

What does the NBN mean for Regional Council communications?

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The Challenge for Regional Government

A key challenge for many regional local governmental organizations is understanding what the NBN will mean to their long term communication requirements. Will the NBN allow them to connect more efficiently and at lower cost with their distributed facilities, and therefore help simplify their operational and capital communications infrastructure?

To understand what the NBN will mean for regional councils, one needs to study the NBN Implementation study and the NBN Summary Business plan.

The stated aim of the NBN is provide high-speed data services to over 10 Million residences by the end of the decade.

Councils throughout Australia run private communications networks to provide internet access and asset management for their distributed facilities. Few of these facilities can be described as residences. However, certainly many are operational business facilities with a demand for sensible levels of data connectivity.

A key to understanding how the NBN will map onto these operations, even at this time of turbulence within the project, is the definition of "premises" within the NBN documentation.

Within the NBN Implementation study the following definitions were recommended and were the basis for costing. They now presumably act as the basis for the design of government legislation:

- *For the purpose of NBN Co's coverage requirement, premises be defined to mean any building or part of a building that meets one of the following criteria:*
 1. *Currently has a standard telephone service activated as defined under the USO (universal service obligations of Telstra)*
 2. *Currently has a fixed line residential or business broadband service*
 3. *Is used on an ongoing basis for residential, business, health or educational purposes, or*
 4. *Is defined as a school by the commonwealth government (DEETWR).*
- *The Government permit the NBN to provide connections to non-premises on a commercial basis;*

The study clearly states that facilities such as ATM and automated weather monitoring equipment is not a residence.

It is clear from this that the NBN will provide high-speed data connections at low or no cost to a customer when the connection is to a residence (that is, for the most part can be defined as a home) or presently has a broadband service, as the connection will be provided during the rollout. However all other connections will be installed on a commercial (customer pays) basis.

The Meaning of “Premise” for Council Facilities

With this background it is clear that council facilities that have permanent staffing and existing broadband services will automatically receive connectivity to the NBN during the 8 year rollout, as long as they are within the optical or WiMax coverage area. However other installations, still within the optical footprint or the WiMax footprint, will only be connected at the cost to the council. This will include all distributed infrastructure which needs connection for data collection, security monitoring, supervision and control, performance management etc, but which does not house permanent council staff.

The cost of connections

The NBN CO Business Case Summary states that:

The pricing policy “for the business case” is based on wholesale price levels allowing to achieve comparable or better retail prices than current market for equivalent performance.

From this statement it is clear that the NBN intends to provide comparable pricing to existing solutions (but not necessarily better pricing) for products of equivalent performance. Therefore, it suggests that the NBN will not in itself drive a cost reduction of internet speeds for identical megabit/second rates. It will however increase significantly the availability of very high-speed services at the existing price per megabit/second within the market.

Also, once the NBN is in place, it is highly likely that the reduction in wholesale competition will significantly reduce price competition in the market and the year-on-year price reductions that have been commonplace for some over the past may slow. This situation is highlighted in the risks identified within the NBN implementation study.

Based on this, the existence of an NBN will not significantly impact (although it does complicate) the financial aspects of the business case for alternative communication infrastructure solutions (i.e. own/operate, lease, managed services etc), at least for applications that don't benefit from the additional very fast bandwidth possible with an NBN connection. It is expected that this relates to much of the infrastructure currently the responsibility of local government.

Coverage of the NBN

The following figure is taken from the NBN Co web site showing the proposed terrestrial coverage of the NBN (fibre optic and wireless). The fibre coverage focuses on residential densities and will provide a solution for many council offices. The basic premise is that fibre will be provided to communities of more than 1000 residences.

93% Fibre + 4% Wireless



A full list of the towns planned to be provided with NBN terrestrial services is on the NBN web site at (<http://www.nbnco.com.au/wps/wcm/connect/main/site-base/main-areas/our-services/coverage-maps>).

As shown, although residential based coverage is extensive (>97%), geographic gross area coverage is not extensive. As a result, it is likely that the majority of remote local government infrastructure will not be covered by the terrestrial aspects of the NBN.

Satellite based coverage will be available through the NBN. However for low data rate applications this coverage will be similar to what is available today.

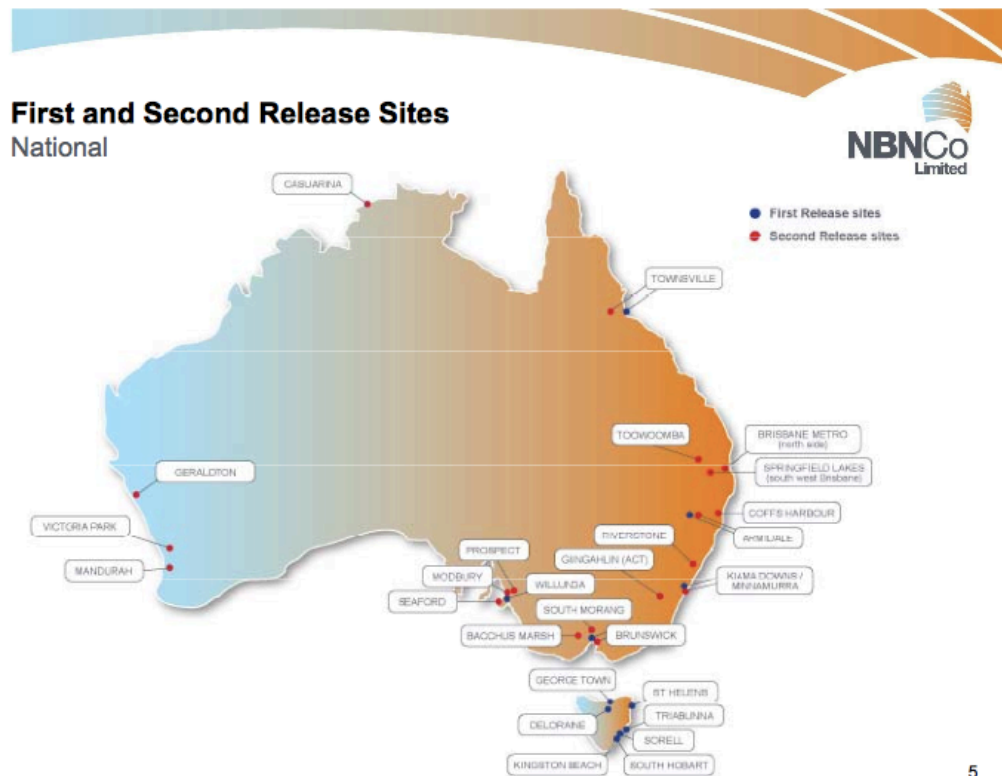
Using the NBN for intracompany data communications

The NBN Business case summary states that the NBN will provide layer-2 wholesale services only. Retail service providers will provide layer-3 services and above.

This architecture means that in order to set up a Virtual Private Network (VPN) covering a council's infrastructure, a contract will need to be maintained with a retail service provider. It will not be able to be purchased directly from NBN. Data from the various locations on the VPN will transit back to one of the points-of-interconnect (POI), for layer-three processing and above, before being routed to other VPN nodes as appropriate. This service is likely to be similar to existing Telstra business VPN products in cost and performance (based on the NBN pricing statement).

Timing

The NBN will implement first and second release sites by the mid 2011. These sites are shown on the following figure.



Following this, the published plan from NBN Co, is to finalise the skeleton of the network and have a number of retail service providers and POI finalized and running by the middle of 2012. By August 2012, it is expected that the NBN will be “Ready for Market” and commercial services will begin on a large scale. Thereafter it is expected to take approximately 6 years (at 8000 residences a working day) to provide total coverage to all areas.

After the recent election, some priority will be given to the country area rollout. Radio-based delivery will be the fastest to be executed. The NBN Business Case Summary states that radio system construction starts at the end of 2011.

Satellite services will begin with NBN's purpose built satellites in financial year 2015. Until then some services will be available through existing satellites.

Summary

To summarise, the NBN rollout will provide high speed data services to manned business residences within the coverage areas at equivalent cost per Mbit/sec as is available today. The greatest benefit for country-based councils will be the availability of services in locations where high speed data is not available commercially today.

Unmanned facilities will be able to be connected to the NBN but at the user's cost. Coverage will be limited in the country to larger town centers as documented in the coverage maps published by NBN Co. There is nothing to suggest within the published document that connection costs for non-covered residences will be subsidized. Moreover, the NBN business plan states that pricing will be "competitive" at best i.e. similar to that of private WiMax or proprietary network connections pricing today. The monopoly position of NBN may actually stall price erosion over time rather than accelerate it (as documented in the NBN implementation risks).

Creating a VPN for a local government operation covering geographically distributed assets will be possible within the NBN but will require contracting a retail service provider.

The rollout of NBN infrastructure is planned to occur over the coming decade. 50% of services will be implemented by 2015 and the remainder by 2018.