



GIBSON QUAI·AAS  
CONSULTING

ATUG 2010  
NBN Wholesale Services Definition  
Framework Forum

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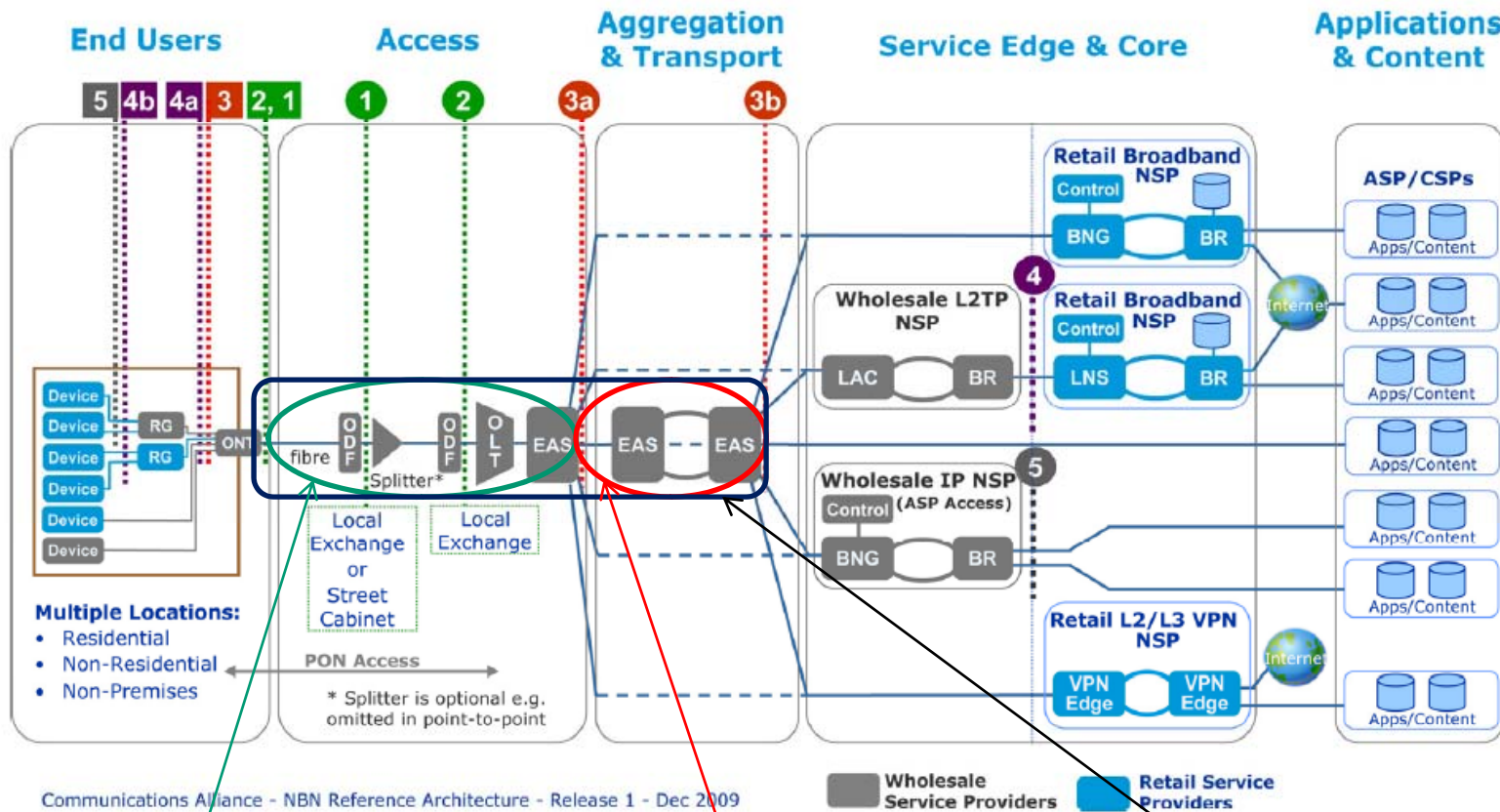
# Outline

- Introduction
- Overview of consultation documents
- Discussion on some key NBN and Ethernet service issues relevant to ATUG members
  - Fostering Market competition
  - End User Service Requirements
  - Time for SP to start developing retail services?

# Introduction

- A number of comprehensive consultation documents have been issued on planned NBN wholesale services
  - NBN Co consultation Paper
    - Proposed fibre bit stream products December 2009 comments close 12/2/2010
  - Comms Alliance National Broadband Network
    - Reference Architecture – High Level Architecture options for NBN Release 1 January 2010
    - End User Premises Installation Distribution Testing and Associated Practice Handbook Draft for Comment dated December 2009 comments due 12/2/2010.
- Wholesale Service Definition Framework – Ethernet. Draft For comments issued November 2009 now Issue 1 December 2009
    - Ethernet Line Access Service (ELAS)
    - Ethernet Line backhaul Service (ELAS)
    - Ethernet Multicast Service (EMCS)

# Comms Alliance NBN Reference Architecture



Ethernet Line Access Service ELAS

Ethernet Line Backhaul Service ELBS

Ethernet Multicast Service EMCS

# Overview of Consultation Docs

- Comprehensive documents
- Important because these service definitions will form the basis for the NBN network design and deployment
- Service Definitions Aim to support NBN Objectives to addresses key market structure issues:
  - Strengthens retail competition
  - Provide access as well as backhaul wholesale services
  - National coverage capability for SPs
  - Equal terms of access for SPs
- Comms Allince however needs look beyond NBN Co and so doc are applicable industry-wide
  - Embrace End-Users, NBN Co, Wholesale SPs, Retail Service Providers (SP's) and Application Providers (AP's)
  - Focus on FTTP but objective is that they ultimately address wireless/Satellite as well
- Documents need to be considered together

# Comments on Enhancing Market Competition

- Typically Operators that have a high degree of control over their network components are better able to offer innovative services.
    - Operator that owns active network components will be able to set upgrade schedules, vary bandwidths and more comprehensively manage traffic.
  - Ethernet Layer 2 is a common option adopted in FTTP networks to manage traffic between different operators and end users as this typically provides the least cost(ref 1) ubiquitous access network but reduces the Retail Service Provider control.
- NBN need to trade off coverage, cost and control vs competitive market requirements.

(1)Ref Ofcom (London 2009 Competitive models on GPON

# NBN product/service plans

- NBN Co has announced FTTP based wholesale service details:
  - Layer 2 Ethernet Line Access bit stream services
  - Layer 2 Ethernet Line Backhaul bitstream service depending on location of Fibre Service Areas and locations of POIs served
  - Ethernet Multicast to support Video/TV
  - L1 and L3 services excluded for now
- Still being worked on?
  - POTS support
  - Specific Business focused wholesale services
  - RF channel over PON for FTA and Pay TV?

## Competitive Retail Services

- NBN wholesale services will need to facilitate the provision of Triple Play services to enhance SP competition
- This is a key requirement for SPs as they need to be able to offer - Broadband Internet, Telephony, Video service bundles
- Retail SP also have to play a key part as they will be providing the services direct to end users

# NBN Bitstream plan and Comms Alliance Ethernet paper

- NBN Co proposed bit stream products
  - Local Ethernet Bitstream (LEB)
  - Aggregated Ethernet Bitstream (AEB) Product
  - AEB only offered with LEB service
  - Proposed Service characteristics cover
    - Bandwidth rates
    - Traffic Management and Prioritisation
      - Critical
      - Expedited
      - Priority
      - Best Effort
    - Security and VLANs
    - Voice Option
    - Multicast
    - ONT

- Comms Alliance Ethernet Service Definition Framework
  - Ethernet Line Access Service (ELAS)
  - Ethernet Line Backhaul Service (ELBS)

- Comms Alliance do not specify if ELAS and ELBS need to be taken together
- Framework allows for further definition of service characteristics
  - should include availability of the service e.g. 99.95%? Or better

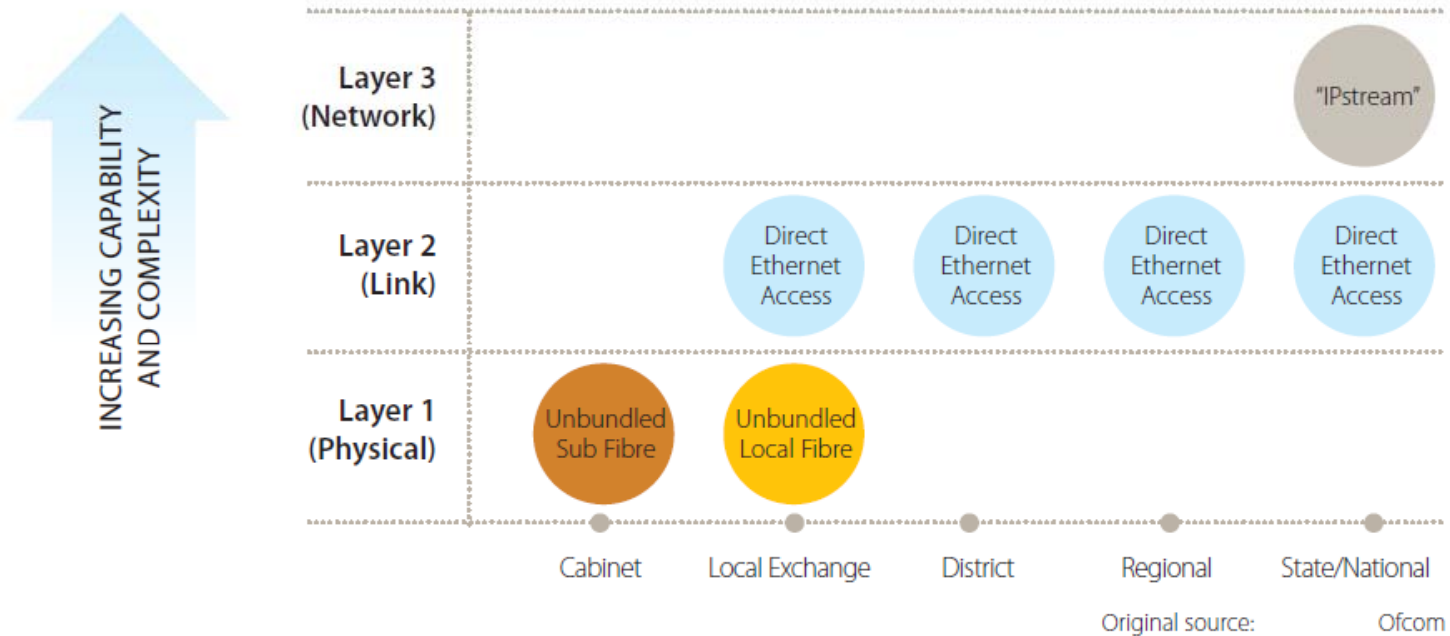
# Issues for Enhancing market competition

- Some issues that will have an impact on market competition are still being worked on:
  - How will NBN demonstrate it is efficient?
  - Points of Interconnection - Where and how many?
  - Support for triple play services!
  - Network resilience and availability
  - What other services will be offered in the future - L1/L3?
  - POTS capability?
  - What does 100 Mbit/s mean ?
  - Availability Performance
  - Transition Arrangements

# Points of Interconnect (PoI)

- Locations where SPs will pick up access and/or aggregated customer traffic
    - Local exchange, district, regional, state, national level.
    - SP's should have a wide choice of
    - No overbuild of existing backhaul transmission infrastructure
    - NBN could buy its 'transport' from existing carriers
  - Possible Implications for End Users
    - Expectation is for normalised prices across the country
    - Dilemma – Providing choice of cheaper prices for local interconnect drives a distance factor into SPs costs
    - One option for NBN Co to purchase required collective backhaul and amortise the cost
- Location and Number of PoI's will be critical to competitive SP market

# POI Number and Location Issues



Ref: NBN Co Consultation Paper: proposed wholesale fibre bitstream products

# Network Resilience/availability

- Not fully Specified in the Ethernet service definition
  - What level of 'availability' do we want at the end user level?
    - Telstra achieves ~ 99.90% for PSTN
    - Should we be aiming for 99.95% or higher?
  - Chance now to design-in improved Service Level
    - Less failures + faster restoration
    - Ring architecture to OLT , Distribution points
    - Built in service testing capability for SP
- Services Availability should be included in the Ethernet Service definition framework

# What does 100Mbit/s mean?

- Ethernet framework not clear that it provides the stated requirements for 100Mbps
  - Not clear if the Ethernet services provide Symmetric capability
  - Users can pay higher price for higher QoS but what will be the characteristics of the most widely-used 'best-efforts' Broadband service?
  - Commercial necessity, will still require bit stream transmission to be statistically multiplexing in the network?
  - Possible differentiation point for SPs - how much aggregated backhaul capacity they commit to per user. Will NBN Co set minimum?
  - What will be the minimum speed for best efforts
  - User bandwidth increasing 50% every year – in 12 years ~ 100 times what we use today.
- NBN Network and Service framework must be capable of scaling up to the longer term user requirements

# Transition issues

## Typical existing service mix in Business area ESA

- Service type
  - POTS
  - Broadband
    - Telstra xDSL
    - ULLS
    - SSS (Shared with POTS)
  - Custom net Spectrum
  - ISDN2
  - Services on Fibre
  - Connect IP (VPN)
  - Low Speed data (being replaced)
  - Other Low Speed data services

Wide range of existing services types that need to be transitioned  
this requires retail SP to develop equivalent or replacement services

# Summary

- Consultation documents reflect NBN co's objectives and Comms Alliance need to cover the whole industry
    - Coverage
    - Level competitive playing field
    - Cost Effectiveness
    - Customer for Service providers and end users
  - They need to be read together
  - Some technical and performance details still need to be added to Framework.
- We await wholesale pricing information
  - Retail SP now have information to start to develop retail service definitions

# Thank You

For More information please contact

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