



Outbacknet@qld Northern.Net@qld Broadband to the Bush

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Key Features

- aggregation of health and education sector bandwidth requirements
- sharing arrangements for carriage across sectors & agencies
- rural and remote communities
- increasing access to affordable telecommunications for communities
- increase competition in regional Qld

Oubacknet@qld and Northern.net@qld

- Outbacknet ~ \$23M plus NCF - \$8M
- Northern.net ~\$2.5 plus CCIF - \$2M
- Until June 2005 / March 2006
- Combined agency projects
 - Qld Health (lead agency)
 - Education Queensland
 - Dept of Employment & Training
 - Emergency Services
 - DIIE

Optus Satellite to 41 schools

- Begonia, Dunkeld, Evesham, Hannaford, Hebel, Kindon, Kioma, Stonehenge, Teelba, Westmar, Wycombe, Yaraka, Auburn River, Bedourie, Builyan, Burra Burri, Cameron Downs, Coolabunia, Durong South, Gogango, Grosmont, Jambin, Lochington, MacKenzie River, Mistake Creek, Peek-A-Doo, Prospect Creek, Riverleigh, Stamford, Winfield, Dows Creek, Mount Charlton, Valkyrie, Yam Island, Maroon, Stanley River, Sunday Creek, Barambah, North Keppel Island, Camp Fairbairn, Kinchant Dam.



- Antennas 1.8m to 2.4m, CIR of 80kbps, burst to 2 Mbps, Contention 6:1, Backhaul of 4 Mbps

Telstra ADSL / BDSL to 92 Communities

- Abergowrie, Alpha, Augathella, Babinda, Bamaga, Baralaba, Barcaldine, Bell, Biggenden, Blackall, Blackwater, Boulia, Burketown, Camooweal, Cardwell, Cherbourg, Childers, Chillagoe, Chinchilla, Clermont, Clifton, Cloncurry, Coen, Collinsville, Croydon, Cunnamulla, Dimbulah, Dirranbandi, Doomadgee, Dysart, Eidsvold, Esk, Gayndah, Georgetown, Giru, Glenden, Halifax, Herberton, Hughenden, Inglewood, Injune, Isisford, Julia Creek, Jundah, Kalbar, Karumba, Kilkivan, Killarney, Kingaroy, Longreach, Middlemount, Miles, Millaa Millaa, Millmerran, Mitchell, Monto, Mornington Island, Morven, Mossman, Mount Morgan, Mt Perry, Mungindi, Murgon, Muttaborra, Nanango, Nebo, Normanton, Palm Island, Ravenshoe, Richmond, Silkwood, Springsure, St George, Stanthorpe, Surat, Talwood, Tambo, Tara, Texas, Thargomindah, Theodore, Tiaro, Toogoolawah, Wallangarra, Wallumbilla, Weipa, Winton, Wondai, Woorabinda, Yarrabah, Yelarbon, Yuleba
- ADSL – 512 to 1.5Mbps, “Business” Grade DSL – 512kbps to 2Mbps
 - ADSL2+ DSLAMs,
 - 30,000 people

Broadband Services

- 55 hospitals and health clinics
- 99 primary and secondary schools
- 16 TAFE and vocational outlets
- 24 ambulance and fire stations

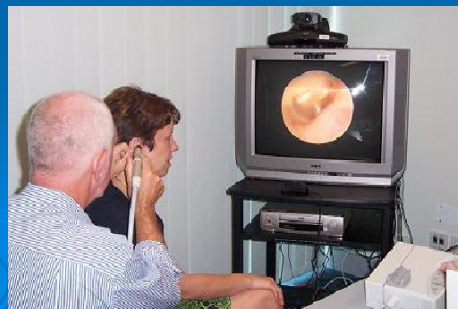


Same Deal – Health, Education or Telecoms Services!

- Understand service models - radiology, ophthalmology, ultrasound etc
- Aggregate service demand
- Retain professional staff
- Improve or diversify services
- Tens of thousands of patient, student or staff trips! (Patient travel of \$20M per annum!)

Taking Health to the Patients

- Pre-admission consults
- Orthopaedic reviews
- Acute cases
- Dietetics service
- Renal Service
- Radiology Service redesign to use regional digitised capability
- Investigating Ophthalmology



Patient Benefits!



Education Queensland Benefits

- Enhanced Online Learning through access to:
 - Programs such as VSS (Virtual Schooling Service)
 - Curriculum Exchange
 - Learning Objects
 - Distance Education Services
 - Community access to educational services
- Professional Services
 - Online Training
 - Personal Development
- Administrative Functions
 - Enabled for present and future applications

Demand Side Aggregation Strategy

- Bundled Outbacknet and Northern.net demand
- Sector aggregation (whole of government networking)
- Indicated level of future demand
- No Community Aggregation and involvement
- No Spatial analysis
- Content services not considered— eg Portal creation
- No Shared service approach

Supply Side Strategy

- Used Queensland Smartnet Panel established with Telstra, SPT, Optus
- Provided the “demand” picture to carriers
- Welcomed mixed technology solutions (eg wireless, xDSL, satellite)
- No Community Carriers or Start ups eg. Wi-Max providers
- No solutions if more than 3km from exchange
- Poor economies of scale (bandwidths were sub-2Mbps, no industry clusters)
- Limited infrastructure ownership.

Broadband in Queensland

- About 920 Telstra *exchanges* in Queensland
- In June 2004 there were 222 ADSL enabled exchanges
- In May 2005 there were 400 ADSL enabled exchanges
- National ADSL capable average is 35% of exchanges
- Queensland has about 41% of exchanges ADSL enabled and 22% BDSL capable
- **Still about 520 exchanges to enable**

Infrastructure, Regulatory and Constitutional Failure

- **Last mile copper access expensive**
- **Thin backhaul routes often 2 Mbps, little fibre.**
- **xDSL coverage limited to towns**
- **TV and mobile phone transmission network not leveraged**
- **No Inter-connect obligations**
- **No universal service obligation**
- **Backhaul pricing expensive for non-incumbents**
- **Telecommunications not a responsibility of State Government**

True Broadband Needed!

Contention issues on thin routes eg simultaneous use of ADSL by health, education and emergency services facilities could restrict throughput severely! .. BUT

- ADSL2+ higher bandwidth capability will take another year
- VDSL2 timescales not known
- Wi-Max timescales not known
- Fibre to kerb options not properly costed

Key issues for Broadband

- Capital subsidy by itself (e.g. NCF/CCIF) will not lead to alternative infrastructure
- Need regulation of backhaul and middle mile pricing
- Encourage competition by mandatory IP inter-connect
- Free up radio spectrum for Wi-Max (products due 2006/7)

Higher Education Role?

- Research the benefits of regional broadband for education and health (Access Economic's possible health benefit of \$150 million over 10 years)
- Investment modeling (cf Allen Consulting on SE Queensland) of fibre to the curb, home and hybrid fibre/radio broadband in regional Queensland for range of options.
- IP inter-connection for ANY traffic tagged as education or research

Enabling Broadband Options

- Content building – access for regional and community content (education, entertainment, news etc), especially “triple play” services
- Competition - bandwidth brokerage on backhaul routes
- Access to last mile, DSLAMs and backhaul
- True cost access through a “Separation” of Telstra
- Investment from State Governments to promote regional broadband industry clusters
- Future Fund for regional infrastructure projects

“New” Paradigm

- Telecommunications is a Connectivity Service just like electricity, road, sewage, gas
- Connectivity Infrastructure requires cyclic renewal and the marginal cost of fibre when renewing other infrastructure is low
- Need a long term business model for C'wealth, State and Local Government that enables a Connectivity & telecommunications renewal
- Ownership, Telstra separation, competition, network access, regulation models should enable a Connectivity paradigm, but are not the solution.