



Axia Submission to the Australian Competition and Consumer Commission

Suggested Regulatory Priorities and Approaches for the
Australian
National Broadband Network (NBN)

Submitted by:
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Facilitating the Creation of a National Broadband Network

Axia NetMedia Corporation is pleased to respond to the Australian Government's call for submissions to the Australian Competition and Consumer Commission (ACCC) regarding regulatory issues surrounding the National Broadband Network (NBN). Axia makes the following observations and suggestions based on our experience in designing, building and operating truly un-conflicted Open Access Next Generation Networks in markets around the world.

The Australian Government's plan to create a National Broadband Network (NBN) is both progressive and visionary. Very few countries around the globe have undertaken national level initiatives to build out such critical broadband infrastructure. France and Singapore are two examples of other countries that have launched similar national level initiatives. In the case of France, they adopted a national funding and regulatory structure but chose to implement the broadband infrastructure on a regional 'fibre backbone' basis. In Singapore, the political, geographic and economic landscape is such that a structurally separated national fibre-to-the-premise (FTTP) approach is most appropriate.

In Australia the government has concluded that a "market failure" condition exists in the current telecommunication market. Affordable, ubiquitous and high-quality broadband services are not consistently available to all Australians and it became apparent that the current telecommunications market did not have the means or will to provide such services. Therefore, the current Government has developed its National Broadband Network initiative.

The unique market and geographic characteristics of Australia translates to two distinct components within the NBN: the community inter-connect wholesale backhaul network and the local access network. The community inter-connect network must be a Next Generation ultra-high bandwidth fibre optic grid that has the objective to bring every community in Australia onto the fibre grid. The local access network then extends the community inter-connect grid encompassing Fibre-to-the-Node (FTTN) and Fibre-to-the-home (FTTH) solutions, plus other non-fibre local access technologies including the copper local loop (DSL) and mobility/wireless solutions such as 3G, WiMax and WiFi. Each component has unique economic and technological characteristics that demand different policy and regulatory structure and support.

The Community Inter-connect Network

For a truly National Broadband Network (NBN) the Federal initiative must extend beyond the metropolitan character of FTTN and FTTH and include the fibre community inter-connect of ALL Australian communities – Metropolitan, Regional and Rural.

The core of the NBN has to be a truly Open Access Next Generation fibre network that connects all communities in Australia regardless of population or geographical displacement. This Open Access community inter-connect will act as the core backbone of Australia's NBN. It is the dearth of affordable and available wholesale back-haul transportation that has created the digital divide in Australia.

The Government's objectives of providing downlink speeds of at least 12 megabits per second to 98 per cent of Australian homes and businesses simply cannot be achieved without a Next Generation wholesale back haul transportation network. Any initiative to create Fibre-to-the-Node (FTTN) or Fibre-to-the-home (FTTH) networks is dysfunctional without the universally available back-haul network to connect communities together and deliver all those communities to the global gateway of next generation of information, communication, entertainment and government services.

To accomplish all of the Government's objectives in creating the NBN, the community inter-connect NBN core network must have the following characteristics:

1. The fibre grid must strive to inter-connect ALL Australian communities – not just those communities that are geographically or demographically attractive to the incumbent Telco. The economics of Next Generation fibre networks makes such an objective completely viable.
2. The grid must be true open access infrastructure available to all parties at the exact same rates, terms and conditions without conflicts of interest.
3. A single rate structure should apply on the entire network. NBN bandwidth rates and services must have the same price within any community on the network regardless of whether that community is metropolitan, regional or rural.
4. The NBN must not have distance or usage charges. It is the "tyranny of distance" that creates the digital divide.
5. The Australian NBN must be owned and operated by a specialty company (the "NBN Operator") whose sole profit motive is to supply wholesale NBN services on a truly un-conflicted open access basis.

To facilitate the creation and viability of the community inter-connect NBN core network, the following are guidelines for a functional and supportive regulatory approach:

1. Recognize that the NBN community inter-connect fibre network is a natural monopoly and regulate it as such.
2. Impose strict structural separation between the NBN Owner/Operator and the fully integrated information and telecommunication services sectors. That is to say, Australia must preclude the NBN Owner/Operator from participating in the local access and retail telecommunications business. This form of strict structural separation eliminates the existing conflict between the incumbent Telco and the retail services market that they service. It is only through structural separation that Australia will recognize the full benefit of the NBN by building and supporting vibrant and competitive Retail and Application Service Provider sectors. Operational separation simply does not work. A value chain where the supplier of a critical service to a market also competes with each of its customers in that market is simply dysfunctional.
3. Provide consistent and functional regulated access to existing communications infrastructure such as Central Offices, nodes, ducts and surplus modern fibre optic cable.

The creation of a Next Generation community inter-connect fibre network to act as the wholesale core of the NBN will create the broadband infrastructure foundation on which to build the advanced retail, commercial and government services that will drive Australia's digital economy for years to come.

Market Driven Local Access

The second vital component of the NBN is the local access network. It is the local access network that connects individual users and businesses via the NBN community inter-connect fibre grid to the 'global gateway' of digital services. It is at the global gateway that individuals and businesses can select from a huge variety of telecommunication, information and entertainment services. It is also here that consumers can access an increasing number of e-government services including education, healthcare, social services and tax services.

Fibre optic cable is the only scalable long-term network technology that is appropriate for the core back-haul network. However, while fibre is also the ultimate technology for the local access network as well, there are other technologies available at the local access layer that are continually evolving and appropriate for some local access applications. Local access technologies

such as DSL and advanced mobility and wireless technologies (i.e. 3G, WiMax, licensed wireless etc.) can meet the Government's initial downlink target of 12 Mbps for the near future – especially with access to an affordable and extensive ultra-high bandwidth wholesale community inter-connect network.

Given its technological and market dynamics, Axia suggests the local access component of the NBN have the following characteristics:

1. Market driven demand of local access technologies. Unless it is the Government's intention as part of its NBN initiative to create another virtual monopoly in retail and commercial NBN services, the government should not dictate a single local access network technology. The preferred approach is to encourage and support competition in the local access market by allowing the various segments of the market (e.g. metropolitan, regional and rural) to drive demand for the appropriate technology for that segment. However, in other communities DSL and/or wireless technologies may be more appropriate and completely viable.
2. Vibrant competition in the local access market. Competition is desired and healthy for the local access market and competition in this sector will help drive lower prices and ensure innovation and a choice of technologies to the marketplace.
3. Regulated fibre local access (i.e. FTTH) where appropriate. The ACCC can make provisions to allow the extension of the NBN fibre grid by the NGN Owner/Operator to the commercial and residential premise by taking the following steps:
 - a. State to the market that the NGN community inter-connect network may be extended to the premise subject to regulatory approval of the associated local access rates.
 - b. Provide regulatory approval only in the event that the application for fibre local access is supported by the community involved and the ACCC has determined that the local access market had not performed to satisfy the public interest.

Given these characteristics of the local access component of the NBN, the appropriate regulatory approach is:

1. Provide truly open and regulated access to copper local loops throughout Australia.
2. Ensure functionally regulated access to Telstra nodes and central offices to enable easy interface between the new no-conflict open access back-haul network and the copper local loops.
3. Create competitive and affordable access to wireless spectrum to create viable wireless alternatives for fixed wireline local access solutions.
4. Regulate and require the FTTH markets be operated on the same un-conflicted open access basis as the NBN community inter-connect network.

In conclusion, a proper regulatory and policy framework for both the community inter-connect and local access components of the NBN will result in a vibrant and competitive telecommunications and applications services market. It is this market that delivers the end-user experience to the retail, commercial and government sectors. The ultimate result for Australia will be a viable and competitive National Broadband Network which is truly world-class broadband infrastructure.