Dark Fibre & Dense Wavelength Division Multiplexing

Extremely High Bandwidth, Low Latency, Ultra Scalable And Secure Connectivity

Dark Fibre Benefits

- Extremely high bandwidth, low latency

- Scalable - gives maximum control and flexibility over your network, allowing network to scale-up as bandwidth requirements grow

- Private & Secure - physically dedicated to your business, and is not shared at any point

- Route Diverse - design a Dark Fibre network that is graphically diverse from other routes you may currently use, or provide a secondary diverse path

- Cost effective for high bandwidth requirements & virtually no additional costs increasing bandwidth up to limits restricted by DWDM technology

DWDM Benefits

- DWDM technology enhances dark fibre performance by allowing multiple wavelengths to be used. Enterprises can scale each wavelength to hundreds of gigabits, dedicating each wavelength to specific networks for privacy & security

Introduction

Dark fibre is the perfect solution for businesses to strategically manage their network performance and control cost. Dark fibre services provide virtually unlimited bandwidth capability at a fixed price over the term of the contract.

Dense Wavelength Division Multiplexing (DWDM) is a multiplexing technology used to increase the bandwidth of dark fibre or optical networks. DWDM transmits multiple signals of different wavelengths at the same time on the same optical fibre – increasing the capacity of the fibre network.

Technology Overview

DWDM multiplexes data signals from different sources over a dark fibre.

Multiple wavelengths on one fibre - each wavelength carries a data signal
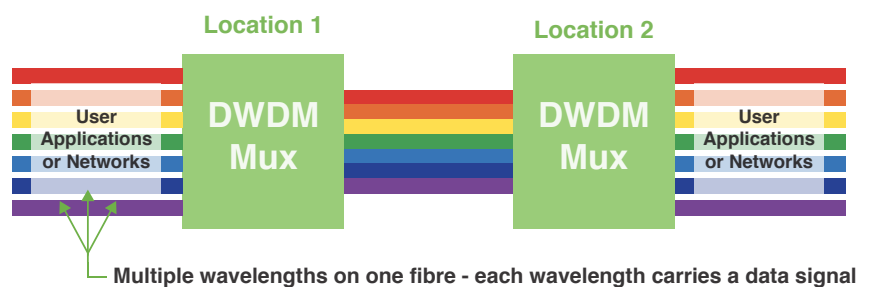
DWDM continues to evolve over time. Some DWDM implementations are set up to allow for 96 wave lengths of 200Gbps per wavelength or 48 wavelengths of 400Gbps per wavelength.

Solution Overview

LGA's high speed backbone supports dark fibre and DWDM today. Customers may deploy dark fibre / DWDM high bandwidth for intranet applications or for gigabit connectivity to internet.
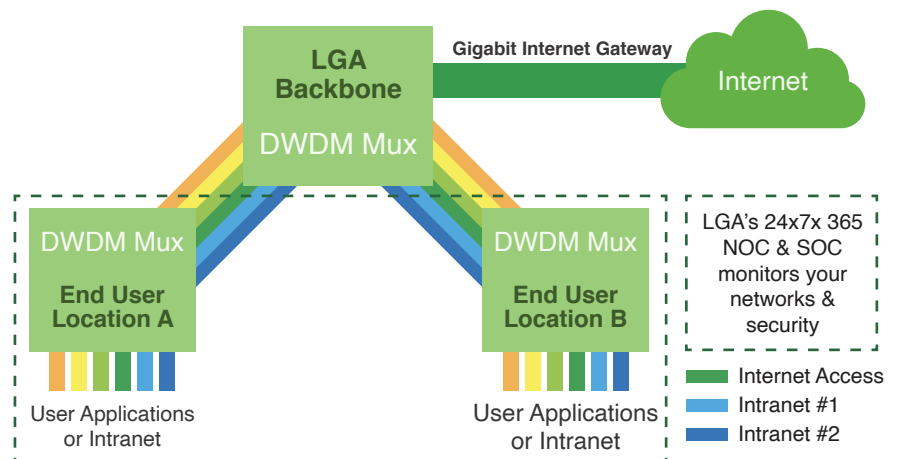
Benefits

High Bandwidth, Low Latency

Extremely high bandwidth, ultra low latency connectivity solution.

Scalable

Dark fibre / DWDM gives you maximum control and flexibility over your network, allowing your network to scale-up as your bandwidth requirements grow – providing virtually limitless capacity. By allowing multiple wavelengths to be used on a single fibre, enterprises can scale each wavelength to hundreds of gigabits.

Private & Secure

Your network is physically dedicated to your business, and is not shared at any point. This provides you with ultimate peace of mind and can help demonstrate regulatory compliance - your network is 100% private. Each wavelength can be dedicated to specific networks for privacy and security.

Route Diversity

Network route diversity is critical to protect your business. You can design a Dark Fibre network that is graphically diverse from other routes you may currently use, or provide a secondary diverse path.

Cost Effectiveness

Cost effective for high bandwidth requirements and virtually no additional costs increasing bandwidth up to limits restricted by DWDM technology.

End User Use Cases

Industry use cases include:

Schools and Institutes of Higher Learning: Streaming large quantities of live broadcasts, media, data between schools, diverse locations, staff and students.

Healthcare: Advent of the electronic customer dossier (ECD) and medical examination imagery means that the demand for stable, secure connections in the healthcare sector is mandatory.

Government Institutions, Military and Aerospace: Need stable and reliable data connections. Dark Fibre gives government institutions the option of managing all aspects of their connections themselves. Government ICT absolutely has to have both scalability and security.

Media Hubs and Communications: Streaming large quantities of live broadcasts, media, data within and between industry partners. Media backup to remote locations.

BFSI: Financial institutions require some of the most demanding networks to be highly available, extremely high bandwidth with low latency for disaster recovery. Banks have been deploying dark fibre in the last two decades.

Rail, Roads and Utilities: The transportation and power utilities industry deploy these networks along their backbone often for management, monitoring and resale.

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