



Australian Government

**Department of Communications,
Information Technology and the Arts**

BROADBAND CONNECT AND CLEVER NETWORKS:

SUPPORTING INVESTMENT IN SUSTAINABLE BROADBAND INFRASTRUCTURE

DISCUSSION PAPER

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1. INTRODUCTION

The Department of Communications, Information Technology and the Arts (DCITA) is calling for submissions from the telecommunications industry, interested stakeholders and members of the public on the design of Broadband Connect and Clever Networks, the two regional broadband programs announced in August 2005 under the new \$1.1 billion Connect Australia package. These programs together represent \$1 billion of the \$1.1 billion allocated to the Connect Australia package.

The objective of the \$878 million centrepiece program, Broadband Connect, is to ensure that all Australians can access equitable broadband services. Broadband Connect will target 1.6 million homes, small businesses and not-for-profit organisations in regional, rural and remote areas.

While the Higher Bandwidth Incentive Scheme (HiBIS) has been very successful in providing broadband access to more than 700 000 premises, Broadband Connect represents an opportunity to go further. HiBIS was originally designed with just \$108 million for regional broadband subsidies, while Broadband Connect is an \$878 million program with eight times the amount of funding originally allocated to HiBIS. As such, it represents a greater opportunity to deliver sustainable broadband solutions, more room for innovation, and more scope to explore the growing range of new and existing broadband technologies.

The large sum of money allocated to Broadband Connect recognises the increasing demand for affordable and reliable broadband services and the fact that national broadband penetration rates are expected to reach 55 per cent by 2009.

The \$113 million Clever Networks initiative will support the rollout of new broadband infrastructure networks and innovative applications to improve the delivery of health, education and other essential services in regional, rural and remote areas. Clever Networks will also support Broadband Connect by developing infrastructure and generating demand to extend the reach of competitive broadband solutions to regional, rural and remote communities.

Clever Networks will strategically focus funding to attract significant support from commercial partners and others, including state governments, and will be targeted at areas of demonstrated demand. It will combine elements of the successful Coordinated Communications Infrastructure Fund (CCIF) and the Demand Aggregation Broker program, but a significant increase in funding provides scope to increase coverage and stimulate the innovative use of broadband in the delivery of regional, rural and remote services.

This paper outlines proposed policy and design principles the Government intends to apply to Broadband Connect and Clever Networks and seeks comment from stakeholders on key elements of the programs. In particular, it asks how innovation can be supported to achieve sustainable broadband solutions that will continue to meet emerging needs.

The paper provides information to facilitate discussion; it does not represent Australian Government policy.

This paper encourages the industry and community to share their innovative ideas for consideration in designing Broadband Connect and Clever Networks. Submissions will assist the Government in the delivery of broadband services for regional, rural and remote Australia.

Information on how to make a submission and details of proposed face-to-face discussion sessions DCITA will be holding during late November and early December 2005, can be found at Appendix A of the paper.

2. BACKGROUND

2.1 *Connect Australia*: A coordinated package

Broadband Connect and Clever Networks are part of the \$1.1 billion *Connect Australia* programs package announced by the Australian Government on 17 August 2005.

The *Connect Australia* program package comprises four elements:

- **Broadband Connect**—aims to deliver equitable broadband services to regional, rural and remote Australia (\$878 million until 30 June 2009);
- **Clever Networks**—aims to roll out new broadband networks for innovative applications to improve delivery of health, education and other essential services (\$113.4 million until 30 June 2010);
- **Mobile Connect**—aims to extend terrestrial mobile coverage and continue satellite handset subsidies (\$29.5 million until 30 June 2009); and
- **Backing Indigenous Ability**—aims to deliver vital communications services for remote Indigenous communities (\$89.9 million until 30 June 2010).

The Broadband Connect and Clever Networks programs will be managed as separate programs each with its own guidelines and administration. However, the programs share some linkages and will operate in parallel to stimulate investment in areas of Australia where the market requires additional incentive so that providers can build business cases to make necessary investments in delivering sustainable broadband infrastructure. The two programs involve targeted Government funding to areas of need where establishment of sustainable infrastructure and service delivery networks would otherwise not be commercially viable.

This paper does not seek comments on Mobile Connect or Backing Indigenous Ability as these programs will be the focus of separate discussion papers. However, in making submissions, stakeholders should consider the linkages between Broadband Connect, Clever Networks and these programs.

2.2 Evolution from HiBIS to Broadband Connect

Broadband Connect will evolve in two stages from the successful HiBIS program established in 2004.

Stage 1 changes to HiBIS have been announced by the Government and these will apply from 1 January 2006. The key Stage 1 changes reflect a downward trend in broadband pricing, reducing amounts service providers can charge customers and limiting timeframes in which they can claim subsidy payments following deployment of infrastructure, provision of access and initial provision of services.

The current consultation process is designed to encourage stakeholder input to assist in the design and implementation of Stage 2 Broadband Connect; it will not affect changes which

will apply during Stage 1 of the program transition. Any changes arising out of the consultation process will be applied from 1 July 2006.

3. BROADBAND CONNECT

3.1 Policy objectives

The key policy objectives of Broadband Connect are to:

- support equitable access to broadband services for residential, small business and not-for-profit consumers across regional, rural and remote Australia;
- provide incentive payments that reflect market cost structures and promote competition in the provision of services;
- facilitate delivery of broadband through the most appropriate, cost effective and sustainable technologies;
- ensure that funding is targeted strategically according to demonstrated need and governed by effective and accountable program management;
- ensure that quality services are delivered and maintained; and
- ensure that high cost delivery areas receive services at prices comparable to metropolitan areas.

3.2 Potential for innovation in program design

Feedback from DCITA consultations combined with growing demand under HiBIS has indicated that the Scheme has been successful in delivering its objectives, and that Broadband Connect will benefit from maintaining many of the fundamental design principles of HiBIS.

However, it has also been suggested that certain aspects of the original model could either be improved or discarded in favour of alternative approaches to ensure that the most effective solutions continue to be supported under Broadband Connect. For example, several stakeholders have argued that the program would achieve more if some of the funding was allocated up-front to give providers certainty to invest in large-scale broadband rollouts in rural areas. This payment method would require a tender process.

Furthermore, the significant investment of \$878 million that the Government will be making in Broadband Connect provides an opportunity to develop a program that stimulates the industry to deliver more innovative and effective solutions.

Innovative modifications to the original HiBIS model or the introduction of new features into an evolved Broadband Connect would be intended to encourage an environment that fosters more sustainable investment in infrastructure services. These could include measures aimed at:

- further mitigating risks associated with capital investment in broadband infrastructure in regional, rural and remote Australia;
- further reflecting differences in the cost of technologies;

- facilitating providers' adoption of, or evolution to newer high bandwidth technologies as they become available;
- encouraging providers to expand sustainable infrastructure to smaller and more remote centres;
- continuing to target subsidy levels effectively in a dynamic marketplace;
- improving information about infrastructure coverage and implementation plans, to inform policy development;
- delivering scalable options to maximise coverage;
- restructuring payment methods such as introducing up front options; and
- ensuring that price controls and quality of service provision continue beyond the lifespan of the programs.

While delivery of sustainable services is reliant on appropriate investment in infrastructure, it is also about ensuring that:

- minimum performance requirements are maintained both during the lifespan of the programs and beyond; and
- prices remain comparable with metropolitan equivalents.

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?

3.3 Retaining some key elements of HiBIS.

While some key elements of the HiBIS program will be retained under Broadband Connect, consideration will be given to submissions that identify anomalies that exist within the elements or argue for their expansion on the basis of improving equity of access to metropolitan comparable services.

Coverage

Broadband Connect will maintain the same coverage areas as HiBIS. Premises in the defined Metropolitan Exclusion Area and those premises that had access to a metropolitan equivalent service at the start of HiBIS in 2004, or subsequently received a HiBIS service, will remain ineligible for Broadband Connect services.

Despite this restriction, approximately 1.6 million premises will still be eligible for support under Broadband Connect (Appendix D provides detail of pre existing and post HiBIS broadband coverage for Australia.).

Customer eligibility

Broadband Connect will target four main categories of regional, rural and remote consumers:

- residential customers;
- small businesses;
- not-for-profit organisations; and
- not-for-profit organisations intending to provide public access internet facilities.

Targeting this demographic under HiBIS has ensured that the needs of consumers who are most likely to be constrained financially from connecting to metropolitan equivalent broadband have been addressed.

Technology neutrality

Broadband Connect will continue to function as a technology-neutral program. This means that any technology platform may be approved for delivery of Broadband Connect services, subject to its meeting mandated price and performance standards.

This policy allows the market to determine the best technology to suit needs and business cases. It also ensures that implementation of new and emerging technologies is not restricted and encourages competition in infrastructure and services.

Role of commercial investment

Broadband Connect will maintain a Government/industry ‘partnership’ approach, which has proven successful in encouraging service providers to undertake infrastructure investments and to offer equitable broadband services further and/or sooner than would have occurred without those subsidies.

Minimum service elements/guaranteed standards

Providers will be required to meet certain minimum guaranteed thresholds and standards in supplying services to customers under Broadband Connect. This will ensure that broadband services in regional Australia not only remain competitive with metropolitan service offerings, but also that their value and performance is certain and measurable.

Registration process

Registration processes under Broadband Connect will continue to emphasise technical capability and financial viability. Providers registered under HiBIS will not be required to re-

register for Broadband Connect and will be offered funding agreements reflecting requirements in new guidelines, provided they have complied with their obligations under HiBIS.

The registration process for new providers will continue to be based on ensuring their corporate, technical and financial capability is sufficient to support their proposed range of services and customer bases. Performance monitoring will be administered by DCITA.

3.4 Evolutionary opportunities

The evolution from HiBIS to Broadband Connect offers an opportunity to explore new ideas and innovative suggestions from stakeholders. These ideas will be considered in developing the program to achieve the most effective outcomes in broadband delivery.

Options raised in the following discussion areas are not exhaustive and comment from stakeholders on other options is welcome.

3.4.1 Sustainable investment

As demand for broadband services continues to increase it is imperative that providers make investment decisions to ensure they remain able and willing to function in their regional market, not only under the Broadband Connect program, but also into the future beyond the life of the program

It is also imperative that the services they provide continue in the longer term to be appropriate to the evolving needs of customers in regional Australia, including with regard to price. Sustainable investment decisions therefore involve decisions about aspects of delivery ranging from how to make the most efficient use of technology to how to establish and maintain services in areas of greatest need.

Terrestrial or satellite expansion

Evidence to date has suggested that terrestrial technologies are more cost effective in delivering broadband services for consumers and providers alike where a critical mass of demand is achieved.

On the other hand, there is evidence that in some locations satellite technology is the most effective broadband solution. This issue needs further exploration in the context of provider capacity and appropriateness of service for particular communities and individual customers.

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?

Areas of greatest need

Similarly, a question has been raised on how a balance can be achieved between what may appear to be the conflicting aims of:

- delivering services to remote communities or less commercially viable markets; and

- providers needing to gain commercial benefit from the supply of services in the context of developing sustainable investment strategies.

Addressing this issue under Broadband Connect could require further identification of areas of more significant need for Government intervention particularly where commercial viability of broadband service provision is limited. Any strategies would need to encourage providers to continue to deliver quality services to these areas.

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?

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?

Effectively targeting support to areas of need

Information about new or emerging technologies is a vital consideration in shaping Broadband Connect to establish the foundations to encourage future development of broadband services in regional, rural and remote Australia. Providers already provide information about their current services and service areas, but information about their future plans would prove valuable in developing strategies that better encouraged movement into areas of need.

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.

3.4.2 Innovative technologies

To date service providers have developed solutions that use of a range of innovative technologies to deliver broadband services to Australians. Solutions have acknowledged the unique and challenging problems experienced in regional, rural and remote Australia, including the diversity of locations to be served and different customer preferences and needs (Appendix E shows the spread of technologies currently employed by HiBIS providers).

Changes in the technology ‘mix’ and the possible emergence of new technologies and how they affect the long term prospects of regional providers and customer expectations, also continue to be of particular importance to the regional, rural and remote Australian broadband environment.

Broadband Connect will need to continue to employ a range and mix of technologies to deliver the right mix of services, but the question is what constitutes that mix?

Periodic reviews of the program will help to monitor the effectiveness of technologies used and provide a timely mechanism to look at the ways in which market structures influence the rollout of technology in regional areas. Providers can also contribute by elaborating on the types of technologies they consider will be the most efficient and cost effective.

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?

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

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?

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

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

3.4.3. Method of Payment

Incentives

Incentive arrangements have been successful under HiBIS and may continue to allow Broadband Connect to stimulate a competitive market and promote choice and price benefits for consumers.

However, Broadband Connect is an \$878 million program – eight times the amount of funding originally allocated to HiBIS. Therefore, there is scope to explore a range of incentive payment methods that may attract more innovative, competitive and sustainable broadband solutions than the HiBIS model.

Stakeholders have informally made a range of suggestions, including that:

- the current incentive per customer payment method could be adjusted both to enhance the delivery of services as well as achieve better cost effectiveness;
- current subsidy levels for more remote areas may not adequately reflect the range of costs that providers encounter, or the variety of conditions under which broadband is supplied throughout regional, rural and remote Australia; and
- paying incentives after installation of services does not provide them with the certainty that up-front funding can deliver in justifying investment in broadband infrastructure in some regional areas.

A number of factors need to be balanced in addressing these issues. These include consideration of the extent to which lowered broadband deployment costs and increased provider revenue from higher customer take up rates in regional Australia compensate for factors such as uncertainty and higher delivery costs in certain areas. It is also important to be mindful of accountability and risk management issues in the expenditure of public funds.

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?

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

Timeframe for payments

The Stage 1 transition from HiBIS to Broadband Connect will use a 12-month limit on the period providers can claim subsidies following deployment or upgrade of infrastructure, provision of access to a group of premises and commencement of service.

This limitation is intended to prevent providers from gaining subsidies over and above the amount required to provide viable services once they have rolled out infrastructure in established areas. It is considered that the provision will also give providers time to implement services, gain viable customer numbers in particular areas and recoup up front costs, while at the same time encouraging providers to expand into new areas.

It is envisaged that the impact of this policy on participating providers will be balanced by the higher levels of customer revenue available to them as a result of increasing rates of demand and take-up of broadband services.

However, some stakeholders have suggested that there may be more effective ways of achieving similar outcomes. Others have noted that special consideration should be given to providers who supply services via infrastructure that has a long lead time for implementation, or requires new investment in competing networks and technologies; for example, deploying fibre or wireless based services.

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?
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3.4.4 Quality of service

Speed

Broadband Connect will require registered providers to offer services that include minimum service components relating to speed and usage allowances.

However, some stakeholders have referred to the increasing value of entry-level service offerings from broadband providers in metropolitan markets, in the form of higher speeds or usage allowances, and proposed that minimum threshold service components for Broadband Connect should mirror these increases.

One option that has been suggested to deal with this situation is that Broadband Connect should require registered providers to offer two minimum threshold services: one matching the current minimum required speeds and one with higher speeds.

Q24 Should the current HiBIS threshold model for speed and usage be maintained at existing levels under Broadband Connect?
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Q25 Should the model be retained with increased minimum speed and/or usage requirements?
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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?

Customer prices

New price caps for threshold services will apply under Stage 1 of Broadband Connect. ADSL services can be priced up to \$1500, non-ADSL services can be priced up to \$2000 except for two-way satellite services which can be priced up to \$2600. An extra \$1000 can be charged where additional value at least to that amount is provided.

Providers have suggested that these caps could be lifted to allow the market to dictate prices to customers once Broadband Connect is fully operational. However, this suggestion does not provide a safety net for customers and is contrary to the HiBIS core objective to provide equity of pricing. Furthermore, the current arrangements under HiBIS for the supply of broadband services reflect market trends and can be periodically adjusted.

Introduction of a greater range of price caps than the two currently available has also been suggested as an option that could be explored. It is has been suggested that this option would be more applicable in addressing the wide range of services available from providers. This option too has limited merit, given that it would most likely involve complexity and increased administrative cost.

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?

4 CLEVER NETWORKS

4.1 The origins of Clever Networks

Extensive terrestrial backbone infrastructure has been deployed by carriers, State Governments, utilities and major industry users such as mining and forestry in regional, rural, and remote areas of Australia. ADSL (4km reach) is also deployed in communities with populations of around 500 or more.

Clever Networks aims to identify areas which are underserved by higher bandwidth infrastructure and to leverage investment from industry and governments at all levels and work actively with local communities to improve broadband infrastructure and services in those areas.

In so doing, Clever Networks will build on an approach established under the CCIF program, which has demonstrated that broadband infrastructure projects intended initially to improve delivery of health, education and other government services, can also increase broadband availability for regional, rural and remote communities as a whole.

The existing Demand Aggregation Broker (DAB) role includes, state brokers, national sectoral brokers for the health and education sectors, and community-based brokers whose area of responsibility can sometimes cover many communities and vast areas. These roles have played a significant part in facilitating infrastructure deployment and service delivery, assisting communities and sectors to identify opportunities and demand, and to initiate investment. Clever Networks intends to develop the broker role to meet the changing needs of the current situation and of the overall program.

Further background information on the CCIF and DAB programs can be found on the DCITA website at www.dcita.gov.au/ie/broadband/programs. A copy of the CCIF selection criteria are at Appendix C.

4.2 The intent of Clever Networks

Overall, Clever Networks aims to:

- increase access to, and effective use of competitive broadband networks in regional, rural and remote communities;
- focus on the delivery of government services such as, but not limited to, health, education and emergency services;
- build additional infrastructure to support Broadband Connect in extending the reach of competitive broadband in rural, regional and remote communities; and
- facilitate sustainable competition.

4.2.1 Policy objectives of Clever Networks

The policy objectives of Clever Networks are to:

- improve terrestrial broadband for unserved users; that is, communities either outside the reach of ADSL, or too small to attract ADSL;
- create a situation under which regional infrastructure can improve network reach and competition within a more coherent and commercially sustainable environment;
- support deployment of new technologies as they evolve; for example, higher bandwidth services, mobile broadband and wireless services;
- support development and use of innovative broadband applications that deliver improved health, education and other services;
- assist communities to develop skills and capabilities to realise the social and economic benefits broadband can provide; and
- leverage multiple sources of investment including from service providers and all levels of government to provide the greatest possible benefit.

4.3 Elements of Clever Networks

4.3.1 Strategic Infrastructure Investment

The CCIF program has demonstrated that innovative broadband projects improve the delivery of health, education and other government services and increase broadband availability for communities as a whole.

Under Clever Networks, targeted infrastructure investment will:

- improve the capacity of regional traffic to link into the national network; and
- allow providers to deploy new broadband services in regional rural and remote areas on a competitive, commercially sustainable basis.

Clever Networks will provide funding for deployment of access systems, including wireless broadband and new backbone network capacity, which assists in providing sustainable and competitive broadband services to regional, rural and remote communities.

The National Broadband Strategy Implementation Group (NBSIG) and an (evolved) broker program will play important roles in supporting Clever Networks initiatives. For example, infrastructure initiatives will be sustained by local demand aggregation activities to affirm sustainability of new infrastructure and ensure regional, rural and remote communities are able to make effective use of broadband services.

Accessing existing infrastructure

Broadband access to key services such as health, education and government services in regional, rural and remote areas can be improved through:

- facilitating access to existing telecommunications infrastructure. This can occur by funding construction of additional access points and associated links on existing trunk fibre owned by competitive carriers or other commercial entities; or
- accessing fibre or other telecommunications infrastructure that is presently unused or underused. This can occur, for example, by accessing the ‘dark fibre’ sometimes installed during construction of other projects, or microwave links which are being used for non-commercial telecommunications purposes.

Challenges in pursuing this approach include:

- accurately identifying the existing unused or underused infrastructure;
- addressing commercial parameters which may restrict use of infrastructure in the broadband market;
- gaining basic access to the infrastructure for commercial telecommunications purposes; and/or
- being able to go beyond ‘backbone’ access to service local communities effectively.

Creating new infrastructure

Improved infrastructure can also be achieved by providing seed funding for deployment of access systems, including wireless broadband systems and new backbone network capacity. This will assist in the provision of sustainable and competitive broadband services to regional, rural and remote communities.

New backbone capacity can provide access to previously unserved areas and in some cases, new avenues for backhaul. This can improve the competitive backhaul environment, which in turn, can make new service delivery models viable.

To achieve such outcomes, Clever Networks will need to:

- determine strategically what new infrastructure is required; and
- prioritise proposals for providing competitive infrastructure or access systems, where the strategic requirement and sustainable need has been established.

The evolved DAB role and the NBSIG are expected to be able to contribute to the knowledge base required for strategic decision-making.

The NBSIG will assist in prioritising options by identifying where gaps exist in the national broadband infrastructure, suggest options to correct them and articulate what benefits may occur from this process; therefore assisting in prioritising options. Local demand aggregation activities that examine the sustainability of new infrastructure, raise awareness, and ensure communities are able to make effective use of broadband services will also be beneficial.

4.3.2 Demand aggregation/broker activities

At present the DAB role involves state brokers, national sectoral brokers for the health and education sectors and community-based brokers whose area of responsibility can sometimes cover many communities and vast geographic areas. Demand aggregation/broker activities have complemented infrastructure deployment and service delivery.

It is envisaged that Clever Networks will fund a new broadband broker role to build on the current DAB Program (\$8.4 million over three years) which expires on 30 June 2006.

Stakeholders may wish to comment on the design parameters for the proposed new broker network, having regard to the issues outlined below.

4.4 Issues discussion

The role of the brokers' network

The current DAB Program has helped develop regional business cases and gather intelligence that has assisted service providers to extend the coverage of terrestrial HiBIS services such as ADSL and wireless. The program has also assisted in raising the awareness of broadband in rural and regional communities. Under existing DAB projects, brokers have predominantly aggregated demand and developed business cases to persuade service providers to enter new or under-served markets.

While brokers have been effective in increasing demand and uptake, some feedback suggests there is increasing need, particularly in regional, rural and remote Australia, for assistance and advice about the effective use of infrastructure deployed by programs such as CCIF, and that are proposed to be deployed under Clever Networks.

Increased access to broadband and technical skills within local and regional organisations in turn helps communities gain expertise to extract efficiency advantages from broadband technologies. A revised role for brokers could move them from a demand aggregation focus to involvement in development and facilitation of effective use strategies.

One concern regarding the existing DAB program is that it could potentially deliver outcomes primarily focussed on a particular sector in a community, rather than benefiting the community as a whole. This situation could be addressed by making more use of geographic based brokers, as geographic coverage naturally encompasses sectoral components such as health, education and local government service delivery, within each particular geographic location. This approach could result in funding being more strategically allocated, and a closer engagement with relevant state and territory managed program delivery areas. A more holistic approach, involving demand from a broad cross-section of users, would help maximise the likelihood of a community building a successful business case for infrastructure and service delivery deployment. This holistic approach may also enable regional areas to identify synergies between infrastructure developed under Clever Networks and the delivery of subsidised consumer broadband services under Broadband Connect.

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?

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?

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

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

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

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?

Targeting the delivery of key services through broadband

Clever Networks will focus on the delivery of key government services through broadband. The initiative will have a particular focus on the delivery of government services such as, but not limited to health, education, emergency services and local government.

Targeted services for Clever Networks initiatives

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

Q9 Should there be priorities within this group?

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

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 versus applications

While Clever Networks aims to support both infrastructure development and emerging broadband-based applications, the majority of program investment will occur in infrastructure.

Some investment will be strategically determined, while other investment will be determined through a competitive selection process.

The precise balance between the infrastructure and applications streams has yet to be finalised, as has the balance between competitively determined and strategic investment funding.

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?

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

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

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

Alternative contribution sources for proposals

The current CCIF program accepts funding or other contributions from consortium partners, which is able to contribute towards the viability and success of the program. The degree of non-Australian Government contribution is a factor considered in selecting proposals.

This approach, which has been successful in attracting both financial and in-kind contributions from a wide range of State, Territory and local government and industry stakeholders, will be retained under Clever Networks. Preference will be given to those funding applications where there is at least matching funding from non-Australian Government sources.

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

As broadband delivery technologies are evolving rapidly, it is important that the Clever Networks program design can support emerging technology demands (such as voice/data/video) and access to emerging technologies.

Some emerging technologies which may need to be captured include wireless technologies such as WiMAX, DSL technologies such as ADSL2+, higher bandwidth satellite technologies and Broadband over Power Lines.

There is potential under Clever Networks to specify a higher level of broadband capability for new projects to ensure the demands of emerging applications are met. Alternatively, different

performance standards may be specified for different areas, or the performance capabilities may be considered on a proposal-by-proposal basis.

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?

Sustainability of new infrastructure or applications

A significant issue raised during recent Online and Communications Council discussions is the need for Clever Networks outcomes to:

- be self-sustaining beyond the life of seed funding; and
- not require further Australian Government or State/ Territory assistance or intervention for the capability to continue or be progressively upgraded in the future.

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?

New infrastructure access arrangements

A further issue raised during stakeholder discussions has been the need for any new infrastructure to have wholesale access arrangements in place. This potentially could facilitate competition in provision of services and pricing for backhaul arrangements, thereby underpinning the viability of new services in regional, rural and remote areas.

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?

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?

Linkages to other initiatives

The CCIF program was designed to integrate with other programs, such as the HiBIS program, by allowing, for example, both programs to contribute to different aspects of the same project. It is intended that this strategy continue under Clever Networks beginning with the exploration of the links between the new demand aggregation activities and the potential for these to identify areas of broadband need for the future Broadband Connect program. Another potential link is for the additional backhaul infrastructure, which is intended to be developed under Clever Networks, to be utilised by prospective Broadband Connect providers.

Links to other initiatives

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

Program evaluation

Appropriate compliance, monitoring and evaluation methodologies will need to be embedded in Clever Networks projects to:

- monitor progress;
- ensure effective delivery of promised outcomes; and
- provide input for future program design.

The diversity of possible projects under Clever Networks poses potential challenges for evaluation of the program. These will need to be solved to ensure, for example, that the impact of providing a breakout point to service a local community with broadband services and the assessment of a new telemedicine application can both be effectively evaluated although the projects are substantially different.

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.