NBN Project Briefing Architecture Reference Model
Paul Brooks
December 2009

NBN Project Structure

Seven NBN related topics
August - Initial work started on 3 topics
September – Additional 2 topics started
October – Remaining 2 topics started

December 2009:
129 people
53 organisations
Services - Not just about speed

- Latency
- Traffic Shaping
- QoS queuing
- Encryption
- IPv6
- Data, Voice, Video

Group: Wholesale Services

Nov 2009 – Wholesale Ethernet

- ELAS – Ethernet Line Access Service
- ELBS – Ethernet Line Backhaul Service
- EMCS – Ethernet MultiCast Service
Service Provider Concerns

• **Where** can service providers ‘plug in’ – “5/50/500 issue”?
• **How?** Which interface standards?
• **How can service providers innovate services?**
• **Will a subscriber be able to connect to multiple service providers simultaneously (NOT all through one ISP)?**

Customer Issues – CPE access

• In the NGN world, the CPE and “Home Gateways” becomes vitally important
  • **Interoperability** – will subscribers have choice of CPE (Pay TV Set Top Box?)
  • **Reliability** of critical services – especially when installed by the subscriber (no “LifeLine” telephone power?)
  • **Security** – beyond outside cabling, increasingly difficult to secure smart CPE
Construction Standards – “Greenfields”

• Conduit, “pit and pipe”
• Connectors, Splicing, Optical Budget
• Developer and Approval authority checklists

Group: Early Stage Deployments

International Standards

• Ensuring the Australian architecture is aligned with international precedents and standards

Group: Technical
Who fixes service faults?

- Carrier ≠ CSP ≠ ISP ≠ TSP (VoIP?)
- Subscriber wants SPOC for ordering adds/moves/changes
- Providers want automated flow-through systems
- Subscriber wants one finger to point, but...
  - Who takes responsibility to troubleshoot a problem?
  - Who wears the TIO investigation?

Group: Operational

Transition

How will we migrate from here to there?

Group: End User Migration
NBN Service Model

- **Customer Choice**

  - “At each service delivery location, the network must enable multiple services to be active in parallel and operating simultaneously, each connected through the access network to different wholesale or retail service providers.”

  - “Each active service may be connected to different physical devices within the customer premises, and each device within the premises may distribute the service into one or more in-premises networks.”

NBN Reference Model

FTTP Options for Points of Interconnect

- **Group: Reference Architecture**
Layered Relationships

NBN Project Briefing Dec 2009

Further Considerations

- Every NBN Project document must consider –

  - Sustainability
  - Robustness
  - Security
  - IPv6
  - Future Proofness

NBN Project Briefing Dec 2009
Example ONTs – the NBN fibre boundary

- Probably Multi-port
- POTS, Data, Video?

More ONTs

Note – 4 ethernet ports, no POTS/Video on this one – enables gateways inside the house
Multiple Services > Multiple CPE

Figure 13 A wiring cupboard requires more space than you might think

FTTH Council AsiaPacific - 2005

A glimpse of the future?
Multiple Services > Multiple CPE

- Future NBN-connected wiring cupboard??

Thankyou


Paul Brooks
CA NBN Project
pbrooks@layer10.com.au