Queensland Government Comments Regarding Broadband Connect and Clever Networks

Executive Summary

The purpose of this paper is to provide the Queensland Government's comments in relation to the *Broadband Connect and Clever Networks* discussion paper released by the Australian Government Department of Communications, Information Technology, and the Arts (DCITA).

The Queensland Government's view is that telecommunications is the Australian Government's responsibility under the Australian Constitution.

In order to accelerate the rollout of competitive broadband service in Queensland, the Queensland Government initiated a Panel Agreement for the supply of Data Carriage Services to government agencies, which has reduced costs and encouraged Optus, Telstra and Soul to roll out additional broadband telecommunications infrastructure in the State. This initiative has significantly improved the range of broadband services available in Queensland.

However, the Queensland Government considers there are still a number of broadband issues that need to be addressed. These are:

- ensuring effective competition across all markets;
- transparent separation of Telstra's retail and wholesale divisions (Structural Separation);
- access to the Unconditioned Local Loop (ULL);
- lead time in accessing infrastructure provided by Telstra; and
- further changes to the access regime.

It is the opinion of the Queensland Government that competition is still not present in the majority of telecommunication markets. As a consequence, access and competitive conduct regulation remains essential to delivering effective outcomes. Both access and competitive conduct regulation need to be strengthened, while remaining reflective of market reality. For example, in cases where, for market reasons, a single provider may be necessary for the provision of a number of services, the regulatory environment needs to be appropriately strengthened. In the absence of the full structural separation of Telstra, operational separation is essential to provide a sufficient degree of transparency for the regulatory framework to be effective, and to create stronger incentives for Telstra to maximize access to its networks.

As a minimum, operational separation should entail clear rules (with sanctions for breach) between the retail and wholesale divisions, arms length dealings between the two entities, separate accounts and reporting frameworks and separate staff and management structures.

Where the market is large enough to sustain more than one provider, more effective access to the ULL is necessary to enhance competition between Telstra and competitors. To be able to compete with Telstra, entrants to the broadband market require reasonable access to monopoly infrastructure to build their customer base. While a lack of access has led to bypass and investment in new and competing infrastructure, this has largely only benefited CBD customers.

The longer the delays in gaining effective access to Telstra's infrastructure, the more entrenched Telstra's position will become without the divestiture of its network businesses.

Additional changes are necessary to the access regime to improve the effectiveness and reduce the uncertainty for those seeking access to the services. Firstly, the Queensland Government holds that the Australian Competition and Consumer Commission (ACCC) should have the power to make modifications to an access undertaking, with or without the agreement of the access provider. Secondly, it would be desirable for the ACCC to establish, as part of an access undertaking, reference tariffs for commonly accessed services.

While the Queensland Government generally supports the Broadband Connect and Clever Networks initiative, the following recommendations are made to the basic underlying principle of the program:

- the development of a regulatory framework and market structure capable of supporting a competitive and innovative telecommunications market;
- affordable broadband access to communities where none currently exists; and
- achieving minimum access standards for all of Australia which will allow participation in the global market and provide opportunities to capture productivity improvements.

The following recommendations are also provided by the Queensland Government in relation to program delivery:

- the implications of the recently announced Telstra Strategic Plan should be taken into consideration by DCITA when prioritising areas of greatest need;
- DCITA should commit to a minimum service standard for broadband services of 256 kbps in the short term and 2-10 mbps (video grade) in the longer term upload for rural and regional Australia at a price that is equitable to that enjoyed in metropolitan regions;
- DCITA should develop an accurate geographic information service identifying key telecommunications infrastructure to assist with funding allocations;
- DCITA should ensure that all funding from this program results in infrastructure that facilitates competitive network access, or does not result in infrastructure that reduces competition;
- DCITA should ensure that infrastructure is scaleable to meet anticipated services over the life of this program to guarantee that sustainable infrastructure and services are maintained into the future;
- DCITA should give priority to funding Clever Network applications that support both broadband and mobile services; and
- The Australian Government should utilise its expenditure on telecommunications services to encourage carriers to roll out infrastructure based on the successful Queensland Government model.

Introduction

Background

Affordable access to broadband is recognised as a key requirement for economic growth and productivity gains, and accordingly, increasing broadband penetration has become a top policy priority for most countries. The Commonwealth's commitment of $1B towards the Broadband Connect and Clever Networks programs provides an opportunity to secure greater economic and other benefits for regions and communities within Australia, which have to date been sidelined from the information age.

The approach taken to broadband funding should establish the minimum standards to be achieved and incorporate a periodic review of these standards. This will ensure that telecommunications services in Australia keep pace with the standards being achieved in other leading economies.

The Queensland Government's view is that telecommunications is the Australian Government's responsibility under the Australian Constitution.

Queensland Government Initiatives

The Queensland Government's approach from a policy perspective is that it is necessary to establish a competitive infrastructure to substantially improve telecommunications services and reduce prices throughout the state. This proactive approach works in the more populated areas such as the coastal band and some of the major regional centres where there is more scope for profit. From a geographic perspective, a large proportion of Queensland has difficulty supporting competitive telecommunication services.

In December 2003, the Queensland Government announced that Optus, Soul and Telstra would be the preferred suppliers of data carriage services to Queensland Government agencies under the SmartNet Panel Arrangement for a term of five years.

SmartNet aims to use Queensland Government data carriage expenditure as leverage to develop and deploy cost-effective broadband telecommunications services across Queensland for the benefit of business and communities.

As a result of this initiative, Optus has installed optical fibre networks in Cairns, Townsville and Rockhampton, as well as expanding their existing network to deliver broadband services to more than 30 regional towns.

The expanded Optus network delivering broadband services will include the following locations: Ayr, Beaudesert, Beenleigh, Bundaberg, Caboolture, Caloundra, Cairns, Cleveland, Emerald, Gladstone, Gympie, Hervey Bay, Innisfail, Ipswich, Kingaroy, Mackay North, Mareeba, Maroochydore, Maryborough, Mt Isa, Noosa, Redcliffe, Rockhampton, Roma, Southport, Strathpine, Surfers Paradise, Toowoomba, Townsville, Warwick and Yeppoon.

Soul will offer a range of competitively priced broadband services that will be provided anywhere in Queensland, where sufficient demand exists to justify their provision. While the rollout of this service has been limited to date, discussions are continuing in order to provide competitive broadband services in Northern Queensland.

Under SmartNet, Telstra agreed to substantially reduce the price of its Frame Relay data services and deploy its ADSL broadband services to many new locations in Queensland. Telstra will also deploy its wideband IP service into Townsville, Rockhampton, Gladstone, and Toowoomba. The outbacknet@qld project negotiated the addition of Roma, Longreach and Mt Isa, and other Queensland Government agency initiatives have expanded coverage for this service.

The Queensland Government is in the process of updating the SmartNet Panel Arrangement, which may result in additional suppliers to the SmartNet Panel.

Broadband Technologies

Broadband describes a class of telecommunication access service such as asymmetric digital subscriber line (ADSL); hybrid fibre coaxial (HFC) cable and wireless, which offers a higher data rate than narrow band services. Currently, it is still not possible for all customers to access broadband services at equitable prices across metropolitan and rural Queensland. Specifically, a significant number of people live and work in areas where ADSL, HFC and wireless services are not available. The only form of broadband access available to such people is generally via satellite. The costs associated with delivering satellite services are generally higher than for terrestrial networks and consequently access prices are also generally higher.

Broadband access is particularly significant for Australia, which among advanced economies faces the largest geographic distances to its major markets overseas. According to the OECD Broadband Statistics (June 2005), Australia currently ranks seventeenth in the world in broadband penetration recording 10.9 broadband subscribers per 100 inhabitants. This compares with Korea, in first place with 25.5 subscribers per 100, Canada in sixth place with 19.2, and Sweden ranked tenth with 16.5. For Australia to improve its ranking to be within the top ten group of OECD countries, the number of broadband subscribers would need to increase by more than 50% over current levels.

Critical Issues

Critical broadband access issues for Australia identified by the Queensland Government are as follows:

- in keeping with reforms being implemented under the National Competition Policy review the establishment of a regulatory framework and market structure capable of supporting a competitive and innovative telecommunications market;
- affordable broadband access to communities where none currently exists; and
- achieving minimum access standards for Australia which will allow participation in the global market and provide opportunities to capture productivity improvements.

ISDN access of 128 kbps, currently the standard for many regional towns and communities is inadequate to support effective broadband utilisation for economic, educational and health service requirements and is no longer included in measures of broadband in international benchmarking studies. An improved standard supporting upload access at 256 kbps could be considered an acceptable minimum standard within today’s environment, but will most certainly require substantial upgrading before the end of the decade.

A significant challenge is to achieve broadband speed, reliability and access arrangements which will advance Australia’s international competitiveness. This policy provides an opportunity to determine appropriate benchmarks for the future and to chart a course for their achievement. This would benefit from an assessment of future needs consistent with projected technological advancement in other leading countries rather than working towards minimum standards based on current technologies and capabilities. One possible approach is for the program to establish a progressive scale of qualification standards, reviewed annually, to ensure that funds continue to deliver improvements consistent with longer-term targets.

Funding Adequacy

The level of the proposed funding package may not be sufficient to improve access to, and affordability of telecommunications services in rural and regional Australia, particularly given the need to upgrade regions which currently rely on ISDN. Moreover, it is unlikely that this will be sufficient to provide for the on-going rollout of new technology over time.

The projected 55% broadband penetration rate by 2009 cited in the DCITA discussion paper establishes a benchmark which significantly exceeds the best performance currently achieved in the OECD. This raises the question as to whether the budget provided under this program can realistically achieve such a target, given the magnitude of the task and the need to upgrade areas which currently rely on un-scaleable technology.

As the most decentralised state in Australia, telecommunications including broadband services, are particularly important to Queensland. Queensland's mining and mineral processing, agriculture, agribusiness, and tourism industries are the main sources of employment and economic activity in regional areas and account for more than 75% of the State's exports. From an economic viewpoint, the issue of cost effective regional and rural infrastructure and services is more pressing in Queensland than for any other area of Australia.

The Queensland Government believes that a truly competitive environment is essential to ensuring all Queenslanders have the opportunity to access the benefits available to them in the information age. These benefits are multi-faceted, including innovation and productivity growth from e-commerce and social benefits from electronic service delivery and improved communication systems, as well as benefits through industry and regional development.

Connect Australia

Broadband Connect and Clever Networks are the two regional broadband programs announced in August 2005 by the Australian Government under the new $1.1B Connect Australia package. Broadband Connect and Clever Networks together represent $1B of the $1.1B 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.

Broadband Connect

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 $108M for regional broadband subsidies, while Broadband Connect is an $878M 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 funding allocated to Broadband Connect recognises the economic and social imperative for affordable and reliable broadband services to become universally accessible and should deliver substantially increased penetration rates for rural and regional Australia.

Clever Networks

The $113M 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 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.

Evolution from HiBIS to Broadband Connect

The Higher Bandwidth Incentive Scheme has not delivered rural and regional services with adequate service parity. Under Broadband Connect, the Australian Government should set minimum service standards that better align the available services in regional, rural and remote areas with those received by metropolitan consumers, in terms of both speed and download quota for a particular price. It should be noted that this may require a larger subsidy from the Australian Government.

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 changes to Stage 1 reflect a downward trend in broadband pricing, reducing the 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.

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; and
- build additional infrastructure to support Broadband Connect in extending the reach of competitive broadband in rural and remote communities and facilitate sustainable competition.

Information Sought

The Australian Government has released a discussion paper seeking comments from stakeholders on the following issues (highlighted in bold font).

Broadband Connect

Potential for innovation in program design

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?

Questions 1 and 2 are both covered in this response. All funding provided under Broadband Connect and Clever Networks should include the provision that spare infrastructure capacity installed and operated under the grant is available to other carriers, carriage service providers, and Internet service providers through industry equivalent wholesale arrangements. Access to this capacity should be under non-exclusive supply agreements. To facilitate assessment of an applicant's capacity to construct excess capacity (and hence available for competitive supply) applicants for funding should provide detailed information on their immediate bandwidth needs, future bandwidth requirements, the physical points at which competitors can interconnect and the capacity available at each interconnection point and identify the bandwidth and type of excess capacity. By way of explanation, this principle applies to backhaul, and "last mile" access.

To maximise the benefits received by consumers the program must:

- require carriers to operate the subsidised infrastructure for a minimum period. This will encourage carriers to be forward looking when deciding on the appropriate technology. It will also ensure infrastructure invested in by the Australian Government is not made redundant and shut down; and
- encourage carriers to invest in technology which is capable of being upgraded to meet the future demands of customers.

The Queensland Government also believes it is very important to have price controls and quality of service provisions beyond the lifespan of the program to ensure consumers continue to benefit from the program.

As content is a significant incentive to take-up, applications such as voice over Internet protocol and video conferencing must not be stifled through provisions applied by the infrastructure owner.

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

Before proceeding, carriers will require a sustainable long term business case, with guaranteed capital, and on-going revenue, making the provision of service viable.

Funding should be structured in a way that rewards both capital investment in infrastructure and provision of desirable services to customers. That is, capital investment that provides services that few customers find desirable should not attract the same subsidy that many customers find desirable.

Terrestrial or satellite expansion

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

The means of delivering broadband should be assessed on a case by case basis. Using terrestrial ADSL as the benchmark in terms of cost and performance, satellite is an expensive option. However, in remote areas, where the provision of terrestrial infrastructure is cost prohibitive, satellite is the obvious solution.

The focus of subsidies for the deployment of broadband infrastructure should be in building terrestrial infrastructure. Technology developments and the availability of new broadband services (for example, video on demand, IP Television, health and education applications) are expected to require greater bandwidths, which are more efficiently delivered in terms of scale and economics by terrestrial systems.

Q5 Can satellite be delivered as competitively as terrestrial services?

As noted above, satellite cannot compete in terms of quality or price, where the provision of terrestrial services is a cost effective option. Once again, the provision of service will depend on the location, and each individual business case.

Areas of greatest need

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

A formal commitment to service an area by participating suppliers is supported.

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

Specific timeframes for the commencement of services in areas of greatest need is supported. Furthermore, the areas of need should be prioritised so that the most urgent services are delivered first.

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?

Areas of more significant need for Government intervention should be identified; particularly, where the commercial viability of broadband service provision is limited. Any areas so identified should be prioritised and communities with the greatest need assisted first.

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

The Queensland Government maintains that investment options addressing high density and high value customer centres will almost always displace lower return non-metropolitan investments. Hence, there are limits on the benefits competition can provide to non-metropolitan communities and minimum service standards and a broad range of subsidy programs will need to be maintained for the provision of telecommunications services to those non-commercial 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?

The economic and community benefits of broadband have been established in a number of studies. Remote areas have more limited access to a range of public services and amenities and stand to benefit substantially more from services that can be delivered electronically than regions which are better served by a range of local services. Minimum speeds and usage allowances need to be determined as a basic requirement of providing a service capable of delivering these benefits. The additional value of these services in remote communities and the potential to drive new economic activity and improved public services in education and health would justify the increased expenditure necessary to ensure equitable access at a minimum standard level.

Broadband Connect should facilitate a basic service, similar to the service provided to consumers in the regional or metropolitan areas. If the consumer has a requirement for a superior service (offering faster and more bandwidth), then the additional cost of providing that service should not be subsidised.

Any costs over and above the provision of *basic* service should be on a user-pay basis.

Effectively targeting support to 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.**

A mandatory curriculum for program participants under Broadband Connect is supported, and it is held that participants should provide additional information as a condition of registration.

In addition, information should be provided on service levels including restoration times, actual speeds and quality of service, security and privacy. This will ensure that products able to assist critical business applications, such as health and public safety, can be supported.

Innovative technologies

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?

It is believed the technology used by the carriers is not important. The cost, quality and scalability of the service delivered to the customer are considered to be of more significance.

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

As stated in Question 12, technology is not considered the issue, rather the cost, quality and scalability of the service delivered to the customer.

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?

Irrespective of the particular technological application, there should always be an "upgrade path", so that communities are not locked into any specific grade of service, particularly in terms of speed and capacity.

Additionally, mandating that the infrastructure must be utilised for a minimum period will provide carriers with an incentive to maximise the revenue that can be generated for the operational life of the asset. This should provide carriers with an incentive to invest in infrastructure that can continue to provide the services that consumers are demanding.

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

The Queensland Government maintains that complementary technologies could provide better solutions for delivery of services in regional Australia. This would include such technology as wireless customer access and optical fibre or satellite backhaul.

With regard to convergence in technology, a facility for funding should be provided from both the Broadband Connect and Mobile Connect programs for carriers deploying technologies that are providing both services.

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

According to the Queensland Government, Broadband Connect should be technology neutral; market factors will therefore drive the outcome.

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

The issue of technologies is best addressed by the carriers. The issue for the Queensland Government is cost, quality and scalability of the service delivered to the customer, as already stated in the responses to Questipn 12 and Question 13. In addition, there should always be an upgrade path, so that communities are not locked into any specific grade of service, particularly in terms of speed and capacity.

Incentives

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

The Queensland Government supports the retention of the existing system implemented under HiBIS, which, in general terms, states there will be "no carrier payments until sign up".

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

The Australian Government should not have to make up front payments. It is maintained that viable carriers would have sufficient financial backing to fund capital expansion. If the viability of any carrier is doubtful, the Australian Government should not provide funding to them.

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?

As outlined in Question 19, the Queensland Government has already stated a position on the method of payment. This method of payment should be closely linked with carrier viability. Accordingly, no other method of payment is supported.

Q21 Should funding be provided:

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

Funding should be provided using a combination of both the number of customers connected and the number of potential premises. Such an approach will encourage providers to engage in forward planning.

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

If funding was based on the number of premises with potential access, funding should only be provided for infrastructure.

Timeframe for payments

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?

It is recommended that DCITA set milestones and objectives. These milestones and objectives should be linked to deliverables to ensure that providers are not overcompensated.

Quality of service - Speed

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

The speed and usage should be kept in line with consumer expectations. In response to Q16, the Queensland Government has already stated that Broadband Connect should be technology neutral, and market factors should drive the outcome. It is estimated the HiBIS model is now half the speed of customer expectations. If the current thresholds are maintained without an upgrade path, communities will be locked into a specific grade of service, in terms of speed and capacity.

Contracts should be written and managed to be unambiguous and to ensure full delivery of proposed services. For example, funding a proposal that includes references to “supply of equipment that is ADSL 2 and ADSL 2+ capable” should be avoided, as there is no certainty or obligation on the suppliers to provide and support services to the market at the ADSL 2 (ADSL 2+) level of capability.

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

The Queensland Government supports the continuation of the current model, with increased-minimum speed and/or usage and an appropriate upgrade path.

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

The Australian Government should commit to providing a minimum level of service to all Australians. This service should be adequate to support distance education, remote health services and the needs of business (including maintaining websites and being able to undertake transactions in a secure environment). Such an approach would ensure that the benefits of broadband technology can be enjoyed by all Australians regardless of location.

There should be a minimum *upload* (from the customer’s premises) standard of at least 256 kbps. Determining if there is value in providing a higher speed service is a commercial decision and, if carriers believe there is value to be gained by providing such a service, it will be provided at the appropriate higher price.

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

The Queensland Government is not concerned with specific technical issues, such as latency, but rather, the overall quality of service and regulatory issues that impact upon the customer.

In particular, Telstra has announced the re-engineering of the copper network and the installation of fibre-optic cables to metro nodes. While this will facilitate ADSL expansion and remove additional black spots, it may well introduce a serious regulatory issue. Customer choice could be restricted to just one carrier (Telstra) and this would be a monopoly of supply for ADSL services. Any such monopoly is vigorously opposed by the Queensland Government.

Customer prices

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

The retention of price caps under stage 2 of Broadband Connect is supported.

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

The DCITA discussion paper states that a greater range of price caps would most likely introduce complexity and increased administration costs. Any such increase in costs would not be supported by the Queensland Government.

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

The concept of an overall cap on incentive payments paid to individual Broadband Connect providers hinges on the fundamental objectives of the program. The Queensland Government hold that if the objective is to stimulate competition, then a cap should apply. Alternatively, if the objective is to stimulate provision of services, then a cap is less relevant; experience to date with HiBIS should provide insight as to the effectiveness and level of any cap.

Clever Networks

The role of the brokers' network

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?

Questions 1 to 7 are in regard to brokerage and the Queensland Government's response is as follows.

Clever Networks should encourage carrier aggregation and joint access to infrastructure under commercial arrangements. The principle is that construction of competitive backhaul infrastructure (either new broadband routes or duplicate competitive trunk routes) in regional areas is most likely to have a positive rate of return if multiple carriers commit to utilising the infrastructure as a shared resource. In Queensland, there are a number of opportunities for carriers and carriage service providers to create dual broadband infrastructure. This has not occurred because the existing carrier approach is to adopt vertical integration strategies to the market.

Strategies that align broadband demand from all three levels of government to maximise demand for specific towns and regions should be encouraged. The present practice of separate and independent supply arrangements has a detrimental impact on establishing an aggregation demand base in areas of low broadband service provision. This practice has inadvertently encouraged a single supplier and a single operator of broadband infrastructure- effectively, a monopoly environment. A focus of identification and facilitation among governments could lead to a more strategic approach.

In towns and regions without a significant government presence, the aggregation of broadband services and mobile services might assist commercial infrastructure development. Applications for funding under Broadband Connect and Clever Networks should also consider synergies with Mobile Connect.

Targeting the delivery of key services through broadband

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

The Queensland Government believes all government services should be targeted; not just health, education, emergency services and local government.

Local Government, in particular, need to be involved. The National Economics/ Australian Local Government Association 2005-2006 *State of the Regions* report observes:

> The survey of local government personnel revealed an interest in communications infrastructure, which is probably less than ideal if political pressure is brought to bear to ensure best practice outcomes. It is important for optimum outcomes that local government interest themselves in matters that may extend beyond their narrow focus. That is, unless there is awareness and political pressure, either optimal infrastructure will not be provided, or provided at inefficient operating standards.

Q9 Should there be priorities within this group?

The provision of services should be prioritised and the Queensland Government would like to be involved in setting any such priorities.

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

The tourism sector should be considered, in view of its strong contribution to the national economy.

Since regional areas are among those targeted by this initiative, and Queensland has a strong primary and mining industry base, the Queensland Government believes that there should be some consideration given to support these industries as well as those already contemplated.

Funding should support the development of business and community growth that matches the development strategies of the Australian, state and local governments. These strategies should be published and be actively pursued through separate initiatives by governments, the business community or industry bodies. The principle to be adopted is that the region gains an economic advantage through job creation/retention and economic development by creating a better broadband infrastructure.

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

The Queensland Government recommend that all applications should stipulate how the funding adheres to the key policy objectives of the state. Each state will have, at a minimum, an ICT policy statement which identifies strategic objectives. Applicants should address these policy areas describing how their project impacts on state initiatives by identifying matching priorities. Applications that do not meet state priority areas should be denied access to federal funding programs.

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

In the view of the Queensland Government, the principle of maximising community benefit should apply to all grants. That is, have leading industry and local community sectors (such as local government, education, and peak industry bodies) had an opportunity to comment on the value proposition for the region/community prior to submission or grant approval. Funding submissions should contain a statement of support from these representative industry sectors. Suppliers would be encouraged to be innovative in the type, application, availability and conditions that might apply to the community benefit.

Where there are criteria driving telecommunications needs (for example, electricity deregulation or enhanced education programs), these should be matched with broadband initiatives to deliver the best possible state-wide impacts.

Infrastructure versus applications

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?

The Queensland Government provides the following collective response to Questions 13 to 16.

Support for funding projects that build upon applications that adopt or augment existing broadband applications in the health and education arena should be a priority as this strategy complements previous Australian Government broadband funding initiatives. For example, a proposal that adapts an existing training package (application service program requiring broadband access) to include new regulatory requirements should be supported as this can be accessed nationwide and may be necessary for compliance with new regulations.

Alternative contribution sources for proposals

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

The Queensland Government's view is that telecommunications is the Australian Government's responsibility under the Australian Constitution.

However, the Queensland Government would support the community and industry for the opportunity to participate in the schemes. The in-kind definitions should be capable of enhancing strategies and priorities in existence as these programs may involve short, medium and long term tactical plans.

Consideration should be given to acknowledging leverage from supply arrangements such as the Queensland Government SmartNet panel arrangement that facilitate broadband units being installed. Broadband units could be bandwidth, ICT equipment, project management services and commitment to the purchase of broadband services, which might be surplus to identified immediate operational requirements to stimulate demand.

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?

In answering Questions 18 to 20, the Queensland Government's comments relating to Question 16 are also applicable: broadband should be technology neutral and market factors should drive the outcome. It is estimated that the HiBIS model is now half the speed of customer expectations. If the current thresholds are maintained without an "upgrade path"; communities will be locked into a specific grade of service in terms of speed and capacity.

Correctly designed and built broadband solutions should be sufficiently scalable in a technical sense. Service providers should be able to demonstrate they have an asset replacement and upgrade strategy in place for any services provided under these programs.

Sustainability of new infrastructure or applications

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?

A social cost/benefit analysis (ie incorporating the economic value of public benefit associated with the project) would assist the assessment of value and sustainability.

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?

Yes, particularly for backhaul that could support both broadband and mobile services.

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

The approach is realistic. Infrastructure access arrangements for parties other than infrastructure owners of the telecommunications services should be declared under *Division 2 of Part XIC of the Trade Practices Act.*

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

If the infrastructure is declared, it would be up to the service providers to negotiate the appropriate price. In the event they are unable to negotiate an outcome, the ACCC will have the role of arbitrator, and will be able to determine the appropriate price. However, the threat of arbitration by the ACCC (given a timely outcome can be sought) should provide the infrastructure owner with the incentive to negotiate a reasonable outcome.

Linkages to other initiatives

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

The development of accurate geographic service and infrastructure coverage maps would be a valuable initiative. A centrally managed information source would minimise duplication, overlap and assist all stakeholders (including state and local governments) to better manage infrastructure planning and provisioning processes. Similarly, an online demand register would help capture demand data for service providers. Involvement of state and local governments in the promotion and support of a demand register would improve the quality of the information and facilitate local initiatives such as Demand Aggregation Brokers.

Program evaluation

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

The Queensland Government concurs with the opening paragraph in this section of the DCITA paper which states that “appropriate compliance, monitoring and evaluation mythologies will need to be embedded in Clever Networks projects”. A specific example of a new telemedicine application is then used to illustrate the possible diversity of activities, and the question is asked as to how it can be effectively evaluated, together with the impact of providing a breakout point to service the local community.

In the case of this specific example, DCITA should use the expertise of the Department of Health for evaluation purposes. It follows, therefore, that any strategy should include the appropriate government agency, or community organisation in the evaluation, be it feasibility, business case, or any subsequent assessment.

Other Issues

Smart State Strategy

As part of this Strategy the Queensland Government is undertaking a number of initiatives that support the take up and deployment of broadband throughout the state, including:

- leveraging the Government's aggregate telecommunications expenditure to facilitate provision of telecommunications infrastructure in 'non-economic' areas;
- launching the Smart State Directions Statement for ICT within the Queensland Government in December 2004 as a framework for ensuring Government agencies work as a team and with the industry to improve government service delivery;
- implementing the State Telecommunications Strategic Framework 2005-2008 aimed at addressing a range of broadband access and utilisation issues, including the 'digital divide' in regional communities;
- developing a business case for the provision of very high speed broadband infrastructure in south east Queensland;
- amending the State statutory local planning environment to remove regulatory barriers to the roll out of new telecommunications infrastructure;
- developing broadband-enabling health and education facilities throughout the State and employing technology solutions that often benefit the wider community;
- facilitating state and regional demand aggregation broker initiatives to assist development of business cases for carriers in regional areas; and
- conducting training programs and workshops throughout the State to stimulate broadband take up by small business.

The Queensland State Government Strategic Infrastructure Plan

Projects should align with the state plans to develop a roadmap that brings telecommunications infrastructure to nominated region hubs. The principle is that telecommunications infrastructure (broadband) should be tactically aligned in the same way that a State roads system (freeways, highways, two-lane sealed roads, graded roads and tracks) is constructed and implemented over the longer term to provide a priority transport system. In this way, the State is directing funds into building a long term telecommunications asset base, as opposed to short term achievements.

Funding for broadband infrastructure projects would only apply to projects designed to meet future bandwidth requirements (5 -10 year horizon) and not to projects designed on short term projections. Without this longer term focus, communities most likely to receive funded program benefits to stimulate infrastructure development are unlikely to have recourse to new programs and hence be confined in a "digital void".

The Queensland Government is committed to improved communications particularly in rural and remote localities and draw attention to the following statements in the National Economics/Australian Local Government Association, the 2005-06 State of the Regions report:

> It is often stated that, as a driver of economic development in the 21st century, communications infrastructure is as important as roads and railways were in the 19th century

Stylised Fact Fourteen

The provision of quality communications infrastructure is a particularly important driver for rural and provincial regions, to offset the implications of Stylised Fact Three. These are the regions that are often most neglected in the provision of quality communications infrastructure.

One of the reasons for the current realised disadvantage of rural and provincial areas, in terms of real incomes per capita and employment generation is past under-provision of quality communications infrastructure. If this differential is removed, these regions have the most to gain in relative terms from additional economic development. They have potential to reach a higher level of internet use that unlocks export potential, which is particularly important for these regions since they are relatively highly trade exposed. Access to quality internet-based services is just as important to the farmer as it is for advanced research and development organisations.

Telstra Strategic Review

Fixed Network

On 16 November 2005, Telstra announced plans to deliver:

- at least 12 Mbps to 4 million service addresses using ADLS2+, two thirds of customers will be served by Fibre to the Node (FTTN) and one third by exchange based DSLAMs (where the copper loop distance does not exceed 1.5km); and
- Fibre to the Premises (FTTP) in new green-field estates;

by June 2009.

The copper network will be conditioned by the removal of Pair Gain Systems, loading coils and bridge taps.

By inference, alternative carriers will have significantly improved ability to offer services using the Unconditioned Local Loop (ULL) to approximately 1.3 million service addresses within 1.5km of a Telstra exchange. However, it will no longer be possible to access their existing broadband customers residing within an approximate encircling 2km zone between 1.5km and 3.5km radius from the exchange (Annular Zone).

A total customer area of 38.47km^2 is presently served in a 3.5km radius of the exchange; when the radius is reduced to 1.5km, the customer area will reduce by over 80% to 7.07km^2.

For customers beyond the 1.5km radius from the telephone exchange, fibre-optic cable will be extended to street-side cabinets (Nodes) where ADSL2+ equipment will be installed providing service to Customers within additional 1.5km radius Nodes. The ‘conditioned’ copper network will terminate at these nodes and customer cable pairs for conventional voice services will become a ‘virtual line’ to the local telephone exchange.

Potentially, this will seriously disadvantage non-Telstra carriers and customers alike, resulting in a loss of revenue to the other carriers and a disruption of services to the customers. Telstra will no doubt offer ADLS2+ services to customers in the Annular Zone. This would, however, restrict the choice of the customer to just one carrier (Telstra) and introduce a monopoly supplier for ADSL service.

The Queensland Government believe that DCITA should carefully monitor the proposed re-engineering of the Telstra copper network, and ensure that all carriers have equal customer access and that no carrier (or customer) is disadvantaged by any ‘upgrade’ or reconfiguration of the network.’

Wireless Network

In addition, Telstra announced the deployment of 3GSM infrastructure by December 2007, which will provide almost ubiquitous wireless broadband coverage over the Broadband Connect and Clever Networks Area in Queensland. It offers data rates up to 14.4 Mbps (HSDPA) and the capacity to “plug-in” newer technology evolutions, for example Super 3G (100 Mbps), by 2009, and 4G (1 Gbps), by 2013.

This deployment promises to provide a cost-effective alternative means of offering broadband services to premises that are outside the zone within which ADSL2+ services can be offered.

Broadband over Power Line (BPL)

In the past four years, BPL technology has been explored and matured using existing power lines as the carrier for broad band data. BPL can deliver broadband at speeds of up to 200 Mbps through normal electrical wall sockets, utilising existing electricity grids owned by energy utilities.

Initially, technical limitations and interference problems held BPL back from reaching the mainstream. However, many large electricity suppliers around the globe have been experimenting with BPL technology in an effort to compete with cable and telephone companies in providing high-speed Internet access.

In September 2005, Internet service provider, Datafast, in partnership with Aurora Energy Tasmania and hardware vendor Mitsubishi Electric, launched a 12 Mbps broadband over power line service in Hobart, which the company claims is the world's first large-scale commercial trial.

The success of BPL technology relies on a high capacity backbone connection to the ISP provider. Telstra's recently announced plans to deploy fibre-optic cables to Nodes within 1.5km of premises could also provide the necessary backbone for BPL technology to be deployed cost-effectively in black spot areas. Another opportunity for BPL backbone connection is independently owned dark fibre-optic cabling. This cable was laid in more optimistic times, and could not be cost effectively connected to the end user premises.

Recommendations

While the Queensland Government generally supports the Broadband Connect and Clever Networks initiative, the following recommendations are made to the basic underlying principle of the program:

- the development of a regulatory framework and market structure capable of supporting a competitive and innovative telecommunications market;
- affordable broadband access to communities where none currently exists; and
- achieving minimum access standards for all of Australia which will allow participation in the global market and provide opportunities to capture productivity improvements.

The following recommendations are also provided by the Queensland Government in relation to program delivery:

- the implications of the recently announced Telstra Strategic Plan should be taken into consideration by DCITA when prioritising areas of greatest need;
- DCITA should commit to a minimum service standard for broadband services of 256 kbps upload for rural and regional Australia at a price that is equitable to that enjoyed in metropolitan regions;
- DCITA should develop an accurate geographic information service identifying key telecommunications infrastructure to assist with funding allocations;
- DCITA should ensure that all funding from this program results in infrastructure that facilitates competitive network access, or does not result in infrastructure that reduces competition;
- DCITA should ensure that infrastructure is scaleable to meet anticipated services over the life of this program to guarantee that sustainable infrastructure and services are maintained into the future;
- DCITA should give priority to funding Clever Network applications that support both broadband and mobile services; and
- the Australian Government should utilise its expenditure on telecommunications services to encourage carriers to roll out infrastructure based on the successful Queensland Government model.