POL as an Emerging Trend on the Enterprise Market

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Association for Passive Optical LAN

DASAN Zhone Solutions, VP Europe

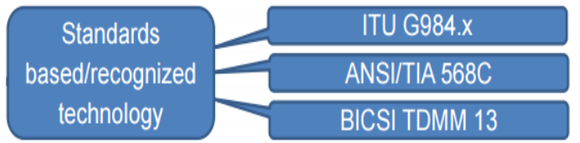
Terminology

PON = Passive Optical Network

Shares a single mode fiber to offer network connectivity to multiple guests using passive optical components between the endpoints.

GPON = Gigabit Passive Optical Network

An industry standard



FSAN
Full Service Access Network

POL = Passive Optical LAN (Local Area Network)

POL = GPON in LAN

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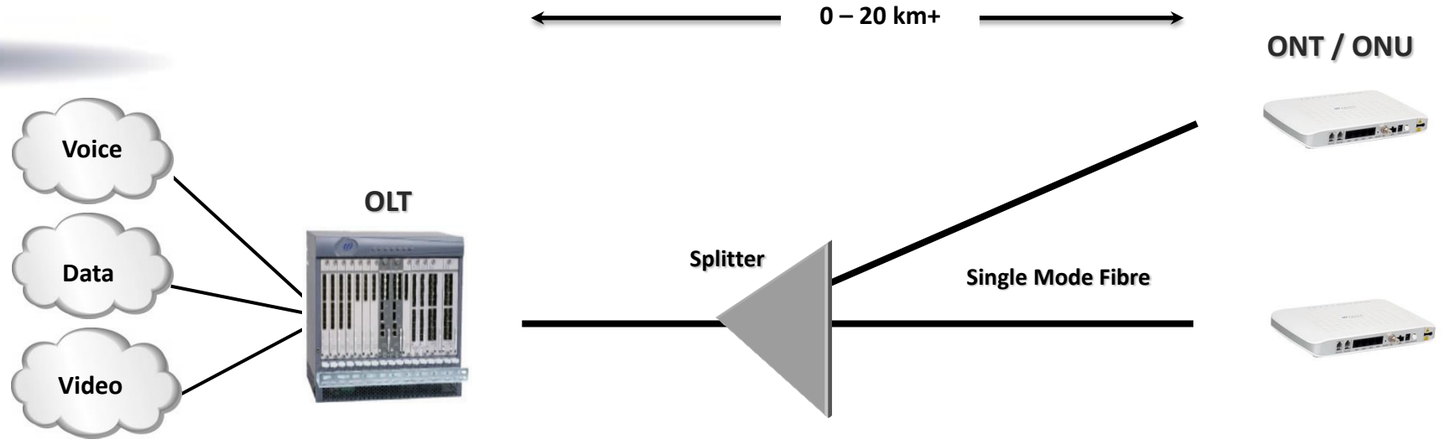
PON Layout



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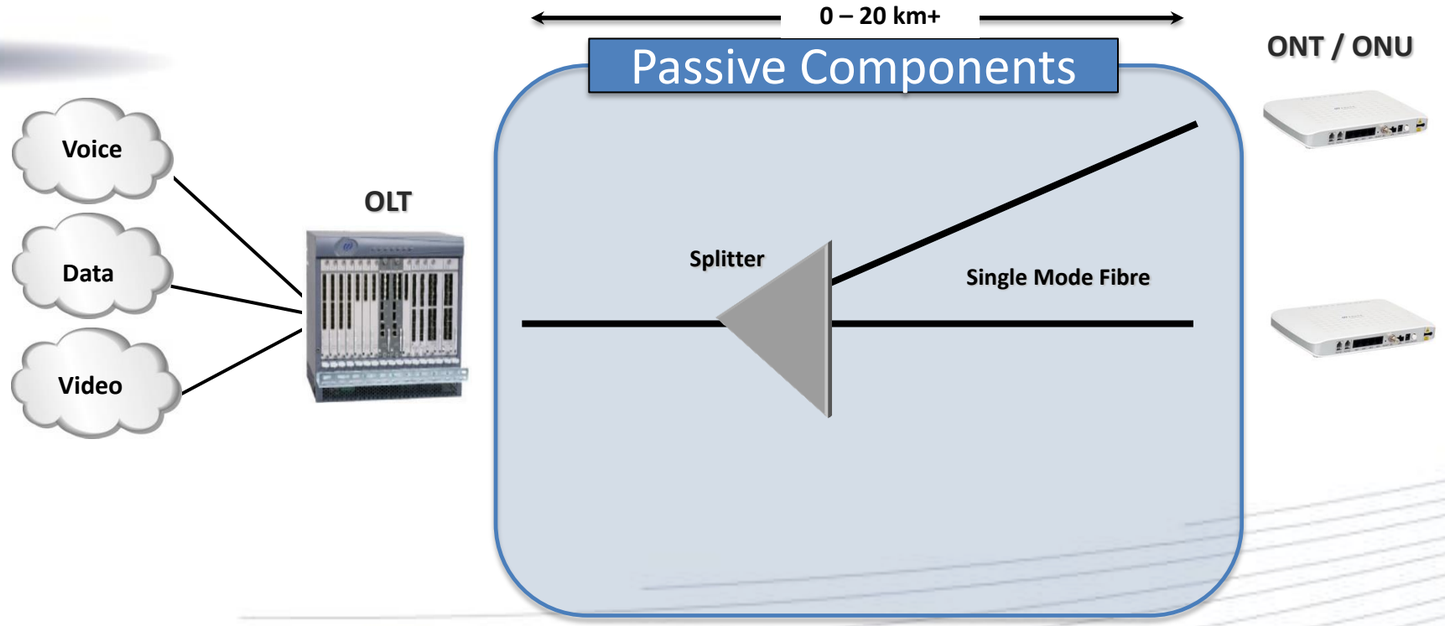
PON Layout



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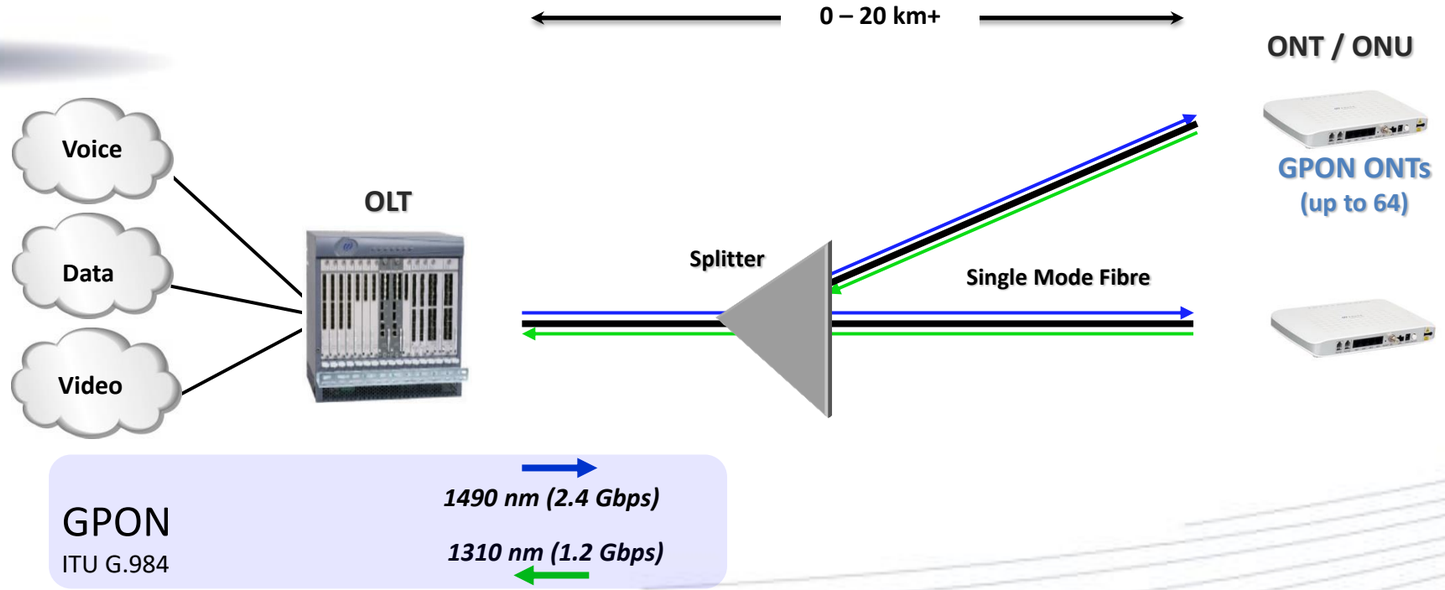
PON Layout



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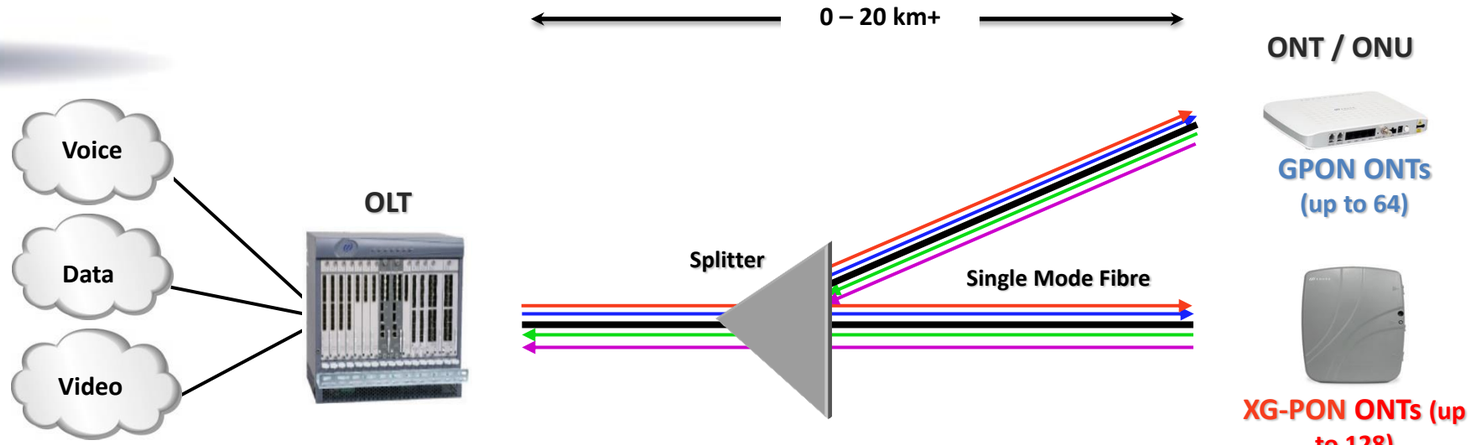
PON Layout



GPON
ITU G.984

1490 nm (2.4 Gbps)

1310 nm (1.2 Gbps)

NG-PON1
ITU G.987

1577 nm (10 Gbps)

1270 nm (2.5 Gbps– XG-PON1 / 10 Gbps – XG-PON2)

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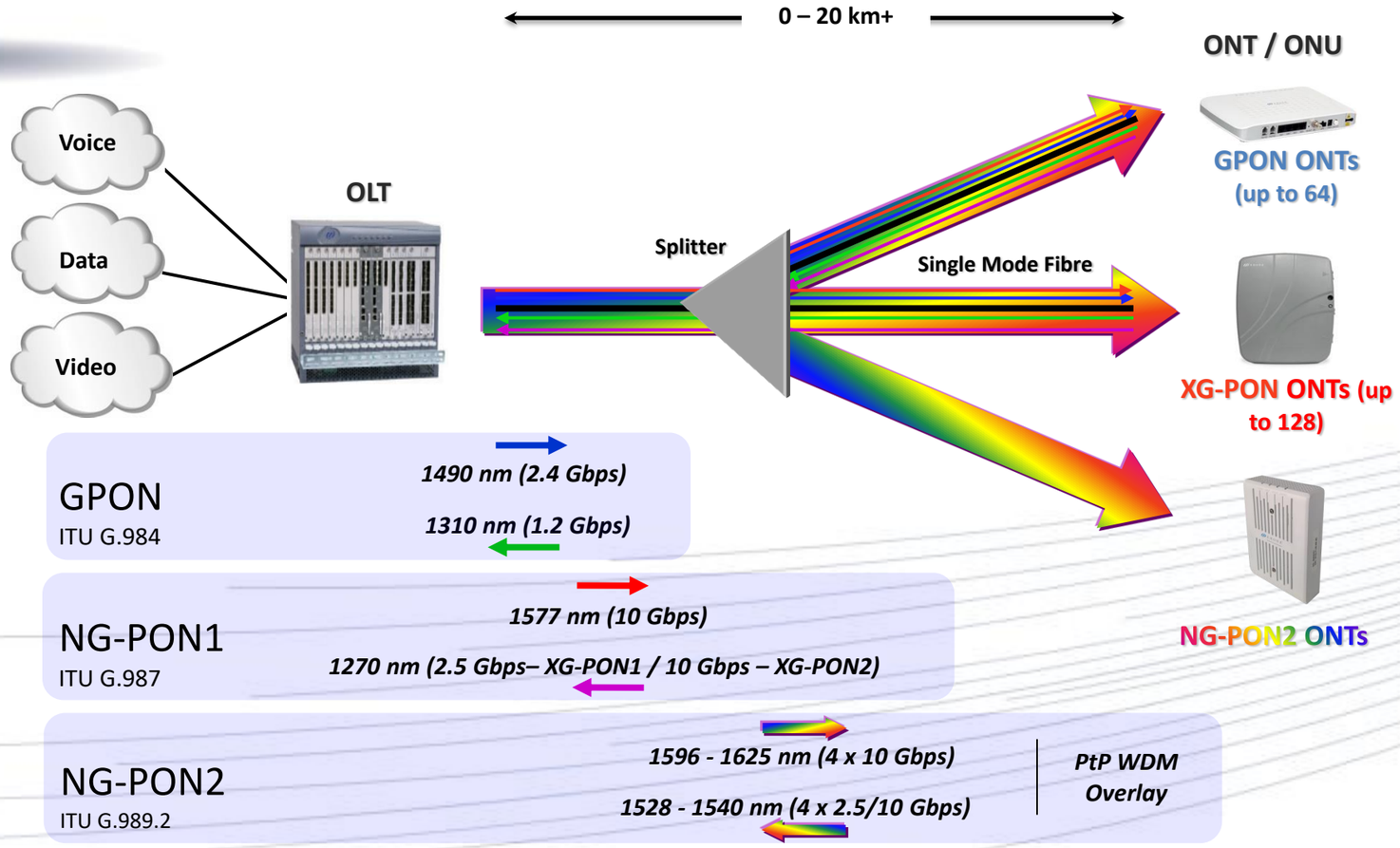
PON Layout



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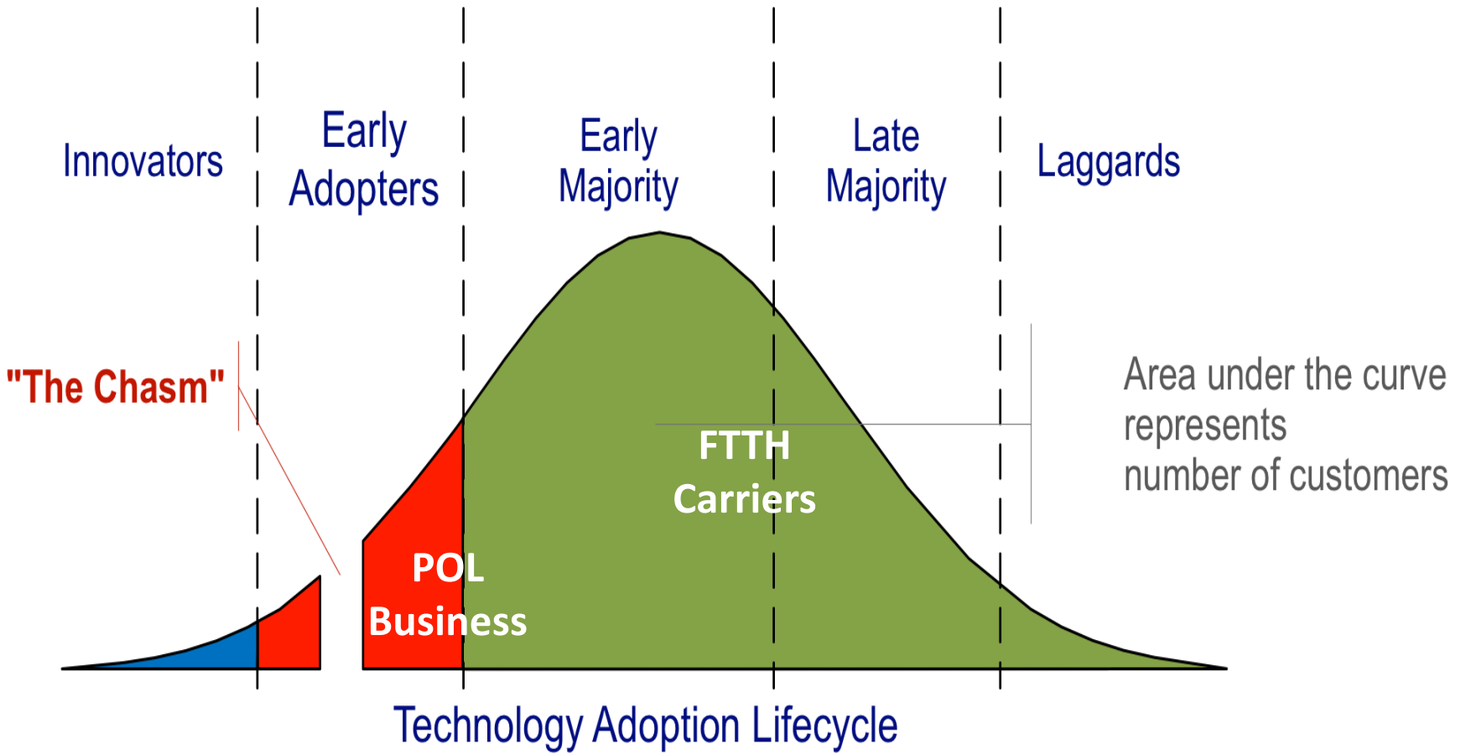
Technology Maturity



POL is a new application for a mature technology

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Service Providers GPON vs. POL

	Service Providers GPON	Passive Optical LAN
General		
Long distances to reach	Yes	No, rarely
Continous integration challenges	No	Yes
ONT		
Temerature hardened	No	Yes, often
Variaty of models	No, just a few (max)	Yes, often
Variaty of form factors	No	Yes
Variaty of interfaces/services	No, fixed set(s)	Yes, often
Access control features for Ethernet ports	No	Yes (802.1x, PortNox, LLDP-MED, etc.)
PoE	No	Yes, often
IoT integration	No	Yes, emerging as request
Marketing requirements	Yes, sometimes strong	No, rarely
OLT		
Varios sizes	No, rarely	Yes, for different projects
Various redundancy levels	No	Yes, often for high-end enterprise
Management System		
User activation/management functions	Yes	No, layout changes not frequent
Facilitated Layer 2 modifications	No	Yes, VLANs often changed

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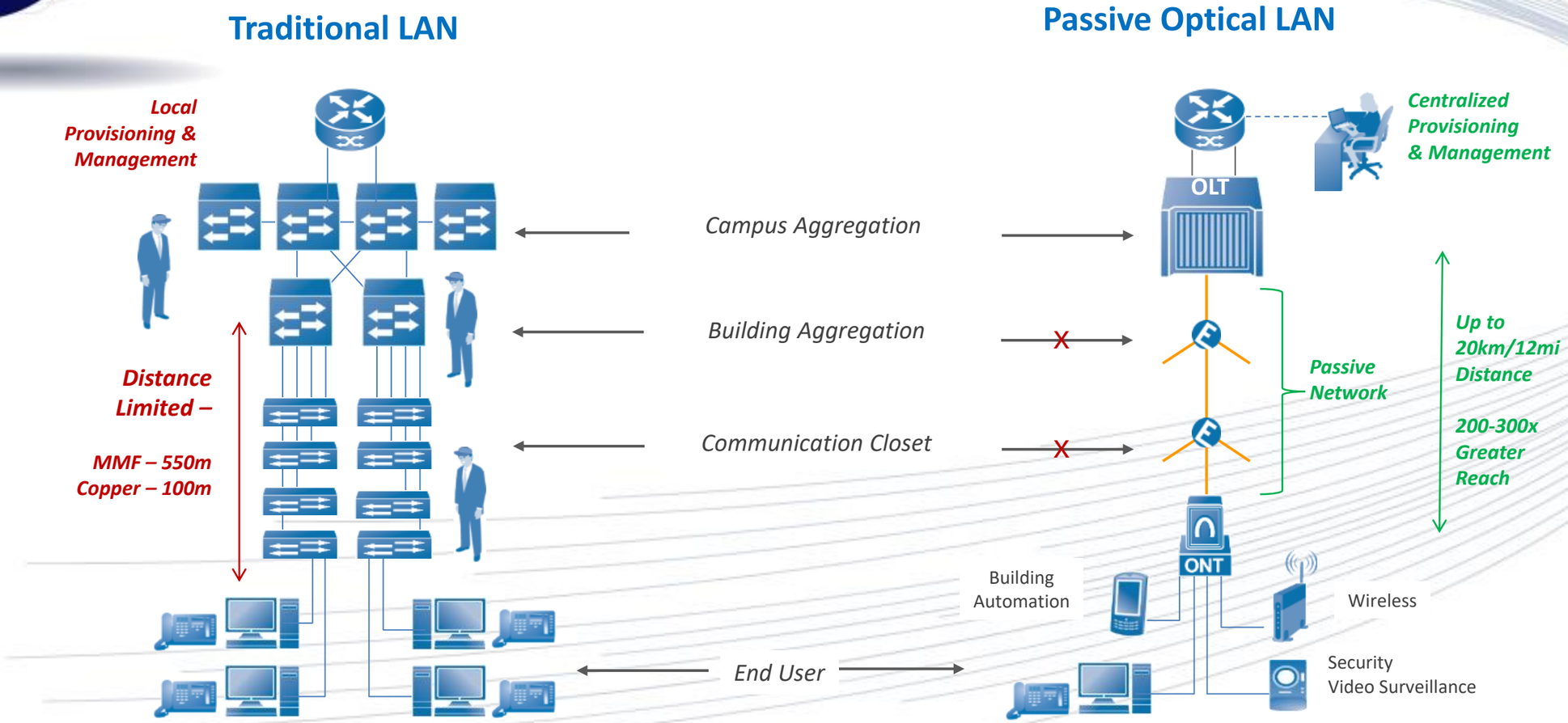
Traditional LAN vs. POL



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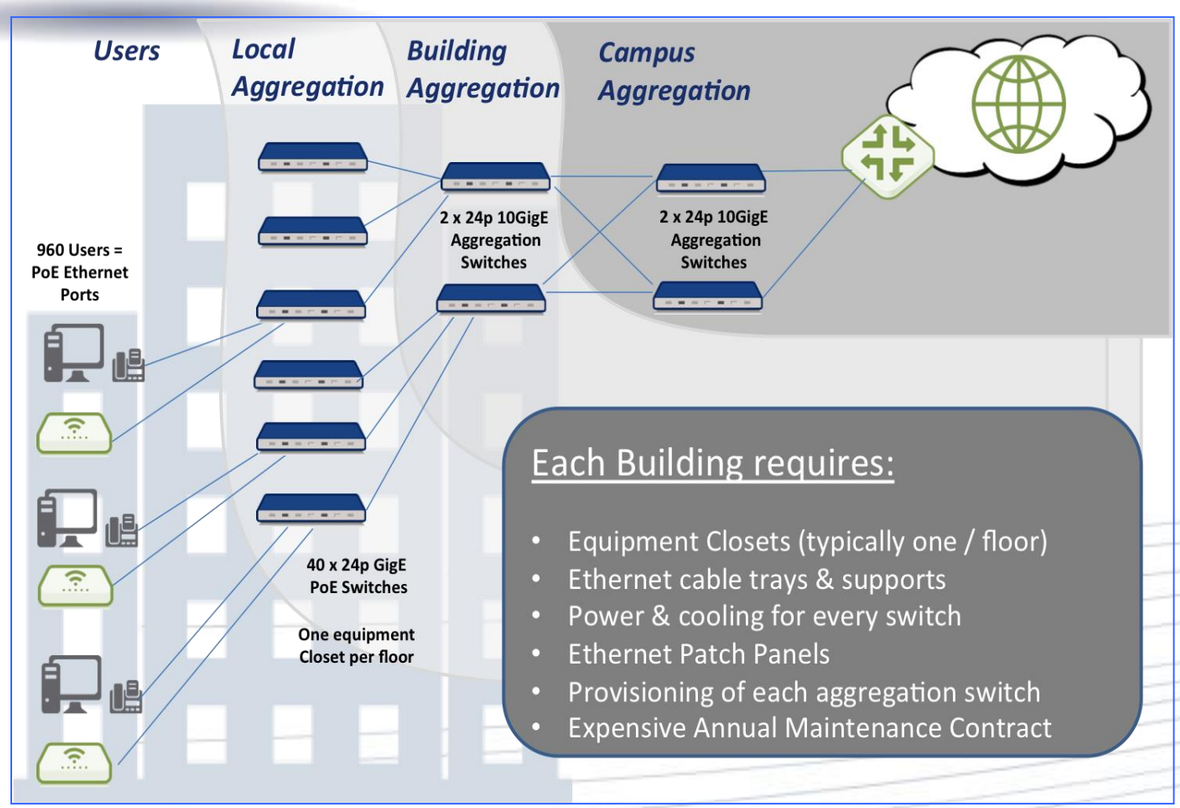
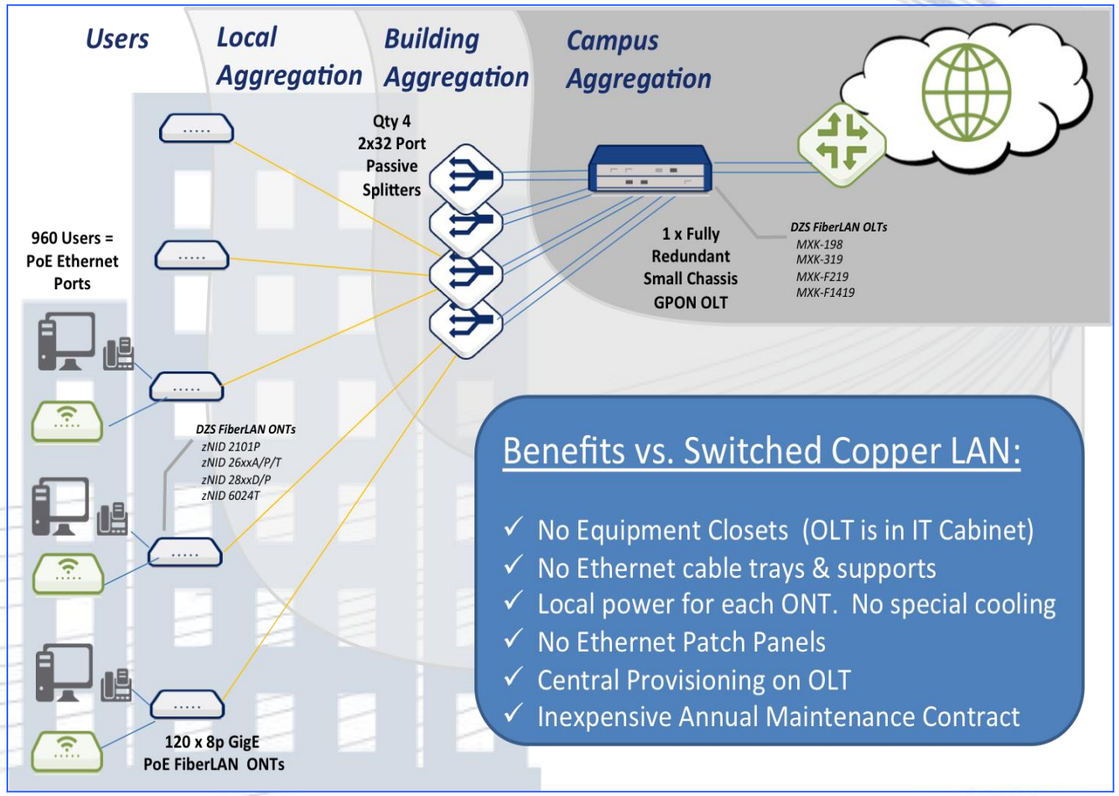
Benefits of POL vs. Copper LAN

Copper LAN Technology



Passive Optical LAN Technology



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Target Markets for POL

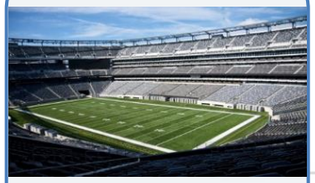
Hospitality

Governement

Education

Offices
Condos

Healthcare



Stadiums

Mining

Camps

Military

Industrial

Any Ethernet LAN

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POL Adaption

When building of a new LAN is considered?

- New building(s)
- Renewal/reconstruction of the existing building(s)
- Massive extension of the existing LAN
- When existing network is not performing sufficiently and has to be upgraded/renewed

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POL Adaption VIPs

Who has to buy the POL concept?

- Property owners
- Project designers/architects
- Construction company
- Property/facility managers
- Infrastructure/IT managers
- System integrators/distributors
- Installers

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POL Adaption Challenges

End-Customers:

- New technology
  - Lack of internal competence
  - Additional integration with existing systems
- New technology partners

System Integrators/Installers:

- New technology
  - Lack of internal sales/technical competence
- Eventual reduction of revenue!
- Necessity to invest

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POL Adaption Challenges (continued)

Technology Vendors:

- Additional requirements (in respect to SP business) > extra R&D
- Different way of supporting partners and end-customers
- Building a network of focused partners
- Establish partnership with ecosystem solution vendors, even with competitors

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Questions?

"Progress lies not in enhancing what is, but in advancing toward what will be."
Khalil Gibran (1883-1991)
Lebanese Poet

Thank You

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