Internet from the dwelling. This could have been through a desktop/laptop computer, mobile or smart phone, tablet, music or video player, gaming console, smart TV or any other device. http://www.censusdata.abs.gov.au/census_services/getproduct/census/2016/quickstat/7?opendocument

[2] http://www.abs.gov.au/websitedbs/D3310114.nsf/Home/2016%20search%20by%20geography

Katherine	***74.9%***
Daly – Tiwi – West Arnhem (SA3)	***59.3%***
Tiwi Islands	***69.9%***
Thamarrurr	***32.7%***
Alligator	***64.1%***
Daly	***60.2%***
West Arnhem	***52.2%***

Recommendation 1: Although the Census has some information pertaining to Internet access and usage, the NT Government should commission an analysis of the varying levels of access across the Territory and make this information available through Open Government data access protocols.

For some areas access to services is a problem, others affordability, ability or appropriateness of the services available are an issue.

B4BA is concerned that the discussion paper does not take into account the unique NT situation. Many Territorians do not have reliable access to broadband, or have no access at all. In addition, the unique geography and population spread in the NT adds additional challenges. A strategy will need to be a much more nuanced approach to deal with the different level of access, different speeds, levels of support and digital engagement.

	Aboriginal and Torres Strait Islander Person households	Other households
Internet accessed from dwelling	55%	85%
Internet not accessed from dwelling	39%	11%
Not stated	6%	4%

[3]

We need to recognise the reality of our current status with respect to digital access, affordability and inclusion. The strategy needs to look at realities of digital access compared to "blue sky dreaming".

Digital drivers from a community perspective need to be more paramount in the development of the strategy.

Recommendation 2: B4BA recommends the strategy should address getting basic levels of access for all Territorians as the first priority.

The submission by the NT Department of Corporate and Information Services to the Regional Telecommunications Review Committee states that:

[3] Ref: 2016 Census of Population and Housing, Aboriginal and Torres Strait Islander Peoples Profile, Catalogue Number 2002.0

"Of the 74 remote Northern Territory communities with a population greater than 100, representing approximately 45,000 people; 30 communities are serviced with ADSL and mobile telephony is available in 44 communities. All 74 communities have access to basic telephony."

Recommendation 3: The NT Government should prioritise providing reliable and affordable broadband Internet in the 44 communities where it is not yet available, and mobile services in the 30 communities where it is not yet available. Providing these services is essential if all Territorians are to actively participate in the digital economy.

The submission also highlights that NBN has opted for satellite solutions where terrestrial solutions may be provided:

> "The NBN should leave no Territorian worse off. However, under the Australian Government policy satellite technology will be deployed for remote communities, not fixed line access. The NBN will leave residents of some remote Northern Territory communities in a worse position than they are currently. There are 33 remote Northern Territory communities that already have fibre optic infrastructure connected to the telecommunications network. This existing infrastructure will be ignored under the NBN and telecommunication services instead provided via the inferior NBN satellite service."

Recommendation 4: B4BA recommends a shift from satellite based services to terrestrial infrastructure by expansion of fibre access, leveraging existing fibre to reach further into remote areas and using solutions such as microwave to expand service delivery.

Recommendation 5: B4BA recommends a cost analysis of telecommunications services across the NT.

Recommendation 6: The B4BA has called for a Remote Telecommunications Strategy to be developed to address a number of these issues in remote Australia (see Appendix A) and suggests the NT Digital Strategy also specifically address Telecommunications issues in remote areas including remote Indigenous communities.

The B4BA and IRCA recently made a submission to the Chief Minister regarding a **Proposal to introduce Indigenous Digital Inclusion as a Closing the Gap key performance measure**. This document contains significant relevant information and is attached as Appendix B.

Recommendation 7: B4BA suggests that specific recognition of digital inclusion issues in remote Indigenous communities be addressed in the strategy.

Issues for consideration

Mobile services: A lot of people do not work from an office. For example, a cattle producer may be anywhere on their property and still want to access Internet based services to monitor stock movements, waters, weather reports or access communications. Indigenous Northern Territorians have adopted mobile phone technologies in preference to laptops and PC as a direct response to their personal mobility. The NT library is to be applauded for providing computers and Wi-Fi access to Internet in 46 communities. This program should be expanded to more communities and to other government offices. Similarly, Tourism NT has provided free access to Wi-Fi. Lack of access to Wi-Fi is currently limiting. With the tourism industry expanding more publicly available free Wi-Fi is needed.

Recommendation 8: Mobile telecommunications services tend to be more expensive and are very limited in distribution across the NT. The NT government should support and increase the availability of community based Wi-Fi services through existing high bandwidth arrangements (eg schools, libraries, health centres, tourist information outlets and police stations) and support additional access to shared Wi-Fi through other supported programs.

Affordability

An effective digital strategy for the NT must recognise that ICT and telecommunications affordability presents a major barrier to connectivity for a significant number of consumers, and in particular vulnerable consumer groups such as remote Indigenous Australians, low-income Australians, and older people. If all Territorians are to enjoy equal social, economic, and civil participation, ICT and telecommunications products, as well as a reliable data service, must be affordable.

As our communications market develops and the essential nature of network connectivity increases, issues of affordability are creating barriers to social, economic, and community participation. Overcoming these barriers is increasingly important as government services and information become 'digital by default'. B4BA would like to point the NT Government to two research reports by the Australian Communications Consumer Action Network (ACCAN) that it believes will prove useful in informing a digital strategy for the NT:

1. ACCAN's *Affordability Map* aims to identify the groups in Australian society that face affordability issues, and the unique issues they face. An understanding of the affordability barriers that are common to and differ between groups will help the NT Government to develop a strategy that reflects the specific needs of a broad range of Territorians.[4]

[4] ACCAN, 2016, *Affordability Map,* https://accan.org.au/our-work/research/1241-affordability-map.

2. In much the same way, the report *Breaking Down Barriers to Digital Government* identifies the distinct needs of eight vulnerable consumer groups in Australia and the barriers they face to interacting with government (and business) online. It makes recommendations to improve the accessibility, availability, and affordability of digital platforms.[5]

In 2016 ACCAN commissioned the South Australian Council of Social Services (SACOSS) to complete a research project on the affordability of telecommunications for low-income consumers. The analysis in the resulting report is based on a survey of over 500 Centrelink recipients and a series of focus groups. Findings from the report include that:

- 66% of low-income consumers rated telecommunications costs in the top five most important factors in their daily household budget.
- 62% reported experiencing difficulty paying, having to cut back on, or having to stop using one or more telecommunications services for financial reasons in the last 12 months.
- People on Newstart, Youth Allowance, and the Parenting Payments are most likely to have difficulty paying for a service.

The report also addresses the issue of 'poverty premiums' – the extra amounts that people on lower-incomes end up paying for a service (for example because they can only afford pre-paid services that are charged at a higher per-unit cost). It states that spending on telecommunications is regressive and therefore impacting more on low-income households than others. This represents a clear opportunity for state and federal governments to assist people to access telecommunications services.[6]

In addition, the cost of connectivity can be higher in regional, rural, and remote areas, where consumers have less choice between service providers.

NBN

The first report of the Joint Standing Committee on the National Broadband Network, published in September 2017, recognises the potential benefits for regional, rural, and remote Australia offered by the NBN, including: "innovation in agriculture; improved educational opportunities for distance education students; and initiatives to expand the provision of healthcare services." However, in spite of the potential benefits, the committee expressed concerns about:

- The future capacity of the network.
- Variations in service quality with the potential to fall short of the goal of delivering reliable and affordable broadband to a majority of people.

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[5] ACCAN, 2017, *Breaking Down Barriers to Digital Government,* http://accan.org.au/our-work/research/1439-breaking-down-barriers-to-digital-government.

[6] Greg Ogle & Vanessa Musolino, 2016, *Connectivity Costs: Telecommunications Affordability for Low Income Australians*, Australian Communications Consumer Action Network, Sydney.

- Social, economic and digital inequality increasing as a result of overloaded satellite networks and the "uneven nature of the multi-technology mix".[7]

Recommendation 9: B4BA agrees with the Committee's position that all Australians should be able to access a reliable high quality NBN connection, and that the NBN should prioritise community facilities (libraries, hospitals, health centres, community centres) for receiving a fixed wireless service instead of a satellite service.

However, Darwin is currently the only place in the NT with fixed wireless. Therefore the potential for many community facilities in the NT to benefit from this technology is limited.

In conclusion, the committee recommended that:

> "…the Australian Government ensures that digital inclusion is measured and reported. It has been suggested that the Productivity Commission assess and report on income and wealth inequality in Australia, and it may be worth including the measurement and reporting of digital inequality, as the two areas are likely to be increasingly related."[8]

A digital strategy for the NT must take into account and address issues identified with the rollout of the NBN, and the barriers these present to regional, rural, and remote Territorians.

It is important to note that most customers on a Sky Muster service will be limited to an individual maximum of 300GB of data per month.[9] So that all Territorians can participate in the digital future envisaged by the discussion paper, they need access to an adequate and affordable data allowance.

Recommendation 10: B4BA suggests that NBN tie the maximum Sky Muster data allowance to the national average rate of data usage, so that it increases in line with average national usage.

The NT Government should have consideration for these data restrictions when designing community and public services which require online interactions. High data and low latency requirements by online services may restrict some consumer's ability to access these services.

Nbn have, using the Sky Muster satellite, developed a product that is designed for Public Interest Premises (PIPs) such as for distance education, community based services, etc. These PIPs do not have the same data and fair usage restrictions

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[7] Joint Standing Committee on the National Broadband Network, '*The rollout of the National Broadband Network*' First Report of the 45th Parliament (September 2017), http://www.aph.gov.au/Parliamentary_Business/Committees/Joint/National_Broadband_Network/NBN/First_report, p. 161 (accessed 9 October 2017).
[8] Ibid, p. 162.
[9] Average household usage is restricted to 55GB of data in a 4 week rolling period.

and allow key premises access to additional services. One of the difficulties that nbn have been encountered is verifying the locations to receive this classification.

Recommendation 11: B4BA suggests a coordinated approach in the NT to proactively identify locations that deserve and are in need of PIP classification and establishment.

Such notification will allow important community areas to access higher data services.

Access and reliability

As previously discussed in our opening remarks, many people in regional and remote NT currently do not have access to broadband. For example, many people in the Laynhapuy homelands do not have access to internet at all and their primary mechanism for communication remains a landline – which can also be unreliable. B4BA has received anecdotal evidence of lack reliable internet connection. For example, a cattle producer within 1 hour's drive of Darwin reports that they are unable to get reliable Internet. Issues with speed remain common with reports of people

in Darwin's rural area having varying levels of access ranging from intermittent access, speeds which do not meet the minimum speeds set out in service contract to no access at all.

In remote communities, many people are required to access government services for Internet based government services (ie "Digital by Default"), but are unable to do so due to the lack of access. This results in a number of community members missing out on payments, or, in some cases, community members are fined for not completing the required on-line transactions.

Expanding access to education and health services

In recent years the NBN has engaged with the NT Education Department to develop solutions for remote student teacher interaction through the React program.

Recommendation 12: With the assistance of NBN and the education port available to school aged children, this approach demonstrates a way forward in the development of Telehealth in the NT. Currently, remote health clinics are able to host Telehealth consultations with the right technology. These solutions are very expensive. The NBN and NT based technologists should begin to develop similar health based solutions.

Jobs for the future:

21% NT households do not have Internet access at home – and in remote communities it is probably in excess of 60%. Internet and basic communications needs to be available for all households including those in the remote areas of the NT. Until this situation is remedied, many of these people are excluded from accessing training and support to develop skills as well as accessing jobs based from home.

Expansion of reliable and affordable telecommunications will allow people to work from home and live remotely. The expansion of digital services will generate new opportunities including the development of Digital Hubs. For example, Alice Springs has a wealth of well-educated and creative people and could be promoted and supported to become a creative industries hub, attracting further people to the NT.

Development of our ICT Industry.
The strategy needs to specifically address how our ICT Industry is supported and developed. ICT professionals are in demand and currently the industry relies heavily on employees on 457 visas.

Developing ICT jobs in remote areas with reliable access to adequate telecommunications could allow people to be trained and supported to meet some of these needs. Building that capacity would require support and access to targeted training. Introductory training and lower level certificates (eg I & II) need to be made available as a starting point for career development.

Policy requirements:
Federal government policy assumes that connectivity is in place and assumes people can access services through the Internet. However, this is not the case. For example, the NDIS can provide services to remote areas, but assumes adequate telecommunications are in place and does not include the costs of providing connectivity in NDIS participant IFPs. In a remote community in East Arnhem a profoundly deaf young man can access support services to learn sign language if he had access to video conferencing. Currently the community does not have Internet access to allow this support via video conferencing. NDIS needs to recognise the costs of providing services remotely and policy should be changed accordingly.

Recommendation 13: The NT government needs a policy agenda to keep pace with emerging technology and innovation. For example, facilitating employees working from home and decentralised locations, recognising GP consultations via video conferencing as a legitimate billing item for Medicare; and offering alternative access to services apart from Internet to remote Territorians.

Data security and linkages:

Community based services have observed data linkages are now being made between data sets without the data owners' permission or knowledge. Governments and their agencies are looking to link data as an integral part of their service needs analysis and day-to-day audit and planning processes. This is of grave concern to the community from a privacy perspective.

Recommendation 14: The strategy has indicated the need to preserve data and privacy of individuals and organisations and we strongly recommend that any data linkages need to be carefully managed using consultative

governance approaches that involve and educate. Governments need to ensure privacy legislation is considered and adhered to when developing new processes, procedures and programs.

Cyber security:
The VET Industry reference group has recognised the need for relevant training for cyber security and has developed foundation skills specifically to address cyber security. All NT based organisations should have a thorough understanding of the potential for cyber threats. This knowledge should be considered fundamental to running the business as it now represents a risk to the business and its employees.

Recommendation 15: Cyber security needs to be given the same priority, endorsement and employer responsibility as OH&S It should be treated as a core requirement at the enterprise, community and individual level.

Fostering genuine respectful partnerships that make sense to NT.
The digital strategy development and implementation would benefit from strategic, genuine, respectful partnerships. The strategy also needs to recognise the differences in the economy and environment in the NT. Darwin is a tropical city subjected to cyclones, Katherine is a major agricultural centre that is subject to regular flooding and Alice Springs is a unique central city that is subject to vast heat differences, dust and isolation.