

# Dense Wavelength Division Multiplexing - DWDM

### Overview

Discover the powerful economics of DWDM based solutions compared with the traditional SONET/TDM based services as you grow your network and expand your services. GTA has built a robust, protocol and bit-rate independent high capacity network utilizing state-of-the-art optical technology to give you expandability and affordability.

GTA's Optical Wavelength Network Service (OWN) allows you to lease individual wavelengths as a secure, private resource for an alternative to capital intensive and resource intensive fiber builds. GTA's Optical Wavelength Network Service uses Dense Wavelength Division Multiplexing (DWDM) technology and involves unique wavelength optical signals.

The signals are multiplexed and transmitted over a single fiber. At the receiver end, the composite signal is de-multiplexed and the individual unique signals recovered. An optical channel consists of two wavelengths to deliver bi-directional communications. Transponders at end locations connect directly to GTA's Optical Wavelength Networks' DWDM optical layer and provide a non-proprietary, open interface to your network elements, thereby achieving virtual fiber connectivity between your network elements.

### Why DWDM?

From both technical and economic perspectives, GTA's ability to provide potentially unlimited transmission capacity is the most obvious advantage of DWDM technology. As demands change, GTA can increase your capacity needs, either by simple equipment upgrades or by increasing the number of lambdas (or channels) on the fiber, without expensive upgrades.

Together with bandwidth capacities scalable as your needs expand (from 2.5 Gbps to 10 Gbps), DWDM's most compelling technical advantages are summarized as follows:

**Transparency** — Because DWDM is physical layer architecture, it transparently supports both TDM and data formats such as ATM, Gigabit Ethernet, ESCON, and Fiber Channel with open interfaces over a common physical layer.

**Scalability** — DWDM can leverage the abundance of existing fiber in GTA's Optical Wavelength Network Service to quickly meet demand for capacity on point-to-point links and on spans of existing SONET/SDH rings.

**Dynamic provisioning** — Fast, simple, and dynamic provisioning of network connections give you the ability to utilize GTA's Optical Wavelength Network Service in days rather than months.

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At GTA, we are dedicated to providing you with the best customer support available. Therefore, if you have any questions about our products and services, please contact our friendly and helpful support team at [PRO-One@gta.net](mailto:PRO-One@gta.net) or by phone at (671)644-4GTA.

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