Primus Telecom

2009 Telco Reform Package National Focus Forums

Implications for Businesses

Outline

- Welcome & Overview
- NBN Objectives
- Network Structure
- Drivers For Bandwidth
- Reforms
- Q&A

Primus Telecom - Overview

- Primus was formed in 1993. After deregulation of the Australian telecommunications industry occurred in July 1997, Primus obtained its Australian carriers licence and began operating on July 1, 1997.
- Provide local, long distance, international, voice, video, data, Internet, private networks and value added services
- Carrier licences in Australia, the USA, Canada and the UK
- *As a Tier 1 carrier we have our own infrastructure - our own exchanges and optical fibre to every State capital city*
- An extensive global network of owned and leased transmission facilities, 40 undersea fibre optic cable systems, 23 international gateway switches, a satellite earth station and a variety of operating relationships
- Top Tier-1 carriers in Australia, Group Rev $2BN+
- Just Announced FY2008 results - **profits up** ⇧

Primus Telecom Network - Australia

- Most advanced & modern network in Australia (Equipment used Nortel, Nokia, Cisco and Marconi)
- Nortel carrier grade voice switches
- Cisco IP (MPLS) / ATM backbone
- Redundant “self healing” Architecture
- All major switching centres have **fully redundant power** systems comprising battery arrays and diesel generators
- All major switching centres are serviced by **multiple redundant fibre optic** cable systems
- Major network systems are deployed with redundant elements such that failure of a single element is not sufficient to cause a total service failure
- All network elements under remote surveillance 24x7x365 via NMC/NOC in Sydney & Melbourne

Primus Products & Services For Business

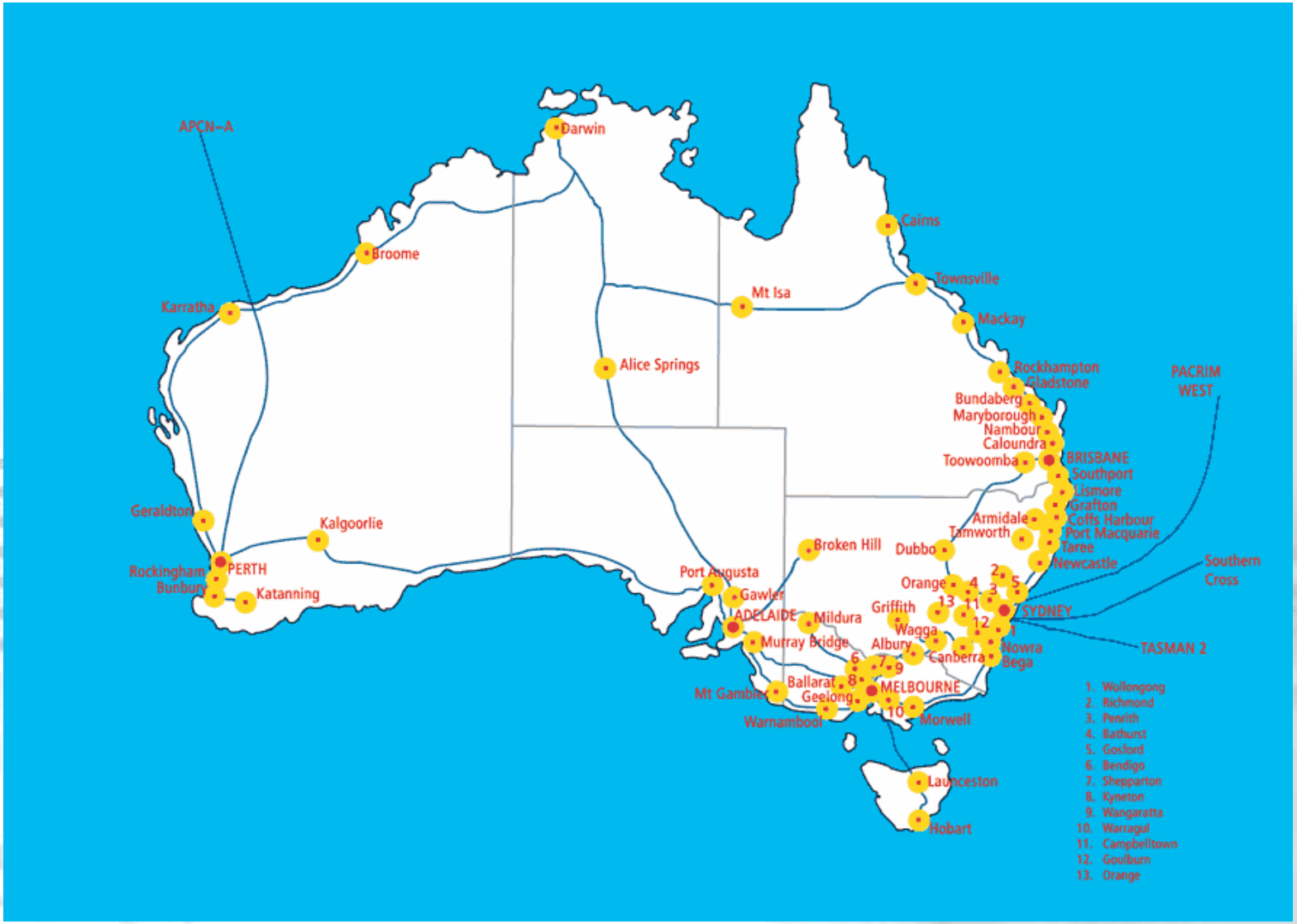
Data Services

- Dark Fibre & Ethernet (L2)
- IP(MPLS), IP ATM
- EFM
- Managed Data Networks
- Managed Firewalls and Servers
- Mobility
- High Speed Internet
- Content Filtering / AV & AS
- Data Centres
- Storage / Virtualisation
- Cloud Computing

Voice Services

- Hosted Telephony – “Accella”
- IP Centrex
- SIP-Trunks
- ISDN / PSTN
- ISDN / PSTN over IP
- Voice & Video Conferencing
- Tollfree and Freecall Services
- National Long Distance
- International Long Distance
- International TollFree (ITF)
- Consultancy and Training

Primus Data & Telephony Network



Government Objectives for the NBN

- Connect 90% of all homes, schools and workplaces with broadband services with speeds up to 100Mbps

- Connect all other premises in Australia with next generation wireless and satellite technologies that will deliver broadband speeds of 12Mbps

Key activities to achieve NBN objectives

-Establish a company to build and operate the network and invest up to $43 billion in the network (NBNCo)

- Complete an implementation study to determine the company's operating arrangements, detailed network design and ways to attract private sector investment

- Implement Legislation that will govern NBNCo and facilitate the rollout of FTTP networks

- Enact legislative amendments to the existing Telecommunications regulatory regime to ensure fair and open competition

- Fast track investment to improve regional broadband competition, with an initial $250m invested in high speed backbone links for an initial six riority regional locations. (announcement of tender winner expected shortly)

- As a testbed for the NN, deploy and FTTP network in Tasmania where the first services are expected in July 2010

Typical Network Layout.

Typical Network layout - based on three layers.

- **Core Network –** This is the network for the transport of data between major city nodes
- **Distribution Network –** This is the network that connects the capital city CBD with all state based exchanges
- **Access Network –** This is the network that connects the exchanges with the individual end users

Typical Network Layout.

Core Network

- as much as future predictions for this capacity are much greater then currently available, there is already a healthy competition in this area
- Technological advances are well expected to keep up with the transmission demands in the foreseeable future
- the transmission costs already reduced by orders of magnitude
- 1Gbps transport between Sydney and Melbourne were beyond the reach of all users in the past are now a business case for major banks and large multinationals
- Only drivers are for greater redundancy and path diversity;
- Future requirements are for greater capacity as the demand grows;

Typical Network Layout.

Distribution Network

- There is also competition in this area and Primus recognises the importance on investment in this area
- The drivers for competition were initially driven by the need to interconnect the TEBA (Telstra Equipment Building Access) sites
- This resulted in the growth in the CBD, but has since expanded further and further into the suburbs and major regional centres
- Primus Network now reaches exchanges from Hurstville through Mascot and the city and up to the Northern Suburbs, Chatswood and Castle Hill. Westwards, Primus owns infrastructure past Parramatta up to Rooty Hill, and Southwest to Liverpool and Campbelltown essentially covering Sydney
- This is where the “black spots” mentioned as one of the government objectives need to be identified and addressed to help drive competition into the bush

Typical Network Layout

Access Network

- The opening of exchanges for TEBA presence started the competition in this area
- The result of this competition introduced 3 orders of magnitude increase in link speed from 32.3kbps dialup speeds to 24Mbps ADSL 2+ speeds in less then 10 years
- The result was also an order of magnitude reduction of cost for 2Mbps access from well over $2000p.m. to under $100 p.m. This reduction is even greater for higher speeds

BUT

- The existing copper links are now reaching its physical limits in speed, and;
- The copper infrastructure is ageing and is not ubiquitously available to all end users;

Typical Network Layout.

Access Network - Future

- The most promising driver for the next technology is optical fibre, most likely in the form of PON (Passive Optical Networks).
- This technology can currently deliver 100Mbps access to each end users at a cost effective price point. It is expected to grow to 10Gb through technology developments in the near future.
- The PON predictions are looking at cost models capable of delivering fibre access to end users for sub $1000 install cost per access

Typical fibre deployment currently carries installation costs of over $100,000

Drivers for Bandwidth

Growth of Bandwidth on Networks.

- Migration of Internet from Dialup to ADSL resulted in no marked increase in core network load – the increase came later, as the capacity became available and End Users developed applications that could utilise the new bandwidth capacity

New applications → migrate text based web site to include graphical images and small images

- ADSL to ADSL2+ upgrade is following the same pattern

New applications → migrate small graphics to more advanced HD Video content

Due to the asymmetric nature of the ADSL2+ access most current applications are still download focused

Drivers for Bandwidth

Growth of Bandwidth on Networks.

- As 100Mbps becomes standard access the development of the network drivers is again in the hands of the End-Users
- The Service Providers only facilitate the service
- We can not influence what applications will drive network bandwidth demand
- But we can dream…..

Drivers for Bandwidth

Growth of Bandwidth on Networks

How much bandwidth is needed:

DOWNLOAD

- Broadcast of DVD quality Video – 4 to 6Mbps
- Bundled Internet and Multiple Video Channels – 15+Mbps
- HDTV services – 15Mbps

UPLOAD

- Teleworkers – 5+Mbps
- Video Telephony – 4Mbps
- Video Conferencing – over to 12Mbps for Telepresence

Drivers for Bandwidth

Growth of Bandwidth on Networks.

Australia will become the world leader in

- Graphic Media Content Generation
- Achieving efficiencies in Healthcare management
- Achieving efficiencies in Education Markets

Applications will generate an Increase in outbound traffic

- Cloud Computing
- Software, Platform & Infrastructure as a Service
- Video to replace standard telephone conversations
- Security and control of business – video feeds from security cameras.

Applications we have not yet considered….

Drivers for Bandwidth

Shift from Broadcast Video (one to many) to
Narrowcast or Unicast Video (one to one)
Predictions are that by 2011, over 20% of video traffic will be
Narrowcast or Unicast;
Increase in dependency on B2B Sales including Multimedia content ie

- Webcasting
- Streaming Media
- Telepresence

Typical examples of user-generated content

- Facebook
- Youtube etc..

Big Brother from Home. Every home could participate in a Big Brother type programme, sharing their own Video feeds etc.

Reforms

Proposed Reforms –

Senator the Hon Stephen Conroy 15th September 2009

- addressing Telstra's high level of integration to promote greater competition and consumer benefits;
- streamlining and simplifying the competition regime to provide more certain and quicker outcomes for telecommunications companies;
- strengthening consumer safeguards to ensure services standards are maintained at a high level; and
- removing redundant and inefficient regulatory red-tape.

Reforms

Telstra's vertical integration

If Telstra chooses not to structurally separate, the legislation provides for the Government to impose a strong functional separation framework on Telstra.

This Bill proposes implementing a functional separation regime by altering the Telecommunications Act 1997 to require that:

- Telstra conduct its network operations and wholesale functions at arm's length from the rest of Telstra;
- Telstra provides equivalent price and non-price terms to its retail business and non-Telstra wholesale customers; and
- this equivalence of treatment is made transparent to the regulator and competitors via strong internal governance structures.

Reforms

Telstra's horizontal integration

Telstra will be prevented from acquiring additional spectrum for advanced wireless broadband while it:

- remains vertically integrated; and
- owns a hybrid fibre coaxial cable network; and
- maintains its interest in Foxtel

The legislation provides scope for the Minister to remove either or both of the second and third requirements in the event that Telstra submits to the ACCC an acceptable undertaking to structurally separate

Reforms

The legislation has been introduced,

BUT

it will need to pass through the parliamentary process before it becomes law!

This will most likely occur later this year (Spring session);

The two key changes of strong interest are the proposal to separate Telstra's fixed-line wholesale business from its retail business; and the proposed amendments to the price setting process

Reforms

The separation of Telstra represents a significant change in the industry which in the long term will improve prospects for companies like Primus through removing many of Telstra's unearned/undeserved competitive advantages.

In other jurisdictions that have embraced separation the incumbent has tended to lose market share.

However, we are unlikely to see much impact in the short term, and will only be able to comment on the timing of any impacts when more detail becomes available during 2010.

Any material wins from this reform may take some years to manifest.

Reforms

The changes to the regulatory pricing process

- 3-5 year up-front pricing
- other fine tuning measures (including amendment of undertakings and exemption processes)…

will lead to better price certainty and less regulatory risk, and depending on the methodology adopted by the ACCC could lead to more favourable pricing.

However, it will initially mean heightened regulatory risk and uncertainty as the ACCC decides on its initial regulatory settings over the coming 18 - 24 months.

Reforms

The separation reforms in more detail:

The reform legislation will put pressure on Telstra to voluntarily structurally separate its wholesale business from its retail business. If Telstra refuses to volunteer separation, the legislation provides for the Government to impose functional separation on Telstra through the use of fairly invasive mechanisms and oversight. Either outcome could substantially improve the conditions for competition through reducing the ability for Telstra wholesale to favour its own retail operation (however please note the separation options are short of detail at this time). The proposed measures will largely address issues around discrimination, including price and process discrimination, misuse of information, arbitrary delays, product/service design and quality favouring Telstra etc.

The pressure on Telstra to voluntarily separate will be exerted via a proposed legislative prohibition on Telstra acquiring further wireless spectrum unless it volunteers to structurally separate. The Government has also threatened to force Telstra to divest its cable business (it operates the dominant HFC platform) and divest its 50% interest in Foxtel (pay TV monopoly).

It is expected that Telstra would elect to structurally separate, however there is no firm time frame (other than completing the task by 2018) and at this time there is little detail on the precise form of structural or functional separation proposed. This detail will manifest through Ministerial determination and/or Telstra's written undertakings.

More information on where these reform measures will end up will emerge later this year, however it's unlikely that much in the way of useful detail will emerge until 2010. Although I would not anticipate any short term gains, the reform will have significant long term impacts.

Reforms

The price setting reforms in more detail:

The Government has proposed to replace the negotiate-arbitrate model (price setting model) with a new regulatory process intended to permit the ACCC to determine up-front 3 - 5 year price settings. The prices determined by the ACCC will serve as high water-mark pricing for access seekers. Access Seekers can negotiate away from that pricing. The new regulatory process will improve price/regulatory certainty (providing a 3-5 year horizon), as opposed to the current regulatory process (negotiate-arbitrate) where the pricing tends to be retrospectively imposed.

If the legislation is enacted later this year (as currently expected) then we could expect the new regulatory pricing process (and methodology) to set the pricing from sometime around 2011, for ULLS, LSS, WLR, PSTN OTA, and LCS The ACCC will also determine non-price terms as part of the new regulatory process, which will lead to fairer contractual terms between access seekers and Telstra.

The transition to the new regulatory process will initially mean heightened regulatory risk and uncertainty as the ACCC determines the initial scope of services to be covered by the regulatory determination, and finalises initial regulatory principles and price settings.

Although the new regulatory pricing process permits more favourable methodology, at this time it's not clear what methodology the ACCC would adopt. The ACCC has recently been sympathetic to requests from Telstra to wind back regulation. Telstra will continue to exert that pressure as the ACCC settles its view on the initial scope of regulated services and pricing. This poses some risk of further regulatory wind back in the coming 18 months.

Reforms

Strengthening consumer safeguards

- Universal Service Obligation (USO)
  - The USO requires Telstra, as the universal service provider, to enable all people in Australia to have reasonable access on an equitable basis to standard telephone services, including payphones
- Customer Service Guarantee (CSG)
  - The CSG currently provides that telephone companies must financially compensate customers where certain minimum performance requirements are not met
- Priority Assistance (PA)
  - PA arrangements require the highest level of telephone service to residential consumers who have a diagnosed life-threatening medical condition. The legislation will require telephone companies to either offer PA services or inform the customer where they can purchase these services.
- Effective Enforcement of Consumer Safeguards
  - The legislation will provide the ACMA with increased powers to issue infringement notices (on-the-spot) fines instead of commencing procedures in court.

Conclusions

Fair Competition results in:

- Increased Service Levels
- Higher speeds through deployment of new technology
- Reduced costs through market driven service optimisations

The End User drives the market through the introduction of new applications in the sprit of true competition

Questions?