
Michael S Cox (Independent)

Submission to:

NBN Co Limited
Product Overview
Fibre Access Services
August 2010

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This response follows the same document layout, in terms of section numbers and headings, as the original "Product Overview, Fibre Access Services, August 2010" document released for comment by NBN Co Limited. Within each section of this document can be found comments and responses relevant to material found in the same section of the original document. This document also addresses feedback to duplicate material and sections as found in the NBN Co "Product Overview Wireless Access Services" and "Product Overview Satellite Access Services" documents, released at the same time.

This response aims to represent the combined best interests of:

- **first** the Australian residential and business end-users (consumers);
- **second** an open, competitive and efficient retail service provider marketplace (producers); and
- **third** a long-term economically viable NBN Co wholesale access provider (enabler).

It is important to highlight that the current thinking of NBN Co Limited, as deduced from these publications, is not completely aligned with these stated outcomes, nor in this particular order. It is hoped that the responses here will help to re-guide NBN Co Limited in delivering its original commitment to the Nation's Government--to deploy a National Broadband Network which meets various coverage, competition and cost effectiveness outcomes, which are **intended to address** the various short-fallings and market failures of the current telecommunications regime. It is hoped that NBN Co Limited will utilise the public national funds it is being provided in an appropriate manner that achieves desirable outcomes for the nation and its citizens as a whole (not just a subset).

It is important that certain fundamental structures and policies are immediately developed and adopted to ensure that NBN Co Limited evolves to become a benevolent monopoly supporting an active marketplace, rather than a potentially abusive and uncooperative replacement for the existing dominant regime.

Most important is to avoid potential negative monopolistic practices of negotiating contracts, agreements, arrangements, or combinations among competitive economic agents, whose aim or effect are any of the following:

1. To fix, raise, to agree upon or manipulate the purchase or sale price of the goods or services supplied or demanded in the markets, or to exchange information with the same aim or effect;

2. To establish the obligation to produce, process, distribute or market only a restricted or limited amount of goods, or to render a specific volume, number, or frequency of restricted or limited services;
3. To divide, distribute, assign or impose portions or segments of the current or potential market of goods and services, by means of a determinable group of customers, suppliers, time or spaces; or
4. To establish, agree upon or co-ordinate bids or to abstain from bids, tenders, public auctions or bidding.

Either alone or in combination, to improperly displace other agents from the market, substantially hinder their access thereto, or to establish exclusive advantages in favour of one or several entities or individuals, in the following cases:

1. Some of the economic agents that do not compete among themselves are: to set, impose or establish the exclusive distribution of goods and services, by means of the subject, geographical location, or specific periods of time, including the division, distribution or assignment of customers and suppliers; and also the obligation to not manufacture or distribute goods or services for a specific period of time or that may be specified;
2. To set the prices or other conditions that a distributor or supplier has to abide by when marketing or distributing goods or providing services;
3. The conditioned sale or transaction when buying, acquiring, marketing or providing other goods or additional services, normally different or that can be differentiated, or on the basis of reciprocity;
4. The sale or transaction subject to the condition of not using or acquiring, marketing or providing goods or services produced, processed or distributed or sold by a third party;
5. The unilateral action based on refusing to sell or provide to specific individuals, goods or services available and normally offered to third parties;
6. The agreement reached among several economic agents or the invitation extended them to exert pressure against customers or suppliers, in order to discourage them from specific behaviours, to apply retaliations or force them to act in a specific manner; or
7. In general, all the actions that unduly damage or impair the process of competition and free access to production, processing, distribution and marketing of goods and services.¹

¹Material shamelessly stolen from "Monopolies and Monopolistic Practices", Federal Law of Economic Competition, Mexico. Australia has similar material within Part IV of the Trades Practices Act 1974 and various publications released by the ACCC. Also see <http://www.internationalcompetitionnetwork.org/uploads/library/doc320.pdf> for further recommendations specifically relevant for the Telecommunications Sector.

Consultation

Noted.

Next steps

NBN Co has been claiming to be developing their POI consultation paper since December 2009 (“NBN Co consultation paper: proposed wholesale fibre bitstream products”) and was then expected early March 2010. The committed release date was updated to be late March 2010 and was provided in the updated “NBN Co response to industry submission – proposed wholesale fibre bitstream products” (Pg 5). This date was missed. As noted by many of the 50 respondents to that engagement, the specific definition and location of POI sites is of significant concern to the industry. As of this paper being published in August 2010, the only indication provided as to when this information will now be published is “Calendar Quarter 3, 2010” (Annex A1, Pg 32). Needless to say, these ongoing delays place significant pressure on the wider industry to appropriately assess and consider the full repercussions of the final proposal whenever it may be made. These delays also significantly impact the ability of industry players to appropriately plan and schedule future infrastructure builds and may even prevent the timely entry of new competitive market players.

This concern is further validated when you consider the advice and recommendations contained within the KPMG/McKinsey “NBN Implementation Study”, which discussed at length the negative impacts associated with various forms of potential price bundling and price control practices that can be abused by monopolistic players in telecommunications access and backhaul. With this in mind, the precise definition, implementation and location of the POI facilities is one area where certain structures, if adopted, could be easily abused long-term despite appearing innocuous initially. Such structures would result in a market trivially dominated by just a few very large players, who can indirectly monopolise the assets of NBN Co and thus avoid any direct regulatory controls. This would ultimately result in an “unhealthy” and anticompetitive marketplace that fails to deliver any of the promised innovation in prices and services to end-users. Great care, understanding and analysis of various decision repercussions with the wider community is required in order to avoid these sorts of outcomes. Closed, industry consensus (or majority vote) is not an appropriate means to making these decisions. The Government, end-user interest groups (enterprise, government, business and residential), as well as community interest groups should all be involved up-front to determine the best product and service delivery approaches. This requires even greater engagement and transparency than that which is already being undertaken by NBN Co.

Other material is noted.

1.1 Benefits

Noted.

1.2 Key Product Features

Proposed modularity of both end-user ports and NBN Co network capabilities and features is commended. However, whilst QoS and CoS are mentioned, no specific mention is made with regard to Service Availability and/or Service Fault Restoration commitments. Such service features will need to be defined and in a similar manner to other product and service features, should be selectable from a range of available options to suit different end-user and service delivery requirements.

The proposed offering of a range of interconnect options is also commended.

Product Overview

It is concerning to see that NBN Co have opted out of engaging the public with a more detailed POI definition and have instead abstracted the pertinent details away into an arbitrary “access” cloud. It is not clear if the CVC component may or may not include a mandatory/additional/bundled “backhaul” charge for some (rural) POIs as previously documented by NBN Co. These details should be published and clarified immediately as a matter of some urgency.

2.1 Key Wholesale Product Components

The definition of the various modular service components including a UNI, an AVC, a CVC and an NNI is commended. This structure is flexible, modular and entirely appropriate for a wholesale access service.

However, noticeably absent was any provision for a “diverse” NNI connection option. Standard and Protected was offered, an extension of protected is diverse. Will diverse connectivity be considered for very high availability/reliability services or will such a product be delegated to a “dark fibre” layer-1/2 service offering in the future?

Update: Discussion of appropriate diverse connectivity options has been provided in the more detailed Product Technical Specification for Fibre Access Services.

Fibre Access Wholesale Product

Noted. It is also noted that the inclusion of any SLS/SLA Provision, Availability and Restoration measures have been omitted and should be incorporated as soon as possible (aside, it is additionally noted that some specification of these performance measures are made within the annexures, however these are not sufficient as they stand).

3.1 Ethernet Bitstream Service

Noted.

VLAN Tags

Agreed.

3.2 Ethernet Bitstream features for business

Agreed.

3.3 Interconnection Arrangements

Noted.

3.4 Class of Service (COS)

Agree with Traffic Class 1 definition. Concerned that Traffic Class 2 and 3, whatever they may be, are simply omitted from discussion. Very concerned that the Traffic Class 4 definition is highly characteristic of a monopolistic player arbitrarily abusing its market power and forcing an unwarranted and unnecessary product constraint onto its customers. It is never appropriate nor desirable for a benevolent/cooperative monopoly entity to offer a zero CIR service, non-negotiable, at a wholesale level! This is commonly the practice of an uncooperative and abusive monopoly player, as it prevents industry market players from being able to reliably and predictably dimension, provision, plan and effectively design end-to-end services (let alone consider giving them any control over their service construction). It also prevents industry players from being able to flexibly (and hence innovatively) define, purchase and construct services across the NBN platform across all traffic classes. NBN Co are dictating that the only choice for retail service providers (and their end-users) is to take a fully premium product or a worst-efforts (nil guarantee) product on a like it or lump it basis.

By not modularising the CIR dimensioning capabilities and even worse by not specifying the CIR dimensioning rules or providing any reasonable performance characteristics/expectations, NBN Co are effectively creating a marginal use service capability with zero predictability, simply because they can and no-one else can complain -- this is quite potentially a direct abuse of monopoly power. It is disturbing to see NBN Co, at such an early juncture in its creation as an infrastructure monopoly intended to improve the market, engaging in such unhealthy and market damaging monopolistic practices. Moreover, this decision was completely unnecessary as it is not justified by any technical or commercial limitation, it serves no value-added function and seeks only to remove capability from the product set and remove flexibility from how it may be used. A healthy NBN Co should be striving to make the service as flexible and desirable as possibly can. It should be going out of its way to maximally modularise the components to facilitate world-leading marketplace innovation and creative flexibility. It should be leading the world in defining best practice fibre access wholesale. And so, it is deeply concerning to see a publicly funded NBN Co adopting shutdown tactics such as this, before the company has even completed building its access monopoly. NBN Co are meant to be cooperatively and actively supporting the evolution of a rich, vibrant and healthy market place for the benefit of end-users by offering maximum flexibility, modularity and

choice. I strongly recommend a rethink of this plan urgently. I also strongly recommend increased engagement with a larger community of interest and expertise than those currently involved.

Limiting the service offerings to an overly simplistic traditional best (CIR=PIR priority) and real worst effort (CIR=0 background) capability does not aid the delivery of innovative end-user services by retail service providers. If NBN Co really intend to offer a highly subsidised, true Zero-CIR background traffic class as part of their initial offering, then they need to balance that out with more than just a CIR=PIR fixed premium option. Real world experience clearly indicates the need for a subsidised, variable performance economy level service, yet still with at least some guarantees; a super-premium priority service with absolute assured guarantees; and a somewhat variable, yet still high-performance business grade service capable of supporting a myriad of fixed and rate-adaptive protocols along with base level guarantees. Then there are a small number of other "abstract performance characteristics" that many markets either directly desire or can accommodate (read increased output efficiency).

In closing, it is just a little concerning that it is difficult to determine whether such actions and decisions are being made with a full awareness of the potentially damaging outcomes they can cause or whether the decisions are being made on the basis that the outcomes weren't fully considered or realised. Is NBN Co intentionally trying to restrict and limit the market choice and hence innovation potential of its products, or is it simply unaware of the impacts such arbitrary product limitations will have on marketplace selection and end-to-end service construction and delivery?

3.5 Telephony Capability

Agreed. Noted that many value added PSTN services are not mentioned. Services such as distinctive ring, call conferencing, long distance signal and do not disturb were not mentioned. Likewise transparent support for G3 fax and/or modem connectivity is not mentioned. Are these subsequently excluded/unsupported? Also, will transparent continuity of ADSL services be supported over the integrated POTS port?

3.6 Multicast

Noted.

3.7 Service OAM and Reporting

Noted. Again, specifications of Service Availability performance and Service Fault Restoration performance are noticeably absent. NBN Co should seek to amend the service specification to include these measures and corresponding performance guarantees.

Section

4

Wholesale Product Catalog

Wholesale Product Catalog

Noted.

4.1 Catalog Structure

Noted. Is the omission of a UNI-D VLAN shared Physical Port option intentional? It is noted that the first mention of an “Enhanced SLA” with “24/7 response and restoration” appears here. Such an “all or nothing” definition approach may not be sufficient and maybe some consideration to modularising the SLA options into categories such as Default, Premium, Business and Mission Critical could be considered.

Section

5

Service Management

Service Management

Noted.

Section

6

End-user Premises

End-user Premises

Noted.

Section

7

NBN Co ... Configuration Examples

NBN Co Fibre Access Service (NFAS) Configuration Examples

Noted.

Annexes

Noted.

Ensuring NBN Co Deliver the best outcome possible

In closing I redraw attention to a few excerpts from the KPMG/McKinsey Implementation Study on the National Broadband Network. Many of these recommendations work to ensure that NBN Co will deliver the best outcomes for the nation as whole, rather than just delivering another Government funded, monopolistic (in the evil sense) Telecommunications operator. These negative outcomes are best avoided through wide, open and transparent engagement with not only industry players but also public interest groups. With regard to public engagement, it recommends several times (for instance page 122, 129, 453 and others) that NBN Co actively engage with end-user interest groups, industry players and the wider community to ensure the best-aligned delivery model for its wholesale services. The study goes further to say that such engagements should be conducted in “an open, transparent and consultative approach (which) will reduce the risk of misalignment and assist more rapid adjustment”. Open and transparent requires that NBN Co release information publicly in a timely manner that not just describes its actions and intentions (open) but also describes the means or process by which the company has arrived at various conclusions they may have formed (transparent). There are varying levels of transparency that can be adopted and one would hope that the largest national infrastructure project ever undertaken in Australia's history would be governed by a very high level of transparency.

The NBN Implementation Study also defines many guidelines for building and delivering the NBN which are worth re-evaluating on a periodic basis:

Pg 104: “The network needs to be designed in a manner that provides flexibility for future innovation. Without doing so, innovation is likely to be stifled on the network and there is a risk that the network will be unable to support cutting-edge services offered internationally. To support innovation, the design of the NBN should anticipate that innovation can occur along a number of dimensions, including the physical layer of the network, the end-user devices connected to the network and services offered across the network”.

Pg 122: “As custodian of Australia's principal broadband platform, NBN Co must consider the needs of consumers, business, public institutions, service providers, suppliers and many adjacent industries. The capacity of the NBN to serve the national interest through the economic and social benefits associated with its services will be correlated with responsiveness to stakeholder needs”.

Pg 199: “Price differentiation is an important mechanism for network businesses to optimise revenues and demand. However, upselling on the basis of speed has proven difficult for ISPs in the DSL market, and it is a source of great market uncertainty”.

Pg 201: “NBN Co should create a broadband platform which anticipates the greatest range of potential services. ... NBN Co will have to enable higher levels of performance through quality of service (QoS) parameters. The challenge lies in anticipating the implementation of standards”.

Pg 202: “Recommendation 40: That NBN Co be required to offer wholesale services that support the implementation of carrier-grade QoS functionality, allowing retail service providers to deliver premium grade services from within their network to end users”.

Pg 253: “Pricing of NBN services must reflect the needs of numerous stakeholder groups: Government, the ACCC (on behalf of end-users) and customers. These groups have a range of objectives of take-up and long-term commercial viability of NBN Co, amongst others”.

Pg 256:" Price architecture refers to the components and features of pricing for NBN services and how they come together. NBN Co must be allowed flexibility to develop this architecture to achieve commercial success. Pricing decisions are dynamic and challenging. They are best left to the company, within its regulatory and policy constraints... Pricing flexibility is important to network and telecommunications companies. It allows them to adapt to market conditions, create new revenue streams, even spur demand. Such pricing decisions are challenging and dynamic".

Pg 257-8:" A considerable body of literature exists regarding price differentiation of services on telecommunications networks. There is broad agreement that some level of price differentiation in telecommunication and other high-fixed-cost industries (e.g. airlines) is appropriate to achieve social benefits, while helping in the pursuit of a commercial return. The alternative to differential pricing—in other words, to price all NBN connections at a single price—would be inefficient. A single price that provides a fair return on investment would be too high for many users, and therefore constrain take-up and usage. On the other hand, a single price that maximised take-up would be unlikely to provide the NBN with any reasonable return".

Pg 261:" Advice. That NBN Co Board ensures general pricing for NBN services is transparent and modular—e.g. bundling services at a discount should be avoided, unless a discount is applied to certain legacy services or an entry-level offer".

Pg 334:" Defining the characteristics of the transit backhaul service

The transit backhaul service should have the following features:

- End-to-end. The transit backhaul product offered by NBN Co should be an end-to-end product for connection from the POI to the fibre exchange including redundancy for backup ...

- Modular. The NBN access service and transit backhaul should be offered as separate services. This will allow access seekers to choose appropriate backhaul products for their required capacity. It will also allow uniformity of pricing on the access products across the country".

Pg 423-4:" A new network such as the NBN should anticipate multiple paths of industry evolution. Industry consultation, debate, and public scrutiny should continue as the initial specifications for NBN services are developed. If poorly defined, these specifications could limit or bias the innovation paths through which new applications are developed, favouring some providers or business models and distorting healthy market competition".

Pg 443:" While NBN Co should be encouraged to use its powerful position to deliver a solution for today, it must not be allowed to become the central obstacle to competition in the future. This is particularly important given the prospect of private ownership, as the unpredictable evolution of the industry will make it more difficult to balance private shareholder interests with public policy goals".

Pg 457:" Therefore, to the extent that a large and sophisticated end user business finds it more efficient to establish such a shell retailer, this would indicate a lack of efficiency or value-add on the part of the major retailers. On balance, there is a strong practical argument that such an outcome would represent enhanced competition at a retail level, rather than being interpreted as an implicit entry of NBN Co into the retail market. Accordingly, the Implementation Study believes there is no need at present to make a special provision in relation to this scenario".

Pg 459:" Equivalence is a more complex principle. The strictest interpretation of equivalence, known as equivalence of inputs, would require all customers to be provided with services at identical prices, on identical terms and using identical technical and business process interfaces with NBN Co. While this would achieve a theoretical equity between retailers, it would provide too little flexibility to recognise the different needs of the diverse range of potential customers of

NBN Co. Interfaces that might suit a large retailer with substantial market share around the country are likely to be ill-suited to a boutique ISP operating in a single area.

The case for a more flexible interpretation of equivalence is strengthened by the wholesale-only nature of NBN Co. As NBN Co is not competing against its customers, it has less incentive to discriminate between them in a harmful way than does a vertically-integrated network owner.

We therefore believe that equivalence should be implemented principally by means of transparency and common availability”.

Pg 462:” As discussed in Section 3.3, some retailers will wish to provide bundled services such as triple-play packages, while others may wish to become niche providers offering individual services. To enable vibrant competition between alternative business models at the retail level, it is important to ensure that NBN Co’s service offering and pricing architecture are not prejudiced in favour of a particular model.

This will require NBN Co to offer services on a modular basis to avoid conferring a price advantage on large retailers who seek a discount on bundled services that would undermine the competitiveness of single-service retailers.

NBN Co should endeavour to offer a range of service and pricing options that maintains neutrality between competing business models”.

Pg 496:” NBN Co’s corporate plan will serve two important purposes:

- It will assist NBN Co in ensuring that it has a clear roadmap of actions to address implementation challenges and give effect to its objectives;

- It will provide a mechanism for Government to verify that plans are consistent with Government’s objectives and to identify issues that warrant Government intervention”.

Lastly though is this nugget of advice, intended to ensure that NBN Co can continue to deliver the Government desired outcomes when they may potentially conflict with the industry desired outcomes. This is a key area where I think NBN Co require some refocusing, as they are heavily influenced by the desires of their potentially largest retail service provider customers, whose outcomes are not necessarily aligned with the desires of the Nation as a whole.

Pg 500-1:” The complexity of the project and its implications across multiple departmental portfolios means that substantial interdepartmental coordination will be required. It will be important to implement a governance model that keeps stakeholder agencies updated on the project’s progress, so that decisions with policy implications can be syndicated and resolved. Each agency will have its own legal and administrative responsibilities and processes, which must be respected, but coordinated in a way that is practical and efficient for NBN Co management.

Similarly, the cross-portfolio implications of the project will mean that multiple Government stakeholders will be inclined to make requests of, or present views to, NBN Co. In the absence of a governance model that manages this process, uncoordinated communications from different Government stakeholders are likely to act as an unnecessary distraction to NBN Co management and leave NBN Co in the awkward position of having to resolve potentially conflicting messages from different parts of Government”.

I strongly advise NBN Co and its Government stakeholder to re-evaluate the KPMG/McKinsey advice to ensure appropriate governance and management of NBN Co is adopted in order to avoid the risk of recreating another dysfunctional telecommunications marketplace for the next twenty years.