



Your ref: Backhaul Blackspots Initiative

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Backhaul Blackspots Branch  
Department of Broadband, Communications and the Digital Economy  
GPO Box 2154  
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Dear Sir / Madam

**Subject: Backhaul Blackspots Initiative**

Basslink Telecoms welcomes and supports the Backhaul Blackspots initiative. Please find attached the Basslink Telecoms public submission for the DBCDE – Backhaul Blackspots Initiative Stakeholder Consultation Paper.

Basslink Telecoms looks forwards to further discussions with the DBCDE.

With regards

Michael Coates  
GM – Basslink Telecoms Pty Ltd

## 1. Summary

Overall Basslink Telecoms (BT) believes it can add value to DBCDE on several fibre builds in Victoria. We outline below Basslink Telecoms' capability and also provide our response to the issues identified in the stakeholder consultation paper. At this stage, naturally we keep our comments at a high-level. We would be pleased to continue to participate in the DBCDE process for this initiative and provide more detailed response to specific issues as this process evolve.

## 2. Basslink Telecoms Pty Ltd background

Basslink Telecoms was formed to commercialise the fibre component of the Basslink high voltage direct current electricity interconnector between the States of Victoria and Tasmania. More details on Basslink can be found on its website [www.basslink.com.au](http://www.basslink.com.au).

Following the kickoff of the BT project in November 2008, BT has amongst other activities:

- Engaged and contracted with its preferred transmission equipment supplier – Ericsson.
- Contracted with Aurora Energy in Tasmania for access to the on-island Tasmanian network.
- Contracted with Victorian backhaul providers for the connection between Loy Yang and Melbourne.
- Commenced a fibre build between Loy Yang and Traralgon, Victoria.
- Contracted and installed network equipment in four Data Centres (with two in Hobart and two in Melbourne).
- Contracted with ISPs, Wholesalers and Corporate customers for the supply of Wholesale transmission services.

On 21<sup>st</sup> April, first light-up of the submarine portion of BT network (between George Town in Tasmania and Loy Yang in Victoria) was achieved and current estimates are that BT shall be able to carry customer traffic by the end of June 2008.

BT will soon deliver an alternative fibre network between Hobart and Melbourne, thus **delivering backhaul competition to Tasmania**.

## 3. Basslink Telecoms operational philosophy

BT is a small and nimble telecommunications Carrier experienced with contracting with multiple parties, managing fibre asset and delivering end-to-end transmission services into Wholesale markets.

BT operates to deliver fair and equitable outcomes to all customers. It does not generally seek to engage in the "retail" space and thus avoids the conflict associated with Wholesale vs Retail activities. All customers receive Wholesale pricing and services.

BT does not seek to become a national telecommunications player, but will always stay focused to deliver capabilities into the market where there is a clear need and desire for them. It does not engage in speculative builds and all activities are governed by adherence to robust business cases.

BT does not envisage activities outside of Victoria and Tasmania, making it an ideal state level player to complement with other utility providers in QLD, NSW, WA, ACT and SA to build a national NBN.

BTs' parent, Basslink Pty Ltd, also has strong relationships with other utilities in the state of Victoria and strong support and financial backing from its parent Cityspring Infrastructure Trust.

## 4. Issues for consultation

### 4.1 Locations

#### Priority locations

Basslink identifies three priority locations in the State of Victoria: -

- South-west from Geelong to Warrnambool to Mt Gambier
- Bendigo to Mildura
- La Trobe Valley

#### Possible routes

BT recommends the following fibre builds to connect regional Victoria.

| Build | Start Point | End Point                        | Breakouts  | Type of Build  | Options   | Possible extension     |
|-------|-------------|----------------------------------|--|----------------|---|------------------------|
| A     | Geelong     | Mt Gambier                       | Winchelsea<br>Colac<br>Camperdown<br>Warrnambool<br>Portland               | Point to Point | As identified by DBCDE and LGAs.                              | To Adelaide            |
| B     | Bendigo     | As identified by DBCDE and LGAs. | Ad hoc   | Point to Point | As identified by DBCDE and LGAs.                              | To Adelaide            |
| C     | Dandenong   | Dandenong                        | Warragul<br>Moe<br>Traralgon<br>Sale<br>Yarram<br>Leongatha<br>Koo-wee-rup | Loop           | Optional spurs to:<br>- Wonthaggi<br>- Bairnsdale<br>- Maffra | Dandenong to Melbourne |

In respect of Build C, the actual fibre build path could be altered to build spurs to a number of the towns instead of as a closed loop.

All three of the above fibre builds are suggested due to the lack of alternative wholesale backhaul available at competitive prices and due to lack of actual infrastructure. There are additional justifications for the above builds:

| Build |  |
|-------|--|
| A     | Both Warrnambool and Mount Gambier have traditionally suffered from a lack of any alternative access to that of Telstra's. There are a number of State and Federal agencies, as well as educational facilities in those areas. Additionally, the fibre means that IP services in Warrnambool and Mt Gambier could be acquired from Melbourne vs Adelaide, leading to diverse capital city traffic feeds. Mt Gambier could even be fibred as well from the Adelaide direction, giving a second true competitive path that is suitably geographically diverse and carrier independent to current intercapital networks. Mt Gambier is also on the ACCC blackspot list. |
| B     | As identified by the ACCC list of blackspots.  |
| C     | This Gippsland build is necessary to facilitate more diversity and choice of suppliers as well as capture rapidly growing satellite areas in Victoria. Incumbent pricing also tends to reflect a monopoly treatment of these locations.  |

Along all of these routes, BT recommends breaking out of each fibre run using a small spur or directly into the township, where the population exceeds 3000 people on a net annual basis. This could be adjusted relative to the actual spend/desire of DBCDE and LGAs.

### Contestable Market

Further research into each locations' market will be required. The timeframe for this submission does not allow for this analysis to be undertaken and it is suggested that this is fleshed out in the RFT process.

## 4.2 Design and operational parameters

### Type and Capacity of Services / Operational Arrangements

***...the type and capacity of services and associated operational arrangements that the network operator should provide to access seekers, including the costs of delivering these services and the charges that should be levied...***

Due to the extensive distances of fibre builds suggested, the optical transmission systems for connecting these locations will need to include repeaters. BT has successfully installed a transmission system that includes a 300km submarine fibre which has no repeaters. A similar no-repeater configuration may be adopted for segments of the new fibre build if the placement of repeaters is not desired.

For access-seekers, BT suggests:

- a. 10G optical (grey) wavelengths.
- b. Ethernet services from 10Mbps to 1000Mbps.
- c. STM 1,4,16,64 services.

All services would be delivered optically from common ODF patch panel racks. It does not advocate copper interconnection within POPs (Points of Presence).

It is also important to note that to maintain network integrity, dark fibre services may be inappropriate on longhaul routes, but is certainly valid within regional centres.

BT advocates a structure of build costs being funded, including maintenance and support for the duration of the operational contract, with an agreed operator margin being applied to ensure that contracting entities have a certainty of return. BT also suggests that it is appropriate to ring-fence all DBCDE funding into stand-alone companies established for this initiative to ensure full transparency of taxpayer funding and that the funding is actually efficiently deployed for the sole purpose of these fibre builds. This is preferred over a direct grant to a telecoms player, where the government funding becomes merged with other sources of funding, which could lead to a lack of transparency on how efficiently the government funding is deployed for fibre builds under this initiative.

## Interconnection

***...the locations at which points of interconnect should be sited to enabled secure and ready access by access seekers.***

Previous history suggests that carriers or 3<sup>rd</sup> Party controlled locations ultimately lead to discrimination and favoritism to their own opportunities at the retail level to the detriment of Wholesale customers, hence Government sites are preferable. They also tend to have good power delivery.

All builds assume handover of existing Dark Fibre from an NBN contributor from:

- Melbourne to Geelong
- Melbourne to Bendigo
- Melbourne to Dandenong

It is also noted that builds A+B have already been mooted by the recent DIIRD VicFibreLinks project of February 2009 (Geelong to Warrnambool and Bendigo to Mildura). BT suggests that state level funding for these activities be merged with this initiative.

***BT recommends utilization of Government locations as facilities within regional centres (POPs).***

It is recommended that a standard preference order is given for POP supply:

- Federal facilities
- State Government facilities
- Local Government facilities
- ...or whichever is the most robust and accessible location.

Consideration should also be given to existing data centres and facilities in regional areas, should they wish to abide by the open access NBN regime.

The relevant facility owner shall provide at the POP:

- Telehousing space ie carrier interconnection room and with standardized rack space for placement of winning respondents hardware /fibre equipment termination equipment.
- A minimum number of racks available for access seekers for their fibre termination equipment.

The winning respondent/NBN funding would provide:

- The cost of extra power, fire suppression, access, air conditioning and other expenses directly attributable to the POP shall be borne by the winning proponent.

At all locations (POPs – Points of Presence) there is a strong need for:

- Open interconnection regimes.
- Ubiquitous access rights, consistent at all federal, state and local levels.
- Consistent risk and liability regimes.
- Illegal to charge fees for access or to block access.
- Support from LGA entities with larger community interests at heart.

Additionally, should it be desired, the winning proponent funding shall provide (within each town):

- A core fibre run from each Interconnection point to the main Telstra exchange(s):
  - o With dark fibre for rent with a flat rate cost, delivered either to a wall mounted termination in the Telstra exchange for future connection to the TEBA rack of any ISP/Carrier.
  - o or a road side cabinet built to facilitate fibre interconnection outside the exchange for the same purpose.
  - o Dark fibre services to any data centres or strategic sites.
  - o Dark fibre to any LGA facilities.

Access seekers shall be responsible for their fibre interconnection at the POP, but electronics shall be placed in their own managed/operated/leased locations, so as to minimize impact on POP owners.

## Timeframes and Costs

***...the timeframes and costs associated with the planning, construction and commissioning of backhaul infrastructure in various terrains and locations...***

BT believes that either rail or highway corridors would be best suited to terrestrial builds. The alternative is using electricity transmission and distribution assets for above ground builds. It is hoped that Government would facilitate access to use these assets for the fibre build if necessary.

BT suggests that the current tendering and commissioning of fibre builds is feasible within the DBCDE timeframes, however, more solution certainty is required before fibre and electronics vendors are engaged.

## Fibre / repeater equipment

***...the extent to which fibre repeater/regenerator equipment would be required at locations other than population centres, and the approach in regard to the powering and housing of this equipment...***

Due to the relatively populated hinterland of Victoria, there are a number of towns that could provide via local municipalities, POPs that could double for regeneration/repeating. Presence of reliable power supplies is a key consideration.

With the fibre builds being brand new, it is possible that some of the segments will not need repeaters. BT has successfully run 10Gbps wavelengths 160km on terrestrial segments without repeaters and uses Raman amplifiers either end on its subsea portion for a distance of 300km, utilizing Ericsson as the vendor. This technology will also be able to support 40Gbps and more wavelengths in the future.

The opportunity for cost reduction and reduced complexity is increasing every day, relative to the requirements of the last intercapital network installed. Further detailed analysis is justified with any prospective equipment vendor.

## Merits of deploying links as an alternative route to existing backhaul

***...the relative merits of deploying links that provide an alternative route to existing backhaul infrastructure, and....***

Both Fibre Build A and B mentioned above are obvious contenders for breaking a Telstra stranglehold on telecommunications backhaul pricing into those regions.

Fibre Build C may duplicate some fibre components in and around the La Trobe Valley area, but for the relative cost of this activity, Basslink suggests that this fibre build lays the foundation for “future-proofing” this rapidly growing area.

Whilst there is more than 1 supplier for some of the locations listed in Fibre Build C, these by no means ensure that the bandwidth or price competition is in place to ensure that the requisite amount of NBN backhaul traffic can be carried long term from this area.

## Merits of ring architecture

***...the relative merits of completing ring architectures as opposed to constructing spurs....***

Overall, this is simply a cost vs resiliency debate that can only be determined by DBCDE.

BT suggests:

Geelong – Warrnambool – Mt Gambier should be completed as a ring with a fibre build running from Mt Gambier to Adelaide. This could be complemented by a potential Optus or Nextgen intercapital asset from Adelaide to Melbourne being tipped into the NBN Co., to deliver diverse ring architecture completely separate to Telstra.

Bendigo – Mildura – Adelaide (optional) should be completed as a ring architecture, but in all likelihood a single path from Bendigo to Mildura is more than enough. Should Mildura to Adelaide be contemplated, again ring architecture could be achieved using Optus or Nextgen asset from Adelaide – Melbourne.

For the La Trobe / Dandenong ring, it is recommended that a ring architecture with a number of spurs is undertaken. A number of towns do not economically warrant inclusion on the ring yet, could be in the future. There is significant activity at all times in the LA Trobe Valley area to warrant a ring build, as well new and existing industries, including education, Federal Government, energy generation etc that have demand for more resilient telecommunications.

## 4.3 Operational and ownership arrangements

### IRU/Individual companies/consortia

***...individual companies or consortia build new optical fibre regional transmission links to regional centres with the ownership retained by the Australian Government, and the proponent holding a long term indefeasible right of use over a number of optical fibres....***

BT agrees with the NBN structure of facilitating the builds and the proponent holding an IRU over a number of fibres. The number would vary depending on number of fibres in each build.

IRU timeframe is suggested at 15 years.

BT will be pleased to work with other companies/consortia members as required.

### Regional Centres

***...the number of regional centres that can be assisted with this measure will increase if there are partnership arrangements. The projects that receive funding from the Australian Government would also attract contributions from other parties consistent with the value of the opportunity to those organisations....***

Critical to the NBN are Government entities are various levels. Local Government could support if possible with:

- Premises for NBN open access points
- 100% support for any overhead build.
- Strong advocacy for the community level benefits of telecommunications over that of individual opponents.
- Fast-tracking of any applications/submissions.

As a key plank of BT' submission, it would provide the LGA/authority whom provides open access facilities a circuit from the regional centre back to Adelaide or Melbourne free of charge. In some instances, there may be two or more open access points in the larger regional centres.

Additionally BT would partner with Utility operators/owners to use their infrastructure for the fibre build paths as well as potential POPs.

### Wholesale Operator

***...the involvement of an existing wholesale operator would enable competitive services to be offered to retail service providers immediately after the infrastructure has been put in place. For an agreed period the successful proponent could be responsible for maintaining and operating the infrastructure. The transmission services would be provided to all access seekers on equivalent terms ....***

BT will only operate as a wholesaler. It is proposed that BT operates services immediately after any infrastructure is built for a period of 5 years, then the asset is tipped into the NBN Co. It will maintain and operate the infrastructure on a cost + guaranteed margin. Margin would be subject to discussion

surrounding risk and contract structure. By undertaking this structure, the uncertainty around a Wholesale providing service to all comers is removed and there is no incentive to try to leverage more revenue from an access seeker when pricing is rate-carded.

Transmission services would be provided to all access seekers on equivalent terms and as per requirements outlined in the Backhaul Blackspots Initiative Stakeholder Consultation Paper.

## **Transfer of Ownership / Services Acquisition from successful proponent**

***...At a specified time the Australian Government will transfer the ownership of the infrastructure to the national broadband network company, which will deliver backhaul services over the link or acquire the services from the successful proponent...***

BT has no fundamental disagreement with this aspect, however, some further clarity on the detail of this aspect would be helpful, given that the proponent may invest significant time, labour and intellectual property over and above that of any NBN funding.

This “capital investment” would need to be reflected at ownership transfer time.

## **Basslink Telecoms notes and caveats**

Overall BT supports the proposed structure as outlined in the Consultation paper but would like to receive more details on this initiative.

There are a number of aspects that may need to be addressed prior to this initiative taking root overall. Again, this list is not complete and only includes aspects that have arisen directly as a result of the BT submission to this initiative.

## **Telecommunications Act 1997**

- Potential clarification of “access-seeker” - will Carrier and Service Provider be redefined or further legislation be undertaken to create more structural separation of roles within the telecoms industry, much like the Power Industry?
- Rights of carriers regarding land and access, including buildings, Schedule 3 works in theory but not so well in practice. In order to roll out asset quickly and effectively, the rights of a Carrier and the process for objections under Schedule 3 need abbreviation to ensure that national interest is balanced against those who seek to obstruct.
- NBN builds should carry a “national-interest” label that ensures that single objectors find it harder to holdup up a whole fibre build.
- If building the NBN overall is a goal, a uniform build code and access regime needs to be imposed on utility operators.
- The definitions of “Low Impact” need to include overhead cable.
- An open access regime governing access to any NBN funded facility is required to prevent preferential treatment being given to some access seekers.
- National Code of Conduct / Compliance for all access-seekers.
- Specific strengthening to Act to prevent Building Owners and Management Operators demanding any fees for cabling installs or access or floor space within telco facilities.

## Build structures

- In the first instance a regional centre connected by fibre needs direct service connectivity to the state capital, secondly to the next nearest major regional centre. When considering fibre build diversity, consideration should be given to creating loops that connect regional centres to 2 capital cities for the sake of diversity.
- Standards need to be developed prior to creation of these NBN assets to ensure national level compliance and consistency for the future NBN operator. Fibre splicing, termination, record keeping, maintenance, fibre types and standards all vary from location to location.
- Vendor and equipment electronic standards are required for fibre, electronics and services.
- A standard POP interconnection regime that governs the proponent and access-seeker and POP owner interaction.
- A Federal level training and compliance program for all staff working on NBN funded assets.

## Government support

- BT believes that LGA support is essential for regional fibre builds.
- BT suggests that Government (all level) facilities be registered as potential POPs with primary and secondary designations. This will rapidly shorten and diminish cost for fibre builds when termination and hosting of equipment is required.

## Customers

- Access seekers require a consistent proponent / NBN operator Standard Form of Contract with a national level Risk and Liability regime that is balanced and considers telecommunications operations, rather than a “no-risk” Government / Utility approach. This should facilitate seamless contracting across both winning proponents’ operations and also when assets are tipped into the NBN Co.
- Future services should be acquired via order form to minimise further paperwork.
- Contracts minimums 12 months and maximum 60 months.
- Service Product schedules consistency across the country.

END.