DATA SHEET

3802

Ciena's 3802 XGS-PON desktop optical network unit (ONU) is purpose-built for small- and medium-sized business and enterprises (SMB/SMEs) with low-cost metro access in mind. The versatile broadband service delivery desktop ONU is lightning-fast, secure, and capable of meeting or exceeding both immediate and future business needs enabled by flexible, open deployment within Ciena's 10G PON and universal aggregation Routing and Switching platforms.

The 3802 XGS-PON desktop ONU is fully compliant with ITU-T G.9807.1 (XGS-PON) and supports symmetrical 10 Gb/s downstream and upstream connectivity. This desktop ONU comes with built-in XGS-PON optics and media access control (MAC), an Ethernet switch, and one 10GbE RJ45 or fiber port. With low total cost of ownership (TCO) in mind, the shared fiber desktop ONU reduces edge transport and routing and switching costs, footprint, and power consumption by rightsizing with high-density Optical Line Terminal (OLT) platforms.

Higher-bandwidth service delivery for SMB/SMEs

SMEs play a major role in most economies and contribute significantly to job creation and global economic development. At the same time, most network operators' environments are very challenging, as they experience surging IP traffic growth in both their wireless and wireline networks in a hyper-competitive market.

Key to customer retention and continued growth is to offer customers new, higher-bandwidth services. For the past 15 years, passive optical networks (PONs) have become extremely popular by cost-effectively addressing ongoing surges in IP television (IPTV) and high-speed internet access. However, bandwidth demands, and intense competition are driving network operators to 10G PON, as 15-year-old asymmetrical Ethernet PON (EPON)

Features and benefits

- Compliant with ITU-T G.9807.1 specifications
- Cost-effective symmetric multi-GbE services
- Built in XGS-PON and 10GbE SFP+ or RJ45 interfaces
- Small desktop, wall, or rack-mountable package
- Operates at commercial temperature range (0°C to +40°C)
- IEEE VLAN bridging and tagging

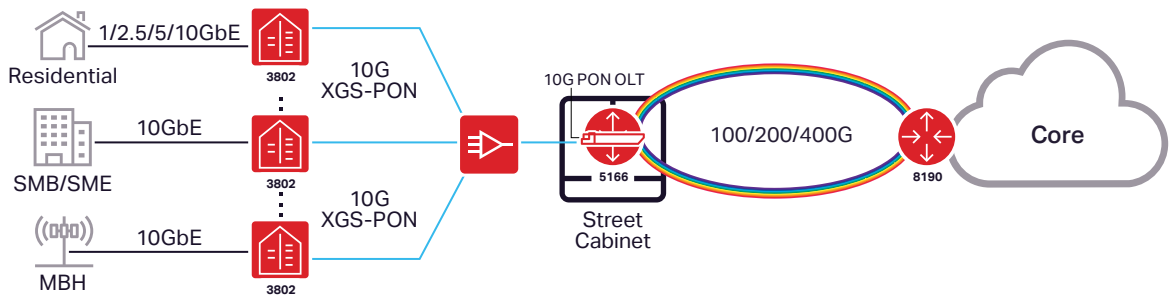

Figure 1. 3802 applications: residential, SMB/SME, MBH

and gigabit PON (GPON) technologies can no longer address network growth expected to increase by a factor of 10 in the next decade.

Customer benefits

Ciena's 3802 XGS-PON desktop ONU provides a single-box solution for access, service delivery, and in-depth management. Positioned at the customer demarcation point, it allows service providers to efficiently create, deploy, manage, and maintain cost-effective services their customers increasingly demand, all while reducing capital expenditures.

The small, slim desktop design enables the 3802 to be deployed in a variety of indoor environments as determined by end-user circumstances, while delivering the small footprint and low noise characteristics appreciated in today's busy office environments, including fiber-to-the-premises (FTTP) for gigabit broadband SMB/SME and Mobile Back Haul (MBH) services.

As a last-mile technology used between the subscriber and network operator, Ciena's 3802 XGS-PON desktop ONU increases operator competitiveness by doing more with less and allows network operators to turn up new services more quickly.

Shared fiber 10G PON

Ciena's 3802 XGS-PON desktop ONU supports 10 Gb/s XGS-PON downstream and upstream. The downstream wavelength operates at 1577nm, while the upstream wavelength operates at 1270nm.. With the help of a coax multiplexer/demultiplexer, multiple generations of PON can exist on the same fiber. Operators can seamlessly migrate services to XGS-PON or offer differentiated levels of services (business, residential, etc.).

Ciena's 3802 XGS-PON desktop ONU 10 Gb/s PON transceiver meets the N2 class maximum optical link budget in the ITU-T G.9807.1 standard, supporting symmetrical 10 Gb/s data rate up to 1:64 split ratio on 20km links.

Parameter	Minimum	Typical	Maximum	Unit
Tx Operating Wavelength (upstream)	1260	1270	1280	nm
Average (Tx) Launch Power	4.0		9.0	dBm
Rx Operating Wavelength (downstream)	1575	1577	1580	nm
Rx Sensitivity	-8		-28	dBm

Figure 2. optical transceiver characteristics

Universal aggregation

Efficient use of real estate assets is a growing concern for network operators, who either host their own network equipment or lease power and space in collocation facilities. As services multiply, operators have been forced to stack 10G-capable equipment, incurring additional collocation rental and power costs.

Network operators now can bring more value to their networks by supporting concurrent PON, TDM, IP, and Ethernet services on the same Ciena aggregation platform, taking advantage of tightly integrated class of service (CoS) per-service and per-ONU traffic management and statistics.

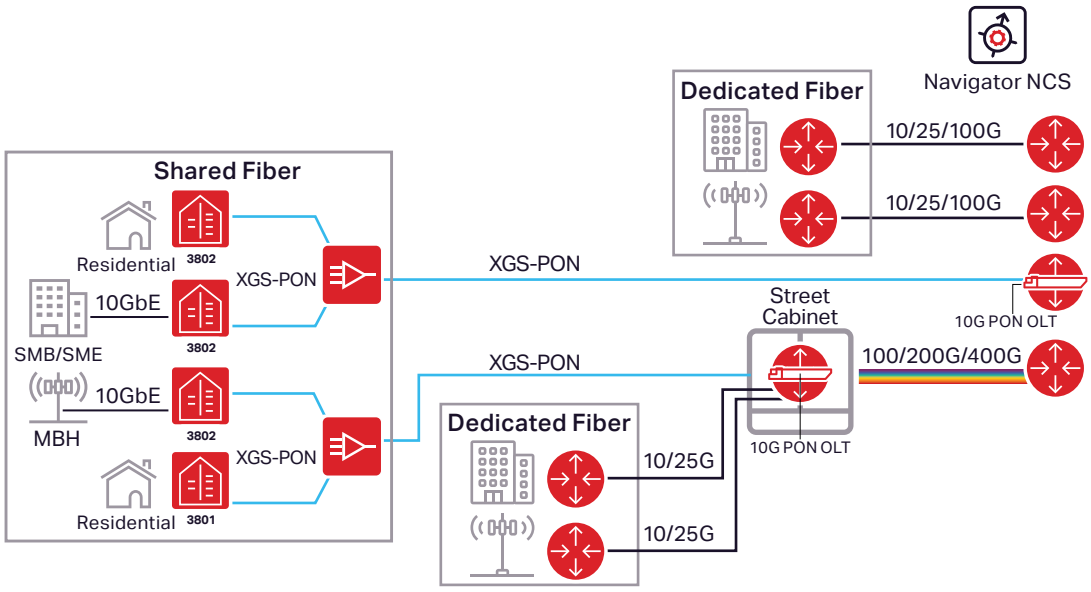

Figure 3. PON deployment and universal aggregation

Ethernet switch functions

Ciena's 3802 XGS-PON desktop ONU supports the following Ethernet functions:

- Bridge mode ONU
- VLAN 802.1d, QinQ 802.1ad tag classification and manipulation
- 802.1p Ethernet Quality of Service (QoS)
- Traffic class forwarding to GEM port and TCONT

Manageability

Ciena's 3802 supports the following:

- Power and port LEDs
- OMCI management
- Field upgradeable firmware

ONU Management

Ciena's 3802 XGS-PON desktop optical network unit (ONU) supports the ONU management control interface (OMCI) enabling it to be managed in band over XGS-PON via Ciena's routers (39xx, 51xx, 81xx) outfitted with a uOLT plug and serving as the OLT.

Technical Information

Interfaces

- ITU-T G.9807.1 XGS-PON, SC/APC connector, N2 class
- 3802-91x: 1/10GbE SFP/SFP+ client
- 3802-90x: 1/2.5/5/10GbE RJ45 client

Ethernet

- IEEE 802.3 Ethernet
- IEEE 802.3z gigabit Ethernet
- IEEE 802.an 10GBASE-T
- IEEE 802.1D MAC bridges
- IEEE 802.1Q VLANs, including .1p priority
- IEEE 802.1ad provider bridging (Q-in-Q) VLAN, tag classification and manipulation
- Jumbo frames to 9216 bytes
- Layer 2 control frame tunneling

Management

- Management via OMCI

OLT compatibility

- 39xx/51xx/81xx with XCVR-SGPL02/XCVR-SGPL04

Mechanical

- Desk or wall

Physical dimensions (millimeters)

- Length = 145
- Width = 110
- Height = 30

Operating temperature (degrees)

- 0°C to 40°C

Storage temperature (degrees)

- -40°C to 85°C

Humidity

- 10% to 95%, non-condensing

Weight (grams)

- 220

Maximum Power Consumption (watts)

- 10

Wall Adapter

- 100-240 VAC, 50/60Hz input, 12VDC output

Ordering information

Part Number	Description
170-3802-900	3802,ONU,(1)XGS-PON SC/APC CONNECTOR,(1)1/2.5/5/10G RJ45,EXTERNAL PWR SUP,INCLUDES EXT NA AC PSU
170-3802-901	3802,ONU,(1)XGS-PON SC/APC CONNECTOR,(1)1/2.5/5/10G RJ45,EXTERNAL PWR SUP,INCLUDES EXT EU AC PSU
170-3802-902	3802,ONU,(1)XGS-PON SC/APC CONNECTOR,(1)1/2.5/5/10G RJ45,EXTERNAL PWR SUP,INCLUDES EXT UK AC PSU
170-3802-903	3802,ONU,(1)XGS-PON SC/APC CONNECTOR,(1)1/2.5/10G RJ45, EXTERNAL PWR SUP,INCLUDES EXT AU AC PSU
170-3802-910	3802,ONU,(1)XGS-PON SC/APC CONNECTOR,(1)1/10G SFP+,EXTERNAL PWR SUP,INCLUDES EXT NA AC PSU
170-3802-911	3802,ONU,(1)XGS-PON SC/APC CONNECTOR,(1)1/10G SFP+,EXTERNAL PWR SUP,INCLUDES EXT EU AC PSU
170-3802-912	3802,ONU,(1)XGS-PON SC/APC CONNECTOR,(1)1/10G SFP+,EXTERNAL PWR SUP,INCLUDES EXT UK AC PSU
170-3802-913	3802,ONU,(1)XGS-PON SC/APC CONNECTOR,(1)1/10G SFP+,EXTERNAL PWR SUP,INCLUDES EXT AU AC PSU