

Got Fiber? Use it wisely

FTTH Council Conference 2017

Thomas Martin

Principal Sales Engineer

thomas.martin@calix.com



Agenda

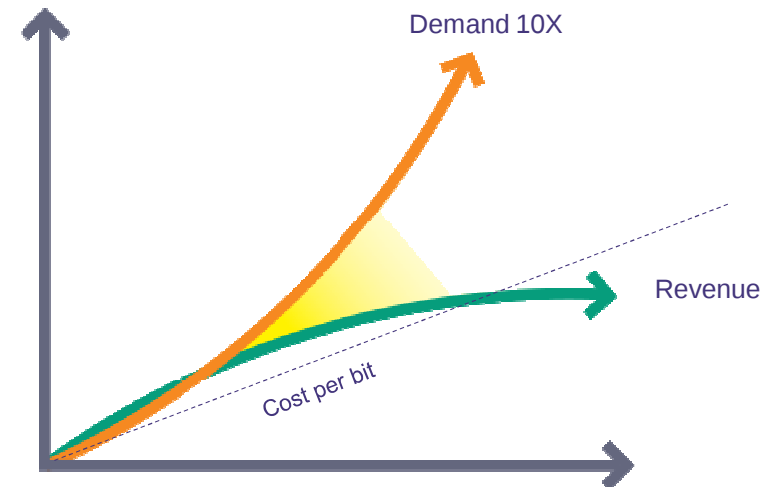
- 1 Is your network ready?
- 2 Utilizing Your Fiber Investment Wisely
- 3 Provider Use Cases
- 4 Problem: Access network Architecture
- 5 Summary

The background is a dark blue to orange gradient. It features a large, semi-transparent globe on the right side. Overlaid on the globe and the background are various network-related icons and data visualizations, including smaller globes, user avatars, and charts. The text "Is your network ready?" is prominently displayed in white on the left side.

Is your network ready?



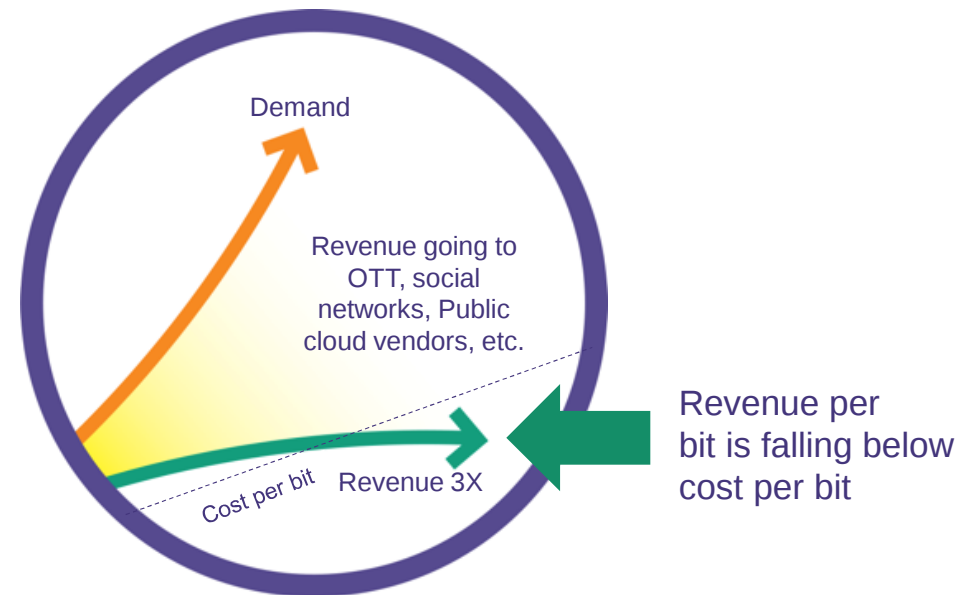
Data consumption is exponential.



Source: Morgan Stanley Research

**Data
consumption
is exponential.**

**Revenue
is not.**



Source: Morgan Stanley Research

By 2020...In just 3 years!



79% of internet traffic is video
50% of TVs are 4K



75% of mobile traffic is video
4x mobile traffic growth



70% growth in “how to” searches
year over year
2nd largest search engine

Cisco VNI 2016
Search Engine Land May 13, 2015

Is your network ready?

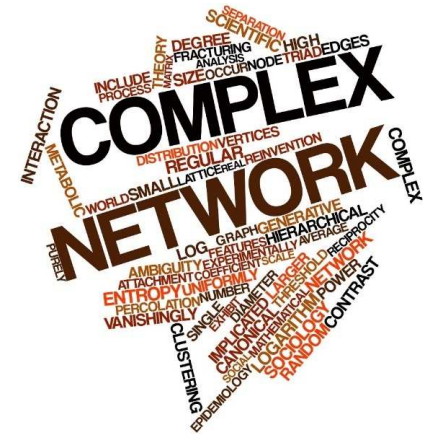
Bandwidth
Demands



Budget
Limitations



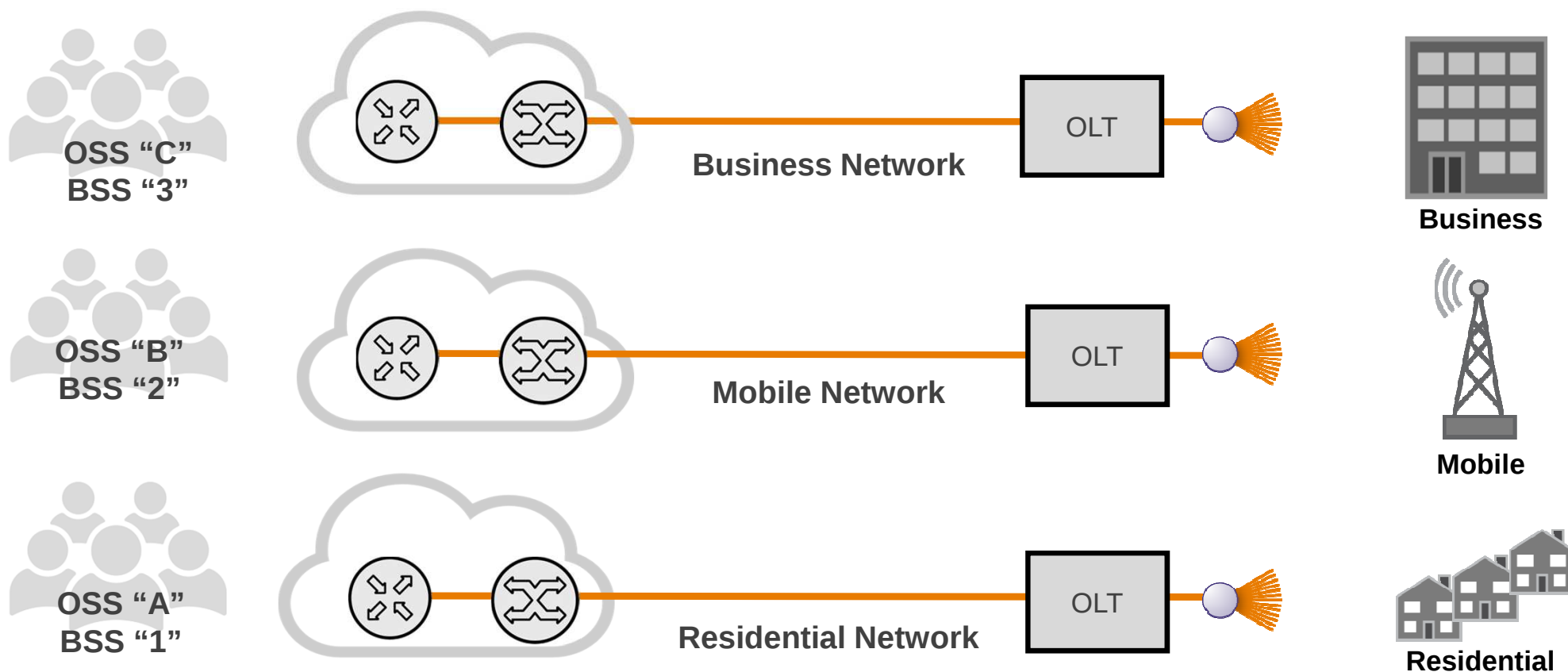
Systems/
Networks



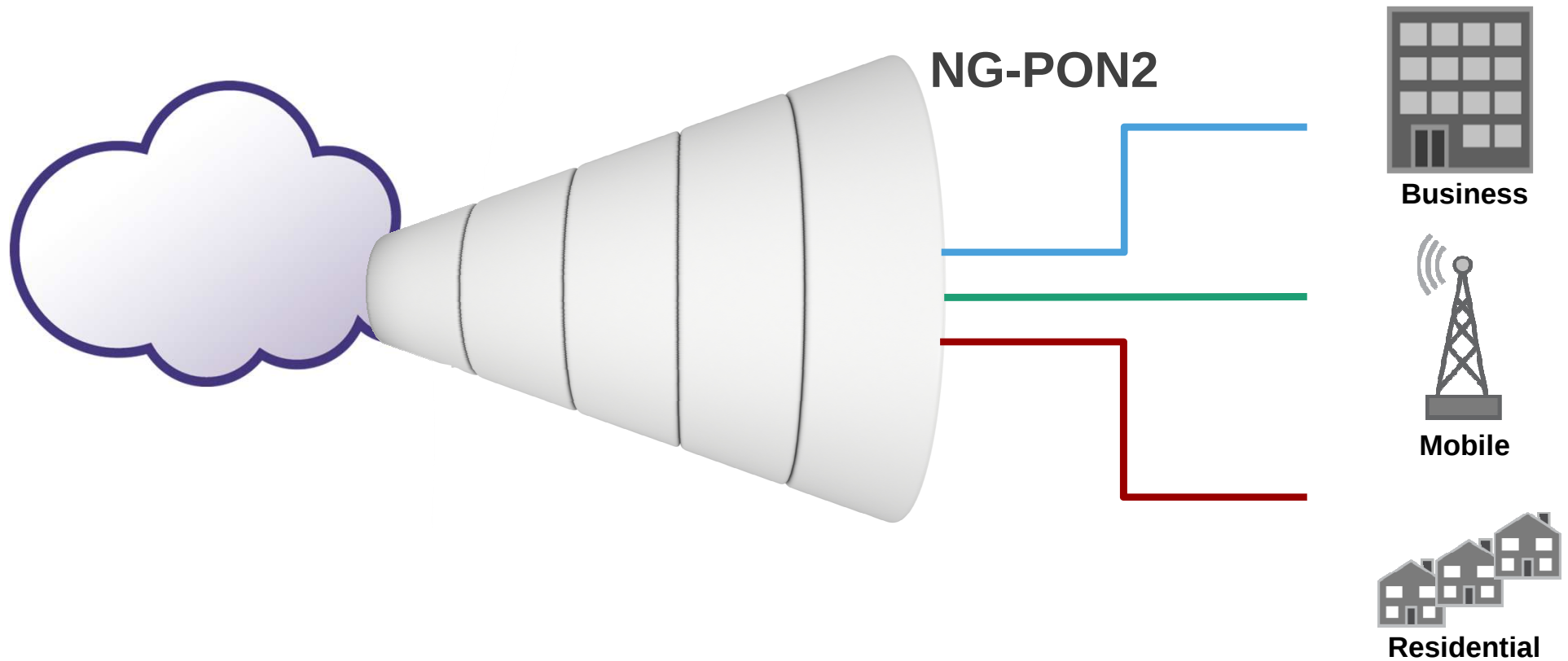
Utilizing your Fiber Investment Wisely



Reality: There are actually multiple networks...



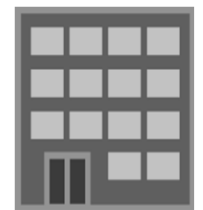
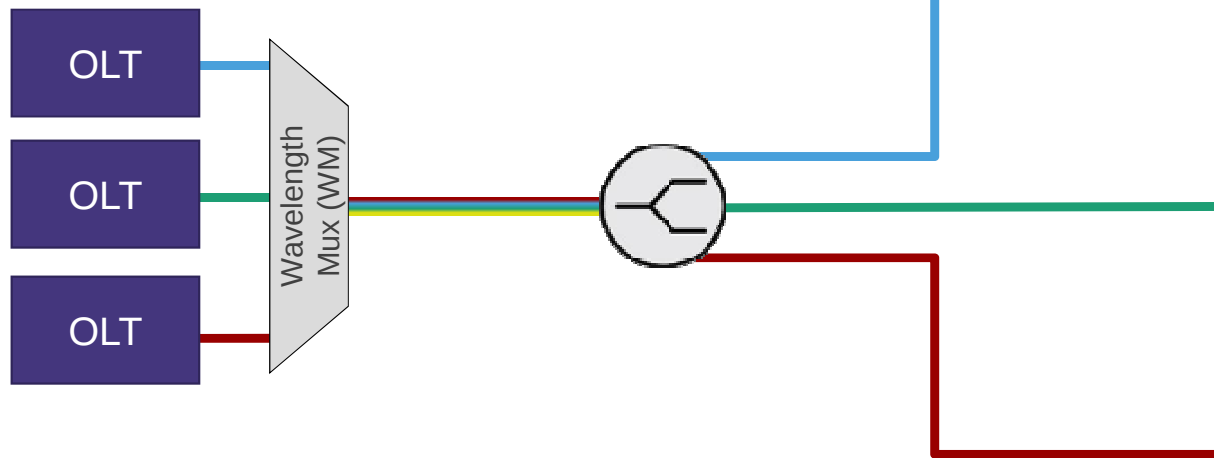
What if you could converge your networks?



What if you could converge your networks?

OPEX

CAPEX



Business



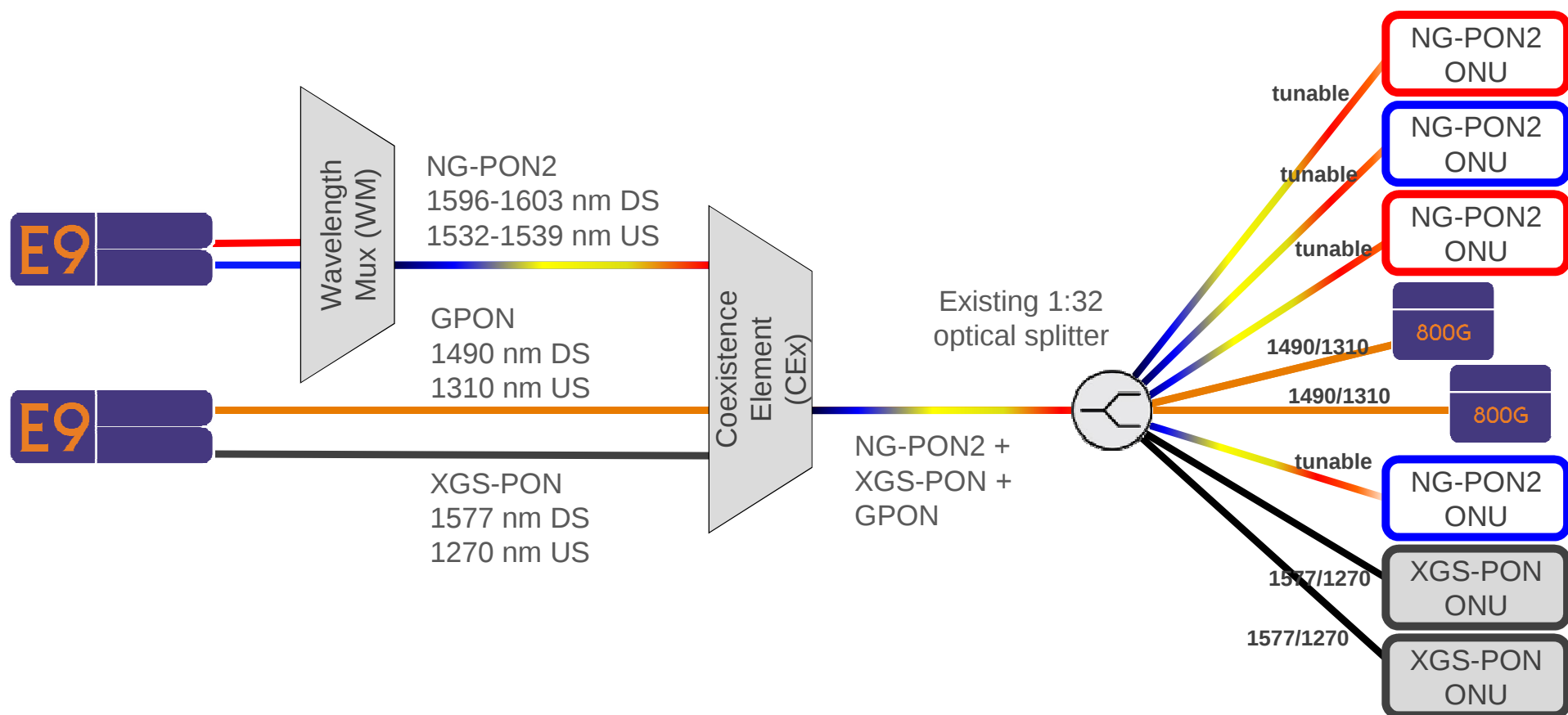
Mobile



Residential



Multi-PON Deployments – PON overlay



Decisions, decisions...

XGS-PON

- Deployment model like GPON
- Co-Exists with GPON, NG-PON2
- Supports RF Video
- 10G Symmetric support
- Lower cost option of 10G/2.5G
- Redundancy using Type B

NG-PON2

- Can be deployed like GPON
- Co-Exists with GPON, XGS-PON
- 10G Symmetric support
- Lower cost option of 10G/2.5G
- Redundancy and split ratio reduction w/ wavelength mobility
- Channel bonding to deliver up to 40G

Calix OLTs support both standards based on selectable optics
ONT choice is based on technology and services deployed

Provider use cases



NG-PON2 from a “Tier 1” Perspective

Recognized as the best long term technology

- Allows pay as you grow deployment (add additional wavelengths)
- Increases reliability by allocating wavelengths to mobility/business
- Smooth evolution to greater speeds (40G, 80G)
- More efficient use of deployed fiber
- Simplified OSP design
- Wavelength mobility reduces downtime
- Enables one transition from GPON to long term technology

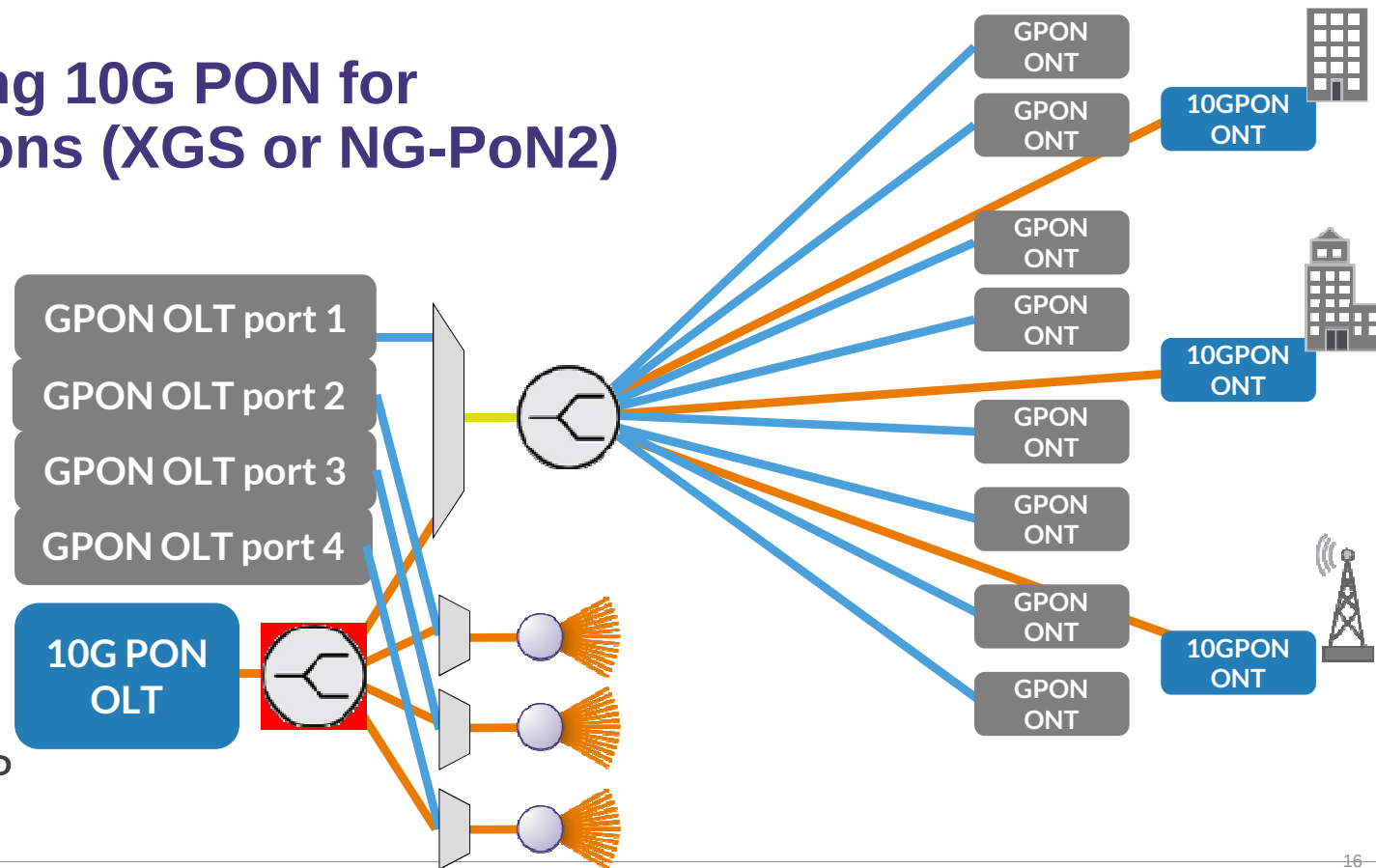
Tier 2/Tier 3 Operator View on Next Gen PON

Operators targeting 10G PON for Specific applications (XGS or NG-PoN2)

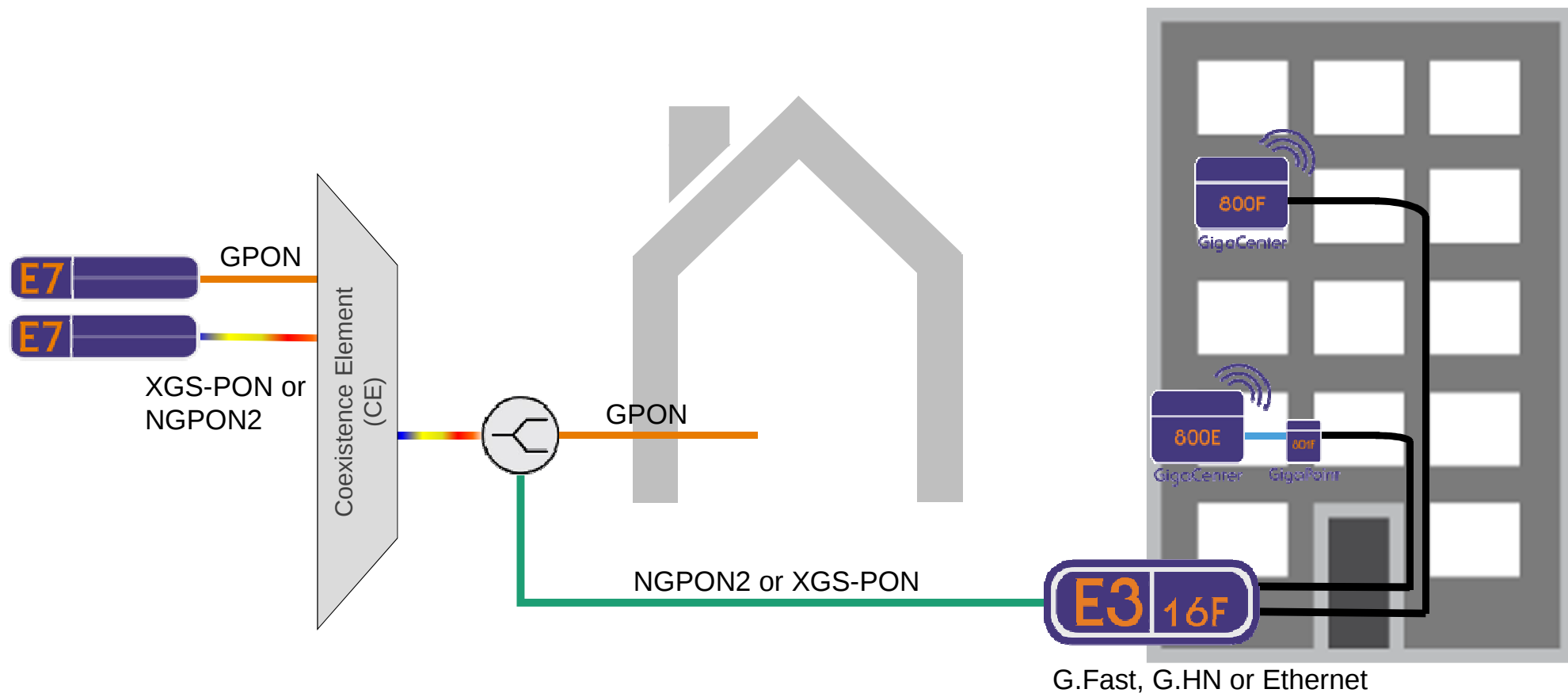
- Business services
- Mobile Backhaul
- MDUs

GPON Overlay for residential

- Shared 10G PON cost over multiple existing GPONs OSP



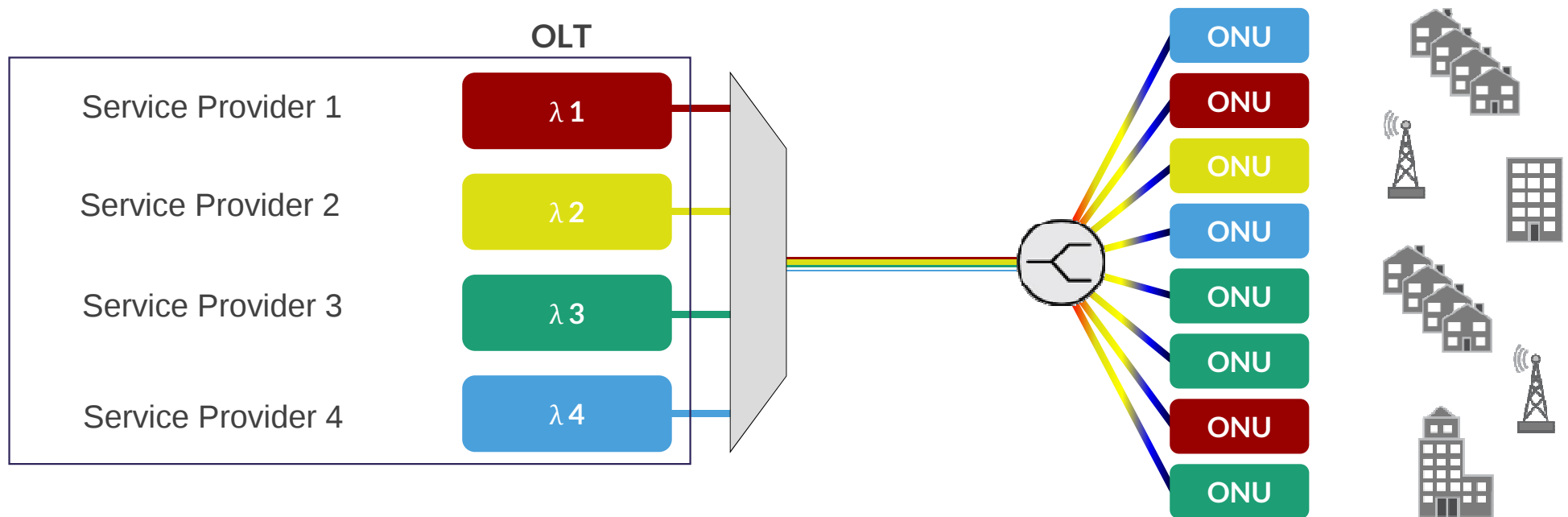
Next Gen PON for MDU Applications



Open Access Operator View on NG-PON2

NG-PON2 wavelength independence for open access

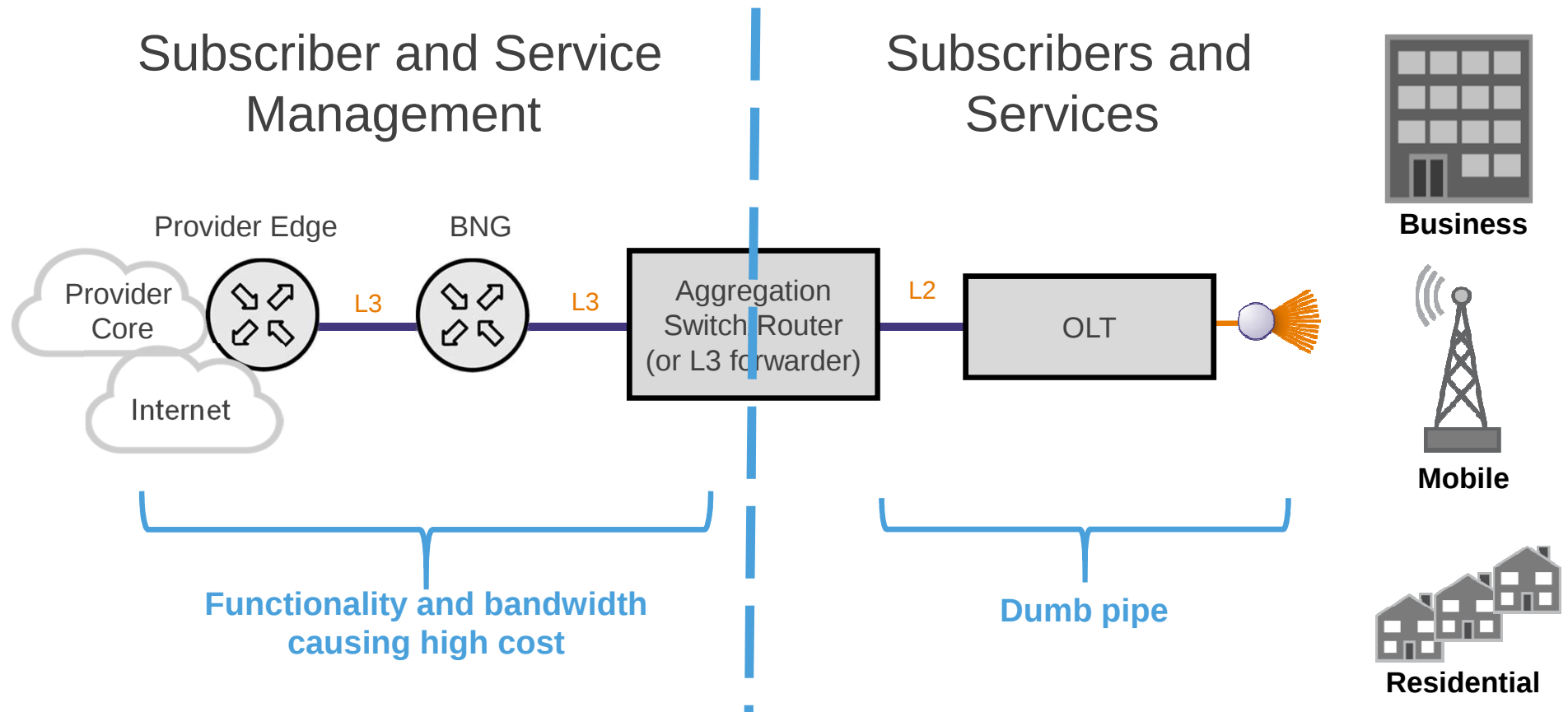
- One ODN supporting multiple service providers with isolation at the wavelength layer



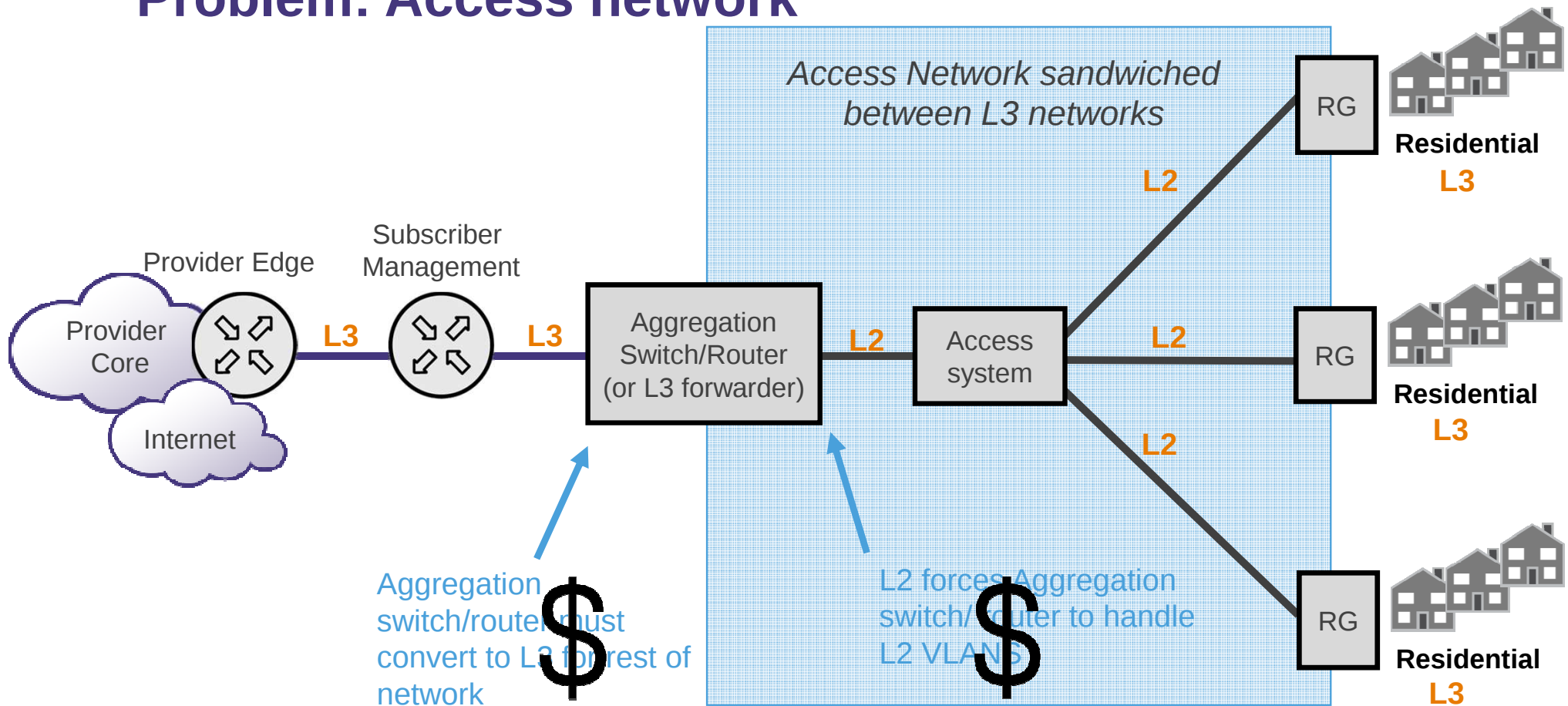
Problems: Network Architecture



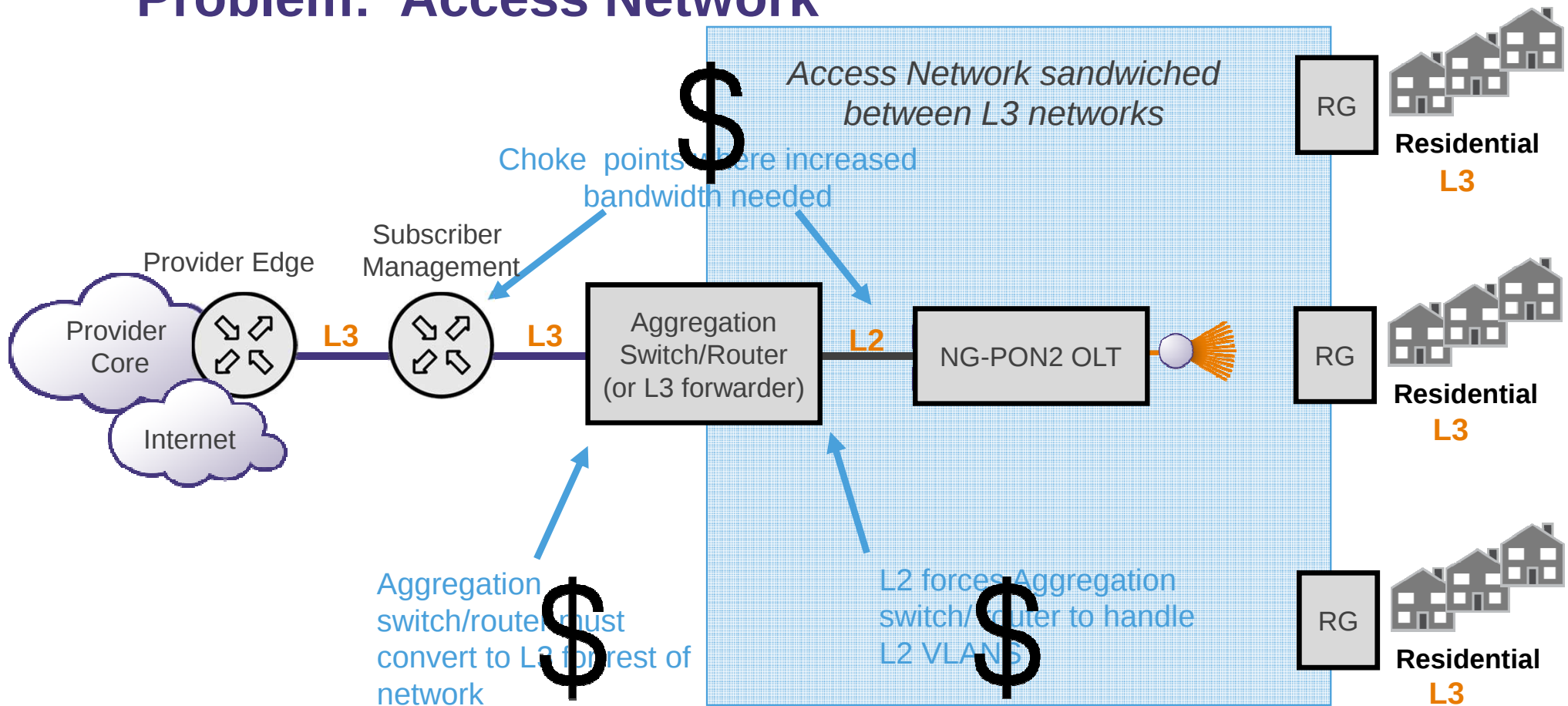
Problem: Access network



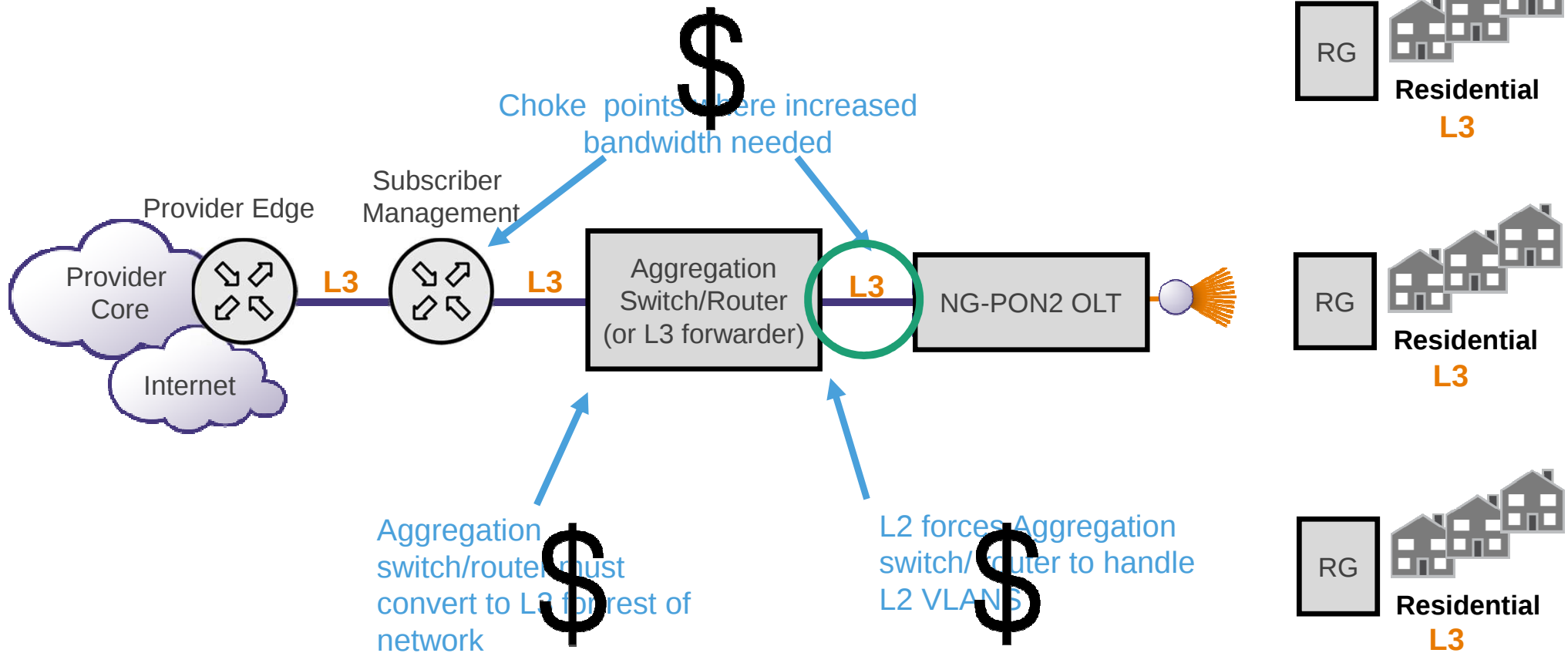
Problem: Access network

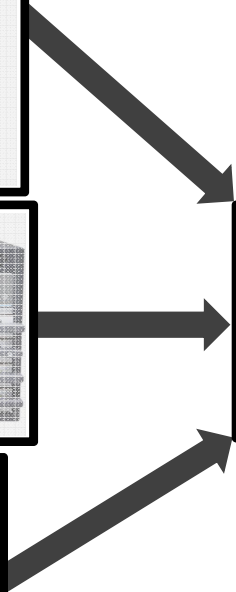
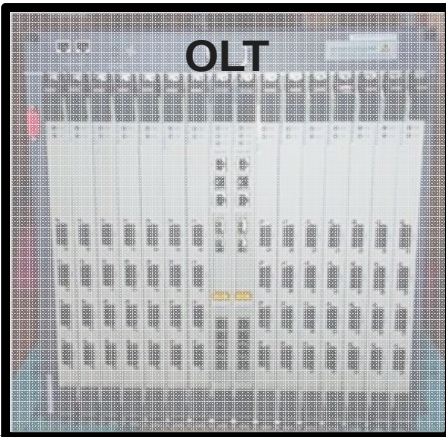
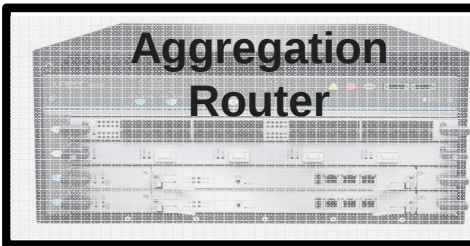
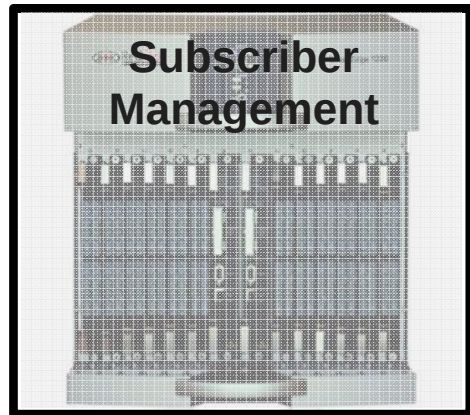


Problem: Access Network

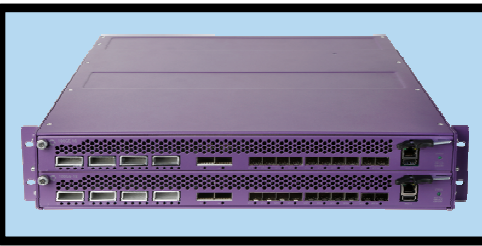


Problem: Access Network





An Intelligent
Edge System



verizon[✓]



Lee Hicks
VP Network Planning



...reduce the number of people
that support the network and cost
to run the network by over 80%



Summary



Make your network ready for the access revolution

With an evolution that makes sense to you!

Scale /
Bandwidth



Reduce OPEX /
CAPEX



Simplify

