The Arista 100G DWDM solution integrates feature rich and high performance layer 2 and layer 3 switching with Coherent DWDM interfaces into a single high-density line card. It reduces complexity and at the same time delivers a cost effective and highly scalable solution with encryption and wire-speed performance for Data Center Interconnects in metro and long haul environments.

Key Highlights

- High Density DWDM solution for Cloud Data Centers
- Cost and performance optimized for massive volumes of traffic through metro or long haul networks
- Ethernet over DWDM - transparent to Layer 2 or Layer 3 applications

Secure

- IEEE 802.1ae MACsec encryption
- 100G Wirespeed encryption on all ports
- Avoid external devices
- Strong 256 bit encryption
- Ensures confidentiality
- Provides anti-replay protection
- Protects against passive wire-tapping

Flexible and Scalable

- 6 x 100GbE DWDM ports per line card
- 9.6Tbps per fiber pair
- Pluggable optics for pay as you grow performance
- Tunable lasers: 96 channels at 100GHz spacing
- OIF and MSA compliant optics
- Supports Flex Grid operation for future expansion

Metro & Long Haul Application

- Metro: 100km un-amplified
- Long Haul: Over 3000km with in-line amplifiers
- Advanced 100G DP-QPSK Modulation
- Integrates with passive Mux/Demux

High Performance

- Delivers up to 900Million packets per second of L2 and L3 IP forwarding
- 9GB of packet memory for approximately 40 msec of buffer per port

Arista 7500E DWDM Introduction

The phenomenal growth in demand for bandwidth, driven by mobile, video streaming and cloud applications, is driving the need for connecting several geographically dispersed data centers to maintain seamless content delivery and provide application agility. To keep up with the global trend of price reduction for bandwidth, interconnecting these geographically dispersed data centers has to be operationally simple and economically efficient.

The Arista 100G DWDM solution is integrated to a 7500E Series line card offering high-density with un-compromised performance at an efficient cost point. It utilizes proven coherent optical technology to enable simple, reliable and scalable data center interconnect solutions for both metro and long haul applications.

To address the need to protect data from wiretapping, intrusion and other attacks the Arista 100G DWDM line card provides IEEE 802.1AE defined MACsec encryption at wire speed on every 100GbE port.

Arista 100G DWDM Coherent Line card for 7500E Series

7500E DWDM Key Features and Benefits

The Arista 7500E Series DWDM line card consolidates pluggable 100G Coherent optics into a high density line card that delivers wire speed layer 2 and layer 3 switching that eliminates the requirement for additional DWDM and encryption equipment, simplifies network designs, lowers network capital and operational expenses.

- 6x100G Coherent DWDM interfaces per card
- Integrated 100G MACsec encryption
- 100G Coherent DSP integrated on board
- DP-QPSK Modulation and Coherent detection
- OIF and MSA compliant pluggable optics
- Tunable lasers: Over 96 channels in C-Band at 100GHz spacing
- Arista EOS: Single binary image for all platforms

The DWDM line card includes all the features of the 7500E Series providing rich support for network virtualization, application monitoring and SDN to deliver scalable and deterministic network performance for mission critical applications.

The 7500E Series offers over 30Tbps of total capacity with support for a wide choice of wire speed 10GbE, 40GbE and 100GbE interfaces.

7500E Key Advantages

Pluggable Optics - pay as you grow, tunable, easy troubleshooting and robust specifications
Flexible Distances - 80km without amplification for low cost point to point, over 3000km with amplification
**Cloud DC Operators** - multiple 100G links between sites
High Bandwidth applications - video streaming, content, cloud applications
High Density with MACsec - secure traffic between sites, prevents passive wire tapping, intrusion and other attacks. 256 bit - strong. Works with other security protocols.

High Performance, Secure and Long Haul

The 6-port DWDM line card extends the capabilities of a full service spine switch to provide the perfect solution for high bandwidth Metro solutions and long haul DCI (Data Center Interconnect), for Ethernet over DWDM (EoDWDM).

For a simple solution of less than 80km the 7500E Series DWDM line cards can directly terminate a dark fiber connection to provide a point to a point connection between two locations.
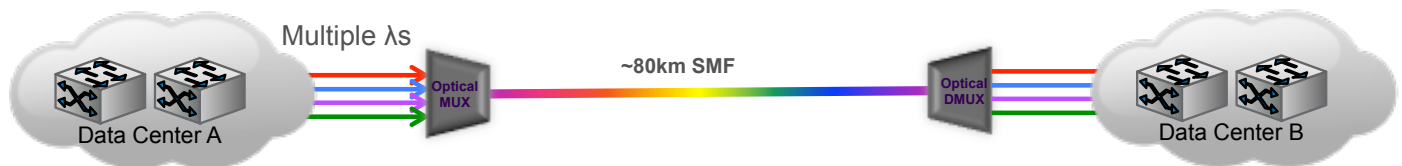
Due to losses incurred in the light signal when passing through fiber splices and the fiber itself there is a need to amplify the signal when extending the distances beyond 80km. For greater distances EDFA's are employed to give signal a boost.
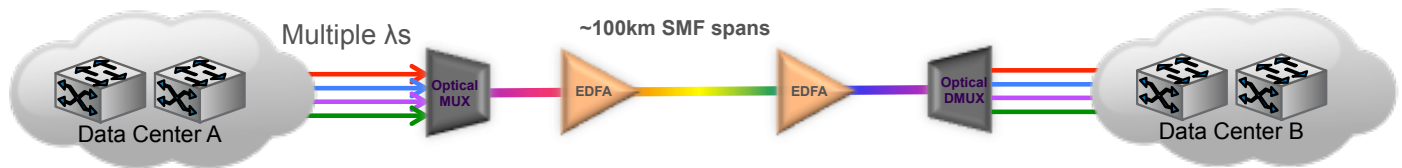
Installing EDFA's at a spacing of approximately 80km along the fiber route allows the length of a connection to be extended to over 3,000km.
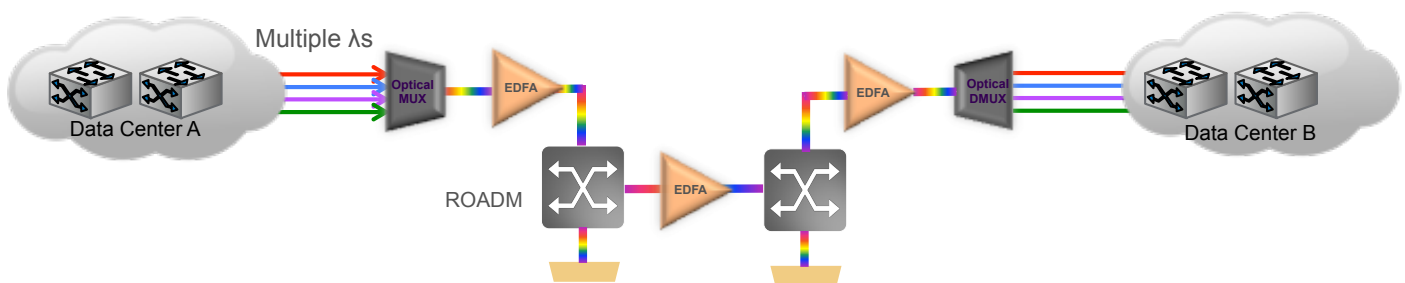
The 7500E Series DWDM line card integrates 802.1AE 256 bit MACsec encryption capabilities that allows all data to be encrypted before it is transmitted over any optical network, ensuring that data being transmitted cannot be compromised.

The 7500E Series DWDM solution offers a cost effective solution for transporting massive volumes of traffic with wire-speed encryption, un-matched density in a proven architecture that is scalable, providing investment protection.