RESPONSE TO

CONNECT AUSTRALIA

DISCUSSION PAPER

January 2006

Mid West and Gascoyne Community Broadband Broker Project
Mid West Division of General Practice

Mid West Development Commission
Mid West and Gascoyne Area Consultative Committee
Gascoyne Development Commission
Contributions by Regional Stakeholders

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Forward:

This document has been prepared to provide general feedback to the Discussion Paper issued by the Department of Community, Information Technology and the Arts (DCITA) regarding

CONNECT AUSTRALIA

BROADBAND CONNECT AND CLEVER NETWORKS:
Supporting Investment In Sustainable Broadband Infrastructure

The information presented here has been gathered during the five elapsed months of the Community Broadband project for the Mid West and Gascoyne Regions. It has also involved consultation with the Mid West and Gascoyne Regions Area Consultative Committee (MWGACC), the Mid West Development Commission, the Gascoyne Development Commission (GDC) and some regional stakeholders.

Information presented in this document is intended to contribute to discussion only and may not necessarily represent the view of individual stakeholders.

Feedback has largely been provided on the Clever Networks program however a broader perspective has been taken in an attempt to address the unique scenarios presented by smaller isolated regional towns that continue to fall further behind in the delivery of broadband and telecommunication services to rural Australia.

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Acknowledgements:

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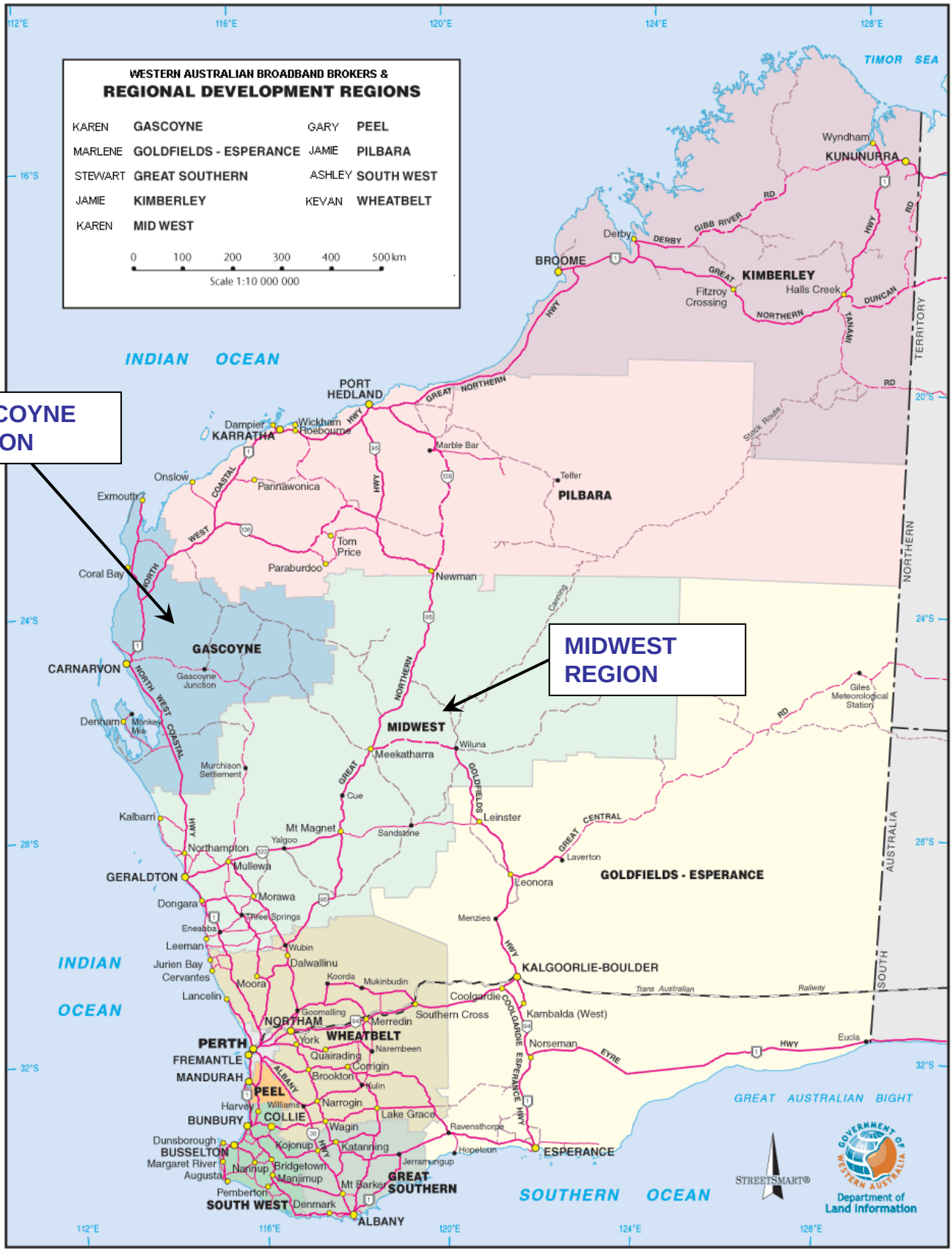
Contributions by Regional Stakeholders and local government.

REGIONAL DEVELOPMENT REGIONS OF WESTERN AUSTRALIA

& BOUNDARIES OF THE WESTERN AUSTRALIAN BROADBAND BROKERS



Overview - Gascoyne Region

The Gascoyne region covers an area of 137,938 square kilometres and includes two sites of major international importance – the Shark Bay World Heritage Property and the Ningaloo Reef.

With a population of 10,240, the region has a long history of Indigenous occupancy. Fifteen per cent of the population is Indigenous and in addition, 5 per cent are of CALD origin (culturally and linguistically diverse), mainly of Asian descent.

Most of the population (86%) lives in the coastal settlements of Carnarvon, Exmouth, Coral Bay and Denham, while the Indigenous population is concentrated in Carnarvon and the Shire of Upper Gascoyne.

Gascoyne's Gross Regional Product was $574 million in 2001/02. The Gascoyne has a diverse economy with the major industries being tourism, fishing, mining, horticulture and pastoralism. In recent years, the tourism industry has grown rapidly and is now one of the largest contributors to the Region's economy. Populations in tourist destinations can balloon significantly from April to September.

Carnarvon and Exmouth, with populations of 6,614 and 2,293 respectively, are major population centres with smaller towns of Coral Bay and Denham. All smaller communities are considered to be very remote using remoteness classification indexes.

Internet and Related Services Summary

- 2 Regional towns have aDSL (Carnarvon and Exmouth);
- Satellite services are deployed at rural locations across the region;
- CDMA Mobile phone coverage is limited to Shark Bay, Carnarvon town and the Overlander on the North West Coastal highway.

Overview - Mid West Region

The Mid West Region covers an area almost one fifth of the state and has a population of 50,011. The population is unevenly dispersed within the region. Shires close to the coast and major population centres are growing in population, while some agricultural shires are experiencing population loss. Less than ten per cent of the population is Indigenous.
Population distribution and density reflect the patterns of land use. The higher rainfall areas closer to the coast support more intensive agricultural land uses, but population density declines markedly in the pastoral and mining areas. 75 per cent of the region is classified as 'very remote'.

The Mid West's Gross Regional Product was $2.8billion in 2001/02. The Mid West Region has a broad economic base dominated by mining, but with major contributions from the agriculture, retail, tourism, fishing and manufacturing industries. Agricultural commodities include wheat and wool and 72% of the agricultural land is affected by soil acidity. The region is the second largest producer of gold in the State and the region is undergoing increased mining activity particularly in iron ore production.
Geraldton is the urban centre in the Mid West region (30,000), followed by Northampton, Dongara and Meekatharra.

Internet and Related Services Summary

- 5 Regional towns have aDSL (Geraldton, Dongara, Meekatharra, Jurien and Kalbarri)
- Wireless broadband is currently being deployed in the south east of Geraldton
- Satellite services are deployed at rural locations across the region
- CDMA Mobile phone coverage has increased dramatically but black spots continue and services may experience drop outs in a few isolated areas.

MID WEST AND GASCOYNE – Major Towns

General Response to Discussion Paper

The Mid West and Gascoyne Community Broadband broker project has been *led by the private health sector* and is successfully delivering outcomes on a *cross-sectorial basis* across these regions. The project has adopted a *collaborative approach* across all sectors including education, police, community, local government, agriculture, indigenous groups and public health. A Regional Reference Group for Communications was formed in the Mid West to promote education and awareness, networking, to facilitate the loan of soft infrastructure and to identify priorities for common regional applications and solutions. The project has acted as a conduit for information about broadband to reach rural and remote communities and work continues to activate, attract and retain broadband providers to the region.

The health sector in the Mid West and Gascoyne regions is likely to continue to act as a *catalyst for change* in the short term (12-18 months). It is anticipated, however, that this will be a *transitional period* as *regional collaboratives* are expected to evolve further to become the primary drivers for future telecommunications strategy across the regions.

The majority of the Mid West and Gascoyne population (~80%) resides in a few regional towns and the remainder is distributed across vast arid and isolated areas. The Mid West and Gascoyne regions are ranked together with the Goldfields in the top 10 Australian regions in terms of *demographic stress*, characterised by low fertility rates, low migration, older populations and fewer dominant localities (State of the Regions Report 2005-2006 –Telecommunications). Indigenous birth rates however are on a sharp increase.

Five towns in the Mid West have aDSL with a further 2 in the Gascoyne. Wireless broadband services are currently being deployed in communities to the south east of Geraldton in the Mid West (700 to 1500 population). Of the remaining 20 communities, approximately 5 may prove viable for wireless deployment.

The remaining 15 communities fall into the realm of small isolated communities (50 to 700 population) with a marginal or unviable business case to attract terrestrial or wireless broadband solutions. Many farms, stations or roadhouses have taken up the satellite offers over recent years.

With the current mining boom and growth being experienced in tourism, these communities play a vital role in services these industries. They are actively engaged in implementing plans to survive and thrive into the future.
Responses to the Discussion Paper are divided to address the two different community profiles:

i) **Smaller isolated rural communities** and

ii) **Regional towns and population centres**
(with some adsl or imminent wireless broadband access).

Even when demand for broadband is aggregated across smaller isolated communities, the business case for providers to supply broadband services to these areas *at affordable prices comparable to metro areas remains at best marginal or in many of cases - unviable*.

The installation of *solo satellite solutions* for households and rural businesses is a '*less than an ideal' solution for these communities.* Satellite broadband is typically more expensive that the terrestrial or wireless service. Despite being actively involved in implementing strategies to survive in a rapidly changing global market place, the additional expense for satellite broadband connections may be a challenge for some. Some farmers in the region are facing their fifth year of drought and additional expense is difficult to justify under these circumstances.

The new Connect Australia initiatives should actively target these small isolated *communities* to provide assistance in the form of *strategic investment* to enable them to access broadband services at comparable speed and costs and participate in the global economy.

These communities across the Mid West and Gascoyne regions continue to demonstrate resilience and tenacity in their *determination to stimulate their rural economies, retain services, attract workforce and foster the spirit of their communities.* These communities can be expected to leverage any assistance they receive.

Investment in telecommunications infrastructure apart from *acting as a catalyst* for change will also serve to *reduce the social cost* of supporting the disadvantaged in these communities and will offer alternative opportunities for these community members to become *self reliant* and also contribute meaningfully to the fabric of their communities

With the *digital divide* being a very real possibility in Mid West and Gascoyne with its smaller isolated communities, it is recommended that a *'whole-of-community' approach be* adopted to provide equitable and lasting access to telecommunications infrastructure and services.

As part of this 'whole-of-community' approach, funding from the various Connect Australia programs would be significantly more effective if they were consolidated to provide *telecommunication services* as a '*total package'* including telephony, mobile coverage, internet services, entertainment (radio, television, video etc) and power. This package should also consider other infrastructure and related services such as telecommunication towers, redundancy paths and security options.

As *telecommunication technologies converge* and become available to the market over one internet stream, the ongoing management, maintenance and sustainability of these resources for smaller rural communities will be made significantly easier and more cost-effectiveness for taxpayers. Connect Australia funding programs *should be designed to encourage providers to deliver packaged telecommunication solutions to smaller communities* using higher bandwidths for potential triple play services and where appropriate to provide incentives for 'whole of community' technology solutions.

As these communities will be last to receive equitable telecommunications services when they are provided these services should be up-to-date and comprehensive.

Quarantined funding for public health and education in some of these smaller communities, has meant that community organisations and internet users continue to struggle with dialup while their neighbours have serious excess bandwidth. Clearly this situation is not cost effective in the long term for those towns that are unlikely to attract a long term provider to their area to provide affordable access.

Although many of small isolated communities may be located near mining consortiums, it is a common scenario that the mining companies install their own *dedicated telecommunications infrastructure solely for their own business use* and for their predominantly fly-in fly-out workforce. When mining winds up, these companies are typically required to return the land to its original state and any potential telecommunication benefits to local communities are lost. This combined with the quarantined services outlined above may mean that the primary anchor tenants for a demand aggregation strategy to attract broadband providers to these communities are removed from the equation. Once again a *'whole-of-community'* approach would go a long way toward resolving this situation.

As part of these *'whole-of-community'* telecommunication packages, appropriate resources to assist these smaller communities best utilise their packaged services will be required to maximise the return on this investment.

Future funding arrangements should consider local government, with the support of the regional telecommunication groups, to take on the role of maintaining and managing the 'whole-of-community' telecommunications package to preserve this regional asset.

Children's project to water trees, Cue W.A.

Regional Population Centres
(with some aDSL or imminent wireless broadband access)

Despite the availability of broadband services in the form of aDSL in the few major regional population centres in the Mid West and Gascoyne, these regions, together with the Goldfields, still rank in the lowest 10 regions across Australia in terms of aDSL enabled exchanges. (State of the Regions Report 2005-2006 – Telecommunications.) This is further exacerbated by the fact that some exchanges across the Mid West and Gascoyne have been scheduled for aDSL for very long periods and these deployments continue to be postponed or delayed. This supports the notion that these areas present a marginal or unviable business case for aDSL to be enabled and therefore a priority or, it is part of a broader competitive strategy.

The *uptake and effective utilisation not only* of *broadband but of internet services* remains crucial to the Mid West and Gascoyne regions. These regions together with the Goldfields have an internet usage of 22% of population, compared to 41% in metropolitan Sydney or 33% in Perth. (State of the Regions Report 2005-2006 – Telecommunications.) Future Connect Australia funding programs should be targeted to drive *increased use of the internet and the uptake of broadband* in the Mid West and Gascoyne regions.

Clever Networks funding will be most effective managed if channelled through the above mentioned *collaborative telecommunications groups* to ensure maximum return on investment, to encourage sharing of knowledge and resources and to increase networking between all regional sectors.

Clear support has emerged from Mid West and Gascoyne regional stakeholders to find solutions to address *workforce issues being experienced across all sectors*. This includes improving the productivity and effectiveness of the workforce and attracting, retaining new staff. This is particularly the case in the health sector but is strongly reflected in other sectors which also face workforce shortages and recognise the important role that *telecommunications infrastructure, networks and systems* will play in overcoming these issues.

There has been strong interest in fast tracking the access to *mobile (roaming) broadband access* to address the above workforce issues but also to assist in servicing the small isolated communities with marginal business cases for fixed broadband services. It is recommended that Connect Australia programs be tailored to encourage research, piloting and leveraging of technology solutions in this area, both *from a provider and stakeholder perspective*. Australian and State government support to achieve this outcome would be welcomed by the Mid West and Gascoyne regions. Achievements in this area would be directly applicable across all regions with remote communities.

For these larger regional population centres in the Mid West and Gascoyne regions, the development of *'driver' applications and secure networks* will be essential to continue to increase the uptake of broadband services. It is recommended that Clever Network programs actively support these key applications and networks particularly those with cross sectorial implications. The Mid West and Gascoyne Community Broadband project has had some preliminary successes in this area and continued funding support to build on these successes would pay dividends cross this and other Australian regions.

Head of Services Management meeting held in Cue, November 2005

In Summary

Future funding programs for Connect Australia should continue to build upon the work of current regional broker projects:

i) By providing strategic investment for 'whole of community' telecommunication packages. This may be best served by developing a separate program for small isolated rural communities that do not offer a viable business case for providers to supply services to that area;

ii) To drive internet uptake and use by providing incentives for capacity building and effective utilisation of broadband services with a particular priority for communities recently to receive broadband service;

iii) To provide incentives and support for 'driver' applications and secure networking solutions that have implications for multiple sectors;

iv) To ensure the continuity of regional telecommunication groups to encourage sharing of resources, ongoing education and awareness and to identify and focus on regional telecommunication priorities.

Connect Australia programs which can accommodate these features will ensure the Mid West and Gascoyne regions are best positioned to play their roles in Australia's future participation in the global market and knowledge economy.

The following has been prepared in response to questions posed as part of the Clever Networks section of the Connect Australia Discussion Paper and should be read in conjunction with these questions. Responses have been prepared under the relevant subject headings.

What form of broker network will provide the best outcome?

National, State, Community Brokers

National Brokers for Education and Health in principle seemed to a good idea but little feedback was received at the regional level. It did present an opportunity to raise issues directly at a national level that might assist in driving the uptake of broadband by health providers. The two issues raised were:

- Create MBS items for video conference consults and
- The fast tracking of the appropriate (inter)national wireless standards to make possible roaming access to wireless broadband (802.16x).

The WA State Broker was able to achieve significant results to attract broadband suppliers across the state of WA. For political and organisational reasons however there were limitations in hosting the State Broker within a State government department which inherently has its own priorities and funding imperatives. From a functional perspective, state brokers reporting to two masters is likely to result in some conflict and tension. The WA State Broker initially had whole-of-state responsibilities and by default, also filled the role of inducting new brokers, fostering the sharing of experiences, approaches and resources as well as acting as a conduit of up-to-date information from both state and Australian government sources. This model worked well in WA. In a state the size of WA, the existence of a State Broker is considered essential, contingent upon all WA brokers being of equal status and that a collaborative approach is maintained. WA brokers have already submitted two models which outline alternative approaches for the employment of a State Broker.

Community Brokers. This nomenclature is somewhat inappropriate for WA brokers as they represent whole regions and would be better named *Regional Brokers*. This approach has been very successful for example rural WA brokers particularly when issues that cross regional boundaries arise and can be solved collaborative by brokers.

Employing regional brokers has enabled the tailoring of project and resources to meet unique regional profiles and priorities which vary greatly across WA.

Contract length

Some broadband brokers have had the advantage of 2 year contracts to assess community needs, aggregate demand, attract providers and implement solutions. Two years should be considered the minimum to complete this work on a regional basis in WA. Recently employed brokers will certainly achieve substantial results in their contracted 12 months.

In the Mid West and Gascoyne regions, significant progress will be achieved in the first 12 months but the reality is that it will take another 12-18 months to find appropriate solutions for the small isolated communities (as outline in this document). During this time a more effective transition to this task being owned by collaborative telecommunications entities will be possible.

There is a very real risk that the momentum generated in the first 12 months by the broadband broker projects commencing late 2005 will be lost without continued focus being maintained.

Sector vs Cross Sectorial Brokers

In the Mid West and Gascoyne Regions unlike other broker regions, it has been the private health sector that has been the driving force behind the Community Broadband broker project. Strong support for the project also came from key health organisations in the region and from the Development Commission.

The health sector continues to face a critical shortage of rural doctors and health providers and the delivery of health services in the remote areas of the regions remains problematic. It was clear that part of the solution to these issues would be to develop an innovative health model which implemented health systems based on telecommunications that were accessible, affordable and reliable with sufficient bandwidth to support data, video and voice applications.

The Mid West and Gascoyne broker project has demanded a cross sectorial agenda to engage whole communities across business, government agencies and commercial sectors. All communities need access to health services and the more remote the community the greater the importance of equitable and timely access to these services. Improvements in communications are likely to result in increased productivity and health outcomes.

Strong cross sector interest has been generated at Regional Reference for Communications Group meetings and it was evident early in the project that the primary issues facing stakeholders were very similar.

eg:

- Improving ***access*** and ***speed*** of internet services across the region,
- The importance of ***mobile coverage*** across the whole region,
- The importance of ***secure*** communications,
- ***Attracting*** and ***maintaining*** workforces,
- ***Productivity*** and ***efficiency*** of existing workforces and
- The need for ***capacity building*** in the area of information communications technology, the internet and e-business.

The Gascoyne Development Commission also hosts its own ***Telecommunications Working Group*** targeting telecommunication infrastructure priorities appropriate to the region. This group has also been a successful catalyst for change in the Gascoyne region.

Future Role of Broker Programs

It is likely that in the short term, the primary driver of change will continue to be the health sector as it has been successful to date in stimulating discussion, attracting providers to the region and upskilling various key stakeholders in particular local government, small business, service providers and the broader community. It also has accumulated considerable knowledge, resources and understanding of the ICT industry and developed productive relationships with regional stakeholders.

However it is proposed that in the medium to long term the broker role will evolve into a collaborative effort on behalf of Development Commissions, the Area Consultative Committee, Shires and primary anchor tenants. These organisations will continue to utilise their regional vehicles of telecommunication groups to educate, share and drive telecommunications across their regions.

Brokering projects to attract broadband services providers will still be required beyond June 2006 in the Mid West and Gascoyne regions. It is unlikely that appropriate solutions for small and isolated communities will have been identified or deployed as part the current funding period. Infrastructure is required that falls somewhere between single satellite solutions, more expensive solutions such as single point to carrier system and low cost hybrid satellite/wireless solutions. Incentives under the new funding regimes should be aimed at encouraging providers to provide ‘whole of community’ packages to explore various options.

For communities in the Mid West and Gascoyne where broadband services have recently been deployed, funding to facilitate the effective utilisation of these services will be essential.

New and existing broadband service providers in regional areas will require ongoing growth in the number of users and in their usage of broadband to remain in business. Future broker programs have an important role to play in promoting these activities particularly in the more remote regional areas of WA.

Future broker projects in the Mid West and Gascoyne should build on skills, resources, networks, knowledge and relationships forged as part of the current broadband project.

Future brokers will also need to accommodate new roles, beyond brokering deals between providers and communities. These include:

- ***Change Agent,***
- ***Capacity Builder*** and
- ***System Designer*** (beyond local, regional, national to global arenas).

In the Mid West and Gascoyne Regions, specific targeting of focus groups to stimulate takeup and utilisation of internet services has already been undertaken and at this early stage promises to be an effective strategy. This can be seen in the agricultural, fishing and educational sectors.

The concept of the 'killer' application acting as the catalyst for users can act as a 'push' strategy for resistant sectors of the community. The Mid West and Gascoyne Regions are concurrently involved in developing such applications to support the broadband project. Future funding under Clever Networks to accelerate these programs would certainly reap earlier and more far reaching results.

This Community broadband project has also had initial success with the approach of loaning 'soft' infrastructure to stimulate more lateral solutions to regional issues particularly in the area of addressing workforce issues. Combined with the traditional approaches of financial incentives and education and awareness from the host organisation, it is expected that this approach will also be an effective strategy to increase uptake and effective use of broadband services.

Educational and showcase events have been scheduled in the regions and will be funded under the current community broker program. In particular, an ICT Expo is expected to appeal to all sectors of the community with a strong emphasis on interactive engagement of visitors and a strong education focus. As the regional community *builds capacity* and sector applications develop, this is an event that the region should continue to host to continue to drive change and to position the region well for participation in the rapidly emerging global knowledge economy. Clever Network funding should encourage the ongoing hosting of these cross sectorial events.

Future Focus on Areas Yet to Receive to Terrestrial Broadband Service

A focus on areas yet to receive ANY broadband services must continue if these communities are to participate in a rapidly changing local, regional, national and more importantly global market place and knowledge economy. The old adage of $1 is not spent today for these communities to take steps toward self sufficiency, will save $10 tomorrow which will be required to support these populations.

Already the current broadband programs encourage cherry-picking strategies by large and small providers alike, as is the nature of competitive and viable business strategies. The Mid West and Gascoyne regions have been particularly disadvantaged as higher populated areas across the nation are receiving priority by all providers.

Unless significant strategic investment is made to specifically address communities with smaller populations then they stand to be left behind in the great digital divide. There may be a requirement to have a separate program to specifically address these marginalised communities.

- ***Local governments*** responsible for smaller remote communities may be the only ongoing stable entities in rural and remote areas and as a result are the most logical candidates to take up the role of ensuring telecommunications infrastructure is managed, maintained, equitably accessible and funded in the long term. The capacity for these organisations to undertake this work independently at present is limited due to the highly technical nature of telecommunications and the limited knowledge about wireless broadband infrastructure. Connect Australia funding could be targeted at building capacity at the local government level to prepare local shires for a role of maintaining and managing government funded infrastructure.

- Priorities for targeting services for Clever Network strategies are likely to be *regionally determined.* In the case of the Mid West and Gascoyne regions, the initial approach of targeting one sector as a catalyst for change has been successful. However, even this project adopted an early *collaborative strategy* to engage and drive sector stakeholders across the region, to identify common issues and to share individual communications plans, networks and resources.

- ***Emergency Services*** have been suggested by some stakeholders as another sector which may benefit from targeted Clever Networks funding initiatives.

- The establishment of a *Regional Reference Group for Communications* in the Mid West and the ongoing Gascoyne Development Commission *Telecommunications Working Committee* have been successful vehicles to ensure the delivery of 'greatest holistic community benefit' in the telecommunications arena. Future projects should be funded in collaboration with these groups.

Appropriate Services to Target

- As outlined above, the function of the *health sector* in the Mid West and Gascoyne Regions to act as *a catalyst for change* has been an effective strategy for the region. This approach is likely to continue into a *transitional period when a regional collaboratives* will further evolve to drive future telecommunications strategy across regions.

Sector vs Cross-Sectorial Approach

- These regional collaboratives are likely to become the springboard for applications for funding under Clever Networks programs for individual or grouped sectors in the future, depending on the shared benefit of the application. For example, the development and implementation of *a secure communications network* is likely to be an application with cross-sectorial implications. Research into portable computing solutions for a mobile workforce also has widespread regional applicability. The development of *precision farming applications* may be a sector specific application but it has region wide benefits for rural communities.

- For those regional communities that may fail to attract providers under the current funding programs or from the current broker project, it is imperative that a ***whole-of-community approach*** be taken to deliver broadband and related services and applications. The current quarantining of health and education funding in some smaller communities to-date, whilst it has been a strategic investment by state government and ensures that public agencies are positioned to take advantage of fast internet services, makes little sense if the telecentre or shire in the same town is unable to share access to generous bandwidth allocations. Consequently, using population and isolation factors as a guideline, funding in this instances should be targeted by Clever Networks to ensure that a ***whole-of-community approach*** is taken to ensure these 'marginal' communities to ensure they are not overlooked.

Infrastructure and application-focussed investment issues

- The identification of 'an ideal balance between infrastructure and application streams' would vary enormously from region to region. It is however important for regions to consider this balance. For example, in the Mid West and Gascoyne, the Community Broadband project unlike other broker projects, proposed and is successfully achieving early progress with a greater focus on both application-focussed investment issues ***and*** although to a lesser extent infrastructure investment issues.

- A '**Push-Pull' approach** allows the Broker to promote broadband uptake within areas already serviced with broadband by leveraging 'driver' applications to stimulate interest. And for those smaller isolated communities, these applications can be also utilised to drive awareness, registration and interest and therefore provide greater incentives for providers to supply their services in these areas.

- It is recommended that Connect Australia guidelines should continue to cater for proposals that encompass an infrastructure and complementary application focus.

Funding for Clever Network initiatives

- Complementary sources of funding are essential to demonstrate commitment and delivery on projects. In the case of the Mid West and Gascoyne however, many of the key regional stakeholder organisations are small enterprises with limited staff, resources and budgets and the requirement to match funding *is prohibitive* for such entities to meet. *Contributions-in-kind* are far more achievable and are a genuine indication of commitment to deliver outcomes as funded. It is recommended that Clever Network proposals recognise this in their selection criteria.

Utilising new and emerging technologies

- Minimum bandwidth specifications are less critical in regional population centres than they are in the more marginal smaller communities. As proposed in this document, telecommunication packages suitable for small and isolated communities should be targeted by Connect Australia programs. These packages should offer comprehensive and competitive services to these communities and therefore minimum bandwidths should be higher than those accepted for regional population centres, to ensure these communities have infrastructure and services that remain competitive into the future.

- If it becomes necessary to drive' progression from lower to higher bandwidth' outside of competitive situations, it is suggested that service provider guidelines allow for bandwidth levels to be reviewed regularly (2 years) to ensure they have not become superceded by market trends

- The deployment of wireless in a region can be affected by the rollout of similar infrastructure in adjacent regions. This may result in the potential situation that deployment schedules may be delayed and therefore cause projects to 'not conform to program lifecycles'. There are other unforeseen factors that can affect the rollout of wireless solutions including access to towers, power, natural factors and negotiation and agreements with stakeholders etc. Hence it is recommended that a minimum program cycle of 18-24 months be considered as more realistic for regions still or planning to deploy new and emerging technologies.

Sustainability of Clever networks initiatives

- In order to evaluate the sustainability of Clever Network proposals effectively beyond the life of the program, mechanisms such as the ***establishment of regional or community telecommunications groups*** to share and review progress across sectors, to set new priorities and to ensure capacity building for the targeted towns and communities should be viewed favourably.

- As with all evaluation exercises, it is important to have ***baseline data*** about the status and objectives of the project prior to commencement so that changes can be evaluated prior to the completion of the project. This should include regional stock-take of telecommunications infrastructure.

- The development of shared resources should also be made available via ***online libraries*** to facilitate the sharing of successes not only within the region but with other regions across Australia.

New Infrastructure access arrangements

- As raised at the WA broker's discussion group with DCITA, access arrangements for government and tax payer funded facilities such as but not limited to towers, ***should be available*** to provide strategic backhaul particularly for regions such as rural and remote WA where these corridors and redundant pathways ***are critical***. It is beyond the scope of this project to comment on the accessibility of previously government and tax payer funded terrestrial facilities but certainly this notion deserves careful consideration and debate.

- In the case of wireless backhaul and access to towers, the requirement for shared access is more achievable for existing towers in areas of higher population. It is less tenable in areas of isolation, lower population and areas restricted by harsh climatic factors such as cyclones, heat and ocean exposure where installation and maintenance costs are higher and return on investment is significantly lower or non existent.

- The most likely candidates to manage towers in this capacity are VROCs or sufficiently funded and skilled local governments supported by regional telecommunication groups.

- A system for recording the location, deployment, the status and maintenance logs etc for such shared access facilities should be developed and made available for local government and authorised users for data entry and online access. Work in this area is currently being undertaken by the WA Wheatbelt Broadband project.

Links to other initiatives

- As documented earlier in this document, those smaller isolated communities that would benefit from a 'whole-of-community' approach will require funding to be sourced from ***across the Connect Australia programs*** including, Clever Networks, Broadband Connect, Mobile Connect and Indigenous Communities.

- An alternative approach would be to formulate a ***separate funding program*** to specifically address these isolated communities in a 'whole-of-community' approach. Similar communities will exist across Australia and be subject to the same marginal business model and would also benefit from strategic investment. A telecommunications communications classification index to qualify such communities should be developed.

CASE STUDIES

The following case studies have been presented to profile some of the smaller isolated communities referred to in this document.

- Yalgoo
- Gascoyne Junction
- Sandstone
- Coral Bay
- Cue
- Mt Magnet

YALGOO

Location

Distance from Geraldton 219 kms, Distance from Perth 524 kms
Shire area: The Shire of Yalgoo covers approximately 33,257.9 square kilometres of the Murchison Goldfields area of Western Australia's Mid West region.
Population 445 people living throughout the Shire.
Distribution of Population: Yalgoo town itself has a population of around 110 people with balance on surrounding stations.
Distance to nearest towns: Mullewa 120 kms, Mt Magnet 127 kms

Climate: Hot and dry, rainfall less than 300 mm, average temperature maximum 27 – 30 degrees C, average temperature minimum 12 – 15 degrees C
Length of sealed roads: 270 kms & Length of unsealed roads: 1,204.2 kms
Number of electors: 149 & Number of dwellings: 101

Existing Communications Infrastructure

Telephone Exchange – about 2 years ago phone lines upgraded to (HCRC) Higher Capacity Radio Concentrator (swing system) to allow for minimum data transfer, gives improved speeds - guarantees about 2400.
Mobile coverage only with satellite phones. CDMA coverage runs out 30kms NE of Wubin on the Great Northern Highway and no coverage until Mt Magnet. Increased access along the hwy is required. Golden Grove mine has Digital tower not CDMA.
Radio AM FM UHF and two way communications
Royal Flying Doctor Service
New High Efficiency Reverse Osmosis plant, Water Corporation installation (Dec 2005)
New Power station (diesel powered)

Existing Services

Primary School, 48 students last year
Shire runs postal service, fuel Station and caravan park
Nursing Post (2 days/wk, Nurse from Mt Magnet) & Police Station (2 officers & aide)
CDEP – Yarrlga Bunna Aboriginal Corporation
Hotel
Shop

Overview of Economy

The main industries of the Shire are mining with approximately $122M worth of production annually and pastoralism contributing around $5.5M annually. Types of mining include gold, tantalite and bauxite (FeOre). Source Yalgoo Shire website.

Community Profile

80% Indigenous people in the community. Some children at the school are from Wiluna therefore can be transient.

Telecommunications Issues

Distance, Climate, Low Population, Economic Isolation, Cost of the monthly fees for the service – if did not connect when the original offer was made then too expensive at $109/mth for basic level 2

way satellite. This rate needs to be reduced. Those that did not take up did so more because of ignorance, they did not know or understand the benefits (are intimidated) however the goal posts have shifted so they wished they had connected. Can't get wireless but think it would be great. Once connected need ongoing support. In order to get better take-up need to educate people about the benefits – more one on one rather than scatter marketing (advertising) or telemarketing.

Shire office has satellite which is quite expensive**.** Healthy Community Project Officers have ISDN with two phone lines, quite slow while most towns people who are connected to internet have dial-up**.** Most Indigenous families do not have computers.

Other

Oxiana Ltd acquired Golden Grove mine from Newmont 1 July 2005. Golden Grove is 54 kms south of Yalgoo with a permanent and contract workforce of about 300 people fly-in-fly-out.

GASCOYNE JUNCTION

Location

Distance from Carnarvon 172 kms, Geraldton 651 kms, Perth 979kms,
Shire area: 46602 sq. km.
Population: 370
Distribution of Population: town population about 50 balance on stations
Climate: Hot and dry, rainfall less than 300mm, average maximum temperature 30 – 33 degrees C, average minimum temperature 15 – 18 degrees C.
Distance to nearest towns: Carnarvon 172 kms, Meekatharra 449 kms
Length of sealed roads 22kms & Length of unsealed roads 1,835 kms
Number of electors 131 & Number of Dwellings 117

Existing Communications Infrastructure

Telephone Exchange automatic
Mobile coverage satellite only
Radio shire has HF set-up, in summer signal bounces off ironstone so not good coverage
TV - shire has dish which signal sent out on UHF, shire maintains, 4 channels
Water is pumped out of Gascoyne River bed, southern side by Water Corporation, northern side people have to pump themselves.

Existing Services

School
Shire Office
Hotel/motel
Airstrip
Police station
Power station (new one to go in)
Shop
Caravan Park (shire owned but leased out to private operator)

Overview of Economy

Economy is primarily based on the pastoral industry which has suffered from drought over the last 5 seasons. Some Mining: Yinnetharra Station – gems. Many prospectors. The Outback Pathways of the Kingsford Smith Mail Run and Wool Wagon Pathways run through Gascoyne Junction and the shire of Upper Gascoyne bringing tourists to the region (est. 2005).

Community Profile

Indigenous community on the outskirts of Gascoyne Junction. Burringurrah Community (Indigenous) 274 kms from Gascoyne Junction. These people travel through to Carnarvon and Meekatharra. Also Indigenous community at Mt Augustus which is about 40 kms further north from Burringurrah.

Telecommunications Issues

Distance, Climate, Low Population, Economic Isolation, Ironstone earth where UHF signal bounces off and does not allow communication 100 kms whereas could pick up another country clear as a bell.

SANDSTONE

Location

Distance from Geraldton 504kms, Perth 724kms,
Shire area 28218sq km
Population 143, Number of electors 78, Number of Dwellings 70
Climate Dry arid
Distance from nearby towns; Mt Magnet 158kms, Leinster 220kms

Overview of Economy

Major Industries Agriculture and Mining. Major regional issues, Salinity, Mining Leases and Telecommunications Infrastructure.

Existing Communications Infrastructure

Sandstone would have probably the most primitive Internet access possible with “Dial- Up”, which is very slow. Additionally, Sandstone does not have any mobile phone coverage.

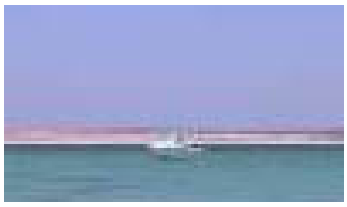
Telecommunications Issues

Even though the population of Sandstone, inclusive of mining personnel, is only about 150, the level of activity in the mining industry, government (Shire) and private business warrants both Broadband and Mobile Phone. This would enable business to be able to compete at an equitable level as elsewhere. Unless these facilities are made available, Sandstone will experience ongoing commercial disadvantage, which will erode its viability.

With the bitumen sealing of the Mt Magnet- Leinster Road this road has rapidly become the principal heavy haulage and transport artery between Kalgoorlie and Geraldton, in the region. Additionally, increasing numbers of tourists are plying this route. (The daily vehicle count on this road is between 90 and 110 vehicles). Both from a commercial and emergency services viewpoint, Broadband and mobile phone access is critical in this relatively remote area

Distance, Climate, Low Pop, Economic Isolation, etc

CORAL BAY



Location

Distance from Carnarvon 241 kms, Geraldton 720 kms, Perth 1,146 kms,
Shire area – located in the Shire of Carnarvon which is 53,000 sq. kms.
Population: Shire population 6,680 people
Climate: Hot and dry, less than 300mm rainfall, average maximum temperature 30 – 33 degrees C and average minimum temperature 15 – 18 degrees C.
Distribution of Population: Coral Bay townsite 200 people
Distance to nearest towns: Carnarvon 241 kms, Exmouth 149 kms

Existing Communications Infrastructure

Telephone Exchange and Mobile coverage by Telstra only CDMA, range about 20 kms
Radio still don't have ABC, 2 weeks to installation. Otherwise to pick up radio need a very strong transmitter as the signal comes from Learmonth (117kms) or Carnarvon (241kms).
Government water bore coming on line in time for the new Resort due to be built in 2007. Otherwise the current landowners have their own bores and own power generation (i.e. diesel generators). All land is owned privately by 3 groups. Landowner of Bayview Caravan Park where most of the permanent workforce and business operators live has not allowed those living there to get Broadband dishes as thought to be too unsightly. Park has 3 dishes for business and personal use. The hotel has a dish in place, a few businesses have ISDN, most just phone lines. At Bayview Caravan Park the lines are deteriorating rapidly due to salt ground, artesian water used to water lawns gets into the inspection hatches while some hatches are covered by buildings. Telstra is very frustrated and waiting for the new accommodation to be built. Roads and other infrastructure needed for the new resort will be done in early 2007.

Existing Services

No School – new FESA building will have a classroom which the Education Department will have a teacher available 3 days/wk. Currently 12 kids travel by bus to Exmouth. The numbers of kids will increase considerably when the workers accommodation is built and the skills level of employees will increase.
Resort (includes hotel) with restaurant, Bakery
2 Caravan Parks and Backpackers. 1 Fuel outlet at Peoples Caravan Park
Other tourism operators eg: Ningaloo Kayak Tours
3 commercial fishing boats operate out of Coral Bay - deep sea fishing, fish exported to LA

Overview of Economy

Tourism is the major income. Deep sea fishing operators and pastoral industry surrounding

Community Profile

Here to stay as a tourist destination. Coral Bay has a huge influx of tourists during the year.
Indigenous communities – Cardabia Station is adjacent to the town has been returned to the local Thalanyji people.

Telecommunications Issues

Distance, Climate, Low Pop, Economic Isolation, etc

Other

Coral Bay is situated adjacent to the beautiful Ningaloo Reef. The settlement has developed over the last four decades as a tourism destination adjacent to the Ningaloo Reef and Marine Park. It is a fledgling community that lacks basic services. Sewerage has only recently been connected (2005). There are huge development pressures on this pristine coastline. Presently the land is owned by 3 private groups therefore there are huge issues in terms of housing etc. A new workers housing is planned for 400 people to be completed by mid 2007.

CUE

Location

Distance from Geraldton 420kms
Perth 649kms
Shire area 13,716kms
Population of shire 395 , Cue 200
Climate Arid, very hot dry summers, cold nights in winter
Distribution of Population 50% in town
Distance to nearest towns - Mt Magnet 77kms, Meekatharra 120kms

Existing Communications Infrastructure

CDMA tower with microwave equipment, Shire radio tower for TV and radio.
Exchange is connected to network with fibre optic cable.

Existing Services

Hotel/motel, Bed& Breakfast, Police station, Primary school, Telecentre, supermarket, Roadhouse Shire, Post Office

Overview of Economy

The main industries are agriculture, mining and construction.
Tourism attractions, including Q-fest attracting up to 4,000 visitors each year.

Telecommunications Issues

Distance, Climate, Low Pop, Economic Isolation, etc

Other

Historically a large number of gold prospectors flooded the Murchison goldfields and Cue's main street is an icon of the gold rush era and its associated architecture.

MT MAGNET

Location

Distance from Geraldton 342kms, Perth 569kms
Population1064, Mt Magnet town 888
Climate Arid, very hot dry summers, cold nights in winter
Distribution of Population 80% in town
Distance to nearest towns Dalwallinu 310km, Cue 77km, Mullewa 244kms.

Existing Communications Infrastructure

Exchange is connected to network with fibre optic cable
2 Communication towers TV and radio.

Existing Services

3 Hotels/motels, high school 152 students, 42 secondary, shire, police station, nursing post and post office, supermarket, rural transaction centre supermarket, 2 roadhouses

Overview of Economy

The main industries are agriculture, mining and construction.
Pastoral industry characterised by large sheep stations, gold mining

Telecommunications Issues

Distance, Climate, Low Pop, Economic Isolation, etc

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