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To whom it may concern,

Submission to DCITA regarding Broadband Connect (“BC”)

This submission is made by Simon Hackett, Managing Director of Internode Pty Ltd (“internode”) and Agile Pty Ltd (“agile”).

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We are happy for the submission to be released in public if DCITA wishes to do so – no part of this submission is confidential.

Agile is registered under Broadband Connect as a wholesale network builder and a Internode is registered as a retail service provider.

We have experience with the operation of HiBIS (the precursor to BC) as a result of these registrations (which were rolled over from existing HiBIS registration).

Executive Summary:

Agile builds new regional (and metropolitan) broadband systems (both tail circuits and backhaul circuits). Agile also built and operates the inter-capital backhaul network and international circuits (to the USA) that constitute the core of its operational network.

Internode nationally sells and supports broadband services based on the infrastructure built and managed by Agile and also using wholesale data services obtained from other organizations including, critically, from Telstra Wholesale.

Our submission is regarding the Broadband Connect (BC) scheme, and does not directly address the Clever Networks (CN) scheme.

We believe, however, that CN will be able to materially improve and leverage the effectiveness of the BC scheme, by offering opportunities for CN to create new backhaul systems able to be accessed by network builders operating under BC.

So CN will substantially extend the effectiveness and customer count able to be assisted under BC, where such new backhaul networks are created via CN.

However, it is our *strong* belief that CN will not be the primary solution provider for the absence of regional backhaul, and that the success of BC will be critically depended on a decision to determine the per-customer BC subsidy in the manner that we propose here.

This new approach allows BC funds to be leveraged directly to build the majority of the new broadband backhaul that is needed in regional Australia.

Under this proposed structure for BC subsidy funding, we provide a mechanism that will allow new regional backhaul to be subsidised in an effective, fair, and realistic manner, in addition to broadband tail circuits.

Our thesis is that our proposed changes to BC will transform it into a scheme that generates enormous benefits for regional Australia in a sustainable manner, and further that it will avoid the potential for the entire scheme (as currently structured) to stall and fail due to the absence of funding delivery in a manner appropriately suited to the geographic variability in the real world costs associated with network building in regional Australia

We submit that our proposed changes will be critical to the success of BC, will deliver a system which is fair, retains appropriate probity, and will do so while also making the operation of the scheme for government and registrants *simpler* (and hence allow more funding to flow directly to network construction, where it does the most good).

#### Background: The Telstra Withdrawal

Telstra have taken the unexpected and surprising step, during the preparation period for this response, of withdrawing from the BC process at a wholesale level, and apparently also at a retail level.

At the time of writing, Telstra will not provide us with a clear indication of their retail strategy, however on January 10<sup>th</sup> 2006 we received a letter from Telstra notifying us of their decision not to engage with the BC process at a wholesale level as of January 11<sup>th</sup> 2006.

This notice stated that:

- “Telstra has decided not to register as a Wholesale Provider under the Broadband Connect scheme” and further that:
- “Telstra will not be providing you with any new HiBIS-eligible Services from 11 January 2006 and will not be offering wholesale Broadband Connect services.

We find this decision by Telstra to be of deep concern as it clearly indicates:

- A lack of interest by Telstra in engagement in regional Australian broadband development going forward, presumably a consequence of internal policy shifts within Telstra
- A contemptuous lack of notice regarding such an important policy shift within Telstra
- The withdrawal of a previously cooperative stance by Telstra when working with its paying wholesale customers, such as Agile, in regional Australia.

#### The key problem in regional broadband is the absence of backhaul

The key to the effective use of the BC subsidy going forward is the ability to effectively leverage BC funding to create new *backhaul*, not just new tail circuits.

If backhaul is not adequately funded, we generate a situation where BC can provide funding (as currently configured) to support the leaves of the ‘tree’ of broadband supply, but it does not allow the sustainable construction of the real key, the ‘trunk’ of the tree – backhaul.

Absent of this trunk being sustainably present, the leaves simply die.

Since Telstra clearly do not wish to make their own existing backhaul available at a tenable price (see: <http://www.internode.on.net/about/news/20050323-ruralbb-detail.htm>), the only general alternative is using BC funding to create new infrastructure to deliver data backhaul to regional towns, not just tail circuit.

Agile has been able to construct viable ADSL (in fact, ADSL2+) services in some specific South Australian regional towns, in some cases supported by HiBIS.

These cases are as part of network builds which were supported by other funding from the Australian government and the SA State Government, which allowed the construction of new (long haul microwave based) backhaul networks, into the Coorong and Yorke Peninsula regions of South Australia.

Today, Agile is the *only* company to have deployed ADSL (and ADSL2+) services into any regional towns in Australia ahead of, and in the absence of, any DSL based broadband offering from Telstra.

This nationally unique situation – where Agile delivers ADSL2+ services and Telstra delivers nothing – in the towns concerned – is important.

It exists because, and only because, of the fact that Agile was able to source bootstrap grant assistance to build new backhaul. Agile then deployed most of the ADSL2+ systems concerned entirely at its own volition (and in the main, entirely self funded – without using HiBIS assistance).

This underscores our fundamental thesis – that the area requiring additional BC funding is in fact backhaul, in addition to subsidy toward circuit construction.

A key point here is that (to its credit), HiBIS (and now BC) is a technology neutral funding process and it is already entirely allowed that HiBIS (and now BC) subsidy payments be directed towards the recovery of the construction cost of backhaul systems, not just toward the cost of tail circuits.

However, the key problem with HiBIS in this regard has been that the magnitude of per-customer subsidy available was only sufficient to bootstrap tail circuit construction and manifestly insufficient (with real-world takeup in country towns) to support the construction of the necessary backhaul circuits (using the most cost effective mechanism, long haul microwave circuits).

As an exemplar of the financial issues inherent in the situation, here is a typical cost scenario for construction of a new regional broadband service into a regional township not currently able to receive one:

## Assumptions:

- A country town with a population of 2000, hence a household count of 800 (2.5 persons per household).
- Expected takeup in the first 12 months for a new broadband service of 5% of household count, i.e. **40** customers out of those 800 households in the first year
- Cost to construct a 48 customer ADSL2+ exchange deployment, including Telstra access and 'smileage' fees per the existing standard Telstra exchange access regime: approximately \$50,000.
- Project management, site preparation and backhaul interface costs approximately \$10,000
- Construction of a licensed long haul backhaul link via an average of two long haul microwave hops to connect the town to another, already backhaul-enabled township, at a typical cost of \$150,000 per microwave hop (i.e. \$300,000 per township average).
- Note that some townships might be reachable with one hop, others may required 3 or more hops – the two hop estimate is a realistic average.
- Assume the town is ISDN capable, hence the lower HiBIS/BC subsidy figure applies today.

Now, examining the impact of HiBIS/BC funding on this scenario, we can see that there is a potential subsidy (over the first year or so progressively) of  $40 \times \$1500 = \$60,000$ . This matches the total tail circuit and interfacing cost of \$60,000 for 40 customers.

Hence, at face value, HiBIS/BC is an excellent match for the situation and will allow us to broadband-enable the town concerned with ADSL services at metro equivalent pricing.

However, if there is no backhaul to the town available at sufficient speed and with very low monthly running cost, then the whole scenario fails.

Paying Telstra backhaul fees is un-tenable – its simply 40-50 **times** too expensive, per month, to be useable for this in general.

The numbers just don't add up.

To make them work, we submit that BC must be changed such that it is possible to raise the per-customer funding offered in a manner scaled to suit the total construction cost (including backhaul) in each specific service area.

In doing this, we propose to set a service area specific per-customer subsidy, instead of setting a per-customer subsidy based on ISDN availability and (in effect) teledensity, alone.

In the process, our proposal substantially simplifies BC by removing the two tiered ISDN central approach, and it also avoids the need to continue with the new (but administratively onerous) situation of having a 12 month service area specific 'sunset'. Instead, we use a per-service area subsidy payment cap.

This is much simpler to administer. It is not subject to unfairly cutting off funding if the initial service area takeup is slower. It is also not subject to delivering unnecessarily high subsidy payments if an area is very successful in less than 12 months.

*With reference to our realistic example, to cover the backhaul building costs in addition to the tail circuit building costs, the per-customer BC subsidy would need to be raised from \$1500 per customer to \$9000 per customer (\$300,000 + \$60,000 = \$360,000 divided by 40 customers)*

Please note that these numbers are based on our actual operational deployment experience. They are highly realistic and reflect real world outcomes in services that we have built and operate today in SA country towns such as Meningie and Taillem Bend.

Both towns now have around 40-50 customers active today. Both have populations of the order indicated above.

Both towns are places where we had existing backhaul so we were able to build these services, but both would have been impossible under the current BC funding arrangements had that backhaul not already existed (funded from other sources).

The core of our thesis in this submission is thus::

- In the presence of the abandonment of the process by Telstra (and even should they re-visit that decision), **and** in the presence of the key requirement that backhaul is able to be constructed under the BC scheme or (in essence) it will be impossible to achieve the stated aims of government without substantially but *appropriately* raising the per-customer subsidy offered under BC as per the example above.
- Should the per customer subsidy be raised in this manner, however, the results will be dramatic and enormously positive for broadband services development in regional Australia. The scheme will work. It will genuinely change the face of regional broadband communications services in Australia.

We believe it requires very little other adjustment of the BC process as it currently stands – other than the per-customer subsidy amount itself – to make this work.

So, the primary process change would be for the BC operations to be changed such that the per-customer subsidy in a given service area is set based on realistic projections of customer takeup (as above), and based on an assessment of backhaul and tail circuit total costs, to obtain *a service area specific subsidy amount* with a minimum of \$1500 per customer and a maximum of (say) \$15,000 per customer.

(The latter \$15,000 limit is intended to avoid unrealistic drains on the scheme in a given service area).

Its pointless to subsidise builds where backhaul is not available, because absent of also subsidising backhaul construction, the service area concerned will not be sustainable – it will fail.

This approach changes the subsidy structure in a key, realistic, and reasonable manner.

Instead of setting the subsidy at two levels based on a complex function derived from ISDN availability, the subsidy is instead set at a level that actually *makes the service area work*.

By setting the subsidy explicitly based on such a formula, areas whose service costs are lower receive a lower per-customer subsidy

(For instance, if backhaul is available already at a realistic price or if backhaul construction happens to be cheaper than our example, the per customer subsidy is lower, and if backhaul is already available at no incremental cost, the BC subsidy devolves to the existing ‘low rate’ \$1500 per customer level. And if backhaul is more expensive then the per customer subsidy is higher, but only to the extent actually needed to get the job done)

This approach also allows for a far simpler (hence lower overhead) mechanism to determine the ‘sunset’ on a given service area – we believe the current interim approach of 12 month expiry of subsidy eligibility per service area is unfair, unrealistic in areas of slow service takeup, and that it adds very substantial administrative burdens to all concerned.

Instead, we suggest setting the maximum subsidy amount able to be claimed by imposing a per service-area cap of 120% of the build cost estimate used to set the service area per-customer subsidy.

This allows for the builder to be a little more successful than anticipated, up to a limited extent, with the overage able to be apportioned toward allowable costs in other service areas (i.e. to help to make up for a shortfall in other service areas where takeup may be lower than expected).

This financial (rather than time based) cap ensures that areas that happen to become highly successful are not subsidised beyond genuine need by the BC process, leaving more funding for building other, new, service areas.

We, further, propose that the subsidy *cap* is set based on the overall population in the service area proposed by a given network builder. But to ensure that the scheme never funds services that are not built, we suggest the actual subsidy payments remain a post-deployment, per-customer payment.

This ensures that the network builder only deploys where they believe their own projections are prepared to work to achieve the penetration needed to uphold their part of the bargain in exchange for the subsidy – to really make it work.

To put this all together, here is the result in specific terms:

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## **Determining subsidy in a given service area:**

### 1) Estimate likely year 1 takeup in a proposed service area

Service area is specified by BC network builder

Addressable population of the service area is determined (e.g. by reference to local council or census population data)

Customer takeup is determined by the formula used in our example, i.e.:

$$\text{Takeup estimate} = (\text{population} / 2.5 * 5\%)$$

Therefore.:

$$\text{Takeup estimate} = \text{population} * 0.02$$

For our example township (2000 population) this means a takeup estimate of  $2000 \times 0.02 = 40$

### 2) Estimate tail circuit and backhaul to nearest existing township

Tail circuit cost estimate \$1500 per service (i.e. the existing 'low rate' BC amount – which is an excellent match to realistic tail circuit costs already)

Backhaul cost estimate is based on a supplier-provided build quotation or estimate (or an audited set of actual costs from a similar past build).

### 3) Generate the service area specific, total subsidy cap, and per-customer subsidy

$$\text{Service area funding needed} = (\text{takeup estimate} \times \$1500) + \text{backhaul cost}$$

Per customer subsidy amount = funding needed divided by takeup estimate subject to a maximum of \$15,000 per customer.

Should the subsidy per customer be \$15,000 (i.e. should total service area cost not be covered by BC under this formula), then the network builder must identify what other source(s) of funding will be used to make up the shortfall or the service area will not be funded. This ensures that only sustainable deployments occur.

Finally, set the total recoverable subsidy from BC in the service area to be 120% of the service area funding needed.

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To return to our realistic example again, this area would have a determined takeup estimate of 40, a build cost total of \$360,000, hence a determined per-customer

subsidy of \$9000, a maximum total claimable in the service area of 40 x 120% x \$9000 = \$432,000.

There is no need to place a 12 month window on recovery of the subsidy (its replaced with the per-area cap), and hence administration is simpler (no date based determinations are needed, simply cease subsidy if/when when the expected 12 month take up is exceeded by 20%.

Execution risk (appropriately) remains with the network builder here. If they don't build the network, or they don't get adequate takeup, they don't get paid. This ensures that speculative applications will not occur – its appropriate for the network builder to believe their own projections are realistic, sufficiently to either initially fund the build out of cash flow before recovering subsidy from BC, or to obtain a loan or lease to build the network, based on track record and the realism of the estimation process concerned.

Again, this isn't theoretical for us – we have proposed these proportions and percentages based on real field experience and our own experience over more than a decade of building broadband infrastructure.

We appreciate that our proposal involves a far higher average per-customer subsidy than the existing BC scheme offers.

We submit that this is *essential*, in *backhaul poor* scenario we face in regional Australia.

In essence, it is far better to deploy broadband to a somewhat lower number of townships under this scheme than would be possible in theory with a \$1500 per customer subsidy.

We submit that if this is not done, either the funding will not be expended at all (because the lack of backhaul will cause applicants to be unable to proceed at all), or deployments will fail, because the higher backhaul costs will mean the deployments are not able to be sustainable afforded over the lifetime of the scheme.

So our proposal:

- Is realistic and simple to administer
- Preserves the audit and success based nature of the subsidies, ensuring that network builders have to take reasonable risk and execute on their promises to earn the subsidy
- Ensures that the probability is very high that everywhere the scheme supports network building such that the build will work, sustainably, in the long term.

Isn't that what we all want?

Yours Sincerely,

Simon Hackett  
MD, Agile and Internode