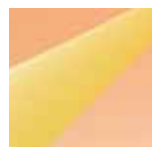


GPON

Gigabit Passive Optical Network



A comprehensive product portfolio for high demand networks. Datacom products meet the various requirements for fiber optical network solutions, providing outstanding performance, supporting real-time voice, data and video applications.





Overview

GPON (Gigabit Passive Optical Network) is a solution for optical access networks, offering high speed, cost-effective broadband applications and Triple Play services (voice, video and data). This technology allows sharing fiber optics among customers, reducing cost and maximizing the use of bandwidth.

Datacom has a range of GPON products that enables complete solutions of any size and cost-effective to provide FTTx services. The GPON product line is compliant with ITU-T G.984 and ITU-T G.988. Each GPON link supports downstream rates of 2.488 Gbit/s upstream rates of 1.244 Gbit/s and offers dynamic bandwidth allocation (DBA).

GPON solutions from Datacom include a complete set of equipment, including the central optical line terminal (OLT) and optical network units (ONUs). OLTs provide high throughput and capacity. ONUs are customer premises devices that are available in several models that fit to different kind of user requirements.

A comprehensive portfolio

Datacom OLTs (DM4610 and DM4615) are compact (1RU) and cost-effective OLTs to provide FTTx services. Versions are available from 4 to 16 GPON ports, supporting from 512 to 2,048 subscribers. All models support 10 GE uplinks.

The Datacom ONU family (DM984 and DM985) provides low-cost connectivity delivering Triple Play services to business and residential users. Ethernet data is transported transparently over the GPON link and delivered to a line termination unit (OLT). The ONUs offer L2 bridge or L3 router modes, Gigabit Ethernet interfaces, FXS voice ports (VoIP) and wireless 802.11b / g / n / ac.

Generating revenue and saving costs

Datacom products are the key to impact positively the total cost of ownership (TCO) of the access network. The GPON technology provides cost advantages to service providers that need to deliver profitable solutions to their clients. Using the latest technology, Datacom products are developed for long lifetime and with an additional high flexibility of deployment, provided by a complete portfolio, they are a great arrangement between capital expense and revenue generation. Therefore, the investments are future-proof, maximizing the return of investment.

GPON significantly reduces the power consumed in operations becoming long term sustainable. However, it is not only power requirements that affect the operational expenses. GPON networks also have lower maintenance costs due to the absence of active components. These advantages result in fewer interventions for maintenance of the network, and thus a much more efficient network, reflecting in a lower OPEX.

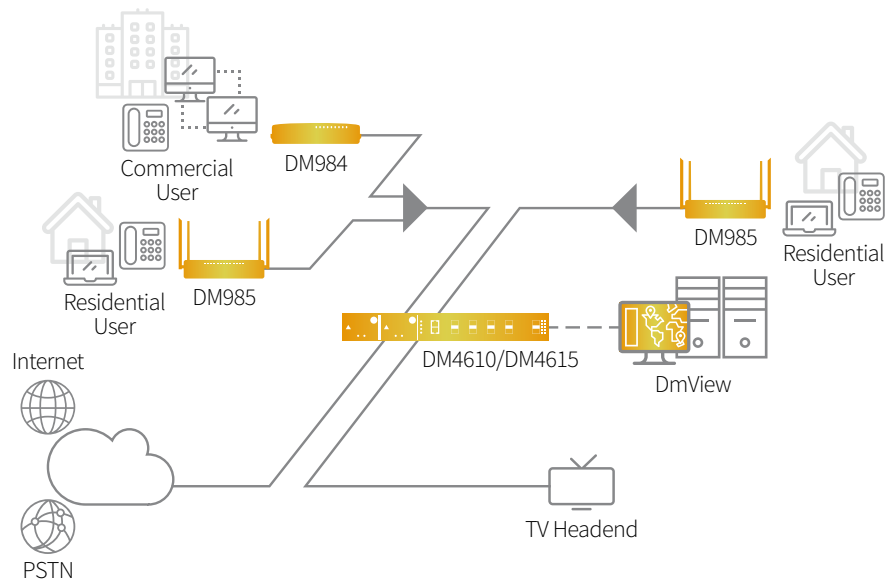
DmView – Integrated Network Management System

With a friendly graphical user interface and visualization of the equipment in topological maps, DmView offers facilities for managing Datacom solutions. The management software also allows the equipment visualization and monitoring, allowing identification of operational status and active alarms, as well as the CLI Template that facilitates and accelerates the common configuration operations. If needed, DmView can run on highly availability server clusters. Another important feature is the support for new DmOS firmware versions without the need to update DmView.

Applications

TRIPLE PLAY SERVICES

Triple Play services are an important part of the service provider's revenue. The demand for HDTV with IPTV is growing, creating a greater bandwidth requirement with higher performance in the access network. GPON is seen as the right technology to deliver Triple Play applications by the telecom operators and service providers because it can provide higher bandwidth, optimal quality of experience for the subscriber and enhanced scalability when compared to other access technologies.



METRO ETHERNET INTEGRATION

Metro Ethernet technology is a high capacity, flexibility and availability network. It is an ideal model to operate different services and traffics for service providers, with full isolation and bandwidth control. Ethernet access is part of a Metro Ethernet solution, attaching end-users to Ethernet based aggregation and core packet transport networks.

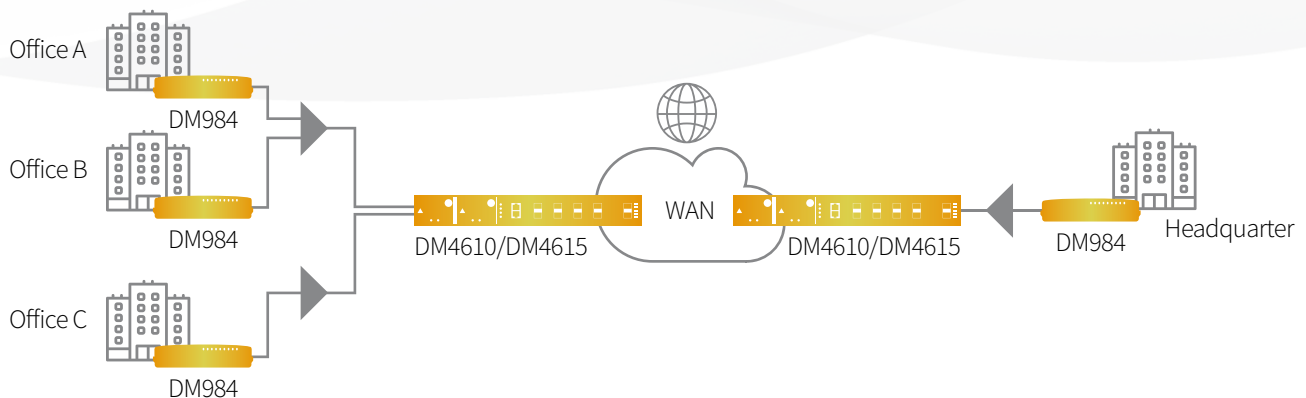
Datacom's OLTs and ONUs features and functions are

compatible with Metro Ethernet networks, allowing to deliver Ethernet connectivity for residential, businesses and mobile nodes onto the same platform. With this approach, operational flexibility, improved customer access and reduced deployment capital expenditure can be achieved, becoming an attractive solution for operators and service providers.

BUSINESS SERVICES

Datacom's OLT provide several features enabling the delivery of data, voice and video for small, medium and large businesses.

The TLS function (Transparent LAN Service) together with the hairpin feature allows offering LAN-to-LAN services without additional equipment – such as routers.



Optical Line Terminal (OLT)

DM4610/DM4615

- Compact design with only 1U chassis for 19" rack installation
- High temperature operation (0 to 65° C), allowing installation in outdoor cabinets
- Supports GPON SFP Class B+ and C+
- Up to 16 GPON interfaces (SFP), supporting up to 2048 users with 1:128 split ratio
- Up to 4 10GbE SFP+ and up to 12 1GbE interfaces (SFP, RJ45 or both)
- AC or DC redundant power supplies
- Fan and power supply modules are hot-swappable
- Fully compatible with ITU-T G.984 and ITU-T G.988
- Without any blocking for interoperability with third party devices
- High capacity L2 switching
- Supports Datacom Operational System (DmOS)
- MPLS: L2VPN services (VPWS and VPLS)
- EAPS / ERPS / xSTP: OLT protected ring deployment
- Rogue Detection: identification and isolation of ONUs transmitting outside the window / time slot
- Auto Provisioning: automation of ONU provisioning regardless of the ONU supplier



DM4610 4GPON



DM4610 8GPON



DM4615 16GPON

Hardware Characteristics

	DM4610 4GPON	DM4610 8GPON	DM4615 16GPON
GPON Interfaces	4	8	16
GE Interfaces	4 (SFP)	8 (SFP) + 4 (RJ45)	4 (RJ45)
10GE Interfaces	2 (SFP+)		4 (SFP+)
Switch Fabric	63 Gbps	94 Gbps	148 Gbps
Power Supply	Two redundant hot swappable slots for AC (100 - 240V) or DC (40 - 72V) PSUs		
Power Consumption	120W (maximum)		125W (maximum)
Management Interfaces	GE out of band and RS232 Console		GE out of band, RS232 Console and Micro USB
Environmental	0 to 65°C operation temperature at 5% to 95% relative humidity		
Dimension (HxDxW) with brackets	44mm x 312mm x 483mm		44mm x 268mm x 483mm

Optical Network Unit (ONU)

DM984/DM985

- Up to 4 1GbE (10/100/1000Base-T) ports
- Up to 2 FXS Interface (POTS)
- 2 internal antennas and 2x2 MIMO (DM984-422)
- 4 high gain external antennas and 2x2 MIMO (DM985-424)
- 802.11 b/g/n/ac Wi-Fi support (DM985-424)
- AC1200 Dual Band Wi-Fi (DM985-424)
- Beamforming (DM985-424)
- Integrated OFE (DM984 family)
- Bridge and Router mode
- Supports burst mode of 1.244 Gbit/s Upstream
- Supports reception of 2.488 Gbit/s Downstream
- Dying gasp support
- Fully compatible with ITU-T G.984 and ITU-T G.988
- Without any blocking for interoperability with third party devices
- IGMP Snooping
- Allows remote firmware upgrade and firmware rollback
- Supports SIP protocol (VoIP)
- Multiple audio codecs available
- Laser type B+ or C+ (DM984-100B model), according to ITU-T G.984.2 Amd.1



DM984 and its integrated OFE



Rear view of DM984



DM985-100



Rear view of DM985-100



DM985-424



Rear view of DM985-424

Hardware Characteristics

	DM984-100B	DM984-420	DM984-422	DM985-100	DM985-424
Integrated OFE		✓		—	
Laser type	C+	B+			
GE interfaces	1	4		1	4
FXS interfaces	—	2		—	2
WiFi interfaces	—	N300 internal antennas		—	AC1200 external antennas
Router features	—	✓			
Power supply	External PSU AC (100 - 240V)				
Power consumption	2,5W	9,5W	12W	4W	15W
Environmental – temperature	0 a 45°C			0 a 50°C	
Environmental – relative humidity	5% to 95%, non-condensing				
Dimensions (HxDxW – mm)	46 x 160 x 190 (with OFE)			29 x 105 x 130	45 x 210 x 149



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