

Access to Next Generation Broadband

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Access to **Next Generation Broadband**

involves transmission and systems technology for which scarcity of bandwidth or media capacity no longer needs to be a factor in restricting either access or content.

What I'll cover today

- **How open access is being treated as a policy goal in Australia**
- **What's unique about optical fibre in the CAN**
- **How network architecture is critical to achieving open access**
- **Whether regulating for access to infrastructure and services has been effective**
- **Policy considerations for the future; conclusions**

Open access as a policy goal

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 - Network integrity
 - Private property
 - Access charge too low

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 - Access charge too low
- **Two powerful trends over last 10 years:**
 - TPA amendments now more likely to permit closure
 - Technology enabling closure now widely available

What's unique about optical fibre in the Customer Access Network

- Capable of delivering potentially unlimited bandwidth in both directions
- Fibre cabling exhibits strong economies of scale and scope
- A natural monopoly!
- Currently, no other wireline technology can deliver comparable 'next generation' bandwidth to a mass market
- An obvious candidate for attracting access regulation

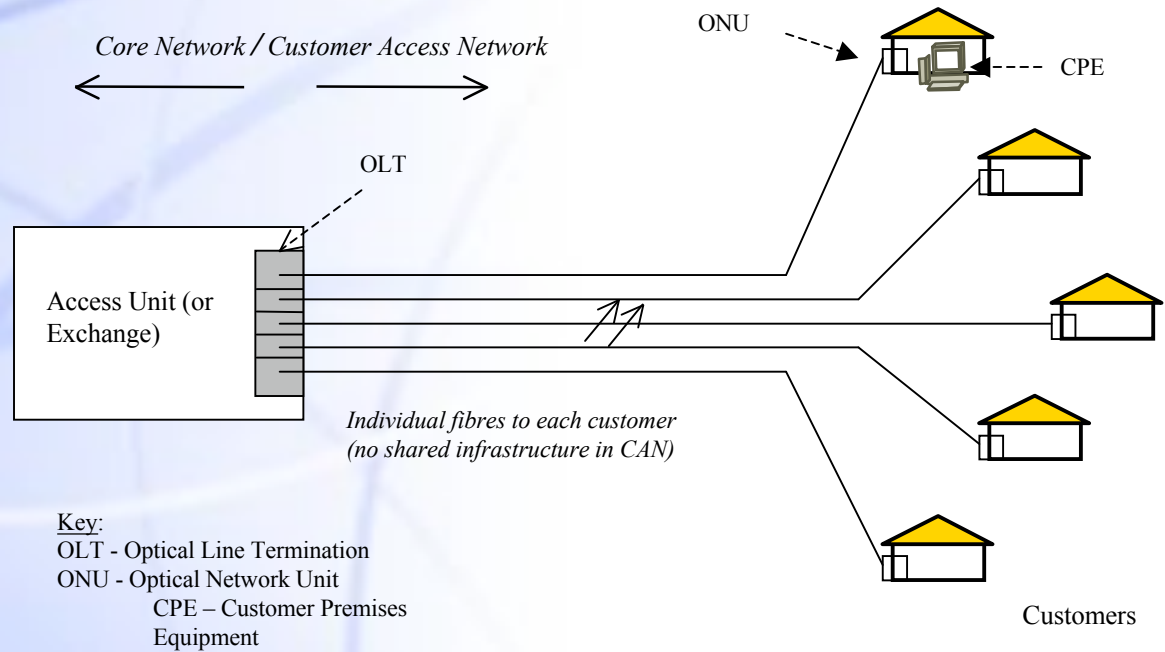
Network architecture is critical to open access

- **Service-based competitors must share common optical fibre access network**

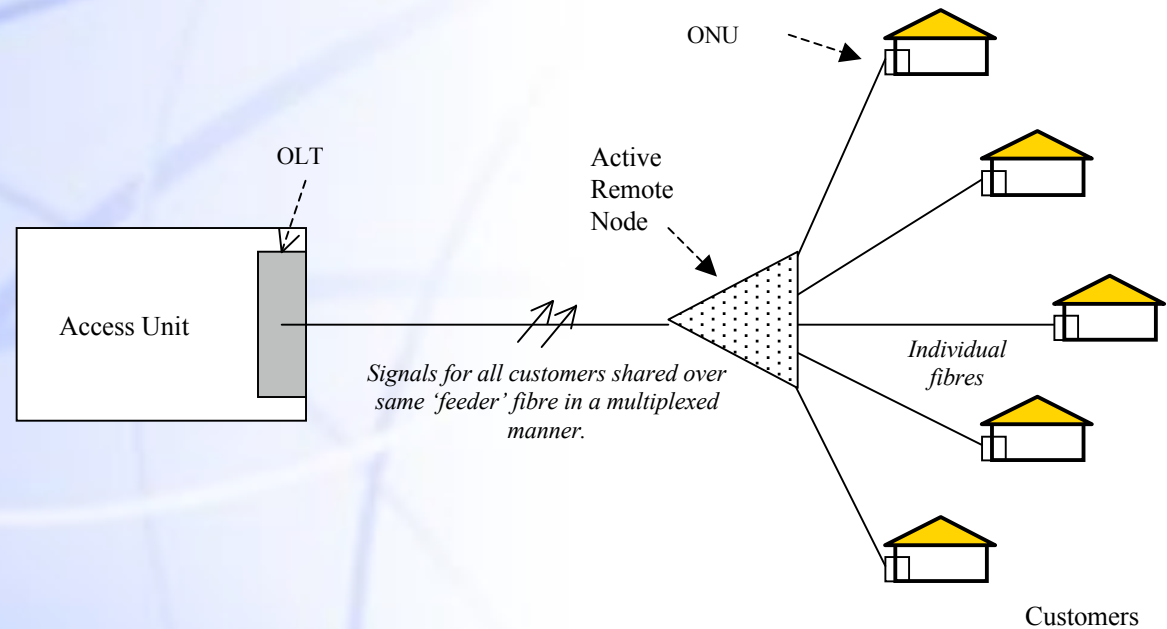
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- **Four fibre-to-the-home network architectures evaluated:**
 - Home Run
 - Active Star
 - Passive Optical Network or PON
 - Wavelength Division Multiplexed PON

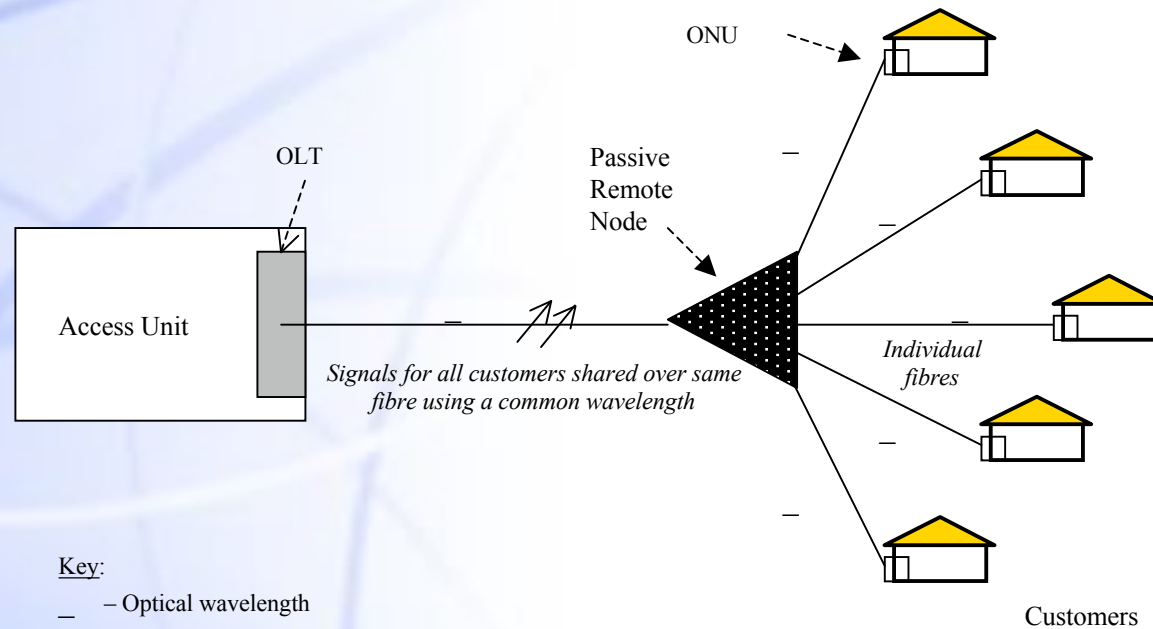
Home Run network architecture



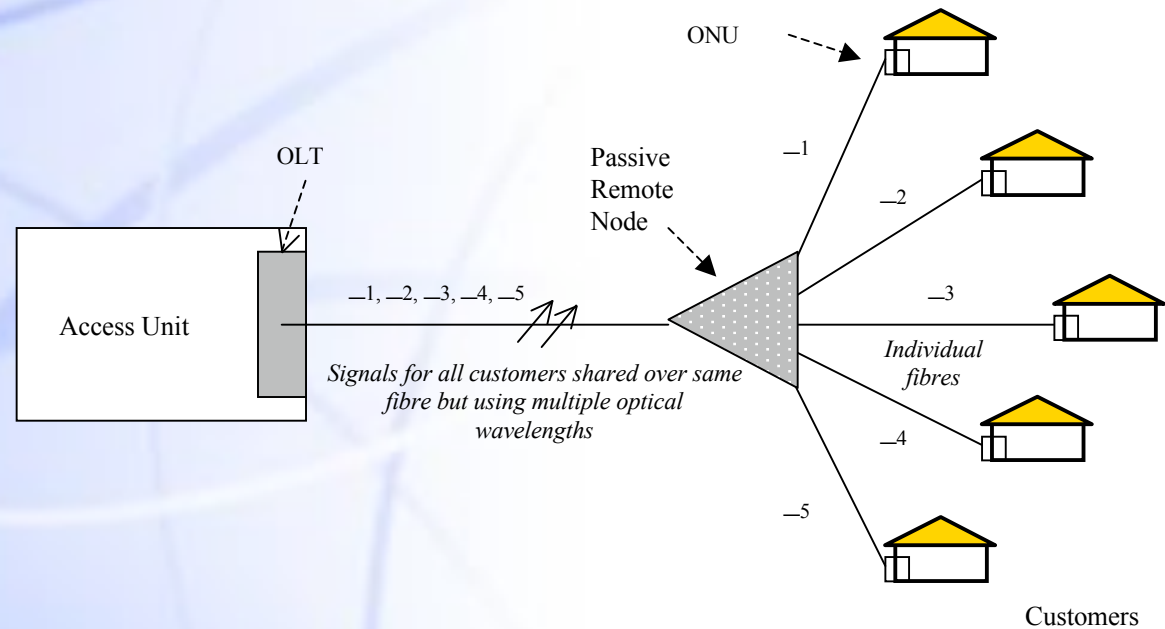
Active Star network architecture



Passive Star network (PON) architecture



WDM PON network architecture

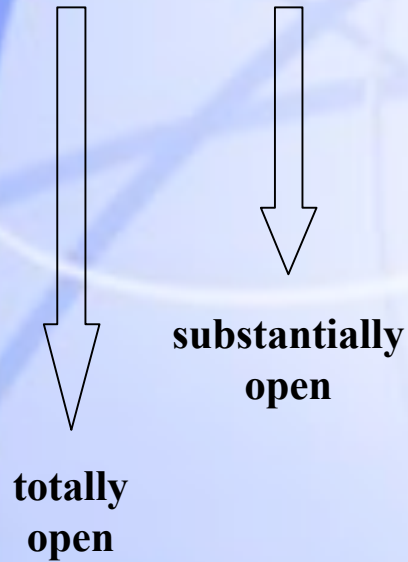


Network architecture is critical to open access

- Service-based competitors must share common optical fibre access network
- **Suitability of network architectures for shared access:**
 - Home Run Very good
 - Active Star Good
 - PON Poor < *the choice of incumbent carriers!*
 - WDM PON Very good

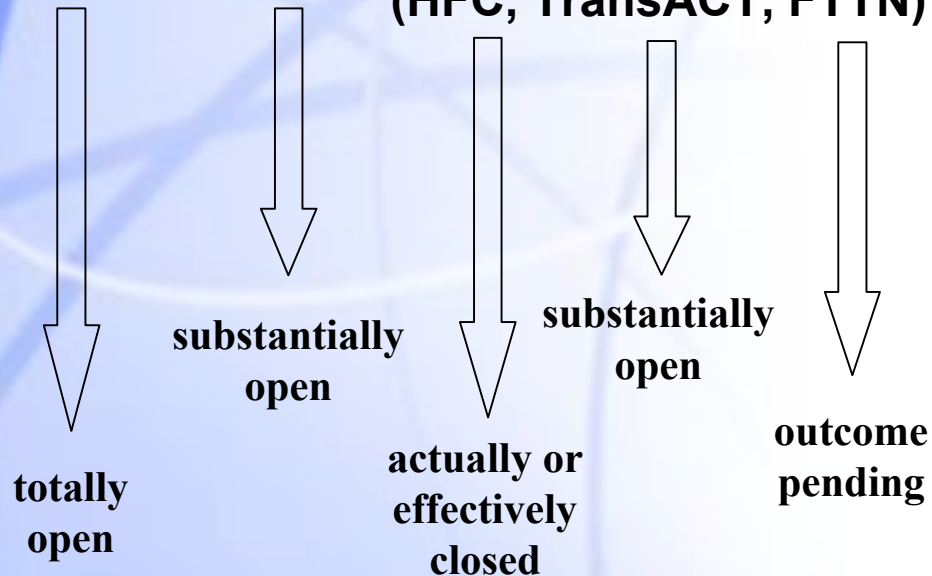
Accessing successive network generations

**Narrowband
(dial-up; DSL)**



Accessing successive network generations

Narrowband > 'Broadband'
(dial-up; DSL) **FTT'x'**
(HFC, TransACT, FTTN)



Accessing successive network generations

Narrowband > 'Broadband' > True broadband

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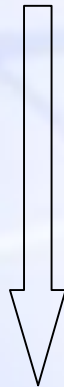


totally open



substantially open

FTT'x'
(HFC, TransACT, FTTN)



actually or effectively closed



substantially open



outcome pending

FTTH (of suitable architecture & design)



prognosis very poor

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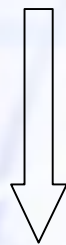
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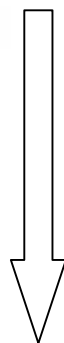
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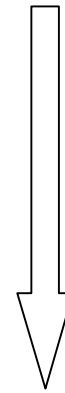
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This change of fortune aligns with the beginning of access holidays !

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- **Are access holidays too liberal; are they being abused?**
 - why grant them to dominant players?
 - should they ever be granted to create or extend a natural monopoly?
 - do access holidays really contribute to the long term interest of end users?

Conclusion

A new lens is needed to view such policy questions:

- **What type of next generation broadband infrastructure do we as a society desire?**
- **Do we prefer such public infrastructure to be managed in an openly accessible manner for maximised welfare, or do we prefer it to be managed to maximise the profits of property owners?**