

TELECOMMUNICATIONS ACTION PLAN FOR REMOTE INDIGENOUS COMMUNITIES

May 2002

Report on the Strategic Study for Improving Telecommunications in Remote Indigenous Communities



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EXECUTIVE SUMMARY

BACKGROUND AND CONTEXT

In response to the recommendations of the Telecommunications Service Inquiry (TSI) the Commonwealth Government implemented two initiatives to improve telecommunications services in Indigenous communities:

- improving payphone accessibility by working with telecommunications carriers and communities; and
- undertaking a study to develop a longer-term strategy and Action Plan for improving telecommunications in remote Indigenous communities.

In late 2001 the Government released an Information and Issues Paper, to identify the key issues for the Study and to canvass the range of information required by the Government in order to arrive at findings on the current delivery of services, and to develop options to make sustainable improvements. This document presents the Government's findings and proposes an Action Plan for future improvements.

The focus of the Study was on the 1,291 'discrete' Indigenous communities covering an estimated population of 109,994 persons, with particular emphasis on the 1210 communities in more remote locations, which do not have ready access to a wide range of telecommunications services.

The actions identified by the Study are set against a background where:

- Indigenous people continue to be the most disadvantaged in the country, with significantly lower average incomes, lower standards of education, higher levels of unemployment, poor housing conditions and higher levels of ill-health than the non-Indigenous population. In many instances, remoteness contributes to widening these disparities;
- programs to improve telecommunications services outside metropolitan areas (such as Networking the Nation and the Untimed Local Calls (Extended Zones) Agreement), although significant and valuable, have not been fully effective in meeting the specific needs of many remote Indigenous communities; and
- government service sectors, such as education, health and justice, are embracing the use of the Internet or videoconferencing to improve their services, particularly to under-served rural communities. However, this approach has generally not yet been extended to the more remote Indigenous communities.

FINDINGS

The Study identified that telecommunications is an important tool for the economic development and self-sufficiency of remote Indigenous communities, and can assist them to achieve their social and business aspirations. As well as providing opportunities for better communication and delivery of government support services in these communities, the new digital tools of the information age are also being used to develop and distribute important cultural material.

Despite these potential benefits, the Study found that a range of problems needs to be addressed before this opportunity can be realised. These communities are geographically isolated and economically disadvantaged, and have generally not attracted the interest of commercial service providers. Of over-riding impact is the sheer cost and difficulty of rolling out services to remote Indigenous communities. Apart from the high cost of supply, demand-side factors have also restricted commercial interest. Affordability and availability of appropriate services are key issues.

Other factors include lack of awareness, lack of skills, and lack of relevant cultural content for users of online services.

It is highly likely that the commercial roll-out of services to remote Indigenous communities will continue to be limited. This means that they will continue to rely on a combination of regulatory support mechanisms (mainly through the Universal Service Obligation), in combination with targeted Government support mechanisms, to achieve an equitable level of service delivery.

Decisions about identifying and responding to Indigenous priorities for telecommunications services need to closely involve local Indigenous communities. This is not just because communities vary in their needs and priorities, but because community involvement in and ownership of these decisions is crucial for the effective uptake and future viability of these new services. At the same time, success and viability of new telecommunications services is not guaranteed solely by community interest and participation. Successful implementation will require a coordinated approach involving close and ongoing partnerships between communities, government and industry providers.

The highest priority need in communities is for **better telephone services**. There is currently a high reliance on **payphones**, due to the low take-up of residential fixed telephone services. For communities generally there is adequate infrastructure to provide basic fixed telephone services, particularly as a result of the Telstra roll-out of improved network capacity under the Untimed Local Calls (EZ) Agreement. The exception is payphones, where payphone supply deficiencies have been identified, with many communities having no payphone facilities. Government action is already under way to make improvements under the Universal Service Obligation (USO). Lack of affordability, and usage and debt management issues constitute the key barriers to accessing fixed telephone services, particularly for residential subscribers. Communities need more affordable phone services that better meet their particular social and economic circumstances.

Terrestrial mobile phone services are only likely to be viable in a small number of larger communities. Most mobile services available to communities have been provided through Government funding programs. Ubiquitous satellite services are available, but are costly and generally not affordable for individual subscribers in remote Indigenous communities.

There are opportunities for communities to benefit from the provision of **Internet access and videoconferencing**. For example, videoconferencing is proving effective and desirable in the delivery of some government services, such as in the area of legal support.

With the Untimed Local Calls (EZ) Agreement upgrade, **basic dial-up Internet services**, using the fixed telephone line, are becoming readily available in remote areas. As with telephone services, lack of infrastructure is not the major impediment. Lack of affordability, skills and relevant content are likely to be more significant barriers.

Terrestrial **higher bandwidth services** into remote communities are patchy, with infrastructure simply not available in many cases and, where it is available, it is unaffordable for communities in most circumstances. The highly attractive two-way satellite Internet offering through the Untimed Local Calls (EZ) Agreement is potentially accessible to Indigenous communities, although the restricted window of opportunity to take up the free offer of satellite equipment and installation (even though extended) may prevent widespread take-up. The Government's Special Digital Data Service Obligation (SDDSO) supports partially subsidised equipment to access one-way satellite services in areas without access to ISDN services, but the subsidised price is still likely to be unaffordable for most Indigenous communities.

It is likely that the best solution to provide Internet and higher bandwidth services, such as videoconferencing, will be via **public online access centres**. Public access is more affordable and is well suited to the generally communal lifestyle of these remote communities. It also provides a central point for community support and training.

Online access centres could offer a range of online services (delivered via Internet and videoconferencing), and may perhaps be linked within local communities to other key facilities such as schools and health centres, to enable aggregation of demand across such communities. Online access centres are more likely to be viable in the larger service, or 'hub', communities from which people currently access government and other community services. The challenge in establishing these centres is to find sufficient financial and supporting resources to fund their establishment and ongoing operation.

Improved telecommunications can provide benefits to Indigenous communities beyond simply improved communication capacity. **Telecommunications is a key tool for community development** broadly, and impacts on improved education, health, business and social cohesion. In this respect it is important that telecommunications solutions are integrated with other government service delivery structures, as well as with existing, accepted community structures and operations. Indigenous community support for, and involvement in, improved telecommunications solutions will be an essential success factor.

Effective coordination between key stakeholders will underpin successful implementation of improved telecommunications services in remote Indigenous communities. Communities and their representatives, governments and the telecommunications industry all need to work together to improve communication flows, and to ensure the most efficient and effective service delivery mechanisms are established. This can be achieved partly through existing regulatory mechanisms, but other arrangements for improving coordination should also be considered.

THE ACTION PLAN

Overcoming the barriers to accessing telecommunications services in remote Indigenous communities presents a major challenge, and will require a commitment to action by all levels of government. The Commonwealth Government recognises that overcoming these barriers will not be possible simply by funding the installation of more telecommunications facilities in these communities. The limited take-up of USO telephone services in these communities demonstrates that guaranteeing supply, without addressing the significant demand-side barriers, will not bring about higher take-up and effective use of telecommunications services.

Overcoming the range of significant supply and demand constraints in these remote communities will take a coordinated, ongoing effort by governments and other stakeholders. This Action Plan is intended to provide a strategic framework under which effective, coordinated action can be initiated and expanded into the future.

To support the Action Plan the Commonwealth Government is providing a further \$8.3 million over three years, to support the range of strategies identified below. This funding will build on the \$35 million provided to Indigenous related projects under Networking the Nation and other Government programs such as the TSI National Communications Fund and mobile phone programs which have the potential to assist Indigenous communities. It will also build on other Commonwealth, State, Territory, local government and community initiated activities.

The Action Plan is underpinned by the following set of guiding principles:

- 1. Recognise and allow for diversity**
- 2. Recognise the value of community involvement and partnerships**
- 3. Build on achievements and strengths**
- 4. Support community development through telecommunications**

Within this framework the Commonwealth Government will work with stakeholders on a number of fronts. Improvements in the following four broad areas will be achieved progressively through a combination of strategies to enable the particular needs of communities to be addressed over time, in an integrated and holistic manner:

Objective 1. Improve telecommunications services and online content

The key priority is to provide direct support to increase the provision and uptake of telecommunications services in remote Indigenous communities. Current service take-up is extremely low, and there is an urgent need to support improved access to a range of different services, with basic phone access the main priority.

The Commonwealth Government will provide targeted funding over three years to improve telephone and Internet services and to expand the range of relevant online content available. This support will include undertaking a detailed national study to guide the business development of online access centres in Indigenous communities.

Objective 2. Improve information flow

A key finding of the Study was the inadequacy of current information flows to and from communities. The Commonwealth Government will undertake a range of activities to ensure that

- remote Indigenous communities are provided with better information about telecommunications services and how to access them; and
- service providers and governments have access to better information about the service priorities and needs of the communities.

Objective 3. Improve coordination and support, and facilitate partnerships

Recognising that lasting improvements can only be achieved and maintained through a coordinated, holistic approach by governments and other stakeholders, the Commonwealth Government will put in place a range of strategies to encourage better cooperation and partnerships between key stakeholders, primarily governments, telecommunications service providers, and the communities themselves.

This Action Plan sets out the broad strategic framework for bringing about these improvements. The full detail of programs and strategies to be implemented under the Action Plan will be determined following further consultation with stakeholders.

The following broad strategies provide a basis for consultation and action over the next three years:

Strategy 1: Indigenous Community Phone Program

This program will provide funding assistance of around \$3.5 million to improve access to phone services for remote Indigenous communities. The Commonwealth Government will work in partnership with communities to identify their priorities to improve phone services,

either through residential or community-based services, and will provide funding to support improved access to telephone services. Subsidies could be provided to reduce or eliminate such costs as:

- residential phone connection, including trenching and network extension;
- connection to more flexible and appropriate residential services such as Telstra's Communic8™;
- community-based phone systems such as PABX type systems or other more flexible community phone systems where this can be demonstrated to deliver more appropriate and cost effective services to the community; and
- alternative mobile solutions such as satellite and open radio-based communications systems where there is no terrestrial mobile coverage and these provide a cost effective solution to meet a demonstrated need.

Strategy 2. Investigate, promote and support more appropriate products

The Government will work with industry service providers, particularly Telstra (as the Primary Universal Service Provider), to encourage the development of more appropriate technologies and services, and refine existing services to better suit remote Indigenous communities. This will take place in close consultation with communities and other stakeholders.

The outcomes of this strategy will be built into the community phone program and the information and awareness programs.

Strategy 3: Improve payphone services

To meet the Commonwealth Government's TSI objective of improving payphone services:

- the Government will work with Telstra, as the Primary Universal Service Provider, to accelerate the provision of payphones and improve fault and repair timeframes;
- Telstra's guidelines for payphone provision will be clarified to ensure it is meeting the needs of remote Indigenous communities. These guidelines will be reviewed following implementation of the community phone program to assess the impact of increased residential phone penetration on the need for payphone services.
- a better information base for the location of public payphones in remote Indigenous communities will be established and maintained, to enable better identification of needs and service gaps. The ACA will work with Telstra to improve reporting on Indigenous payphone activity and sustainability;
- communities will be encouraged to increase their contribution to payphone reliability through a commitment to protecting and maintaining payphone facilities.

The information campaign (Strategy 9) will complement this strategy by improving community awareness of payphone availability and the processes to apply for payphone facilities under the USO.

Strategy 4. Build the case for viable community access centres in 'hub' communities

The Commonwealth Government will contribute \$200,000 to develop a national strategy for implementation of higher bandwidth services into remote Indigenous communities. This will build on existing strategies and programs (such as Networking the Nation projects and the Western Australian Telecentre program), and will include:

- (a) further investigation of the business case for establishing online access centres, primarily in 'hub' communities. This investigation will focus on the different needs of communities according to population and online 'readiness', and could seek to

determine required capital and operational costs (including required levels of funding support), and potential revenues, for online access centres of varying scale and scope;

- (b) investigation of the most appropriate and cost-effective way of delivering ongoing training, support and maintenance for community access centres, with a focus on community empowerment and skills transfer into communities;
- (c) investigation of options to better utilise services currently operating in communities for broader community use, such as those available in schools, council offices etc;
- (d) development of an Indigenous online access centre 'toolkit' that will assist communities to implement and operate sustainable online facilities. The development of the toolkit will complement strategy 13;
- (e) negotiations through Online Council to achieve greater cooperation between service delivery agencies within and across States, Territories and the Commonwealth. This could include a commitment to shared services, a commitment to provision of revenue levels required for sustainable services, and provision of more accurate information on the service and bandwidth needs of each sector; and
- (f) development of partnership arrangements between government, community and industry service providers to enable high bandwidth services to be delivered, managed and supported in communities. The Cape York Development Partnership could provide a valuable example of a successful collaborative approach, as could the experience of the Balkanu (ODN) in building community partnerships.

Strategy 5: Subsidise community Internet access points

This Program will provide funding of around \$1 million to subsidise smaller scale connectivity to the Internet through terrestrial dial-up, or through one-way or two-way satellite services. This program will primarily target 'non-hub' communities, and will be subject to the demonstration of sustainability of the service in the community. Other public access equipment, such as Internet kiosks, could be considered under the Program. An important element of the Program will be support for appropriate training and skills development, including training to manage such facilities.

This program will seek leverage from existing Internet related projects, the two-way satellite program under the Untimed Local Calls (Extended Zones) Agreement and established training and support opportunities within regions. It will also explore opportunities for broader use of existing equipment in communities.

Strategy 6: Investigate alternative delivery of Internet services

The Commonwealth Government will work with key stakeholders to explore options and the feasibility of alternative delivery of Internet services, such as through existing broadcasting equipment.

Strategy 7: Support online content development

The Commonwealth Government will provide targeted funding of around \$1 million to support the development of Indigenous online content, with a particular focus on:

- the information needs of remote Indigenous communities;
- cultural and/or language content initiated by communities;
- enhancing existing relevant content or applications to suit the specific needs of Indigenous users in remote communities;

- designing content for narrow bandwidth application. This content could be developed in an integrated way with the implementation of online access centres;
- ensuring community involvement in content development projects, including provision of appropriate support tools and training in managing and maintaining online content; and
- working with State and Territory Governments and communities to encourage online content development and to gain leverage from existing and proposed content development activities, including the activities of State and Territory service agencies.

Strategy 8 Develop a communications framework

To improve information to communities, DCITA will approach Telstra and the Aboriginal and Torres Strait Islander Commission (ATSIC) with a view to developing a Memorandum of Understanding (MOU) to establish a framework for better communications. The content of the proposed MOU will be reflected in Telstra's USO Marketing Plan where relevant.

The proposed MOU will cover matters such as:

- communications protocols and procedures;
- community rights under the USO (including the DDSO) and CSG;
- service offerings and options;
- work plans for service improvements;
- access to communities;
- service design and placement; and
- other issues arising from the Untimed Local Calls (Extended Zones) Agreement.

The MOU will have the objective of establishing a more proactive and culturally appropriate approach than currently taken. Achieving better communications will also require the involvement of other stakeholders, such as communities, industry providers, other relevant government agencies (State/Territory, Commonwealth or local) such as Centrelink and the ACA. Where appropriate, other stakeholders may also be signatories to the proposed MOU.

Strategy 9: Public awareness information campaign

The Commonwealth Government will undertake an information campaign to raise awareness of existing telecommunication rights and obligations of service providers and highlight and promote existing and new services and programs, to assist service take-up. The campaign will also raise awareness of the role communities can take in the implementation of telecommunications services as part of broader community development.

The campaign will provide information about such rights and services as the USO, the DDSO, the Untimed Local Calls Initiative, Telstra priority services and the Action Plan itself. It will also provide communities with information concerning the procedures for applying for a phone service, maintaining such a service and reporting problems or faults if or when they occur.

The target audience for the information campaign is the remote Indigenous communities identified in the Study. It will be important to develop and implement the campaign in a culturally appropriate manner in order to be most effective for the communities concerned. It will therefore be conducted using appropriate communication channels, methods and materials for remote Indigenous communities, including: using the Broadcasting for Remote Aboriginal Communities Scheme (BRACS); Indigenous media; production of appropriate educational and bilingual materials; promotional opportunities and other innovative means of

reaching the target audience. These will be developed in consultation with ATSIC and other Indigenous stakeholders.

The campaign will coincide with the initial implementation of the Action Plan and will be coordinated with broader consultation with communities on the implementation of support programs under the Plan.

Strategy 10: Improve monitoring and reporting on service

In order to capture and consolidate specific telecommunications information relating to Indigenous communities, the ACA will monitor and report on services, including fixed telephones, payphones, mobile phone coverage and bandwidth availability. This will include requests from Indigenous communities for payphones and timeframes for installation and repair of faults.

ATSIC, as the key policy development agency, will be involved as appropriate in the monitoring process, with a view to including more comprehensive telecommunications reporting in future Community Housing and Infrastructure Needs Study (CHINS) reporting.

The communications framework developed under Strategy 8 will assist monitoring and reporting activities.

Strategy 11: Improve government coordination

Government coordination will be driven through the established consultative mechanisms of the Advisory Group to the Study and the Online Council. The Advisory Group, comprising representatives from ATSIC, OATSIA, the ACA and NOIE, will remain in place to oversee the implementation of the Action Plan from the Commonwealth Government perspective. Participation by representatives from relevant Commonwealth, State and Territory government agencies (including health, education and Centrelink) will be an essential factor for success. The Online Council Regional Communications Working Group, which will be encouraged to accord a high priority to telecommunications issues for remote Indigenous communities, will be a key forum.

In order to maximise outcomes for communities the implementation of the Action Plan will be coordinated closely with other projects and initiatives, in particular significant projects funded under Networking the Nation. DCITA's Regional Activities Database is a repository for information on regional telecommunications services and will provide a tool with which to conduct analysis of existing and new data on an ongoing basis. This will improve the Government's capacity to work with other stakeholders to improve services.

Strategy 12: Promote collaboration and information sharing

The Commonwealth Government will facilitate channels for ongoing discussion and information sharing such as the New Connections website, through convening online discussion forums, and through participating in forums relevant to Indigenous telecommunications.

DCITA's New Connections website can be used by stakeholders to access and share information and best practice models, and includes capabilities for mapping and online discussion.

As part of the Department's regular national Regional Communications Forums, DCITA will convene a national forum on remote Indigenous communications issues, involving key

participants from communities, government and the communications industry. These forums will provide an opportunity to share information about best practices and contact networks.

Strategy 13: Facilitate community involvement, coordination and capacity building

In line with the Action Plan's focus on recognising and supporting the differing needs of different communities, the Commonwealth Government will work with communities to use the 'Framework for Likely Service Priorities' to assist community capacity building. The framework will enable communities to identify the most appropriate telecommunications services, timeframes and management structures to meet their broader economic and social development needs. It will also enable promotion of best practice models and useful contacts or networks to and between communities.

The Online Access Centre Toolkit, developed under Strategy 3, will provide a useful additional supporting resource for 'hub' communities.

Strategy 14: Coordinate training and support

The Commonwealth Government will work with stakeholder groups such as community broadcasters, training providers and government agencies to better integrate training and employment activities that will be necessary elements of successful Action Plan outcomes.

In particular, the Government will work with Telstra to expand its current training and employment programs.

Strategy 15: Coordinate service provision

The Commonwealth Government will work with ATSIC and other Indigenous housing providers to explore ways to integrate the provision of basic telephone services with provision of other essential infrastructure and services such as housing, power and water, in order to eliminate or reduce infrastructure installation costs, such as network extension and trenching charges.

The Government will also work with Telstra to explore more efficient and affordable ways to reduce the cost of delivering phone services through a program to encourage better cooperation between telecommunications carriers and Indigenous employment programs. This may include exploring more efficient and affordable ways of providing trenching in communities.

PART ONE: CONTEXT AND BACKGROUND

BACKGROUND

This document presents the findings of the Commonwealth Government's Strategic Study for Improving Telecommunications Services in Remote Indigenous Communities, and sets out a guiding policy framework and action agenda to deliver sustainable service improvements to the target communities.

WHY WAS THE STUDY UNDERTAKEN?

In September 2000 the Telecommunications Service Inquiry (TSI) made a number of findings and a specific recommendation about services to remote Indigenous communities. It found that the 'communications requirements of remote Indigenous communities warrant particular attention'. Recommendation 17 states:

That consideration be given to establishing a scheme to source basic and advanced communications services for remote Indigenous communities. The scheme should be firmly driven by the identified communications needs of these communities. The scheme should be funded with an initial capital injection from Government and benefit from ongoing supplementation based on the estimated proportion of the net universal service cost currently attributable to such communities.

It found that 'in remote areas, especially in Indigenous communities, lack of payphone access is a significant issue' and 'there is a need for improved payphone services.'¹ It also questioned 'whether the USO meets the particular communications needs of remote Aboriginal and Torres Strait Islander communities.'²

In response to Recommendation 17 the Commonwealth Government concluded in May 2001 that there was insufficient information upon which to determine appropriate solutions for the full range of services needed by Indigenous communities. The Government implemented two specific initiatives to improve telecommunications services in Indigenous communities:

- improving payphone accessibility by working with telecommunications carriers and communities; and
- developing a longer-term strategy and Action Plan for improving telecommunications in remote Indigenous communities.

The Government decided not to proceed with the proposal to cash out the Universal Service Obligation (USO) because it assessed that the USO funding for these communities would be insufficient to improve service levels sufficiently to compensate for the loss of the USO safety net, which constitutes a fundamental telecommunications right for all Australians.

In commissioning the Study the Government took into account the significant improvements achieved through Commonwealth programs such as Networking the Nation and the Untimed Local Calls initiative in Telstra's remote Extended Zones. However it also recognised that the particular circumstances faced by many of these Indigenous communities meant that these programs were not

¹ Department of Communications, Information Technology and the Arts; *Connecting Australia: Report of the Telecommunications Service Inquiry*; Commonwealth of Australia; 2000; p 91.

² Department of Communications, Information Technology and the Arts; *Connecting Australia: Report of the Telecommunications Service Inquiry*; Commonwealth of Australia; 2000; p 91.

fully effective in meeting their needs, and that other approaches, specifically targeted at Indigenous needs and priorities, would be necessary.

HOW WAS THE STUDY CONDUCTED?

Taskforce

A Taskforce was established in the Department of Communications, Information Technology and the Arts to carry out the Study. The Taskforce was assisted in the Study by a core advisory group of key Commonwealth agencies, including the Aboriginal and Torres Strait Islander Commission (ATSIC), the Australian Communications Authority (ACA), the National Office for the Information Economy (NOIE), and the Office of Aboriginal and Torres Strait Islander Affairs (OATSIA). [A full list of the agencies involved in these groups is at **Attachment A**]. In addition a wider reference group of Commonwealth, State and Territory agencies was established, and there was widespread consultation with government, industry and community groups.

COAG Framework to Advance Reconciliation

The Study was conducted in accordance with the Council of Australian Governments (COAG) principles, under which governments and Indigenous people will work in partnership in the design and implementation of programs aimed at supporting Indigenous families and communities. In November 2000, COAG committed to a framework to advance reconciliation. As part of this commitment, Commonwealth portfolio ministers agreed to review programs and services to improve outcomes for Indigenous Australians. The outcomes of the TSI initiatives are relevant to this review and are being developed with due regard to the COAG commitment.

The Study was also closely aligned with the Online Council Indigenous Action Plan coordinated by NOIE, which is being prepared as part of the COAG framework for advancing reconciliation.

Discrete communities

The Study focused on those Indigenous communities in non-urban Australia which are regarded as discrete (community managed). These communities face particular disadvantage in terms of access to telecommunications infrastructure and services. Indigenous Australians living in urban areas and large rural towns, despite perhaps facing significant social disadvantage, would at least have access to a basic and reliable level of telecommunications services at an equivalent level to other urban residents.

According to the 1999 report of the Australian Bureau of Statistics (ABS) Community Housing and Infrastructure Needs Survey (CHINS) there are 1,291 discrete Indigenous communities, with an estimated population of 110,000 persons. This represents around 28.5 per cent of the total Indigenous population at the 1996 census of 386,000. These statistics include 81 urban communities, which were not the target of the Study. According to the 1996 Census, some 26 per cent of the Indigenous population live in remote or highly remote areas,³ and some 72 per cent of Indigenous people live in urban areas (defined by the ABS as a centre of more than 1,000 people).⁴

The CHINS report defines discrete Indigenous communities as communities in geographical locations with distinct physical or cadastral (legal) boundaries and inhabited or intended to be

³ Commonwealth Grants Commission; *Report on Indigenous Funding*; Commonwealth of Australia; 2001; p 8.

⁴ House of Representatives Standing Committee on Family and Community Affairs; *Health is Life: Report on the Inquiry into Indigenous Health*; Commonwealth of Australia; May 2000; p 155.

inhabited by Indigenous people, with housing or infrastructure that is either owned or managed on a community basis. The CHINS data is the most concrete and recent information available, and was used extensively in the Study. The ABS will collect further data as part of the 2001 Census and the 2002 National Indigenous Social Survey. This was not available within the timeframe of the Study, but may be available to inform the detailed implementation of the Action Plan.

Consultation and information gathering

An Information and Issues Paper was placed on the Departmental website in August 2001 and over 400 community, Government and industry groups were directly contacted, offered a copy of the Paper, and encouraged to provide input to the Study. The Information and Issues paper attracted 32 submissions, and the information received was supplemented with information from relevant publications and research. A list of submissions is at **Attachment B**. The submissions are located on the New Connections website (www.newconnections.gov.au). Also at **Attachment C** is a list of useful references identified through the Study.

Consultative meetings were held in key regional centres across Australia, and by teleconference and videoconference: 126 organisations were involved in this consultative process. A list of meetings and attending organisations is at **Attachment D**. Limited direct community consultation was undertaken, on the understanding that communities had been extensively consulted in the past, and the results of those past consultations would be researched and used in the Study. The outcomes of detailed consultations conducted by projects funded through the Networking the Nation program, including the Outback Digital Network in northern Australia, the PYCom project in the Anangu Pitjantjatjara (AP Lands) and the Ngaanyatjarra Lands in Western Australia have also been taken into account. These three projects were initiated by Indigenous representative groups and consulted over 120 remote Indigenous communities specifically on telecommunications issues. Further direct community consultation on the implementation of the Action Plan will be an important next phase.

Lack of statistical information

The Taskforce noted the lack of accessible statistical information on telecommunications services to remote Indigenous communities. This was confirmed in the ATSIC submission which proposed that adequate data on services to Indigenous communities should be collected and maintained to inform decision making and delivery of appropriate services.⁵ While certain information has been collected through the Study, and has proved useful in determining current service uptake and community service priorities, a more comprehensive understanding and monitoring of services will be required to support more effective analysis and decision-making in the future.

WHAT IS THE PROCESS FROM HERE?

The next phase will involve consultation with stakeholders and the general public to identify the detail of the programs and strategies outlined in this document. Effective consultation in the development of programs and strategies will ensure that:

- support is targeted at areas of key community need, as identified by the communities and their representatives, and complements existing initiatives;
- strategies are fully informed by the views of the stakeholders who will be involved in their implementation; and
- there is maximum consensus on the best way forward.

⁵ Aboriginal and Torres Strait Islander Commission (ATSIC); Submission to the Study; October 2001; p 2.5.

THE COMMUNITY CONTEXT

To understand the role and impact of telecommunications in remote Indigenous communities, it is important to understand the communities themselves: their location, size, characteristics, and the other kinds of social services currently provided to them.

GENERAL DEMOGRAPHICS

The ABS Report *Community Housing and Infrastructure Needs Survey (CHINS)* Report identified 1,291 discrete Indigenous communities in Australia. Of these, 81 communities are discrete areas within larger, predominantly non-Indigenous population centres (eg. Redfern in Sydney), although they are not individually identified in CHINS. 1,210 communities are geographically separate from other population centres, making them relatively isolated from services. These communities are regarded as 'remote', in that they are some distance from population centres and therefore from basic services such as health and education. They were the primary focus of the Study. For these communities, reliable means of communication have an even greater importance than for people living closer to services.

The Central Land Council submission referred to the remoteness of these communities:

Indigenous communities are isolated from major population centres, have limited infrastructure, are characterised by having extremely low social and economic indicators, face high costs of living for essential goods and are distant from markets and economic opportunities.⁶

GENERAL PROFILE OF DISCRETE COMMUNITIES

Location and population

Of the 1,291 discrete Indigenous communities, the highest number are in the Northern Territory (53 per cent) followed by Western Australia (22 per cent), Queensland (11 per cent), South Australia (8 per cent), New South Wales (5 per cent) and Tasmania and Victoria (less than 1 per cent each). CHINS reported that 109,994 people (28.5 per cent of all Indigenous people) live in these discrete communities.

Most of the communities are small in size, with 943 communities (or 73 per cent) having a population of less than 50. There are only 149 communities (11.5 per cent) with 200 or more persons. However, 69 per cent of the remote Indigenous population (75,879 people) live in these communities. Provision of telecommunications services to small, remote communities presents additional challenges which are expanded on through the Paper. A breakdown by state and community size is demonstrated in Table 1, below.

⁶ Central Land Council submission to the Study; October 2001; p 1.

Indigenous Discrete Communities						
Numbers of Communities and Population by State/Territory						
State/Territory	<20	20-49	50-99	100-199	200 or more	Total
New South Wales	2	7	18	19	21	67
Victoria	-	-	-	2	-	2
Queensland	82	23	4	5	35	149
South Australia	64	15	12	6	9	106
Western Australia	127	73	30	35	20	285
Tasmania	-	-	1	-	-	1
Northern Territory	369	181	37	30	64	681
Australia total	644	299	102	97	149	1,291
Total Population Number	5,682	8,889	6,765	12,779	75,879	109,994
Community Population (%)	5.2	8.1	6.2	11.6	69.0	100.0
Source: ABS Cat. 2710.0 ⁷						

PROFILE OF THE INDIGENOUS POPULATION

Language

In remote areas, Aboriginal people may be proficient in many languages or dialects, and English can be their third, fourth or fifth language. For example, the 1996 ABS census data identified that more than 69 per cent of Aboriginal people in the Northern Territory (28,057 persons) speak a language other than English. This increases to more than 80 per cent in the Territory's remote Aboriginal populations. In the East Arnhem region, for example, only 4 per cent of the Aboriginal population use English as a first language. Low levels of English literacy present a major problem for Indigenous communities, not just in using the Internet, but also in understanding information and processes relating to all telecommunications services (including those delivered under the Universal Service Obligation).

Social issues

There are a number of social issues experienced by communities which impact on their capacity to take up and effectively use telecommunications services.

In a Ministerial Statement on 7 March 2002, the Hon. John Ah Kit, MLA stated:

We cannot pretend that a (Indigenous) community is functional, when half the kids don't go to school because they have been up most of the night coping with drunken parents – or because they themselves have been up all night sniffing petrol... when less than one in ten people can read or write; or where people are too ill through chronic disease or substance abuse to hold on to a job – let alone receive training.

⁷ Australian Bureau of Statistics; *ABS Catalogue No.4710.0: Housing and Infrastructure in Aboriginal and Torres Strait Islander Communities, Australia*; Commonwealth of Australia; 1999; p 11.

...Or where kids are born with illnesses that have largely disappeared from most of the Third World, and those who survive into adulthood can be expected to die two decades earlier than their non-indigenous counterparts.

Or where only 14 per cent of our kids reach Year 12 – compared to 80 per cent of their non-indigenous brothers and sisters in the cities and major towns.⁸

As well as a population which is younger, and growing at a much faster rate than the general population, Indigenous people are the most disadvantaged in the country. Indigenous people are more likely to be:

- unemployed or receiving lower incomes;
- less educated;
- imprisoned or in care;
- homeless or living in overcrowded conditions, mostly in rental accommodation; and
- unwell or dying early. Indigenous people die almost 20 years younger than other Australians and are more likely to be hospitalised or to suffer from chronic illness.⁹

Telecommunications services have the potential to assist in alleviating this disadvantage. For example, as community members leave their community for reasons such as marriage or return to homeland, medical treatment, education, imprisonment or sorry business, telephone, Internet and videoconferencing access can help maintain contact with community and family support.

Income

On average Indigenous people have lower income levels than non-Indigenous people. According to the 1996 Census, the median individual weekly income of Indigenous people aged 15 and over was \$218 (\$294 for non-Indigenous people).¹⁰ The income disparity is amplified for people in remote Indigenous communities. Very low levels of disposable income severely limit the potential for take up of telecommunications services in these communities.

Employment

Indigenous people face greater disadvantage in employment than any other population group. The unemployment rate for Indigenous people is an estimated 23 per cent, compared with the total Australian rate of approximately 9 per cent. The Indigenous figure would be up to 40 per cent if the Community Development Employment Program (CDEP) participants were treated as unemployed.¹¹ CDEP is an employment program that enables community work and skill development through part-time work paid at rates equivalent to, and in lieu of, unemployment allowances (see below for further detail). It represents almost one-third of total Indigenous employment.

Additionally, the rate of growth in the Indigenous working age population is more than twice that of the non-Indigenous population. The rate of Indigenous employment is likely to further decline if demand for labour and/or the mobility of Indigenous people does not increase.

⁸ Ministerial Statement, the Hon. John Ah Kit, MLA, Minister assisting the Chief Minister on Indigenous Affairs, Northern Territory Government, 7 March 2002.

⁹ House of Representatives Standing Committee on Family and Community Affairs; *Health is Life: Report on the Inquiry into Indigenous Health*; Commonwealth of Australia; May 2000; pp 157-159.

¹⁰ Commonwealth Grants Commission; *Report on Indigenous Funding*; Commonwealth of Australia; 2001; p 8.

¹¹ Commonwealth Grants Commission; *Report on Indigenous Funding*; Commonwealth of Australia; 2001; p 236.

The Commonwealth Grants Commission considered that the economic disadvantage experienced by the Indigenous population was greatest in remote regions and was due to a number of factors, such as high unemployment, resulting in greater reliance on government support to meet basic needs.¹² The Report went on to say that the 'poorest outcomes for Indigenous employment (the lowest employment rates) are in the most remote ATSI regions.'¹³

Increasing the use and availability of information technology and telecommunications can create opportunities for employment for community members in related areas, such as technical support, training and online business. More broadly however, telecommunications can be a major enabler of community development (and hence employment growth), through improving access to government health and education support, to skills development and training opportunities, and to community and business networking between indigenous communities.

Community Development Employment Program

The Aboriginal Community Development Employment Program (CDEP) is a key factor in providing employment opportunities in Indigenous communities. It was established in 1977 and provides mostly part-time work for over 34,000 Indigenous Australians who voluntarily give up their entitlement to unemployment benefits. ATSI provides a grant to CDEP organisations for them to manage work projects and pay wages to participants. CDEP organisations also receive funding to cover the costs of administration, capital items, materials and outside services. 65 per cent of CDEP participants are located in remote areas. Approximately two-thirds of the cost of CDEP (\$440 million in 2000/2001) can be offset against the unemployment benefits that would otherwise be payable to individuals.¹⁴

Provided that positions are available (participant places are not unlimited), CDEP is open to Aboriginal or Torres Strait Islander community members over 16 years old, who are eligible for certain types of Centrelink Income Support benefits, or 15 year-olds in receipt of the Youth Training Allowance. In recent years, participants have become social security customers: they now receive entitlements as income-support recipients from the social security and tax systems, even though their basic entitlement is still routed through the Indigenous community organisations administering CDEP as wages.

In administering CDEP, ATSI's Regional Councils make decisions about the allocation of participant numbers and on-cost funding to programs in their regions, without dictating what work is done within CDEP. The scheme is led by the communities and participants involved. Any activity that benefits the community can be a CDEP activity.

Power supply

An uninterrupted power supply is an important requirement for the operation of telecommunications equipment, including payphones and computers.

Many remote Indigenous communities across Australia lack grid power or have intermittent power. A 1997 study of environmental health needs in 210 Aboriginal communities found that 5 per cent have no electricity supply. Among communities that do have electricity, about 40 per cent have regular interruptions to supply.¹⁵

¹² Commonwealth Grants Commission; *Report on Indigenous Funding*; Commonwealth of Australia; 2001; pp 9-10.

¹³ Commonwealth Grants Commission; *Report on Indigenous Funding*; Commonwealth of Australia; 2001; pp 27-29.

¹⁴ Aboriginal and Torres Strait Islander Commission; *ATSI News*; Autumn 2001; p 9.

¹⁵ Senate Employment, Workplace Relations, Small Business and Education References Committee; *Katu Kalpa – Report on the inquiry into the effectiveness of education and training programs for Indigenous Australians*; Commonwealth of Australia; March 2000; chapter 8.3. (citing Australian Bureau of Statistics, *The Health and Welfare*

In the Northern Territory, the Power and Water Authority (PAWA) provides essential services (electricity, water and sewerage) to about 60 major Indigenous communities. Because the services in these communities are stand-alone (not connected to any larger or more generally available services) it costs about 4 to 5 times as much to produce a unit of essential services in these locations compared with the main population centres. Such services are high cost, high risk and high maintenance. Response times to rectify faults can be extended if local expertise is not available. Isolation due to wet season flooding can leave communities without essential services for prolonged periods.¹⁶

The discrete communities with a power supply are either connected to the State grid or source electricity from community or domestic generators. Those communities with a population of less than 50 (73 per cent) mainly use domestic generators whilst the remaining larger communities are most likely to be supplied with power via the State grid or community generators. According to the CHINS data there are 133 communities with no electricity supply. Of these, 131 have populations of less than 50.¹⁷ Table 2 details electricity supply statistics.

Indigenous Discrete Communities							
Main Source of Electricity Supply, by Community Size – All Communities							
Type of electricity supply	<20	20-49	50-99	100-199	200>	Total (a)	Reported Population
State grid	44	61	50	60	66	281	4,408
Community generators	85	70	30	33	81	299	50,990
Domestic generators	241	89	12	-	-	342	5,615
Solar	83	43	4	1	-	131	2,321
Solar hybrid	62	21	5	1	2	91	1,994
Other source	2	2	-	1	-	5	212
<i>All communities with an electricity supply</i>	<i>517</i>	<i>286</i>	<i>101</i>	<i>96</i>	<i>149</i>	<i>1,149</i>	<i>108,540</i>
<i>No electricity supply</i>	<i>118</i>	<i>13</i>	<i>1</i>	<i>1</i>	<i>-</i>	<i>133</i>	<i>1,378</i>
All communities¹⁸	644	299	102	97	149	1,291	109,994
Source: ABS Cat. 2710.0¹⁹							

The Centre for Appropriate Technology is implementing the 'Bushlight' program, which is jointly funded by ATSIC and the Australian Greenhouse Office. This program has received \$16 million over four years to install renewable energy in remote Indigenous communities of less than 50 people and to educate and assist the communities in the adoption and management of the new systems. Systems under the program include power, refrigeration, lighting and telecommunications services.

Transport to access services

of Australia's Aboriginal and Torres Strait Islander Peoples, 4704.0. 1999.)

http://www.aph.gov.au/senate/committee/EET_CTTE/indiged/

¹⁶ Northern Territory Government; Submission to the Study; November 2001; p 11.

¹⁷ Australian Bureau of Statistics; *ABS Catalogue No.4710.0: Housing and Infrastructure in Aboriginal and Torres Strait Islander Communities, Australia*; Commonwealth of Australia; 1999; p 17.

¹⁸ includes 'not stated'

¹⁹ Australian Bureau of Statistics; *ABS Catalogue No.4710.0: Housing and Infrastructure in Aboriginal and Torres Strait Islander Communities, Australia*; Commonwealth of Australia; 1999; pp 16-17.

The main mode of transport to access key government and community services is by car; however people from 49 per cent of communities must travel for between 1 and 4 hours to reach such services, and 16 per cent of people report travel times in excess of five hours. Due to variable weather conditions, road access into or out of communities may be cut for periods of up to one week, four or five times per year. In some cases (37 communities), there have been continuous periods of road closure for up to three months or more in the most extreme weather conditions. Such difficulty in accessing remote communities reinforces the value of telecommunications in alleviating isolation; but it also reinforces the difficulty of timely installation and maintenance of telecommunications facilities.

Education

Analysis of the take-up of Internet and advanced communications services has consistently shown a strong correlation between high take-up rates and high levels of education.²⁰ It is likely that those communities with low levels of access to education, training and support will face significantly greater difficulty accessing and using such services to their full potential.

School participation rates for people living in remote Indigenous communities is significantly lower than those for the general population. The Northern Territory Government submission indicates that in 1996, 30 per cent of children in geographically remote communities attended school, compared to a nation-wide attendance rate of 80 per cent.

Low participation rates are mainly attributed to the lack of local access to secondary schools. 48 per cent of communities do not have access to a secondary school (up to Year 10) within 100 km, and this increases to 69 per cent for Year 12. Primary schooling is more accessible with 39 per cent of discrete communities having a school within 10 km. 149 communities do not have any kind of school within 100 km. These are small communities, most with less than 50 people.

TAFE, secondary colleges and training organisations provide additional educational opportunities in some areas. Some colleges, such as Batchelor College (outside Darwin) in the Northern Territory, provide tertiary and vocational education and training programs designed to meet the needs of Indigenous people.

The difficulties associated with travelling outside the community to attend school could at least in part be diminished through the provision of better telecommunication services. For example, online services can improve local access to education and provide support and training to teachers.

Health and access to medical services

895 (69 per cent) of the 1,291 discrete communities are located 100 km or more away from the nearest hospital, with only 53 per cent of these communities having access to emergency air medical services. These communities rely on community health clinics or first aid clinics located within the community or within 10 km of the community. However, lack of transport can hinder access to clinics, even if distances are relatively short.

Disability can also be a major impediment to communications service access. The most serious disability issues that are likely to impact on telecommunications adoption in remote Indigenous

²⁰ Hellwig, Otto and Lloyd, Rachel; Sociodemographic Barriers to Utilisation and Participation in Telecommunications Services and Their Regional Distribution: A Quantitative Analysis; National Centre for Social and Economic Modelling (NATSEM), University of Canberra; 21 August, 2000. <http://www.natsem.canberra.edu.au/pubs/netaccess-barriers.html>

communities are sight and hearing disabilities, with up to 70 per cent of children in some communities having hearing difficulties.²¹

Community governance structures

Community Government Councils in communities are funded under Local Government provisions within each State or Territory, and by ATSIC. Funding and assistance is also provided to a number of “association” councils, special purpose towns, Aboriginal urban living areas, minor communities and other organisations providing local government services. These councils administer municipal and local government activities, deliver programs such as CDEP and services for the development of employment opportunities.

GOVERNMENT TELECOMMUNICATIONS POLICY AND PROGRAMS

The Commonwealth Government has overall responsibility for strategic telecommunications policy and the regulatory framework. However, State and Territory governments are demonstrating an increasing interest in telecommunications, and are participating more actively in seeking to influence telecommunications markets, often with the objective of improving online delivery of services such as health and education. It is important to understand this policy and program environment in order to assess to what extent it is meeting the needs of remote Indigenous communities, and whether policy and program settings could be adjusted to deliver better outcomes for these communities.

To date, the Commonwealth has taken the lead in funding targeted telecommunications programs, such as Networking the Nation and the TSI Programs, but increasingly States and Territories are participating in, and contributing to, these programs. This melding of policy and program responsibilities across the various levels of government has somewhat broken down past telecommunications demarcations between the Commonwealth and States/Territories. Increasingly, tiers of government are seeking to cooperate in this area by combining resources to improve outcomes in marginal markets.

This activity is being facilitated through the Online Council, the peak ministerial forum across governments for consultation and coordination on the information economy. Through the Online Council, all tiers of government have been actively pursuing improvements to telecommunications in regional, rural and remote Australia, including a more recent focus on Indigenous communities. The Online Council will be one of the important coordinating mechanisms for effective implementation of the Action Plan.

A cooperative approach is also proving beneficial in the implementation of targeted programs. The Commonwealth Networking the Nation Program, for example, was designed to operate cooperatively with the States and Territories through the establishment of State and Territory advisory committees, which provide annual State and Territory presentations to the NTN Board. This ensures that funding decisions take into account State and Territory priorities.

In a further Government initiative which illustrates the need for a cooperative approach to telecommunications programs, a Broadband Advisory Group has been established to advise on both supply and demand side initiatives to further develop broadband in Australia. The Group will provide high level advice on both supply-side and demand-side issues, including possible policy solutions to current and future challenges and the opportunities presented by emerging technologies

²¹ House of Representatives Standing Committee on Family and Community Affairs; *Health is Life: Report on the Inquiry into Indigenous Health*; Commonwealth of Australia; May 2000.

and new business models. It will work in close consultation with key stakeholders in industry, small business, major service providers and key sectors such as the health, education and the community sectors. The Group will be chaired by the Minister for Communications, Information Technology and the Arts, Senator the Hon Richard Alston.

REGULATORY SAFEGUARDS

Over the past ten years the Government has moved to liberalise the regulation of telecommunications to allow and encourage greater competition in the delivery of services. At the same time, it has introduced a range of regulatory, policy and program measures to ensure that communities that are not attractive to commercial service providers, because of their remote location, demography or economic circumstances, are still provided with adequate services.

Universal Service Obligation and Customer Service Guarantee

The Universal Service Obligation (USO) is a regulatory safety-net that requires a standard telephone service and payphones to be reasonably accessible to all people in Australia on an equitable basis, wherever they live or carry on business. The obligation includes providing a suitable handset, where the customer requests it. Comparable services must also be provided for people with a disability.

In October 1999 the Government established the digital data service obligation (DDSO) to supplement the telephony-based USO to ensure that all people in Australia have access to a higher speed data service, particularly for accessing the Internet.

The General DDSO requires that a 64 kbps ISDN service be made available on request to the 96 per cent of the population who have access to ISDN services. The Special DDSO applies to the remaining four per cent of the population who do not have access to ISDN services (primarily those customers living more than 4 km from a metropolitan exchange or 6 km from a country exchange). The Special DDSO provides for the supply on-demand of a satellite downlink service comparable to a 64 kbps service and broadly equivalent to an ISDN service. Telstra is the national DDSO provider.

The Customer Service Guarantee (CSG) provides compensation for consumers inconvenienced by poor carrier performance and is an incentive for carriers to improve performance. More information about the USO and CSG is at **Attachment E**.

Telstra is currently the Primary Universal Service Provider (main service provider) for Australia. This means that it has a legal obligation to provide telephone services on request and upon payment of necessary charges. Details of how Telstra fulfils its USO are set out in its binding Universal Service Policy Statement and Standard Marketing Plan. The Plan covers such matters as service connections, performance, fault rectification, interim service provision and complaint handling. The Plan is available from Telstra on request, or may be accessed online at www.telstra.com.au/universalservice.

OVERSIGHT, MONITORING AND COMPLAINTS HANDLING

Australian Communications Authority

The Australian Communications Authority (ACA) is responsible for regulating the telecommunications and radiocommunications industries in Australia. The ACA monitors and reports to the Minister for Communications, Information Technology and the Arts on the

performance of carriers and service providers. Under Section 105 of the *Telecommunications Act 1997* the ACA is required to report annually to the Minister on all significant matters relating to the performance of carriers and service providers.

The ACA also performs a key consumer protection function through administration and enforcement of codes of conduct and industry standards, and in particular, the Universal Service Obligation and the Customer Service Guarantee.

Compliance with the USO and CSG is a carrier licence condition. The ACA can issue formal warnings and remedial directions for failure to comply with a carrier licence condition, as well as seek pecuniary penalty in the Federal Court of up to \$10 million for each breach.

Telecommunications Industry Ombudsman

The Telecommunications Industry Ombudsman (TIO) was established by the Government in 1993 to resolve disputes between telecommunications companies and residential and small business customers. The TIO enables consumers to have grievances investigated at no charge by an independent umpire. The TIO has the authority to make (legally) Binding Decisions (up to the value of \$10,000), and Recommendations (up to the value of \$50,000). The role and responsibilities of the TIO are included in the *Telecommunications (Consumer Protection and Service Standards) Act 1999*. The TIO is an industry-funded scheme, deriving its income solely from members who are charged fees for complaint resolution services provided by the TIO. Members consist of telecommunications carriers, telephone carriage providers and Internet Service Providers.

SUPPORT PROGRAMS

The Commonwealth Government has initiated a number of programs aimed at increasing access to and take up of telecommunications services in regional, rural and remote communities, including in Indigenous communities. Information on these programs can be found on the *Newconnections* website at: <http://www.newconnections.gov.au>.

People can find out where their nearest public Internet access location through the *NetSpots* directory of Internet access locations by calling 1800 222 797 or going to <http://www.noie.gov.au/netspots>.

Networking the Nation

The Networking the Nation (NTN) program aims to assist the economic and social development of regional, rural and remote Australia by funding projects which:

- enhance telecommunications infrastructure and services in these areas;
- increase access to, and promote use of, services available through telecommunications networks; and
- reduce disparities in access to such services and facilities.

Originally established in 1997 as a \$250 million fund over five years, an additional \$171 million social bonus funding was provided in June 1999 for initiatives including:

- the Local Government Fund (\$45 million over five years, from 1999/2000 to 2003/2004) to assist local government authorities in regional Australia to provide online access to information and services including the Internet;

- Building Additional Rural Networks (\$70 million over five years, from 1999/2000 to 2003/2004) to promote ongoing, sustainable improvements in regional telecommunications services;
- the Internet Access fund (\$36 million over three years, from 1999/2000 to 2001/2002) to stimulate Internet service delivery in regional and rural Australia; and
- the Remote and Isolated Islands fund (\$20 million over four years, from 1999/2000 to 2002/2003) to improve telecommunications access for remote island communities.

Networking the Nation is a community-driven program with projects either directly initiated by communities, or undertaken by State or local government bodies, on behalf of, and in consultation with, local communities.

A total of 696 projects worth \$325 million, have been funded through Networking the Nation. Of these projects, 60 (worth \$35.1 million) offer an exclusive or significant benefit to Indigenous communities. Many of these projects have been presented as case studies throughout the Action Plan. **Attachment F** provides further detail.

Untimed Local Calls (Extended Zones) Agreement

In July 2001 the Commonwealth Government allocated \$150 million for upgraded infrastructure and service improvements to 40,000 services, benefiting about 28,000 customers in Telstra's "extended zones". Most remote Indigenous communities are located in these extended zones. The allocation was subject to a competitive tender, which was won by Telstra.

The initiative has reduced the cost of phone calls from 31 July 2001 as follows:

- untimed calls at a maximum charge of 22 cents within an extended zone and between adjacent extended zones;
- calls between an extended zone and its 'community service town' and community service towns of adjacent extended zones at a preferential call rate of no more than 27.5 cents for 12 minutes (or part thereof); and
- untimed local call access to at least one Internet Service Provider (ISP).

The preferential rate for calls between extended zones and the related community service towns will be replaced by calls at the untimed call rate within the next year.

Under the agreement, people in the extended zones now have two main options for Internet access:

- dial-up local call access over the standard telephone service to at least one Internet Service Provider; or
- Telstra's BigPond Broadband 2-way Satellite Internet service.

Telstra guarantees that customers seeking dial-up access to the Internet will receive a minimum data rate of 14.4 kbps over their standard telephone service once it has upgraded its network in the customer's area, subject to conditions. Some telephone lines may need to be replaced. This data rate will be made available to extended zone residents should they choose not to take up the Telstra BigPond Broadband 2-way Satellite Internet option.

This 2-way satellite Internet service uploads and downloads data via satellite—providing much faster performance and freeing up the telephone line, which would otherwise also be used to access the Internet. This service is accessible whenever the computer is switched on, at three different monthly access pricing plans, broadly comparable with prices in metropolitan areas. The offer

includes free satellite reception equipment and installation (conditions apply). A competitively priced, fully configured and installed IBM personal computer package is also available.

Telstra customers in the extended zones are being contacted by Telstra about eight weeks before the technicians are due to begin installing equipment in their region. The offer of free supply and installation of satellite equipment is made at that time, and consumers have about eight weeks, from the time the information is mailed out by Telstra, to subscribe to an 18-month plan with BigPond. If the free offer is not taken up during this eight-week period, then consumers will still be able to take up the three monthly access pricing plans available only in the extended zones, but will have to pay equipment and installation charges. Alternatively, consumers also have access to other commercially-available 2-way satellite services.

Other services that Telstra will be offering progressively include:

- specialised data services, provided by satellite. (These services will be made more available to schools, hospitals, community organisations and business customers);
- the Telstra BigPond Broadband 2-way Satellite Internet service. (This service will be able to receive interactive distance learning through the installation of software (at no additional charge) for the SkyConnect Tutor Service); and
- videoconferencing, provided by satellite. (This service will be available for either point-to-point or point-to-multipoint (using a video bridge)).

Currently many customers living in the extended zones use Digital Radio Concentrator Service (DRCS) radio technology to make telephone calls, send faxes and access the Internet. Telstra is replacing this DRCS technology with High Capacity Radio Concentrator (HCRC) technology. This will increase network capacity for customers and ensure there is less congestion during busy calling times.

Telstra is also trialing the use of its Code Division Multiple Access (CDMA) technology to provide Wireless Local Loop (WLL) fixed telephone services in remote areas. Following successful completion of this trial, some DRCS replacement is planned using this technology.

Programs resulting from the Government's response to the Telecommunications Service Inquiry

Mobile telephone service coverage

The Commonwealth Government is allocating up to \$88.2 million over three years (from 2001/2002 to 2003/2004), to improve and extend mobile phone coverage, in areas currently without terrestrial mobile phone services. Up to \$37.7 million (announced 9 August 2001) will be contributed to the capital cost of terrestrial base stations in population centres of 500 and above, subject to confirmation of community needs and ongoing viability.

A further \$50.5 million (announced 1 November 2001) will be used to support other ways of improving affordable coverage for those communities unable to access terrestrial services. The available funds have been allocated pro-rata between the eight States and Territories on the basis of the estimated number of people not served by terrestrial mobile phone coverage (after the roll-out of the \$37 million program).

After public consultation and discussions with States and Territories, the Minister for Communications, Information Technology and the Arts announced on 1 November 2001 that \$2.1 million would be allocated to a satellite handset subsidy program. The subsidy is up to \$1,000 per

handset for people in areas not otherwise served by terrestrial mobile phones. Members of most remote Indigenous communities will be eligible to apply for the subsidy, which is expected to be available by mid-2002.

The announcement also included \$40.8 million to be divided equally between providing improved mobile phone coverage on specified highways and in selected towns with a population of less than 500. Funding will be subject to community need and ongoing viability. A number of Indigenous communities in Queensland and the Northern Territory could receive improved mobile phone coverage under this initiative.

The Government will be looking to maximise contributions from carriers under these programs and will seek an appropriate contribution from communities likely to benefit from the program, broadly consistent with other Government telecommunications funding programs such as Networking the Nation.

National Communications Fund

The Government has allocated \$52.2 million, over three years (2002 to 2005), to establish a National Communications Fund for significant telecommunications projects in rural and remote Australia involving the education and health sectors.

This program will help improve service delivery in those sectors, and will also encourage high bandwidth data services in regional communities. Priority for funding will be given to applicants who can demonstrate that their proposed project can be effectively integrated with broader regional communications initiatives.

The fund has invited applications from government and non-government organisations, including for-profit organisations, and invites collaboration and cooperation between them. The fund is encouraging contributions from applicants to improve the scope and impact of projects, and State and Territory governments are required to provide at least matching funding for projects put forward by their own agencies.

The fund is being allocated by a competitive grants process, and applications closed on 28 February 2002. There is potential for NCF applications to provide benefits to remote Indigenous communities through improved telecommunications infrastructure or through the improved provision of education and health services.

Internet Assistance Program

The Internet Assistance Program (IAP) is a \$50 million joint initiative (over three years, from 2001/2002 to 2003/2004) between the Commonwealth Government and Telstra in response to the Telecommunications Service Inquiry Report. The Report found that a small, but significant number of customers, particularly in rural and remote areas, are either unable to access the Internet over their fixed phone line, or have slow Internet speeds.

Under the IAP, residential and small business users (with a maximum of two services) will have access to a range of help services to solve Internet problems, and to achieve an effective Internet service speed equivalent to at least 19.2 kbps. Specific arrangements may apply in the extended zones of remote Australia. The IAP is likely to be of only minor significance to Indigenous communities in these Extended Zones, because Telstra is already guaranteeing a 14.4 kbps dial-up speed to these communities (or an attractive always-on satellite offering).

Telecommunications Consumer Grants

Under Section 593 of the *Telecommunications Act 1997*, the Minister can make grants of financial assistance to:

- a consumer body for purposes in connection with the representation of the interests of consumers in relation to telecommunications issues; and
- a person or body for purposes in connection with research into social, economic, environmental or technological implications of developments relating to telecommunications.

The Commonwealth Government has been providing funding support to consumer bodies under a four-year program that commenced in the 1998/1999 financial year. As part of its response to the TSI, the Government has allocated a further \$3.4 million over four years from 1 July 2002, to continue representation and research under this program.

Rural Transaction Centres

The Rural Transaction Centres (RTC) Program is a Federal Government initiative to provide community facilities to assist people living in smaller rural towns to have the same access to basic transaction services that people in larger towns and cities take for granted. These services include banking and postal services, Centrelink, Medicare easyclaim and facsimile services. The Government allocated up to \$70 million over five years (from March 1999) to the Program. There are 44 operational RTCs (as at March 2002) and five have been approved in, or in the vicinity of, Indigenous communities. These include Oenpelli, Maningrida, Numbulwar, and Mataranka in the Northern Territory.

Communities are also using the Program to provide a range of other government and private sector services. Services can include:

- State and Local Government services (eg. licences and permits, provision of information, bill paying, rail ticketing);
- phone, fax and Internet facilities;
- rooms for visiting professional services (eg. health and medical, accounting, insurance, consultants); and
- tourist information services.

The program is targeted at communities with populations up to 3,000, outside metropolitan areas. Community participation and support is required for the ongoing operation, management and maintenance of RTCs. Partnerships that will provide additional sources of revenue and support are encouraged, and financial viability must be demonstrated to receive funding. Communities as diverse as the town of Coonabarabran in NSW to the Aboriginal community of Oenpelli in Arnhem Land have implemented RTCs to date.

Other initiatives

In 2000, NOIE developed a comprehensive database of current activities and programs designed to assist people and communities get online. This database includes information on programs and projects across Australia being undertaken by all levels of government, as well as by non-government and private sectors. Examples include the establishment of Internet access centres, specialised training and skills, low-cost hardware and/or software, portals or other online user communities.²²

Online Council announced on 2 March 2002 the establishment of a Digital Divide Forum of senior Commonwealth, State and Territory officials and representatives of local government to enable all

²² NOIE; *Survey of Australian Programs to Increase Individual and Community Access to the Internet*; Commonwealth of Australia, 2000. <http://www.noie.gov.au/projects/access/community/cps/>

jurisdictions to share information and experience on the development and implementation of digital divide programs. The Forum will provide a progress report on its work to Online Council in early 2003.

Ministers noted that the Commonwealth, States and Territories and local government would all benefit from better sharing of information, experience, research and evaluation about the diversity of digital divide approaches and programs in operation around Australia.

IMPACT OF THESE PROGRAMS

This range of targeted programs has provided benefits to many remote Indigenous communities, with major improvements to infrastructure as a result of the Untimed Local Calls Initiative, and with many significant NTN projects targeting areas such as public access facilities. Other government projects and strategies of relevance are summarised at **Attachment G**.

Despite these significant programs, telecommunications access and take-up in these remote Indigenous communities remain very low. These communities face unique and pervasive access barriers, and the Government has recognised that it will take further support, within the framework of a coordinated strategic approach, to make any sort of positive, lasting change in the provision and take-up of telecommunications services.

GOVERNMENT SECTORAL ACTIVITIES

A strategic approach to improving telecommunications in remote Indigenous communities will need to focus on the activities of many service delivery sectors (at all levels of government), which see telecommunications as a valuable tool to improve their own service delivery. Many agencies have developed their own strategies to facilitate its progressive introduction into their business processes and customer service activities.

An overview of progress within the health, education, justice and tourism sectors in advancing to online service delivery, specifically for remote Indigenous communities, is at **Attachment G**. The following is a summary of developments for each sector.

Education

All State and Territory Governments have stated objectives to provide computers and Internet access for all schools to enhance education through online information and communication, and to provide greater support and professional development for teachers. The education sector is increasingly looking to the use of videoconferencing services to provide e-learning. There is evidence that this is happening in more populated regions, but it is apparent that it is not being implemented to the same extent in smaller remote schools.

Health

All State and Territory health agencies are pursuing tele-health to enhance the delivery of health services to regional, rural and remote communities. The main applications of tele-health in the short to medium term are information provision, including patient information databases, mental health, tele-radiology, patient referral to specialists and patient support, including pre and post natal care. Equally important as clinical use, is the professional development and support of health workers.

Justice

Justice agencies are increasingly using online services to enhance access to all courts and tribunals and to streamline procedures. Videoconferencing has been used for remote court hearings and also to provide family link ups with prison inmates.

Social services

Centrelink is offering online access to services and is establishing 12 regional centres to provide the full range of Centrelink services in closer proximity to remote Indigenous communities.

Telecommunications and IT capacity is also required to enhance the operation of CDEP organisations and communities. For example, ATSIC is seeking to establish an electronic database of CDEP activities and funding arrangements.

COORDINATION OF GOVERNMENT SERVICES

ATSIC notes in its submission to the Study, that:

The approaches governments took in providing services were often fragmented with each agency delivering its own programs in isolation of other—often leading to duplication and inefficiencies. In developing policies and programs there was a general exclusion of Indigenous community participation in the planning and decision making in relation to the services being provided. This lack of participation has led to the delivery of inappropriate and unsustainable service provision and unsuccessful outcomes for Indigenous communities.²³

Where sectoral policies advocate the general roll-out of ICTs (for example, to ensure Internet in every school), there is evidence that many have not achieved their stated objectives in relation to remote Indigenous communities.²⁴ This is despite the fact that these communities (because of their remoteness) could be seen to derive great benefit from the use of ICTs to overcome the disadvantage of distance in the delivery of the range of social services. Reasons given for lack of roll-out of services to remote Indigenous communities frequently relate to the additional costs of implementation in these areas (like additional costs of travel associated with training, importing specialist technicians, etc), lack or cost of adequate telecommunications and other infrastructure, unreliable or non-existent electricity supplies, and the cost of producing culturally appropriate materials.

The viability of online service delivery to small, remote Indigenous communities will rely on achieving economies of scale in service roll-out. Cross-sectoral collaboration in rolling-out services will be an important way of achieving such economies of scale. For instance, a public Internet access centre is more likely to be a cost-effective venture in a small community if services such as education, health, justice, CDEP, Centrelink and banking services are aggregated and co-located in the one centre. It is also likely that collaborative efforts to implement online services will be more cost-effective in making online access broadly available to community residents. For example, where the costs of Internet or videoconferencing access might be prohibitive for a small school or health centre, spreading the costs across sectors might mean that an access centre could be located

²³ Aboriginal and Torres Strait Islander Commission; Submission to the Study; October 2001; 1.3.

²⁴ For example, see a) Senate Employment, Workplace Relations, Small Business and Education References Committee; *Katu Kalpa – Report on the inquiry into the effectiveness of education and training programs for Indigenous Australians*; Parliament of Australia; March 2000; chapter 4.117.
http://www.aph.gov.au/senate/committee/EET_CTTE/indiged/;

b) Northern Territory Department of Education; *Learning Lessons: An independent review of Indigenous education in the Northern Territory*; Darwin, NT; 1999; p 49-50;
[http://www.ntde.nt.gov.au/prod/NTEDWeb/DeptWeb.nsf/Files/AbEdRpt/\\$file/AbEdRpt.pdf](http://www.ntde.nt.gov.au/prod/NTEDWeb/DeptWeb.nsf/Files/AbEdRpt/$file/AbEdRpt.pdf); and

c) Australian Human Rights and Equal Opportunity Commission; *Rural and Remote Education Inquiry Briefing Paper: Information technology infrastructure*; Commonwealth of Australia; 2000; p 11.
http://www.hreoc.gov.au/human_rights/rural_education/briefing/it_infrastructure.html

close to both school and health centre, and provide access to school students, health workers and the community generally.

Existing coordination models

The Council of Australian Governments

The Council of Australian Governments (COAG) in 1992 endorsed *The National Commitment to Improved Outcomes in the Delivery of Programs and Services for Aboriginal Peoples and Torres Strait Islander Peoples*. The objective of the 1992 COAG Commitment was to ensure that Aboriginal and Torres Strait Islander people receive no less a provision of services than other Australians. In particular, the 1992 COAG Commitment was designed to achieve greater coordination of the delivery of programs and services by all levels of government to Aboriginal and Torres Strait Islanders peoples.²⁵

The 1992 Commitment provided a framework which has allowed for improved service delivery practices, especially in the areas of health and housing, in recent years. For example, in the housing and related infrastructure area, agreements have been developed which set out the responsibilities of different government agencies, which include combining resources and developing decision-making roles for Aboriginal and Torres Strait Islander peoples. More holistic approaches to addressing community concern also exist in areas such as law and justice and in local government services.²⁶

At its 3 November 2000 meeting, COAG agreed to a framework to advance reconciliation. As part of the framework, all Ministerial Councils are required to present Indigenous action plans, performance monitoring strategies and benchmarks to COAG. The National Office for the Information Economy (NOIE) is responsible for the coordination of the Online Council's Indigenous Action Plan (OCIAP).

The Online Council operates within COAG protocols for Ministerial Councils as the peak ministerial forum across governments for consultation and coordination on the information economy. The Online Council was established in 1997 as a key initiative of the Commonwealth Government following agreement by States and Territories and local government that cooperation on online issues is needed to promote consistency on a national level.

The OCIAP's mission is to extend and promote access to the Internet for Indigenous people throughout Australia thereby facilitating effective participation in the nation's transition to the information economy.²⁷

At the meeting of Online Council on 6 July 2001, Council members endorsed a preliminary structure for the plan (and the suggested key priorities) and agreed to work cooperatively on developing performance strategies and benchmarks over coming months.

In the development of the OCIAP, Online Council identified key priorities and proposed actions for urban Indigenous communities on the basis that:

²⁵ Ministerial Council on Education, Employment, Training and Youth Affairs; *Report of the MCEETYA Taskforce on Indigenous Education*; Commonwealth of Australia; March 2000; p 52.

<http://www.curriculum.edu.au/mctvpdf/reportm.pdf>

²⁶ Ministerial Council on Education, Employment, Training and Youth Affairs; *Report of the MCEETYA Taskforce on Indigenous Education*; Commonwealth of Australia; March 2000; p 52.

<http://www.curriculum.edu.au/mctvpdf/reportm.pdf>

²⁷ <http://www.noie.gov.au/oc/>

- the Indigenous Scoping Study (ie. *this* Study) is investigating access to telecommunications infrastructure and computer facilities for regional and remote Indigenous communities;
- Indigenous people living in urban areas also have significant needs in the area of Internet access and training;
- there appear to be no studies of a similar nature to the DCITA Study that have been undertaken or planned to investigate access to telecommunications and computer facilities for Indigenous people living in metropolitan Australia; and
- the barriers to Internet take-up by Indigenous people living in urban Australia are not necessarily similar to those of Indigenous communities in regional and remote Australia (for example, access barriers and content and service needs are likely to differ). The differences between urban and remote Indigenous peoples will necessitate different strategies to ensure effective national outcomes.²⁸

In this respect, the OCIAP also focuses on urban Indigenous access to Internet and online services, without reference to basic telecommunications access such as telephony, while this Study has had a broader brief to examine telecommunications supply, including access to phones, to remote Indigenous peoples. The two activities complement one another, and this Study has collaborated with NOIE on their development of the OCIAP.

Online Council at its meeting of 2 March 2002 endorsed the OCIAP and agreed that the Action Plan be submitted to COAG for its consideration in April 2002. An outline of the content of the OCIAP is provided within **Attachment G**.

More Accessible Government

On 26 June 2000, the Government agreed to establish the More Accessible Government initiative across all Commonwealth agencies covered by the *Financial Management and Accountability Act*. The aim of this initiative is to improve community access to Commonwealth grant programs, information and services, and to streamline grants administration.

A More Accessible Government Working Group was established with representatives from all Commonwealth agencies covered by the *Financial Management and Accountability Act*.

The Working Group has formed two consortia to examine issues relating to the administration and delivery of funding programs to regional communities – the Standardising Consortium and the Geographic Consortium. The Standardising Consortium is examining mechanisms to reduce duplication and streamline funding administration arrangements for regional communities. The Geographic consortium is mapping Commonwealth activities in regional Australia.

The More Accessible Government Section in the Department of Transport and Regional Services is facilitating the consortia's activities.

Remote Communities Liaison Officer

A Remote Communities Liaison officer has been operating since October 1999 servicing Western Queensland. The officer is based in Longreach and covers an area of about a million square kilometres which includes 25 local government authority areas. Although funded through the Department of Transport and Regional Services, the officer works with all levels of Government, to deliver better outcomes to the region.

²⁸ NOIE; *Online Council Indigenous Action Plan*; unpublished; March 2002; p4.

The officer has assisted communities through:

- Creating awareness of and access to Commonwealth programmes;
- Promoting a whole-of-government approach to funding;
- Coordinating successful integrated funding proposals involving the three levels of government;
- Providing support in the region for program managers from other Commonwealth departments; and
- Providing feedback to government on issues raised by communities.

This has resulted in a number of joint-funding opportunities being progressed. The first to be announced was a \$1.2M Longreach Childcare Facility.

Deleted: Community A - 'Hub' Community / High Level of Readiness¶

¶ Characteristics of readiness¶

<#> Well established and effective leadership and decision making processes.¶
 <#>A community development plan exists or the community has developed broad priorities for economic and/or social development.¶
 <#>Awareness of telecommunications needs or can develop these according to community priorities.¶
 <#>The capacity and willingness to progress telecommunications improvements and be a 'driver' or 'champion' for improvements over the longer term.¶
 <#>Demonstrates the capacity to establish and operate an online access centre and encourage and support use.¶
 ¶

¶ Service priorities¶

<#>Phone services – private or community based.¶
 <#>Dial-up Internet services.¶
 <#>Online Access Centre (via terrestrial or satellite backbone) which provides the opportunity to enhance education, health services etc through online delivery including videoconferencing, and with training and support facilities.¶
 <#>Community publishing facility.¶
 <#>E-commerce support for local businesses.¶
 <#>Training and technical support.

... [1]

PART TWO: FINDINGS

OVERVIEW AND SOME KEY GUIDING PRINCIPLES

The Study found general consensus that telecommunications is an important tool for the economic development and self-sufficiency in remote Indigenous communities, and can greatly assist them to achieve their social and business aspirations. The communities that are the subject of the Study are the most remote and disadvantaged in the country. They are also very diverse, both in terms of their demographic profiles and their degree of community development. This diversity means that the benefits of telecommunications services will vary from community to community; however, improved access to telecommunications can lead to improved opportunities in a number of areas across all these communities.

An advantage of telecommunications...is that location to some extent becomes immaterial. Where telecommunications can provide access services, location is less of a disadvantage. More importantly digital futures provide access to a global market.²⁹

The ATSIC submission highlighted the important role telecommunications plays in the lives of people in rural and remote Australia and the negative impact the lack of services has had, and continues to have, on the overall growth of economic activity in Indigenous communities.³⁰ To this point ATSIC has not adopted a formal role in monitoring and facilitating improvements to telecommunications services as it does for power, water, housing and other essential services. For example, it was suggested during consultations (ATSIC Community Council, Hermannsburg, 24 September 2001) that telephone cabling be incorporated into the construction of houses to avoid subsequent trenching requirements. This sort of integrated approach would ultimately save money and allow greater access to telephone services.

Telecommunications services are important, but are a means to an end, rather than an end in themselves. The way in which these services are or might be applied by Indigenous communities to bring benefits to their lives also needs to be considered and supported, if we are to understand and respond to Indigenous community priorities. For example, the Anangu Pitjantjatjara people are recording and digitising bush medicine and the re-enactment of dreaming stories to preserve them for future generations to access through computers. The Study found a number of other examples where culturally important activities are being planned or undertaken using the new digital tools of the information age.

Decisions about priorities for telecommunications services and their application need to be made at the local community level, involving community members and those interacting with the community. This is not just because communities vary in their needs and priorities, but because community involvement in and ownership of these decisions is crucial for the effective uptake and sustainability of these new services.

At the same time, the success and viability of new telecommunications services is not guaranteed solely by community interest and participation. There are a range of other access constraints that need to be addressed, such as lack of discretionary income to spend on these new services, lack of technical support, and lack of training and skills development opportunities. Successful implementation will require a coordinated approach to these multiple barriers, as well as a carefully planned assessment of community needs, and opportunities for additional revenue raising. Such an

²⁹ Centre for Appropriate Technology, Alice Springs, NT; Submission to the Study; p 4.

³⁰ Aboriginal and Torres Strait Islander Commission; Submission to the Study; October 2001; part 1.6.

approach will necessarily involve close and ongoing partnerships between communities, government and industry providers.

The Central Land Council makes the point that community planning is essential and:

...must acknowledge linkages between communities, demographics of a region, mobility and population shifts within a region, the social and economic needs of residents, requirements of the service providers and remoteness from existing infrastructure and services.

Telecommunications should be delivered in congruence with community aspirations and needs rather than arbitrarily introducing technology to meet the needs of external based service providers, or on guidelines imposed externally without thorough community consultation.³¹

THE NATURE OF COMMUNITIES AND IMPLICATIONS FOR TELECOMMUNICATIONS SERVICE PROVISION

Remote Indigenous communities vary considerably, both in terms of population and in the range of services and facilities they enjoy. There is equally likely to be variation in the range of telecommunications services that can be implemented effectively in these communities. For example, it is likely, as a general rule, that more advanced higher bandwidth services would be more viable in larger communities which may have a range of facilities, such as a school and health centre, that could utilise such services.

For the purposes of the Study it has been useful to categorise remote Indigenous communities as ‘**hub**’ and ‘**non-hub**’ communities, and to indicate the likely range of services that could be provided to each.

In the context of this Report, a ‘hub’ is an Indigenous community which provides services such as schools and medical centres, and which people from surrounding smaller communities regularly visit to access these services. The Study identified 178 ‘hub’ communities. A summary of all 1,291 communities and the services available to each is at **Attachment H**. This summary includes all information available to the Taskforce.

Remaining ‘non-hub’ communities will include small communities or **out stations** with up to approximately 50 people in permanent or semi-permanent residence, with at least a water supply and shelter³²; and **town camps**, of any size, situated within or adjacent to a major urban area, from which services are accessed.

Homeland areas are defined as “small decentralised communities of close kin established by the movement of Aboriginal people to land of social, cultural and economic significance to them, where a group or number of communities resides. Population sizes varied from family units of six to larger kin groups of 100 and more”.³³

These concepts have been used to develop a framework for determining likely service provision, based on the demographics of communities (‘hub’ and ‘non-hub’) and their readiness to use and maintain new service provision (see page 86).

³¹ Central Land Council; Submission to the Study; October 2001; p 7.

³² NT Department of Lands, Planning & Environment; *Northern Territory Aboriginal Communities*; Northern Territory Government; November 2000; p 3.

³³ House of Representatives Standing Committee on Aboriginal Affairs; *Return to Country: The Aboriginal Homelands Movement in Australia*; Commonwealth of Australia; March 1987; p 125.

OVERVIEW OF INFRASTRUCTURE SUPPLY TO COMMUNITIES

The key issue with supplying telecommunications services to remote Indigenous communities is the very high cost of infrastructure supply, arising from

- very remote and isolated locations, often far from existing networks;
- very harsh geographic conditions, with extremes of heat and wet, and often inadequate supporting facilities (such as air-conditioned premises);
- difficulties with providing adequate security and high rates of vandalism; and
- lack of readily available staff (for installation and maintenance), and a very high cost of providing staff from other locations.

When combined with demand-side restrictions (see next section), the high cost of supply effectively means that the commercial market is unlikely to have any significant interest in servicing remote Indigenous communities in the foreseeable future. Supply of services is likely to be governed by regulatory obligations (principally the USO), targeted funding initiatives, and coordinated activities by organisations (principally at the government level) with an interest in improving telecommunications supply in order to benefit their own service provision.

The Study found that regulated service provision under the USO has resulted in infrastructure being readily available for most communities for basic telephone services, particularly with the Telstra roll-out of improved network capacity under the Untimed Local Calls (EZ) Agreement. An important exception to this finding is payphones, where supply deficiencies have been identified and action is already under way to make improvements under the USO.

Terrestrial mobile services have generally not been available in communities, although the Telecommunications Service Inquiry mobiles programs may result in a number of larger communities being provided with mobile facilities.

Dial-up Internet service provision, utilising the fixed telephone line, has not been adequate in the past over very restricted DRCS radio systems, but with the Untimed Local Calls (EZ) Agreement upgrade, and a guaranteed 14.4 kbps bandwidth, this kind of basic Internet service will be readily available.

Terrestrial higher bandwidth services into communities are patchy, with infrastructure simply not available in many cases and, where it is available, it is unaffordable for communities in most circumstances. The cost of providing terrestrial broadband links to currently unserved areas is likely to be very expensive and difficult to justify, given the restricted level of demand in these communities. For higher bandwidth services, Telstra's two-way satellite offering under the Untimed Local Calls (EZ) Agreement is potentially accessible to Indigenous communities.

COMMUNITY DEMAND FOR SERVICES

There are a number of factors that act to restrict economic demand for key telecommunications services in Indigenous communities for both community and business use. The key issues are:

- affordability, in terms of:
 - connection charges, particularly relating to the additional costs of connection;
 - purchase of appropriate equipment;
 - the ongoing costs of the service, particularly when service usage cannot be fully controlled by the subscriber incurring the bills; and

- usage and debt management issues for individual subscribers, that result from low disposable incomes and lack of payment options appropriate to Indigenous lifestyles.
- lack of awareness of the benefits of telecommunications services, particularly the Internet, for individual and business use;
- lack of skills and support services, such as training and technical support; and
- lack of relevant cultural content for users of online services.

Notwithstanding these difficulties, it is clear that many communities, and community members, do want better services, and have a clear understanding of the benefits improvements can bring.

The Study found that the highest priority need in communities is for better telephone services. There is currently a high reliance on payphones, due to the low take up of residential fixed telephone services. Communities need more affordable phone services that better meet particular social and economic circumstances.

It also highlighted the need for Internet access and videoconferencing, although many communities are unaware of the benefits they can derive from these services. There is a need to raise awareness and to provide training to support use of telecommunications equipment. There is also a demand to develop relevant and culturally appropriate content.

It is likely that the best way to provide Internet and videoconferencing will be via public access facilities. Public access is more affordable and is well suited to the communal lifestyle of these remote communities, where English literacy levels are relatively low. It also provides a central point for community support and training.

Apart from the key issue of telephone services, the main Indigenous business needs are for Internet access of a sufficient quality to enable sales and marketing of art and tourism, and for electronic banking.

GOVERNMENT DEMAND

In the area of government service provision there is a real opportunity to stimulate demand for higher bandwidth services, and thus significantly improve the business case to provide such services to remote communities.

Many government agencies are seeking better electronic access to communities to provide information, allow more timely communication, and generally enhance the often limited face-to-face services they currently provide.

For example, government agencies responsible for the delivery of services such as health, education, justice and social services have identified the need for sufficient bandwidth to allow multiple use of Internet, videoconferencing and multi-media applications.

The bandwidth needs of these service sectors differ and some sectors are currently seeking to define realistic bandwidth needs. It would appear that the education and training sector is seeking the highest bandwidth, to allow the use of multi-media applications and multi-terminal access in the classroom. It has been suggested that between 256 kbps and 2 Mbps access for schools is required, depending on the size of the school and the applications to be used.³⁴

³⁴ Kelso, R; *Innovative Bandwidth Arrangements for the Australian Education and Training Sector: Stage 1: Assessment of Overseas Approaches*; DETYA, Commonwealth of Australia; 2001; p 51.
<http://www.detya.gov.au/schools/publications/2001/bandwidth/finalrep.pdf>

In the health sector there are a variety of sophisticated tele-medicine applications that could be deployed and would require significant bandwidth. However, the Study found that the sector is not looking to achieve this capability in remote Indigenous areas in the short to medium term, and that mid-band access of 128 kbps to allow distributed database access and low-level videoconferencing would meet current requirements.³⁵

Similarly, the justice sector is currently operating in many areas on 128 kbps. All sectors are looking for scalable solutions that can be ramped up as the need for higher bandwidth services increases.

Local governments, with the assistance of Networking the Nation's Local Government Fund, are moving to provide online delivery of services. Many local government services do not apply to discrete Indigenous communities, which receive such services instead through ATSIC. The Local Government Association of the Northern Territory (LGANT) is facilitating the six municipal councils to deliver services online. LGANT is also assisting community councils to use online technologies to improve their operations, which will result in improvements to service delivery to Indigenous communities.

The Study considers the only practical way to achieve these diverse government service objectives is to have a consolidated, aggregated approach in the target communities; that is, to provide facilities in the communities that allow aggregation of demand for bandwidth as well as consolidation of support services. This approach is very similar to the online access centre (or telecentre) model being implemented more broadly in rural Australia, and being trialed already in a number of Indigenous communities.

FINDINGS ON KEY SERVICES

TELEPHONE SERVICES

Fixed telephone services

The Study found that reliable and affordable voice telephone services are the highest priority telecommunications need for remote Indigenous communities. This was emphasised in many submissions to the Study, in consultative meetings and in the consultation previously undertaken by the Outback Digital Network (ODN) and PY Media.

What is the availability and take up of fixed telephone services?

The Universal Service Obligation (USO) provides for reasonable access to standard telephone services and payphones to all people living in Australia, on an equitable basis, wherever they reside or carry on business. The TSI found that:

“Universal access to fixed telephony has effectively been achieved” with 96.8 per cent of households having a standard telephone service. The other 3.2 per cent “either have mobile phone access, are awaiting the connection of the service or they do not want a service.”³⁶

³⁵ Office of Aboriginal and Torres Strait Islander Health; Commonwealth Department of Health and Ageing; Submission to the Study; p 1.

³⁶ Department of Communications, Information Technology and the Arts; *Connecting Australia: Report of the Telecommunications Service Inquiry*; Commonwealth of Australia; 2000; p 58.

Despite the USO provisions, it is clear that the take-up of standard telephone services in remote Indigenous communities is unreasonably low.

While precise information on penetration rates was not readily available to the Study, the following examples are indicators of penetration levels. The Outback Digital Network found that phone penetration and ownership is about 2,500 in a population of about 45,000 (about 5 per cent). In the 589 remote Indigenous communities in the Northern Territory outside urban centres and localities, there are 591 residential phone services for an Indigenous population of 38,530. This represents a take-up rate of about 1.5 per cent among Indigenous residents. This is consistent with figures provided in Telstra's submission to the Study, which estimates that while five in ten persons in Australia have a standard telephone service, only one in ten persons in Indigenous communities subscribe to a fixed service.

Why has the take up of fixed phone services been so low?

The Study identified the main factors affecting take-up as:

- lack of awareness;
- lack of affordability of service connection and service usage; and
- the unsuitability of current service offerings for the special circumstances of Indigenous communities.

Collectively, these factors contribute to a situation in which it could indeed be claimed that the USO is not currently ensuring reasonable access to telephone services for these communities.

Consistent with these findings, the Australian Computer Society Inc identified the issues as:

...low take-up rates of standard home phones in Indigenous communities [due to] lack of awareness of people's rights under the Universal Service Obligation (USO) and Digital Data Service Obligation (DDSO)... The lack of available lines and the poor quality of the lines are, in many communities, the most inhibiting factors in the take-up of standard telephones. ...Cultural and socio-economic factors also impact significantly on the capacity of communities to increase the take-up rate of fixed telephone services.³⁷

The Study has not identified line quality and availability as a barrier to access as these will be addressed under infrastructure upgrades through the Untimed Local Call (EZ) Agreement.

Lack of awareness

Remote Indigenous communities lack awareness about the following issues:

- the procedures necessary to get a phone;
- the cost of connecting and using a phone; and
- the rights they have under regulatory safeguards such as the USO and the CSG.

While organisations such as the ODN have been important and instrumental in raising community awareness in these areas, there is undoubtedly a need for a carefully targeted, and ongoing strategy to inform people of their service rights and how to access these regulated services. A further issue for remote Indigenous communities is that even if they are aware of the processes involved in getting a phone, the need for English literacy skills in order to complete appropriate forms could pose an additional barrier.

³⁷ Bandias, S.; Australian Computer Society Inc.; Submission to the Study; 31 October 2001; p 9.

Lack of affordability

For Indigenous communities, in common with the general community, lack of affordability is the major factor affecting take-up of fixed phone services. The Telstra submission cites the Australian Bureau of Statistics benchmark survey of telephone use in 1996, which found that over 70 per cent of respondents considered income, or factors related to income, as reasons for not connecting to a standard service. Generally speaking, people in remote Indigenous communities have a very low level of disposable income and, are therefore reluctant to bear the cost of a fixed telephone service. As a result, they rely heavily on the use of public phones for their voice telephony needs.

The price of a new standard phone connection is either \$135.30 (for an eligible pensioner) or \$190.30, and between approximately \$22 and \$24 for line and handset rental per month. While such a connection fee may seem reasonable, it can be a real barrier for remote Indigenous consumers with extremely limited disposable incomes. In addition, customers (or communities) may be required to pay network extension and trenching costs, which are not covered under the USO (although the former is capped under the price caps legislation).

While the price of standard phone connections are the same Australia-wide, people in remote areas are more likely to encounter additional charges relating to their distance from Telstra's network point of presence. The network extension fee is charged by Telstra for the provision of cabling from Telstra's network point of presence to a property entry point and is charged at \$28.60 for each 500 metres route distance, or part thereof, excluding the first 500 metres to a maximum of \$1,540.00 (inclusive of Goods and Services Tax). The network extension charge is also applicable if a non-standard radio connection is required, with the network connection fee being a flat \$1,540. Telstra's trenching requirements stipulate that the customer must arrange for the provision of a suitable trench to accommodate the lead-in cable from the property boundary to the place of residence or business. Charges for trenching can only be known after a quote is obtained from a private contractor. These circumstances are illustrated in **Attachment I**.

In the case of trenching arrangements, apart from cost concerns for Indigenous communities, concerns have been raised about who should bear the responsibility for trenching, and how practical it is for customers to arrange their own trenching and coordinate it with service connection.

There are a number of scenarios to consider in assessing the trenching issue.

Where an individual premises is located on a property title in an Indigenous community and that property is relatively small, Telstra has advised that the network extension and trenching requirements are easily applied, as discussed above. Where Telstra needs to extend its network across Indigenous land to service an Indigenous community with common land, or where multiple premises exist on a single property, then the question of what is an appropriate property boundary (and therefore what network extension or trenching arrangements apply) is more complicated and is addressed on a case-by-case basis. This raises two concerns. First, it provides no certainty for persons seeking service connection, in terms of both their obligations and their costs. Second, it may lead to significant inconsistencies between the treatment of communities and community members.

Ultimately, the Study found that where network extension charges and trenching costs are applicable, they are likely pose a significant barrier to connection. For example, anecdotal evidence from the ODN (Balkanu) in Queensland indicates that significant additional costs in connecting new communities will be charged, as a result of both network extension fees and trenching costs. Specifically, Balkanu claims that over 100 sites will require trenching and network extensions at an average cost of about \$2,300.

The cost of telephone calls has also been higher for these remote areas. Prior to 31 July 2001 people living in extended zones (which includes most remote Indigenous communities) paid timed rates for local calls. The Government's Untimed Local Calls (EZ) Agreement has resulted in capped local calls at 22 cents, and has extended local calls to include adjoining Extended Zones.

Lack of appropriate phone services

Another key factor in low adoption of fixed telephones in Indigenous communities is the lack of appropriate telecommunications support services and billing arrangements that accommodate the following:

- remoteness from service support;
- a communal lifestyle; and
- the specific communication needs of each community.

The Telstra submission states that:

... while a major (and positive) characteristic of Indigenous cultures is an abiding commitment to notions of community, this often manifests itself in 'collective use' by the community of residential services. This results in telephone account holders having less control of their phone expenditures, often leading to payment issues and higher rates of disconnection.³⁸

The Central Land Council submission also commented on this:

...[that] having a 'private phone' causes difficulties for the phone owner when family members use the phone, yet are unable to or unwilling to contribute to paying bills. ...Often, the phone 'owner' is left to pay the bill or the phone is disconnected.³⁹

The ODN consulted with 97 communities across northern Australia and found evidence of similar issues arising from payment arrangements.

New services, such as Telstra's Communic8™ service, allow individuals to access phone services through the use of a prepaid card system, ensuring costs are limited to the amount of the card. These prepaid cards eliminate the need for retrospective billing.

Case Study: Telstra's Communic8™

Telstra has introduced the Communic8™ product to provide a more appropriate service. A phone service is provided for a monthly fee of \$9.95 and calls are made through prepaid cards. Call costs and line connection charges are generally similar to other residential fixed services. The cost of the starter kit is \$45. This type of service allows multiple users through separate phone cards and eliminates the need for billing.

Telstra conducted initial Communic8™ trials in Kunbarllanjja in the Northern Territory and Arukun in Queensland over an eight month period in 2001. While this resulted in only 35 new services and over 300 phone cards sold, Telstra has concluded that this service addresses many of the barriers to take-up and is the most suitable service available.

³⁸ Telstra; Submission to the Study; October 2001; p 3.

³⁹ Central Land Council; Submission to the Study; October 2001; p 4.

Other fixed phone access arrangements and issues

There are two other important factors that impact on the accessibility of fixed telephone services for people in remote Indigenous communities. They are:

- access to such services is often through a community organisation with limited opening hours; and
- the timeframes for the repair and maintenance of phone services in such communities can be lengthy.

Access through a community organisation

In many communities primary access to a fixed service is via the phone service in a community organisation (local government, service provider or other community organisation). While this arrangement reduces the cost of phone services to community members, and enables usage and debt management to a certain degree, it can also severely limit access to phone services for community members.

During meetings in Port Augusta this was raised as a particular problem for people in correctional institutions, who could often only make phone calls after their working day had finished, at which time the community telephone was unavailable for their families to receive their calls. Also, STD calls during office hours are usually more expensive, being charged at peak rates.

The Central Land Council commented on this issue:

Indigenous people in remote communities rely heavily on community organisations for access to a telephone or computer where no other option is available. Access to phones ... ceases after business hours ... [or] community residents [are restricted from] accessing their phones because of the additional costs and interruptions to business or lines are being constantly 'tied up'.⁴⁰

Timeframes for repairs and maintenance

A few submissions raised concerns about the timeframes for repair and maintenance impacting on access to services. These issues were considered under the Telecommunications Service Inquiry and the Government has implemented measures to reduce timeframes and improve service availability. Approaches include tightening connection timeframes for remote areas under the CSG and the USO, providing guaranteed access to temporary services within 30 working days for connections, and three working days for repairs, and improving monitoring and remediation of services that regularly fail. This comprehensive regulatory response should resolve any concerns in this area, provided communities are informed of their rights, and are supported in pursuing them.

In addition, Telstra has implemented some specific initiatives to improve maintenance of services in remote Indigenous communities. It is providing training and employment opportunities for people living in communities to undertake maintenance work. People have been trained in 29 Queensland communities to undertake basic level cabling, and in three communities to repair faults. This is being expanded according to the level of interest from communities, and is being trialed in the Northern Territory and Western Australia. The experience of Telstra to date is that this is viable for larger communities, but is less successful in smaller communities where there is insufficient work to maintain skill levels and fewer potential candidates. Telstra stressed that this is a community driven initiative, with Telstra facilitating coordination and training.

⁴⁰ Central Land Council; Submission to the Study; October 2001; p 3.

Alternative systems

There are a number of emerging products that may offer either more cost-effective or more functional alternatives for remote Indigenous communities. For example, a satellite voice and Internet service has been designed specifically for remote communities, is relatively low cost and addresses the lack of power supply. It offers telephony infrastructure for widely dispersed population centres by integrating wireless local loop or Cellular access with the terminal's switch and long distance transmission. For some communities, a PABX-type product may be more appropriate. Products have been developed that can be used to quickly connect small communities, saving on individual connection and rental fees, offering connection equipment specifically developed for harsh environmental conditions, and enabling reasonably sophisticated usage and debt management capacity.

While it is not possible to assess at this point whether such systems would provide net benefits over existing arrangements, there does at least appear to be the potential for such benefits, and therefore there is value in trialing such systems in Indigenous communities.

Payphones

The importance of payphones for remote Indigenous communities

Currently, residents of remote Indigenous communities rely heavily on public phones. For many people in such communities, payphones are their only communication link within and outside the community. The Study found that:

- there is a high demand for payphones in remote Indigenous communities;
- they suit the arrangements of remote Indigenous communities because they are pay-per-use are not subject to debt-management concerns;
- payphones are more functionally limited than fixed phone services, both in terms of receiving calls (although some have dial-in capability), and the convenience of residential phone access;
- payphones are often inappropriately located and frequently out of service;
- payphones are expensive to install and maintain, and their cost-effectiveness has been challenged, with calls to consider alternatives; and
- compared with call costs for standard telephone services, payphone charges are relatively expensive. This difference is accentuated where standard phone services provide plans and discounts.

Payphone access is provided predominantly by Telstra (under the USO), but sometimes through customer operated payphones, such as blue and gold phones. As indicated previously, the approach by Telstra to payphone provision under the USO is set out in its Universal Service Policy Statement and Standard Marketing Plan, and broadly aims to ensure reasonable provision of payphone service. According to Telstra, 348 of the communities with populations above 20 people have public payphones.

The following extracts from submissions to the Study and case studies highlight these issues in more detail.

In its submission to the Study, ATSIC highlighted the importance of payphones to Indigenous communities:

Payphones are the primary telecommunication service provided and mostly used by communities and this is a key area for targeting reform. A review should be undertaken of the cost effectiveness of installing and maintaining current payphones in Indigenous communities and an assessment made of the appropriateness of the model(s) provided.

Consideration should be given to alternative solutions to payphones as a response to service needs in communities. For example it could be more economical in some communities to provide capped 'free phones'. An analysis of the costs of installing and ongoing maintenance of the more complex payphone systems compared to paying for phone calls may work out to be more cost effective for government.⁴¹

The Northern Territory Government reports that:

Payphones appear to provide a valuable service in the overall context of use and expectations in the wider community. However, many payphones are poorly located with respect to the rest of the community and they are frequently rendered out of service. Without reliable data, it is impossible to discern all the different causes of payphones being out of service, but the main two are vandalism and coin boxes being full. One way of attempting to address the issue of vandalism is to increase the level of community ownership and responsibility for the equipment and understanding of the consequences when it is inoperable.⁴²

Telstra has trialed an innovative design of a payphone that is more a stand-up counter, than an enclosing 'phone box' in Barunga, south east of Katherine. Telstra had consulted with the community in the unit's design, and provided maintenance training to two community members for ongoing care. The structure was decorated by the community. Observers believe this trial has been successful. However, information from Telstra indicates that vandalism is just as frequent for this trial as for other payphone services.⁴³

In relating other reasons why payphones might be out of service, the Northern Territory Government submission provided the following information:

Usage of the new payphone in one community has been so great that the numbers wore off the payphone buttons and needed replacing in only a few weeks.

Usage in one community suddenly dropped off and the carrier eventually queried the change in usage pattern. The problem was that the phone cards had been lost in the community and there was a cultural reluctance to admit this and ask for another set of cards.⁴⁴

The Northern Territory Government has recommended that stored value cards be used, instead of coins, for all payphones. It argues that this would reduce the time out of service due to full coin boxes, and would remove a motivation for vandalism. Selling phone cards could also present a business opportunity in many communities. They also suggest:

...an alternative model that some communities may prefer is that a community entity such as the Community council ... pays for the services and reaches agreement with community members as to who may use the services and how the services would be paid.⁴⁵

Appropriate planning for the siting of payphones is important. Issues raised during consultations held by ODN concerned the positioning of payphones in a community, where the chosen position advantaged one part of the community over another. This created divisions within the community;

⁴¹ Aboriginal and Torres Strait Islander Commission; Submission to the Study, October 2001; part 3.4.

⁴² Northern Territory Government; Submission to the Study; November 2001; p 7.

⁴³ Northern Territory Government; Submission to the Study; November 2001; p 10.

⁴⁴ Northern Territory Government; Submission to the Study; November 2001; p 7.

⁴⁵ Northern Territory Government; Submission to the Study; November 2001; p 41.

the result was that the technology was perceived negatively and as the cause of the problem, rather than poor planning and inadequate consultation..⁴⁶

Case Study: Electronic Outback Project

The NTN funded *Electronic Outback Project* provided communications equipment including 17 card-operated payphones into selected remote communities. Phones were installed in locations selected through a Steering Committee involving the community, elders, Community Government Council members, Optus and interested individuals. The project was made more viable by:

- placing the payphones in a community-agreed site;
- encouraging community ownership and value for the equipment, making the community aware that malicious damage to equipment was not covered by insurance and under these circumstances the community would lose the service; and
- providing direct community benefit through income from the sale of phone cards.

In Palumpa (Nganmariyanga) the first supply of 30 phone cards were sold out almost immediately. Phone cards allow for cost management, and have been easily and widely accepted.

Optus provided specially designed payphones that are robust, simple to use and are monitored remotely via their network operations. A group was formed within each community to be the key point of contact for maintenance and end user assistance, reducing the need for a maintenance crew to attend the facility just to conduct minor repairs or check the working order of the facilities. Training of this group focused on minor repairs and increased the feeling of ownership and responsibility for the payphone. Optus provides a 72-hour response time where service faults occur, with an on-site member of the group generally being talked through on-site repairs; and if parts or further maintenance is required they will be aware of the timeframes for repair.⁴⁷

There are a number of other options for payphone services that can be managed at the community level and may be more suited to remote conditions.

Why are payphone services lacking in some communities?

Under the USO, Telstra has the statutory obligation to ensure that payphones are reasonably accessible, on an equitable basis to all people in Australia, wherever they live or carry on business (s.9(1)(b) *Telecommunications (Consumer Protection and Service Standards) Act 1999*). Details of how Telstra fulfils this obligation are set out in its Universal Service Policy Statement and Standard Marketing Plan. In its Plan (2.8) Telstra notes that Indigenous communities are particularly reliant on payphone services. The Plan includes Telstra's general assessment process for the provision of payphones (3.8). Amongst other things, Telstra will consider providing a payphone where the potential demand/revenue earned from the service is less than depreciation and maintenance costs in small remote communities, as a general rule of more than 20 adult permanent residents (eg. Aboriginal outstations). A low level of home telephone ownership is also noted as a criterion. Telstra places a heavy emphasis on provision being request-driven.

Notwithstanding these arrangements, the main reasons payphones appear to be lacking are:

- communities not being aware of the USO requirement to provide a payphone or the procedures to obtain one, and therefore not formally requesting one;
- low literacy skills impinge on the capacity of communities to understand and complete application forms;

⁴⁶ Northern Territory Government; Submission to the Study; November 2001; p 24.

⁴⁷ Optus; Submission to the Study; November 2001.

- extended timeframes for repair of payphones and communities unable to report faults when the payphone is the only communication tool; and
- repeated vandalism of payphones leading to eventual discontinuation of use.

The CHINS survey found that the average period to get a payphone repaired was three weeks, but this tended to be longer for remote communities. A total of 22 communities reported payphone faults that had taken a year to rectify or had never been rectified.⁴⁸ It should be noted that the CHINS data was not put to Telstra for verification.

What is being done to improve payphone availability?

As a part of the Government's response to the Telecommunications Service Inquiry the Government undertook to work with Telstra and Indigenous communities to improve the availability of payphones under the Universal Service Obligation (USO) in discrete Indigenous communities.

In undertaking this initiative the Government has adopted a flexible and broad approach to what constitutes a payphone, seeking to encourage deployment of telephone services that can provide access on a community basis in ways that meet the particular needs of communities in a cost-effective manner, whether through traditional pay-per-use payphones or alternative solutions (eg. customised fixed services that provide access through calling cards).

While these steps are being taken to improve payphone access in the short term, it is important to address the longer term needs of remote Indigenous communities in the Action Plan.

In recognition of the need to explore the best public phone options for various communities, Telstra has been given considerable flexibility in terms of how it provides payphone services, enabling it to provide services in ways best suited to community needs and circumstances. For example, small communities (that is, fewer than 20 adults) may prefer community-based standard telephone services using phone cards, rather than traditional payphones.

To progress the payphone initiative, Telstra's views were sought on a range of payphone-related issues including up-to-date payphone numbers and the best way to improve payphone availability. While the Minister for Communications, Information Technology and the Arts has extensive powers of direction in relation to the supply of payphones, the Government's general preference is to proceed on a consensual basis.

While qualified, data provided by Telstra indicates that 348 communities with populations of more than 20 people have payphones. Prima facie, this means that there are 299 communities (with more than 20 people) that do not have payphones. Their needs are being investigated, with priority being given to 106 communities identified by ATSIC, Telstra and DCITA. In addition, in some large communities, there may be a need for additional payphones over and above those currently in place.

To enable better provision of payphone data, Telstra is developing a new database. The database will include the names of CHINS communities, their locations, the number of payphones (customer-operated and Telstra-operated) in their vicinity. This database will be of significant assistance to Telstra and the Commonwealth in planning and monitoring payphone provision.

Those communities that Telstra acknowledges are unserved, or perhaps under-served, will be addressed through prioritising needs and then consulting with communities, through site visits, on

⁴⁸ Centre for Appropriate Technology; Submission to the Study; November 2001; appendix p 2.

the most appropriate solution. In advance of site visits, it is intended that Telstra will provide information on the rights of the community to telephone services and the options available to them.

Operation of the Universal Service Obligation (USO)

A concern for Indigenous communities and this Study is whether the USO is adequately meeting remote Indigenous service needs. In responses to the Issues Paper it was repeatedly noted that private and public phone access is inadequate due to the combination of isolated geographic circumstances, very low income levels, and a very low level of awareness of USO rights.

A particular USO issue relates to Telstra's charging arrangements for trenching and network extension and whether they comply with Telstra's obligations under the USO and Customer Service Guarantee (CSG), specifically with regard to providing reasonable access and meeting connection times. It is unclear, for example, how the community can be confident the USO will be fulfilled if Telstra, as the universal service provider, requires trenching to be provided before it will connect a service but the cost of trenching is prohibitively expensive. Similarly, it is unclear how compliance with connection timeframes under the USO and CSG can be met given the external contracting of trenching.

Mobile Services

What is the coverage of mobile services?

Telstra has indicated that approximately 200 of the 1,291 discrete Indigenous communities currently receive mobile phone coverage, or will in the near future through Government-funded programs. However, this figure would include many of the 81 non remote communities identified under CHINS, which have received coverage as a result of commercial roll-out targeted primarily at the general community, including users of major highways.

There has been some limited roll-out targeted specifically to Indigenous communities through Government-funded programs. The Networking the Nation program has funded mobile phone coverage to 21 remote Indigenous communities. In addition, several communities may be covered through the Telecommunications Service Inquiry mobile phone initiatives.

Why is the coverage of terrestrial mobile services in remote Indigenous communities low?

Terrestrial mobile phone services require a minimum level of mobile traffic to be commercially viable. The criteria for viability can vary between service areas, but is generally based on population and through traffic. The business case for each site is determined by the carriers. It is generally considered that the coverage of mobile services, based on a fully commercial business case, has reached its limit within existing technologies and cost structures.

The Government has provided capital funding to expand the coverage beyond these commercial limits. Programs such as Networking the Nation, the Mobiles on Highways fund and the Telecommunications Service Inquiry mobiles programs have collectively provided \$148 million, in the form of support for capital costs, to stimulate the expansion of mobile services.

What opportunity is there to expand mobile services into remote Indigenous communities?

The views expressed in submissions about the priority of mobile phone services to communities vary. They are regarded as useful services, but are generally perceived as not affordable or practical for community members.

The Northern Territory Government submission to the Study argues that, although there is some debate about whether there is a significant need for Indigenous communities to have mobile phone services, they should nevertheless be a priority:

...the majority view is that there will be demand for mobile phone services in the Indigenous communities where mobile phone base stations are installed. Mobile telephones are likely to have a greater take-up rate than satellite phones. The cost of purchasing and the high cost of ongoing use for satellite phones in addition to the problems associated with in-building/or in-vehicle use and poor/nil under-tree-canopy performance, and the lack of robustness of the equipment are all negatives for satellite technology.

Although the cost is quite high, communities should consider the use of satellite phones as a back-up communications medium. Provision of advice on options should be a feature of any telecommunications infrastructure activities implemented.

There is general agreement that there will be considerable use by business and local councils, and by visitors to the areas where mobile telephone base stations are installed.⁴⁹

The Australian Computer Society Inc. submission also highlighted that:

access to mobile telephony, for health and safety reasons, was an identified community need ...Prepaid mobile phones, according to one informant from Maningrida, are the preferred option of Indigenous people in that region.⁵⁰

The Central Land Council suggests caution in the implementation of mobile services:

All participants agree that credit management issues will be even more important with mobile phones than with fixed phones because of the high cost of timed calls. A commitment to education and support will be very important. Using pre-paid SIM cards will provide a credit management solution, although this is not the cheapest way to use mobiles. Calling plans, which many people choose to use, are not available with pre-paid SIM cards. Handset attrition is likely to be above average also due to culture, lifestyle and the harsher climate and environment.

It is likely that if mobile coverage was extended then there would be greater use of this service ... However, prior to introducing this technology, consideration must be given to the information that is provided to people to ensure costs, mobile coverage, legal obligations and consumer rights are understood.⁵¹

Both the Northern Territory Government and the Queensland Government⁵² consider that mobile telephony may be a more suitable telecommunications medium for Indigenous peoples whose lifestyles are more mobile:

With regard to mobility, the notion of permanent occupation can vary quite considerably across communities, and across cultures. The permanent place of residence could be the Toyota with the family camping out at the location for a few weeks at a time depending on the time of year. The model for telecommunications infrastructure has to take account of the needs of these people in some way, as well as others who more closely comply with the Western model of permanent occupation. ...Mobile phone base stations could provide some relief for some communities.⁵³

⁴⁹ Northern Territory Government; Submission to the Study; November 2001; pp 13-14

⁵⁰ Bandias, S.; Australian Computer Society Inc.; Submission to the Study; 31 October 2001; p 9.

⁵¹ Central Land Council; Submission to the Study; October 2001; p 6.

⁵² Queensland Government; Submission to the Study; December 2001, p 27

⁵³ Northern Territory Government; Submission to the Study; November 2001; p 34

The Study found that it is difficult to justify installing additional terrestrial mobile infrastructure in any but a limited number of the larger remote communities. Affordability, usage and debt management difficulties would likely be magnified with more expensive, timed mobile phone services. In addition, the geographic isolation of these communities would undoubtedly reduce the mobile utility of the service. Coverage would be restricted to a relatively short distance around the base station, creating a very small island of coverage in a very large sea of non-coverage.

The Study concludes that roll-out of terrestrial mobile facilities to remote Indigenous communities is not likely to be extended in the foreseeable future. Government support for new facilities has now risen to 100 per cent of capital cost of new facilities. The high cost of these facilities and the backhaul to connect them to the network combined with the small population numbers of remote Indigenous communities and the limited demand for service, strongly mitigate against the case for further private or public investment in this area.

Telstra intends to upgrade a significant number of DRC services in the Extended Zones with CDMA Wireless Local Loop (WLL). Providing CDMA WLL in the Extended Zones will have the ancillary benefit of providing CDMA mobile coverage. This has the potential to provide benefits to Indigenous communities, particularly those that are located relatively close to the Standard Zones Areas.

Alternative mobile phone services

Australia now has ubiquitous coverage by satellite mobile telephony, and the Study considers this to be a more suitable service for remote areas, where there is no business case to support terrestrial services.

In this sense, satellite mobile services, although more expensive for handsets and call charges, would provide much greater utility. In areas where mobile phone take-up is likely to be low, satellite mobile services are also more feasible because they require no initial investment cost beyond the handset. Terrestrial services, on the other hand, require a significant investment in base station infrastructure and backhaul links.

Although these services are currently more expensive than terrestrial mobile services in terms of handset costs and call charges (up to four times the cost of terrestrial services), there is some hope that these prices may come down in the foreseeable future, particularly now that the re-formed Iridium service has concluded a re-selling arrangement with Telstra.

Networking the Nation and the Western Australian Government have supported greater affordability of existing satellite mobile services through a project to subsidise access in areas where terrestrial services are lacking. A similar program is proposed to be run more broadly across Australia as part of the Telecommunications Service Inquiry mobiles program, and will provide a per handset subsidy of \$1,000. The cost of a handset currently ranges between about \$900 and \$2,500 depending on the type and calling charge plan selected.

Case Study: Satellite phone subsidy

The Western Australian Government, with the majority of funding through Networking the Nation, established a subsidy scheme to increase the affordability of satellite phones for people in remote areas of the State. The scheme provides a subsidy of \$1,000 per handset. To date, 800 people have benefited from the scheme, including one Indigenous community.

Some communities have opted to install radio communications systems to provide some level of mobile communication where terrestrial mobile phone services are not viable. These services do not provide the full functionality of mobile phone services, as they are open systems that typically do not connect to the public switch telephone network (PSTN) to allow calls outside the region of coverage. They do, however, provide a communication mechanism with other people in the community in the event of an emergency. The advantage to the individual users is that once the radio has been purchased there are no ongoing call charges.

Case Study: Daly Waters and District UHF CB Community Radio Network

The Daly Waters community and surrounding district (within 120 km) considered a radio network necessary because many areas within the region were too remote to be served by the mobile phone network. The system cost \$175,000 for the capital expenditure and was funded by Networking the Nation. There are no user charges or revenue base, but a repairs and maintenance fund has been established which levies local business and users. The system consists of five UHF repeater towers and a VHF linking repeater tower (hub) which links the new towers to the existing network. The VHF tower has equipment installed that enables repeaters to be remotely turned on and off. The advantage of this is that if a repeater in a particular area is getting heavy usage, it can be unlinked from the main linking tower to reduce radio activity. This allows separate radio usage over the remaining repeaters. The system is powered by solar panels and also has batteries as backup.

Case study: Central West Queensland Regional UHF Augmentation

Seven communities in central western Queensland received Networking the Nation funding to install a UHF radio system. The communities considered the cost of satellite telephones too expensive, and determined that the UHF network was the only cost-effective way to provide mobile communication in the region. This project is planning to install 30 UHF repeaters (solar-powered) at various locations in central western Queensland. Users buy their own radio equipment (\$300-\$1,000), and there are no ongoing call costs. The council has agreed to pay the modest annual maintenance costs. The coverage of each repeater is a radius of approximately 40 km and does not require connection to power mains, which means the repeaters can be located anywhere within the region. The UHF radio is an 'open communication' model that allows for one-to-many communication, thus facilitating a much higher degree of coordination between multiple users.

INTERNET SERVICES

While access to the Internet is now generally more affordable and available, services have not been widely adopted in remote Indigenous communities. The main areas of usage are in schools and council offices. Community demand for services is most likely to be for public access facilities.

What is the coverage and take-up of Internet in remote Indigenous communities?

The Telecommunications Service Inquiry found that:

Almost all Australians can access the Internet via their standard telephone lines⁵⁴ [and] All Australians have access to one or more premium high speed (download) Internet services as an option in addition to the basic service.⁵⁵

⁵⁴ Department of Communications, Information Technology and the Arts; *Connecting Australia: Report of the Telecommunications Service Inquiry*; Commonwealth of Australia; 2000; p 104.

The Telstra submission also suggests that available infrastructure is no longer the defining factor in explaining the 'digital divide'.⁵⁶ The Northern Territory Government disputes these conclusions, indicating that the infrastructure in the Northern Territory can deliver only voice services, and that connections for fax or Internet are often difficult, unreliable and slow.⁵⁷ However, it is likely that infrastructure upgrades resulting from the Untimed Local Call (EZ) Agreement, together with the opportunities provided by various satellite offerings, will go a long way to resolving these supply and quality of service problems.

In October 1999 the Government introduced the special digital data service obligation (SDDSO) to enable higher speed data access for customers in remote locations, particularly for accessing the Internet. The SDDSO provides for the supply on-demand of a one-way satellite service comparable to a 64 kbps service and broadly equivalent to an ISDN service. A rebate of 50 per cent of the price, capped at \$765, may be payable in relation to satellite equipment and installation.

Despite the availability of infrastructure and the SDDSO rebates, the Internet has not been widely adopted in remote Indigenous communities. The Outback Digital Network found for their regions about 1,000 personal computers in a population of about 45,000 and about 10 per cent of people with computers had Internet access. With the limited number of phone services to remote Indigenous communities across Australia it is unlikely that Internet adoption in other regions would be much higher.

The Government has implemented a number of programs to increase Internet access. Programs such as NTN and RTC have funded communities for public Internet access. Of the 178 identified 'hub' communities, 94 have received funding to provide public Internet access, as have 63 of the 'non-hub' communities. The spreadsheet at **Attachment H** shows the communities which have public Internet access points, which are mainly in council offices, art centres and libraries. The Study has not been able to determine the availability and community use of these facilities. In addition, the two-way satellite service offered through the Untimed Local Calls (EZ) Agreement has the potential to increase access, provided communities are informed of the offer and supported in taking up the service.

Some examples of community Internet access projects are provided below:

Case Study: LGANT *I've Got Email* project

The Local Government Association of the Northern Territory (LGANT) project *I've Got Email* (funded by NTN) provides public access computers into council offices. This project provided training for community members and council staff, with varying degrees of success. Where the project has been fully supported and embraced the community has benefited, but without a 'champion' or key coordinator there has been little interest and involvement.

⁵⁵ Department of Communications, Information Technology and the Arts; *Connecting Australia: Report of the Telecommunications Service Inquiry*; Commonwealth of Australia; 2000; p 108.

⁵⁶ Telstra; Submission to the Study; October 2001; p 4.

⁵⁷ Northern Territory Government; Submission to the Study; November 2001; p 37.

Case Study: WA Telecentre Access Points

A Telecentre Access Point (TAP) is a coin-operated PC enabling Internet access point. The Western Australian Government, with the assistance of NTN funding, is installing such access points in communities that are too small for a telecentre. Each TAP costs approximately \$10,000. The management of the TAP is the responsibility of the community organisation that applied for the facility. Its main use at this stage is for, internet use, email and bill paying.

Case Study: Capricornia Connect Indigenous Access Project

This project aims to connect and network 16 Indigenous service organisations in central Queensland. The project includes such services as Internet access and web-based conferencing, to improve access to information and services, enable the delivery of accredited training courses and the development of IT skills. A network and associated stakeholders consortium has been established between the University of Queensland, representatives of the designated Indigenous organisations and the Nulloo Yumbah (the Indigenous Centre at Central Queensland University). The project has received NTN funding for three years, in which time organisations are expected to develop a level of self-sufficiency and self-funding.

Case Study: Ara Irititja

This project provides community access to the Ara Irititja Database and the Internet for five communities (Amata, Murputja, Pukatja, Mimili, Umuwa) in the Anangu Pitjantjatjara (AP) Lands in SA. Computers with a loaded database are delivered to communities as a complete package with printer and display camera (to allow the screen to be presented to large audiences on a wall). The unit comes housed in a dust-free, mobile unit, called 'niri niri', translated as 'beetle' due to its beetle-like shape and colour. These units are very suitable for the harsh conditions in the communities.

The project also aims to locate, copy, record and make accessible to Anangu their cultural heritage in the form of archival and ethnographic material. The specifically designed software presents family and community history in a culturally appropriate manner to people who have previously shown little interest in computers. It also provides training for operators and supervisors in the day-to-day management of the computers.

Government Internet usage

Government organisations in Indigenous communities are extensive users of the Internet, with key examples being schools, health centres, council offices and libraries. Localities such as councils, schools and libraries can also provide public access to the Internet.

Education

On the education front, three separate studies, the Human Rights and Equal Opportunity Commission (HREOC) inquiry,⁵⁸ *Katu Kalpa* and *Learning Lessons*,⁵⁹ found that there is a lot to be

⁵⁸ Australian Human Rights and Equal Opportunity Commission; *Rural and Remote Education Inquiry Briefing Paper: Information technology infrastructure*; Commonwealth of Australia; 2000.
http://www.hreoc.gov.au/human_rights/rural_education/briefing/it_infrastructure.html

done before Australia achieves equity of Internet and ICT access for Indigenous students living in remote communities. However, despite the often poor quality of connections, lack of technical support and other frustrations reported by teachers and residents, the education sector is likely to be ahead of other sectors in utilising the Internet in remote communities. This is largely because of the emphasis by State, Territory and Commonwealth governments on the need to teach technology in schools and for online education to provide more 'flexible' delivery models.

There is evidence that not only do schools provide an opportunity for Indigenous students to learn Internet skills, but that they are sometimes seen as appropriate facilities to provide training and access to the Internet for the broader community.

The Department of Education, Training and Employment (DETE South Australia) submission reports that schools in the AP Lands that have Internet and videoconferencing, allow "use of schools after hours for community members to learn about and access Internet services, with support of school personnel."⁶⁰ In its Briefing paper on *Information technology infrastructure*, released as part of its 2000 inquiry into rural and remote education, HREOC indicates that Telstra supports schools to run Internet training sessions out of normal hours for their school communities, local businesses and the general public.⁶¹ In 2000, the Victorian Government introduced a program called access@schools, designed to provide members of the public with free or affordable access to, and training in the use of, computers and the Internet.⁶² 146 schools provided access to their ICT resource out of school hours. Three Koori schools were involved in the project.

Libraries

The Northern Territory Government identifies the availability of public access Internet at 23 of 40 Community Libraries, 12 of which are in remote Indigenous communities. Their submission argues that:

...the manner in which Internet use has been taken up in those few Indigenous communities in the NT ... indicates that access via publicly available facilities will be a widely used model. Public access facilities provide a realistic opportunity for Internet access by economically disadvantaged people.⁶³

HREOC, in the report of its Rural and Remote Education inquiry, made a finding that:

Public libraries in rural areas are not universally equipped with the IT resources necessary to support the education, training and professional development needs of local people. Public libraries co-located with schools and sharing computer and Internet facilities would be an efficient and effective way of providing general public and student access in many towns and communities.⁶⁴ [The inquiry noted that] in South Australia there are many examples of public libraries co-located with schools and sharing computer and Internet facilities. For

⁵⁹ Northern Territory Department of Education; Learning Lessons: An independent review of Indigenous education in the Northern Territory; Darwin, NT; 1999.

[http://www.ntde.nt.gov.au/prod/NTEDWeb/DeptWeb.nsf/Files/AbEdRpt/\\$file/AbEdRpt.pdf](http://www.ntde.nt.gov.au/prod/NTEDWeb/DeptWeb.nsf/Files/AbEdRpt/$file/AbEdRpt.pdf);

⁶⁰ Executive Principal, Open Access College, Adelaide; DETE SA submission; p 5:

⁶¹ Australian Human Rights and Equal Opportunity Commission; *Rural and Remote Education Inquiry Briefing Paper: Information technology infrastructure*; Commonwealth of Australia; 2000; p 5.

http://www.hreoc.gov.au/human_rights/rural_education/briefing/it_infrastructure.html

⁶² <http://www.sofweb.vic.edu.au/itb/access/whatis.htm>; October 2001

⁶³ Northern Territory Government; Submission to the Study; November 2001, p 29

⁶⁴ Human Rights and Equal Opportunity Commission; *Recommendations: National Inquiry into Rural and Remote Education*; Commonwealth of Australia; May 2000; p 56.

some communities this may be a more efficient way of servicing both the school and the local community.⁶⁵

Despite the suitability of libraries as potential Internet public access points, consultations during the Study revealed that libraries are not found extensively in remote communities. The suitability of public facilities, such as schools and libraries, for providing public access Internet is likely to vary between communities.

Health

Providing public Internet access facilities is not seen as generally feasible for health centres due to security and confidentiality issues:

Health services cannot generally provide public access facilities. Their buildings must be maintained as secure premises for the protection of staff and clients, as well as maintaining confidentiality of client data.⁶⁶

What are the effective uses of the Internet in Indigenous communities?

The benefits the Internet can provide to communities are:

- improved access to government and business services;
- access to information, including information about recreational pursuits;
- opportunities to preserve cultural material;
- increasing interest and skills development in current technology;
- opportunities to sell goods and services, such as art and tourism, to a wider market; and
- communication within and outside communities.

In published research, government inquiries, State submissions and consultations, it is consistently claimed that the Internet has the potential to provide people in Indigenous communities with many benefits, as it does for people in the general Australian population. Opportunities identified for remote Indigenous communities include improved access to services such as education and health, electronic business opportunities (such as the advertising of eco-tourism businesses on the Internet), recreational pursuits (such as football) and cultural opportunities (and preservation of cultural material, such as stories, health practices and language).

Early data coming from the Northern Territory's *Electronic Outback Project* (EOP) "demonstrates that once exposed to the technology significant interest is shown and use made of it."⁶⁷ The *Katu Kalpa* inquiry found that "the medium of computer technology was claimed to be particularly appealing to Indigenous youth, who often exhibit an affinity with visual technologies."⁶⁸

As well as public Internet access for individuals, the use of the Internet by interest groups within communities was seen as likely to have a major influence. The Northern Territory Government submission reports that:

⁶⁵ Human Rights and Equal Opportunity Commission; *Education Access: National Inquiry into Rural and Remote Education*; Commonwealth of Australia; August 2000; p 105. http://www.hreoc.gov.au/human_rights/rural_education/

⁶⁶ Office of Aboriginal and Torres Strait Islander Health, Commonwealth Department of Health and Aged Care; Submission to the Study; October 2001.

⁶⁷ Northern Territory Government; Submission to the Study; November 2001; p 29

⁶⁸ Senate Employment, Workplace Relations, Small Business and Education References Committee; *Katu Kalpa – Report on the inquiry into the effectiveness of education and training programs for Indigenous Australians*; Parliament of Australia; March 2000; chapter 1.12. http://www.aph.gov.au/senate/committee/EET_CTTE/indiged/

...many communities have facilities run by organisations such as a boys' development group, or a women's centre, and from funding sources such as the Northern Territory Library and Information Services (NTLIS). NTLIS provided funding from the Commonwealth for training of men and women in several NT Communities, including Wadeye, and each community developed a home page and personal email accounts. All these small projects have contributed to the growing interest in technology, and improved understanding [of] the technology.⁶⁹

Case Study: Emerging Technologies for Remote Communities

Catalyst Consulting International (a company located in Darwin) is involved in a project, funded by the Northern Territory Area Consultative Committee (NTACC), called *Emerging Technologies for Remote Communities*. Catalyst is developing websites for a number of communities that want to provide information for the broader (paying) community about their communities and local businesses. The website development is being led by communities themselves, and, according to Catalyst, their aim is more than a marketing exercise—they propose to develop (and evaluate) longer-term, indirect benefits for the communities, with employment being the principal indirect objective.

In order to analyse the impact of the website and IT skills development (as the communities continue to develop and maintain the websites), the project has focused on community businesses that are already a going concern. Catalyst reports that they have also encouraged the less 'traditional' enterprises to participate. Businesses involved include things as diverse as camel-breeding and export, land-care and bush tucker horticulture.⁷⁰ See <http://www.octa4.net.au/tjuwanpa/> for an example.

In this case, community access to their own websites was not seen as a particular problem, largely because many of the communities involved already have reasonable Internet access, and because the sites are really designed to target outside (consumer) audiences. Catalyst reports that people in the communities are excited by the opportunities presented by the Internet, with music and preservation of dreaming stories seen as key content.⁷¹

More evidence for the need to apply online and multi-media technologies to the recording and maintenance of culture, history and heritage is presented in the section dealing with online content. However, in the stocktake of State and Territory activities prepared by NOIE for the Online Council Indigenous Action Plan, there is an inspiring example of senior citizens in Indigenous communities using the Internet to record cultural material and to mentor other Indigenous seniors to learn to use the technology.⁷²

Improved access to relevant information would be of major benefit. As highlighted by the Northern Territory Government submission, it is likely that, in addition to specific local information needs, the day-to-day information needs of remote Indigenous communities would be similar to any other remote or rural community: consisting of weather, road, sports reports, etc. There is also the potential to provide a range of information and services useful to communities wanting to encourage community development activities — such as the Western Australian Office of

⁶⁹ Northern Territory Government; Submission to the Study; November 2001; p 29.

⁷⁰ Mahoney, Paul; Catalyst Consulting International Pty Ltd, Darwin, NT; personal communication, January 2002.

⁷¹ Mahoney, Paul; Catalyst Consulting International Pty Ltd, Darwin, NT; personal communication, January 2002.

⁷² NOIE; Attachment A to *Online Council Indigenous Action Plan*; unpublished; March 2002.

Aboriginal Economic Development's website⁷³ which was set up to promote Indigenous businesses that use multi-media and the Internet.⁷⁴

ATSIC provides much of its information on provision of services online. NOIE reports that the ATSIC website www.atsic.gov.au contains a range of information about ATSIC, its programs and services, issues and Indigenous culture. The site provides a wide-ranging list of links to relevant Indigenous websites.⁷⁵ Provision of Internet access in remote Indigenous communities would allow people to access the ATSIC website and have faster access to topical Indigenous news and information about relevant services.

Case Study: Yarnteen

As a result of a \$100,000 grant, awarded by the Microsoft eMpower Australia Campaign, the Hunter Valley Indigenous organisation, Yarnteen Aboriginal and Torres Strait Islanders Corporation, is networking all CDEP organisations in New South Wales. Yarnteen's project will provide a secure website with chat and bulletin board features, which CDEP administrators can access for up-to-date information on program changes and policy, flexible training, and online mentoring support. It is Yarnteen's hope that their State-based project will be used as a model to network CDEPs nationally.⁷⁶

Improved access to community services is an obvious and desirable outcome of improving telecommunications services in communities. Online capacity is likely to improve the range of services that can be accessed locally in remote communities—avoiding costly travel—and the quality of services—through improved efficiencies in service delivery. Many are likely to involve major government initiatives and higher bandwidth services, so are discussed in more detail in the next section. However, online service delivery is intended to complement face-to-face service delivery, rather than replace it. In other words, the key objective is to enhance service delivery to communities, as well as to enhance the bottom line of Government agencies.

Health workers benefit from access to the Internet and e-mail for general communication, access to information resources and (in some cases) to applications such as electronic pathology reporting and submission of Medicare claims. Additionally, access to immediate communication through e-mail will reduce isolation, and accessing detailed information on databases of people travelling between communities that have a medical history can improve health diagnosis.⁷⁷

Why has the take-up been low?

The key factors affecting take-up of the Internet are:

- lack of awareness;
- lack of affordability;
- low education levels;

⁷³ <http://www.ibizwa.com>

⁷⁴ NOIE; Attachment A to *Online Council Indigenous Action Plan*; unpublished; March 2002. NOIE reports that, during the 2000/2001 financial year the WA Office of Aboriginal Economic Development (OAED) administered the Aboriginal Information & Communications Development Scheme.

⁷⁵ NOIE; Attachment B to *Online Council Indigenous Action Plan*; unpublished; March 2002.

⁷⁶ Yarnteen Aboriginal and Torres Strait Islanders Corporation; Media Release; 30 Aruma Place CARDIFF NSW 2285; August 2001. http://www.microsoft.com/australia/presspass/news/pressreleases/yarnteen_010808.asp
Further reading: www.aboriginalhunter.com/yarnteen; <http://www.microsoft.com/AUSTRALIA/empower/cp.asp>; <http://www.anu.edu.au/caepr/briefs/brief4.html>

⁷⁷ Office of Aboriginal and Torres Strait Islander Health; Commonwealth Department of Health and Ageing; Submission to the Study; October 2001.

- language barriers;
- low literacy levels;
- lack of culturally appropriate content;
- lack of reliable power supply; and
- lack of technical support and skills.

The Internet is seen as an important information and communication tool for people in remote communities by the broader community, and by organisations wishing to communicate more easily with remote communities, but many people in Indigenous communities have had insufficient experience or awareness of the benefits to understand its relevance to them. While there are many reasons for a low take-up of Internet services, lack of awareness of what the Internet can offer is significant.

Lack of awareness

Raising awareness about Internet services is generally undertaken by service providers in the process of marketing their products. In the case of remote Indigenous communities, where the markets are relatively small, product marketing is limited. Demonstrations are proving to be the key to creating interest. In the Balkanu project, where demonstrations were undertaken, the response was very positive. This was also the experience of LGANT, which saw attendance at Internet-training sessions increase as word spread through communities, to the point that there was difficulty servicing the demand.

There is no doubt that as services increase in these areas, the level of understanding, and therefore demand, will also increase. Appropriate awareness-raising programs, which place the Internet in the community context, will assist in the take-up of services.

Affordability, education, language and literacy

Other key factors are affordability, education levels, language and literacy. These factors were raised by submissions to the Study and by recent inquiries into education and other services. Additional barriers, relating to remoteness, include lack of reliable power supplies and difficulty getting adequate and timely technical support and training.

The high levels of literacy required to access the Internet, lack of confidence in the ability to use the technology and lack of technical experience were ... inhibiting factors, at the community level, in the sustainability of NTN projects.⁷⁸

Internet usage is low in Indigenous communities ... is primarily restricted to those who have access to a community organisation or government service provider that has these facilities. Access ... is often dependent on an individual's relationship to the organisation (eg. a worker) or the opening times of the organisation.⁷⁹

Costs of purchasing and maintaining a computer will ... mitigate against increased Internet usage in the foreseeable future.⁸⁰

According to a report by the National Centre for Social and Economic Modelling (NATSEM), the most important driver of Internet access is educational qualification (higher qualification resulting

⁷⁸ Bandias, S.; Australian Computer Society Inc.; Submission to the Study; 31 October 2001; p 7.

⁷⁹ Central Land Council; Submission to the Study; October 2001; p 6.

⁸⁰ Central Land Council; Submission to the Study; October 2001; p 6.

in higher access), followed by income (higher income results in higher access). NATSEM found that:

After accounting for other drivers, region and state by themselves do not explain differences in Internet take-up rates. Observed differences in the connection rates between metropolitan and non-metropolitan areas and between some states are based on socio-demographic factors such as lower qualification levels and lower incomes of the non-metropolitan population, not on regional factors.⁸¹

People with low English literacy levels will generally not receive the full benefits of Internet access as it is largely text based and in English. However, with support of experienced users, these people can access a range of audio and visual sites which can be highly educational and entertaining. Community based Internet access centres have the capacity to provide this support to users.

Disability

Although disability is a significant factor in Internet take-up in the general population, the Study did not find evidence of this in Indigenous communities, despite the reported higher incidence of health conditions which can lead to disability.⁸² The Study suspects (but did not find convincing evidence for or against) that the impact of low education levels, low incomes, low awareness levels and language barriers, renders physical and other disabilities of lesser relative importance in determining take-up. Nonetheless, the high incidence of hearing problems, and the incidence of visual and physical disabilities, should be considered in developing ICT implementation strategies.

Content

Lack of culturally appropriate or relevant content is also seen as a significant disincentive to Internet use. This may include presenting materials in Indigenous languages or in a culturally appropriate format (such as the use of visual menu icons, instead of English words), or materials of cultural heritage significance or other interests identified by communities. Community concerns were also expressed in a number of forums about the Internet opening up access to undesirable sites (such as those containing pornographic material) to communities.

Infrastructure

Lack of bandwidth to support high quality Internet access was reported as a barrier for some communities. The Northern Territory Government submission comments that their Learning and Technology in Schools (LATIS) program:

...[faces] implementation issues in remote areas where there is poor telecommunications infrastructure even to provide 'basic' Internet access. It can be difficult to import qualified workers to install and support infrastructure-cabling contractors have been reluctant to go to the remote schools and even when contractors have responded to requests for tender, the quotes are significantly higher than urban areas. There is a high rate of vandalism at schools. This has become an issue with the external LATIS hardware installed at schools, eg. satellite dish, cabling infrastructure.⁸³

⁸¹ Hellwig, Otto and Lloyd, Rachel; Sociodemographic Barriers to Utilisation and Participation in Telecommunications Services and Their Regional Distribution: A Quantitative Analysis; National Centre for Social and Economic Modelling (NATSEM), University of Canberra; 21 August, 2000. <http://www.natsem.canberra.edu.au/pubs/netaccess-barriers.html>

⁸² House of Representatives Standing Committee on Family and Community Affairs; *Health is Life – Report on the Inquiry into Indigenous Health*; Parliament of the Commonwealth of Australia; Canberra; May 2000. See also: the Centre for Remote Health; *Working with Indigenous Peoples with a Disability*; <http://www.wired.org.au/>

⁸³ Northern Territory Government; Submission to the Study; November 2001; p 19.

As previously indicated, the Government's Untimed Local Call (EZ) Agreement is aimed at improving Internet access for people living in Extended Zones by providing local call access to an ISP at a speed of at least 14.4 kbps, and offering an affordable two-way satellite service.

Case Study: Untimed Local Calls (EZ) Agreement – two-way satellite Internet service

Through the Government-funded Untimed Local Calls (EZ) Agreement Telstra is offering an *Always-on two-way satellite Internet service* to people in extended call zones, with a choice of data rates (from 33.6 to 400 kbps on the path in to the consumer) and prices based on monthly access charges, starting at \$16.95 per month for up to 33.6 kbps. In addition, Telstra will offer free installation of the telecommunications hardware (for example, antenna, dish, outdoor unit and cabling) required to access the service, subject to certain conditions. The service will be provided through Telstra's two-way BigPond satellite service. The offer also includes the opportunity to purchase a range of personal computer packages from IBM Australia that would be installed with the satellite service. The cost of the packages range from \$1,704 to \$2,979.

It should be noted that the maximum data speed on the return path (from the customer to the satellite) is 64 kbps. This is significant in terms of some of the applications (such as high quality videoconferencing) that can be provided over the service.

Telstra will progressively roll out online customer support services on the Always-on service (such as online fault reporting) that will specifically target extended zone customers. Each Always-on service will eventually be able to receive interactive distance learning through the installation of software, at no additional charge, for the SkyConnect Tutor service.

Training

Training is also a key issue in Internet adoption. Few people in remote communities are familiar with computer or Internet applications. Networking the Nation has funded many training programs for communities. The experience of these projects is that initial training is a necessary first step; however, ongoing training and support in using the equipment is necessary to encourage ongoing use. This was raised as an issue in most submissions and in every consultative forum. Some examples of comments are:

The need for training was a significant issue ... sustainability of [NTN] projects ... was dependent upon the ongoing training of local community members ... a sense of project ownership by communities.⁸⁴

... training is crucial to the implementation of new telecommunications services ... ongoing, tailored to the needs of individual communities, implemented in a culturally appropriate manner and supported by community consultation ... technical support was an urgent requirement [of the community] ... online technical support ... will ... assist in alleviating some of these difficulties.⁸⁵

Telstra has trialed a remote servicing program ... This trial enabled community members to be trained with skills necessary to carry out basic installation and maintenance work to ensure public and residential phones are maintained and kept operating ... trial is worthy of expansion ... to mitigate against delays in repairs, as a possible employment option ... as

⁸⁴ Bandias, S.; Australian Computer Society Inc.; Submission to the Study; 31 October 2001; p 6.

⁸⁵ Bandias, S.; Australian Computer Society Inc.; Submission to the Study; 31 October 2001; pp 10-12.

a means for the community to have responsibility/ownership for telecommunication infrastructure ...⁸⁶

Resources need to be allocated and appropriate training undertaken to ensure Indigenous people have the opportunity to present Aboriginal culture in authentic terms determined by Aboriginal people themselves.⁸⁷

Training needs to be tailored to suit the learning styles of the particular group. An example is the training of youth at Nambucca:

Case Study: Goorie Youth Website Project

Nambucca Shire Council has initiated a community access and training project that provides an opportunity for Aboriginal people to access information and services currently denied them due to social, geographic and economic disadvantages. Phase one of the project targeted unemployed young people and included the establishment of a train-the-trainer program and the development of a culturally appropriate website. Phase two targets the broader community and reflects the wishes of the community to record Elders' stories and memories; produce a talking dictionary in the Gumbaynggirr language; and establish a photographic archive to preserve cherished memories

The project received NTN funding of \$134,500, which covers establishment and operating costs for two years. The community is contributing substantially to the viability of the centre. The Bowraville Local Aboriginal Land Council pays the centre's phone bill, St Mary's Catholic School provides the use of their building for free and also pays the ISP, electricity and insurance. The Catholic Education Office provides them with free access to a technical consultant who repairs the equipment.

The train-the-trainer model focuses on the recruitment and training of Aboriginal people of all ages from pre schoolers to seniors including unemployed people and early school leavers. The project operates 6 days a week and is used by students of St Mary's School 4 days a week and the general community 2 days a week. General access includes courses run by Adult and Community Education (ACE).

Traditional training methods proved ineffective, so the training approach was modified to use games which have helped the students learn how the equipment was used. As a result, they developed a genuine interest in the technology. Microsoft provided \$17,000 towards software for the project.

There has been a dramatic improvement in the literacy skills of St Mary's students and increased access to information and confidence in using IT for the whole community since the project started.

HIGHER BANDWIDTH SERVICES

What services require higher bandwidth and what is the existing coverage of these services?

Higher bandwidth (at least 64 kbps and usually more) is required to deliver higher speed data, videoconferencing and most e-business services. In general, services delivered electronically by government agencies, and a range of commercial transaction services, are optimised through higher bandwidth delivery. In some cases such applications will be virtually unusable on dial-up

⁸⁶ Central Land Council; Submission to the Study; October 2001; p 5.

⁸⁷ Central Land Council; Submission to the Study; October 2001; p 6.

narrowband links. Factors contributing to the need for higher bandwidth in electronic service delivery are 'bandwidth-hungry' software (like multi-media applications that use streaming video and/or audio) and the need to share available bandwidth between multiple computers online simultaneously (as in an education or training or an online access centre).

The majority of remote Indigenous communities do not currently have terrestrial access to high bandwidth services, either because their communities do not support a business case for its supply, or because there is insufficient backbone connectivity to the available network (Telstra is the only relevant terrestrial backbone provider to these communities). Commercial roll-out of bandwidth is generally to higher populated areas, particularly those that are on inter-capital or inter-regional trunk routes. ADSL services have extended beyond major regional centres to towns over 20,000 people; however, the benefit of such services for more remote communities or dispersed population centres is limited because DSL technology cannot provide bandwidth beyond 3 km from an exchange. The more remote rural areas require satellite to receive higher bandwidth services. Fifty of the 178 'hub' communities currently have, or have been funded to receive, infrastructure to support videoconferencing. While it has not been possible to identify the bandwidth available to other communities, they generally have access to bandwidth to support basic voice telephony and Internet access, sometimes at very low speeds over highly restricted Digital Radio Concentrator Systems (DRCS).

Telstra has suggested that terrestrial infrastructure enhancement to support higher speeds across all communities would be very costly. In the case of smaller communities remote from backbone infrastructure, satellite services may be a more cost-effective solution. However, there may be an opportunity to attract additional investment in backbone terrestrial infrastructure to service larger, currently unserved (or under-served) communities through a demand aggregation approach. The ODN has explored this model in some depth, and it is also a model being pursued by the Queensland Government through its Cape York tender approach. Such approaches for larger communities are to be encouraged, provided they are thoroughly tested for business feasibility, because it is likely to be the case for the foreseeable future that terrestrial backbone links will provide a more cost-effective solution than satellite above certain levels of traffic demand.

What demand is available for aggregation in remote Indigenous communities?

For smaller and more remote communities, higher bandwidth will not be feasible unless the majority of potential users of services cooperate to aggregate their demand for services.

A standard demand-aggregation model, and the one broadly proposed by the Outback Digital Network, is for backbone capacity to a community to be aggregated at a point of presence, which is collocated with a key public access facility for many of the higher bandwidth applications driving the business case, such as health, training, education and so on. The model also allows for further traffic demand to be aggregated at this point through connection to Telstra's local loop or by reticulation via an alternative loop infrastructure (such as Wireless Local Loop).

In the case of remote Indigenous communities, it is unlikely that there will be much demand for high bandwidth from individual subscribers, except perhaps from some small business users. Instead, it is expected that the demand for higher bandwidth services in communities will be for services provided from a single facility, offering perhaps a public access facility online training and support, videoconferencing and a range of government information and transaction services. There may also be the opportunity to further aggregate demand by linking this point of presence with other government facilities in the community, such as schools or medical centres, which can also generate demand for bandwidth.

Examples of demand aggregation models

The Online Council's New Connections publication provides a number of examples of demand aggregation models across Australia and internationally.⁸⁸ Generally speaking such models in Australia are based around one or more regional centres with significant populations and potential growth in telecommunications usage. Implementing a successful aggregation model is more challenging in remote Indigenous communities, which are characterised by sparse population, remoteness (and therefore high infrastructure costs), lack of community revenue sources, and much less apparent potential to increase overall demand levels.

Case Study: Outback Digital Network

The Outback Digital Network (ODN) proposes five regional networks across northern Western Australia, the Northern Territory and Queensland to address the telecommunications needs of remote Indigenous communities. The project is led by the ODN Board which comprises five Indigenous representatives from within the regions, and seeks to aggregate services into small remote communities.

The network is proposed to be primarily a terrestrial service that provides high quality voice and data services for telephony, videoconferencing, and Intranet/Internet access. Additionally, ODN seeks to provide training and employment to people within these communities, and manage processes such as billing, usage and debt management, maintenance and support of equipment and infrastructure.

ODN aims to address social equity issues, making telecommunications accessible, improve maintenance, increase the level of education, training and employment in technology related areas, and enable further opportunities through building economies of scale.

One of the ODN regions, Cape York in far north Queensland, has been funded by NTN to trial the ODN model. The first of 17 proposed sites of the Balkanu Cape York Digital Network commenced operation in February 2002.

⁸⁸ www.newconnections.gov.au

Case Study: The Cape York Development Partnership (CYDP)

This northern Queensland initiative is an example of a partnership between communities and Government, and seeks to achieve economic and social improvement for the communities on the Cape. The goals of the partnership are:

- to form partnerships between the Government and the Indigenous people of Cape York;
- to work with families and communities to overcome the disadvantaged position of the Indigenous people of Cape York relative to other Queenslanders;
- to achieve better health through partnerships between communities and responsible Government agencies;
- to reach better educational outcomes through improved education services;
- to build better family support networks that recognise traditional Indigenous values;
- to build a skilled labour force; and
- to generate jobs through economic development.

The Queensland Government has recognised the importance of affordable and appropriate telecommunications infrastructure in effective, positive change, and has initiated the Improved Telecommunications for Northern Queensland (ITNQ) project. This project seeks to aggregate telecommunications demand to improve bandwidth availability and reduce telecommunications costs. In addition, Networking the Nation has funded the Outback Digital Network to establish the Balkanu Cape York Digital Network (CYDN) to improve telecommunications infrastructure and services to 14 remote Indigenous communities on the Cape. This project will provide affordable fixed phone access and public access to the Internet and videoconferencing, with the aim of building local business and employment opportunities.

The business models for the CYDN and ITNQ projects require revenue to be generated through the expected wide range of services and products to be offered, including asset management, help desk and videoconferencing services. The sustainability of the CYDN and ITNQ projects will be dependent on standard business models in which business facilities are fully funded and all clients - industry, community and government, as well as the supporting Indigenous bodies - contribute to the revenue stream as commercial customers for the services provided.⁸⁹

⁸⁹ Queensland Government; Submission to the Study; December 2001.

Case Study: PYCom (Pitjantjatjara Yankunytjatjara Communications)

PY Media is an Aboriginal media corporation managed by community members. Its membership consists of 108 elders from the homelands in South Australia and adjoining areas in the Northern Territory and Western Australia. Through this structure, the community is involved in the decision-making processes, and is kept fully aware of developments. Staff and participants in the PYCom project include BRACS operators and those with previous technology experience.

PYCom serves 3,000 people, spread over 100,000 square km, and aims to address identified telecommunications needs, including public Internet access, videoconferencing, training, fixed telephony and mobile radio services. NTN funding of just over \$2 million was approved for the project.

Components of the project include a public access site (telecentre) with a public Internet access point and the support services of a travelling technician; videoconferencing for the numerous participants aligned to the project, including Government, non-government organisations, Indigenous groups and organisations, and private businesses. The project includes awareness-raising and training; content development; hardware/equipment, telecentre facilities, as well as an Internet portal and websites for the AP Lands and surrounding region.

The project is also trialing more appropriate telephone services and a UHF Citizen's Band (CB) radio repeater network will be established for essential services, IT and technical support. The project will be sustained through sponsor organisations supporting the key facilities and users paying for services.

Case Study: The Western Australian Telecentres and New South Wales CTC

These two projects are examples of community/Government partnerships that deliver telecommunications access centres to communities. These centres generally provide public access to the Internet and videoconferencing, as well as over-the-counter services online. The State Governments provide overall management support and coordination of service traffic from other Government agencies. The State Governments are a single point of contact for negotiation, implementation of procedures and collection of revenue, which is then passed on to each participating community centre. The Western Australian Telecentre Support Unit has acted as a broker to negotiate with Government agencies, for example it has negotiated with Centrelink to deliver information through telecentres and for them to act as agents, for which they are paid a fee. The regular income has assisted telecentres with their overall sustainability.

Case Study: Gila River Telecommunications Inc. (GRTI) in the USA

In the Telecommunications Act 1996, Congress directed the Federal Communication Commission (FCC) to ensure that all Americans have access to affordable telecommunications services. Through its rulemaking process and by offering educational seminars, the FCC is taking steps to promote the availability of telecommunications services to individuals living on tribal lands, including both Indian reservations and Alaskan Native Lands.

GRTI, together with four other tribal-owned telephone companies, has actively participated in petitioning the FCC for assistance to increase telephone services on Indian reservations.

In 1988, GRTI was established to provide the Gila River Indian Community with a basic voice service and other telecommunications services. At the time, about 25 per cent of Gila River community residents had a telephone service, with connection costs ranging between US\$4,000 and US\$40,000. In 2001, over 50 per cent of community residents had a telephone service.

GRTI currently has over 3,600 lines, including business, residential and private line circuits, with approximately 48 per cent of these being business lines. The total system consists of over 117 miles of fibre-optic cable and 342 miles of buried copper cable. Enhanced services offered by GRTI include cellular mobile phone, paging, Internet and satellite TV. Voicemail services are also being planned. For further information see: www.gilanet.net

The FCC has established the Enhanced Tribal Lifeline and Link Up programs. These programs promote a US\$1 a month telephone service for qualifying households on Indian reservations as well as other initiatives, such as discounted phone bills and discounted connection charges.⁹⁰

To qualify, a household on a reservation must participate in one of several low-income assistance programs or a vocational rehabilitation program.

Given the difficulties in achieving a viable business case for demand aggregation projects in Indigenous communities, it is important to examine and assess the range of applications and services that are likely to be provided. In the following sections, these will be examined to assess the extent to which such services are currently being deployed, reasons for current restrictions on deployment, and the potential for further significant take-up of these higher bandwidth services within communities and by key government service and support agencies.

Videoconferencing

The Study found that videoconferencing is popular as a service-delivery channel across a range of services, including education, justice and health, and for community activities. It is seen as more culturally appropriate for Indigenous communities (than text-based media) because it allows for visual communication. Videoconferencing can also be used effectively to overcome language and literacy barriers that are inherent in text-based media.

⁹⁰ www.fcc.gov/cib/consumerfacts/tribalfactsheet.html

The Northern Territory Government submission argues that:

For Indigenous communities in the Northern Territory, videoconferencing presents a singular opportunity to receive reasonable levels of service and training in education, health, justice, governance and other services. Historically, the capacity to provide those services and training in situ, either through visits by outside personnel or by trained community personnel has been marginal at best. Videoconferencing offers the opportunity for the first time for communities to receive those services at an adequate level and quality.⁹¹

According to LGANT there is wide and strong support for videoconferencing and a high level of need has been articulated across a range of uses. Uses include keeping in touch with children who are away at boarding school, with family members who are in prison, and with family and friends who are in hospital. LGANT has emphasised that assisting with the support and maintenance of personal relationships for both members of Indigenous communities, and employees of government and non-government agencies in remote and very remote locations is of critical importance in maintaining staff morale, and in staff retention.⁹²

The response to the implementation by the Electronic Outback Project (EOP) of videoconferencing into Indigenous communities has demonstrated strong interest:

...communities have been quick to assess potential use of equipment, and eager to test it out. Uses not imagined by the EOP team have been suggested, such as to view the body of a person passed away in another community, to meet the community's cultural requirements.⁹³

Issues identified to the Study to achieve successful implementation of videoconferencing include:

- adequate bandwidth to allow for a reasonable picture (higher refresh rates are needed to ensure body and sign language are clearly visible);
- the need for training and technical support;
- ensuring enough people can be trained to support the equipment when needed;
- securing staff (there tends to be a rapid turn-over of staff in remote areas leading to loss of knowledge);
- getting sufficient traffic to ensure viability of a service; and
- the need for an appropriate (airconditioned) building/room in which to house equipment.

Videoconferencing at 128 kbps has been found to be satisfactory for one-on-one and group discussions where detail is less important. However, a frame refresh rate of around 25 frames per second (requiring bandwidth of 384 kbps) is needed to produce a picture smooth enough to discern body and sign language.⁹⁴ The Study has been advised that both body and sign language are important elements of Indigenous communication. The cost of accessing videoconferencing has been reducing over recent years and varies depending on distance, number of linked sites and bandwidth required. Commercial rates for videoconferencing take into account operational management requirements and can be around \$150 to \$300 per hour. Projects funded through NTN

⁹¹ Northern Territory Government; Submission to the Study; November 2001; p 31.

⁹² Northern Territory Government; Submission to the Study; November 2001; p 31.

⁹³ Northern Territory Government; Submission to the Study; November 2001; p 31.

⁹⁴ Knuckey, J and Slegers, C; *Leading-Edge Use of Visual Communications Services: the Deaf Australia Online Trials*; AccessAbility Workshop, Canberra; May 2001. <http://www.dcita.gov.au/commsconf/papers/janice.html>

See also:

Gallaudet University; Technology Access Program: Video Telecommunications; <http://tap.gallaudet.edu/video.htm>; February 2002.

are able to offer rates of around of \$60 to \$150 per hour. While these rates may seem high, they need to be considered in the context of savings in travelling cost and time.

Case Study: Networking North Queensland

Networking North Queensland has been funded by NTN to support the establishment of infrastructure to increase access to telecommunications, and to facilitate improved health service delivery in rural and remote north Queensland.

Key stakeholder organisations include: Queensland Health; Queensland Ambulance Service; Blue Care Nurses; Northern Queensland Rural Division of General Practice; and Far North Queensland Rural Division of General Practice.

Networking North Queensland has funded stakeholder organisations to purchase, install and upgrade computers and associated hardware and software to facilitate email, intranet and Internet access. 21 communities now have videoconferencing equipment available for use by health professionals and the wider communities.

A significant component of Networking North Queensland has been training users in email, Internet, intranet and videoconferencing. This has been undertaken on a one-to-one basis, through small group work, regional workshops and with online training in the use of videoconferencing in some centres.

Case Study: Women's Justice Network

Legal Aid Queensland has, with assistance from NTN funding, facilitated the establishment and maintenance of the Women's Justice Network, which provides (to date 21 rural locations) with access to legal information, and advice and services by videoconference. It also has broader applications which to date include: community education; meeting with family members in custody; counselling and advice; rape, incest and child support; support group meetings; business meetings; employment interviews and community consultations. The network allows the services to be provided as they are needed, without requiring the victims to leave their community.

Through cooperation between service providers, community sites and Legal aid Queensland, all operational expenses associated with the Women's Justice Network will be covered for the period of July 2002 to June 2005.

It is expected that in three years' time the network will be:

- self-sustaining through a pay-per-usage scheme. For example, if the Mental Health Unit wanted to provide counselling for someone in the community they would be billed for use of the equipment;
- coordinated through a whole of Queensland government videoconferencing policy regarding access to systems and service that will value add to the network;
- integrated on a state wide as well as a south west area level in regards to service delivery; and
- providing an increased variety of services via videoconferencing to rural communities.

A primary role for videoconferencing in Indigenous communities is to provide communication links between community members in correctional facilities and their families back in the community.

Providing such connections meets one of the recommendations of the Royal Commission into Aboriginal Deaths in Custody.⁹⁵

A number of State/Territory justice agencies are also using videoconferencing to enable such activities as court hearings to be undertaken remotely.

Case Study: Department of Justice, Northern Territory Government

The use of videoconferencing facilities will have a positive impact on the delivery of justice to remote Indigenous communities. Potential uses include:

- translation services. Language diversity between Indigenous communities and rural/urban centres represents a challenge for Court services and interpreter services. To date, use of translator services by the Courts is low. While the service itself is young and therefore little research is available to explain why the use is low, some of the most pressing issues include the social and geographical difficulties in relocating Indigenous translators to the urban court centres. The potential for videoconferencing is to have Indigenous translators readily available to the courts by providing an Indigenous translation service via videoconferencing technology direct from a community;
- remote Supreme Court Arraignment days or Court Mentions. This would allow people to appear before the court from the community, rather than having to acquire transportation to travel to Darwin or one of the regional courts. This would help eliminate any high travelling expenses incurred by the defendant or client as well as the potential social impact that can occur when a person is removed from their familial and community support systems; and
- remote Judge/Magistrate trial participation. A matter may be conducted between a regional centre and a remote community. A judicial officer could be in a courtroom in a regional centre and clients participating in a remote location (ie. community centre or purpose built videoconferencing room).

Furthermore, the implementation of high-quality telecommunications gives members of the local community the opportunity to have meaningful input into the judicial system by actively participating in the court process. It is envisaged that with suitable training local community members could be appointed as officers of the court.

New technologies offer the potential for new types of employment for young community people. This in turn helps retain the youth with an active role within their community.⁹⁶

The Centre for Appropriate Technology in Alice Springs has indicated that an important use for videoconferencing is the remote monitoring and fault diagnosis of energy systems equipment. There is potential to improve the lifecycle cost by reducing the need for unscheduled visits through training local people in basic system maintenance and providing real time support using videoconferencing links, such as are used in tele-medicine.⁹⁷

⁹⁵ Queensland Government; Submission to the Study; December 2001, p 25.

⁹⁶ Northern Territory Government; Submission to the Study; November 2001; p 32

⁹⁷ Centre for Appropriate Technology, Alice Springs, NT; Submission to the Study; January 2002; p 6.
<http://www.icat.org.au/>

Electronic banking services and e-business

There has been limited implementation of e-business in remote Indigenous communities. The main areas of activity are art, tourism and banking.

The Department of Industry, Science and Resources, in the national tourism strategy document *tourism dotcom*, considers that Indigenous tourism has the capacity to generate many economic and social benefits, including the creation of employment and business opportunities for Indigenous Australians. They argue that:

...the remote and geographically dispersed nature of many Indigenous communities highlights the importance of fast and effective business communication... [and that] the ability to access adequate infrastructure is a problem for many Indigenous tourism groups.⁹⁸

Case Study: Julalikari Aboriginal Council

This Council in Tennant Creek received \$19,000 funding under the Government's Regional Online Tourism Program 2000 for the development of an Indigenous tourism website covering the Tennant Creek region. The site includes e-commerce and booking facilities, information regarding Indigenous culture, attractions, tours and local Indigenous tour operators.

The following are examples of projects, funded by Networking the Nation, that provide online art marketing and sales.

Case Study: Desart

Desart has received funding from NTN to create an Intranet and Internet presence from www.desart.com.au to enhance the business opportunities, efficiency and promotion of Aboriginal artists from the central Australian region. Desart supports over 3,000 artists. The project will allow marketing and sale of art work and will provide a computer at each of the 29-member art centres, which will also be available for public use.

Case Study: Association of Northern Kimberley Arnhem Aboriginal Artists (ANKAAA)

The Association has member art centres located in the Top End of Australia—the Kimberley, Western Australia, Tiwi Islands, Arnhem, Darwin and Katherine regions. ANKAAA was funded by NTN to enable marketing and sale of their art-work through e-commerce websites, linked to a central portal, and provide training for ANKAAA's member Indigenous art centres. Equipment provided in the art centres will also be made available to the broader community as a community access point.

A discussion paper, developed for the Northern Territory Area Consultative Committee, which considered options for improving banking services, highlights the need for adequate online banking services to accompany e-business enterprises. The authors consider that, while many of the earlier Indigenous businesses operated around the arts and craft industry, there has now been a significant move into eco-tourism, agriculture, aquaculture and forestry. The paper notes that the major focus

⁹⁸ Department of Industry, Science and Resources; *tourism dotcom*; 2000; chapter 3: *Indigenous Online Tourism*. http://www.isr.gov.au/sport_tourism/tourismdotcom/Strategy/Chapters/3_3.html

by institutions is currently on savings and cheque accounts because many Indigenous people do not have access to credit:

Whilst the wider community can utilise [banking] products through either the branch network or through online facilities, this is not the case for many Aboriginal people. ...Historically, one of the core problems for Indigenous people to access banking services has been the lack of technical infrastructure in remote communities.⁹⁹

Satellite technology is seen by the authors as providing a cost-effective solution to banking infrastructure needs. The Paper also points out the need for implementation of electronic banking to be accompanied by appropriate training and awareness programs, arguing that many Aboriginal people do not understand electronic banking either through EFTPOS or ATM facility.¹⁰⁰ The paper states that:

There are working examples of practice ATM machines being used in communities to educate members on how to access funds. This is basic knowledge that all Indigenous people should have access to. It is suggested that this be extended to incorporate EFTPOS training and possibly debit card technology.¹⁰¹

Case Study: Aboriginal Information & Communications Development Scheme

In its stocktake of State Indigenous online initiatives, NOIE highlights the Aboriginal Information & Communications Development Scheme, that was administered during the 2000/2001 financial year by the Western Australian Office of Aboriginal Economic Development (OAED).

This Scheme allowed for recipients to use multi-media tools to further develop their business opportunities. An integral part of this scheme allows for the recipient to access a multi-media specialist to obtain hands-on assistance to identify business development opportunities. Types of services offered to clients include:

- *Working with remote clients* identifying business opportunities using multi-media technology, eg. using a digital camera to transpose images that will generate t-shirts or posters - this is then sold as merchandise to generate income. OAED has also established a training website (<http://www.ibizwa.com>) where clients are able to upload their own webpage; and
- *Youth Access Centre*: OAED has been working with the Clontarf Aboriginal Football Academy to develop an online access plan for the Academy's students. This online access will allow resident football students of the College to communicate with family and friends about their progress at the football academy. This is also an opportunity to expose students to a resource that can further develop a potential career in the online industry.¹⁰²

The Northern Territory Department of Industries and Business submit that

...business use, particularly e-business use, would be significantly increased if the quality of connections improves. At the moment line drop out and low speeds mean that e-business

⁹⁹ Catalyst Consulting International Pty Ltd; *Discussion Paper – Indigenous Banking & Finance*; Northern Territory Area Consultative Committee; Darwin, NT; October 2001: p 9.

¹⁰⁰ Catalyst Consulting International Pty Ltd; *Discussion Paper – Indigenous Banking & Finance*; Northern Territory Area Consultative Committee; Darwin, NT; October 2001: p 13.

¹⁰¹ Catalyst Consulting International Pty Ltd; *Discussion Paper – Indigenous Banking & Finance*; Northern Territory Area Consultative Committee; Darwin, NT; October 2001: p 9.

¹⁰² NOIE; Attachment A to *Online Council Indigenous Action Plan*; unpublished; March 2002.

use and general Internet use is at a low level, despite the fact that the majority of businesses in remote parts of the NT already have the computer technology to sustain this use.¹⁰³

Online Access Centres

Online access centres provide more affordable access to higher bandwidth services that in most cases would otherwise be unavailable to individuals in communities. An online access centre can provide a range of telecommunications services including Internet, videoconferencing and e-business facilities. Typically the centres provide community access to electronic communication and online access to government and business services and information. They can act as a focal point for community activities and information sharing. The support and training provided by such centres reduces the barriers presented by low English literacy and low education levels. The communities identified in the Study as 'hub' service communities would be in the main suitable locations for online access centres.

The applications required by a community access centre are bandwidth hungry; for example, videoconferencing, multi-terminal access and multi-media applications. Bandwidth of at least 128 kbps would be required for these types of applications.

There are a number of online access centre models currently operating in regional Australia which could be applied in remote Indigenous communities. There is also a limited number already operating in remote Indigenous communities. These have mainly been established through NTN or RTC funding (refer **Attachment H**).

The key challenge is how to make such centres sustainable. This is a greater challenge for remote Indigenous communities where revenue sources from within communities, to meet operational, maintenance and equipment replacement costs, are limited. Online access centres also require resources for ongoing management of day-to-day operations and to provide user support and training.

Communities have found that the likelihood of viability is improved where central coordination and support is provided. A number of case studies of online access centres are provided below.

Case Study: Electronic Outback Project (eCAF's)

The Northern Territory Government's EOP project, funded by NTN, has installed 14 eCAF's (enhanced Community Access Facilities) in remote Indigenous communities in the Northern Territory. eCAFs provide payphones, Internet-access computers, a videoconferencing unit and facsimile machines in a community-provided environment. In one location the community library houses the eCAF, alongside Night Patrol and Centrelink offices. In other communities the equipment is placed in the Council offices and another is in a community training area. The communities are using the eCAFs for Internet access and email. Young people and community staff have established email addresses, and organisations are utilising videoconferencing. An individual in an island community has used videoconferencing to speak with a relative in hospital in Queensland. The cost of accessing the services are \$2 per hour (or less if more hours are purchased) for Internet and \$150 per hour for videoconferencing. The model is user-pays, with NTN funding the provision of equipment for two years, the provision of training and employment at the eCAF, and the development with communities of a business plan for ongoing viability.

¹⁰³ Northern Territory Government; Submission to the Study; November 2001; p 10.

Case Study: Rural Transaction Centres

The Rural Transaction Centres (RTC) program provides public access to such online services as banking, postal services, Centrelink, Medicare easyclaim, facsimile services and in some cases access to the Internet, within a single location. Community participation and support is required for the ongoing operation, management and maintenance of the RTC. Partnerships are encouraged that will provide additional sources of revenue and support, and financial viability must be demonstrated to receive funding. 20 Indigenous communities have received funding to prepare a business case and five have received approval for an RTC. Communities as diverse as the town of Coonabarabran in New South Wales to the Aboriginal community of Oenpelli in Arnhem Land have implemented RTCs to date.

Case Study: WA Telecentres

There are now over 85 telecentres in operation in regional and remote areas in Western Australia. The Western Australian telecentres are jointly funded by the State Government and the NTN program and consist of state-of-the-art equipment helping to deliver online services to these communities. A typical telecentre provides public access to computers, photocopiers, facsimile machines, Internet access and videoconferencing facilities. All centres are managed by the community organisation hosting the centre with financial support in the first three years for a part-time coordinator. Generally, telecentres raise revenue through user charging, which varies between centres. Many have supplemented this by providing other services such as printing, banking and even key cutting where these are not otherwise available. The West Australian Government has secured contracts with State and Federal agencies for online and over the counter services and each participating telecentre receives remuneration for providing these services to assist with their viability. Telecentres cost around \$30,000 to set up and are located in community supplied premises. Telecentres are funded \$20,000 per year as a contribution towards salary to assist with viability.

The West Australian MITEs (Modular Interactive Technology Environments) are telecentres housed in a purpose-built construction suitable for remote conditions. The establishment costs of producing a fully equipped MITE are around \$200,000. This includes: construction, configuration, interior finishing, air conditioning, training and delivery (depending on location). MITEs are intended for use where there are no existing buildings in the community.

Case Study: Cherbourg Community Internet Access Program

Barambah Aboriginal Community Care Agency is located in Cherbourg west of Gympie in QLD. In 1998 the agency applied for NTN funding to establish a public Internet access point and to employ a part-time trainer to provide Internet and IT training. The Women's Justice Network has set up a videoconferencing facility which is bringing in a more diverse group of clients to the access program. The centre which is now self-sufficient is being well used by the public school, TAFE, and staff from Cherbourg Community Health and Legal Aid. The costs of the Internet and videoconferencing are absorbed by the Centre, although Legal Aid pays for videoconference usage.

Case Study: Yarnteen

The NTN-funded Yarnteen project (through the Yarnteen ATSI Corporation) provides Community Access Points (CAPs) in Indigenous communities in the Hunter Region of New South Wales. The centres provide access to Internet, software programs, government and non-government service providers, job search services, distance education, printing and publishing facilities. Training is being provided by an IT expert for two years, by which time it is expected that a number of users will have developed adequate skills to pass on to others. Each CAP host is responsible for ensuring that their budget allows for their operational costs. They will identify a suitable employee who will be responsible for the collection and management of the Internet access point and computer. The centres charge a gold coin donation for Internet usage and \$5 for scanner and multi-media facilities. The centres cost approximately \$2,600 for equipment and installation and about \$800 for IT running costs annually.

Government service delivery

An important component of aggregation models for remote Indigenous communities is aggregation of government online traffic. This is one of the areas of online activity that has real potential to grow and generate revenue streams to attract telecommunications service providers. However, to date lack of coordination between service delivery agencies has limited the capacity for this approach to provide an effective incentive for investment in telecommunications services in remote Indigenous communities. A more coordinated approach to government online service delivery, working in partnership with local Indigenous communities, is needed to generate real opportunities.

The main current activities identified for each sector are summarised below.

Health

The Commonwealth is working with State and Territory Health Departments through the Australian New Zealand (ANZ) Telehealth Committee, a sub-committee to the Australian Health Ministers' Advisory Council (AHMAC) to establish a framework for developing and implementing national telehealth policies and standards that are aligned with good clinical practice and business objectives. This work is intended to underpin and foster the growth of telehealth activities across the nation, and promote the integration of telehealth within the broad reform and e-health agendas.¹⁰⁴

State and Territory Governments have generally embraced telehealth and all have active policies and projects. The current extent of telehealth activities in Australia is outlined on the ANZ Telehealth Committee's website. The list of activities suggests that, although the intention is to eventually extend telehealth services to cover all geographic regions, the more remote areas (with a few exceptions) are not yet receiving services. Current activities are predominantly in the lower bandwidth region of videoconferencing for tele-psychiatry (128 kbps ISDN services are commonly used), electronic transfer of x-rays and pathology results, and education and professional support for staff in regional hospitals.

It has been identified that there is an urgent need for extension of professional education and support services to remote Indigenous communities, in order to improve levels of participation by

¹⁰⁴ Australian New Zealand (ANZ) Telehealth Committee Website: <http://www.telehealth.org.au/> List of Australian Telehealth Activities (State entries are listed as having been updated in either March 2000 or February 2001).

local people in Indigenous health care provision (in particular, as Aboriginal Health Workers).¹⁰⁵ Tele-medicine is also seen by people in rural and remote areas as providing a way of overcoming professional staff shortages, by allowing doctors to consult electronically from a more central (or 'hub') location, thus reducing the amount of time lost to travelling.¹⁰⁶

One of the issues raised by the Commonwealth Office of Aboriginal and Torres Strait Islander Health, is that Aboriginal Community Controlled Health Services in remote areas struggle to provide adequate health care services to their communities and have little additional resources (in human or financial terms) to channel towards supporting technical infrastructure.

Education

A number of recent inquiries into provision of education services to remote areas have noted the potential of videoconferencing and other interactive technologies to improve education choices and outcomes for Indigenous students in remote communities. Some witnesses to the *Katu Kalpa* inquiry claimed that computer software provided a visual and aural learning environment that was more appropriate to the learning styles of Indigenous students.¹⁰⁷

The Education and Training Action Plan for the Information Economy is *Learning for the Knowledge Society*. This Plan was produced following the release of the National Office for the Information Economy's Strategic Framework for the Information Economy in January 1999. This Plan identifies a number of strategic priorities to enable the education and training sector to play a key role in the wider information economy agenda. The broad outcomes of the Plan were supported by the Ministerial Council on Employment, Education, Training and Youth Affairs (MCEETYA) in March 2000.

All States and Territories have established long-term plans for the development of information and communications technology in schools. They include goals for achieving a required ratio of computers per student or school within a set period and providing access to the Internet for all schools. However, there have been significant differences among States and Territories in their strategies, including the level of resources applied to them. They have ranged from relatively minimal plans that provide basic ISDN quality connections to more substantial plans including quite comprehensive professional development programs for teachers.¹⁰⁸

Although most schools seem to be placing a strong emphasis on technology acquisition, factors such as lack of affordable Internet access, unreliable power supplies and inadequate bandwidth are still significant barriers to provision of online services in the smaller, remote Indigenous schools.

¹⁰⁵ House of Representatives Standing Committee on Family and Community Affairs; *Health is Life – Report on the Inquiry into Indigenous Health*; Parliament of the Commonwealth of Australia; Canberra; May 2000; chapter 7.20; p 101.

¹⁰⁶ House of Representatives Standing Committee on Family and Community Affairs; *Health is Life – Report on the Inquiry into Indigenous Health*; Parliament of the Commonwealth of Australia; Canberra; May 2000; chapter 7.90; p 112.

¹⁰⁷ Senate Employment, Workplace Relations, Small Business and Education References Committee; *Katu Kalpa – Report on the inquiry into the effectiveness of education and training programs for Indigenous Australians*; Commonwealth of Australia; March 2000; chapter 4.112.

http://www.aph.gov.au/senate/committee/EET_CTTE/indiged/

¹⁰⁸ Australian Human Rights and Equal Opportunity Commission; *Rural and Remote Education Inquiry Briefing Paper: Information technology infrastructure*; Commonwealth of Australia; 2000; P 6.
http://www.hreoc.gov.au/human_rights/rural_education/briefing/it_infrastructure.html

Indigenous participation in vocational education and training (VET) is increasing exponentially.¹⁰⁹ The VET sector is increasingly looking to information technology to deliver culturally appropriate training, suited to Indigenous people.

Within the vocational education and training (VET) sector, the *Australian Flexible Learning Framework (2000-2004)* recognises the importance of advanced information infrastructure at a reasonable cost to maximise flexible vocational learning opportunities for all Australians.¹¹⁰ In practice, many VET institutions have increased the use of videoconferencing in curriculum delivery. Examples that relate specifically to Indigenous students in Western Australia, are provided in **Attachment G**.

'E-Learning' is bandwidth intensive, with a combination of 'bandwidth-hungry' interactive applications and the need to run varying numbers of computers simultaneously, depending on the size of the school. As a result, the education and training sector has the highest existing bandwidth needs of any service sector.

Justice

A primary role for videoconferencing in Indigenous communities is to provide communication links between community members in correctional facilities and their families back in the community. Providing such access to families for Indigenous prisoners meets one of the recommendations of the Royal Commission into Aboriginal Deaths in Custody.¹¹¹ The Study heard evidence of the importance of this service to communities from consultations with Indigenous groups and State/Territory government agencies.

Videoconferencing is being trialed widely in Queensland, the Northern Territory, Western Australia and South Australia to provide improved access to justice services for Indigenous people in remote communities.

In particular, the Northern Territory sees potential in the use of videoconferencing to:

- allow defendants and vulnerable witnesses to appear before the court from within their community, rather than having to travel to Darwin or one of the regional courts; and
- facilitate language translation, to overcome difficulties experienced in relocating Indigenous translators to the urban court centres.

The Northern Territory Government also plans to develop a public online version of its Integrated Justice Information System, which would allow public access to court registries via the Internet, for information purposes, or for electronic document lodgement.

The Queensland Women's Justice Network is piloting a network of videoconferencing sites throughout south-west Queensland to allow women, including Indigenous women, to access independent confidential legal advice.

Further details relating to government service provision are provided in **Attachment G**.

¹⁰⁹ Commonwealth Grants Commission; *Report on Indigenous Funding*; Commonwealth of Australia; 2001; Vol 2, p285. <http://www.cgc.gov.au>

¹¹⁰ Education Network Australia Vocational Education and Training Advisory Group; *Flexible Learning for the Information Economy: Australian Flexible Learning Framework for the Vocational Education and Training System 2000 – 2004*; Australian National Training Authority; 2000. <http://www.flexiblelearning.net.au/1frame.pdf>

¹¹¹ Queensland Government; Submission to the Study; December 2001, p 25.

Conclusions on the opportunity to expand access to, and use of, higher bandwidth services

There is no doubt that there is a core set of applications and services that governments, at all levels, are seeking to provide to communities through the online medium, both to enhance existing service provision, and in some cases to provide services for the first time. It is equally clear that governments are prepared to invest considerable financial and human resources to take up these opportunities. The problem is that, without a coordinated approach, these government sectors face significant difficulties implementing and maintaining stand-alone online facilities in many remote Indigenous communities. There needs to be a national strategy developed and implemented to enable a coordinated, integrated approach to this online opportunity.

Such a strategy needs to examine, first and foremost, the potential to aggregate demand for bandwidth to attract higher bandwidth service delivery into remote communities. But it also needs to examine the opportunity for more effective deployment of human resources. The Study found that in many cases staff (eg. teachers and medical staff) often already take on a broader role in under-served remote communities, and may not be able to see their way clear to give priority to taking on yet another role—ie. learning and applying new technical skills in their day-to-day activities.¹¹²

In addition, the ‘demand’ side factors applying to Internet take-up also apply to higher bandwidth services—namely, affordability of computer and Internet access, education status, language and literacy issues, relevance of content, training and ongoing support. The issues relating to support and maintenance can be more frustrating and difficult to overcome with more complex applications, and may depend even more on specialised technical help.

Public access facilities providing higher bandwidth services require ongoing training, technical support and management. This was highlighted by the South Australian Department of Industry and Trade:

Any program should, in addition to providing physical assets and training also provide for the creation of a ‘regional’ resource of one of more persons to become local ‘experts’ and champions of IT&T in the region and to manage, promote and develop the initial facility. These resources should also be able to perform basic IT&T maintenance and installation work to ensure local sustainability and, in doing so, develop local expertise. These people should become a coordination and reference point for the region and provide a consistent contact point within the community and to external agencies or suppliers in respect of IT&T.

In conclusion, the provision of infrastructure to Indigenous communities is only a partial solution to their telecommunications need. Attention should be given to establishing local human resource structures to sustain and develop Indigenous skills in the maintenance, use and ongoing application of IT&T infrastructure and services.

The SA Department of Industry and Trade (DIT) also commented on sustainability that:

Remote communities not only need the technology, they also need a fair share of the labour component involved in supporting that technology.
DIT proposes:

¹¹² Human Rights and Equal Opportunity Commission; *Education Access: National Inquiry into Rural and Remote Education*; Commonwealth of Australia; August 2000; p 102. http://www.hreoc.gov.au/human_rights/rural_education/

- a framework of local support agents, appropriately trained and experienced who would action service requests on behalf of many agencies and organisations. These 'local' support agents would attend to serious issues like system failures and fault diagnosis and also assist with system upgrades and the installation of new systems;
- aggregating the cumulative demand of multiple local, state and commonwealth agencies and the private sector, to justify the establishment of local support positions;
- using the telecommunications funds set aside for the benefit of remote communities to 'kick-start' such a program. Initially a pilot scenario would be undertaken as a proof of concept. Through consultation with key agencies, agreement would be reached on the core skill-levels required, on training arrangements, etc. Service level agreements and the basis for cost-sharing could be explored.

BROADCASTING

The Study considered the opportunities to expand telecommunications services provided by the vast coverage of broadcasting infrastructure and services across remote Australia.

The introduction of digital television services in Australia offers the potential to provide a range of benefits to consumers. Consumers will be able to view clearer, sharper pictures, and choose between different types of television viewing—such as wide-screen movie-quality programs, or multiple camera angles for sporting programs. They will also, through their television set, have the potential to access new services possibly including a variety of information, education, advertising, and shopping services and, in the longer term, a range of interactive services. However, the degree of interactivity available to consumers depends on a number of factors including:

- the stage of planning and rollout of digital services in their area;
- the capability of the reception equipment available to the viewer;
- the platform by which the service is delivered; and
- the transmission and associated systems in place.

Imparja Television provided a submission outlining a proposal to deliver data through its digital television network.

Imparja television is a specialist, satellite-delivered commercial television service covering regional and remote Australia. From its television centre in Alice Springs, Imparja broadcasts through more than 200 transmitters, covering a footprint larger than Europe. Imparja is also the only 100 per cent Indigenous-owned commercial television broadcaster in Australia.

Imparja has stated that although the television set has traditionally been used solely to watch television programs, the development of digital television changes this. The digital set 'top box' that is used by remote viewers for Imparja's direct-to-home television reception contains 'open TV', a graphical software system capable of receiving and displaying not just television programs but a wide range of text and graphical content, from simple Internet-style pages right through to full-motion video.

This proposal presents the possibility to provide limited data through a well-established and accepted medium in remote communities. Further investigation of the capability of the transmission and reception equipment may be needed. While this system does not provide the benefits of a full, interactive Internet service, it may provide additional services to small remote communities that may otherwise not have the means to access the Internet.

There are a number of regulatory issues that would need to be addressed in relation to provision of such services. It is likely that they would be regarded as datacasting services. The legislation allows licensed broadcasters to provide such services, but only when either an independent datacaster has commenced services or twelve months after the commencement of the digital conversion simulcast period in the broadcasters' licence area. The simulcast period for remote-area broadcasters has yet to be determined.

Convergence of broadcasting and telecommunications infrastructure also has the potential to expand services and reduce costs.

Ntl Telecommunications (ntl) provided a submission that outlines its plans to conduct a number of pilots in regional/rural Australia of its 'BushNet' product for the delivery of high-speed Internet via digital transmission within the broadcasting services band to communities that are currently unable to receive an Internet service or receive low-quality services.

Ntl notes that it is the major provider of broadcast transmission services throughout Australia. It provides managed radio and television transmission to broadcasting service providers, and access to infrastructure for radiocommunications and telecommunications clients and emergency services. Ntl has indicated that it has close to ubiquitous coverage of the Australian population, and has the capacity to provide managed re-transmission services to remote areas via a variety of technologies, from short wave shower services utilising the HF Band, to the provision of Internet services by terrestrial means, to the re-transmission of television and radio services received off satellite.

Ntl advised it was in the process of applying to conduct a number of pilots of the ntl product in some rural/regional areas. The pilots would provide Internet access speed of 128 kbps delivered over a digital broadcasting channel (comprising a total bandwidth of up to 20 Mbps). The return path would utilise the existing public switch telephone network (PSTN) from the user's premises. Consumers participating in the pilot would be supplied with a reception device at no charge and would be asked to pay a fee for the service provided. Approximately 100-150 consumers would be targeted. The service would be from the ntl site at Goondiwindi with a microwave link connecting to the existing point of presence operated by GDN in Goondiwindi. Ntl advised that its proposal has the potential to provide an alternative to satellite delivery, with the added potential benefit of being localised in its coverage—for example, the potential to carry local community content.

Broadcasting for Remote Aboriginal Communities Scheme

The Broadcasting for Remote Aboriginal Communities Scheme (BRACS) was introduced in 1987 to deliver radio and television programs via satellite to Indigenous peoples in remote areas. There are currently 105 BRACS stations across remote Australia capable of receiving one Australian Broadcasting Corporation (ABC) radio service, the ABC television service and a remote commercial television service, which are then re-transmitted to local communities. Significant features of the BRACS model are that:

- it enables radio or television programs to be produced locally;
- these programs can use the language(s) spoken by the local community;
- local program material can then be embedded in broadcasts; and
- the local community can choose not to broadcast mainstream material.¹¹³

BRACS stations are capable of providing information, entertainment and education to communities. They are also capable of providing a wide range of services, such as government information in

¹¹³ Aboriginal and Torres Strait Islander Commission; *Digital Dreaming, A National Review of Indigenous Media and Communications*; Commonwealth of Australia; June 1999.

Indigenous languages, cultural programs and health information. The importance of a broadcasting service that addresses communities' language and cultural needs is emphasised in comments by Richard Trudgeon of the Aboriginal Resource and Development Services Inc:

You only have to look at how rural and remote Australia still today puts exceptionally high value on the radio service received nationally from the ABC to see the immense resource such a service is ... In fact, ask any concerned English-speaking Australian to switch off their news and current affairs service, whether it be radio, TV, newspaper or Internet service for a couple of weeks and see what life is like. We are sure many would find it difficult. Yolngu have never been able to access a consistent information, knowledge or news service in a language that they speak and understand.¹¹⁴

CONTENT

Why is Indigenous content important?

The Study has found that one of the major inhibitors to the take-up of online services in remote Indigenous communities is the lack of relevant content that can be downloaded quickly via narrow bandwidth services. Feedback from a number of forums emphasised the need for websites to be designed for narrowband access and content to be provided through low bandwidth applications and via CD-ROM. Much of the content of the Internet and standard government online services present language, literacy and cultural barriers.

For many residents, English is not the primary language, and literacy levels are poor. Their interests lie with managing the basic needs of life, such as food, safe water, a place to sleep. Under these circumstances, the ability to surf the net is a matter of indifference ... That is not to say that technology is not needed in remote communities ... [but the] approach [needs to] be tailored to the recipient.¹¹⁵

...To encourage Indigenous participation of Internet technologies, Indigenous people need the resources to develop content rather than just being recipients of externally generated content ... content developed in regional communities has the potential to protect cultural life from being redefined.¹¹⁶

Learning Lessons by the HREOC and the *Katu Kalpa* reports both identified language as a significant barrier to effective education, including online education.

Witnesses to both the *Katu Kalpa* and the *Learning Lessons* inquiries claimed that computer software that provides a visual and aural learning environment is more appropriate to the learning styles of Indigenous students.¹¹⁷ This, coupled with the low rate of English literacy in remote Indigenous communities and the increasing recognition of the need to support and enhance the use

¹¹⁴ <http://www.ards.com.au/> - click on the link "Radio Station Update". Website of the Aboriginal Resource and Development Services Inc. (ARDS) - an Aboriginal organisation incorporated under the Northern Territory Associations Act.

¹¹⁵ Kimberley Area Consultative Committee Inc.; Submission to the Study; October 2001; p 1.

¹¹⁶ Central Land Council; Submission to the Study; October 2001; p 6.

¹¹⁷ Senate Employment, Workplace Relations, Small Business and Education References Committee; *Katu Kalpa – Report on the inquiry into the effectiveness of education and training programs for Indigenous Australians*; Parliament of Australia; March 2000; chapter 4.112 http://www.aph.gov.au/senate/committee/EET_CTTE/indiged/ and Northern Territory Department of Education; *Learning Lessons: An independent review of Indigenous education in the Northern Territory*; Darwin, NT; 1999; p 50.
[http://www.ntde.nt.gov.au/prod/NTEDWeb/DeptWeb.nsf/Files/AbEdRpt/\\$file/AbEdRpt.pdf](http://www.ntde.nt.gov.au/prod/NTEDWeb/DeptWeb.nsf/Files/AbEdRpt/$file/AbEdRpt.pdf)

of Indigenous languages in schools, highlights the need for specialised online content to be developed for and by communities.¹¹⁸

Successful education is important in underpinning Internet access. Both low education status and language difficulties present potential barriers to accessing the Internet and online information/curricula, which is generally developed in English. This could be improved by developing online content in Indigenous languages. Language barriers also need to be taken into account when developing Internet training and awareness materials for Indigenous people.

In its submission to the Study, the Northern Territory Government argues that:

the demand for telephone and videoconference services are well established however the rise of the internet and the move to on-line service delivery are recent phenomena. At this time there is limited on-line material that is specifically focussed on Indigenous audiences with most efforts to date being concentrated on on-line learning and distance education initiatives.¹¹⁹

Content has to be relevant and in the language(s) of the people. For many people in communities, English is their second or third language. Many concepts are hard to grasp, particularly when the jargon and activities are hard to grasp by those that speak English as a first language, let alone those that don't. Content must be readily accessible and appropriate.

Examples include the Walmajarri series of CD Roms that were developed for three schools in the Western Australian Kimberley region. These CD Roms were developed in collaboration with the community and schools, could be viewed both in English and in language, were interactive and instinctive. A willingness by governments to produce information in key Indigenous languages is important for successful service delivery and will improve the use of the technology.¹²⁰

What relevant content has been developed?

There has been some activity in the development of Indigenous content. This has mainly been locally or sectorally based and often is only accessed by the immediate target group. The *Indigenous Portal*, referred to earlier as part of the *GovernmentOnline* strategy, will serve to provide a common point of access to a range of Internet materials about government services.

Indigenous organisations are increasingly developing websites of relevance to Indigenous people generally, and the Australian Government Directory on the Internet lists many of these.¹²¹ Information is not readily available to assess how accessible and relevant these sites are to remote communities, although a number of Internet sites of relevance to remote communities have been developed with NTN funding.

¹¹⁸ Australian Human Rights and Equal Opportunity Commission; *Rural and Remote Education Inquiry Briefing Paper: Information technology infrastructure*; Commonwealth of Australia; 2000; p 75.

http://www.hreoc.gov.au/human_rights/rural_education/briefing/it_infrastructure.html

¹¹⁹ Northern Territory Government; Submission to the Study; November 2001; p 2.

¹²⁰ Northern Territory Government; Submission to the Study; November 2001; p 40.

¹²¹ <http://www.agd.com.au/>

Case Study: Ara Irititja Database

Over the last seven years the Pitjantjatjara Council has developed a most remarkable multimedia database called 'Ara Irititja' (meaning history). This database has over 22,000 photos, letters, artworks, stories, movies and audio interviews which cover the history of the Pitjantjatjara from first contact. Nearly 1,600 people have contributed to the collection of photos which were taken by missionaries and others who lived and worked on the lands. The primary audience for the database is the Pitjantjatjara people themselves. For sorrow reasons and also to protect sacred images/information, the database has been designed with various layers of access, with certain images being barred from general viewing. It is planned for part of the archive's database to be available on the Internet. Presently there are seven workstations dotted around the AP Lands which elders are using to input more information about the photos.

PY Media is also developing a database of all of its 1,400 videos which have been recorded since 1984. These videos were recorded by the Pitjantjatjara people themselves and include the recording of traditional knowledge such as bush medicine and the re-enactment of dreaming stories such as 'the Seven Sisters'. The Ara Irititja designed database will be used for this and the two databases will be joined together sometime in the near future.

The database has generated interest not only in the content, but also in the workings of the database and other computer applications including the Internet.

Case Study: The Australian Indigenous Cultural Network (AICN)

The AICN was established three years ago to foster cultural heritage recording, maintenance and preservation. It also aims to provide new economic development opportunities through encouraging communities to utilise archived materials in websites and other media productions aimed at promoting local and regional tourism. The AICN activities are expected to build greater community interest in and up take of advanced telecommunications. It will do this through supporting up to 25 communities to build their own cultural heritage collections online.

In May 2000, over 300 senior Aboriginal people came together in Canberra, for the Aboriginal Seniors Yarn Up, a three day conference looking at issues of importance to older Indigenous people. Key recommendations from the conference included:

That more training and funding be dedicated to exploring ways that new technology, such as the internet and multi-media, as well as audio and video, can be used by Aboriginal communities to record and maintain culture, history and heritage.¹²²

Specific Indigenous health websites sponsored by the Office for Aboriginal and Torres Strait Islander Health are:

- Australian Indigenous Health InfoNet: www.healthinfonet.ecu.edu.au
- Australian Aboriginal and Torres Strait Islander Social and Emotional Well Being Website: www.ausregionalcentres.com

¹²² New South Wales Aboriginal Seniors Yarn-Up; Outcomes; May 2000; p 5. Published in pdf format by the NSW Department of Aboriginal Affairs, and available at <http://www.daa.nsw.gov.au/daa/publications.html>

- The Office of Rural Health considered Aboriginal and Torres Strait Islander input and comments when focus testing their rural health website in February-March 2001. The website is at: <http://www.ruralhealth.gov.au>¹²³

The *Katu Kalpa* report identified that:

...some schools have developed Internet sites that promote their educational philosophies and achievements. Two sites that were of particular interest were Roebourne Primary School¹²⁴ in the North West of Western Australia, and Rawa Community School¹²⁵ in the remote Rudall River National Park (also in the north west of Western Australia). Both sites contained information and pictures of the school and students as well as examples of student work..¹²⁶

In the higher education sector, Open Learning Australia is involved in the development of Indigenous educational content for delivery in an online environment and the application of online technology to foster communication and course delivery. The aim is to improve access to higher education courses for Indigenous communities.¹²⁷ The ATSIC submission to the *Katu Kalpa* inquiry recommended that the Department of Education Science and Training fund a research project on the 'effectiveness and potential for expansion of computer aided learning for Indigenous people in remote communities'.¹²⁸ There are also a number of online resources providing useful information and links on Indigenous education. One example is the National Aboriginal and Torres Strait Islander Education Website (NATSIEW).¹²⁹

Case Study: Yarnteen

The Yarnteen ATSI Corporation through support from Microsoft is undertaking the Networking CDEP'S New South Wales website project. This project will establish and pilot a secure website chat and bulletin board feature for over 50 Aboriginal Community Development Programs (CDEP) throughout New South Wales. This project has national significance and expansion opportunities.

¹²³ Office of Aboriginal and Torres Strait Islander Health; Commonwealth Department of Health and Ageing; Submission to the Study; October 2001.

¹²⁴ <http://www.roebourne.wa.edu.au/>

¹²⁵ <http://www.users.bigpond.com/rawa/default.htm>

¹²⁶ Senate Employment, Workplace Relations, Small Business and Education References Committee; *Katu Kalpa – Report on the inquiry into the effectiveness of education and training programs for Indigenous Australians*; Parliament of Australia; March 2000; chapter 4.115 http://www.aph.gov.au/senate/committee/EET_CTTE/indiged/

¹²⁷ Senate Employment, Workplace Relations, Small Business and Education References Committee; *Katu Kalpa – Report on the inquiry into the effectiveness of education and training programs for Indigenous Australians*; Commonwealth of Australia; March 2000; chapter 4.116.

http://www.aph.gov.au/senate/committee/EET_CTTE/indiged/

¹²⁸ Senate Employment, Workplace Relations, Small Business and Education References Committee; *Katu Kalpa – Report on the inquiry into the effectiveness of education and training programs for Indigenous Australians*; Commonwealth of Australia; March 2000; chapter 4.116.

http://www.aph.gov.au/senate/committee/EET_CTTE/indiged/

¹²⁹ <http://www.natsiew.nexus.edu.au/splash2.html>

Part Three -- Framework for the Action Plan

Overcoming the barriers to accessing telecommunications services in remote Indigenous communities presents a major challenge, and will require a commitment to action by all levels of government. The Commonwealth Government recognises that overcoming these barriers will not be possible simply by funding the installation of more telecommunications facilities in these communities. The limited take-up of USO telephone services in these communities demonstrates that guaranteeing supply, without addressing the significant demand-side issues, will not bring about higher take-up and effective use of telecommunications services.

Overcoming the range of significant supply and demand constraints in these remote communities will take a coordinated, ongoing effort by governments, industry, communities and other stakeholders. The Action Plan is intended to provide a strategic framework under which effective, coordinated action will be initiated and expanded into the future. The Commonwealth Government will work with stakeholders to develop the detailed Action Plan, with the aim of coordinating telecommunications solutions to support broader community development activities and maximising leverage from other programs and services available to the community or region.

The Action Plan is a basic 'roadmap' which will provide overall direction and guidance for the progressive improvement of telecommunications services for these communities. Improvements will build over time as communities become more ready, governments coordinate efforts more effectively and broader support becomes available. This Action Plan will leverage off existing programs and services and kick start a more integrated approach.

To support the range of strategies under the Action Plan the Commonwealth Government is providing a further \$8.3 million over three years. This funding will build on the \$35 million provided to Indigenous related projects under Networking the Nation and other Government programs such as the TSI National Communications Fund and mobile phone programs which have the potential to assist Indigenous communities. It will also build on other Commonwealth, State, Territory, local government and community initiated activities.

The Action Plan is underpinned by the following set of guiding principles. With these principles in mind, three key objectives have been identified, under which a number of strategies and programs have been developed. The full details of the programs will be developed in consultation with stakeholders.

UNDERPINNING PRINCIPLES FOR THE ACTION PLAN

- 1. Recognise and allow for diversity**
- 2. Recognise the value of community involvement and partnerships**
- 3. Build on achievements and strengths**
- 4. Support community development through telecommunications**

DISCUSSION OF PRINCIPLES

1. Recognise and allow for diversity

- There is no single telecommunications solution that will suit all remote Indigenous communities. Achieving service improvements across all communities will necessitate testing a range of approaches and service options.
- Indigenous communities differ quite markedly from each other, and in many communities it will not be feasible to access the full suite of advanced services in the foreseeable future, nor is there community interest in doing so. In setting broad priorities for these target communities over the life of the Action Plan, it is important to understand the differences between communities, and how such differences are likely to impact on the feasibility of providing different telecommunications services in an effective and sustainable way.

2. Recognise the value of community involvement and partnerships

- Community participation in the adoption of telecommunications services is essential. Decisions about identifying and responding to Indigenous priorities for telecommunications services need to closely involve local Indigenous communities. This is not just because communities vary in their needs and priorities, but because community involvement in and ownership of these decisions is crucial for the effective uptake and future viability of these new services.
- The success and viability of new telecommunications services is not guaranteed solely through community interest and participation. Successful implementation will require a coordinated approach involving close and ongoing partnerships between communities, government and industry providers.
- It is important that telecommunications solutions are integrated with other government service delivery structures, as well as with existing, accepted community structures and operations.
- Effective decisions about identifying and responding to Indigenous priorities for telecommunications services are dependent on the flow of accurate information from industry about existing telecommunication service levels in Indigenous communities. Improving information to industry suppliers and regulators about the ongoing levels of telecommunications services in remote Indigenous communities will help ensure that decisions accurately reflect community needs.
- Strategies need to be explored to aggregate demand for telecommunications services in communities to improve the business case for service delivery.

3. Leverage resources and build on achievements and strengths

- In order for appropriate telecommunications services to be provided to any given community, the capabilities, resources and services within communities need to be identified, encouraged and utilised to maximum effect.
- Remote Indigenous communities are geographically isolated and economically disadvantaged. Supply of services to these communities is costly, and sparse populations mean that demand for services is limited. Therefore, it is highly likely that the commercial roll-out of services to them will continue to be unviable. This will mean that they will continue to rely on a combination of

regulatory support mechanisms (mainly through the Universal Service Obligation), in combination with targeted Government support, to achieve an equitable level of service delivery. The Action Plan will build on the guaranteed level of service provided through the USO and other safety net initiatives.

- It is important to draw upon existing programs, infrastructure and other services in order to make maximum use of the services currently in place.

4. *Support community development through telecommunications*

- Improved telecommunications can provide benefits to Indigenous communities beyond simply improved communication capacity. Telecommunications is a key tool for community development broadly, and impacts on improved education, health, business and social cohesion. For example, Online Access Centres can act as a focal point for services and information sharing and as such can assist in achieving major community development objectives.

OBJECTIVES OF THE ACTION PLAN

The study found that there are three key areas where improvements need to be made to achieve sustainable telecommunications services in remote Indigenous communities.. The Action Plan will therefore focus on these three key areas:

1. Improve telecommunications services and online content

The key priority is to provide direct support to increase the provision and uptake of telecommunications services in remote Indigenous communities. Current service take-up is extremely low, and there is an urgent need to support improved access to a range of different services, with basic phone access the main priority. The Commonwealth Government will provide targeted funding over three years to improve telephone and Internet services and to expand the range of relevant online content available. This support will include undertaking a detailed national study to guide the business development of online access centres in Indigenous communities.

2. Improve information flow

A key finding of the Study was the inadequacy of current information flows to and from communities. The Commonwealth Government will undertake a range of activities to ensure that:

- remote Indigenous communities are provided with better information about telecommunications services and how to access them; and
- service providers and governments have access to better information about the service priorities and needs of the communities.

3. Improve coordination and support, and facilitate partnerships

Recognising that lasting improvements can only be achieved and maintained through a coordinated, holistic approach by governments and other stakeholders, the Commonwealth Government will put in place a range of strategies to encourage better cooperation and partnerships between key stakeholders, primarily governments, telecommunications service providers, and the communities themselves.

These objectives are interdependent, and the Action Plan will require coordinated implementation of strategies across all the objectives to be successful. For example, provision of equipment

required for Internet access will not enable access unless it is accompanied by training and ongoing support, and effective management structures to support ongoing viability.

BROAD IMPLEMENTATION STRATEGIES

The Study has found that communities have differing service needs and differing capacities to initiate and sustain service improvements. Strategies under the Action Plan will need to recognise these differing needs, and respond with tailored, well-targeted approaches. State, Territory and local government assistance will be critical in enabling this community-based approach. It must also be recognised that complete solutions will not be achieved quickly: the access barriers are too pervasive and the most effective solutions too unclear at this point to expect a rapid turnaround in the current situation. Therefore, a longer term approach to improvements in these three broad areas will need to be adopted to enable the particular needs of communities to be addressed over time, in an integrated and holistic manner.

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The way in which the strategies under these objectives will be implemented will be the subject of detailed consultation with the relevant stakeholders. The Commonwealth Government will be seeking to establish working partnership arrangements between communities, Commonwealth, State and Territory Government agencies and industry providers to implement the strategies, and to ensure long term improvements in service levels and support for services are achieved.

A Framework for determining Likely Service Priorities

The Study found that for telecommunications improvements to be effective and sustainable in remote Indigenous communities, a coordinated approach, with communities and governments working in partnership, is required. At the core of such partnerships must be a genuine opportunity for communities to participate in identifying service priorities, and to be actively involved in promoting and supporting service outcomes.

This Action Plan proposes that there are steps that can be taken to address supply-side constraints (such as high infrastructure costs) and demand-side barriers (such as lack of spending power, lack of awareness and interest, lack of relevant content), both of which impact negatively on the general take-up of telecommunications and online services in remote Indigenous communities. However it also concludes that Indigenous communities differ quite markedly from each other, and in many communities it is not feasible to access the full suite of advanced services in the foreseeable future, nor is there community interest in doing so.

In setting broad priorities for these target communities over the life of the Action Plan, it is important to understand the differences between communities, and how such differences are likely to impact on the feasibility of providing different telecommunications services in an effective and sustainable way.

The following are considered the key factors that are likely to impact on new telecommunications opportunities for these communities:

- whether it is a 'hub' service community, ie a community which provides services such as education and health for surrounding communities, and which therefore delivers services to a reasonably significant population, has a nucleus of service support, and a possible demand for bandwidth for online service delivery;
- the readiness of the community to adopt services; and
- access to government support, either through supporting funding or regulatory safeguard mechanisms such as the USO.

The concept of community readiness refers to the presence of community factors that act positively to promote community take-up of services. Readiness could be stimulated by:

- the presence of community ‘champions’ and leaders who are actively promoting community development, new services and the benefits they can offer;
- high community education levels;
- targeted projects (eg through NTN) that have already stimulated communities by demonstrating real benefits; and
- a high degree of community social cohesion and unity, and a strong cultural identity.

On the negative side inhibitors of community readiness might include:

- lack of leadership and internal community dissension;
- socially damaging problems such as widespread alcohol and substance misuse;
- very low education and literacy levels; and
- very low levels of awareness and exposure to IT&T opportunities.

The ‘Framework for Likely Service Priorities’, as set out below, is a guide which provides further assessment of these ‘community readiness factors’ as they relate to telecommunications service development, and the types of services that are therefore likely to be achievable in each community grouping. The services identified for each group are further explained in following parts of the Action Plan. The Framework can be used by communities to assess which category they fit and therefore what strategies they may need to employ to improve services.

Communities which are identified as ‘hub’ communities, ie those to which people from smaller outlying communities travel to access services, will likely need different services than ‘non-hub’ communities.

‘Hub’ communities, which may support online access centres, will need a greater level of ongoing involvement and decision making to maintain sustainable services. Therefore they require more established and effective leadership and decision making community structures. By contrast, ‘non-hub’ communities are likely to require shorter term leadership and management to implement the immediate solutions. These communities could receive ongoing technical support and training from ‘hub’ online access centres.

In setting out this Framework, there is no assumption that particular communities will be ‘pigeon-holed’ as having an unchanging state of readiness. On the contrary, strategies need to be put in place to raise the level of telecommunications and online readiness, together with the level of telecommunications service delivery, across *all* communities over time as part of broader community capacity building.

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Most remote Indigenous communities are expected to require a high level of support from governments and the industry to achieve their goals for improved telecommunications services. The partnerships developed between communities, governments and industry service providers will support improved services to these communities in an ongoing and holistic way. The strategies employed will build on existing programs and services to gain the maximum benefit for communities and to ensure assistance reaches the communities of highest need.

Table 1 : Community Service Priority Framework

<u>Community A - 'Hub' Community / High Level of Readiness</u>	<u>Community B - 'Hub' Community / Low Level of Readiness</u>
<u>Characteristics of readiness</u> <u>Well established and effective leadership and decision making processes.</u> <u>A community development plan exists or the community has developed broad priorities for economic and/or social development.</u> <u>Awareness of telecommunications needs or can develop these according to community priorities.</u> <u>The capacity and willingness to progress telecommunications improvements and be a 'driver' or 'champion' for improvements over the longer term.</u> <u>Demonstrates the capacity to establish and operate an online access centre and encourage and support use.</u> <u>Service priorities</u> <u>Phone services – private or community based.</u> <u>Dial-up Internet services.</u> <u>Online Access Centre (via terrestrial or satellite backbone) which provides the opportunity to enhance education, health services etc through online delivery including videoconferencing, and with training and support facilities.</u> <u>Community publishing facility.</u> <u>E-commerce support for local businesses.</u> <u>Training and technical support.</u>	<u>Characteristics of readiness</u> <u>May need assistance to develop effective leadership and decision making processes.</u> <u>The community has not determined its economic or social development priorities and may require support to do this.</u> <u>Low level awareness of telecommunications benefits and needs.</u> <u>Will need support to progress improvements and to develop community support for improving telecommunications services.</u> <u>Will require support to develop and operate an online access centre.</u> <u>Service priorities</u> <u>Phone Services – private or community based.</u> <u>Online Access Centre likely to be smaller scale, and satellite based or even dial-up access.</u> <u>Strong emphasis on support and awareness raising and training.</u>
<u>Community C - 'Non-hub' Community / High level of readiness</u>	<u>Community D - 'Non-hub' Community/ Low Level of readiness</u>
<u>Characteristics of readiness</u> <u>The capacity exists in the community to consult, gain agreement and implement solutions over the short term.</u> <u>Have an awareness of community priorities or the capability to determine these.</u> <u>Can identify person/s with an interest in progressing telecommunications who can update and represent the community over the longer term.</u> <u>Capacity to implement phone and Internet services and to take responsibility for their ongoing operating condition.</u> <u>Service priorities</u> <u>Phones services may have a strong community emphasis - perhaps an opportunity for satellite phones if community is highly mobile, or alternatively HF/UHF radio systems</u> <u>Internet - community two-way satellite facility could be possible. Alternatively community dial-up Internet facility</u> <u>Training and technical support</u> <u>E-commerce support for local businesses.</u>	<u>Characteristics of readiness</u> <u>Will need assistance to consult and gain agreement to implement solutions.</u> <u>Has not determined community priorities.</u> <u>Will need support to progress improvements and encourage community interest.</u> <u>Will require assistance to implement services.</u> <u>Service priorities</u> <u>Phone services – private or community based. There may be a stronger emphasis on community solutions. For example, payphone and fixed phone provision could be melded into a community phone facility.</u> <u>Perhaps an opportunity for satellite phones if community is highly mobile or alternatively HF/UHF radio systems.</u> <u>Strong emphasis on support awareness raising and training.</u>

The strategies of the Action Plan are:

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Improve telecommunications services

- Strategy 1. Indigenous Community Phone Program
- Strategy 2. Investigate, promote and support more appropriate products
- Strategy 3. Improve payphone services
- Strategy 4. Build the case for viable online community access centres in 'hub' communities
- Strategy 5. Subsidise community Internet access points in less 'ready' communities
- Strategy 6. Investigate alternative delivery of Internet services
- Strategy 7. Support online content development

Improve information flow

- Strategy 8. Develop a communications framework
- Strategy 9. Conduct a Public Awareness Information Campaign
- Strategy 10. Improve monitoring and reporting on service levels

Improve coordination and support, and facilitate partnerships

- Strategy 11. Improve government coordination
- Strategy 12. Promote coordination and information sharing
- Strategy 13. Facilitate community involvement, coordination and capacity building
- Strategy 14. Improve Coordination of training and support
- Strategy 15. Improve Coordination of service provision

OBJECTIVE - IMPROVE TELECOMMUNICATIONS SERVICES AND ONLINE CONTENT

The most important objective is to improve telecommunications services in remote Indigenous communities. Communities currently experience a low level of services; the priorities range from improving basic phone services to higher bandwidth services such as videoconferencing.

Phone Services

Improving telephone services is the highest priority need for remote Indigenous communities. The very low income levels of these communities mean that basic telephone services are not affordable for many people, even taking into account the price controls that apply to such services. The Study has found that connection costs (including the cost of trenching and network extension) in remote communities are a particular barrier to phone take-up. The Study also found that the current billing arrangements are not always suited to the lifestyles of remote Indigenous communities and that communities are not adequately aware of service availability and procedures.

Improving phone services to remote Indigenous communities will require a multi-faceted approach, including targeted funding, introduction of more appropriate pricing packages and billing arrangements and improved payphone availability. The following two strategies are aimed at increasing take up of basic residential or community phone services and improving the availability and reliability of payphone services. These will be implemented in conjunction with the awareness and information programs described in Strategy 8.

Strategy 1. Indigenous Community Phone Program

This program will provide funding assistance of around \$3.5 million to improve access to phone services for remote Indigenous communities. The Commonwealth Government will work in partnership with communities to identify their priorities to improve phone services, either through residential or community-based services, and will provide funding to support improved access to telephone services. Subsidies could be provided to reduce or eliminate such costs as:

- residential phone connection, including trenching and network extension;
- connection to more flexible and appropriate residential services such as Telstra's Communic8™;
- community-based phone systems such as PABX type systems or other more flexible community phone systems where this can be demonstrated to deliver more appropriate and cost effective services to the community; and
- alternative mobile solutions such as satellite and open radio-based communications systems where there is no terrestrial mobile coverage and these provide a cost effective solution to meet a demonstrated need.

Strategy 2. Investigate, promote and support more appropriate products

The Government will work with industry service providers, particularly Telstra (as the Primary Universal Service Provider), to encourage the development of more appropriate technologies and services, and refine existing services to better suit remote Indigenous communities. This will take place in close consultation with communities and other stakeholders.

The outcomes of this strategy will be built into the community phone program and the information and awareness programs.

Strategy 3. Improve payphone services

To meet the Commonwealth Government's TSI objective of improving payphone services:

- the Government will work with Telstra, as the Primary Universal Service Provider, to accelerate the provision of payphones and improve fault and repair timeframes;
- Telstra's guidelines for payphone provision will be clarified to ensure it is meeting the needs of remote Indigenous communities. These guidelines will be further reviewed following implementation of the community phone program to assess the impact of increased residential phone penetration on the need for payphone services.
- a better information base for the location of public payphones in remote Indigenous communities will be established and maintained, to enable better identification of needs and service gaps. The ACA will work with Telstra to improve reporting on Indigenous payphone activity and sustainability;
- communities will be encouraged to increase their contribution to payphone reliability through a commitment to protecting and maintaining payphone facilities.

The information campaign (Strategy 9) will complement this strategy by improving community awareness of payphone availability and the processes to apply for payphone facilities under the USO.

Internet and Higher Bandwidth Services

The Study found that the take up of Internet services in communities is extremely low, much lower than phone services.

Addressing the barriers to Internet take-up will require a strong emphasis on training and skills development, identification and development of appropriate online content, as well as on financial support to access the necessary equipment and services. The challenge of addressing these difficulties is significant and means that, apart from a limited number of individual subscribers such as Indigenous small businesses, the emphasis for Internet access is likely to be on public access facilities, at least in the short to medium term.

In the larger 'hub' communities public access facilities could be part of a larger online access centre, incorporating government service provision, and perhaps videoconferencing facilities and other business and community support services. In smaller communities such a facility would need to be scaled down, and at the bottom of the scale might consist of a stand-alone computer connected to either a dial-up or satellite Internet service (two-way or one-way). It is recognised that these services have been made available in some communities through such funding programs as the Commonwealth's Networking the Nation and the Rural Transaction Centres Programs, and the Telstra two-way satellite Internet offering under the Untimed Local Calls (Extended Zones) Agreement. The programs under the Action Plan would build on the achievements of these existing programs. The following strategies aim to improve community access to the Internet and further develop the case for online access centres for remote Indigenous communities.

The Study has found that higher bandwidth services are likely to be confined to single publicly accessible online centres. These services offer a range of online services, and can be linked, for demand aggregation purposes, to other key facilities, such as schools and health centres. These centres are more likely to be viable in the larger 'hub' communities from which people currently access government and other community services. Typically the suite of online services could be delivered via Internet and videoconferencing facilities.

A number of such facilities have been established in remote Indigenous communities and more broadly in rural Australia with the support of Commonwealth programs and State/Territory initiatives.

There is a major challenge to ensure that online access centres are sustainable. Sustainable operation will only be achieved through the combined and cooperative efforts of government agencies, communities and industry service providers. The 'hub' communities will need a high level of capability to operate an online access centre successfully.

There needs to be a national approach developed and implemented to enable a coordinated, integrated approach to this online opportunity.

Strategy 4. Build the case for viable community access centres in ‘hub’ communities

The Commonwealth Government will contribute \$200,000 to develop a national strategy for implementation of higher bandwidth services into remote Indigenous communities. This will build on existing strategies and programs (such as Networking the Nation projects and the Western Australian Telecentre program), and will include:

- (a) further investigation of the business case for establishing online access centres, primarily in ‘hub’ communities. This investigation will focus on the different needs of communities according to population and online ‘readiness’, and could seek to determine required capital and operational costs (including required levels of funding support), and potential revenues, for online access centres of varying scale and scope;
- (b) investigation of the most appropriate and cost-effective way of delivering ongoing training, support and maintenance for community access centres, with a focus on community empowerment and skills transfer into communities;
- (c) investigation of options to better utilise services currently operating in communities for broader community use, such as those available in schools, council offices etc;
- (d) development of an Indigenous online access centre ‘toolkit’ that will assist communities to implement and operate sustainable online facilities. The development of the toolkit will complement strategy 13;
- (e) negotiations through Online Council to achieve greater cooperation between service delivery agencies within and across States, Territories and the Commonwealth. This could include a commitment to shared services, a commitment to provision of revenue levels required for sustainable services, and provision of more accurate information on the service and bandwidth needs of each sector; and
- (f) development of partnership arrangements between government, community and industry service providers to enable high bandwidth services to be delivered, managed and supported in communities. The Cape York Development Partnership could provide a valuable example of a successful collaborative approach, as could the experience of the Balkanu (ODN) in building community partnerships.

In smaller ‘non-hub’ communities (and perhaps in some ‘hub’ communities as well) a smaller scale, simpler approach to providing online access will be more feasible and appropriate. The following strategy will target those communities which are more likely to need to small scale community Internet access points.

Strategy 5. Subsidise community Internet access points

This Program will provide funding of around \$1 million to subsidise smaller scale connectivity to the Internet through terrestrial dial-up, or through one-way or two-way satellite services. This program will primarily target ‘non-hub’ communities, and will be subject to the demonstration of sustainability of the service in the community. Other public access equipment, such as Internet kiosks, could be considered under the Program. An important element of the Program will be support for appropriate training and skills development, including training to manage such facilities.

This program will seek leverage from existing Internet related projects, the two-way satellite program under the Untimed Local Calls (Extended Zones) Agreement and established training and support opportunities within regions. It will also explore opportunities for broader use of existing equipment in communities.

There is potential for online services to be delivered through the existing widespread broadcasting networks, as suggested by Imparja Television Pty Ltd in its submission to the Study. Emerging trends towards convergence of broadcasting and telecommunications may provide ways to increase access to communications services while minimising cost and skill requirements. These convergent technology models are in early stages of development and will require testing and further investigation to determine feasibility, cost effectiveness and community acceptance.

Strategy 6. Investigate alternative delivery of Internet services

The Commonwealth Government will work with key stakeholders to explore options and the feasibility of alternative delivery of Internet services, such as through existing broadcasting equipment.

Improving the availability of culturally relevant online content is likely to be a key factor in improving the utility and take-up of the Internet and online services for remote Indigenous communities.

While this is already occurring to some extent under existing programs, the Commonwealth Government will provide additional funding support to enable important further development of relevant content, particularly at the community level. The development of appropriate content will predominantly be undertaken by providers of online services, such as educators, health providers and businesses. However, experience to date has shown that the development and provision of relevant community content also provides a major incentive for community members to access the online environment. Content may include local websites, language dictionaries and cultural history sites.

Strategy 7. Support online content development

The Commonwealth Government will provide targeted funding of around \$1 million to further support the development of Indigenous online content, with a particular focus on:

- the information needs of remote Indigenous communities;
- cultural and/or language content initiated by communities;
- enhancing existing relevant content or applications to suit the specific needs of Indigenous users in remote communities;
- designing content for narrow bandwidth application. This content could be developed in an integrated way with the implementation of online access centres;
- ensuring community involvement in content development projects, including provision of appropriate support tools and training in managing and maintaining online content; and
- working with State and Territory Governments and communities to encourage online content development and to gain leverage from existing and proposed content development activities, including the activities of State and Territory service agencies.

OBJECTIVE - IMPROVE INFORMATION FLOW.

A key finding of the Study was the inadequacy of current information flows to and from communities. There are low levels of awareness in remote Indigenous communities of service availability, price and procedures for gaining access to services. Equally, there is a lack of information available to policy-makers and service providers about telecommunications service levels in communities and the gaps in service provision.

Telstra, the major provider of services to remote Indigenous communities, made the point to the Study that it is often difficult for them to communicate effectively with remote Indigenous communities. Apart from the high costs of travel into communities, they may not be aware of who is the most appropriate person or people within a community to discuss community needs.

Dealing effectively with communities is made more challenging by language barriers and low levels of English literacy in communities. It may also be difficult to gain an understanding of the cultural situation in communities and how that impacts on the use of services by community members.

ATSIC has expressed an interest in establishing better relationships with Telstra to facilitate better information flows with Indigenous communities. A greater degree of collaboration between key stakeholders to share information and maintain more comprehensive and accurate records will enable better reporting on service levels.

The following strategies are aimed at improving the flow of information to and from communities and enabling better analysis of telecommunications service gaps.

Strategy 8. Develop a communications framework

To improve information to communities, DCITA will approach Telstra and ATSIC with a view to developing a Memorandum of Understanding (MOU) to establish a framework for better communications. The content of the proposed MOU will be reflected in Telstra's USO Marketing Plan where relevant.

The proposed MOU will cover matters such as:

- communications protocols and procedures;
- community rights under the USO (including the DDSO) and CSG;
- service offerings and options;
- work plans for service improvements;
- access to communities;
- service design and placement; and
- other issues arising from the Untimed Local Calls (Extended Zones) Agreement.

The MOU will have the objective of establishing a more proactive and culturally appropriate approach than currently taken. Achieving better communications will also require the involvement of other stakeholders, such as communities, industry providers, other relevant government agencies (State/Territory, Commonwealth or local) such as Centrelink and the ACA. Where appropriate, other stakeholders may also be signatories to the proposed MOU.

Strategy 9. Public awareness information campaign

The Commonwealth Government will undertake an information campaign to raise awareness of existing telecommunication rights and obligations of service providers and highlight and promote existing and new services and programs, to assist service take-up. The campaign will also raise awareness of the role communities can take in the implementation of telecommunications services as part of broader community development.

The campaign will provide information about such rights and services as the USO, the DDSO, the Untimed Local Calls Initiative, Telstra priority services and the Action Plan itself. It will also provide communities with information concerning the procedures for applying for a phone service, maintaining such a service and reporting problems or faults if or when they occur.

The target audience for the information campaign is the remote Indigenous communities identified in the Study. The Campaign will be developed and implemented in a culturally appropriate manner with consideration of language and English literacy issues. It will therefore be conducted using appropriate communication channels, methods and materials for remote Indigenous communities, including: using the Broadcasting for Remote Aboriginal Communities Scheme (BRACS); Indigenous media; production of appropriate educational and bilingual materials; promotional opportunities and other innovative means of reaching the target audience. These will be developed in consultation with ATSIC and other Indigenous stakeholders.

The campaign will coincide with the initial implementation of the Action Plan and will be coordinated with broader consultation with communities on the implementation of support programs under the Plan.

Strategy 10. Improve monitoring and reporting on service levels

In order to capture and consolidate specific telecommunications information relating to Indigenous communities, the ACA will monitor and report on services, including fixed telephones, payphones, mobile phone coverage and bandwidth availability. This will include requests from Indigenous communities for payphones and timeframes for installation and repair of faults.

ATSIC, as the key policy development agency, will be involved as appropriate in the monitoring process, with a view to including more comprehensive telecommunications reporting in future Community Housing and Infrastructure Needs Study (CHINS) reporting.

The communications framework developed under Strategy 8 will assist monitoring and reporting activities.

OBJECTIVE - IMPROVE COORDINATION AND SUPPORT, AND FACILITATE PARTNERSHIPS.

Effective coordination between key stakeholders will underpin achievement of improved telecommunications services in remote Indigenous communities. Sustainable solutions will depend on the development of practical partnerships between communities, governments and industry service providers. The range of opportunities and scope for partnership arrangements will be further explored during consultation. The focus of these consultations will be to build on existing partnership arrangements and promote existing successful models.

Better coordination needs to occur at community and government levels.

Telecommunications is a key tool for community development broadly, and impacts on improved education, health, business and social cohesion outcomes. In this respect it is important that telecommunications solutions are integrated with other government service delivery structures, as well as with existing and accepted community decision-making structures and operations. To achieve lasting improvements in telecommunications, mechanisms are required to:

- better identify and respond to telecommunications needs in a timely way;
- better inform people in the community of rights and opportunities;
- avoid duplication and enable leverage from existing programs;
- represent community interests to governments and to the industry;
- achieve whole of Government demand aggregation and other coordination strategies to improve the business case for high bandwidth services;
- increase the use of telecommunications in providing services to communities; and
- improve the capacity to identify and disseminate successful models of service delivery.

Government Coordination

Broad government coordination of online service delivery will be essential to improving services to communities. This will involve coordination within and between Commonwealth, State, Territory and local government agencies. The strategies identified below will tap into existing consultative processes and will assess partnership models currently being trialed. Other mechanisms will be considered in consultation with stakeholders.

The Advisory Group, established as the key consultative mechanism for the Study, has proven an effective vehicle to oversight the implementation of the Action Plan and should be retained for this purpose. In particular this will ensure ongoing close cooperation between DCITA, ATSIC and the ACA in the implementation of the Action Plan.

The Online Council is the appropriate forum to coordinate State, Territory, Commonwealth and Local Government online activities, in this area, as part of its broader mandate for the coordinating information economy matters.

The Study found that the Cape York Partnerships in Queensland is emerging as a good model of community coordination and partnerships that could be used more widely. However, this and other models are still in the early stages of development and will be examined as part of the Online Access Centre Business Study to ensure that telecommunications services underpin broader community development activities.

Strategy 11. Improve government coordination

Government coordination will be driven through the established consultative mechanisms of the Advisory Group to the Study and the Online Council. The Advisory Group, comprising representatives from ATSIC, OATSIA, the ACA and NOIE, will remain in place to oversee the implementation of the Action Plan from the Commonwealth Government perspective. Participation by representatives from relevant Commonwealth, State and Territory government agencies (including health, education and Centrelink) will be an essential factor for success. The Online Council Working Group, which will be encouraged to accord a high priority to telecommunications issues for remote Indigenous communities, will be a key forum.

In order to maximise outcomes for communities the implementation of the Action Plan will be coordinated closely with other projects and initiatives, in particular significant projects funded under Networking the Nation. DCITA's Regional Activities Database is a repository for information on regional telecommunications services and will provide a tool with which to conduct analysis of existing and new data on an ongoing basis. This will improve the Government's capacity to work with other stakeholders to improve services.

Facilitating community engagement with telecommunications issues and providing mechanisms for ongoing community feedback and coordination will be essential if the strategies in the Action Plan are to be effectively implemented. ATSIC, as the key national Indigenous policy and program agency, obviously has a key role to play, as does the Indigenous Communications Australia Advisory Committee convened by ATSIC.

There are also a range of other key Indigenous organisations that could play a major role in building community involvement and capacity. These include Indigenous broadcasting organisations, which are already playing a very active and well-recognised role in the provision of communications services to communities. Equally, the Outback Digital Network organisation has made substantial efforts to work with Indigenous communities and instigate improvements to telecommunications services across the 'top end' of Australia.

A regular national forum on remote Indigenous communications issues will provide an arena for discussing key emerging issues and will provide the Government with an opportunity to track the

progress of the Action Plan on an ongoing basis. The Government will also explore other mechanisms for information sharing and discussion of issues.

Strategy 12. Promote collaboration and information sharing

The Commonwealth Government will facilitate channels for ongoing discussion and information sharing such as the New Connections website, convening online discussion forums, and participating in forums relevant to Indigenous telecommunications.

DCITA's New Connections website can be used by stakeholders to access and share information and best practice models, and includes capabilities for mapping and online discussion.

As part of the Department's regular national Regional Communications Forums, DCITA will convene a national forum on remote Indigenous communications issues, involving key participants from communities, government and the communications industry. These forums will provide an opportunity to share information about best practices and contact networks.

Community involvement and capacity building

Indigenous community support for, and involvement in, improved telecommunications solutions will be essential to the success of the Action Plan. Consideration of telecommunications issues and opportunities needs to be an integral part of the fabric of community discussion and decision-making, both within individual communities, and at the level of representative community organisations.

There are many decisions that are most appropriately made at the community level before implementation of telecommunications solutions are implemented. These issues include:

- needs and priorities, which will differ between communities;
- community management of facilities;
- identification of a local champion to drive implementation and encourage acceptance;
- location of facilities;
- resources available to assist telecommunications projects, such as premises to house facilities, volunteer assistance or paid assistance, local technical skills, etc;
- cultural issues which may impact on the take-up of Internet opportunities; and
- the establishment of rules of operation for community facilities.

Communities often have a wealth of local resources which can assist the community to achieve viable telecommunications services. These include community leaders and members who could:

- drive the process;
- be trained and employed to undertake maintenance and support;
- consult within the community;
- liaise with service providers;
- provide security for equipment; and
- encourage interest.

These resources generally require harnessing and coordination to be effective. Where implementation issues are technically complex communities are likely to require advice and support

to make and implement decisions. Such support would be expected to come from either governments, service providers, or specialist-based community organisations.

The 'Framework for Likely Service Priorities', as outlined in the report, is intended to be a useful device for communities to self-assess and develop strategies to progressively improve telecommunication services. Through the partnership arrangements proposed under the Action Plan, this Framework can form the basis of community telecommunications development. An important component for success will be linking telecommunications to other community development activities and to external sources of assistance and support.

Strategy 13. Facilitate community involvement, coordination and capacity building

In line with the Action Plan's focus on recognising and supporting the differing needs of different communities, the Commonwealth Government will work with communities to use the 'Framework for Likely Service Priorities' to assist community capacity building. The framework will enable communities to identify the most appropriate telecommunications services, timeframes and management structures to meet their broader economic and social development needs. It will also enable promotion of best practice models and useful contacts or networks to and between communities.

The Online Access Centre Toolkit, developed under Strategy 3, will provide a useful additional supporting resource for 'hub' communities.

Training and support for use of telecommunications equipment will be key to successful take-up in communities. These activities can also assist in community capacity building by creating employment opportunities. Relevant Action Plan strategies provide for training and support where appropriate. The impact of this funding will be increased if leverage can be achieved using existing programs (eg NTN training projects) and skills (eg BRACS operators) in communities.

Telstra has initiated a number of projects to improve maintenance and support of phone services in remote Indigenous communities. These include training and employing local people to undertake maintenance, cabling and trenching. These programs are in the early stages of development, and are being implemented in a small number of remote communities.

Strategy 14. Coordinate training and support

The Commonwealth Government will work with stakeholder groups such as community broadcasters, training providers and government agencies to better integrate training and employment activities that will be necessary elements of successful Action Plan outcomes.

In particular, the Government will work with Telstra to expand its current training and employment programs.

Planning and installing telecommunications facilities in remote Indigenous communities presents a difficult challenge. Uncoordinated supply and connection processes can compound already high costs. The following strategy aims to reduce these one-off installation costs through a better planned and coordinated approach to general infrastructure provision, and more efficient infrastructure connection.

Strategy 15. Coordinate service provision

The Commonwealth Government will work with ATSIC and other Indigenous housing providers to explore ways to integrate the provision of basic telephone services with provision of other essential infrastructure and services such as housing, power and water, in order to eliminate or reduce infrastructure installation costs, such as network extension and trenching charges.

The Government will also work with Telstra to explore more efficient and affordable ways to reduce the cost of delivering phone services through a program to encourage better cooperation between telecommunications carriers and Indigenous employment programs. This may include exploring more efficient and affordable ways of providing trenching in communities.

IMPLEMENTATION OF THE ACTION PLAN

The Strategies in the Action Plan are intended to provide an immediate catalyst for service improvement. They also have a longer term focus, and are intended to provide a guiding framework into the future. The detail of programs will be developed in consultation with stakeholders, community groups and members, governments and other relevant parties, and consultation will be ongoing throughout the life of the Action Plan.

The programs under the Action Plan will be implemented over three years from 2003. After this time an evaluation will be undertaken to analyse and report on the outcomes of the Action Plan and consider remaining needs and future priorities.

An interim evaluation after two years may be considered, to assess whether there is a need for modification or adjustment of the Action Plan, including through application of further resources.

PART FOUR: GLOSSARY & ATTACHMENTS

GLOSSARY

ABS	Australian Bureau of Statistics
ACA	Australian Communications Authority
ADSL	Asymmetrical Digital Subscriber Line, a technology that utilises unused frequencies on copper telephone lines to transmit traffic typically at multi-megabit speeds, and can allow voice and high-speed data to be sent simultaneously over the same line.
AHMAC	Australian Health Ministers' Advisory Council
ANKAAA	Association of Northern Kimberley and Arnhem Aboriginal Artists
AP Lands	Anangu Pitjantjatjara lands, an area of northern South Australia and southern Northern Territory
ATSI	Aboriginal and Torres Strait Islander
ATSIC	Aboriginal and Torres Strait Islander Commission
BRACS	Broadcasting for Remote Aboriginal Communities Scheme
CB	Citizen's band radio
CDEP	Community Development Employment Program
CDMA	Code Division Multiple Access
CHINS	Community Housing and Infrastructure Needs Study
COAG	Council of Australian Governments
CSG	Customer Service Guarantee
CYDN	Cape York Digital Network
CYDP	Cape York Development Partnership
DAMA	Demand Assigned Multiple Access
DDSO	Digital Data Service Obligation
DECT	Digital Enhanced Cordless Telephone
DEST	Department of Education, Science & Technology
DCITA	Department of Communications, Information Technology and the Arts
DRCS	Digital Radio Concentrator System
DSL	Digital Subscriber Line
FCC	Federal Communications Commission
HCRCS	High Capacity Radio Concentrator System
HF	High Frequency
HREOC	Human Rights and Equal Opportunity Commission
IAP	Internet Assistance Program
ICT	information and communication technology
ISDN	Integrated Services Digital Network, a telephone system, integrating voice and data into one connection
ISP	Internet Service Provider
ITNQ	Improved Telecommunications Northern Queensland
kbps	kilobits per second
km	kilometres
LGANT	Local Government Association of the Northern Territory
Mbps	megabits per second
MCEETYA	Ministerial Council on Employment, Education, Training and Youth Affairs
MHz	megahertz
NATSIEW	National Aboriginal and Torres Strait Islander Education Website
NCF	National Communications Fund
NIBS	National Indigenous Broadcasting Service
NOIE	National Office for the Information Economy

NTACC	Northern Territory Area Consultative Committee
NTN	Networking the Nation
OATISIA	Office of Aboriginal and Torres Strait Islander Affairs
OCIAP	Online Council's Indigenous Action Plan
ODN	Outback Digital Network
PABX	Public Access Branch Exchange, a networked telephone system
PAWA	Power and Water Authority (Northern Territory)
PSTN	Public Switch Telephone Network
PUSP	Principal Universal Service Provider
RTC	Rural Transaction Centre
SDDSO	Special Digital Data Service Obligation
SIM cards	Subscriber Identity Module cards, a plastic chip card with a customer's identification details for a mobile telephone
TIO	Telecommunications Industry Ombudsman
TSI	Telecommunications Service Inquiry
UHF	Ultra High Frequency
USO	Universal Services Obligation
USP	Universal Services Provider
VET	Vocational Education and Training
VHF	Very High Frequency
VSAT	A system that allows small fixed satellite antennas (Very Small Aperture Terminal) that provide communication between a central hub and other sites.
WLL	Wireless Local Loop

ATTACHMENTS

- A. Consultative groups (Member organisations of the Advisory Group and the Reference Group for the Study)
- B. Submissions received in relation to the Issues Paper
- C. References and further reading
- D. Consultations held by the Taskforce in preparation of the Action Plan
- E. Universal Service Obligation (USO) and Customer Service Guarantee (CSG)
- F. Networking the Nation projects benefiting Indigenous communities
- G. Government activities
- H. Stocktake of infrastructure services in remote Indigenous communities
- I. Diagram outlining Telstra arrangements for new connections
- J. Maps of Australia and the States, showing the location of discrete Indigenous communities and 'Hub' communities.

Community A - 'Hub' Community / High Level of Readiness <u>Characteristics of readiness</u> Well established and effective leadership and decision making processes. A community development plan exists or the community has developed broad priorities for economic and/or social development. Awareness of telecommunications needs or can develop these according to community priorities. The capacity and willingness to progress telecommunications improvements and be a 'driver' or 'champion' for improvements over the longer term. Demonstrates the capacity to establish and operate an online access centre and encourage and support use. <u>Service priorities</u> Phone services – private or community based. Dial-up Internet services. Online Access Centre (via terrestrial or satellite backbone) which provides the opportunity to enhance education, health services etc through online delivery including videoconferencing, and with training and support facilities. Community publishing facility. E-commerce support for local businesses. Training and technical support.	Community B - 'Hub' Community / <u>Characteristics of readiness</u> May need assistance to develop effective processes. The community has not determined its priorities and may require support to do this. Low level awareness of telecommunications needs. Will need support to progress improvements in telecommunications services. Will require support to develop and operate an online access centre. <u>Service priorities</u> Phone Services – private or community based. Online Access Centre likely to be small scale. Strong emphasis on support and awareness.
Community C - 'Non-hub' Community / High level of readiness <u>Characteristics of readiness</u> The capacity exists in the community to consult, gain agreement and implement solutions over the short term. Have an awareness of community priorities or the capability to determine these. Can identify person/s with an interest in progressing telecommunications who can update and represent the community over the longer term. Capacity to implement phone and Internet services and to take responsibility for their ongoing operating condition. <u>Service priorities</u> Phones services may have a strong community emphasis - perhaps an opportunity for satellite phones if community is highly mobile, or alternatively HF/UHF radio systems Internet - community two-way satellite facility could be possible. Alternatively community dial-up Internet facility Training and technical support E-commerce support for local businesses.	Community D - 'Non-hub' Community / <u>Characteristics of readiness</u> Will need assistance to consult and gain agreement. Has not determined community priorities. Will need support to progress improvements in telecommunications services. Will require assistance to implement solutions. <u>Service priorities</u> Phone services – private or community based. On community solutions. For example, a community-based system could be melded into a community-based system. Perhaps an opportunity for satellite phones or alternatively HF/UHF radio systems. Strong emphasis on support and awareness.

