

## **TUPS Q&A**

### **Q. Who is the TUPS company?**

**A.** The TUPS Company, an Australian-owned, private organisation is managed service provider that delivers cost effective technology solutions to consumers and businesses which include offsite backups, local web page hosting, emails and internet connectivity.

The TUPS Company constructs containerised, portable data centres that are remotely maintained and managed known as TUPS.

### **Q. What is TUPS?**

**A.** TUPS is an acronym for the components that have combined by The TUPS Company to create an ideal solution for data centre issues, communications and technology delivery to customers:

- T - Technology, being the Computing Technology and Communications Equipment
- U - UPS Instant power replacement
- P - Power Generation
- S – Support required personnel, equipment and back up of all data

### **Q. What is unique about TUPS? What are the benefits of TUPS?**

**A.** TUPS is a cost effective way for regional, rural and remote communities to access data communications services that include broadband internet and remote computing services. As the TUPS solution is housed in standard shipping containers they can be easily transported by road, rail or air to even the most remote locations.

TUPS can be run independent of any power source or other infrastructure.

### **Q. How is TUPS powered?**

**A.** TUPS can use multiple power sources. Power can be supplied from existing infrastructure and use one Power Generation unit as backup power or where there is no available power, two of the unit's power generation units can be deployed.

We also use the Sun as a power source for repeater masts and the latest generation technology units

The power generation units have been custom designed and feature dual fuel capability to allow for green fuel burning where different blends of fuel are available.

### **Q. Why was TUPS developed?**

**A.** TUPS was developed to provide cost effective managed services and internet connectivity to remote and regional areas.

Internet connectivity is enjoyed by many urban users throughout Australia. However, many users outside these metro areas – regional, rural and remote – are still unable to access high speed internet due to the restrictions of time, cost and distance.

TUPS was designed to answer these challenges. As it is costly to run cables over large areas, The TUPS Company developed a unique network layout that uses long range wireless devices to allow to deliver cost-effective connectivity and to increase connectivity speed where connections are slow.

**Q. What was the significance of the Gunnedah Community Wi-Fi event?**

**A.** The launch of the Gunnedah Community Wi-Fi represents a functioning example of how many regional, rural and remote communities around Australia and the world can overcome the challenges posed by distance for the data communications and internet connectivity requirements.

In effect, TUPS provides the “last mile” of connectivity to Gunnedah users. The last mile is a term that covers the final part of internet connectivity chain -- from a communications provider direct to a customer’s premises. The last mile is traditionally problematic for both telecommunications providers for whom it is expensive to provide the necessary links to all premises particularly in more remote locations. For consumers in such areas this means reduced connectivity choices.

Australia is a large nation physically; our communications are challenged by the economics of delivering fibre optic cable to all premises in Australia, irrespective of location.

Despite the availability of ADSL in regional areas, many users cannot access the technology as ADSL can only work when the premises is located close to the exchange (approximately 2.5km).

As a result, many rural and remote users have had to choose from slow dial-up services over the traditional copper telephony system or costly satellite communications. This leaves a very large proportion of Australians – the so called “last mile” with no broadband communications at all.

TUPS provides such users with an alternative -- cost effective, fast to install internet connectivity.

**Q. What about the “fibre backbone” that Telstra and other operators have installed in many Australian country towns doesn’t this cover rural and regional areas?**

**A.** The broadband infrastructure installed by NBN, Telstra and other providers is absolutely suitable in the towns (that meet the minimum population requirements). However, the final connection to the users’ premises outside the townships is still copper and therefore very slow.

Even where a “fibre backbone” has been installed with fibre optic connections to the providers’ exchanges in suburbs and major country towns -- the final connection to the premises over the last mile is still copper.

The Gunnedah Community Wi-Fi provides local businesses in the Gunnedah area with cost effective, high speed managed computing services that include broadband internet access.

**Q. Broadband is expensive to install – the cost of the NBN have been reported as being in the billions – how will you provide a cost effective alternative broadband solution?**

**A.** The TUPS solution is modular. Users buy only as much as they need. It is also componentized drawing on existing technology with little need for costly modifications.

TUPS can be quickly configured to create a data centre or a communications hub – according to the number of users in the community. More units can be readily added to expand the capacity.

The TUPS implementation gives users outside of metro areas the buying power that is available to those in the city without compromising on the quality and speed of the internet service.

Cost effective internet access is guaranteed via a community buying approach that creates greater buying power. TUPS allows the customers to operate like a co-op when it comes to buying services, making them much cheaper overall

**Q. Is the TUPS solution scalable – can extra capacity be added at a later time?**

A. Yes, the solution is fully scalable by virtue of its fully modular design. Extra container units can be simply shipped and quickly contented to added extra bandwidth, data storage capacity and/or users.

**Q. How would TUPS connect very remote communities who are a long way from broadband infrastructure at the moment?**

A. TUPS operates via a secured wireless Signal and although the TUPS Wi-Fi range is 4km from base station to customer, repeater stations can be readily installed to extend that range in 10 or 20km hops. For example, repeater stations can be installed at the TUPS installation at a country town to link to nearby towns that do not have fibre connections. A TUPS communications unit (repeater) can then be installed in that remote town to service all users within a 4km radius.

Moreover, it may be a long time for remote communities to wait for the NBN to come directly to their premises.

**Q. What other capabilities beyond internet connectivity does TUPS provide?**

A. TUPS technology provides wireless, connected, stand-alone remote server capability to its customers. This in effect means cloud computing can be readily delivered to more remote areas in Australia.

Thereby TUPS is able to save local business and major operators the cost of purchasing server equipment, installing the required programs, installation costs of the server, the LAN cabling and the need for back up facilities and the time involved as well as the ongoing costs of IT support.

**Q. What is the market potential for TUPS in Australia and overseas?**

A. Given Australia's large land mass many potential users outside the cities are currently faced with either slow outdated infrastructure (copper) or the option of expensive satellite to become connected with the rest of the world via the internet.

Consequently, there is a huge potential for TUPS both in non-metro areas in Australia and around the world particularly in underdeveloped countries who see communications or power infrastructure is not sophisticated.

TUPS could be used by the mining industry, medical practices, accountants, large stores and medium size businesses in regional, rural and remote areas.

The TUPS Company can also compile a website for its business user for a fee. Such a web site would be almost impossible to operate practically in a 56 KB dial up environment. Instead it can be stored and hosted in the TUPS unit and modified locally and access to the resulting enquiries passed on to the local owner of the website.

**Q. What about security?**

A. The TUPS power units feature instant power back up (called a UPS) should there be a power failure.

The TUPS data is replicated inside the TUPS for fail-over (in case of equipment failure) and another backup is sent off-site 500km away) for disaster recovery.

The TUPS UPS unit sits inside the technology unit to ensure 24 x 7 up time and power smoothing capability.

Each UPS unit has a modular design to allow for it to run more than one technology unit or to run one technology unit for an extended period of time.

Data security is assured as the point to point Wi-Fi signal is encrypted to for only that device pair.

**Q. Doesn't ADSL do an adequate job in regional areas – why is TUPS necessary?**

**A.** Many people are not aware of the limitations of ADSL. ADSL can only be used by premises that are approximately 3 km from the locally enable exchange. Beyond that it leaves regional, rural and remote users in Australia with only two options – access via the old, slow copper wire infrastructure laid many years ago, mobile broadband or expensive satellite technology for their connectivity needs.

TUPS provides an effective alternative that is affordable, fast to install and available to everyone I – irrespective of location.

**Q. What happens when the NBN does come to my area?**

**A.** NBN Co is a Wholesale provider. NBN can connect to TUPS allowing user to continue to gain access. Any price reduction gained as a result would immediately be passed on to the TUPS customers

**Q. Does TUPS compete with the NBN?**

**A.** No, definitely not. NBN customers will actually be the ISP's who will retail the product to customers. TUPS is our customers' own data centre running locally. NBN is not offering this service.