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BUSINESS BROADBAND WHITE PAPER

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Technologies available

There are several technologies available on the Sunshine Coast, all with a varying degree of performance dependent on the age and quality of the technology within each location.

Measures	NBN to the residence	NBN to the node	ADSL / ADSL2	OCB Fixed Wireless
Speed	High	Variable dependent on quality of copper network	Variable dependent on quality of copper network, distance from exchange and availability of ports	High
Reliability	Excellent	Variable dependent on age and quality of copper network & exchange	Variable dependent on age and quality of copper network & exchange	Excellent
Cost to customer	Low	Low	Average - High	Average No phone line req.
Infrastructure cost (non metro)	Extremely High	High	High	Low
Rollout timeframe (incl. planning)	Many Years	1-2 years	n/a	1 – 3 months

Workplace efficiencies and the internet

The demand for bandwidth within businesses has increased significantly in recent years and is expected to continue rising. The speeds that were the standard only a few years ago are now not fast enough to run a forward thinking business efficiently.

The widespread implementation of cloud computing and other bandwidth intensive business applications, such as, ERP, P2P content sharing, and video conferencing is the cause of this dramatic increase in bandwidth requirements. Additionally, a substantial increase in the number of devices deployed on a network has caused lags in speed, and other slow-downs that were not anticipated only a short time ago. The effect of slow internet speed on employees and their productivity is significant. Most employees come to work every day with the desire to get a lot done. They expect their company to provide them with the tools so that they can do their job efficiently. When a company's network slows down it can cause frustration and damage employee morale and motivation.

Waiting for file transfers, applications to open, attachments to download, and web pages to open causes costly delays in every companies operations in lost productivity time and lost profits. Problems with a CRM system for example will have a negative impact on your interactions with customers and a slow website will drive potential customers to your competitors.

Example 1: Productivity improvements save \$300/ mth

The average worker in a digitally enabled region loses approximately 1 week per year productive time whilst waiting for the internet. This equates to roughly \$100 per month per employee in wasted time.

A business with 5 employees and poor internet (upload particularly) paying an average wage of \$60k p/a will **lose \$500 per month in productivity**. It makes a \$200 monthly investment in a 10/10 service self-financing.

Example 2: Productivity improvements save \$2000 / mth

In Australia the average ADSL upload speed is <1mbps. An average business uploads files for accounts/financial data, drop box files, CRM systems etc

ADSL upload time 7 hours, OCB 10/10 (upload/download) takes 1 hour

Finance department: 7 hours per week zero

Marketing web, blog social media etc: 6 hours per week

Sales representative: 1 hour/ day CRM updates

Total = 18 hours saved, \$546 per week cost, or if using 10/10 service, \$2000/mth saved

How much data do you need?

The use of the internet has become critical to the successful operation of most businesses. Businesses need quality bandwidth to drive capacity for video, speed for responsive cloud services, scalability for Big Data and reliability for knowledge workers.

Bits are used to measure your download and upload speeds, or connection to the internet.

- Bit = b
- Byte = B

The size of a file however uses a measure of MegaBytes, and it is this measurement which is used to consume the data in your internet plan

- MegaByte = MB (8 times larger than a Megabit)
- GigaByte = GB (1GB= 1000 MB)

Download and Upload

Upload and **download** both refer to the file transfer process. **Upload** is when you transfer or copy a file or files from your own computer to another computer. Download is when you are receiving a file from another computer.

What each activity uses

There are many activities to take into account with businesses and having an adequate internet connection is imperative for gaining sales and optimizing employee productivity. Upload speeds for businesses using applications on the cloud in particular need to be adequate – or your employees will spend more time waiting for the internet to catch up with them than actually being productive.

What level of service do you need?

Businesses can choose from a variety of service levels, which will increase in price as you increase the quality in term of 1. Speed and 2. Contention.

The contention ratio is a measure of how many users are sharing a network connection. For example, a typical residential user may be sharing their connection with up to 200 other users. If a proportion of users are emailing and surfing the net at the same time, their download and upload speeds will be good. At peak times however if a large proportion of users are online at the same time and are engaging in activities that require more bandwidth – like streaming video the connection will slow down considerably as it gets more congested. In many cases it will slow down so much, users will be unable to stream successfully. Business grade services will be sharing at a rate more like 10:1 meaning they are less likely to experience reductions in speed as there are less users sharing the same network at one time. For businesses whose internet activities are critical – a 1 to 1 contended service will mean they won't be sharing, but they will be paying more for the privilege.

The lower the contention ratio on a network and the higher the speed– the better your overall service will be.