

BROADBAND CONNECT AND CLEVER NETWORKS:

SUPPORTING INVESTMENT IN SUSTAINABLE BROADBAND INFRASTRUCTURE

Response to
DISCUSSION PAPER

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18 January 2006

Q1 How can the design and delivery of Broadband Connect be optimised to achieve long term sustainable quality broadband solutions for regional, rural and remote Australians?

Q2 What means can/should be used to encourage further capital investment in infrastructure that will support competitive networks and services under Broadband Connect and beyond?

Q3 How can Broadband Connect funding be structured to provide the best incentives for investment?

The major issue limiting investment in telecommunications infrastructure in Australia is regulatory uncertainty. Telecommunications is the only utility which relies solely on commercial entities to deliver infrastructure within a totally competitive framework. There is a vital need for government to become involved (again) as an asset stakeholder (if not an outright owner). This would allow the government to easily promote asset investment for lease to competitive service providers, and would remove the need for artificial constructs to disguise the absence of economic viability of services in most parts of Australia.

This requires a major political change, which is not likely. However the idea of a local council (or ROC) building some telecommunications capacity with the support of DCITA and an infrastructure investment house, may find support in some areas. (This is not a community telco – the commercial services would be provided by a “contracted” service provider who has expertise in delivering such services.)

Each party would bring to the deal expertise in their own field:

- local council – planning expertise, local knowledge of demand, construction expertise;*
- infrastructure funding body – finance, management skills;*
- commercial service provider – operational and management skills, marketing power.*

Schemes such as HiBIS and its replacements are valuable in subsidising services, but their impact on long term sustainable investment in infrastructure is less direct. Direct investment by councils, DCITA and others, in high bandwidth access infrastructure will have a much more sustainable impact on future communications.

The eligibility for investment could be structured around the partnerships which are put together by regional groups, assuming there is a demonstrated need, via a Demand Register or other device While the Demand Register is a valuable tool, there are other ways to determine demand, and it is a relatively safe assumption that outside of 4.5km of the local telephone exchange, there will be demand.

Q4 Is terrestrial or satellite the most appropriate means of delivering broadband in regional, rural and remote areas?

Q5 Can satellite be delivered as competitively as terrestrial services?

Satellite is a valuable option where there is no other. However in terms of the hierarchy based on long-term economics and functionality, the order of priority should be:

- 1. Optical fibre to the premises (FTTP).*

- 2. Optical fibre to the Node (FTTN) – this is the best combination of functionality and economics at this stage, but FTTP is the best long term option.**
- 3. Copper or broadband fixed wireless.**
- 4. Satellite.**

Q6 Should participating providers be required to commit formally to service the areas they identify in registration applications?

Q7 Should annual renewal of funding agreements specify timeframes for commencement of services in areas of greatest need?

Q8 Should a system of prioritised funding for services connected in areas of greatest need (beyond what has been provided under the HiBIS two-tiered incentive structure) be introduced?

Q9 What can be done further to overcome barriers to capital investment in sustainable technologies in less commercially viable regional areas?

The most appropriate way to overcome barriers to investment is to present potential investors with a committed local consortium to interface to the local community and assist with:

- identification of local demand;***
- council approvals, and advice;***
- introductions into the local business community;***
- marketing to the local community.***

Q10 How can the high cost of some technologies be reconciled with increasing customer expectations for higher speeds and usage allowances especially in more remote areas?

The high cost is the stumbling block for commercial service providers (eg like expecting the trucking company to build the roads they need to run their business rather than paying road taxes to governments). A broader investment community may be more able to fund the infrastructure, especially when there is support from the local community, government and business.

Q11 Should it be mandatory for program participants under Broadband Connect to provide additional information as listed below as a condition of registration?

- intended future service areas (with approximate dates of commencement of supply);
- the viable geographic reach of broadband services from central transmission points for service delivery;

- technical barriers limiting the application of providers' technology in regional communities;
- the capacity of providers' technology to support varying types of broadband traffic and use;
- the range of service speeds providers' technology would be able to support;
- the capacity of providers' technology to provide services now and to accommodate new developments such as increased speed, usage and applications in the future;
- the particular relevance of the technology to other communication services (for example, capacity to be used also for supporting mobile telephony services);
- a summary of the broad nature of technology they employ; and
- anticipated timing and target areas for their technology deployment in regional Australia.

Q12 On what basis would you argue that certain specific technologies will have the most impact on the delivery of regional broadband services in the next three to five years?

For sparsely populated areas (ie most of the country) wireless is currently the only technology which can provide the coverage.

However, every new house which is built with only copper access is a lost opportunity! There should be no new dwelling (business or residential) which is not cabled for FTTP and copper for the short-term. This should be mandated (and funded if necessary) by government to encourage usage. This single step would do more to promote optical fibre usage than any other scheme. We are building obsolescence with every house constructed, and the cost of retro-fitting is prohibitive that it will arguably never be warranted.

Q13 How would you compare the effectiveness of these technologies to others in the market place?

Wireless is a good technology when it works, but it is not always reliable.

Optical Fibre is currently at the stage of development of a Model T Ford. Even at this stage its performance is far superior to copper and wireless in all aspects except for:

- still expensive (approximately \$1500 more than copper per house)

- installation is more difficult because of a lack of experience.

Both of the above are scale related issues and as such, of no importance in the medium-to-long term.

Q14 To what extent will broadband technologies be able to augment capacity to meet rapidly expanding consumer expectations for higher bandwidth and more advanced applications?

Q15 Can complementary technologies provide better solutions for delivery of services in regional Australia?

FTTN and FTTP are the only technologies with a dramatic potential for improvement in bandwidth – and we need to think of doubling capacity regularly or perhaps even in terms of orders of magnitude increases.

Q16 What innovative approaches should Broadband Connect adopt in its program design to utilise these technologies most efficiently and effectively?

The regulatory and competitive issues will not go away so the answer seems to be in considering (and changing) the ownership of the infrastructure.

Q17 What capacity do existing technologies have to accommodate the introduction of new developments, such as increased speeds, usage and other applications?

Wireless – has some room to develop but spectrum availability and security may become an issue.

DSL – ADSL over typical distances is virtually at the limit, but the higher speed DSL variants over short distances (in conjunction with FTTN) will probably develop considerably higher speeds (ie the TransACT model but using passive rather than active technology).

Q18 Should the current system of incentive payments to providers for the supply of broadband services be retained?

Q19 Would an up front method of payment be more effective?

Q20 How else could the method of payments to providers be adjusted to achieve more satisfactory outcomes for providers and people living in regional, rural and remote Australia?

Q21 Should funding be provided:

- based on the number of customers connected?
- the number potential premises with potential access?
- a combination of both methods?

What about funding based on infrastructure installed rather than services?

Q22 If funding was based on the number of premises with potential access should it then only be provided for infrastructure?

It can't be paid just for infrastructure because that only encourages over-building. The ideal situation is a choice of service providers AND a choice of technologies, so perhaps the payment could be made for the first additional access technology.

Q23 How can methods of payment under Broadband Connect be better structured to ensure that providers are not overcompensated for the supply of broadband services?

Q24 Should the current HiBIS threshold model for speed and usage be maintained at existing levels under Broadband Connect?

Q25 Should the model be retained with increased minimum speed and/or usage requirements?

Q26 Should two separate minimum speeds with two subsidy levels be introduced?

Q27 Do threshold requirements need to be expanded to accommodate other issues such as latency?

What form of broker network will provide the best outcome?

Q1 Considering the current DAB program structure - involving State, community and sectoral brokers - is the current arrangement the best model for catalysing broadband developments in regional, rural and remote Australia or how should it evolve?

Community based brokers are critical, but the right skills are required

Q2 What role can/should brokers play in promoting or facilitating the effective use of broadband applications in order to enable communities and businesses to capture the transformational benefits of broadband?

The broker role (done with extreme diligence) is fundamental for future infrastructure investments.

A new operational model is required for the development of these programs and it needs to be more market driven. Demand for broadband services plays a key role in service providers making investments within regional and remote areas. Service providers that are presented with good demand numbers or willing anchor tenants will find the opportunity to invest far more attractive (or importantly less risky). Service providers should be backing their marketing ability and where their services (solutions) through their chosen technologies and customer service capability is superior to their competitors. Their balance sheet(need a better word) would be more attractive based on their revenue projections and new subscribers potential rather than the ability to be subsidised for infrastructure investments(still required).

The broker role should be more business development focussed and application development based.

The broker role should be focussed on;

1. Attracting key anchor tenants (not just councils) who commit their broadband spend as part of the regional development. Ensuring that the aggregation of this spend (its dollar value) will go a long way in sustaining at minimum a break even investment for the service provider. Any subsidies for the infrastructure investment then make it more lucrative to invest.

2. Assessing application based demand opportunities. For example

Mackay Sugar Co-Operative Association Ltd (Mackay Sugar) is using broadband to manage the supply chain for sugar producers by providing real-time tracking of harvesters and cane transport, and providing feedback to growers about quality and yield. This process allows improvements in yield management. There are some 1100 potential new

connections just for this group alone. The Mackay Sugar application is an example of the developments which need to be encouraged and stimulated in other farming and non-farm sectors.

Funding should be given to research and develop these applications. Funding levels should be between \$15,000 – \$75,000 per application. Commitment should then be sought by the broker from the group that it will form part of the anchor tenancy for the project. That is the 1100 farmers would be asked to sign up with a single provider.

What the broker should not focus on but these are still extremely important elements of the program;

1. Business plans, EOI and RFT’: This potentially should be part of a central group(joint federally & state) where simple templates and tools have been developed with already produced demographics, topography, population trends and housing forecasts. Information that is critical for service providers to move into the new markets.

2. Marketing; Awareness and education in this area is key. The government should look at developing tutorials that go out through schools and to parents (similar to the tutorial that was done in the Church Resources proposal 37 Schools 11,000 students). Future educational development is critically dependant on broadband access

A broader campaign is required to regional areas that continually lifts the interest in demand for broadband. .

Q3 What other resources or programs should the brokers be aware of in this role?

The main issue is applications. The next step in driving “effective use” of broadband is to focus on applications, especially in the education, health, farm and mining sectors, so any assistance to the brokers which focuses on applications would be beneficial.

Q4 Should the broker role include an increased focus on ‘effective use’ outcomes and, if so, how can this best be achieved?

Yes – by focusing on applications!

Q5 Should uptake and effective use of broadband by specific groups be targeted and, if so, which ones?

The best target groups (outside the metro areas) are health, education, agriculture and mining, with industry and tourism as secondary.

Q6 How might the brokers play a role in facilitating/supporting community-wide connectivity and community-wide (cross-sectoral) networks?

Q7 Should future demand aggregation activities be focussed in areas that have yet to receive terrestrial broadband services under HiBIS to support the delivery of the new Broadband Connect program?

Yes – there are still areas in Queensland which need assistance.

Q28 Should the Broadband Connect Stage 1 price caps be retained under Stage 2?

Q29 Should a greater range of price caps be introduced than the two currently available?

Q30 Should the current funding cap level of 60 per cent continue under Broadband Connect?

Targeted services for Clever Networks initiatives

Q8 Are health, education, emergency services and local government the appropriate services for Clever Networks to target?

Yes

Q9 Should there be priorities within this group?

Health is very important, however there are other major initiatives in progress, and it is a very difficult area. Education would be the best starting point.

Q10 What other sectors, if any, should also be considered?

Agriculture and Mining.

Q11 Should there be a focus on particular applications/sectors which will require and drive network or industry capabilities?

Q12 What strategies could be incorporated into the program design to ensure that investment under Clever Networks provides the greatest holistic community benefit?

Infrastructure and application-focussed investment issues

Q13 Is there an ideal balance between infrastructure and applications streams and, if so, how can it be identified?

The existing focus has been on infrastructure – this need to be changed significantly towards applications in our view.

Q14 What is the best balance between competitively determined and strategic investment funding?

Competitive investment in areas outside the metro areas will always be problematic – the balance between competition/freedom of choice and economic viability is difficult to achieve. The availability of some government funded infrastructure would assist greatly by improving financial viability.

Q15 Would potential proposals be improved if the guidelines permit proposals which encompass both infrastructure and applications aspects?

Yes – any proposal which can link an application to the infrastructure will be much stronger and be more likely to succeed e.g. The Catholic Church as an anchor tenant in Rockhampton and Mackay encompasses several major applications (education and health) and these applications drive the viability of any infrastructure investment.

Q16 What key strategic investments in broadband infrastructure have the potential to provide the best outcomes?

Investment in FTTP offers by far the best long term return, followed by FTTN.

Funding for Clever Networks initiatives

Q17 Are there complementary sources of funding/contributions which should be considered in developing the guidelines for the Clever Networks program?

Utilising new and emerging technologies

Q18 Should there be specified minimum broadband specifications (eg. bandwidth, latency etc) for Clever Networks and, if so, what should they be and how should they be determined?

Q19 What steps / mechanisms can or should be incorporated, if any, into Clever Networks to enable regional, rural and remote communities progressively to transition to high / higher bandwidth networks?

Q20 New technologies are showing considerable promise in providing broadband access to users well outside the current DSL limitations. What strategies should be adopted to encourage and support deployment of these new technologies, and to ensure newly emerged technologies are not precluded during the lifecycle of the program?

The funding should be based on the “intrinsic value” of the technology, according to the hierarch above. Those technologies which provide the longest potential life (FTTP/FTTN) should receive the most encouragement.

Sustainability of Clever Networks initiatives

Q21 What supporting information should be required in Clever Networks proposals in order for their sustainability beyond the life of the program to be evaluated effectively, and what factors should be considered in determining sustainability?

Some of the factors would be:

- ***quality/sustainability of the anchor tenants;***
- ***viability of the business case;***
- ***sustainability of the technology (e.g. standards based, licensed spectrum etc);***
- ***degree of local support.***

New infrastructure access arrangements

Q22 For any new infrastructure created or made available, should there be specified minimum infrastructure access arrangements for parties other than infrastructure owners, such as a wholesale-rate for backhaul?

In most cases this is an issue of price rather than access, and most infrastructure providers will be looking for additional customers.

Q23 How realistic is such a requirement, and how tangible are the likely benefits of the approach?

Q24 How can an appropriate charging regime for such access be determined?

It should be based on market rates – and the more capacity is available, the easier it becomes to set a market price.

Links to other initiatives

Q25 What other program activities should be taken into consideration in determining Clever Network program eligibility and entitlement?

Embedding and undertaking program evaluation

Q26 Having regard to the possible diversity of the activities under Clever Networks, what strategies can/should be considered?

APPENDIX A MAKING A SUBMISSION

Written submissions

This paper invites written submissions from interested stakeholders wishing to have their individual views taken into account in the development of the Broadband Connect and Clever Networks programs.

In developing written submissions, providers and carriers are particularly encouraged (where applicable) to provide the information on their proposed or actual broadband service areas, technologies and/or backbone infrastructure identified in question 11, section 3.6 of this discussion paper.

Submissions must identify the names of the parties making the submissions or comments and organisations they represent, if relevant, as well as contact details, including email addresses, if applicable.

Submissions are to be lodged electronically (preferably in Word or RTF format) by emailing: **BC-CN@dcita.gov.au**.

All submissions and comments, or parts thereof, will be treated as non-confidential information unless specifically requested and acceptable reasons accompany requests. Note that submissions or comments will generally be subject to freedom of information provisions. Email disclaimers will not be considered sufficient confidentiality requests.

Persons making submissions should be aware that they may be made publicly available on the DCITA website

Commercial-in-confidence

Where industry providers wish to assist the development of programs and in doing so provide commercially sensitive information, this information should be provided separately or relevant sections marked as 'commercial-in-confidence' in their submissions.

DCITA reserves the right not to publish any submission, or part of a submission, which in its view contains potentially defamatory material.

The closing date for comments and submissions is: **5:00pm AEST
Wednesday 18 January 2006.**

For any questions regarding this submission process, please contact:

Rhonda Jolly
Regional Broadband Policy and Technical Support
Department of Communications, Information Technology and the Arts
Email: rhonda.jolly@dcita.gov.au
Phone: 02 6271 7210

Stakeholder meetings

To provide stakeholders with opportunities to discuss the issues raised in this paper and to raise other matters they may consider relevant, DCITA will convene a number of discussion fora. These meetings will be held at various venues across Australia during late November through to mid-December 2005.

DCITA is currently approaching state and territory agencies to seek their assistance in organisation of venues. Pending finalisation of that process, the tentative schedule for the meetings is as follows:

Week commencing 28 November	Canberra 28 November Sydney 29 November Brisbane 30 November Townsville 1 December
Week commencing 5 December	Melbourne 5 December Hobart 7 December Albury 8 December
Week commencing 12 December	Adelaide 12 December Darwin 14 December Perth 15 December

To register to attend any of these meetings, please contact Rhonda Jolly at the addresses above.

Contacts for further information

To discuss any elements of the discussion paper relating to Broadband Connect contact Rhonda Jolly at the addresses noted above.

For elements relating to Clever Networks, the contact is:

Ben Utting
Clever Networks
Department of Communications, Information Technology and the Arts
Email: ben.utting@dcita.gov.au
Phone: 02 6271 1959

APPENDIX B BACKGROUND

Origins of Broadband Connect

HiBIS

There are approximately 3.3 million premises in regional Australia. Of these, some 1.7 million already had access to metropolitan-comparable broadband services when HiBIS was introduced in April 2004. These premises were not eligible for subsidy payments under HiBIS.

As the result of Government support for investment in broadband infrastructure through HiBIS, more than 600 000 extra premises in regional Australia can now access broadband services via a range of terrestrial technology platforms, including ADSL, wireless and fibre.

The remaining premises in regional Australia not currently serviced by terrestrial technologies, have access to subsidised satellite broadband services at prices as much as fifty percent lower than equivalent commercial services.

Policy

The primary policy objective of HiBIS is to achieve prices and service quality for higher bandwidth services in regional Australia that are comparable to metropolitan services.

In addition, HiBIS encourages competition amongst providers, thereby increasing service options for customers. It seeks also to mitigate risks inherent in mandating specific technologies by allowing providers to choose the most effective options to suit the demographic and geographic circumstances of the areas they service. HiBIS makes provision for differential subsidy payment levels to account for the higher cost structures of particular technologies required for servicing more remote regions.

Model

The HiBIS model is technology neutral. It is an incentive based scheme that allows registered providers to claim subsidy payments after providing specified broadband services to eligible customers.

Registered providers receive subsidy payments up to the total amount of specified allowable costs incurred in providing their HiBIS services.

Under HiBIS, providers register threshold services that guarantee minimum average data speeds, the monthly usage available to customers and the maximum price customers pay over three years, including installation, equipment and monthly charges. This 'safety net' also guarantees other quality of service elements, such as service availability, complaints procedures and access to a facility for checking actual data speeds received.

Providers are also able to register services offering higher speeds, usage or additional functionality at a higher price. This ensures there is no impediment to providers offering the maximum value services for which there is demand and which their technology will allow.

Success

There has been a significant increase in the number of providers supplying broadband services to regional Australia as a result of the introduction of HiBIS. By the end of October 2005, more than 40 providers were supplying services to customers over a range of platforms.

Within this market, competition has produced a downward pricing trend, which has benefited customers in regional, rural and remote Australia. More than 60 000 customers now receive HiBIS services and 600 000 additional premises now have access to terrestrial broadband services. These customers include more than 700 regional communities which have gained access to ADSL. Ten satellite providers also offer HiBIS services across Australia, while 35 wireless providers offer services meeting the needs of a diverse range of customers.

Appendix C: Coordinated Communications Infrastructure Fund Selection Criteria

Coordinated Communications Infrastructure Fund—Selection Criteria

Selection Criterion 1:

The nature, range and quality of the services to be delivered by the project:

- a. the nature, range and quality of the services which will be delivered by the project; and
- b. the nature and level of demand for the services to be delivered by the project.

Selection Criterion 2:

The benefits and outcomes of the project in terms of improvements it will make to the delivery of services to regional communities

Selection Criterion 3:

The extent to which the services delivered by the project are new and additional:

- a. the degree to which the project complements, rather than duplicates, other broadband and regional telecommunications initiatives; and
- b. an explanation as to why the project would not proceed without CCIF assistance.

Selection Criterion 4:

The nature and range of organisations involved in the project and the effectiveness of the corporate structure

Selection Criterion 5:

The viability of the financial plan for the project, and the level of funding from sources other than the Australian Government:

- a. the viability of the financial plan for the project; and
- b. the proportion of project funding derived from sources other than the Australian Government.

Selection Criterion 6:

The degree to which the project is sustainable after the CCIF ceases.

Selection Criterion 7:

The quality of the project plan and risk management plan.

Selection Criterion 8:

The level of management expertise available to implement and manage the project.