Peering in Australia

Stephen Baxter

Co-Founder/Technical Director

PIPE Networks

About PIPE Networks

Founded December 2001, trading May 2002, founded by ex ISP industry people

Australia's Largest Peering Point Operator, professional staff, SLA available

Profitable, ASX listed company, sound proven business model

Distributed, multi-site peering point, no one point of failure

Over 80 ISPs/carriers peering with over 200 connections at 14 sites in 6 states

Major sources of Australian content on-net – ABC, Hostworks, Webcentral

All 10G metro networks – Australia's fastest, largest Metro Ethernet Network

Peering in Australia

What is different about Australia

1. Telstra

2. Transmission

3. IP pricing

4. DSL take up

5. Very large – not many people

Country	Density (pop/km^2)
Singapore	17,684
Hong Kong (PRC)	6,317
Korea	491
China	136
USA	30
Iceland	2
Australia	2

How can we ever expect to get bandwidth speeds greater than
what long range copper provides taking into account these basic facts.

Peering in Australia

Peering in Australia – last millennium

1. ISP Community

2. Community Run Peering efforts

3. ACCC Action

4. Gang of Four

5. Barriers to proper peering

6. MLPA strong

Peering in Australia

Peering in Australia – last millennium

ISP Community

600+ Strong

Strong regionally focused ISPs

Some consolidation

DSL just started – Telstra Flexstream

ISP virtualisation started to occur late 1990's

Terrestrial IP - $0.19/MB (equiv $30,000/Mb/month @ 50% utilisation)

Satellite IP - $15,000 – needed outbound tail

Peering in Australia

Peering in Australia – last millennium

Community Run Peering Efforts

SAIX, VIX, SIX, BIX, WAIX and others from time to time

Ausbone – poor execution doomed a good idea

Strong exchanges survive and grow

Peering in Australia

Peering in Australia – last millennium

ACCC Action

Competition Notice

Regulatory equivalent of a thermonuclear device

The device failed to detonate

Terrestrial IP now $0.10/MB (equiv $15,000/Mb/month @ 50% utilisation) – 400G plan from OPTUS.

Gang of Four created – how ?

Peering in Australia

Peering in Australia – last millennium

Gang of Four

Outcome of Competition Notice was the Gang of Four

Telstra, OPTUS, Ozemail, Connect.com.au now deemed to be Tier 1 players

From 1998 until late 2000 the price of IP did not change !

Peering in Australia

Peering in Australia – last millennium

Barriers to proper peering

Content locked away

Transmission expensive, easier and less hassle to buy IP

Tier 1 in no mood to allow even if you meet the criteria

Peering in Australia

Peering in Australia – last millennium

MLPA Strong

ISPs that did most of the peering in Australia did it via MLPA

Tier 1 club is not MLPA but who really know how it works

It works

Peering in Australia

Peering in Australia – this millennia

1. New Cable system

2. Old environment no longer exists

3. Barriers to traditional peering still exist

4. PIPE Networks offers alternative

5. ACCC action – still waiting to see the blinding flash of white light

6. DSL take up surging

7. MLPA still strong

Peering in Australia

Peering in Australia – this millennia

New Cable System

240G of connectivity lands – Southern Cross Networks

New Cable system – new pricing – race to $0 for IP started

New entrants priced IP aggressively

Pricing rapidly falls to $6000/M/month by 2002, now $300/M/month

Peering in Australia

Peering in Australia – this millennia

Old environment no longer exists

Telstra – now extremely belligerent

OPTUS now owned by SingTel – facilities based carrier

Ozemail turned into UUNET/Worldcom/MCI - user base sold to iiNet

Connect.com.au now AAPT owned by Telecom NZ

What about the others ? iiNet, Primus, Powertel and more

Peering in Australia

Peering in Australia – this millennia

Barriers to traditional peering still exist

Transmission still expensive

Local IP delivery still enticing

Tier 1 willingness to peer non existent – what is a Tier 1

Peering in Australia

Peering in Australia – this millennia

PIPE Networks offers alternative

Formed 2002

Ex ISP owners and operators

Stable sound business model (profitable – NPAT not EBITDA or other)

Content on net

Brought peering to ISPs – did not expect ISP to go to peering

Over 80 ISPs at 14 POPs – MLPA peering

Off books bi-lateral peering also exists

Peering in Australia

Peering in Australia – this millennia

ACCC action again

Jan 2003 - a fresh look at the 'rules' regarding peering. ACCC undertook a declaration enquiry

Only one industry forum on the matter – organised by ACIF

Consultation period occurred

Up to $100M pa in inefficiencies identified by ACCC

Peering in Australia

Peering in Australia – this millennia

ACCC action again

Record Keeping Rule

Designated ISPs identified

Information to be provided quarterly to ACCC

Disclosure of peering approaches

Report due soon on the rule and its activities

Peering in Australia

Peering in Australia – this millennia

DSL take up surging

Eventually reliable DSL services from Telstra Wholesale

DSLAM rollouts progressing from many ISPs

Bandwidth requirements of ISPs have increased greatly

Peering is used to form 'walled garden' offerings

Peering in Australia

<u>Peering in Australia – this millennia</u>

<u>MLPA still strong</u>

MLPA still strong

Those who want to peer will.

Those who peer will improve QoS and save resources

Peering in Australia

Thanks

steve@pipenetworks.com