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NATIONAL BROADBAND NETWORK: POINTS OF INTERCONNECT

The Internet Society of Australia (ISOC-AU) welcomes this opportunity to comment on the ACCC's discussion paper on the NBN Points of Interconnect (POI), which includes NBN Co's Public Position Paper on the same issue.

ISOC-AU is a non-profit society founded in 1996, which promotes the Internet development in Australia for the whole community. ISOC-AU is a chapter of the worldwide Internet Society and is a peak body organisation, representing the interests of Internet users in Australia.

ISOC-AU's fundamental belief is that the Internet is for everyone. We provide broad-based representation of the Australian Internet community both nationally and internationally from a user perspective and a sound technical base. We have a longstanding and ongoing commitment to the effective representation of these interests in self-regulatory processes in the telecommunications, domain name and Internet-related services industries.

We also consistently promote the availability of access to the Internet for all Australians.

ISOC-AU has consistently put forward its objectives, on behalf of Internet users, for broadband access connectivity that is:

- High quality and bandwidth;
- As symmetrical in upstream and downstream capacity as possible;
- Accessible to all Australians, wherever they reside or work;
- Meets communications needs of people with disabilities;
- Affordable; and
- Provided in a competitive environment that will give Internet users genuine choice of service and service provider, and provide the market forces to encourage improvements in services and pricing.

We have also argued that the National Broadband Network (NBN) should be designed to:

- Support access to multiple simultaneous Service Providers
- Support for differentiated services with multiple quality requirements

We therefore support the Government's policy for higher bandwidth delivered to the premises, with 93% of the population connected to fibre optic cable and the remaining 7% receiving 12 Mb/s using wireless technologies. We recognise that, because of the cost of installing fibre optic cable to the premises, it is reasonable that it should be done by a monopoly provider. However, beyond that point, we support competition in network providers to encourage product and service innovation and customer choice.

Because we believe broadband services should be as affordable as possible for all Australians, we also support the Government's policy of a national wholesale access price to the NBN to ensure that, as much as possible, access to broadband is affordable by lessening the cost differential between service providers in metropolitan areas as against those in regional and rural areas. However, our preferred option for Points of Interconnect reflects our belief in supporting differentiated services and service providers. Therefore, we believe that there should be consideration for discounted pricing for service providers who want to interconnect close to their area, and greater clarity for the establishment and connection to the proposed connectivity serving areas.

The Discussion Paper asks several specific questions, which are more suited to specific responses from the various segments of industry. Our responses are more general, reflecting views of end users.

Our responses to the paper are as follows:

1. NBN Co's Objectives

The discussion paper's introduction suggests that NBN Co's objectives go beyond the Long Term Interests of End Users (LTIE) to include 'the cost effective implementation of government policy'. In our view, the LTIE test already includes efficiencies that would result in the cost effective implementation of policy. As the paper itself explains (at p. 6-7) the LTIE test includes the concept of economic efficiency. Therefore, the objective of cost effective implementation should be subsumed by the larger LTIE test rather than as a separate and potentially competing objective.

2. Effect on Relevant Markets

The number and location of POIs will doubtless drive the structure of the Australian broadband industry. Should all PoIs be aggregated and centrally located, it is highly likely that the market will comprise services that are uniformly offered across the nation. Major hosting centres will likely emerge to house the computer and network systems used by service providers nearby to the POIs.

While this is conducive to attaining economies of scale by service providers when they inevitably share infrastructure, the choice of location is critical to whether it merely reinforces today's industry structure or facilitates a more competitive and efficient one, and at what level that competition occurs. The obvious outcome, should a capital city POI model be chosen, would be industries that continue to concentrate in the five metropolitan centres. If POIs are more widely distributed, it is possible that these industries may emerge more strongly in places such as Ballarat, Newcastle and Wollongong where strong training centres exist with ICT capability and where electrical power distribution is less strained.

While it is desirable that consumers can be supplied with a baseline Internet service nationally, it may be cost prohibitive for smaller providers, such as local computer agencies, local governments and community groups, to offer services hosted and delivered from systems that are physically local to the community it wishes to serve.

In addition, from the innovation and architectural perspective, POIs that minimise the distance between endpoints on the network are most effective at supporting applications that are sensitive to transmission delay (latency), reduce tromboning of network traffic, and support local content models.

Finally, the use of the term 'backhaul' frames the question in a dated way: networks do not necessarily operate in a manner that converges onto a single point, but can operate well in an any-to-any connectivity model. Internet users are not broadcast consumers, where all is downloaded back from a single control point. Rather, they are capable of myriad of connectivity models.

3. Stranded Assets

There is a distinct difference between the capability of existing access network equipment under a DSL access model, than that for FTTP. It is arguable that few Internet service providers use discrete transmission equipment today, but instead use component equipment, such as line cards (in a DSLAM) that connect to upstream bandwidth providers.

Where they have a more flexible piece of equipment using DSL line cards to provide access to customers, they may be interchangeable for cards suitable for connecting to NBN Co network equipment, hence the service provider unit itself is reusable. In the latter case the quantity required is therefore dependent on the number of NBN Co POIs and the capacity of the chassis itself (as an FTTP model is inherently higher than DSL).

Existing Internet service providers will need to consider the flexibility of their current equipment as well as the number, capacity, and customer forecast in order to produce realistic network models.

4. Competition in Backhaul Markets and Effect of Backhaul Investment on Number and Location of NBN POIs

We believe that competition is strong in the central business districts of capital cities and some major regional metropolitan areas. Competition also appears strong between capital cities in Australia. Competition is not thought to be strong in regional areas, and virtually non-existent in remote areas. This is thought to mirror the distribution of DSLAMs in Telstra exchanges.

The location of NBN POIs and the availability of transmission and other pieces of network infrastructure is largely independent of the degree of competition. Rather, it is the availability of optical fibre at affordable rates. While these things are not necessarily coupled, should NBN Co POIs increase the amount of affordable transmission to regional centres, that would improve the availability of connectivity for other networks.

It is possible that if a model is adopted where service providers are forced to connect at local POIs, then more backhaul will be built and therefore more infrastructure will be available. The fact that this has not happened to date under the present model suggests that the lower density and lower value of customers has been a greater factor.

In the model where service providers must connect only at local POIs, and that number is of the order of 200-300 locations nationally, then the barrier to entry to this new telecommunications market remains arguably too high. Correspondingly, if only two locations in each state are provided, then the barrier is also high, as services must therefore still be significant in scale.

State based boundaries also do not support communities that span state borders, such as those regions abutting state borders such as the Albury-Wodonga area and the Tweed-Coolangatta. Nor do they support new models where communities of interest drive the information services model.

5. Location of POIs on the NBN and provision of related services

The discussion paper (and the NBN submission attached to the paper) suggest four options for the location of POIs. The options range from POIs that are fully distributed and located at every fibre serving area to only 14 aggregated POIs centralised at five capital cities.

ISOC-AU does not believe in a 'one size fits all model' but sees advantages in a flexible model offering a range of interconnection models. For that reason, ISOC-AU supports the fourth option – the 'composite' – proposed in the discussion paper. Under that option, there would be 14 aggregated POIs in five capital city locations as the 'default location for interconnection', plus up to 195 connectivity service areas (CSAs). This option allows for the most flexibility for service providers who may choose to either offer services nationally, or to offer more locally focussed services. NBN POIs could also reflect the nature of the Australian community well by serving entire local government areas (LGA) from one community based location.

Our concern with this option, as proposed by NBN Co, is the availability of interconnection at CSAs. The NBN Co paper proposes that service providers would be able to request interconnection at a CSA, but only in 'limited circumstances, such as for technical reasons', and NBN Co 'time constraints'.

We believe that this is an important option for service providers in supporting more competition and user choice in the market. Therefore, service provider interconnection at CSAs should be readily available to all service providers under clear and transparent circumstances that are publicly available to all.

6. POIs for NBN Co Wireless and Satellite Services

NBN Co has proposed that all wireless and satellite communities be connected via a separate POI to their fibre connected neighbours. In this scenario it is conceivable that consumers will be unable to receive community based services, regardless of the technical capacity of their services. It is our belief that localities should not be arbitrarily split according to the distance any given premises is from an NBN Co equipment exchange/POI. Communities served by wireless / satellite mechanisms should still be reachable, as a single addressable unit alongside their neighbours.

7. Price for Interconnection to POIs

As stated above, we support a national uniform wholesale price for access to the NBN. However, we suggest that there should also be a discount for service providers who only want access to a local CSA to provide niche services to that area. This will allow for more differentiation between service provider offerings and more customer choice.

8. Competitive Backhaul

The NBN Co paper refers to the NBN Co provision of transit backhaul. We understand that to refer only to areas where there is not contestable backhaul.

Our understanding is that NBN Co's network will focus primarily on the access network – the connection between the premises and fibre access node. Indeed, in one of its early papers, NBN Co stated as one of its four design objectives, a focus on the 'simplest solutions and building infrastructure in uncontested fibre areas'. NBN, the paper said, would seek to occupy as small a footprint as possible in the overall value chain, leaving retail service providers with significant ability to innovate and develop new services.

We continue to support NBN Co's focus on the access network, leaving the provision of backhaul, as much as possible, to the competitive market.

Recommendations

- **NBN Co's primary objective should be the long term interests of end users, noting that efficiencies in the provision of services is covered by that objective**
- **Option Four of the location of POIs – the composite model - should be followed**
- **NBN Co should develop clear, transparent rules so service providers can readily obtain access to CSA**
- **Consideration be given on the provision of a discount price for service providers wanting access only to their nearest POI**
- **NBN Co network should remain focussed on the provision of the access network and uncontested backhaul.**

We will be happy to provide further comments on issues raised by this paper

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