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**PUBLIC VERSION**

Dear Mr Wright

**Re: ACCC's fixed line services final access determination inquiry: request for further information**

I refer to your letter to Iain Little dated 13 July 2015, seeking further information on Telstra's supply of Wholesale ADSL (WDSL) services. As set out in that letter,

*The purpose of this letter is to obtain information to better inform the ACCC on how access seekers interact with Telstra when acquiring the declared Wholesale ADSL service. This information is necessary for the ACCC to complete its inquiry on the declared fixed line services FADs.*

...

*The ACCC is also seeking to enhance its understanding of the impact on demand for AGVC/VLAN capacity of recent developments in the market for broadband services.*

With respect to the first set of queries, Telstra is pleased to have the opportunity to provide the ACCC with further details of how Telstra Wholesale engages with service providers in supplying WDSL services. Detailed responses to these questions are set out in Attachment A.

With respect to the second set of queries – requesting information on updated demand for ADSL services in light of recent developments in the broader market for broadband services – Telstra is concerned that the ACCC's request may result in irrelevant and inconsistent information being taken into account in the setting of access prices. Specifically, FY2015 demand for retail and wholesale ADSL will be necessarily inconsistent with the other cost and demand information that serve as inputs to the FLSM (and which are based on FY2014 as a base year). Telstra does not believe it is reasonable nor appropriate for the ACCC to seek this information in the context of the current inquiry.

Telstra's concerns are as follows:

- By only seeking updated demand figures of ADSL, the ACCC is only partially informing itself with respect to information relevant to the setting of access prices. In order to make use of more up-to-date demand information for ADSL in the context of the Fixed Line Services Inquiry, it is necessary to update all relevant inputs to the FLSM, in effect 're-basing' the FLSM to FY2015.

- Whilst ADSL demand for FY2015 does differ from what Telstra has forecast based on information up to FY2014, it is not clear what has driven this difference or how this result may impact the longer-term forecast of ADSL (and other fixed line services) over the period to FY2019.
- Based on a preliminary assessment of the potential changes to FLSM inputs if the ACCC were to undertake a re-basing of the model, the overall impact on the revenue requirement with respect to ADSL services, the allocation of costs among network users and price outcomes for WDSL (and other regulated fixed line services) is not clear.
- If the ACCC were minded to systematically re-base the relevant inputs (demand, cost and allocation data) for the FLSM to FY2015 and re-establish the forecasts from FY2016 to FY2019, it would be a substantial exercise and would likely take several months to complete.

These concerns are expanded upon below.

### ***The ACCC is seeking only partial and incomplete information from Telstra***

The ACCC's request is seeking partial information on one aspect of a service without reference to other time-consistent data. If the ACCC were to use or refer to FY2015 demand for WDSL or retail ADSL in considering the setting of price terms for the current inquiry this would result in an inconsistent analysis, based on information from different time points and would not represent a reasonable basis for determining Telstra's costs of supplying the fixed line services or the relative usage of the fixed line network among different network services and users.

Whilst the ACCC has only requested updated actual and demand forecast information with respect to ADSL, these data represent only a small number of the relevant inputs to the FLSM. A consistent re-basing of the FLSM to account for FY2015 actuals would require information on:

- Changes in the pace of the NBN rollout and migration (historical and forecast) compared to the assumptions set out in the 2013 NBN Strategic Review (used as the basis for the NBN rollout assumptions with the Telstra Forecast Model).
- Changes in demand for other fixed line services, and other services that make use of the fixed line network (as these will impact the allocation of costs among network services and users).
- Changes in the level of operating expenditure and capital expenditure with respect to the FLSM Asset Classes for FY2015 compared to prior forecasts.
- Changes in the underlying cost driver relationships that may impact the forecast level of capital and operating expenditure over the period FY2016 to FY2019.

If the ACCC were to take into account FY2015 demand figures for retail and wholesale ADSL services in the absence of contemporary information on demand for other regulated and non-regulated fixed line services, the analysis would be inconsistent with the requirements of a building-block approach and the Fixed Principles. Further, the results generated from the FLSM would not reflect a reasonable estimate of prices that would provide Telstra with a reasonable opportunity to recover the costs of supplying the relevant fixed line services.

### ***The drivers of difference in demand for ADSL in FY2015 compared to FLSM forecasts are not clear***

The ACCC has requested information on the extent to which changes in demand for ADSL services are a result of recent changes to the broadband market more generally. In particular,

has the introduction of video on demand services into Australia (including Netflix) impacted the demand for retail and wholesale ADSL services?

Telstra has not been able to undertake a comprehensive review of the drivers of any observed differences between the FY2015 actual demand for retail and wholesale ADSL services and the FY2015 forecasts within the FLSM.

It is possible that recent changes in the market for video on demand services has resulted in increases to demand for ADSL services (including AGVC/VLAN capacity – in the context of WDSL services) in comparison to what was forecast by Telstra in FY2014.

However, there are a number of other potential drivers for observed deviations in demand. These include the rate of NBN rollout and migration – which is slower than was forecast, and the relative growth and decline in other services – particularly ULLS, LSS and other substitute services.

To the extent changes in ADSL demand is offset by changes in the demand for other fixed line services, the net impact on network demand may be negligible. To the extent that demand has changed due to the NBN rollout, it is not clear that the change will be material to FY2016-FY2019 demand if the NBN rollout accelerates within the next 12 to 24 months (or within the next regulatory period). If the rollout and migration accelerate ahead of current forecasts within the FLSM, then the impact of the delay will be temporary and will lead to a faster than forecast decline in later years.

Further, in the context of video on demand services, Telstra considers that the bulk of any impact arising from the heavy promotion of these services by iiNet and Optus would likely be experienced within these carriers' own networks. This reflects the fact that the majority of broadband service provision by access seekers occurs through either the ULLS and LSS services, rather than WDSL.

In any event, even if the drivers of the observed deviation in ADSL demand were well understood, it is not sufficient in order to update the FLSM. As set out above, further information is required on operating and capital expenditure – as well as demand for other fixed line services and non-fixed line services that make use of the FLSM – in order to update the model in a holistic and reasonable manner.

***'Re-basing' FLSM-relevant data to FY2015 and re-establishing the relevant forecasts would be a complex exercise***

As set out above, if the ACCC were minded to re-base any of the relevant data – including demand, operating expenditure or capital expenditure – it would be necessary to update all the relevant data, as well as the cost allocation model to account for changes in network usage.

This would be a complex task and would take considerable time to complete. Telstra is willing to work with the ACCC in establishing the timeframe that would be required to undertake this task.

As the ACCC is well aware, updating the inputs for the FLSM for FY2014 has taken more than 18 months. It is not realistic to consider that the model could be re-based on a consistent basis to FY2015 in a matter of weeks.

### **Rebasing port and AGVC/VLAN charges for WDSL**

Setting aside the issue of updating WDSL demand information, a further issue raised by inquiry participants, and the ACCC, is whether the current structure of prices for WDSL is reasonable.

Although Telstra considers price stability (including the maintenance of current wholesale service price relativities) to be important for the promotion of the long term interests of end users in the context of the industry's transition to the NBN, it may be that the unique, two-part tariff structure of WDSL service prices raises particular challenges that need to be considered.

When the current FAD prices for WDSL were established in 2013, just over **[c-i-c]** of the revenue requirement for WDSL was recovered from AGVC/VLAN charges, with the remainder recovered from port charges.

Under the proposal to smooth any change in FAD prices through an equi-proportional change to all regulated fixed line services, the next FAD will maintain the current price relativities between WDSL port and AGVC/VLAN charges. However, due to the forecast change in demand for WDSL SIOs and AGVC/VLAN bandwidth (with SIOs declining relative to bandwidth), the proportion of the revenue requirement recovered from either port charges or bandwidth charges will change significantly over the period to FY2019.

Given this change in the relative demand for the service, WDSL access seekers will face a very different cost structure for the recovery of the revenue requirement over the next FAD, if current price relativities for port and AGVC/VLAN charges are maintained. In this specific context it may be appropriate to rebalance the recovery of the WDSL revenue requirement (which should continue to be 'smoothed' in aggregate – so as to avoid changes in the overall relativities to other services) between port and AGVC/VLAN charges.

#### **[c-i-c]**

Telstra would be very happy to discuss any of the matters raised in this letter and its attachment with you and your team. Should you have any further questions, please do not hesitate to contact Kim Longin on (03) 8649 2030 or via email at [kim.longin@team.telstra.com](mailto:kim.longin@team.telstra.com).

Yours sincerely,



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## Attachment A – Responses to Question 1 and Question 2

### Question 1

- a) **Describe the services and/or network components that are necessary to acquire the Wholesale ADSL service from Telstra that are additional to components and services within the declared service description**

Acquirers of the declared WADSL service must purchase sufficient access capacity from Telstra to enable them to supply a retail service to their end customers. This access capacity carries the Access Seeker's VLAN / AGVC traffic from Telstra's IGR (POI) to the customer POP where it hits the Access Seeker's network.

Telstra makes available a range of options for access seekers to acquire this service allowing Access Seekers to choose the most appropriate service to match their forecast demand, usage allocation per end user and network redundancy requirements. These options include Business Grade Ethernet (BGE), Broadband Aggregation and Wholesale Wavelength Service (WWS) as well as ATM services. This is outlined in Diagram 1 below (question 1(b)).

The BGE, WWS and ATM options support aggregating WDSL traffic to a state level. That is, in each state an access seeker wishes to sell WDSL services, they will need access bandwidth to deliver their end users traffic from the Telstra IGR to their POP.

Broadband Aggregation allows the access seeker to aggregate all their WDSL traffic to a single POP, and is also able to carry an access seeker's NBN traffic where the NBN services are purchased through Telstra Wholesale.

Typically, the minimum access bandwidth an access seeker would acquire is 20Mbps which matches the maximum rate of an ADSL2+ service. The access seeker's expected SIO volume and their intended per-user peak throughput will dictate their need to purchase incremental access bandwidth. In Telstra Wholesale's experience, an access seeker will usually aim to have sufficient VLAN / AGVC and access capacity at any point in time to cope with increased traffic generated by SIO growth for the next 2-3 months. Access seeker decisions on access bandwidth increases are usually made in lock-step with VLAN / AGVC increase decisions and are monitored and updated by access seekers regularly.

- b) **Explain where in the network the necessary components and services are situated –both those that fall within the services description and those that do not.**

Diagram 1, below, shows the necessary components for supplying WADSL. Note this diagram only shows components that facilitate connection between an end user and an access seekers network – additional services such as IP transit (which can be purchased from a range of suppliers) are not shown, although are necessary for supplying end customers with internet access.

The service description covers all the components from left to right between the End user and the IGR. The port component effectively covers the link between the end user and the BRAS, whilst the AGVC/VLAN component covers the aggregated end user traffic from the BRAS to the IGR. The blue dotted line to the right of the IGR is the connection supplied by Telstra which delivers the AGVC/VLAN to the access seeker's L2TP network server.

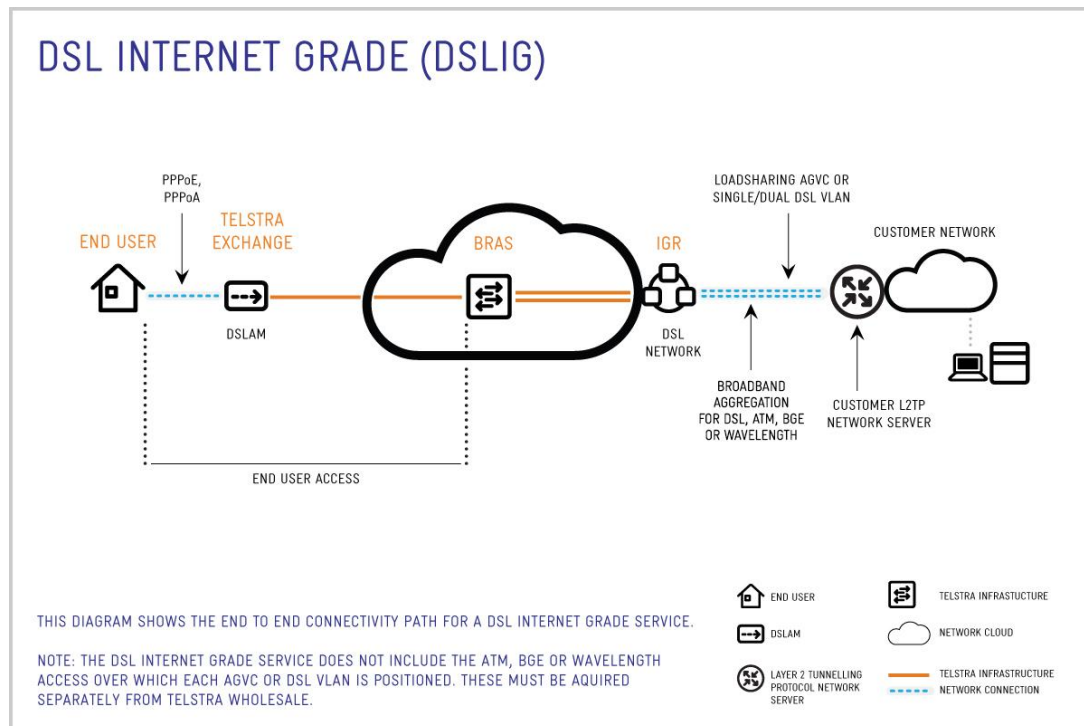


Diagram 1: DSL Internet Grade Service Components<sup>1</sup>

**c) Describe how these services are required to ensure the supply of the Wholesale ADSL service to end-users. Are they required for all Wholesale ADSL access seekers. For example, would different technology or network infrastructure be required to supply a SIO that has its service provided over a fully loaded port when compared to one that is supplied with AGVC/VLAN capacity purchased separately**

These access services are required to connect the Telstra ADSL network and the Access Seeker's network. In recognition of the fact that different customers have different requirements Telstra Wholesale makes available a range of technical solutions for achieving this connectivity.

Access Seekers can choose from the different access technology options outlined in question 1 a) above, i.e. Business Grade Ethernet (BGE), Broadband Aggregation and Wholesale Wavelength Service (WWS) as well as ATM services. Access Seekers choice of access technology is driven by various factors including what kind of equipment they are running and the way in which they have designed their network. For example, an access seeker who operates an Ethernet based network, and has total traffic requirements in a state of less than 1Gbps would typically use a BGE access service.

Further, each of the access technology options offer different configurations which include degrees of geographic redundancy and load balancing. These various options are best described in the WDSL customer interface specification (which is attached).

Access services are required regardless of whether an access seeker is acquiring the declared WDSL product or a 'fully loaded port' product. The fully loaded port product, usually bundles the access price into the port price.

<sup>1</sup> Source: <http://www.telstrawholesale.com.au/products/broadband/adsl/index.htm>

**d) Explain how end-user experience of the Wholesale ADSL service is likely to differ between options or between the range of services and network components acquired by the wholesale customers? Can access seekers significantly influence the performance of the Wholesale ADSL service depending on the package of components and services brought**

All internet grade best efforts traffic on the ADSL network is treated equivalently from the end user access through to the BRAS – whether the end user is retail, wholesale ADSL or a wholesale ‘fully loaded port’. As such the choice between acquiring a ‘fully loaded port’ or the Wholesale ADSL product will not, in and of itself, determine the end user experience.

However, an access seeker can influence the end user experience from the IGR back towards their network. This is influenced through the access seeker’s decisions made around the amount of VLAN acquired, redundancy required, and the way in which the access seeker throttles traffic on an end user by end user basis.

**e) Explain how Telstra prices and charge for network components acquired to resell the Telstra ADSL service but which do not fall within the service description**

The pricing for the access service used for WDSL traffic is highly variable. There are a number of factors which influence the price including:

- Access service used (BGE, ATM, WWS, Broadband Aggregation)
- Access seeker PoP location relative to the Telstra IGR
- Bandwidth acquired
- Service term (typically a longer term results in a discount)
- Access seeker protection / redundancy requirements.
- Commercial negotiation

These costs make up a very small proportion of the total costs borne by access seekers in delivering an ADSL service.

The table below compares the list price of BGE and WWS access services with pricing of the closest equivalent regulated service (which is DTCS). Generally, the entry level access bandwidth of an access seeker would be 20Mbps (to match the maximum rate of ADSL 2+). The list price for a 20Mbps BGE access is lower than a 0km, unprotected, metro DTCS service of the same bandwidth. List prices represent the highest price a customer would pay. In practice, access seekers often receive lower prices through commercial negotiation. Some examples are provided below:

**[c-i-c]**

Generally speaking, as bandwidth requirements increase bandwidths, access seekers pay less per Mbps than they would if they were acquiring a comparable DTCS service. Telstra’s analysis shows that the typical cost to access seekers ranges from **[c-i-c]** per end user per month. Access Seekers make decisions around the amount of access bandwidth required in conjunction their VLAN / AGVC decisions as the total access bandwidth must be equal to, or greater than the amount of VLAN / AGVC purchased to ensure all access seeker traffic is delivered to the end user.

## Question 2

In the context of the following responses, Telstra wishes to correct the ACCC's understanding of the following statement. The ACCC have stated that "*Telstra provisions capacity for its retail customers with 'head room' above the peak usage required to meet demands on the network.*" Telstra wishes to clarify that from a network perspective, Telstra provisions capacity on the ADSL network (covering the network between the end user and the IGR [should be BRAS]), including 'head room', to meet demand on the network of all ADSL end users. Decisions made by Telstra and access seekers around AGVC / VLAN from the IGR [should be BRAS] back into their respective networks can impact on the end user experience.

- a) Please provide a detailed explanation of the options Telstra makes available to access seekers who purchase capacity separately of the ADSL port on its network for the Wholesale ADSL services. Please also explain the key differentiating characteristics (i.e. advantages for the access seeker) of each option offered to wholesale ADSL customers**

The WDSL interface specification attachment outlines the access options available to customers who purchase the WDSL service. The key differentiating features are listed in the WDSL customer interface specification attachment and include options such as;

- Interface (Ethernet vs ATM)
- Redundancy / Protection
- Bandwidth availability (e.g. an access seeker wishing to acquire WWS must be acquiring a minimum of 3Gbps of VLAN in the state)
- State or national based aggregation of traffic.

Whether they are advantageous or not depends on the Access Seeker's network and bandwidth requirements. Given the wide range of options available to customers who purchase capacity separately of the ADSL port on its network for the Wholesale services outlined in question 1, Telstra recommend a meeting with ACCC staff to separately discuss these options.

- b) Regarding each option, please explain if Telstra places any requirements on access seekers regarding the purchase of capacity for redundancy purposes. If so, is capacity that is purchased for redundancy accounted for when Telstra measures total capacity acquired by wholesale ADSL customers?**

Telstra requires that customers with VLAN requirements greater than 1Gbps purchase an access option which incorporates a degree of redundancy. This requirement ensures that traffic on the ADSL network is balanced. However, access seekers using BGE, ATM or Broadband Aggregation are not required to pay for access capacity that exceeds the total of their peak bandwidth requirements. In the case of WWS, access seekers must acquire the service in multiples of 2x10Gbps regardless of the underlying VLAN traffic volume. Access seekers that wish to increase their network resilience have the option of acquiring additional access capacity for protection purposes.

Where access seekers purchase access with redundancy the capacity of both links is measured when accounting for a customer's total capacity purchased. In order to explain in further detail, Telstra would be happy to arrange a separate meeting to discuss these more technical aspects with the ACCC in more detail.

- c) What amount of usage capacity per Wholesale ADSL SIO is acquired as part of a fully loaded port?**



Telstra does not usually place restrictions on the amount of VLAN usage per end user for customers acquiring a 'fully loaded port' product, but merely charges the access seeker for the total amount used. This charging is calculated on a VLAN usage per port basis which usually utilises 50kbps increments. The access seeker has control of this VLAN usage per port amount through settings they apply on their own network. Additionally, Telstra can rate limit the overall VLAN usage for an access seeker if requested to do so.

**d) What proportion of total Wholesale ADSL SIOs are supplied on a loaded port basis?**

As at June 30 2015, Telstra Wholesale supplied **[c-i-c]** of all Wholesale ADSL services on a 'fully loaded port' basis.

**Question 3**

**For each financial year from 2011-12 to 2013-14, please provide the ACCC with historical data on the aggregate amount of AGVC/VLAN capacity acquired for the Wholesale ADSL service for each financial year**

**[c-i-c]**