Regional Telecommunications Review - 2024

Inquiry Submission

LOCAL GOVERNMENT ASSOCIATION OF THE NORTHERN TERRITORY

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Introduction

The Local Government Association of the Northern Territory (LGANT) welcomes the opportunity to provide a submission to this Inquiry into Regional Telecommunications.

LGANT, as a membership organisation, is the voice of local government in the NT representing 16 of the 17 councils. This membership consists of four municipal (urban) councils, three shires, nine regional (remote) councils and two associate members. LGANT provides leadership, support, representation, and advocacy on behalf of our member councils for the direct benefit of their communities.

Context

For Northern Territorians and for LGANT's members there are two overarching issues in relation to telecommunications:

- The poor performance of telecommunications services generally which prevent councils from capitalising fully on the productivity and service delivery improvements twenty-first century technologies can provide. This issue is particularly pertinent in a jurisdiction in which vast distances are a constant challenge, adequate telecommunications should be able to alleviate many of these demands. The capacity to conduct reliable teleconference meetings, online council meetings and to utilise any services provided "in the cloud" are all out of the reach of Territorians. These limitations seriously detract from council services to their communities, eg child and aged care, libraries, Australia Post, remote stores etc. These are all services councils elsewhere take for granted.
- Telecommunications services for individuals and small businesses across the Territory are woefully inadequate. The Northern Territory Government estimates mobile phone coverage across the Territory is only 30 per cent. With a highly mobile population – both Indigenous and non-Indigenous – this level of coverage is clearly inadequate.

These difficulties are greater in remote parts of the NT but they are also regularly experienced in regional centres outside Darwin: Alice Springs, Nhulunbuy, Katherine and Tennant Creek all deal with sporadic coverage. These regional centres would expect first world communications similar to that which is available in any other jurisdiction. The lack of this vital infrastructure negatively affects liveability, councils' ability to attract and retain staff and ultimately, local businesses and councils' own productive operations.

As evidenced in previous telecommunications audits, reviews and strategies regional and remote users are regularly overlooked in upgrades or rollouts of telecommunications infrastructure based on carriers' cost-benefit analyses. Unfortunately, these repeated decisions not to have invested have resulted in both a decline in the reliability and performance of existing infrastructure and communities missing out on successive generations of new technologies across remote Australia.

The impact is cumulative. This is creating an ever-widening divide and disadvantage for those living in regional and remote areas of the NT, affecting Indigenous Australians disproportionately harshly. This widening gap is occurring at a time when the need for digital access is increasingly important, for access to health, education and various other public services, a point made succinctly in the Review's issues Paper:

> *People in regional, rural and remote Australia rely on telecommunications services more than ever before.*

> 2024 Regional Telecommunications Independent Review: Issues Paper, April 2024

The Review needs to reexamine the terms of the Universal Service Obligation (USO) to take account of this observation from the Issues Paper. Furthermore, to reframe their thinking away from

viewing the USO as simply a demanding impost to an opportunity to develop and test telecommunications services for remote and sparsely populated areas. This market has been entitled "The Bottom of the Pyramid" and estimated as being worth $2.7billion[1] globally.

An additional issue for access to reliable telecommunications capability is the availability of stable power supplies. Ageing infrastructure, poor maintenance, lack of network redundancy all combines to make for either no service or fragile service.

For decades the reality of the NT's small widely dispersed population over vast distances has been the justification for carriers to provide minimal infrastructure. As telecommunications technology advances at ever-increasing speed and community's reliance on it explaining deficiencies away under the cover of market failure is no longer good enough. Telecommunication's transition from the days of dial up Bakelite phones connected by wire to today's plethora of technologies which have moved to the centre of daily life have been driven largely by market forces. Advocates for this philosophy are likely to argue this has been central to the degree of innovation. While there may be some merit to this point of view it cannot obscure the reality in remote Australia these users have been relegated to second class citizens. There is little prospect of that changing without significant appropriate interventions.

The industry has consistently put commercial priorities highest and failed to implement innovative solutions which could help address some of these major structural challenges. A prime example of this is the opportunities to implement the neutral host colocation model as a means of reducing the capital costs to potentially extend coverage to more marginal regions.

Mobile Telephones

The most important telecommunications technology in regional and remote NT is far and away mobile telephony. Unfortunately, the *National Audit of Mobile Coverage* does not include sufficient information from the NT at the time of writing, so it is not possible to provide a definitive, evidence-based comment on the scope of mobile phone coverage for the Territory. The NT Government estimates coverage is about 30% of the Territory's land mass (also see Table 1 below).

The Australian Communication and Media Authority (AACMA) reported in its *Trends and Developments in Telecommunications 2020-21* that 99.5% of the Australian population have access to a 4G mobile phone network. This striking figure, once again, conceals the fact that substantial areas, particularly in remote Australia, remain without coverage. In the *Measuring Australia's Digital Divide* report the NT has the lowest ranking under the "Access" dimension of any jurisdiction, ranking eight points below the national average. The NT also has the lowest ranking for affordability.

We know from firsthand experience that beyond Darwin and the Territory's larger towns there is very limited competition between carriers. This reinforces the *Digital* Divide report findings: very sparse service availability for mobiles and poor broadband provided at high cost. The *First Nations Digital Inclusion Advisory Group; Initial Report* says there are an estimated 700 remote communities with no mobile service, many of which have no payphone service either. This leaves first generation satellite services as the only option. This is expensive, slow and with high latency levels seriously degrading the quality for users.

Cases of illegal and unethical practices by some telecommunications companies have made many consumers wary of opening postpaid phone accounts (see the discussion of ACMA's Consumer Vulnerability initiative below). As a result, there is far higher use of prepayment cards by customers

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[1]. *Prahalad, C.K., The Fortune at the Bottom of the Pyramid: Eradicating poverty through profits, Wharton School Publishing, 2004.*

to provide them with some protection from exploitation. Unfortunately, these cards are significantly more expensive.

Given the vital importance of mobile telephony and the lamentable geographic coverage across the Territory LGANT strongly advocates for this Review to revisit the issue of mandatory roaming of connectivity between carriers across remote areas. Given the initiatives taken by Australia's four major banks to share access to their ATMs with each other's customers, apparently successfully, the telcos protestations resisting this possibility seem particularly self-serving.

Consumer vulnerability

In response to the exploitation of vulnerable consumers by some telcos ACMA has developed its *Consumer Vulnerability: Expectations for the telecommunications industry* as a set of guidelines it expects the industry to follow. This statement of expectations addresses:

- Culture and practices
- Selling and contracting
- Customer service
- Financial hardship
- Credit/debt management and disconnection

This initiative is welcomed but given the impact the malfeasance on the part of the industry has had on a significant number of already disadvantaged people (pushing them to using far more expensive pre-paid phone cards) this experience has effectively reduced access to telecommunication services further.

The importance of this issue is a question of social justice. The Closing the Gap Target 17 states the aspiration that:

> *Aboriginal and Torres Strait Islander people have access to information and services enabling participation in informed decision-making regarding their own lives*

As a priority Outcome under Closing the Gap these expectations should be elevated to be enshrined in legislation, or at least codified in the USO. Furthermore, telcos should be required to justify the cost differential between pre-paid phone cards and charges to normal account holders.

Emergency communications

Robust communications during emergency crises have been referred to repeatedly as missing elements in the post-mortems to disasters. The value of reliable communications is self-evident for decisions over resource use, distribution of warnings, co-ordinating efficient responses, addressing medical needs and providing information to friends and family of victims.

Allowing mobile phone roaming offers a partial solution to filling these gaps. Another potential opportunity is to enlist the involvement of radio amateurs (or ham radio operators). These are highly skilled – and generally enthusiastic – members (all of whom are obliged to hold a government-issued licence to operate) and part of a national informal network[2]. The technology they use has been proven over decades and allows them to communicate over great distances.

In recent decade ham radio operators have provided communication support during a number of disasters notably for the 1939 Black Friday bushfires, Cyclone Tracy in Darwin 1974, Ash Wednesday bushfires 1983, the Newcastle Earthquake 1989, and the Black Saturday disaster in Victoria February 2009. In most cases the involvement of amateur operators has come about

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[2] The radio Amateur Society of Australia - The Radio Amateur Society of Australia Inc. – Representing and Promoting Amateur Radio (vkradioamateurs.org)

through informal social contacts between local hams and emergency workers. There is an opportunity to formalise these arrangements to address this recurring shortcoming.

The Internet of Things

The Internet of Things (IoT) is another important technological development which has rapidly become of age in recent years. This technology enables a wide range of remote monitoring equipment, which have even greater implications for remote areas than elsewhere. These include asset tracking, monitoring water use and water flows, mineral exploration and mining, agriculture and surveying, fire management, disaster warning and environmental tracking.

In the context of this Review IoT technologies are important as another example of the centrality of telecommunications in an increasing areas of activity, for both private and public sector and, importantly emergency management. While their availability and rapidly expanding application across a huge range of situations offer great potential for the technology. For remote applications the vexed question of reliable connectivity completely limits its potential.

Telecommunications Grant Programs

In recognition of the steadily increasing importance of connectivity to networks Territory and Federal governments have progressively increased the number and the quantum of funding programs. While this is to be applauded LGANT makes two comments about the reality of these programs: the investment decisions are generally opaque and seem heavily influenced by telco's strategic interests, rather than community need; and the heavy burden the grant application and implementation processes these grants impose on councils.

Applying for grants is a time-consuming and complex task, especially those involving the technical detail for telecommunications funding. This is especially true for smaller, often more disadvantaged, councils. Given the amount of research the government is commissioning (eg the *National Audit of Mobile Coverage* and those reports cited in this submission) it should be feasible for need to be identified as an outcome of this work and funding directed accordingly.

Pay Phones

Telstra maintains approximately 14,400 payphones nationally, 534 are in remote Australia. Since August 2022 standard domestic calls have been offered free of charge. Some payphones offer free wi-fi. Telstra report that the second to the sixth most heavily used payphones nationally are in the NT. Given the huge gaps and the fragility of the Territory's mobile networks these payphones are still a crucial part of the telecommunications infrastructure. It must be emphasised that in most cases they are supporting the most basic communication needs of the most vulnerable Australians.

LGANT wishes to highlight the heavy usage of payphones in seriously underserved communities across the NT. It strongly supports the retention of the remaining public phones. Whilst they may be considered anachronistic technology across Australia's telecommunication networks they are clearly the "technology of last resort" for these underserved communities and their residents and need to be treated accordingly. Due to the mobility of many Indigenous Territorians, especially, it is important that this same rigorous attitude also be adopted in recognising the vital importance of payphones in the NT's urban areas,

Accordingly, LGANT argues payphones should be regarded as foundational components of the USO. Regarded in this light their potential removal demands more stringent constraints. In addition, their maintenance must be regarded as a high priority to ensure they don't fall into disuse through neglect.

Broadband

The Northern Territory has very sparse usage of broadband services. There are 1-2,000 physical connections under the Statutory Infrastructure Provider[3] obligations across most of the NT. A level which is roughly half that in other parts of the remote north, the northern and far western regions of Queensland. NBN Co's satellite service covers the remainder of the continent for users outside the reach of wire connections.

Although mobile smart phones facilitate Internet access the cost of data via pre-paid mobile access prevents users gaining the full utility of the Internet available to PC users which significantly reduces its value. The findings of both the Digital Divide report and the First Nations Digital Inclusion Advisory Group concur with international findings[4] that mobile users spend significantly less time online than those with direct connections.

Low Earth Orbiting Satellite

Low Earth Orbiting Satellites (LEOSats) have become the telecommunications technology of the moment. Several organisations[5],have announced huge investments to each launch a constellation of LEO satellites. Others are proposing ground infrastructure which combined are intended to blanket the earth's surface providing connectivity to even the most isolated locations.

In its 2021 annual report ACMA said there had been a three-fold increase in the number of space objects circling earth, the bulk of these are LEOSats. The US Federal Communication Commission has approved another 15,000 to be launched over the next year. What LEOSats promise in terms of connectivity purports to be massively disruptive and obviously, particularly relevant to remote Australia.

One of the operators (the Starlink/Telstra JV) already have a service operating, although this service is limited to fixed receiving stations. Text-only direct-to-device technology (which will enable full mobility) is reported to become available in the next 12 months

At present affordability is a barrier to widespread use but the expected in increase in competition should impose pricing pressure on the existing operator. The major impediments to LEOSats achieving their potential for remote Australia include:

- The affordability of the service
- Affordability of devices
- Ease of use of the devices
- Reliability of the service
- Access to relevant technical information in a timely way.

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[3] Statutory Infrastructure Provider obligations require the provider (in this case NBN) to provide broadband services.
[4] UN, ITU and the Edison project
[5] This market is rapidly evolving but a list of current participants includes, but is not limited to; Space X, Amazon project Kuiper, Lynk Global, Echostar Global, Lynk Global, Myriota, NBN, Optus, Starlink Telstra.

Strengths and Weaknesses of LEO Satellites

Strengths	Weaknesses
• Fast download and upload speeds • Currently offer unlimited data speeds[6] • Plans and equipment easy to order, directly ordered through Starlink. Equipment can also be purchased off the shelf from selected retailers. • Ground stations can be relocated. • Portable units are available. • 24/7 support available (from the US) • The Starlink dish is designed to withstand winds up to 200 km/hour	• Dropouts can occur as signal moves between satellites which detracts from the systems use for voice calls and video conferences • Pricing, data limits and speeds can be changed without notice • The number of connections per cell is limited. Usage is mounting quickly. • SpaceX (provider of the Starlink service) is located in the US. Support is provided through a mobile app
Negatives	**Threats**
• Dropouts can occur when connection is switching satellites which can harm video conferencing and phone calls • While coverage is Australia-wide the number of connections is limited and filling fast • There are currently no Australian suppliers of Starlink services to residential customers •	• Pricing plans, data limits and speed can change without notice • In temperatures above 50 degrees the dish must be brought indoors • Warranty excludes damage from weather, humans and animals. • Any replacement hardware takes 1-2 weeks delivery.

Source: Regional Tech Hub - SpaceX Satellite - Regional Tech Hub

Once more LEOSats are operating they may offer a new era for remote communications.

Despite these promising possibilities LEOSats will not solve all remote Australia's communication needs. Caution needs to be exercised to resist the temptation that they will be a "silver bullet" solving all communication coverage challenges across remote Australia. Access to truly mobile LEOSat service at an affordable price will be the point at which real equality exists.

Current technologies will remain important in providing choice and much needed redundancy. A pertinent example in this regard is the degradation of satellite signals in heavy rainfall events, a weather pattern the Top End experiences consistently through the wet season and likely to see ever more extreme occurrences in the future.

These advances in technology will necessarily move the focus to usability, "meaningful communications" or "digital inclusion"[7].

From hardware to Human Capability

As the ACMA report, mentioned above highlights, great strides have been made in achieving mobile coverage nationally. The gaps in coverage in remote Australia, confirmed in the Digital Divide report (see Table 1 below) continue to be wide and widen further with each new generation of technology.

> *Access, in particular, is an issue in Northern territory areas outside Darwin with a 12.8-point gap between Darwin and the rest of the Territory.*

> *Measuring Australia's Digital Divide, Australian Digital Inclusion Index, 2023*

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[6] This will decline as the number of users increases.
[7] See *Edison Alliance Impact Report*, World Economic Forum, January 2024 - EDISON Alliance Impact Report 2024 | World Economic Forum (weforum.org)

Another striking feature of this research into Australia's digital divide is the lag in "digital ability" in remote and very remote areas. This is defined as "the ability to access, afford and effectively use digital services". While the digital ability index has improved nationally for those in the lowest quintile it has worsened. This can be explained by the constant evolution of technology and the skills and motivation to keep pace.

Table 1: Australian Digital Inclusion Index, 2023

Remoteness	Index Score	Access score	Affordability	Digital Ability Score
Major Cities	74.6	73.3	95.2	66.9
Inner regional	71.3	70.4	94.6	62.0
Outer regional	66.3	66.5	93.5	54.6
Remote	70.0	67.0	95.3	61.3
Very remote	62.6	55.1	93.8	56.6
National avg.	73.2	72.0	95.0	64.9

Source: *Measuring Australia's Digital Divide, Australian Digital Inclusion Index, 2023*

Another striking feature of the Digital Inclusion Index is the lag in the Digital Ability Score, in all locations. This is mirrored globally where accessibility has improved while what the UN and International Telecommunications union call "meaningful connectivity" lags. To achieve this will depend on addressing several factors:

- A lack of literacy and digital skills
- Affordability (particularly handset affordability)
- Access to relevant content and services
- Dealing with safety and security concerns and access

These shortcomings also prevent digitally excluded people from being able to access critical information and services such as healthcare, education, e-commerce, financial services and income-generating opportunities.

The trends regarding digital ability underline the need for the USO to be broadened from hardware-centric goals to also encompass softer skills.

Recommendations

1. That the USO provider provide an innovation plan with their reporting requirements.
2. Investigate available "last mile" technologies to provide more economical LEOSat connections in communities. That appropriate bandwidth be made available by ACMA gratis to remote communities to instal systems which facilitate voice and data connections. This should be regarded as a short-term initiative but with a sunset clause that if this bandwidth remains unused after a prescribed period it should be forfeited.
3. That the USO provider be obliged to report "out of service" times for payphones in remote communities.
4. Make explicit and legally binding a rigorous needs assessment test before the removal of a payphone can be actioned.
5. For ACMA to appoint an advocacy system to subject any payphone removal proposals in remote communities to scrutiny and that it be required that approval for the removal of a payphone can only be granted with the approval of this group

6. Make consistent, regular maintenance of payphones mandatory and require minimum service times to respond to any faults which occur outside this cycle. This performance should be a part of the USO reporting obligations.
7. Reassess telecommunications funding programs to make greater use of existing research to establish need and to make identify need a priority. Furthermore, that the funding processes should engage councils but lessen the administrative demands on them in preparing detailed and technically complex grant applications.
8. Enshrine ACMA's consumer vulnerability expectations in law.
9. Require telcos to justify the price differential between pre-paid phone cars and conventional accounts
10. Require mobile telephone roaming during disasters
11. Pursue the neutral host colocation model as a means to increase coverage to more marginal areas
12. As part of the licencing regime require LEOSat operators to provide Australia-based customer service in a variety of forms