A Pilot Implementation
of
Internet Access
for
Remote Aboriginal Communities
in the
"Top End" of Australia

Dr. Perry Morrison
Morrison Associates Pty Ltd
Darwin, Australia

perrymorrison@yahoo.com

Morrison Associates
perry@octa4.net.au
+61 08 89 884 617
29/10/03

1.0 Introduction

Many international bodies and agencies such as UNDP and the World Bank are embracing IT, telecommunications and the Internet in particular as promising new vehicles for development of the least developed countries[1]. In part, this support is based on the need for such countries to move beyond primary production and cash economies and for them to partake in the opportunities afforded by e-commerce and the emerging cyber-economy. In addition, Internet and related technologies are being investigated as more efficient mechanisms for delivery of government services, health care and civil administration in remote areas.

This paper is an analysis of the Local Government Association of the Northern Territory (LGANT) Internet Pilot Project- a trial project funded under the Regional Telecommunications Infrastructure Fund [RTIF] to implement e-mail and Internet capabilities in four remote communities in the Northern Territory of Australia. The pilot is a precursor to a much larger proposal which aims to provide similar capabilities to 66 community government councils throughout the NT.

1.1 Background

The physical geography and human demography of Australia's Northern Territory are extreme to say the least. It occupies 1.35 million square kilometres and yet holds a mere 195,000 people[2] or approximately 6% of the national population. Aboriginal people make up 28% of the NT and 70% of them live in communities of less than 1,000 people. Many communities hold fewer than 50 people and consist of sheds without reliable water or road access.

These Indigenous people exhibit social indicators that place them at Third World levels. Their average life span is approximately 20 years less then nonAboriginal Australians. The incidence of heart disease, diabetes, and chronic obstructive airways disease is at epidemic levels[3]. On the Tiwi Islands North of Darwin, the Menzies School of Health research has reported that local population exhibits the highest rate of kidney disease of any population on the planet.

[1] For World Bank Projects see http://www.worldbank.org/infodev/projects/funded.htm; its IT strategy can be found at http://www.worldbank.org/infodev/projects/funded.htm. For imminent international conferences on IT/telecoms in equitable and sustainable development see http://www.tasknet.nic.in/ as well as http://www.iicd.org/index.ap and http://www.un.org/Depts/eca/adf/adf99m.htm

[2] Australian Bureau of Statistics, 1996 Census.

[3] The Aboriginal and Torres Strait Islander Health Information Plan. A report prepared for the Australian Health Ministers' Advisory Council, Aboriginal and Torres Strait Islander Health and Welfare Information Unit, Australian Bureau of Statistics, October 1997.

Morrison Associates
perry@octa4.net.au
08 89 884 617
29/10/03

In terms of communications infrastructure, quite obviously these communities face extreme challenges. Poor communications infrastructure, low skill bases, climatic extremes, cultural issues and simple remoteness make the establishment and maintenance of facilities very difficult. Very high levels of staff turnover also undermines the long term effectiveness of training efforts. In some communities, staff last a matter of weeks and the average stay is between 6 and 12 months.

In general, what urban dwellers would reject as unacceptable in communications capability is usually the norm in remote parts of Northern Australia. Very low bandwidth, unreliable terrestrial links and slow, expensive satellite links make Internet connectivity impossible for a large percentage of Australians who need it the most to help overcome the practical and emotional problems that go hand in hand with extreme isolation.

Although none of these problems can be solved in the immediate future, nevertheless it is obvious that there must be on-going effort to incorporate remote regions of Australia into the medium of Internet/E-mail. The LGANT Internet Pilot Project is a first step toward addressing these problems and identifying solutions to actual and potential problems before large scale infrastructure rollouts are eventually funded.

1.2 Community Context

The structure of remote Aboriginal communities in the Northern Territory generally involves a clinic, school, essential services officer (power generation, sanitation etc.), women's centre or arts centre, sports/recreation club and community council. The council is mainly comprised of community representatives (elders, traditional land owners and others) but is headed by a council clerk who is appointed by the Northern Territory government. Often a CDEP officer is appointed. The Community Development Employment Program is the equivalent of a "work for the dole" scheme for people living in Aboriginal communities, although those enrolled are not regarded as unemployed for the purposes of federal government statistics.

In terms of the actual running and physical characteristics of these communities, it is an understatement to regard them as places of extremes. Many are cut off by road for up to half the year by flooding from the wet season. Cyclones are a regular feature between November and March each year and the central part of the Territory experiences the temperature extremes common to sandy deserts.

3.0 Objectives

The LGANT pilot project is a critical "concept test" of a potential strategy for developing and maintaining Internet functionality in some of the most deserving and most difficult regions of Australia. It had 4 main objectives:

1. Building basic home pages for communities to create a presence on the Internet and especially to help foster commercial activities such as the sale of art and artifacts and cultural/eco tourism.

2. E-mail access to facilitate more efficient and effective administration with centralised government department.

3. Web capabilities to facilitate access to better information sources in health, land care and conservation, Indigenous organisations and networks.

4. Eventually, full blown electronic service delivery in social security, funding and the host of information exchanges needed to run local government entities.

Morrison Associates
perry@octa4.net.au
08 89 884 617
29/10/03

4.0 Methodology and Data Sources

The evaluation methodology consisted of three components:

- A series of site visits conducted after the first round of training
- Another series of site visits conducted near project completion and
- An analysis of the e-mail logs retained by LGANT's e-mail server.

4.1 Interviews

During the first round of site visits, interviews were conducted with Indigenous and Non-Indigenous council staff involved in the project. Some of these staff already had significant expertise, however the bulk had limited or no experience in e-mail and Internet applications. At times the interviews were guided by a formal questionnaire (see Appendix A) and delivered in a formal context. However, depending upon both the interviewees and the setting, a number of interviews were conducted informally (as interviewee's time allowed), individually or in groups. Although this approach has clear advantages and disadvantages, the need to work effectively with council staff and their constraints was of overriding concern. It was also clear that some Aboriginal trainees were more comfortable with a less formal approach and in these cases notes were written up after the session was completed. In addition, a number of "interviews" were conducted with community members (primarily non-Indigenous) who supervised public access facilities outside of council offices.

Finally, an end of project dinner was held in Darwin for participants in the project and this also yielded some very useful feedback on the project.

4.2 On-Line Behaviour

Several important technical, practical and ethical issues limited the extent to which participants' on-line behaviour could be monitored for the purposes of evaluation. For example, ISPs in general are unwilling and perhaps ethically and legally unable to log the URLs of web sites visited by their subscribers. Hence, it is impossible to provide here any objective evidence of web browsing activities based on on-line data. In addition, certain sites were able to use their own e-mail addresses to communicate independently of LGANT (including free addresses offered by services such as yahoo, hotmail etc.). Therefore this e-mail traffic was also unavailable for analysis. Nevertheless, a complete log of e-mail traffic between pilot sites and LGANT was obtained and filtered to provide at least a partial record of e-mail usage.

5.0 Outcomes

5.1 Interview Process

Although the questionnaire shown in Appendix A is a formal, quantitative instrument, it was only applied in this manner on a small number of occasions depending on the interview context and the interviewees. Hence, quantitative changes across time cannot be calculated from the available data. In addition, the changes in personnel at Milikapiti and the later addition of Pirlangimpi to the project meant that a number of project participants could only be interviewed once. Again, this limits the validity and meaningfulness of changes across measurement intervals for two of the four sites. The following sections are therefore amalgams of questionnaire responses, notes and observations made over the sequence of site visits.

5.1.1 Milikapiti

The first interviews at Milikapiti revealed a high level of enthusiasm for the project and its potential role in easing communication and improving access to information. Specific information sources included government programs, legislation, policies, grant application forms, and recreational activities including sports and hobbies.

Most e-mails consisted of short notes with attached documents sent to or received from government departments. E-mail was checked daily and its was estimated that perhaps 10 e-mails a month were sent out.

Web browsing occurred daily, but often on a home connection. Line connection speed was between 28.8K and 33K. Although line speed was not problematic, the rate of connection loss was unacceptable. On most indices (installation, support, access, value) the ISP was rated highly.

Internet access was assessed as moderately important (5/10) professionally and not very important (2/10) personally. The council clerk appeared to be reasonably computer literate and the project did not change his skill level appreciably although he expressed a desire for more advanced training. He also indicated that his work practices had shifted somewhat (7/10) and his access to information had improved greatly (8/10). The possibility of more advanced services such as videoconferencing, remote database access etc. was also welcomed.

There appeared to be a need for easier Internet access for staff by networking the modem and office PCs. For at least two staff members, physical distance from the council offices acted as a disincentive to Internet access.

Another staff member primarily used her home connection to support her personal and business interests. This entailed quite extensive use of e-mail, web banking etc. However, her utilisation of the council facility was much more limited.

For the second round of interviews it was not possible to interview these same personnel because they had all left Milikapiti. However, interviews with the new council clerk and community members revealed that there was still a high level of enthusiasm for the project and a need for a public access facility. It was interesting to note that the Internet connection had provided very useful information and contacts on suicide prevention- youth suicide being a particularly important problem on the Tiwi Islands. Lastly, the potential role of the Internet in supporting community development activities such as employment, training and education, substance abuse issues etc. was also mentioned by one prominent community leader.

5.1.2 Port Keats (Kardu Numida)

The initial round of interviews showed that Port Keats was fortunate in having at least one experienced private Internet user. The major concern of those interviewed was the performance of their installation- in particular the slowness of the link and the frequency of lost connections. The site had a dedicated PC with a directly connected modem dialling out on a satellite link which indicated a connection speed of 16.8kbs. However, in practical terms, response times and speed were of the order of connections running at 9600bps or slower. This may in part be a function of the echo, lag and error checking protocols characteristic of satellite communication. Performance was noticeably degraded in the afternoon.

Despite this poor performance, staff were active browsers and users of e-mail in so far as their installation allowed. Local and federal government information eg. (Aboriginal and Torres Strait Islander Commission and Tax Office), various kinds of legislation, educational and accredited course related materials were routinely accessed and stationary was ordered via the web. Users commented that there was little e-mail traffic at times (however this changed dramatically toward the end of the project- see section 5.2) and that in private and professional terms their connection was not very important to them (3/10). This view does not necessarily conflict with their expressed enthusiasm however. It appears that changes in business/office practices at all levels of local government need to occur before these technologies become central and indispensable. Yet in the meantime the potential for the Internet to mediate electronic payments, allow catalogue based ordering etc. was well understood by users as was the potential for the technology generally.

On most indices these uses were happy with their ISP except in terms of technical support. They also indicated that their awareness of the Internet, access to information and knowledge and skills had improved significantly as a result of the project (8/10).

As with the other pilot sites, users were keen to see more advanced/higher bandwidth services such as videoconferencing. In the short term though they expressed a need for a faster, more reliable connection and a networked modem to allow greater access.

Port Keats also had other Internet connections in addition to the council's. A public access facility in the Adult Education Centre existed as well as a machine managed by the Christian Brothers. Both were not working during the first site visit due to confusion over responsibility for payment- it having been acknowledged by the

council that they would cover these costs. The Christian Brothers machine was intended to be used by a group of 16-18 year old Aboriginal males not attending school. Proposed applications included access to AFL football information, music/pop star sites, e-mail contact with similar groups elsewhere in Australia and music applications.

The second round of interviews revealed a different situation with at least three of the original council interviewees having left the community. The problems with the useability of the connection remained although there is reason to believe that by utilising one of the existing landlines into the council office, performance would have immediately improved. The author previously repaired a private machine in the community and found the quality of the connection to be much higher with this landline based machine than the satellite mediated connection in the council office.

Unfortunately, in the intervening period between interview rounds, the council connection was not used for some months because of confusion over whether the users themselves were at fault or whether the connection was simply unusable. In reality, the account had remained unpaid and access had been denied by the ISP. In summary, the loss of key personnel from the council had diminished the skill base to the extent that the remaining users had insufficient skills and knowledge to trouble shoot their problem until outside assistance (one of the Christian Brothers) re-established the connection shortly before the second site visit. One staff member levelled the criticism that better preparation and site assessment could have been carried out.

In addition to the council's facility, the connection controlled by the Christian Brothers themselves had also lapsed because of the need to relocate the PC to a larger, renovated building- although access to the Internet through the adult education machine had been maintained. However, it was difficult to determine how successful/useful this capability had been over the intervening months. More significantly, the Christian Brothers had renovated the building they required and recently installed an impressive laboratory of 8-10 Pentium IIs, networked with Windows NT and being used for multimedia training amongst 16-18 year old males. However, Internet access was regarded as being too slow to be of any practical benefit.

In general, Port Keats is an interesting case study of great potential and lost opportunities. Their e-mail logs show consistently high usage toward the end of the project before the loss of trained personnel. However, although their more recent experiences with the technology have been frustrating, there is a very clear determination to persevere. Discussions with the council clerk and assistant council clerk revealed that they were extremely keen to integrate e-mail and Internet into their administrative practices and were considering a more appropriate physical location for the hardware as well as the possibility of networking modem access.

5.1.3 Titjikala

Titjikala is perhaps the archetype of the ideal site in that it has a highly computer literate council clerk and two very capable trainees. The site's major problem has been in terms of line speed and quality. Typical connections range between 2.4 and 9.6 kbs making web browsing very tedious although providing reasonable e-mail functionality. The rate of connection loss was very problematic in the afternoon because of atmospheric effects on the Digital Radio Concentrator Service link. E-mail was read daily and traffic was estimated at approximately five e-mails per day although a high proportion of this was commercial junk mail.

Although web browsing was almost non-functional because of connection speed, turning off images allowed some degree of access, including downloading information for grant submissions and he installation of bores and swimming pools.

In both professional and private terms the installation was rated as not being very important (2/10). The ISP was rated highly in terms of installation and access. Because the council clerk had extensive experience as an IT trainer, the project had little effect in changing his awareness or skills base. Also, since he was newly arrived from Victoria his access to information and efficiency in work practices had actually degraded because of the limited bandwidth available. As with other sites, Titjikala was keen to see higher bandwidth services but their immediate needs for moderate levels of bandwidth were far more pressing.

The author left a modem optimised for poor quality lines (Xyzel U1496E) with the council clerk for his installation and evaluation. The equipment did not substantially improve his situation.

Interviews with the Indigenous trainees was difficult because the duration of the first site visit did not allow time to break the ice and establish a relationship. Nevertheless, observation of the trainees in their office work showed that they had an impressive IT skill level based on their limited amount of training.

The second visit revealed that Telstra had agreed to install over the next 6-9 months a 2 Mps capacity to the existing DRCS towers. This should substantially improve Internet access for the community. The site was progressing well despite their frustration with bandwidth and there is evident motivation to investigate e-commerce applications in the community- including art sales and eco-tourism. The site has the intrinsic expertise to develop and sustain these initiatives once the line upgrades have been completed. The author also supplied a Woomera modem for installation and testing at the site and the council clerk indicated it had provided some improvement in speed.

In summary, Titjikala is a genuine success despite extreme infrastructure limitations.

5.1.4 Pirlangimpi

This site joined the project late and staff were interviewed only once at the conclusion of their training. This council is remarkable in that it has 4 or more enthusiastic and evidently capable young Indigenous people with good or growing IT skills. The council appears to work well as a unit and the trainees showed a great deal of enthusiasm for the potential of the Internet in the community and its development.

Line quality at Pirlangimpi appears to be on a par with Milikapiti (which it should be given their proximity) and is therefore functional for web work and e-mail.

Because of the recency of the training, trainees had only accessed the net a few times at the time of their interview. In general they were very satisfied with their training and were keen to undertake more, once they had consolidated their existing skills. The "interview" also provided a demonstration of existing web sites that may have been of interest to trainees. These included ATSIC, CentreLink, local government sites, land councils, web pages supporting Indigenous art sales and cultural tourism, sport and recreation sites, community development archives, public health sites etc. Because the skill base in many communities is very low, it is unrealistic to expect them to be constrained to local government applications only, so perhaps a more comprehensive coverage of relevant and potentially interesting sites should be entertained as part of the training.

Because of the newness of the site and its trainees, there is little more to add, however the council clerk did reinforce an opinion offered at Port Keats- namely that the official status of e-mail needs clarification. This person tended to utilise his private e-mail address as a substitute for informal telephone calls and asked that the council's e-mail address be used for official correspondence only.

5.2 Analysis of On-Line Behaviour

The LGANT server captured all e-mail traffic between pilot sites and LGANT and although this represented a rather small volume of traffic (a total of 408 e-mails over a 10 month period) these data do at least allow some comparisons to be made across sites and over time. *Again, it must be emphasised that these e-mails severely underestimate the total volume of Internet activity and e-mail usage conducted by pilot sites*. These data are represented in the following graphs[4].

Figure 1 shows that despite their difficulties with line quality and ISP account management, Port Keats (Kardu Numida) engaged in the greatest amount of measurable email correspondence, followed by Milikapiti, Tapatjatjaka (Titjikala) and Pirlangimpi (the most recently added pilot site).

Figure 2 shows that overall, mail from communities exceeded mail into communities- a very positive sign- although the bulk of outgoing mail was from Kardu Numida. As illustrated by Figure 3, the bulk of this Kardu Numida traffic occurred between March and June 1999- before the loss of personnel and associated problems became evident.

Figure 3 also shows consistently low volumes of traffic from Titjikala- a finding which is consistent with their very poor communications quality. However, it appears that traffic from Kardu Numida has been increasing steadily, Milikapiti has remained reasonably consistent despite an almost complete change over of personnel and Pirlangimpi has made an impressive start since being added to the pilot project.

Therefore, despite significant amounts of staff loss, and infrastructure limitations the pilot has managed to maintain and in some cases increase levels of measurable e-mail communication. Hopefully, this pattern would be reflected in web browsing and other on-line activities as well.

[4] Note that Tapatjatjaka is the e-mail address for Titjikala

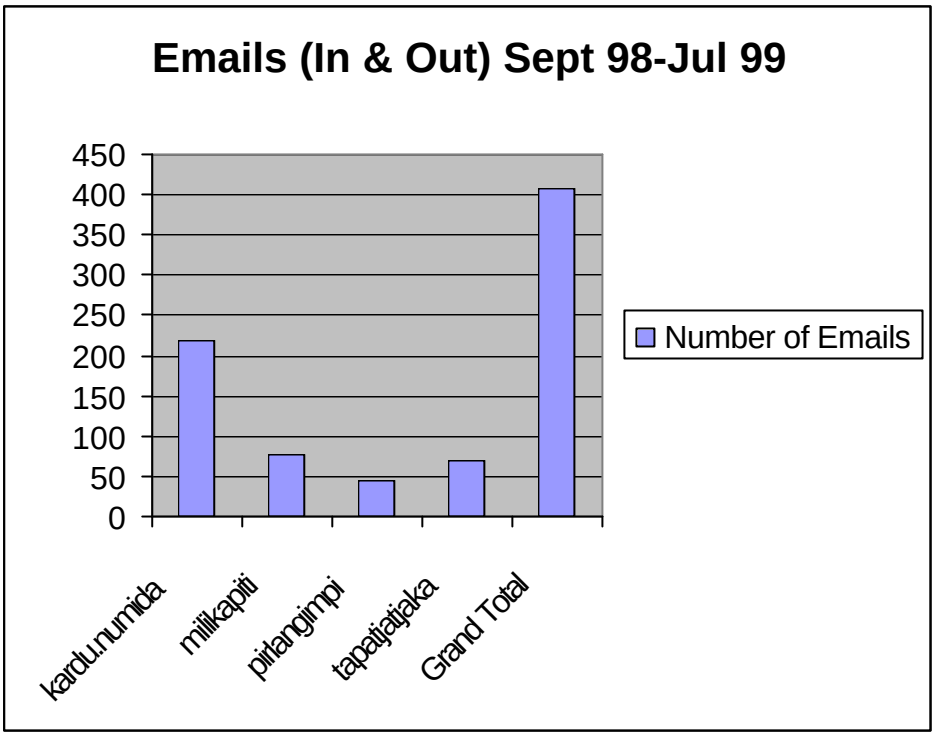

Figure 1: E-mails by Community

Morrison Associates
perry@octa4.net.au
08 89 884 617
29/10/03

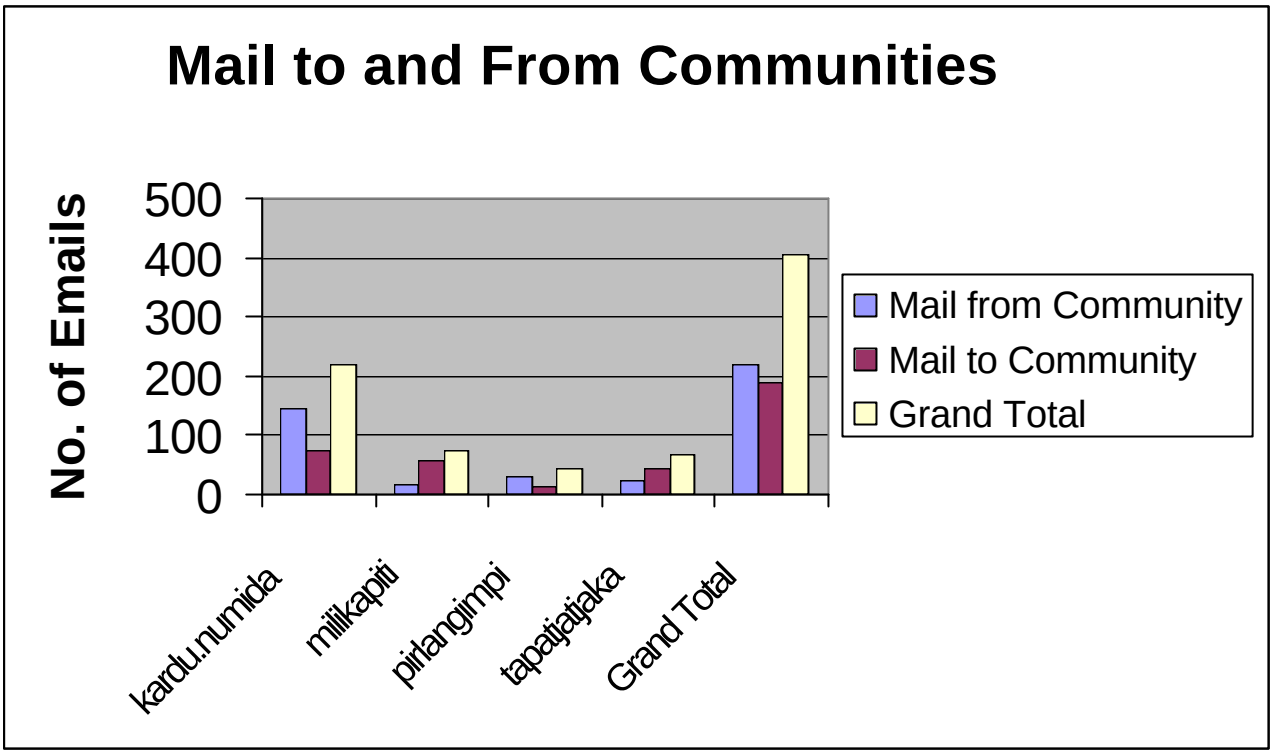

Figure 2: Ingoing and Outcoming E-Mails by Community

Morrison Associates
perry@octa4.net.au
08 89 884 617
29/10/03

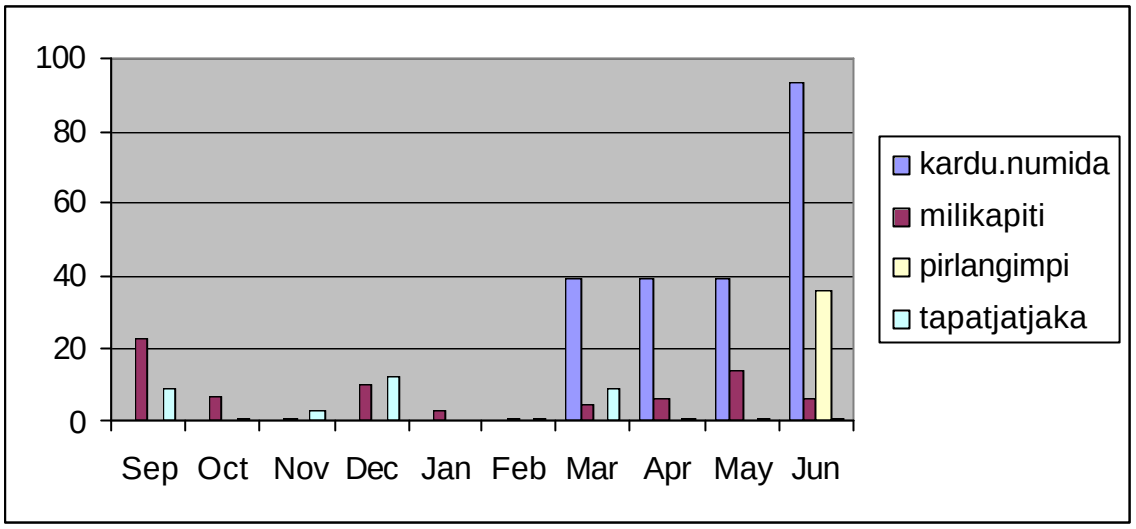

Figure 3: E-mail Traffic by Community Over Time

Morrison Associates
perry@octa4.net.au
08 89 884 617
29/10/03

1. Performance Indicators

- *Changes in the level of electronic access to information and services.*

Available e-mail traffic data suggests that e-mail levels are now being sustained at a reasonably constant level and in some sites usage is growing. Interview data and subjective impressions suggest that awareness of the huge variety of information available on the Internet is increasing amongst trainees and that access will increase as bandwidth for Titjikala and Port Keats is improved and as experience grows in Pirlangimpi and Milikapiti.

- *Changes in the range and level of information available from the grantee to the four pilot sites.*

Evaluating this criterion would involve a content analysis of e-mail messages which cannot be justified on ethical and legal grounds. What is evident is that administrative practices need to change amongst all communicators. That is, most sites have not yet made a concerted effort to transfer as much communication as possible to this new medium. Instead, faxes and phone calls are still being made to and from pilot sites and LGANT when e-mail could be a viable substitute. In part, this may be a function of habit, but it may also be a function of uncertainty over the official status of e-mail messages. There appears to be little evidence that more sophisticated information is being traded between the grantee and the pilot sites, but this expectation is unrealistic given the bandwidth limitations at Titjikala and Port Keats as well as the need for Pirlangimpi and Milikapiti to consolidate their skill levels.

- *Improvements in the skill level of staff in the use of Internet and e-mail facilities.*

The loss of three trained or experienced personnel at both Milikapiti and Port Keats was an important challenge for the project which is only now being overcome. The recency of training at Pirlangimpi means that trainees there need time to consolidate their skills. Titjikala however has evidenced dramatic improvements in skill levels amongst its trainees. Certainly, all sites now have the skill level required to use the Internet effectively, subject to bandwidth limitations.

- *Improvements in the effectiveness and efficiency with which community council deliver services.*

Given the level of staff dislocation experienced, the challenges in stabilising the project and the small implementation window, it would be unrealistic to expect significant changes to service delivery efficiency. This is especially so given the need for all parties to make changes to their business and administrative practices to incorporate the new medium.

Morrison Associates
perry@octa4.net.au
08 89 884 617

- *Changes in the level of awareness and usage of the Internet by the community members and groups.*

Changes in level of awareness amongst trainees have been significant in most of the sites- especially amongst Indigenous trainees. This has not yet been accompanied by a dramatic increase in usage, but sites are sustaining activity off a low baseline as the infrastructure allows and this is likely to improve as training consolidates and infrastructure is improved.

Morrison Associates
perry@octa4.net.au
08 89 884 617

2. Conclusions

1. As a whole, the project has been very successful in achieving its objectives. This is especially true given the context of the Northern Territory and its extremely high rates of turnover amongst professional staff and the constant loss of expertise (which was evident in this project with the loss of three staff from both Milikapiti and Port Keats). In addition, two of the pilot sites have struggled with very low bandwidth and yet have used their technology and training effectively and retained their determination and enthusiasm. Indeed, the general enthusiasm for the project amongst the pilot sites is very noteworthy and sets it apart from similar projects with Aboriginal health workers and remote clinic staff across the Top End. In contrast to those projects, the usefulness and applicability of the Internet to local government administration and other community matters seems to have been very apparent for all participants. This is a considerable achievement for remote communities in the Territory where initiatives and projects are often unsustainable because small problems undermine the existing levels of commitment and motivation.

2. A greater priority needs to be placed on the training of Indigenous personnel whenever possible. Aboriginal people who reside in a community are more likely to remain there in the long term and are more likely to transfer their skills to other community residents.

3. There is a need for LGANT and community councils to mutually adopt business and office practices that maximise the usefulness of computer mediated communication. It is not enough to install the technology and conduct training, although this is an essential first step. In the process of implementing these business practices, issues relating to privacy and the formal role and status of electronic communications may need to be addressed.

4. The project has delivered what most pilot projects should ie. it has uncovered a range of problems and identified strategies that can help overcome them. These experiences will be great value for further projects in related areas.

5. Internet/e-mail skills can have significant, wide spread benefits for many areas of community development and administration beyond the local government context. This is recognised by all participants- especially Indigenous people who see the wholistic nature of their communities and its development. Indeed, Pirlangimpi expressed a need to show a "whole of community" context in the development of its home page.

6. It is already apparent that the possibilities for e-commerce are being seriously entertained by these pilot communities and local government will inevitably become involved in these initiatives. The technology allows an access to markets and a form of direct management control that has not been possible in the past for remote Indigenous businesses. However, these needs will also create a demand for

other forms of training, advice and assistance. Further projects may need to consider this long term context and develop extended relationships that support communities as they move toward Internet supported business activities such as art sales and eco/cultural tourism. In addition, consideration needs to be given to cooperation and coordination amongst these communities so that common commercial directions can be used to deliver economies of scale in web page development and hosting (since web pages can be hosted anywhere in the world), marketing, banking etc.

7. The provision and management of Internet public access is problematic for some communities. In situations where STD call rates apply to the connection and ISP charges are uncontrolled, it is possible to incur significant costs without any easily measured public benefit. This is not to say that these facilities are not beneficial, merely that each community needs to implement a management policy that works for their needs and circumstances.

8. Wherever possible, dial out modem access should be networked to allow all local government council staff easier Internet access. Stand alone machine with directly attached modems tend to be inflexible, can inhibit access and are sometimes dominated by a single user.

9. Quite a number of sites throughout the NT have inadequate line quality to support Internet based administration. Telstra needs to be lobbied to provide the necessary infrastructure through an upgrade to its USO obligation.

10. Future projects should consider the possibility of exposing Indigenous trainees to other sites and trainees. Cross fertilisation of ideas and exposure to different approaches can not only avoid duplication of effort, but also help to develop partnerships and alliances across common industries using common technologies. Clearly, budgetary arrangements would need to be made to provide for this travel component.

Morrison Associates
perry@octa4.net.au
08 89 884 617

11. Internet and e-mail have an important future in remote areas of the NT and more importantly, community councils are an appropriate, resilient locus for their development. Despite significant problems and barriers, all of the pilot sites remain committed to this form of communication and its potential to facilitate not only more effective local government service delivery, but beneficial community development in all of its forms.

Morrison Associates
perry@octa4.net.au
08 89 884 617
29/10/03

Appendix A

LGANT RTIF Pilot Project
Interview Schedule

Overview

1. In your view what has the single most positive aspect of the project? Why?

_____
_____
_____
_____

2. In your view what has the single most negative aspect of the project? Why?

_____
_____
_____
_____

3. Can you describe in general terms the kind of activities you have used your email/Internet connection for?

_____
_____
_____
_____

4. What kind of Email?

Admin ? Personal correspondence ?

5. What ratio?_____

6. Email Sophistication

Short notes ? Documents ? Attachments? ?

Spreadsheets? ? Use address book? ? List Servers? ?

7. Email Frequency

How often do you read/compose E-Mail (on weekly basis)._____
How many E-Mail addresses would you regularly correspond with (say once per Month)._____

8. Web browsing

What do you use your web browsing for ?

_____
_____
_____

Morrison Associates
perry@octa4.net.au
08 89 884 617
29/10/03

9. Do you bookmark sites/pages for future access? (Y/N)

10. How often do you web surf?_____

11. What kind of information do you download from the web?

_____
_____

12. Can you identify some of the pages/sites you have found interesting/useful? [Descriptions, not URLs]

_____
_____
_____

Functionality of Installation

13. What speed does your modem reliably connect at? [2400/4800/9600/14,400/28,800/56K] (If known)

14. Is line slowness a problem when using email/internet? (elaborate)

_____
_____

15. Is the rate at which you lose connections problematic? (elaborate)

_____
_____

16. How important is your internet connection to you professionally?

1____2____3____4____5____6____7____8____9____10
very important not important

17. How important is your internet connection to you privately?

1____2____3____4____5____6____7____8____9____10
very important not important

18. What relationship (formal or informal) do you have with other Internet users and individuals (such as schools, other local government offices etc).

_____
_____
_____

19. In general, would you class your installation as excellent, very usable, usable, not very usable, or not at all usable?

_____

Morrison Associates
perry@octa4.net.au
08 89 884 617

Internet Service Provider

20. Who is your Internet Service Provider?

_____

21. Where do you dial in to?

_____

22. Is it difficult to connect to your Internet Service Provider because their lines are busy? [ie. constant busy tone on telephone] [Y/N]

23. How many hours per month do you connect to the Internet?_____

24. What are your average costs per month?
ISP fees_____ Telephone Costs_____

25. How do you rate your ISP/LGANT in terms of:

26. Initial set up and installation

1____2____3____4____5____6____7____8____9____10
satisfactory not satisfactory

27. Modem/Line Access/Availability

1____2____3____4____5____6____7____8____9____10
satisfactory not satisfactory

28. Technical Support

1____2____3____4____5____6____7____8____9____10
satisfactory not satisfactory

29. Value for Money

1____2____3____4____5____6____7____8____9____10
satisfactory not satisfactory

Self Assessed Changes

30. On a scale of 1-10 how much has your AWARENESS of computing and Internet changed as a result of the project?

1____2____3____4____5____6____7____8____9____10
very little a great deal

Morrison Associates
perry@octa4.net.au
08 89 884 617
29/10/03

31. On a scale of 1-10 how much has your KNOWLEDGE and SKILLS and computing and Internet changed as a result of the project?

1____2____3____4____5____6____7____8____9____10
very little a great deal

_____
_____
_____

32. On a scale of 1-10 how much have your WORK PRACTICES/EFFECTIVENESS/EFFICIENCY changed as a result of the project?

1____2____3____4____5____6____7____8____9____10
very little a great deal

_____
_____
_____

33. On a scale of 1-10 how much haS your ACCESS TO INFORMATION changed as a result of the project?

1____2____3____4____5____6____7____8____9____10
very little a great deal

_____
_____
_____

Future Developments

34. How important to your are further forms of Internet access e.g.

- Videoconferencing (when available and cheaper) [1-10]_____
- Mailing list distribution of newsletters and other information. [1-10]_____
- Remote access to databases [1-10]_____
- Preformatted information information [on demand flyers, posters, brochures, documents] [1-10]_____
- Library access [Batchelor, NTU etc.] [1-10]_____
- Access to professional organisations. [1-10]_____

35. Where would you like the pilot project to go from here? What suggestions can you make for improving its outcomes?

_____
_____
_____
_____
_____

Morrison Associates
perry@octa4.net.au
08 89 884 617
29/10/03