

Harbour IT

SUBMISSION TO THE REVIEW OF POLICIES AND PROCEDURES RELATING TO THE IDENTIFICATION OF LISTED NBN POINTS OF INTERCONNECT

March 2013

Executive summary

It is in the long term interests of end users to have viable regional ISPs in the market, as ...

- They bring specialised competition and attendant innovation that specifically addresses the needs of regional and remote consumers
- They bring specialised investment, and result in the NBN's infrastructure being used more efficiently.

To do so, they need to price competitively with the major ISPs ...

- As is done by Harbour ISP, the regional service provider operated by Harbour IT.

But it is impossible to make a go of it in regional and remote areas under current arrangements, as ...

- Backhaul imposes a major cost disadvantage relative to the large, vertically integrated ISPs with their own backhaul infrastructure
- Margin analysis shows that, at the competitive prices currently offered by Harbour ISP, per customer margins are negative or insufficient to meet overhead costs
- After deducting from the retail price the external telecommunications costs necessarily incurred to provide service—NBN access and usage charges (for AVC and CVC services), charges for backhaul capacity from regional Pols to capital city points-of-presence, and IP carriage costs (domestic and international internet connectivity)—remaining margins are ...
 - Negative for fibre, fixed wireless, and satellite services for customers in remote Pol areas such as Mackay and Townsville, and barely above zero for customers in area such as Rockhampton
 - Unsustainably low in regional Pol areas, with per customer margins of only \$2-3 a month for Pol areas such as Coffs Harbour and Tamworth, and \$3-5 for closer-in regional Pol areas such as Ballarat and Toowoomba.

Backhaul charges are the major source of the cost disadvantage behind the negative or very low margins...

- Substantially exceeding NBN data charges (CVC service) in most cases
- Reflecting both the planned Pol semi-distributed architecture, and high backhaul rates on regional routes.

Possible solutions to this problem are apparent ...

- Reduce the number of regional Pols, and locate them at or near capital cities
- NBN Co provide regional backhaul at a nationally averaged price
- Sharpen regulation of regional backhaul prices.

The long term satellite service as currently planned is demonstrably unviable for small, specialised satellite service providers, and change is needed as ...

- Backhaul charges make it simply unviable to serve most Pols
- The solution is straight-forward—retain the (long-standing) interim satellite service model of single nation wide or capital city Pols for the long term satellite service.

1 Background

Harbour ISP

Harbour IT owns and operates Harbour ISP, a regional ISP currently providing NBN/satellite services to around [10,000] residential and small business customers nationally, and NBN fibre, wireless and satellite services to approximately 2,500 customers in 5 PoI areas.

Harbour ISP was established on the back of Harbour IT's involvement in the HiBis/BroadConnect and ABG Commonwealth Government programs that provided satellite-based broadband access to regional consumers and small businesses. During its 5 year involvement with the programs, Harbour IT signed up approximately 20,000 customers on the Optus satellite platform. This led to Harbour ISP being one of the two launch RSP's for NBN satellite services in 2012, which in turn led to accreditation for NBN fibre and fixed wireless services.

Our longer term ambition is for Harbour ISP to provide regionally-focussed and competitively-priced NBN satellite services to regional customers throughout Australia, and NBN fibre and wireless services in a number of regional PoI areas.

The problem

The current NBN PoI architecture and operating rules, in conjunction with high backhaul charges on less competitive routes, makes meeting our longer term ambition difficult if not impossible. Under current arrangements we (and other regional ISPs) operate at a distinct disadvantage to the larger service providers, particularly those with their own backhaul infrastructure. This is demonstrated in our submission.

The solution

Harbour IT submits that it would be in the long term interest of end users for this situation to be promptly addressed by the ACCC and NBN Co. Regional competition needs to be allowed to flourish, and NBN's regional infrastructure used to its full efficiency.

We propose a number of possible solutions in this submission:

- Revised PoI architecture—capital city PIs only
- NBN Co provide regional backhaul to the capital cities
- More sharply regulated regional backhaul prices
- Satellite service PIs permanently located in capital cities.

Our submission

The submission is structured as follows:

- Why it is important to the long term interests of end users to have viable regional ISPs in the market is discussed in section 2
- Harbour ISP prices for NBN broadband services compared to those for major service providers are presented in section 3
- The extent of margin squeeze for regional ISPs at these competitive prices is shown in section 4
- Measures that would alleviate this margin squeeze are discussed in section 5
- The serious competition problems that will emerge for the NBN's long term satellite service unless the proposed PoI arrangements are changed are presented in section 6
- Detailed workings of the margin squeeze analysis, and the economics of the long term satellite service, are given in Appendices A and B respectively
- The ACCC's request for stakeholder comments on three particular issues is addressed in Appendix C.

2 Regional ISPs and the long term interests of end users

The presence of competitive, sustainable regional ISPs is in the long term interests of end users as they strengthen competition and bring the associated innovation benefits in regional markets. They also stimulate efficient investment in, and use of, regional telecommunications infrastructure.

Regional ISPs enhance regional competition by providing products specifically designed for regional users, and imposing price restraint on national service providers. As local business people, the owners/operators of regional ISPs know from their own first-hand experience, and from their involvement in the local business and residential community, the innovative product designs most relevant to regional users—speed and data allowance combinations, the balance between peak and off-peak usage, the attraction of stand-alone versus bundled broadband services, and help-desk availability and competency. They are also particularly attuned to the price points that are important to regional users. Finally, they cater to the preference of many regional consumers to do business with people they know—and trust—personally.

Regional ISPs also provide a pricing discipline in regional markets on national ISPs, ensuring customers benefit from the enhanced retail competition the wholesale-only NBN model is designed to deliver. Their presence means national ISPs cannot extract undue profits from regional consumers due to a lack of competitive choice of service provider.

In providing this competitive discipline, the market presence of regional ISPs will ensure the robust take-up of NBN services, enhancing the efficient use of this sunk infrastructure. In addition, insofar as smaller regional ISPs offer broadband-only services—that is, not bundled with telephony and entertainment/other content services—they will stimulate the development and take-up of these additional services over broadband services rather than as separately dimensioned services. This will enhance the efficiency of NBN capacity use, and reduce unnecessary infrastructure duplication.

Finally, investment in IT equipment designed specifically for regional circumstances and the product suite most relevant for regional consumers will enhance the overall efficiency of telecommunication infrastructure investment.

3 Harbour ISP pricing

To compete effectively, regional ISPs must match the value-for-money provided by national operators selling into regional markets. While regional ISPs do this by their better designed and targeted product offerings, they also need to compete directly on price.

Harbour ISP's NBN broadband plans are priced to address this market imperative. Price points for selected Harbour ISP NBN fibre, fixed wireless, and interim satellite broadband services are shown in Tables 1-3 below. These prices compare favourably to Telstra's prices for comparable stand-alone broadband services. They are set to be as remunerative as possible given the cost challenges face by small regional ISPs (see section 4), while balancing the need to price at a discount to induce customers to churn from the national service providers.

Table 1: Prices for Harbour ISP, Telstra & Optus fibre NBN broadband services*

Data allowance: peak & off-peak	12/1 Mbps (\$/month)	25/5 Mbps (\$/month)	50/20 Mbps (\$/month)	100/40 Mbps (\$/month)
<u>HARBOUR ISP</u>				
5+10 GB	29.95	39.95	44.95	49.95
10+10 GB	34.90	44.90	49.90	54.90
50+50 GB	49.90	59.90	64.90	69.90
100+100 GB	59.90	69.90	74.90	79.90
<u>TELSTRA</u>				
25 GB	60.00**	65.00**	-	\$91.90 (50GB)
<u>OPTUS</u>				
125 GB	75.00	-	-	-

Notes:

* Taken from ISP websites.

** Wireless modem included.

Table 2: Prices for Harbour ISP, Telstra & iiNet fixed wireless NBN broadband

Data allowance: peak & off-peak	12/1 Mbps (\$/month)	25/5 Mbps (\$/month)	50/20 Mbps (\$/month)	100/40 Mbps (\$/month)
<u>HARBOUR ISP</u>				
5+10 GB	29.95	-	-	-
10+10 GB	34.95	-	-	-
20+20 GB	39.95	-	-	-
50+50 GB	59.95	-	-	-
100+100 GB	69.95	-	-	-
<u>iiNet</u>				
20+20 GB	49.95	-	-	-

Notes:

* Taken from ISP websites.

Table 3: Prices for Harbour ISP and iiNet satellite NBN broadband services

Data allowance: peak & off-peak	6/1 Mbps (\$/month)	25/5 Mbps (\$/month)	50/20 Mbps (\$/month)	100/40 Mbps (\$/month)
<u>HARBOUR ISP</u>				
3 GB	34.95	-	-	-
10 GB	39.95	-	-	-
20 GB	49.95	-	-	-
<u>iiNet</u>				
10 GB	39.95	-	-	-

Notes: * Taken from ISP websites.

To the limited extent comparisons are possible, Harbour ISP prices are below Telstra, Optus, and iiNet prices for comparable fibre broadband services provided on a stand-alone basis, and in some cases lower than iiNet. This reflects the different incentives of the operators (and whether a modem is included)—larger ISPs price to stimulate the take-up of bundled telecommunications services. This discount by Harbour ISP is considered necessary to attract stand-alone broadband customers from bundled offers of the national ISPs.

4 Margin squeeze

At the above prices necessary to effectively compete with the national ISPs, the proposed semi-distributed Pol architecture and current regional backhaul prices, Harbour ISP does not have a sustainable business model in regional and remote areas. This is demonstrated in Table 4, which shows the margins available after deducting from the retail price the external telecommunications costs necessary to provide the service—NBN access and usage charges (AVC and CVC services), IP carriage costs (domestic and international internet connectivity), and charges for backhaul capacity from regional Pols to Harbour ISP’s capital city point-of-presence. The calculation of these margins is described Appendix A.

Table 4: Margins for Harbour IT NBN-based broadband services

Location	Fibre 25/5	Fixed wireless 12/1	Satellite 6/1
Regional 1	\$5.12	\$3.25	\$4.05
Regional 2	\$3.13	\$1.92	\$2.72
Remote 1	\$0.61	\$0.24	\$1.04
Remote 2	-\$2.63	-\$1.92	-\$1.12

These margins are needed to cover substantial overhead costs—customer help desk services, routers and other IT costs, a contribution to head office expenses, and a reasonable return for risk taking. However, these margins are negative for fibre, fixed wireless, and satellite services for customers in remote Pol areas such as Mackay and Townsville, and barely above zero for customers in areas such as Rockhampton. While positive in non-remote regional Pol areas, these are an unsustainable low with per customer margins of only \$2-3 a month for Pol areas such as Coffs Harbour and Tamworth, and \$3-5 for closer-in regional Pol areas such as Ballarat and Toowoomba.

Furthermore, to achieve the 70% backhaul link utilisation assumed in the margin analysis, around 900 customers per Pol are required for a 150MB link, which for small regional ISPs is likely to be a stretch in many areas.

Backhaul charges are a major cost element behind this margin squeeze in regional and remote areas. Apart from the NBN access charge (AVC), in almost all cases—fibre, fixed wireless, and satellite—it is the largest telecommunications cost item, substantially outweighing the NBN data cost (CVC). This is shown in Table 5, which shows the ratio of the backhaul costs relative to the NBN data charges (this information is drawn from the margin analysis tables in Appendix A).

Table 5: Backhaul costs relative to NBN data costs

	Regional areas		Remote areas	
	1	2	1	2
Fibre services	78%	111%	151%	204%
Fixed wireless & satellite services	119%	169%	231%	311%

5 Alleviating regional ISP margin squeeze

Three possible solutions to the problem of regional ISP margin squeeze are apparent:

- Revise the Pol architecture to a capital city-based configuration
- NBN Co provide backhaul services from regional Pols to the capital cities
- Regulate more sharply regional backhaul prices on less competitive routes.

Revised Pol architecture

Adoption of a capital city-based Pol architecture for the NBN may be the most technically efficient way of addressing the current imbalance between competition on backhaul routes and retail layer competition for NBN services in regional areas, if it were adopted at the start of the NBN design and build process. Rather than give absolute priority to backhaul competition at the expense of retail competition in regional areas as underlies the current Pol architecture, a capital city-focussed architecture—akin to the original proposal of just 14 Pols nationally with all of these located in capital cities—would allow retail competition to flourish on a level playing field basis in all regional areas.

However, it is recognised that the NBN network design phase is now in the past and build against the current design has commenced. In particular, substantial progress has been made on the transit network running from the initial point of network aggregation at the edge of the connectivity serving areas through to the Pol. Under these circumstances, it may be inefficient to adopt an alternative Pol architecture. Hence this may not be seen as a viable solution.

NBN Co provide backhaul to capital cities

An alternative arrangement with the potential to address the regional retail competition bias is NBN Co providing backhaul to the capital cities—either directly to ISPs’ capital city-based points-of-presence, or to central “mega-Pols”. This would eliminate the current bias against smaller, regionally-based ISPs that do not operate their own backhaul facilities, **provided** the backhaul service was included in the NBN data charge on a nationally averaged basis (or charges on a nationally averaged basis if charged separately), as currently occurs for the NBN access and transit network data services (AVC and CVC).

This could be achieved without additional network construction, and the associated capital expenditure and delay, if NBN Co was to lease the backhaul capacity needed from existing backhaul operators. It would also leave the current NBN design largely unchanged.

Harbour IT urges the ACCC, NBN Co, and the Commonwealth Government to give this proposal serious consideration, now that the extent of the competitive bias against regional ISPs without their own backhaul network is becoming apparent.

Sharper regulation of regional backhaul charges

Finally if, despite their competition merit, the above solutions simply cannot be countenanced, a fall-back solution would be sharper regulation of regional backhaul charges. Harbour IT is of the view that substantial margins still exist on the less competitive backhaul routes, as reflected in the significantly higher prices for backhaul transmission services on these links. Tighter price regulation to reduce the cost difference between backhaul links would go a limited way to rectifying the current retail competition bias.

6 Long term satellite service

6.1 The problem

The NBN interim satellite service mirrors the service provision arrangements on the Optus platform used by Harbour IT under the HiBis/BroadBand Connect and ABG Commonwealth Government programs in that the access service terminates at capital city Pols. This allows smaller ISPs such as Harbour ISP to sell satellite-based broadband services to remote customers at no competitive disadvantage to national ISPs.

However, it is proposed that the NBN long term satellite service, to be introduced in 2015, will deliver the access service through the consumer's local Pol. This means that to provide a retail satellite service on a national basis, an ISP would need to have backhaul links (or intermediary arrangements) to all 41 regional Pols.

Given the small number of satellite customers likely in any one Pol area, this is clearly not a commercially viable proposition, as shown in the analysis described in Appendix B. This analysis uses a number of reasonable assumptions to determine the likely number of satellite customers in a typical regional/remote Pol area, based on the satellite customer take-up forecast by NBN Co in its 2012 Corporate Plan. It then compares the net revenue from these customers (after NBN and IP carriage charges) to the cost of a backhaul link.

This analysis shows that, for typical regional Pols, the business case for 2013 (16,000 satellite customers nationally) is likely to be negative \$5,000 per Pol per month when the cost of a 150MB link is taken into account. The business case is still negative (-\$1465) at 2021 satellite customer numbers (99,000). Furthermore, the business case would in general remain negative or prohibitively low if smaller-dimensioned backhaul links are used as reflected in the sensitivity testing described in Appendix B—particularly as prices for lower-capacity backhaul links are not proportionately lower than prices for larger-sized links.

This means that, for a current national satellite broadband service provider such as Harbour ISP, the long term satellite service will require it to terminate service provision to all customers outside the limited number of Pol areas for which they have a backhaul link to handle both terrestrial and satellite NBN broadband services. Harbour IT submits this outcome is not in the long term interests of end users, as it disrupts customers, inhibits competition, and results in inefficient infrastructure use through the stranding of regional ISP's satellite service assets.

6.2 The solution

The simple solution to this imminent distortion that will substantially erode the long term interests of satellite service customers is to continue to provide the satellite access service through capital city-based Pols. This would allow competition to continue unabated, and avoid infrastructure stranding. It would, moreover, be likely to deliver benefits to broadband consumers more widely. Using capital city Pols only is likely to incur lower NBN costs compared to the cost of the proposed 121 Pol approach. That is, NBN Co's cost pool to be recovered from its full suite of services would be smaller, allowing lower prices across the board.

Appendix A: Margin squeeze analysis

	<u>Fibre 25/5 (10 + 10 GB)</u>			
	Regional		Remote	
	1	2	1	2
	(\$/mth)	(\$/mth)	(\$/mth)	(\$/mth)
Harbour ISP price*	44.90	44.90	44.90	44.90
Telecoms costs:				
NBN AVC	27.00	27.00	27.00	27.00
NBN CVC**	6.16	6.16	6.16	6.16
Backhaul***	4.82	6.81	9.33	12.57
IP carriage****	1.80	1.80	1.80	1.80
Total telecoms cost	<u>39.78</u>	<u>41.77</u>	<u>44.29</u>	<u>47.53</u>
Margin	5.12	3.13	0.61	-2.63

Notes:

* Harbour IT website 22 March 2013.

** NBN Pricing Calculator: 70% utilisation, 150 kbps average busy hour throughput for 25/5 fibre service, & 100 kbps throughput for 12/1 wireless & 6/1 satellite services. These throughput rates are conservatively set at double the base rates in the ACCC Pricing Calculator, which were set based on ADSL throughput experience and are widely regarded as significantly too low for dimensioning transmission capacity for the NBN. The 150kbps and 100kbps assumptions used here are, on our experience, at the lower end of the range of general industry practice. Furthermore, NBN Co itself has recognised that's it working assumption for dimensioning its network based on busy hour throughput for the satellite service has been grossly under stated and many customers are experiencing speed issues due to over saturated beams, which the RSP has no ability to change or influence.

*** Calculated according to dimensioning assumptions in footnote ** above. Uses c-i-c backhaul price quotations for a 150 Mb service. These commercial prices are significantly lower than those generated by the ACCC DTCS Pricing Calculator.

**** Based on Harbour IT actual costs from connected NBN installed customer base.

Regional 1 Pols are at reasonably close-in locations such as Ballarat and Toowoomba.

Regional 2 Pols are further out at locations such as Coffs Harbour and Tamworth.

Remote 1 Pols are further out again at locations such as Rockhampton.

Remote 2 Pols are at distant locations such as Mackay and Townsville.

Pols such as Darwin, Cairns and Geraldton are even more expensive with costs ranging from \$7,000 to \$8,000 per 100 Mbps of capacity.

	<u>Wireless 12/1 (10 + 10 GB)*</u>			
	Regional		Remote	
	1	2	1	2
	(\$/mth)	(\$/mth)	(\$/mth)	(\$/mth)
H ISP price	34.95	34.95	34.95	34.95
Telecoms costs:				
NBN AVC	24.00	24.00	24.00	24.00
NBN CVC	2.69	2.69	2.69	2.69
Backhaul	3.21	4.54	6.22	8.38
IP carriage	1.80	1.80	1.80	1.80
Total telecoms cost	<u>31.70</u>	<u>33.03</u>	<u>34.71</u>	<u>36.87</u>
Margin	3.25	1.92	0.24	-1.92

Notes:

* As for the Fibre 25/5 table above

	<u>Satellite 6/1 (1 peak/2 off-peak GB)*</u>			
	Regional		Remote	
	1	2	1	2
	(\$/mth)	(\$/mth)	(\$/mth)	(\$/mth)
H ISP price*	34.95	34.95	34.95	34.95
Telecoms costs:				
NBN AVC	24.00	24.00	24.00	24.00
NBN CVC	2.69	2.69	2.69	2.69
Backhaul	3.21	4.54	6.22	8.38
IP carriage	1.00	1.00	1.00	1.00
Total tel. cost	<u>30.90</u>	<u>32.23</u>	<u>33.91</u>	<u>36.07</u>
Margin	4.05	2.72	1.04	-1.12

Notes:

* As for the Fibre 25/5 table above.

Appendix B: NBN long term satellite service analysis

Fin. Year	W+Sat. cust'ers*	Sat. share**	Sat. Cust'ers	Sat. Pols***	Sat. custs/Pol	ISP mkt share****	ISP sat. custs
	('000)		('000)	('000)			
2013	38	43%	16	41	397	25%	99
2014	64	43%	27	41	669	25%	167
2015	100	43%	43	41	1045	25%	261
2016	145	43%	62	41	1516	25%	379
2017	161	43%	69	41	1683	25%	421
2018	191	43%	82	41	1997	25%	499
2019	206	43%	88	41	2153	25%	538
2020	219	43%	94	41	2289	25%	572
2021	232	43%	99	41	2425	25%	606

Notes:

* NBN Co Corporate Plan 2012.

** Based on satellite 3% NBN customers, fixed wireless 4%.

*** ACCC Pol Pol list - classified as regional.

**** Assumption based on industry experience.

(above table continued below)

Fin. year	Sat. Pol b'haul	Sat. rev/Pol - NBN&IP costs	Sat. Pol margin	Sat. Pol margin - b'haul costs				
	link cost							
	Reg 1	Reg 2	Rem 1	Rem 2	Average			
	(\$/mth)	(\$/mth)	(\$/mth)	(\$/mth)	(\$/mth)	(\$/mth/cust)	(\$/mth/Pol)	(\$/mth)
2013	C-i-C	C-i-C	C-i-C	C-i-C	C-i-C	7.26	721	-5146
2014	C-i-C	C-i-C	C-i-C	C-i-C	C-i-C	7.26	1214	-4652
2015	C-i-C	C-i-C	C-i-C	C-i-C	C-i-C	7.26	1897	-3969
2016	C-i-C	C-i-C	C-i-C	C-i-C	C-i-C	7.26	2751	-3116
2017	C-i-C	C-i-C	C-i-C	C-i-C	C-i-C	7.26	3055	-2812
2018	C-i-C	C-i-C	C-i-C	C-i-C	C-i-C	7.26	3624	-2243
2019	C-i-C	C-i-C	C-i-C	C-i-C	C-i-C	7.26	3908	-1958
2020	C-i-C	C-i-C	C-i-C	C-i-C	C-i-C	7.26	4155	-1712
2021	C-i-C	C-i-C	C-i-C	C-i-C	C-i-C	7.26	4402	-1465

Note: Sensitivity testing on the cost of backhaul was conducted by reducing the 150 MB price by 25% and 50%, with the following results:

- 25% reduction: margin remains negative to 2020, and is only \$2/Pol/month in 2021
- 50% reduction: margin remains negative to 2016, is only \$121/Pol/month in 2017 and \$1,468/Pol/month in 2021.

Appendix C: ACCC questions—Harbour IT comments

The ACCC invites stakeholders to comment on the policies and procedures relating to the identification of the Listed POIs. In particular, the ACCC seeks comments about the competition criteria and the planning rules and the application of these procedures in identifying the location of POIs.

See the above submission.

The ACCC seeks information on the extent to which facilities have been interconnected at the Listed POIs. In particular, the ACCC asks stakeholders to provide details of:

- (a) The Listed POIs where interconnection has occurred*
- (b) Whether services are being provided from those Listed POIs and,*
- (c) If so, the type of service that is being provided.*

Harbour ISP, a regionally-based ISP currently providing NBN fibre, wireless, satellite services to approximately [2500] residential and small business customers in [5] Pol areas:

- Fibre services to approx 100 customers in 5 Pol areas: [Interim Poles in Sydney, Melbourne, Brisbane, Civic and Coffs Harbour]
- Wireless services to approx. 100 customers in [5] Pol areas: [As above]
- Satellite services to approx. 2300 customers in [1] Pol areas: [Single National Pol based in Equinix Data Centre Mascot].

The ACCC seeks information from industry stakeholders on the overall impacts of the approach to identifying the Listed POIs. In particular, the ACCC asks stakeholders for submissions on the processes and procedures used to identify the geographic location of POIs based on the application of the criteria noted above

See the above submission.