

High Speed Broadband: wholesale price comparison

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Executive summary

Wholesale pricing for high-speed broadband in Australia is compared with 10 countries

- Comparisons are undertaken for wholesale bitstream services as well as virtual unbundled services¹
- Comparisons are undertaken for both fibre-to-the-node (FTTN) and fibre-to-the-home (FTTH)²

At 25Mbps, Australia has the most expensive bitstream pricing

- Australia's bitstream pricing is between 13 per cent and 93 per cent higher than comparison countries, most of which offer higher entry level speeds

At 50Mbps, Australia has the second most expensive bitstream pricing

- While Austria has the most expensive bitstream pricing, its comparable offer is 80Mbps and it provides an unbundled service 60 per cent below Australia's bitstream price

At 100Mbps, Australia has the second most expensive bitstream pricing

- With the exception of Austria, Australia's 100Mbps pricing is between 32 per cent and 163 per cent higher than comparison countries
- However, Austria offers an unbundled service at less than half Australia's bitstream price

Many countries offer unbundled services at much lower prices than Australia's bitstream pricing

- This provides retailers with the flexibility to provide more of the high-speed broadband service themselves, often allowing a lower cost of supply³
- Australia's bitstream pricing is between 41 per cent and 280 per cent higher than unbundled pricing in comparison countries

1. Wholesale bitstream is the service provided by NBN Co in Australia and usually involves the provision of a high-speed broadband service from the customer's premises to a Point of Interconnection (POI). A virtual unbundled service usually involves the provision of a high-speed broadband service from the customer's premises to the local exchange and therefore excludes the transport between the local exchange and the POI. There is currently no unbundled service available in Australia.
2. In Australia, the majority of high-speed broadband services offered by NBN Co are FTTN (see ACCC NBN Wholesale Market Indicators Report, Sept quarter 2018).
3. For example, in the UK, Ofcom reports that the use of bitstream products by telecoms providers other than BT has fallen steadily over the last decade. The larger telecom providers have unbundled BT's exchanges in many areas of the UK and invested in their own equipment. These providers now use unbundled services in the vast majority of the UK to supply retail broadband services.

Methodology

- ▶ This analysis compares NBN Co's residential, best-efforts bitstream monthly pricing with monthly pricing for wholesale high-speed broadband services in a number of other OECD countries and Singapore
 - ▶ Details of the services used in this comparison are provided in Appendix 1
- ▶ No adjustments are made for differences in the service provided or cost of supply
 - ▶ These differences should be taken into consideration when comparing results
- ▶ Bitstream pricing and unbundled pricing is presented where available
 - ▶ In countries that offer both services, there may be limited take-up of the bitstream option, particularly if the unbundled service is more cost effective
- ▶ Where pricing is based on usage or capacity, Australian usage and capacity assumptions are adopted¹
- ▶ Prices are presented for the closest speed at or above three of the key speed tiers offered in Australia: 25Mbps, 50Mbps and 100Mbps
- ▶ For comparability with Australia, where pricing is dependent on a voice service being taken, the price of the voice service is included
- ▶ Prices are presented in AUD based on exchange rates at 1 February 2019 and exclude GST
 - ▶ Purchasing power parity adjusted prices are also presented in Appendix 2

1. Average Australian usage of 1.7Mbps (see ACCC NBN Market Indicators Report, Sept 2018 quarter) has been adopted or a CIR of 2.5Mbps, equivalent to NBN Co's bundled offer, has been used.

25 Mbps



VULL = Virtual Unbundled Local Loop

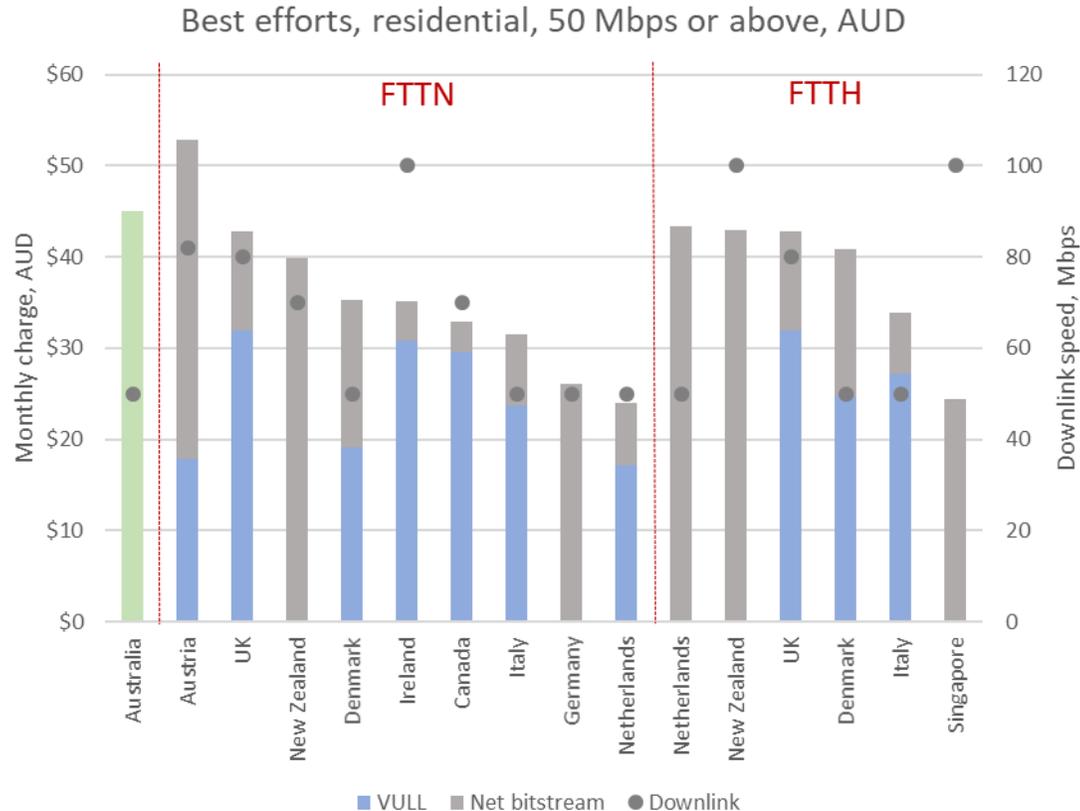
At 25Mbps, Australia has the most expensive wholesale broadband pricing:

- ▶ 31% higher than the median FTTN price
- ▶ 93% higher than the lowest FTTN price (Netherlands)
- ▶ 14% higher than the median FTTH price
- ▶ 85% higher than lowest FTTH price (Singapore)
- ▶ Australia's pricing is 13% higher than the second ranked FTTN benchmark (New Zealand) and 14% higher than the second ranked FTTH benchmark
- ▶ Where unbundled services (VULL) are available, the pricing is substantially below Australia's 25Mbps bitstream pricing
 - ▶ While VULL requires RSPs to provide their own transport capacity from the local exchange, the cost of purchasing this capacity is generally low¹

1. See for example, Openreach backhaul pricing which would add approximately \$1-\$2 per service to the VULL price, depending on whether 1Gbps or 10Gbps links are used and the level of utilisation. See for example:

<https://www.openreach.co.uk/org/home/products/pricing/loadProductPriceDetails.do?data=Ud86mbxvL06lwD7yJAntfiYYzAUBl8QL5zsym4XtYtZ6rNZujnCs99NblKJZPD9hXYmijxH6wrCQm97GZMyQ%3D%3D>.

50Mbps



VULL = Virtual Unbundled Local Loop

Australia has the second most expensive wholesale broadband pricing at 50Mbps

- ▶ 28% above the median FTTN price
- ▶ 87% higher than the lowest 50Mbps FTTN price (Netherlands)
- ▶ Austria has the highest bitstream pricing but at this price point provides 80Mbps and has a VULL price 60% lower than Australia's bitstream price
- ▶ Australia's pricing is 8% above the median FTTH price and 85% higher than the lowest 50 Mbps benchmark FTTH price (Singapore which provides 100Mbps)

Australia's 50Mbps bitstream pricing is between 41% and 163% higher than VULL pricing in comparison countries

100Mbps



VULL = Virtual Unbundled Local Loop

- ▶ Australia has the second most expensive wholesale broadband pricing at 100Mbps
 - ▶ 85% above the median 100Mbps FTTN price
 - ▶ 163% higher than the lowest 100Mbps FTTN price (Netherlands)
 - ▶ Austria has the highest bitstream pricing but at this price point provides 150Mbps and has a VULL price 56% below Australia's bitstream price
 - ▶ Australia's price is 40% above the median 100Mbps FTTH price and 156% higher than the lowest FTTH price (Singapore)
- ▶ Australia's 100Mbps bitstream pricing is between 73% and 280% higher than VULL pricing in comparison countries

Appendix 1: Country details

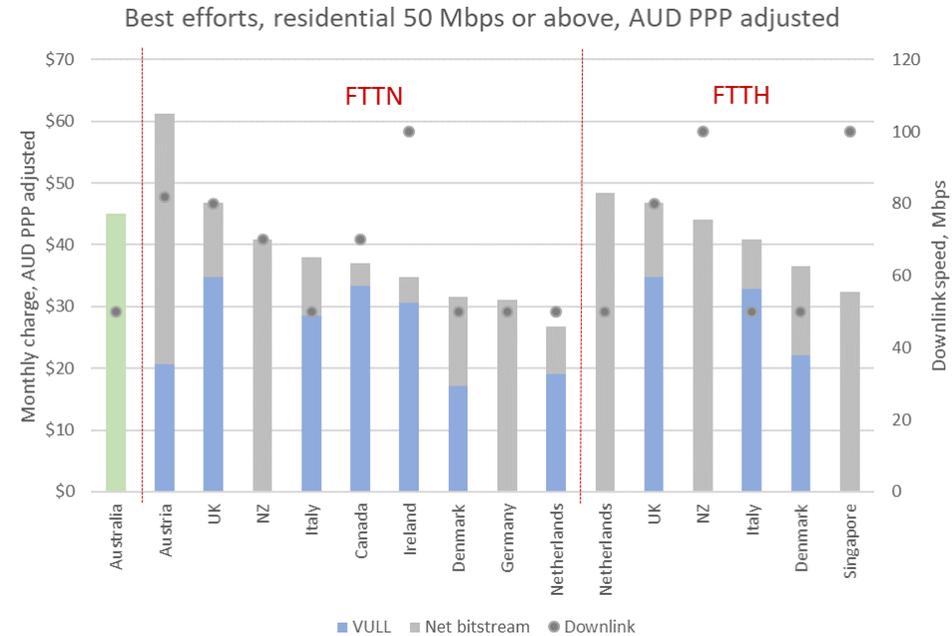
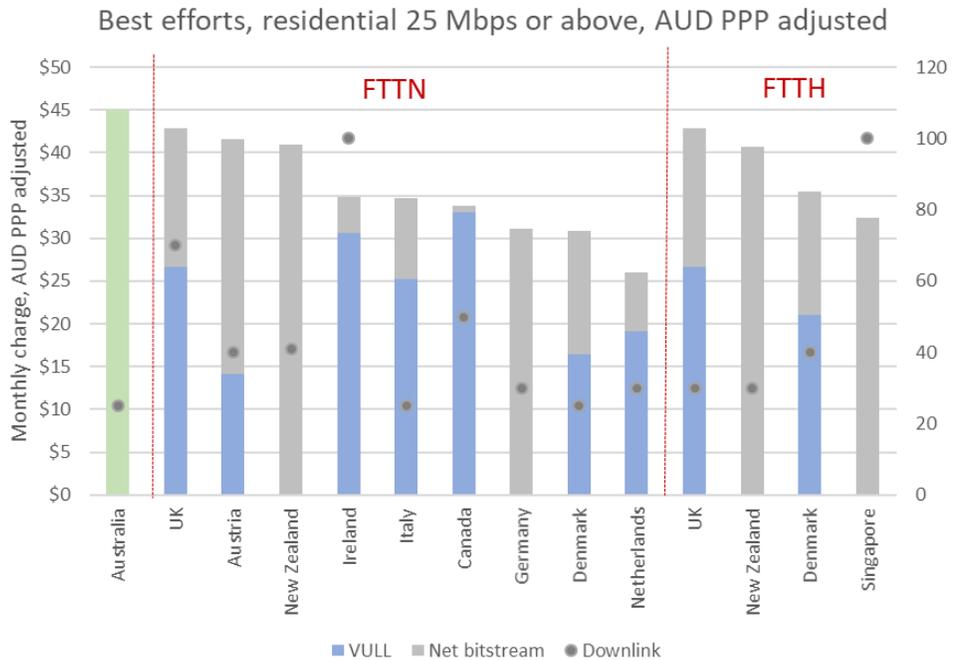
- ▶ Australia: Bitstream pricing is based on NBN Co's high bandwidth bundles discount for AVC TC-4 and CVC TC-4.
- ▶ Austria: The bitstream pricing relates to A1 Telekom Austria's regional service (9 POIs). The speeds are significantly higher than the benchmark speeds.
- ▶ Canada: Bitstream pricing reflects the pricing for the aggregated wholesale high speed access (HSA) service for Bell Canada, Rogers, Videotron and Cogeco with a weighted average price calculated using retail market shares. The VULL pricing for Canada represents the disaggregated wholesale HSA pricing for the same four companies using retail market shares to calculate a weighted average VULL price for Canada. Only FTTP rates are presented and are based on the interim rates approved by the regulator (CRTC) in Telecom Order 2017-312. The aggregated HSA is the longer-term solution for providing wholesale access to FTTP in Canada. However, the service and pricing is being rolled-out in phases, with only phase 1 pricing currently available for the four companies identified above. The rates are only interim and are subject to change in the regulator's final rate order. The Canadian Network Operators Consortium (CNOOC) has appealed the interim rates for FTTP on the basis that the pricing makes it uneconomic to compete. As the transition from the aggregated to the disaggregated HSA occurs, the speed of the aggregated service will be capped to 100Mbps.
- ▶ Denmark: Transmission to the POI is calculated based on the average speed per connection. 1.7Mbps has been used for comparability with Australian services.
- ▶ Germany: Bitstream prices have been determined by the regulator and include transport for 5Mbps for 25Mbps and 50Mbps services, and 7.29Mbps for the 100 Mbps service. A volume discount is available - the discounted rates have been used in this analysis.

Appendix 1: Country details

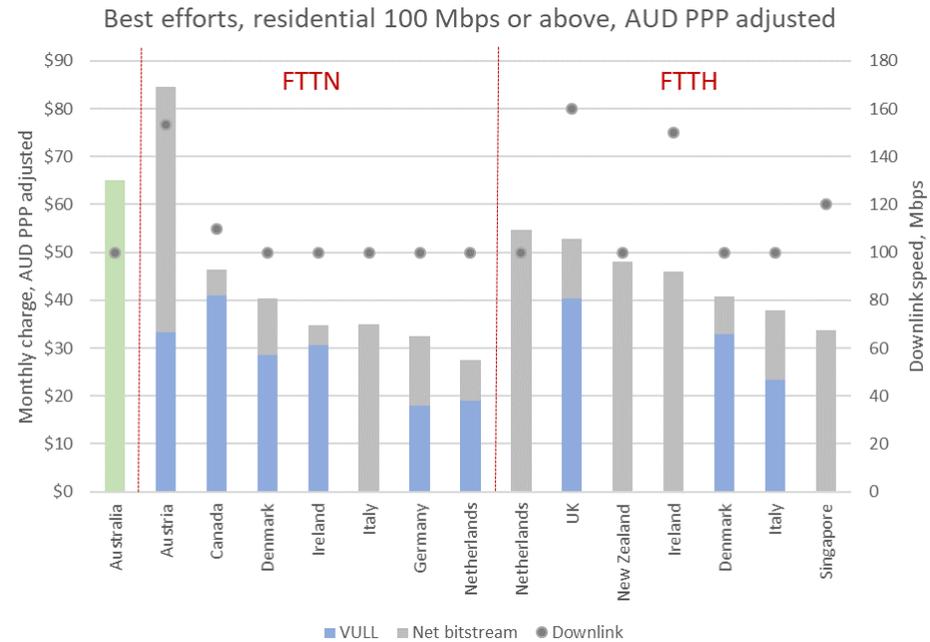
- ▶ Ireland: Bitstream pricing comprises a per port charge and a usage charge. Handover can either be national or regional. Regional pricing is presented in this analysis for comparison with Australia. Usage charges are based on Open Eir's pricing list and average Australian usage of 1.7 Mbps.
- ▶ Italy: 2019 pricing used as more comparable fibre products have been introduced. The level 2 macro-area transport charge (30 handover points) has been applied to 2 Mbps per connection for the 25Mbps and 50Mbps plans, and 2.5Mbps for the 100 Mbps plan.
- ▶ Netherlands: Backhaul to the POI has been calculated using an average speed of 1.7Mbps per connection. National aggregation pricing used (4 handover points). A volume discount of 15% has been applied - as per KPN's price list this discount is available for RSPs with 75,000+ connections using the national aggregation product.
- ▶ New Zealand: FTTN pricing does not vary by speed. The speed of 70Mbps included in the charts is a maximum speed referred to on RSP Spark's website. FTTH pricing relates to the Chorus UFB network.
- ▶ Singapore: Bitstream pricing is based on the Nucleus Connect service consisting of residential end-user access plus AG-EVC. Prices are for best-efforts class of service for comparability with NBN Co's TC-4 class of service.
- ▶ UK: Pricing for the bitstream service is based on BT's Wholesale Broadband Connect (WBC) end-user charges. BT also offers a Wholesale Broadband Managed Connect service for providers that do not want to invest in dedicated WBC aggregation points and a full resale service, Broadband Complete (prices not publicly available). While BT continues to offer these services, it would appear more cost effective for service providers to use the Openreach VULA service to provide retail high-speed broadband. Ofcom reports that the use of WBC has fallen steadily over the last decade. Larger providers now use ULL and/or VULL in the vast majority of the UK to supply retail broadband services. Both the bitstream service and VULL service pricing is contingent on a voice service being provided. Therefore, the price of Openreach's WLR product has been included.

Appendix 2: PPP adjusted comparisons

- ▶ Purchasing Power Parity (PPP) adjustments to the exchange rate are often used in benchmarking, but are typically more relevant to retail prices faced by consumers
- ▶ Even if PPP adjustments are used, Australian pricing continues to be at the upper end of the benchmarks and has:
 - ▶ The highest pricing of the benchmark sample for 25Mbps (FTTN and FTTH),
 - ▶ The third highest pricing of the benchmark FTTN sample for 50 Mbps and the third highest for FTTH at that speed
 - ▶ The second highest pricing of the benchmark sample for 100Mbps FTTN and the highest for 100Mbps FTTH



Appendix 2: PPP adjusted comparisons cont'd



Appendix 3: Benchmark summary statistics

Price per month per connection

	Australia	FTTN benchmarks				FTTH benchmarks			
		Min	Max	Median	Australia Rank	Min	Max	Median	Australia Rank
AUD									
25 Mbps	\$45.00	\$23.36	\$39.81	\$34.47	1	\$24.37	\$39.61	\$39.41	1
50 Mbps	\$45.00	\$24.04	\$52.89	\$35.14	2	\$24.37	\$43.35	\$41.85	1
100 Mbps	\$65.00	\$24.73	\$73.12	\$35.14	2	\$25.40	\$49.12	\$46.51	1
AUD PPP									
25 Mbps	\$45.00	\$26.04	\$42.86	\$34.65	1	\$32.36	\$42.86	\$38.06	1
50 Mbps	\$45.00	\$24.04	\$52.89	\$35.14	3	\$32.36	\$48.34	\$42.48	3
100 Mbps	\$65.00	\$27.57	\$84.63	\$34.90	2	\$33.72	\$54.77	\$46.02	1

Prices are ranked in descending order (the country with the highest price is ranked 1)