

Access Network Migration

201804

Corleone Lee, Business Develop Manager.

Agenda



Migration for deeper fiber deployment



Chassis Selection



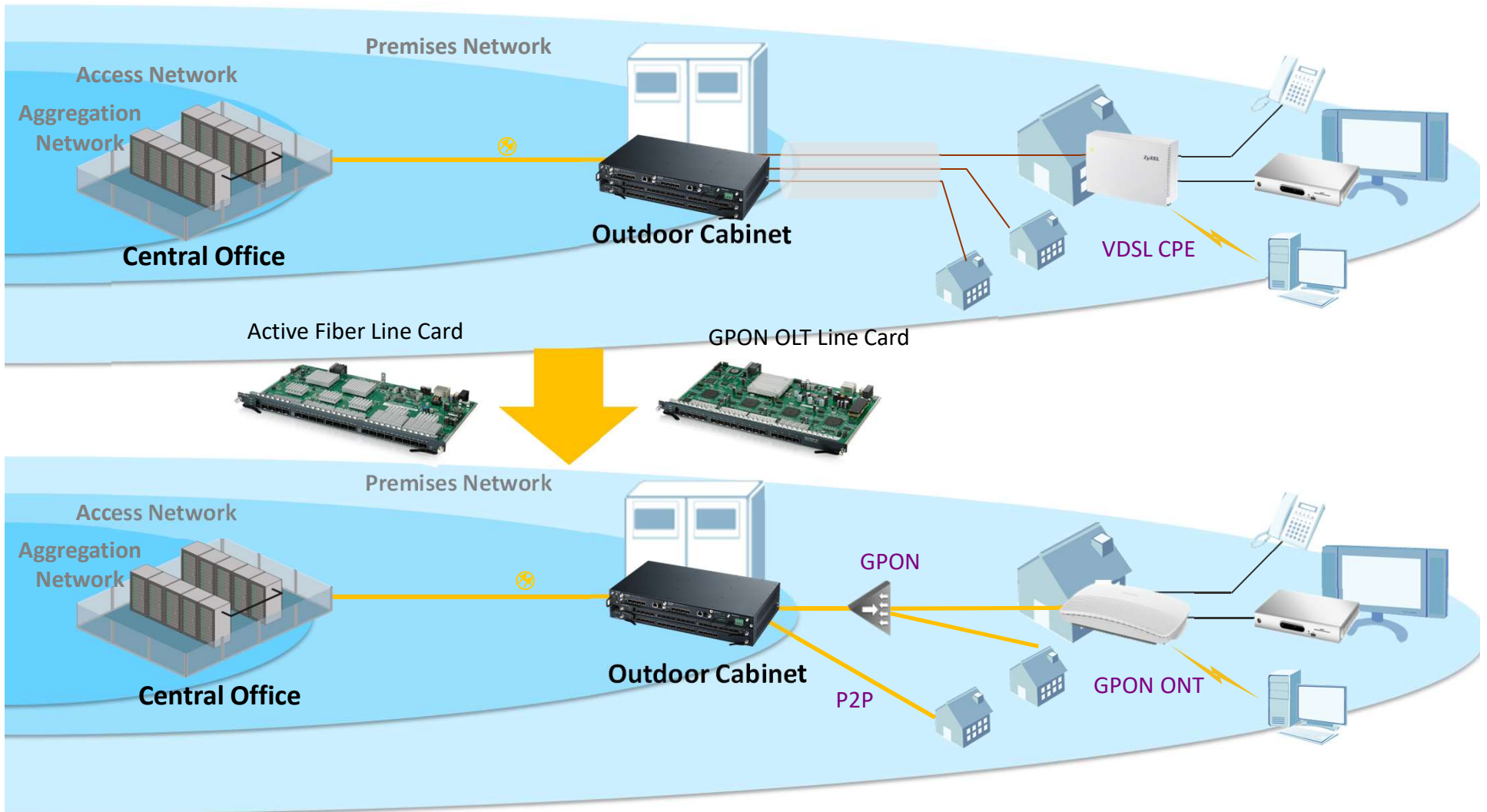
Next Generation PON



**Zyxel Access solution portfolio and
Roadmap**

Access Migration

- Deeper Fiber deployment

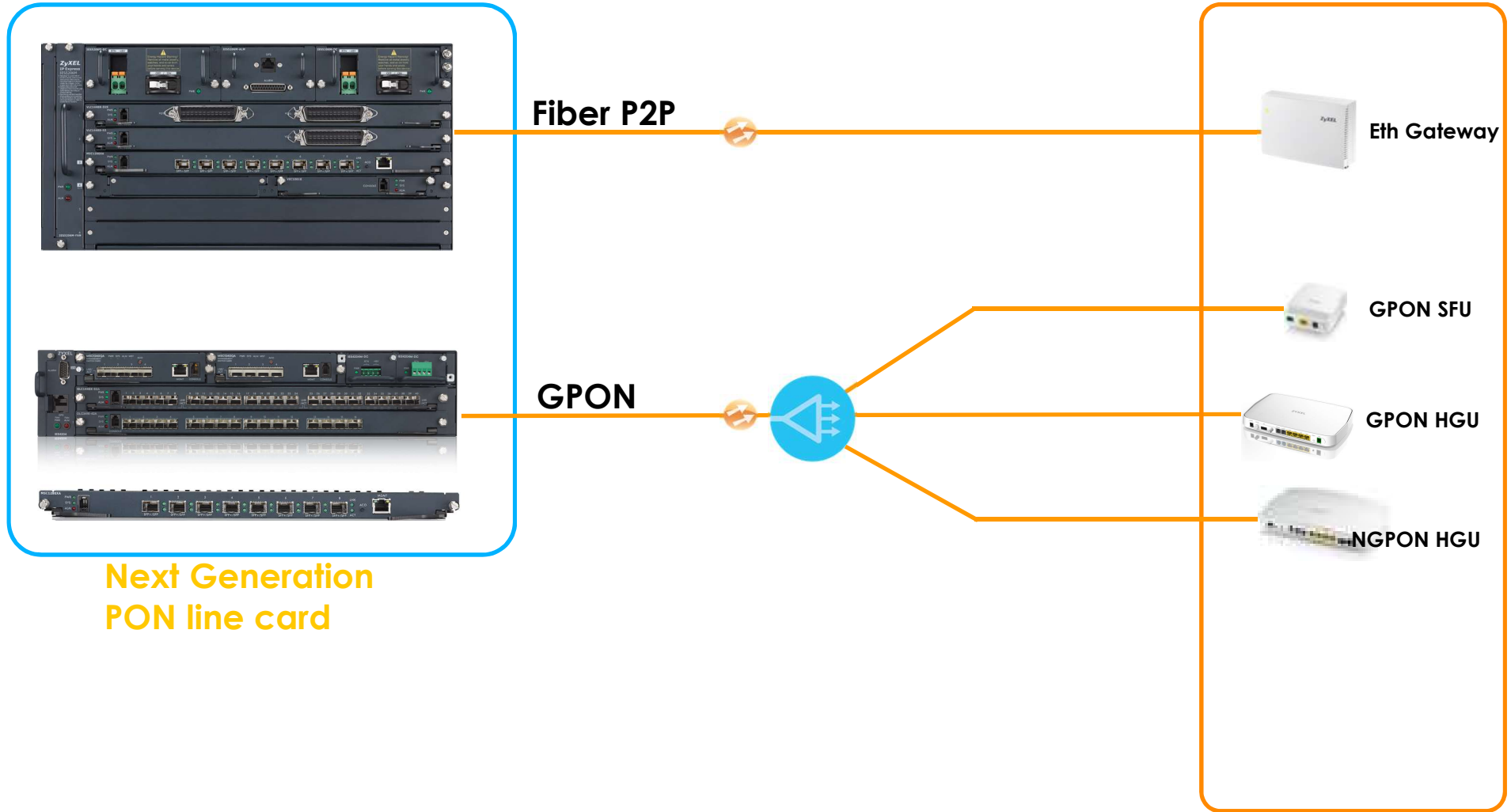


Access Migration

- High Density Area



Access Migration



Access Migration

- Rural Area



Access Migration

- Rural Area



Access Migration



Point of Presence

IES5206/IES4204



Fiber P2P

GPON

VMG8825

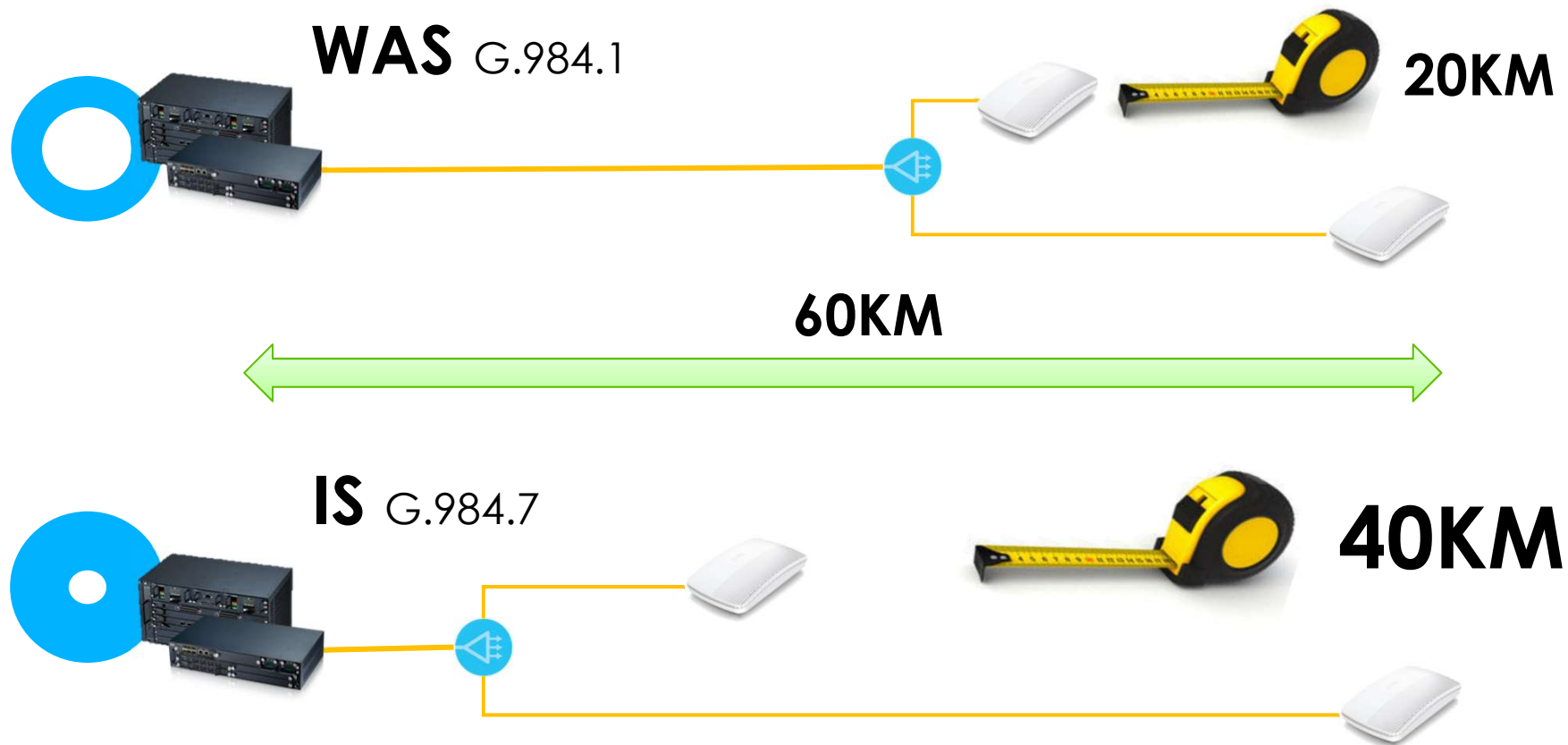
PMG5317

PMG5617

PMG1005

Access Migration

- Extend Maximum Differential Distance from 20Km to 40Km



Access Migration

- Rural Area



Agenda



Migration for deeper fiber deployment



Chassis Selection



Next Generation PON



**Zyxel Access solution portfolio and
Roadmap**

Chassis Selection

- **Future-proof.**
- **Bandwidth is capable for next generation PON.**
- **High Reliability**



Chassis Selection

AC/DC Dual Power
with Charger function



Battery Bank



Chassis Selection

Telco-Grade (-40°C to 65°C)

- High flexibility for the environment from central to remote
- Saving the electric fee for air condition
- Environment protection



-40°C



65°C

Agenda



Migration for deeper fiber deployment



Chassis Selection



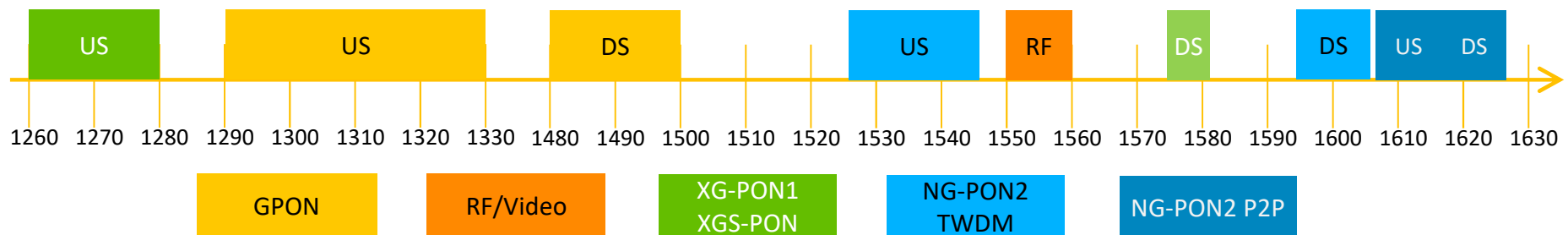
Next Generation PON



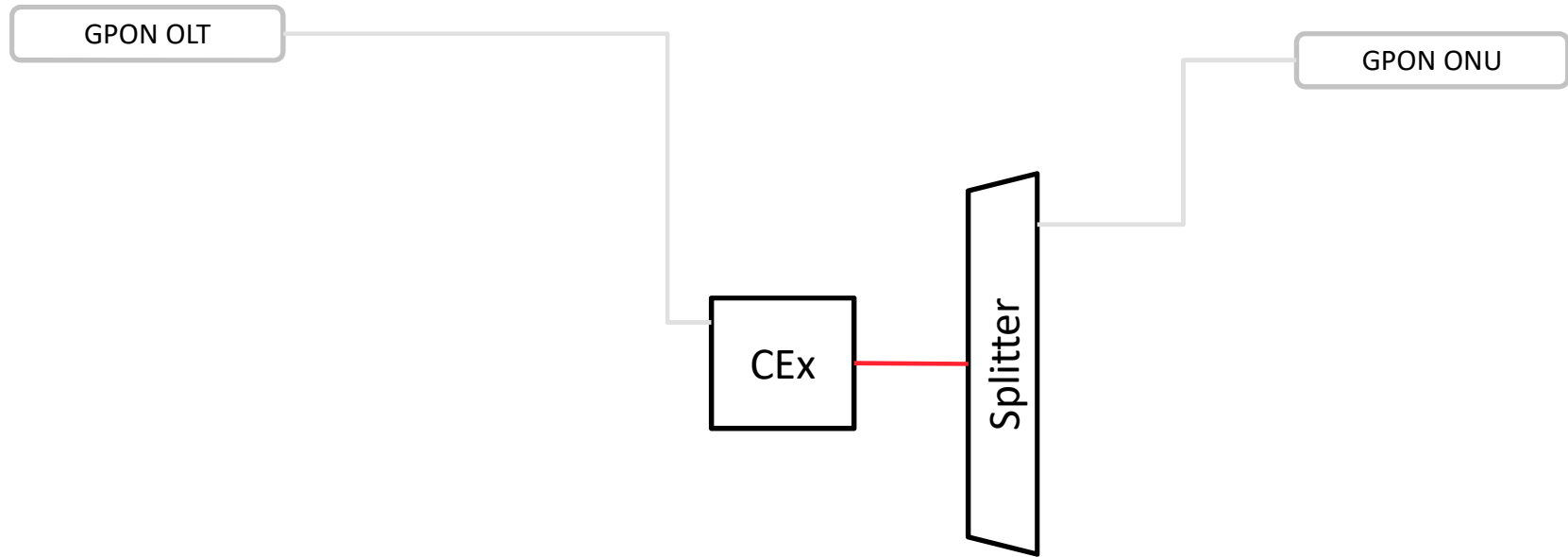
**Zyxel Access solution portfolio and
Roadmap**

Next Generation PON

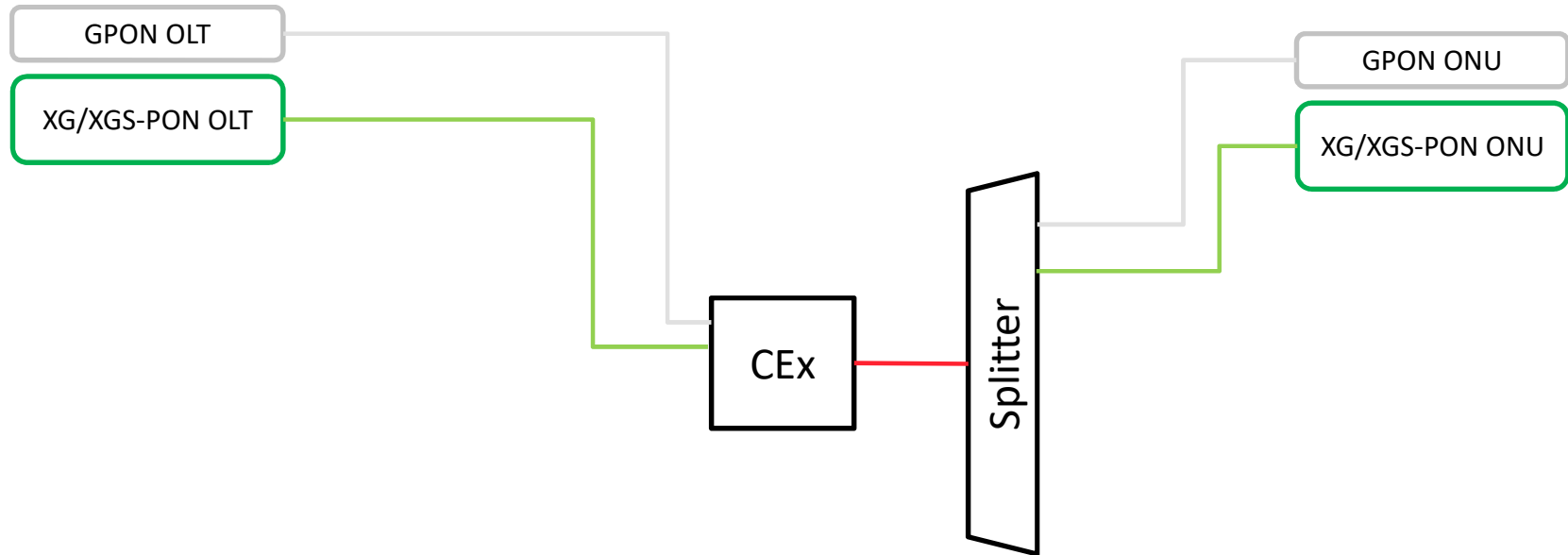
| Technology | GPON | XGPON1 | XGSPON | NGPON2 |
|-------------|---------|----------|---------------------|-------------------------------|
| DS/US | 2.5G/1G | 10G/2.5G | 10G/2.5G 10G/10G | 4-8 10G/2.5G or 10G/10G |
| Split ratio | 1:128 | 1:256 | 1:256 | 1:256 |
| Standard | G.984 | G.987 | G.9807 | G.989 |
| Technology | TDM | TDM | TDM | TWDM |
| Application | FTTH | FTTH | Enterprise, MBH | Enterprise, MBH, Fronthaul |



Next Generation PON



Next Generation PON



GPON

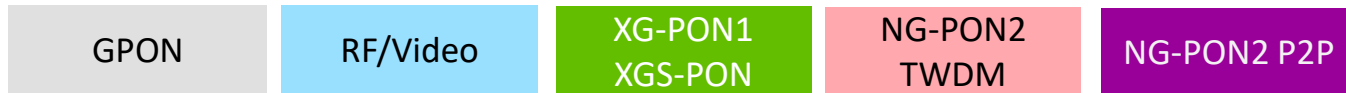
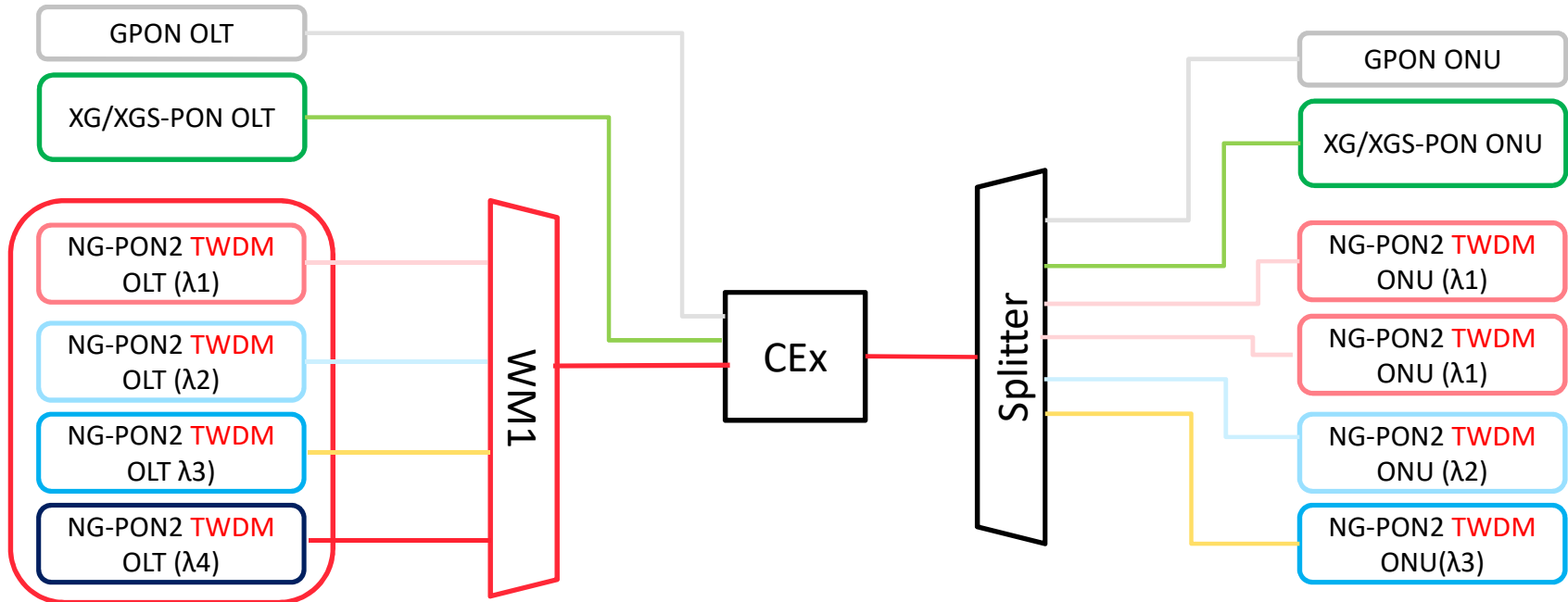
RF/Video

XG-PON1
XGS-PON

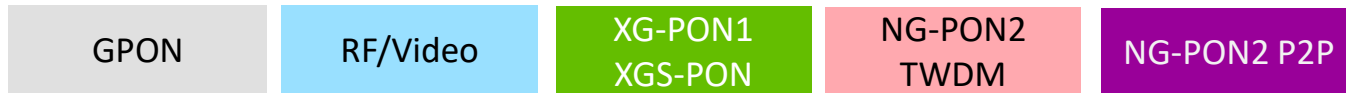
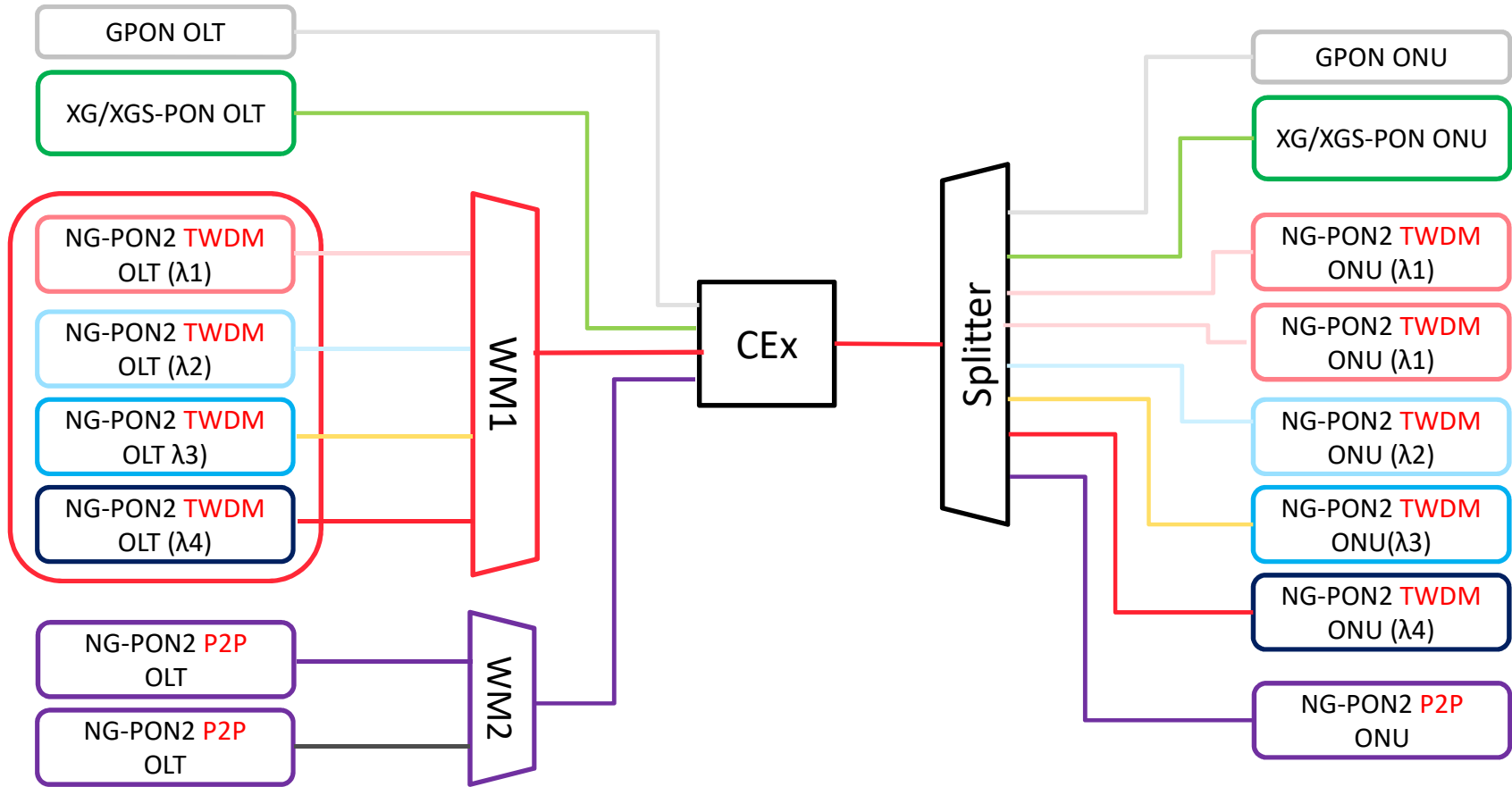
NG-PON2
TWDM

NG-PON2 P2P

Next Generation PON



Next Generation PON



Next Generation PON

- **FTTB for multi-dwelling units (MDUs)** – NG-gen PON would provide more bandwidth to be shared among the units in the building.
- **Enterprises** – NG PON would provide enterprises with more upstream bandwidth, supporting video conferencing and cloud-based file backup, etc.
- **MBH** – NG PON supports the growth in mobile traffic that needs to be backhauled
- **Fronthaul** – The use of PON for fronthaul becomes an option with TWDM PON supported by a point-to-point fiber overlay on a dedicated wavelength.

Next Generation PON

| | GPON | XGPON1 | XGSPON | NGPON2 |
|----------------|------|--------|----------|----------|
| ODN civil work | \$ | \$ | \$ | \$ |
| OLT | \$ | \$\$ | \$\$\$\$ | \$\$\$\$ |
| ONT | \$ | \$\$\$ | \$\$\$\$ | \$\$\$\$ |
| Optics | \$ | ~5\$ | ~6\$ | >30\$ |

Agenda



Migration for deeper fiber deployment



Chassis Selection



Next Generation PON



**Zyxel Access solution portfolio and
Roadmap**

Product Portfolio

Next generation PON Plan



OLT1404/1408

STANDALONE

- 4/8 GPON ports
- 4*10G+8*1G+8*2.5G uplink port
- 40° C to 65 ° C



OLT2406

2U OLT

- 2 MSC slots/4*10G+2*1G each
- 2 UNI slots, 16xGPON
- Full Redundancy
- 40° C to 65 ° C



IES4204

2U OLT

- 2 MSC slots, 4*10G each
- 2 UNI slots, 80xGE/96xVDSL2/32xGPON
- Full Redundancy
- 40° C to 65 ° C



IES5206

5U OLT

- 2 MSC slots, 4/8*10G each
- 4 UNI slots, 200xGE/192xVDSL2/64xGPON
- Full Redundancy
- 40° C to 65 ° C



IES5212

8.3U OLT

- 2 MSC slots, 4/8*10G each
- 10 UNI slots, 400xGE/384xVDSL2/160xGPON
- Full Redundancy
- 40° C to 65 ° C



IES6217

14U OLT

- 2 MSC slots, 4/8*10G
- 15 UNI slots, 600xGE/576xVDSL2/240xGPON
- Full Redundancy
- 40° C to 65 ° C

4/8-port OLT

16-port OLT

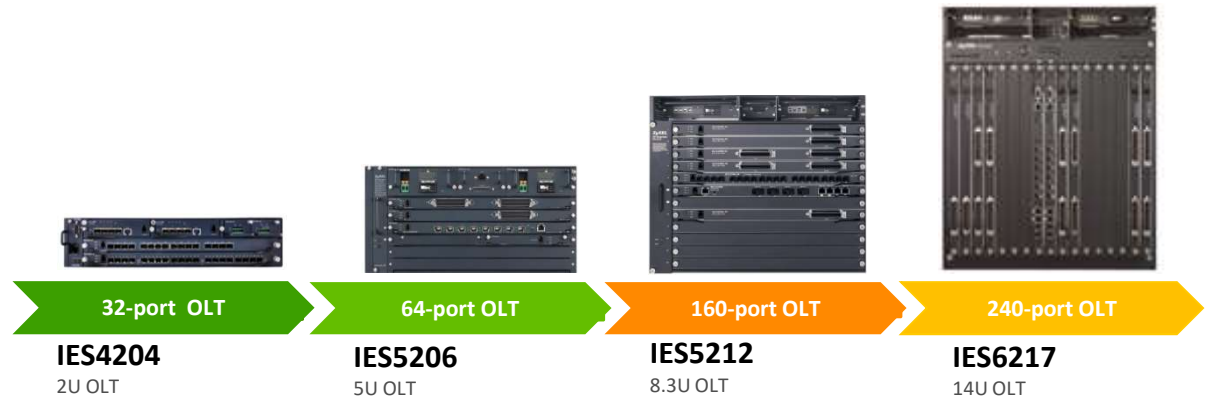
32-port OLT

64-port OLT

160-port OLT

240-port OLT

Product Portfolio



Management Card (FCS)

MSC1240QA



MSC1240XA



MSC1280XA



GPON Line Card (FCS)

OLC3416-42A



GE Line card (FCS)

GLC1440X-55A



8xXGS/NG PON(A) 8xXGS/NG PON(S)



10GPON Line Card

VDSL Line Card/VEC (FCS)

VLC1448X-51



VLC1448X-51S



VEC1001X



VLC1448X-51D

Product Portfolio

OLC3608: 8*10G PON **2019Q2**



- Support 8 Port XG-PON (10G Down/2.5 Up)
- Support 8 Port NG-PON Asymmetric (10G Down/2.5 Up)
- Support 8 Port 10G EPON (10G Down/10G Up)

OLC3708: 8*10G PON **2019Q4**



- Support 8 Port XGS-PON (10G Down/10 Up)
- Support 8 Port NG-PON Symmetric (10G Down/10 Up)

Product Portfolio

Single Fiber Unit



PMG3000-D20B

- SFP-type
- OMCI



PMG1005-T20B

- Bridge
- 1x GbE
- OMCI

Home Gateway Unit



PMG5317-T20B



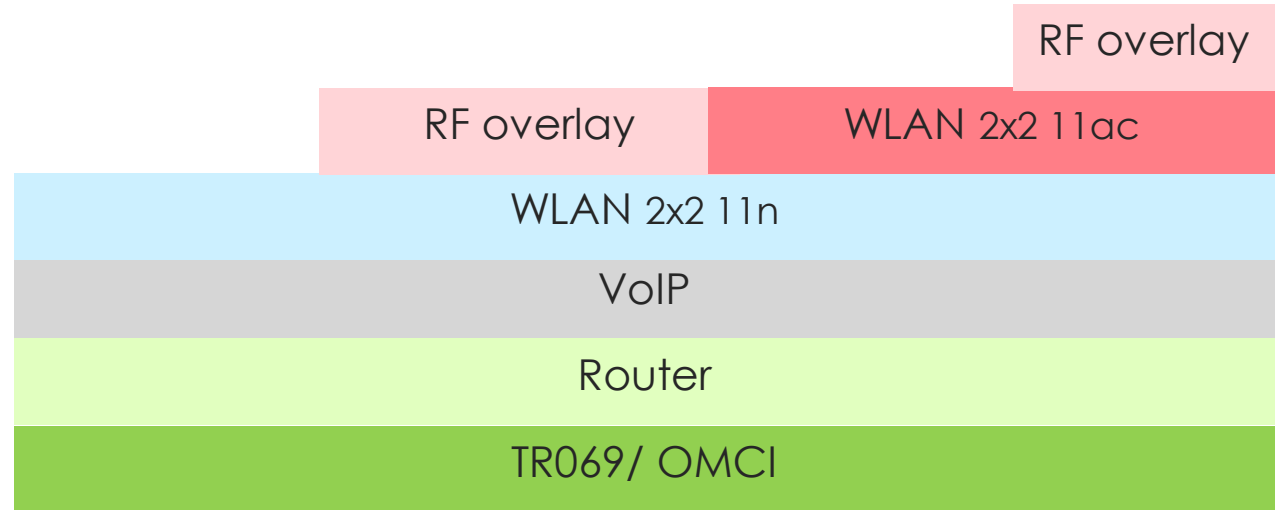
PMG5323-B20B



PMG5617GA



PMG5622GA



Product Portfolio

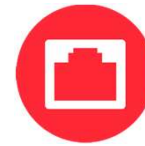
VMG8825-B50B

Dual-Band Combo WAN IAD

High end IAD for Fibre and VoIP services with Gigabit connectivity, powerful processors and 4x4 dual-band 11ac Wi-Fi



VDSL2
35b Profile



1 x GE WAN



4 x GE LAN



802.11ac
1733Mbps



2 x FXS



TR-069 Remote
Management



USB3.0



Zyxel Operating
System

802.11ac Wave2 Combo WAN IAD

Product Portfolio

VMG8825-B50B

Dual-Band Combo WAN IAD



Key Features

- VDSL2 Vectoring optimizes performance and coverage (VMG8825)
- Profile 8a/8b/8c/8d/12a/12b/17a/30a/35b
- Voice over IP service via FXS port
- TR-069 / TR181 issue 2



Wi-Fi Function

- 2.4GHz 802.11n (3x3) 600Mbps
- 5GHz 802.11ac (4x4) 1733Mbps
- MU-MIMO, Beamforming, Airtime fairness
- Zyxel Multy Pro *: Zero-touch configuration, remote management & diagnostics, Band steering and AP steering



* Future software upgrade



Hardware Interface

- 1 x DSL interface for VDSL/ADSL
- 1 x RJ-45 WAN port for Gigabit Ethernet
- 4 x 10/100/1000Mbps LAN ports
- 2 x FXS ports
- 1 x USB 3.0 host
- 1 x Power On/Off button
- 1 x WLAN/WPS button
- 1 x Reset to factory defaults button
- 1x SFP cgae



Software Features

- ATM QoS, Triple Play QoS (802.1p/802.1q/ToS/DiffServ)
- IGMPv1/v2/v3, IGMP Proxy/ Snooping
- IPv6
- SPI Firewall Security



Product Portfolio

AX781V-Q

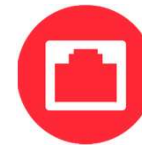


10G Fiber Gateway/IAD

High end Gateway/ IAD for Fibre and VoIP services with 10 Gigabit connectivity, powerful processors and 8x8 + 4x4 dual-band 11ax Wi-Fi



Fiber
SFP cage



1 x 10 GE LAN



4 x GE LAN



802.11ax
8x8 (5GHz)- 4800Mbps
4x4 (2.4GHz)- 1148Mbps



2 x FXS



TR-069 Remote
Management



USB3.0



Zyxel Operating
System

802.11ax -10G Fiber Gateway/IAD

Product Portfolio

AX781V-Q

Dual-Band 11ax Fiber Gateway/IAD



Key features

- SFP cage supported for 10G Fiber deployment
- TR-069 / TR181 issue 2
- Easily extend Wi-Fi with Zyxel Multy Pro
- Virtualization enable App*



Hardware Interface

- 1 x SFP cage for 10G/1G active Fiber
- 1 x 10G Ethernet LAN port
- 4 x 10/100/1000 Gigabit LAN ports
- 2 x FXS ports
- 1 x USB 3.0 host
- Power On/Off button
- WLAN/WPS button



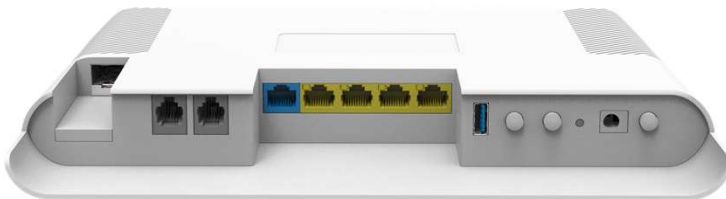
WLAN function

- WLAN: 2.4GHz 802.11ax (4x4)
- 5GHz 802.11ax (8x8)
- **MU-MIMO-ODFMA**, Beamforming, Airtime fairness
- **Zyxel Multy Pro: One-touch configuration**, remote management & diagnostics, **Band steering and AP steering**



Software Features

- ATM QoS, Triple Play QoS (802.1p/802.1q/ToS/DiffServ)
- IGMPv1/v2, v3, IGMP Proxy/ Snooping
- **Cyber Security for Home***



ZYXEL
Your Networking Ally