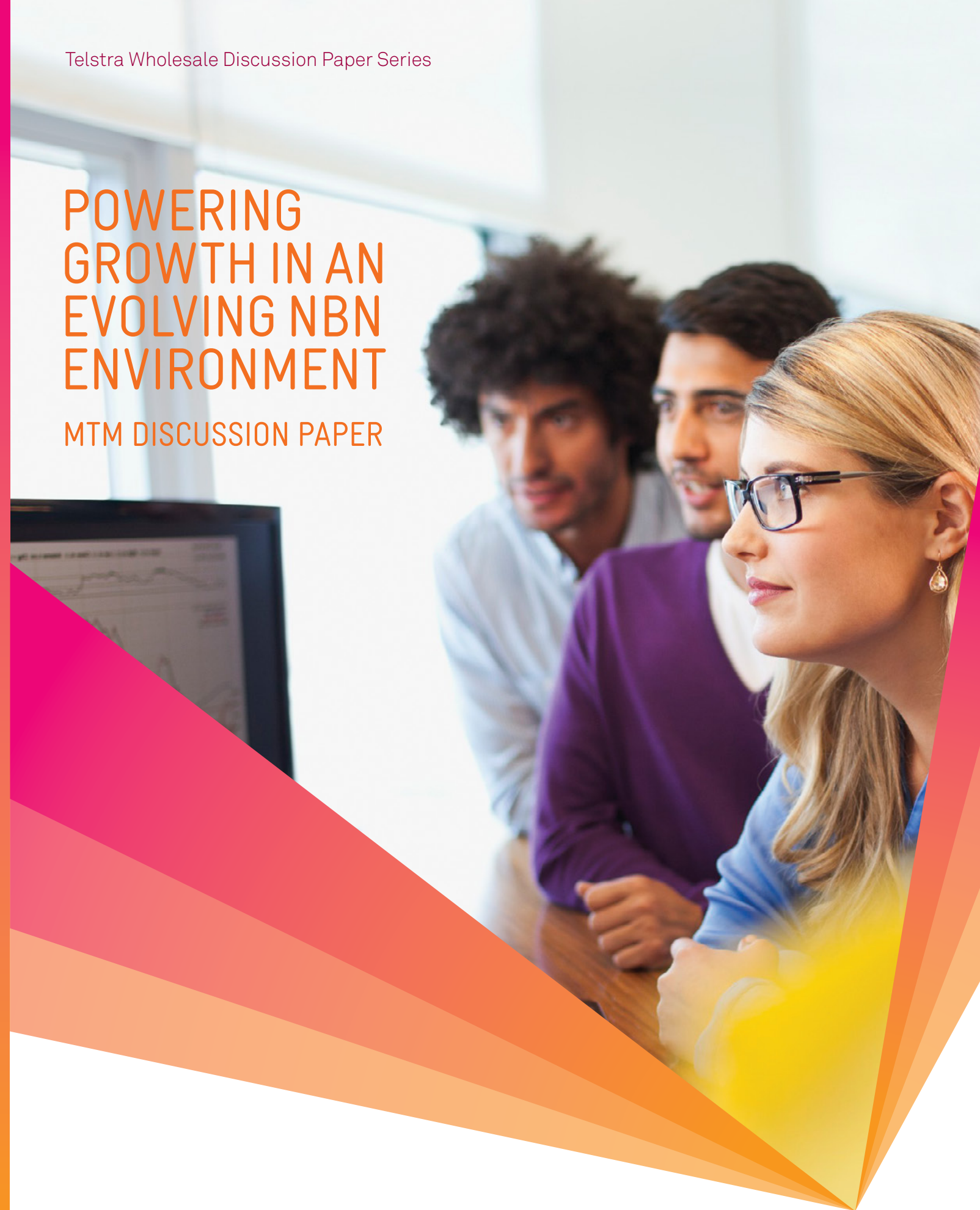


POWERING GROWTH IN AN EVOLVING NBN ENVIRONMENT

MTM DISCUSSION PAPER





SUMMARY

The National Broadband Network (NBN) is creating profound change in the telecommunications industry in Australia. The upside will be the development of broadband services with much greater bandwidth needed to support future carriage and content services (like video streaming), but the transition will not be easy.

The NBN rollout has undergone much evolution since it was originally proposed in 2009. The introduction of multiple access technologies in particular makes construction simpler, cheaper and quicker but means multi-site customers need to take account of possibly different technologies.

For service providers, transitioning customers from legacy services to the NBN will present both challenges and opportunities. The challenges will be to make the transition seamless and problem-free for their customers and to retain customers who are likely to use the transition to re-evaluate their options. There will be opportunities for service providers to upsell to existing customers and to win over customers exploring new options, or those dissatisfied with how their current service provider is managing their legacy services or their NBN transition.

This discussion paper will take a closer look at:

- An overview of NBN Co's current plans for rollout of the NBN
- The market drivers for NBN services, focusing on digital disruption, cloud computing and consumer demand for greater bandwidth (stemming from video on demand services arriving in Australia)
- The choices faced by service providers, including the choice of whether to become a direct reseller of NBN services or take NBN services from another provider that sub-wholesales these NBN services, or a hybrid model based on considerations such as geography and product capability
- The opportunities for service providers to win new business and upsell to existing customers
- the benefits of using Telstra Wholesale as an intermediary sub-wholesale provider of NBN services.

INTRODUCTION

The rollout of the NBN presents a number of challenges for service providers – in particular, how to evolve legacy retail services into new NBN-based offerings, and how to transition customers to new NBN-based services.

The NBN will create opportunities for service providers to increase revenues by upselling to higher bandwidth NBN services. For those service providers with a reputation for good customer service, there will be opportunities to increase market share by attracting new customers dissatisfied with their current service provider of legacy services or their experience of NBN migration.

How service providers can address these challenges and use these opportunities will depend on how they source NBN's wholesale services: whether they take these direct from NBN Co or from a sub-wholesale provider such as Telstra Wholesale or adopt a hybrid model for a period of time.



Impact of the NBN

NBN Co's stated goal is that Australia's NBN will serve eight million homes and businesses by 2020¹, and that the majority of these premises should be able to connect to a broadband service that delivers up to 100Mbps downstream using fixed network technologies. NBN Co aims to ensure that even the most remote locations in the country should be able to get access to bandwidths up to 25Mbps using fixed wireless or satellite based connections to the NBN. These increased bandwidths are expected to transform the internet experience for customers and open up a host of new opportunities for businesses.

The NBN will use multiple fixed network technologies. This means service providers will need to understand the differences in capabilities of the different service types and what those differences mean for the transition. Service providers will need to transition their customers smoothly to ensure there is minimal disruption of services, and to ensure that they are not billed for legacy services after they are disconnected.

Mike Lay, Group Product Manager Broadband and NBN in Telstra Wholesale, says service providers will need to tightly manage the process of moving their customers from legacy services onto NBN services. "From a retention perspective it is really important to make the transition seamless and efficient," Lay says. "That means keeping the users informed so they know what they are getting."

Graham Bate, General Manager Wireline and NBN products in Telstra Wholesale, adds that service providers will have to come to grips with new products and systems. "Service providers then need to execute an effective transition of customers' services to NBN, mindful of a broad range of technology and process considerations," he says. "This requires focus whether they choose to develop a direct relationship with NBN Co and acquire services from them, choose to acquire services from a wholesale aggregator such as ourselves, or adopt a hybrid approach."

"From a retention perspective it is really important to make the transition seamless and efficient. That means keeping the users informed so they know what they are getting."

Mike Lay
Group Product Manager
Broadband and NBN



[1. NBN Co Corporate Plan 2016](#)

NBN OVERVIEW

The current NBN Co Corporate Plan calls for a mix of access technologies – known as the Multi-Technology Mix (MTM) – to provide broadband to the majority of premises.

The percentage of the eight million premises due to be connected by 2020 that will be served by each technology, as set out in NBN Co's 2016 Corporate Plan, looks like this. More information is available in NBN Co's 2016 Corporate Plan.	>	Technology	Premises Passed (mlns)	% of Total
		Fibre to the Premises (FTTP)	2.4	20%
		Fibre to the Node/building (FTTN/B)	4.5	38%
		Hybrid Fibre Coaxial (HFC)	4.0	34%
		Fixed Wireless	0.6	5%
		Satellite (LTSS)	0.4	3%

Differences between technologies

Customers have the option to buy NBN services at a number of different advertised upstream/downstream bandwidths:

Layer 2 Wholesale Ethernet Bitstream	FTTP	FTTB/FTTN	HFC	Fixed Wireless	Satellite
Residential Broadband Headline Speeds*	12/1 25/5 25/10 50/20 100/40	12/1 25/5 25/5-10 25-50/5-20 25-100/5-40	12/1 25/5 25/10 50/20 100/40	12/1 25/5 50/20	12/1 25/5

However, a customer’s experience of services nominally providing the same bandwidths will differ depending on the technology.

All customers of the FTTP service should receive services at the advertised rate from a Fibre Access Node (FAN). However, this bandwidth will be reduced if there is any congestion on the connectivity virtual circuit (CVC) that the service provider has provisioned from the FAN to the NBN point of interconnect, together with the backhaul capacity that they have provisioned.

With NBN services supplied over FTTN and FTTB, maximum available bandwidth will depend on the length of copper from the DSL access multiplexer (DSLAM) to the user, with shorter lines generally supporting higher maximum bandwidths. However performance also depends on the quality of that copper, and the level of interference between adjacent pairs in multi-pair cables. These factors are beyond the control of the service provider.

With an NBN service supplied over HFC, fibre connects to an optical node from which a run of co-axial cable serves multiple premises, each served by a co-axial cable tapped off from this shared co-axial run. Because multiple premises share the same run of co-axial, the bandwidth experienced by each premise will depend on the length of the coaxial portion of the HFC network, the number of premises served by their coaxial component, and the traffic volumes of other users. All these factors are beyond the control of the service provider.

Doug McClure, Group Manager NBN Operations, in Telstra Wholesale, says the transition from a legacy service to an NBN service supplied over HFC can be complicated because, unlike FTTN and FTTB services, the voice service (and not broadband service) on Telstra copper can remain active during the migration window even after the NBN based service supplied over HFC is turned on (although after the mandatory disconnection date of a SAM, the Telstra broadband service over copper will be disconnected).

“One of the key issues with HFC is how service providers will ensure that their customers are not getting double billed,” McClure says. “A service provider moving or winning a customer must have the right processes in place to ensure the right notifications are going back through the right channels to ensure that the losing service provider ceases to bill the customer.”

Doug McClure
Group Manager
NBN Operations

He adds: “It will be important for service providers to carefully manage the user experience of their NBN services: customers by and large will not be aware of the limitations of their NBN services, or in some cases of the differing technologies by which they are provided.”



NBN migration: timetables

The rollout of the MTM is progressing in terms of Service Area Modules (SAMs) (also called rollout regions), rather than by suburbs. Each SAM typically contains up to 4,000 premises, and there may be a number of separate SAMs within a single suburb due to network architecture, geography or new premises growth.

For each SAM, NBN Co will specify an expected “ready for NBN service” date, which is the date it expects the NBN infrastructure to have passed at least 90 per cent of premises (including residential, commercial and government) in the SAM and has satisfied any other technical readiness requirements in the SAM.

It is also the date from which the migration window opens and a premises can be connected to the NBN. As a general rule, 18 months after the ready for NBN service date, any legacy services in SAM still provided over the Telstra copper network and HFC network (other than pay TV services) must begin to be disconnected by Telstra following the mandatory disconnections process if the customer has not placed an order for an NBN service, noting that there are some cases where a service can continue beyond the migration window, such as in-train orders.

During the 18 month migration window, NBN Co will run public awareness activities to the affected premises. This communication will be supported by other stakeholders in the industry, such as Telstra, other service providers and community groups, with NBN Co providing the key messaging. Service providers will then need to identify the customers that can be serviced by the NBN based on the rollout, coverage and NBN serviceability information.

MARKET DRIVERS FOR NBN SERVICES

“Australia is moving into an era of hyper connectivity – driven in large part by the NBN. The NBN will change the way we live, learn, socialise and work. As ‘NBN natives’ (our kids who are born straight into life with the NBN) come of age, we will truly see the power this connectivity can create.”²

Chris McLaren
Partner & National Sector Lead for Technology, Media & Telecommunications, KPMG



Digital disruption

The message coming loud and clear from all major IT analyst firms is that every business in every industry will be greatly impacted – for good or bad – by digital disruption: the transformative effects of digital technologies. These technologies will enable new start-ups to come from nowhere and become global powerhouses either with completely new business models (eg Facebook) or by disrupting old established industries (eg Uber and Airbnb).

Reliable and high speed internet connectivity is essential to every one of these disruptors, and to every digitally transforming initiative from established players. Individually they may not be huge consumers of bandwidth, but cumulatively they will drive demand beyond the limits of current access technologies.

Consumers want more bandwidth

85 per cent of respondents to a survey of consumers undertaken by Telsyte in 2012 expressed a desire to connect to the internet at 50Mbps.

The report, Benefits of High-Speed Broadband for Australian Households by Deloitte Access Economics, looked out to 2020 when Australia’s economy is expected to be a fully digital economy, powered by the NBN. It estimated average annual household benefits of around \$3,800 in 2020, in 2013 dollars. It concluded, “The range of broadband impacts is extensive. This analysis only considers existing applications of broadband, and finds substantial benefits to many different households. Further developments in technology and applications are certain, and are likely to mean that realised benefits in 2020 will be greater still.”³

Video on demand (VoD) traffic

The launch of three new VoD services in Australia in the first quarter of 2015 – Netflix, Stan and Presto – had a dramatic impact on internet traffic.

On 2 April 2015 the Sydney Morning Herald reported that peering traffic between ISPs had doubled since their arrival, and for one ISP it had even tripled.⁴ Within days of its Australian launch Netflix was saying that average speeds being provided by Australian ISPs were impacting the viewing experience. “Performance for Australian ISPs was impacted by consumer demand exceeding the forecasts Netflix provided.”⁵

In October the CTO of one ISP was reported saying that a single VoD service accounted for 30 percent of broadband traffic.⁶

Adding to the traffic load is the increasing trend for individual households to watch their own choice of content on their own device. While the number of broadband users in Australia has remained flat over the past three years, the penetration of tablets has increased nearly threefold and the take-up of internet capable TVs has doubled. The average 18-24 year old now spends 31 hours per month watching online video or pre-recorded TV content.

High definition VoD

HD video content requires a bandwidth of approximately 5Mbps. Ultra HD (AKA 4k) content, which is starting to become available from video streaming providers, needs approximately 25Mbps bandwidth.⁷

With NBN services, individual consumers have the choice of being able to watch their own HD or ultra HD streaming video without degradation of image quality, depending on the speed of their NBN connection.⁸

Smaller businesses are likely to rely on NBN-based services for their connectivity to cloud services, and service providers are in a good position to become suppliers of such cloud and NBN-based services. Ovum, a market-leading research and consulting business focused on converging IT, telecoms and media markets, identifies two key points of differentiation for service providers competing to provide cloud services:

- Control of network assets, which gives them “the ability to secure and guarantee cloud service experience, whatever the location”, and
- Pre-existing relationships with small and medium-sized enterprises (SMEs).¹⁰

Ovum concludes that, “these advantages make telecommunications providers an attractive partner and channel for IT companies looking to deploy cloud services to the SME market, provided that telecommunications providers can build an SME cloud portfolio that turns those product relationships into more sophisticated solutions relationships.”¹¹

Distance learning for remote schools

Schools in remote areas may already have access to broadband, but if a single service is used by many students at the same time, speeds are often slow. NBN bandwidths should help to greatly increase the accessibility of remote learning and raise the standard of education for rural children.

Cloud computing

The use of cloud computing services by Australian businesses is growing rapidly. As usage increases, so too will demand for bandwidth. According to global research and consulting organisation, Frost & Sullivan, which specialises in tracking emerging technologies, the Australian “infrastructure as a service” market grew 42 per cent in 2014, and is expected to continue this strong growth over the next five years.⁹

Teleworking

A study undertaken by Deloitte Access Economics estimated that NBN-enabled “telework” (working remotely) could create 25,000 additional jobs in full time equivalent terms by 2020-21, around 10,000 of these in regional Australia.¹²

Healthcare

Delegates to the 2013 National Rural Health Conference said that high broadband speeds were crucial for facilitating new and emerging best practice models of healthcare.¹³ Higher guaranteed bandwidth creates opportunities for telehealth applications not available when the bandwidth is low or variable.¹⁴

These opportunities include:

- the ability to rapidly transfer and interact with large data sets in real time, as generated by some 3D imaging modalities such as CT or MRI
- high-definition interaction with camera or computer-generated images
- simultaneous transmission of several video and/or data channels able to support team interaction in complex critical care applications
- broadcast-quality (or better) video conferencing to create a high sense of presence and trust, without latency-induced time delay
- real time guidance or even robotic control of some procedures
- high-quality, interactive teaching, accessible by medical trainees or practitioners seeking continuing medical education, wherever they happen to be located.¹⁵

“Tree changers”

Better broadband could revitalise many rural towns in Australia. In the UK, high-speed broadband is leading to a boom in business start-ups in rural areas. A UK government report said that, over the next decade, productivity in rural areas could grow faster than in urban areas for the first time since the industrial revolution.¹⁶

2. Chris McLaren, Partner & National Sector Lead for Technology, Media & Telecommunications, KPMG

3. Benefits of High-Speed Broadband for Australian Households – Deloitte Access Economics

4. <http://www.smh.com.au/digital-life/digital-life-news/these-graphs-show-the-impact-netflix-is-having-on-the-australian-internet-20150401-1mdc1i.html>

5. <https://media.netflix.com/en/company-blog/netflix-is-speed-index-for-april>

6. iiNet Chief technical officer Mark Dioguardi said Netflix accounted for 30% of their traffic by itself.

7. According to 4k.com “Broadband speeds of closer to 20Mbps are the more highly recommended minimum [for 4K] ... These cannot be peak speeds but instead must be the lower end minimum that any home which wants access to online 4K video must consistently maintain.”

8. A 100Mbps NBN service would be able to support four simultaneous 4K video streams each requiring 25Mbps, or 20 HD video streams at 5Mbps each.

9. Frost & Sullivan press release

10. Ovum report: SME cloud-based services: overseas successes & Australian opportunities, Dec 2014, p4

11. Ovum report: SME cloud-based services: overseas successes & Australian opportunities, Dec 2014, p4

12. Creating jobs through NBN enabled telework, Nov 2012, page i

13. As reported by Crikey, “The NBN is vital for economic, social and healthcare development, says health leader” 26 April 2013

14. Telehealth and the NBN – Australasian Telehealth Society, February 2011, p8

15. Telehealth and the NBN – Australasian Telehealth Society, February 2011, p8

16. As reported in the Guardian, 27 December 2014, Author Andrew Johnson

CHALLENGES OF TRANSITIONING TO THE NBN

Service sourcing options

Service providers that choose to abandon existing relationships with their wholesale provider and become a direct reseller of NBN services, i.e. an NBN Co “Access Seeker”, will be faced with a completely new regime with different technical and interconnect requirements, as well as billing, provisioning systems, and service support. They will need to develop new retail products and pricing plans for their customers, integrate their processes and systems with NBN Co systems and processes, and manage a smooth transition from their existing wholesale service provider. This will require initial and ongoing resources. Initially, the Access Seeker will need to be actively involved in NBN Co interfacing systems forums; Telstra Wholesale already has teams set up that work with NBN Co on this. The learning curve may be substantial for smaller service providers and the overheads associated with review, analysis, impact assessment and response will require ongoing commitment and knowledge. In the longer term, resources will be needed to manage ongoing relations with NBN Co.

Those service providers that choose to stay with their current wholesale provider will still need to embrace new products and pricing plans and implement new commercial and technical arrangements to enable the delivery, support and billing for new NBN-based retail products. However, a service provider’s wholesale provider is in a position to help smooth migration from its existing legacy services to new NBN-based services and to minimise disruption for its customers.

Graham Bate says that smaller service providers in particular might do well to deliver NBN-based services via an NBN sub-wholesaler like Telstra Wholesale than by dealing with NBN Co direct. A sub-wholesaler of NBN-based services could remove some of the complexity in dealing with NBN Co directly.

Large wholesale providers like Telstra Wholesale have the scale and resources necessary to manage their own transition to becoming an NBN customer, and are able to devote considerable resources to developing products and procedures that maximise the potential of the NBN for their wholesale customers.

Graham Bate says that, using an NBN sub-wholesale provider like Telstra allows service providers to focus their resources on their key differentiators: their own retail offerings.

“Most successful service providers in the market today are putting a significant amount of effort into building their product set so they have the right products to offer to their customers, and there are differences between the products you can sell on FTTP versus FTTN versus fixed wireless, speeds, and in and the definitions of those speeds.”

Graham Bate
General Manager
Wireline and NBN Products

Whilst the cutover workload for individual service providers will depend on the location and number of their existing customers, overall the task is massive: of the more than eight million premises due to be connected to an NBN service by 2020, only half a million have been connected as of July 2015.¹⁷

Uncertainties in NBN availability

On the delivery side, service providers will need to manage customer expectations as to exactly when they will be able to get NBN services.

Mike Lay explains that there is potential for customer confusion. This is because describing premises as being ‘passed’, ‘serviceable’ and even ‘connected’ by the NBN can mean different things in terms of how soon the occupants of those premises can expect to get NBN-based services.

“There are several service classes that will determine how long it would take for a customer to get connected,” Lay says. “Service providers will need to manage that and set expectations correctly so that customers are comfortable and feel that they are in good hands throughout that transition process.”

Once a NBN-based service has been connected, there is also the complexity of ensuring the end user’s legacy services are disconnected in line with their needs.

For end users that have not opted for a NBN-based service by the end of a SAM’s 18 month migration window, soft dial tone will be placed on the remaining legacy voice services (allowing only emergency calls and calls to customer service arms of a service provider to be made, but calls cannot be received) to encourage those customers to migrate to the NBN.

In addition to providing greater bandwidth, NBN-based services are likely to be packaged and priced differently to the services they replace. Graham Bate says that service providers can help both themselves and their customers by migrating a customer’s service plan on legacy copper to one that is easily transitioned to the NBN.

“Giving yourself the right degree of flexibility while helping to make the transition a positive experience for your customers is a really important thing for the service provider to get right,” Bate says. “Easing that transition for the end user customer by getting them on the right plan on copper so they can be supported on the NBN with the bare minimum of change will be a challenge for retail service providers.”

During the migration window, legacy services will be disconnected as they transition to NBN. 18 months after NBN-based services become available in a SAM, legacy services will generally begin to be mandatorily disconnected by Telstra with the exception of Temporary Special Services for a period of time. NBN Co and service providers are responsible for notifying customers of this timetable, but it will be up to service providers alone to inform customers of the implications for the legacy services they provide and to manage the transition from the legacy services across to the NBN. Service providers will need to develop robust policies, procedures and systems that can handle these NBN transitions at scale.

Another challenge will be for service providers to ensure that legacy services such as fire, burglar or medical alarms that use legacy telephone dialling and signalling to communicate to monitoring services over the PSTN, are upgraded to operate over the NBN.

NBN TRANSITION OPPORTUNITIES

NBN transition may result in even the most loyal customers reviewing alternatives to their existing services and service providers.

Graham Bate says that having to transition to the NBN will likely prompt customers to consider alternative services and service providers, especially if they are not totally happy with their current service provider. “There will be some dissatisfied customers as the NBN rolls through, and when they hear it is coming, it might prompt them to go shopping.” Service providers stand to lose some customers, but gain others if they can get their offerings, marketing and customer service right – especially if they can gain a reputation for transitioning customers smoothly.

For most customers, other than those already on fast HFC broadband services, transition to any NBN-based service will typically deliver increased bandwidth. But there is an opportunity to upsell customers to even higher bandwidths – that is if they can be sold on the benefits they will gain from the additional bandwidth.

Mike Lay stresses that the message service providers should be sending to their customers is not just one of mandatory transition, but of new and better services. “Service providers need to sell the opportunity of the NBN: that it is not just about a forced disconnection, but more about the benefit the NBN can provide,” he says. “Then they need to get people to actively take up an NBN service as soon as it is available rather than wait for disconnection.”

It is in both the service providers’ and the customers’ best interests to migrate to the NBN as early as possible in the 18 month migration window. This means customers will enjoy the benefits of NBN-based services earlier, and have greater assurance of service continuity to avoid what is almost certain to be a last minute rush towards the end of the migration window.



¹⁷ NBN Co Weekly Progress Report 16 July 2015

TELSTRA WHOLESALE AS AN NBN SUB-WHOLESALE PROVIDER

Telstra Wholesale is developing a comprehensive set of wholesale NBN-based products for service providers, and the systems that will enable service providers to provision, bill and manage these wholesale NBN-based services with the least possible disruption.



“Today we have solutions for FTTP and Fixed Wireless and we launched our FTTN and FTTB products in December 2015,” says Graham Bate. “We are aiming to have an HFC product available later in 2016.”

Mike Lay says Telstra Wholesale’s aim is to make the provision of wholesale NBN-based services as simple as possible for service providers.

“We believe there is considerable value in us removing as much complexity as we can from our wholesale customers and providing them with a consistent experience across the different technology types. And from a product design perspective that is certainly the approach we are taking.”

“The target we are setting ourselves is to reach the sort of automation levels that we see on our traditional DSL network where the automation flow through rates are industry leading. However, we will not have the same 90 plus percent automation on day one.”

Doug McClure adds that Telstra Wholesale makes sure product development is in step with developments at NBN Co and elsewhere.

“My team looks at the new technologies coming through from NBN Co – at their operations manuals, the Comms Alliance guidelines and migration plans. We look at them from an operations and systems perspective to see what new or amended procedures we need to put in place for our customers.”

Doug McClure
Group Manager
NBN Operations

Transition to NBN

Telstra Wholesale has been planning for the NBN’s MTM since its introduction in 2013, to make the transition as seamless as possible for its customers. This has included updating all wholesale NBN-based products, introducing new ones and upgrading customer systems for ordering, provisioning, management and billing.

Assurance

Telstra Wholesale is updating its network and assurance systems and developing remote CPE monitoring to give wholesale customers full visibility of the wholesale NBN-based services.

Application and service assurance will both become more complex in the NBN world. Telstra is doing work to minimise the impact of these complications and make these processes as smooth as possible.

Products

Product and front-end systems and product catalogues are being updated to cater for all of NBN Co’s MTM access technologies, products and speed tiers.

Service Qualification

Telstra’s service qualification system is being improved to give wholesale customers a more accurate view of the technologies and products available for a premises. Telstra Wholesale is also developing pre-qualification of possible NBN speed tiers to enable speedy and accurate responses to service qualification enquiries.

Order to Activate

New order templates are being introduced for each of NBN Co’s MTM access technologies, and the appointment management system is being improved to make it easier for Telstra’s wholesale customers to order new NBN-based wholesale services. The process of migrating from legacy wholesale services will be defined for each NBN access technology.

Telstra Wholesale Layer 3 Broadband Service

To ensure a platform that will best meet the future needs of wholesale customers and their end users in the NBN environment, Telstra Wholesale is moving to an applications service provider (or Layer 3) product architecture).

Telstra Wholesale expects the ability to deliver applications and services ‘over-the-top’, and providing differentiated experiences will be critical in a NBN world. Its Layer 3 product is implemented to support this vision.

Broadband Aggregation

Telstra Wholesale is offering an Ethernet-based national aggregation capability for legacy DSL and NBN-based broadband services. It enables customers to aggregate their legacy DSL and NBN-based customer traffic over a single physical access at a single location in the state of their choice, making the transition to NBN easier.

The aggregation service has the ability to carry inter-capital VLANs and will offer a consistent solution for broadband via legacy DSL and NBN-based services.

Service providers are able to choose the capacity (aggregation access service rate) they need to meet customer demand and pay a single monthly charge that covers both legacy DSL and NBN-based traffic.

Temporary Special Services

Temporary Special Services (TSS) are legacy business services or other legacy specialist services delivered over Telstra copper networks that are not presently supported by the NBN.¹⁸ These services are temporarily exempt from disconnection until a certain time after NBN Co develops the capability to support these services on the NBN.

The first TSS for which NBN replacements are expected to be available should be Wholesale Business DSL and Ethernet Lite. NBN Co will provide equivalent functionality using the NBN Ethernet Bitstream Service (NEBS). In September 2015 NBN Co published the first draft white paper for Wholesale Business DSL and Ethernet Lite. This and future white papers will set out how the NBN will provide suitable product and operational functionality to enable service providers to develop products on the NBN that are equivalent to each TSS and onto which the service providers can migrate their customers. The first draft white paper covers the product and operational functionality that NBN Co proposes to implement on the NBN to support products equivalent to Wholesale Business DSL and Ethernet-Line over FTTP, FTTN and FTTB access technologies on the NBN (but not HFC).

Graham Bate says that Telstra Wholesale intends to provide NBN-based products better suited to the current and future market requirements by supporting fewer products endowed with more capabilities, rather than simply providing 1:1 replacements for each TSS.

¹⁸ Migration Plan

CONTRIBUTORS



GRAHAM BATE
General Manager
Wireline and NBN Products

With over 20 years of industry experience, Graham leads the Wireline & NBN product portfolios within Telstra Wholesale. These products include the voice, broadband, interconnect and facilities products used by most of our wholesale customers. In his current and previous roles, Graham has led key elements of Telstra's Data Advantage product launch, South Brisbane Exchange migration, and wholesale NBN Voice and Broadband developments.



MIKE LAY
Group Product Manager
Broadband and NBN

Mike leads Telstra Wholesale's Broadband and NBN product portfolio, leveraging extensive experience in product management and solution management, spanning network backhaul, business data & IP, and residential broadband markets. With Mike's leadership we continue to drive enhancements to our ADSL product while harnessing the opportunities presented by the NBN.



DOUG MCCLURE
Group Manager
NBN Operations

Doug leads NBN Operations in Business Improvement within Telstra Wholesale. In his previous role he was Area General Manager for Telstra Country Wide for three and a half years. He has worked most of his career in customer service and retail organisations and the FMCG industry.

CONCLUSION

This discussion paper has identified some of the opportunities open to service providers as the NBN replaces legacy services and networks, and in particular, it has sought to convey the issues service providers will encounter retailing NBN-based services, interfacing to systems of a wholesale provider and NBN Co simultaneously while educating and marketing to its customers and managing their migration to NBN-based services.

All these challenges will be considerable and will require focus, dedication and discipline on the part of service providers and their wholesale providers.

But in addition to all this, if service providers are to succeed they must make sure they keep focus on the end goal of the NBN: to provide better and faster broadband services to all Australian homes and businesses.

As Graham Bate says, Telstra Wholesale is well placed to make the transition to the NBN smooth and problem free – for service providers and for their customers.

“One of the benefits of dealing with Telstra Wholesale is that many of the players already have their services with us on the copper network. When they come to transition those services to the NBN they can do it all within our environment rather than transitioning services via NBN Co or another service provider.”

He adds that simply providing a good transition to the NBN is not the end game, but only the start. “The NBN is a challenge but presents opportunities: opportunities that need thinking about deeply, and service providers may need help from somebody like Telstra that has been building nationwide networks for years and building robust and reliable IT solutions that will continue to work when they have connected their one millionth customer.”

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