Submission to the Standing Committee on Broadband in Rural and Regional Communities

YLESS4U is an Australian SME and rurally based telecommunications carrier and wireless ISP. The director and co-owner of the company has a rural background and over twenty years of telecommunications experience at a senior operational level, with a long standing interest in wireless. Our company name reflects not only the technology used (wireless) but, asks "why less for you?" being rurally based. Commencing in April 2005, we were approved providers under the HIBIS and later the *Broadband Connect* program. We have first hand experience from both business and user perspectives in rural remote environments. We would like to provide the following information and comment under the terms of reference of the inquiry.

(a) The availability of telecommunications (including broadband) and other technology services in rural and regional communities;

Our focus is on the area approximately 80kms radially, from the centre of Canberra. The coverage/service area approximates over 5,000sq kms, in low population density areas, in the Monaro electoral district.

Access to high quality and high speed data facilities for accessing both internet and corporate/government networks is a requirement for much of the population in the region around the ACT. This was the initial focus of YLESS4U delivery of advanced telecommunications services since 2005 using wireless technology. However, the lack of any support after the sudden closure in March 2007, of the predominant federal government funding program meant that our expansion in these areas stopped.

There remain many 'pockets' not yet covered as a result, and we are constantly contacted by residents in outlying areas such as Stony Creek, Captain's Flat, Bungonia, Windellama and Tarago who only have the satellite option. Our experience is that lack of broadband telecommunications facilities hampers effective communication and business development within these communities. The many local telephone exchanges and lines in these areas cannot provide broadband services beyond at best 3km from the exchanges. The telecommunications service difficulties experienced by residents in these areas resemble the experiences of users in some of the most remote areas of Australia. Extensive use of Pair Gain systems in our coverage area, limits dial up internet connection speeds, and exchange outages lead to complete loss of fixed telecommunications services. Restoration times are unacceptably slow - up to ten days for some PSTN services, even months.

Mobile phone coverage is poor - even with the rollout of the 3G/NextG network, which appears to have less effective coverage than the CDMA network it is replacing. There is increasing frustration from prospective customers that their experience of 3G has fallen far short of expectations and the "public hype"(as a data transport layer) when it cannot effectively deliver voice let alone data. Customers are hampered by proffered solutions only to find that they are unworkable, and an overall waste of valuable time.

(b) The benefits and opportunities for rural and regional communities of having access to telecommunications (including broadband) and other technology services;

Our experience is that lack of broadband telecommunications facilities hampers effective communication and business development within these communities. Broadband (internet) removes the isolation of rural dwelling, encouraging economic growth, and allowing better health outcomes through ready communication, broader information bases and more opportunity. Given the pressures on the farming community at present, this is particularly significant. For a wide range of rural users, the reduced costs of VOIP telephony are attractive enough to encourage them to pursue the VOIP option in place of landlines. Many residents are experiencing poor quality of service on old landlines.

The population demographics in our focus areas are unique, in that a significant proportion of residents(>20%) are employed in ACT/Canberra or Queanbeyan, by Federal & ACT Territory governments, the university and defence sectors or private information technology and related industries. A significant proportion of these residents comprise senior executives within these sectors, who require high speed, low latency services in order to effectively work at home of an evening or on weekends.

Within the Palerang (A) Local Government area (population >12,000) nearly 70% commute for work. We have noticed the growing trend for customers to take up flexible working arrangements once broadband is available to allow them to work from home. The predominant dwelling type is single residence (95%), with around 4540 of these being private dwellings and occupied in the main by 2 parent families, and their children (74%). In the Shire, 48% of the population comprises couples with children.

Our usage statistics show a rapid surge between 4 - 5pm on schooldays which correlates with the arrival of the school buses to homes. School holidays also show high usage statistics – indicating significant use by children and adolescents. Feedback from customers tells us that the internet is a necessity for school student's research and removes the pressure of having to 'stay in town' to use a library.

Our records show that approximately 20-25% of our customer base is comprised of businesses. This includes rural type business such as wineries, a range of consultants with global businesses (a high percentage of these are mining engineers and IT professionals), researchers, senior academics and medical practitioners.

For rural medical practices, we are acutely aware of the need to take the service further. We have provided facilities in a small rural township - so that undergraduate medical students undertaking rural study have access to high speed broadband. There is also a VOIP facility available. In fact, our early VOIP capability assisted two residents in the area who had been without fixed lines for several months after lightning damage to the rural copper cable serving their farms - in the absence of mobile phone coverage this became an essential service. There is an increasing trend for families to use VOIP and video facilities to keep in touch with their children who are studying or traveling overseas. This is a heavy use of bandwidth, and requires high speeds and low latency. It is a very important driver of

technology familiarization and uptake where there would otherwise be little interest or use. Without wireless, for many of these customers the only alternative would be satellite broadband. A significant number have moved from satellite services to wireless out of frustration with the satellite experience.

(c) Disincentives and barriers to the provision of telecommunications (including broadband) and other technology services to rural and regional communities;

The lack of suitable infrastructure is the first barrier to telecommunications services. In the more remote areas it becomes a question of the most cost effective and efficient solutions for the greatest coverage. Wireless technology is an ideal solution for rural and remote areas. High points are used to locate wireless base stations which propagate the wireless broadband signal.

The low density population coupled with challenging terrain (hills/valleys/distance) and climatic conditions (gale force winds on mountain tops, snow in winter), lack of electricity grid facilities (solar and/or wind generation systems required) have required innovative low cost solutions, coupled with generous community support for locating of base station locations. The heavy compliance, access conditions, State Government tax imposts are all barriers to the necessary infrastructure service build.

In the absence of any other infrastructure, YLESS4U has built an extensive backhaul/high speed bearer network and local loop network in South East NSW (Monaro district). This has been accomplished without Federal/State or Local Government financial support for infrastructure. It is arguably one of the most extensive contiguous wireless networks in the country, and also attracts significant international interest, but little to no credit or recognition in the Australian domestic environment. The geographic and climatic conditions are some of the toughest in Australia, with subfreezing conditions and snow blizzards in winter, gale force winds in spring and the constant threat of bushfires in the summer.

Lack of grid power is a problem, and we have used solar power for the most remote stations. Under this “umbrella” of broadband propagation, subscribers use a roof mounted unit often no bigger than a pencil case - to receive the wireless broadband into their premises. It is carrier grade, secure, and can reach up to 30km from a base if there are no obstructions such as hills or trees between a base site and the premises roofline. Subscriber unit positioning is dictated by the ability to get a line of sight to a base station, and innovative solutions have been employed to overcome line of sight difficulties, e.g. long cable runs, sub units on fence lines, low voltage solar facilities with intermediate switches for extremely long cable runs.

As a small company, a major barrier is the constraints and fees that have been set in place by state and local jurisdictions, presumably at a time when Australia basically had one dominant national carrier. Given that it is local companies that have a real interest in the community where other big carriers have not.– no assistance is given nor distinction made in fees and charges by state and local authorities, for example to co-locate a base station on a trig site. For wireless providers high points and hilltops are important for infrastructure.

Micro (local) companies face the same fee scale as national major companies. For example, our base stations have had to be located on privately owned land because we cannot bear the impost of annual fees charged by the NSW State Government for co-location on Crown Land (e.g. disused trig stations), which are often the highest points in a sub-region. This severely limits our coverage. However, because of the costs, we have found friendly land owners with sufficiently high hills. We negotiate a mutually suitable arrangement with the land-owner for the facility of setting up a visually unobtrusive base site on their land.

Regardless of the benefit we may offer to the community (we provide free services to several community groups/associations, rural fire brigades and state emergency services), the fact that we are a private company means that we will attract a fee for location on a remote Crown Land parcel. It is particularly disappointing when considering the isolation of these sites, the low population density being served, and the community work undertaken by YLESS4U. This situation is compounded by the significant costs incurred for fuel and vehicle maintenance, as the distances covered are extensive and on sub standard rural gravel roads.

Recommendation: Consideration of such charges should be given at least on a case by case scenario in low population density areas, to allow for more flexibility and the rapid changes in the telecommunications sector.

(d) The consequences for rural and regional communities of not having, or not having adequate, access to telecommunications (including broadband) and other technology services, having regard to likely future industry and technological developments; and

Given that good telecommunications/broadband encourages and assists economic growth and better health outcomes, the corollary is that the lack of these facilities has negative, flow on socio-economic effects, hindering economic growth and development, and limiting the availability of health and social benefits and services to rural and regional communities. It can be a disincentive for rural youth who are forced to leave their rural locations to access more facilities. The attached Bungendore Bulletin article provides some insight into the possibilities that exist with good telecommunications in place.

The functionality of wireless and its appropriateness for Australia is clear – considering the great distances and low population density in rural and remote areas. The lack of broadband - capable infrastructure in these rural/regional areas will be overcome by using wireless technology in many instances.

Regardless of the outcome of the Australian Government's national broadband solution (e.g. fibre to the node) diverse solutions need to be available at the local level, where local experience counts and community interest/involvement is significant. Localities have different needs for broadband, and a single provider will perpetuate the same set of issues that we are already suffering from in the bush, , where the incumbent carrier is bound by the business case alone as the real driver for any effort/consideration. Large providers do not

become involved with the community, and the ROI in these little rural areas is not considered high enough to warrant their level of investment.

Although the efficiencies are lower and costs are greater for satellite connections, where locations are very remote from any available infrastructure, or the conditions make other forms of broadband uneconomic, satellite is a viable option for broadband. However, it is becoming more recognised that while satellite connections are satisfactory for downloading, upload speeds are greatly reduced, and the high latency effects are problematic. The attached Bungendore Bulletin article also provides some insight into the need for more symmetrical services to rural areas. It demonstrates the fact that most providers are focused on downloads rather than uploads, and for businesses the upload is an important aspect for large file transfer for example geological/mapping files.

There is scope in Australia for a mix of all of the above technologies, and they should be planned and used wisely, avoiding duplication and waste so as to more efficiently meet the needs of the nation. A single national broadband solution may not serve the long term interests of the rural/remote end user.

(e) Options for encouraging providers of telecommunications (including broadband) and other technology services to extend services to rural and regional communities.

While we appreciate the forward looking telecommunications initiatives of the NSW government, these initatives have to date focused on major regional centres. YLESS4U has specifically targeted the large geographic 'gaps', in areas outside of the major highways and higher population density.

The telecommunications sector has changed to include many successful smaller players with *bona fide* interest in specific rural and regional areas. These providers garner strong support from the communities they enable. As noted previously, a single national provider of broadband does not serve the long term interests of the end user. More flexibility is required to assist these innovative, niche companies, who provide solutions under some of the most challenging conditions, including vast operating areas and low but important populations. These companies close the gap between the regional areas of more interest to the larger providers, and the small communities that exist outside those areas.

More flexibility and coordinated innovative approaches are required by government at all levels, to encourage and provide support to the smaller companies beyond the first and second tier carriers.

In the absence of backhaul facilities, YLESS4U has invested heavily in backhaul infrastructure, between base sites, back to the points of interconnect in major regional centres. While we have provided the Federal Government with options for consideration, to lower the cost of backhaul & interconnect imposts, there has to date, been no real response or relief. We believe that this is a particularly area of assistance where the NSW Government could assist.

Current government policies, compliance burdens and fee structures, are significant barriers to be overcome. A one size fits all approach is no longer relevant in the rapidly moving telecommunications sector.

YLESS4U would welcome the opportunity to demonstrate our operations, the technology, and the environment in which we work.

Director: Anthony J Goonan

19th October 2007