



**Submission by AAPT Limited in response to the Australian
Competition and Consumer Commission's discussion paper
titled *National Broadband Network Points of Interconnect*,
dated October 2010**



Introduction

1. AAPT Limited (**AAPT**) welcomes the opportunity to comment on the Australian Competition and Consumer Commission's (**ACCC's**) discussion paper titled National Broadband Network Points of Interconnect, dated October 2010 (**Discussion Paper**) on NBN Co's Public Position Paper detailing its proposed points of interconnect (**POIs**) (**Public Position Paper**).

Executive summary

2. AAPT is very pleased that the ACCC has been given oversight of this fundamentally important issue.
3. AAPT recognises that NBN Co is not in the best position to realise the competitive impact on the wider telecommunications industry of its National Broadband Network (**NBN**) POI proposal.
4. NBN Co's public statements leading up to this point appeared to indicate that NBN Co was cognisant of the wider industry impact and that a more considered approach would be taken to determining NBN POI numbers and locations.
5. These statements have left AAPT (and presumably others) with a false understanding of what NBN Co was going to propose for NBN POIs. AAPT has made significant business decisions over this period based on this public stance by NBN Co.
6. Consequently, AAPT is stunned by NBN Co's proposal for its so called "composite model" approach to the number and location of NBN POIs. In fact AAPT considers the term composite model is misleading because NBN Co is proposing a highly centralised model with access below the proposed capital city NBN POIs being very restricted.
7. In AAPT's view, NBN Co's POI proposal (not in any order of priority):



- is not supported by any apparent analysis or logic;
- has not been based on proper industry consultation;
- is contrary to many recommendations made in the NBN Implementation Study (**NBN IS**);
- is contrary to many previous ACCC public statements on preferred POI locations;
- expands the scope of the NBN beyond the proposed 'last mile' to encompass the transmission and backhaul markets – overbuilding competitive markets in the process;
- by effectively reducing access seekers to being little more than resellers, will deprive Australian consumers of the significant benefits of infrastructure based competition – benefits which are clearly highlighted by the reduction in prices achieved in transmission markets which are subject to infrastructure based competition and in broadband markets due to the wide spread deployment of DSLAMS by many access seekers;
- will result in significant stranding of the assets of many access seekers which could conceivably lead to a series of compensation claims;
- will significantly harm short and long term competition in the backhaul market;
- will significantly harm short and long term competition in retail markets;
- proposes POI locations in places where service providers currently have no connectivity and where building to many of the proposed locations will be very difficult and expensive, thereby imposing significant additional costs on the telecommunications industry;



- will almost certainly create a new bottleneck in gaining access to the proposed NBN POIs;
 - appears to introduce significant single points of failure into what is a critical piece of infrastructure for all Australians; and
 - is likely to prevent any potential future layer 1 unbundling.
8. NBN Co appears to be claiming that its hands are tied by the government's desire to achieve retail price parity and therefore uniform national wholesale pricing (**UNWP**) when no apparent alternatives to achieving this requirement have been canvassed by NBN Co.
 9. AAPT accepts that NBN POI location is a complex issue and considers that out of pure expediency NBN Co has opted for a highly centralised approach using the UNWP requirement as justification.
 10. AAPT believes that the ACCC is a more appropriate body to determine the best way to achieve the government's desired UNWP outcome rather than NBN Co.
 11. Consequently, AAPT considers that the NBN Co POI proposal is not in the long term interests of end users (**LTIE**) and should not be considered to be "reasonable" as that term is defined in s.152AH of the Trade Practices Act (**TPA**), should NBN Co submit a special access undertaking (**SAU**) under Part XIC of the TPA .
 12. AAPT can not emphasise enough just how critically important the location of NBN POIs is to the industry (including even the ultimate success of NBN Co itself) and more importantly the benefit of all end users.



13. Consequently, AAPT urges the ACCC to reject NBN Co's proposed approach to NBN POIs and to strongly urge the government to direct NBN Co to undergo a fundamental rethink on this issue and to devise a proposal for NBN POIs which:
 - o encourages innovation and efficient investment in backhaul markets without increasing barriers to entry for smaller retail service providers (**RSPs**); and
 - o which aims to aggregate smaller regional fibre serving areas (**FSAs**) to a single POI with a location based on the existence or likely emergence of contestable backhaul.
14. In AAPT's view this would mean that POIs should be located at (or where that is not possible at least near) existing Telstra exchanges where many access seekers already have established POIs for the purposes of voice service interconnection and access to ULLS and LSS services.

NBN POI locations

15. There a number of alternatives for the number and location of NBN POIs ranging between:
 - o a POI at every FSA (expected to be between 700 and 1000) – ie a highly distributed model; and
 - o a POI only at limited locations such as capital cities – ie a highly centralised model,and within this range, NBN Co could potentially offer NBN POIs with a low to medium level of consolidation.
16. There have been a number of public statements made by various industry participants, the ACCC, NBN Co itself and also in the NBN IS about where NBN POIs should be located.



Previous statements by NBN Co

17. In its recent consultation on wholesale services, NBN Co noted that, while the number and location of the POIs had not yet been determined, in order to encourage innovation and efficient investment in backhaul without increasing barriers to entry for smaller RSPs, NBN Co aimed to aggregate smaller regional FSAs to a single POI and chose the location of the POIs based on the existence or likely emergence of contestable backhaul. NBN Co has also made statements outside this consultation paper advocating this same approach and indicating that it anticipated building between 100 and 200 POIs across the country.

Previous statements by industry participants

18. In response to this earlier consultation paper, AAPT noted that it was comfortable with NBN Co's proposed high level approach to determining the location of NBN POIs and made the following comment:

... AAPT would like to emphasise just how critically important the location of the POIs is to the industry and the ultimate success of NBN Co itself.

As NBN Co would be well aware, there is no point locating a POI where it is difficult or expensive for downstream service providers to directly establish a physical interconnection either because of lack of competitive backhaul or space to install interconnection facilities.

19. AAPT also notes that Telstra in its response to the same consultation paper indicated that it did not agree with limiting the number of POIs to between 100 to 200 for a number of reasons, including that¹:
- it will not facilitate differentiation and innovation by RSPs;

¹ Telstra submission, page 2 and 3



- the parties who have deployed backhaul infrastructure to areas where NBN Co is proposing to aggregate traffic will be disadvantaged; and
 - by preventing choice of backhaul providers in regional areas NBN Co is preventing further development of competition in these areas.
20. Telstra went on to argue in its submission that there should be a POI at every FSA.
21. AAPT does not agree that there should be a POI at every FSA and notes that such an approach is not recommended by the NBN IS as indicated by the following comment²:
- If Telstra is granted access to connect below the NBN Co POIs using its own backhaul network it will gain a cost advantage over other retailers. Hence the IS recommends that such access not be permitted.*
22. However, AAPT does consider that limiting the number of NBN POIs to capital cities (which is effectively what NBN Co is proposing) will inhibit differentiation and innovation by RSPs, will disadvantage those who have deployed backhaul infrastructure to areas where NBN Co is proposing to aggregate and will prevent choice of backhaul providers.

Previous statement by the ACCC

23. The ACCC noted in the Discussion Paper that it had also expressed the view during its assessment of FANOC's SAU that POIs should be located as close to the end user as is appropriate and efficient and that this was likely to mean that POIs should be located at or near existing local access switches and other POIs for current ULLS and LSS products³. In addition, the ACCC had noted that:

² NBN IS, Page 425

³ Discussion Paper, page 11



- the fact that access seekers using ULLS/LSS are currently able to interconnect efficiently at existing locations suggests that they will be able to interconnect efficiently to a replacement bitstream access service at or near those exchanges;
 - it does not appear justifiable to restrict interconnection to points higher in the network where greater aggregation of traffic has occurred;
 - many access seekers have existing investment in backhaul at those places and interconnection near existing investments will facilitate a smooth migration and is a relevant factor to be taken into account both in considering the promotion of competition and the interests of persons who have a right to use the service; and
 - where FANOC is unable to provide interconnection within existing Telstra exchanges, interconnection at similar locations nearby would be a possible substitute.
24. AAPT fully supports these views expressed by the ACCC and suggests that such views would be widely supported by many other industry participants.

Recommendations made in the NBN IS

25. The NBN IS also made a number of comments on NBN POI locations, including that⁴:
- fibre exchanges served by multiple backhaul providers should become the location for NBN Co's POIs;
 - NBN Co should construct its own transit backhaul service to aggregate and deliver traffic from fibre exchanges served by monopoly backhaul links; and

⁴ NBN IS, page 332 to 334 and recommendations 48, 50, 51 and 54.



- NBN POI locations could be reviewed and taken higher into the network if the presence of multiple backhaul providers did not deliver affordable pricing on selected routes.

26. In addition, the NBN IS noted the following⁵:

It would be possible for NBN Co to further aggregate traffic and offer POIs in capital cities. This would enable smallest providers with limited network footprints, such as RSPs, to connect easily to the NBN at an affordable price.

However, this would involve stranding significant lengths of competitive backhaul that have been deployed through healthy market investment and would harm incentives for ongoing investment.

It would also be an inefficient use of funds from NBN Co to procure access to backhaul which is already available to service providers at competitive prices.

The competitive benefit of such centralised POIs would be limited....

27. AAPT endorses the NBN IS on this matter and seriously questions the thinking behind a decision to use taxpayer's money to significantly damage the backhaul market for what appears to be a marginal (if any) competitive benefit in the retail market.
28. In fact, AAPT considers (as discussed below) that what NBN Co is proposing will not improve the retail market at all and is more likely to negatively impact that market as well.

NBN Co's proposed POI locations

29. NBN Co asserts in its Public Position Paper that since its earlier consultation paper it has continued to engage industry on network and product design issues

⁵ NBN IS Page 333, 334 and 337



and further developed its thinking on NBN POI locations as a result of feedback from industry.

30. AAPT considers that it is a misrepresentation on NBN Co's part to assert that they have engaged in full and frank discussions with industry on NBN Co POI locations. In fact no proper consultation on POI locations has been carried out.
31. If AAPT had been contacted for a discussion on NBN POI locations AAPT would have participated in such discussions without question because of the importance of the issue. However, no such approach was made by NBN Co⁶.
32. AAPT is confident that other industry submissions in response to this Discussion Paper will similarly reflect a lack of industry consultation on this matter.
33. NBN Co appears to have backed away from its earlier public statements on NBN POI locations and appears to have completely ignored industry submissions, the recommendations of the ACCC and the recommendations in the NBN IS by proposing that NBN Co will provide NBN POIs in mainland capital cities with up to 195 additional POIs at connectivity servicing areas (CSA) locations (although only in limited circumstances), ie the so called "composite model".
34. According to NBN Co, RSPs would be able to request interconnection at CSAs subject to timing constraints and NBN Co business rules (which are not specified) as to whom and when it will permit such interconnection and that initially it considers that interconnection will only be permitted at CSAs in limited circumstances eg for technical reasons (eg latency issues) or to provide interconnection for applications or content distribution.
35. AAPT considers that the so called composite model is therefore in fact a high consolidation model because access below the 14 capital city POIs will be very highly limited.

⁶ NBN Co did invite discussions on various product details but POI locations was not mentioned.



36. The only reasoning proffered by NBN Co for this change of approach seems to be the requirement that NBN Co offer UNWP, a requirement which AAPT considers could be met in a number of different ways - none of which have been canvassed by NBN Co.

Markets affected by POI location

37. The ACCC notes that there will be a number of markets affected by the location and number of NBN POIs⁷ and in AAPT's view NBN Co's proposed POI locations will affect these markets in a significant and detrimental way.

Transmission markets

38. AAPT agrees with the ACCC that Telstra's transmission network is the most extensive in terms of ongoing coverage but that the arrival of new entrants has facilitated a level of facilities based competition in the supply of transmission services, particularly in metro areas⁸.
39. This has led the ACCC to significantly wind back regulation on a number of inter-capital and capital-regional routes as well as a number of metro and CBD inter-exchange routes.
40. AAPT notes that the NBN IS also made the following comments⁹:

NBN Co operations should be confined to those areas where the market has not delivered a competitive outcome on its own – this principle should apply to NBN Cos participation in backhaul. Commercial operators like Optus, Nextgen Networks, Pipe and TLS have created competitive backhaul markets on high-traffic routes. NBN Co should not overbuild these links for the purpose of creating a contiguous national network. In the absence of market failure there is no commercial rationale for NBN Co to duplicate this

⁷ Discussion Paper, page 16

⁸ Discussion Paper, page 16

⁹ NBN IS, Page 27



investment and duplication would be harmful to competition and industry investment incentives.

41. In AAPT's view there is no justification for NBN Co to use taxpayer's money to overbuild competitive markets in this way and foreclose competition in others where competition may well develop given the increased demand for backhaul that the high speed NBN will bring.
42. By way of example, AAPT has paid or has been quoted the following prices for transmission services (converted to Mbps pa to aid comparison): [*cic*
cic]
43. AAPT recognises the difficulties in making comparisons such as these but in AAPT's view they are clearly indicative of the fact that infrastructure based competition in transmission markets can and does lead to significant reductions in the prices paid for those transmission services which in turn leads to better outcomes for consumers.

Retail markets

44. NBN Co's Public Position Paper states the high consolidation approach provides the ability for RSPs to service additional markets because rather than having to source alternative commercially supplied non-metro backhaul from a more remote POI they would acquire non-metro backhaul from NBN Co at cross-subsidised prices and that this may encourage additional entry at the retail level in non-metro areas.
45. However, the ACCC notes that the number of competitors in a market is only one factor to consider when assessing the level of competition in a market, eg a



large number of firms but with little ability to compete on price or differentiate their service may not in fact lead to improved competition¹⁰.

46. AAPT agrees with the ACCC and considers that the potential benefits from a consolidated POI approach where backhaul service are bundled with access services could be outweighed by a number of factors including reducing competition on price and/or service innovation at a retail level¹¹.
47. Reducing access seekers to mere resellers will deprive consumers of the significant benefits that infrastructure based competition is known to produce.

Wholesale market

48. NBN Co has previously indicated that it has limited its offering to wholesale Layer 2 bit-stream services and noted that in doing so it is seeking to occupy as small a foot print as possible in the overall value chain, leaving RSPs with significant ability to innovate and develop new services in the higher levels of the value chain.
49. AAPT agrees that this is the right approach but considers that NBN Co's proposal for NBN POI locations is inconsistent with this approach.
50. As noted by the ACCC, the number and location of NBN POIs may have the potential to affect the development of Layer 3 wholesale services market. A consolidated POI approach involves the NBN Co aggregating traffic from around Australia and delivering it to the main capital cities when this type of aggregation is usually provided as part of a managed Layer 3 wholesale service. Consequently, it will be harder for prospective Layer 3 wholesale providers to differentiate their services if they can't use their own network¹².

¹⁰ Discussion Paper, page 19

¹¹ Discussion Paper, page 19

¹² Discussion Paper, page 19 and 20



51. AAPT agrees with the ACCC that a consolidated approach may inhibit the development of a vibrant and competitive wholesale market for Layer 3 services.
52. This view is further supported by the ACCC in its draft decision in 2007 on FANOC's SAU for a broadband access service (based on a fibre to the node network (FTTN)) where it stated:

*The ACCC considers that the lower the layer in the network at which access is granted and the closer it is to the basic physical infrastructure that makes up the bottleneck, the greater the ability of access seekers to control their own costs and supply chain, differentiate service offerings, innovate and improve service quality. The ACCC considers that an approach to regulation that provides access seekers with greater control over their own business and products, to the extent that it is economically efficient, is likely to promote competition, innovation and investment in new services, and will be in the long-term interests of end-users.*¹³

and also:

*A Layer 2 bitstream access service would provide access seekers with significant flexibility and control to adopt the protocols that best support the services and applications used by their customers. This is in contrast to a higher layer wholesale access service, where the access provider controls the higher layer protocols and, as a result, effectively limits the ability of access seekers to control these higher layers and offer differentiated services.*¹⁴

53. If a RSP wishes to acquire a Layer 3 wholesale product for the purposes of selling a product at the retail level then that RSP could chose any one of the numerous service providers which would acquire a Layer 2 product from NBN Co and integrate that Layer 2 access product with its Layer 3 infrastructure (eg backhaul, IP connectivity to the Internet) to provide a Layer 3 product on a wholesale basis to that RSP.

¹³ Assessment of FANOC's Special Access Undertaking in relation to the Broadband Access Service, Draft Decision, December 2007, Page 58

¹⁴ Assessment of FANOC's Special Access Undertaking in relation to the Broadband Access Service, Draft Decision, December 2007, Page 10, Footnote 3



54. This sort of arrangement works effectively today with many industry players, such as AAPT, acquiring a ULLS or LSS from Telstra, connecting it to a DSLAM, providing backhaul and connectivity to the Internet and then in turn providing a wholesale broadband Internet access product to downstream service providers for an eventual sale to an end user in the retail market.
55. AAPT considers that a healthy wholesale market is critically important to a healthy retail market with end users being the ultimate beneficiary. However, in AAPT's view, NBN Co's proposed POI locations would put this at risk.
56. In summary, AAPT considers that from a competition perspective alone the positives and negatives of a consolidated POI approach versus a distributed POI approach can be summarise as follows:

Model	Positives	Negatives
Consolidated	<ul style="list-style-type: none"> potentially lead to a greater number of RSPs in regional areas 	<ul style="list-style-type: none"> less ability to compete on price in retail markets less ability to compete using service differentiation in retail markets significantly damage the backhaul market significantly damage the wholesale Layer 3 market
Distributed	<ul style="list-style-type: none"> greater scope for competing on price in retail markets greater scope for competing through service differentiation in retail markets encourages competition and investment in backhaul markets encourages competition in the wholesale Layer 3 market 	



57. In AAPT's view, it is clear that consolidated POI approach has far more negatives than positives when compared to a more distributed approach.

Asset stranding and compensation claims

58. The ACCC makes the comment in the Discussion Paper that a very low number of consolidated POIs risks stranding existing infrastructure assets and foreclosing the potential for further backhaul entry¹⁵.
59. AAPT agrees and is very concerned about a significant proportion of its own network assets being stranded. AAPT also considers that many other service providers will be in a similar position. Consequently, AAPT considers that a consolidated POI approach could in fact lead to a series of significant compensation claims.
60. AAPT can find no valid legal or economic justification for the stranding of infrastructure which is used to provide backhaul. AAPT believes that an approach to POIs that will effectively lead to NBN Co becoming a monopoly provider of backhaul across transmission routes that, pre NBN, were subject to infrastructure based competition is clearly flawed. This is a point that the following extract from the NBN Implementation Study makes clear¹⁶:

NBN Co operations should be confined to those areas where the market has not delivered a competitive outcome on its own – this principle should apply to NBN Cos participation in backhaul. Commercial operators like Optus, Nextgen Networks, Pipe and TLS have created competitive backhaul markets on high-traffic routes. NBN Co should not overbuild these links for the purpose of creating a contiguous national network. In the absence of market failure there is no commercial rationale for NBN Co to duplicate this investment and duplication would be harmful to competition and industry investment incentives.

¹⁵ Discussion Paper, page 17

¹⁶ NBN IS, page 27



61. Furthermore, the increased demand for backhaul that the high speed NBN will bring, may lead to other transmission routes that are not currently competitive becoming competitive through investment in infrastructure. Highly centralised NBN's POIs would likely foreclose the potential for further competition in backhaul infrastructure.

62. AAPT submits that the transition from Telstra owned and operated facilities to NBN Co owned and operated facilities should not be an excuse for abandoning the fundamental principles that have governed the telecommunications access regime to date, unless there is a compelling case for doing so. AAPT asks the rhetorical question what would the current state of competition in telecommunications markets look like if access seekers had only ever been allowed to interconnect with Telstra's network at the level currently recommended by NBN Co? An obvious answer to this rhetorical question is that the competition and innovation that has occurred in relevant retail markets due to access seekers having access at the exchange level would not have occurred, and the only competition in the market for transmission services that would have occurred would be in respect of inter capital routes.

63. AAPT submits that, as noted in the NBN IS (see quoted extract above), the stranding of backhaul infrastructure will have obviously detrimental effects to the state of competition and the incentives to invest in infrastructure. As the promotion of competition and investment in infrastructure are two of the constituent elements of the LTIE test, the stranding of backhaul infrastructure cannot be considered to be in the LTIE.

64. As the LTIE is an integral part of the relevant statutory test applicable to the acceptance of NBN Co's SAU¹⁷, it is difficult to see how an approach to POIs that leads to the stranding of backhaul infrastructure, with the resultant

¹⁷ This relevant test is set out in section 152CBD (with reference to section 152AH) of the *Trade Practices Act 1974*.



detrimental effects on the LTIE, could satisfy the relevant statutory test that would determine whether or not NBN Co's SAU is accepted.

65. In other words, AAPT is unable to identify any factors relevant to the applicable statutory test that would support the stranding of backhaul infrastructure, and even if such factors do exist, it is difficult to see how they could outweigh the obviously detrimental effects that the stranding of backhaul infrastructure would have on the promotion of competition and investment in infrastructure.
66. AAPT believes that the potential stranding of backhaul infrastructure needs to be considered in the context of the application of the fundamental principles that apply to the telecommunications access regime as a whole, as well as in the context of any relevant Government policy in relation to the compensation payable for the loss of use of what is significant privately funded sunk infrastructure.
67. AAPT believes that in the event that there is a stranding of backhaul infrastructure, without proper compensation or damages being paid to the infrastructure owners, the infrastructure owners may be forced to take action in the courts to seek redress for their loss.
68. In this regard AAPT notes that any potential legal action by Telstra will likely be avoided due to Telstra having been in a position to negotiate and reach agreement with NBN Co over the terms on which Telstra will be compensated by NBN Co for the loss that Telstra suffers through Telstra surrendering its infrastructure.
69. AAPT believes that a situation where infrastructure owners are forced to resort to legal action due to the smashing of competition in transmission markets by a Government controlled entity like NBN Co cannot be the result of a healthy and functional telecommunications access regime. Therefore, to the extent that the



NBN Co's proposed approach to the identification of POIs would lead to such an outcome, it should be rejected.

70. [cic cic]

Uniform national wholesale pricing

71. NBN Co notes in its Public Position Paper that¹⁸:

... ... if NBN Co's network architecture does not overcome the high cost differential between regional and metro Australia, then uniform pricing from premises to POIs by NBN Co alone will not deliver the Government's objectives of national uniform wholesale pricing

72. The ACCC notes that the design of the network and pricing of services provided over the network are linked but that it appears possible that UNWP can be achieved independently of POI location considerations¹⁹.

73. AAPT welcomes these comments.

74. The ACCC also notes that it is possible that UNWP can be achieved independently of POI location considerations, for example²⁰:

- NBN Co could provide backhaul to connect fibre exchanges to the nearest point where competitive backhaul was available;
- the backhaul could be priced on a separate basis (not bundled with the FTTP price) and the FTTP access prices would be uniform; and
- the price of backhaul would be required to meet an affordability test, determine by the government.

¹⁸ Public Position Paper, Page 9

¹⁹ Discussion Paper, page 19

²⁰ Discussion Paper, page 21



75. Another option raised by the ACCC involves the imposition of a cap to be placed on existing operators of high priced backhaul with some form of funding if that means the links would be rendered uneconomic²¹.
76. Such funding could be sourced by a levy on end users or a transparent price lift on NBN Co access prices or a levy on access seekers according to their eligible revenue²².
77. AAPT considers that NBN Co has made the leap from UNWP to highly centralised POIs without consideration of these options and that these options and possibly others need to be considered as soon as possible.

Engineering concerns about NBN Co's proposed locations

78. In AAPT's view, NBN Co's proposed POI locations appear to be driven primarily by the desire to simplify network design at the expense of every other consideration.
79. AAPT acknowledges that a highly centralised POI approach may well be appealing to NBN Co because of its simplicity and possibly because it makes for an elegant engineering solution.
80. However, AAPT considers that there could well be a severe lack of redundancy built into such a network. The small number of POIs creates a highly concentrated network compared to the current distributed network. This creates large single points of failure which would be highly susceptible to technical, natural and terrorist events, triggering large scale network access failures.

²¹ Discussion Paper, Page 21

²² Discussion Paper, Page 21 and 22



81. AAPT notes that NBN Co proposes to locate NBN POIs in places where service providers currently have no connectivity. This means that service providers will (at considerable expense) be forced to build to each of the proposed NBN POIs in order to provide robust diverse high speed connectivity.
82. AAPT also notes that some of the proposed locations have immediate additional risk because they are hard to reach in a diverse manner, examples include: Pinkenba, QLD which is in very close proximity to Brisbane Airport and the Brisbane River and Goodna which is on a flood plain.
83. AAPT notes that many of the POI locations have fibre within a 20km radius, however, in many cases this fibre is interstate fibre with small core counts (typically 24) which is neither designed nor typically used for such large POIs.
84. Finally, in AAPT's view a new bottleneck will be created, ie gaining access to the proposed NBN POIs. Building connectivity will be expensive and difficult so only a few service providers will do so which would create in some cases a duopoly or even a monopoly backhaul situation. Leasing access to an NBN Co POI from a monopoly or duopoly provider will be very expensive and these costs will result in unfair advantage for some industry players and higher prices for consumers.

Layer 1 unbundling

85. As noted by the ACCC in the Discussion Paper, there are 2 ways that an optical access network could be unbundled²³:
 - o physical fibre unbundling – a separate fibre to each premises; and

²³ Discussion Paper, Page 20



- wavelength unbundling – providing access to individual wavelengths on the one fibre.
86. AAPT considers that a Layer 1 only product would be inappropriate at this time because it places a very heavy capital investment burden on downstream service providers needing to gain access to the Layer 1 product to in turn offer services in wholesale and retail markets. In AAPT’s view, this would severely limit competition in both wholesale and retail markets.
87. However, AAPT notes that the NBN IS included the following unbundling recommendations²⁴:
- ... wavelength unbundling may well play a role in enabling future competition on the NBN, the IS believes that it would be risky and short-sighted to rely on this as a sole solution to the threat posed by NBN Co’s future active layer monopoly.*
- For these reasons, the IS believes it is important to preserve the option of physical unbundling.*
88. Physical unbundling requires the access seeker to interconnect at the local exchange level as it requires direct access to the fibre to the premises so the access can terminate the line on its own equipment.
89. AAPT considers that it makes sense to keep unbundling in mind as future option and agrees with the ACCC, unbundling does not appear to be feasible under the NBN Co’s proposed POI locations approach.

²⁴ NBN IS, Page 420