

Juniper® Validated Design

JVD Solution Overview: Data Center Interconnect over IPoDWDM



sol-overview-JVD-OPTICS-BASE-01-01

Executive Summary

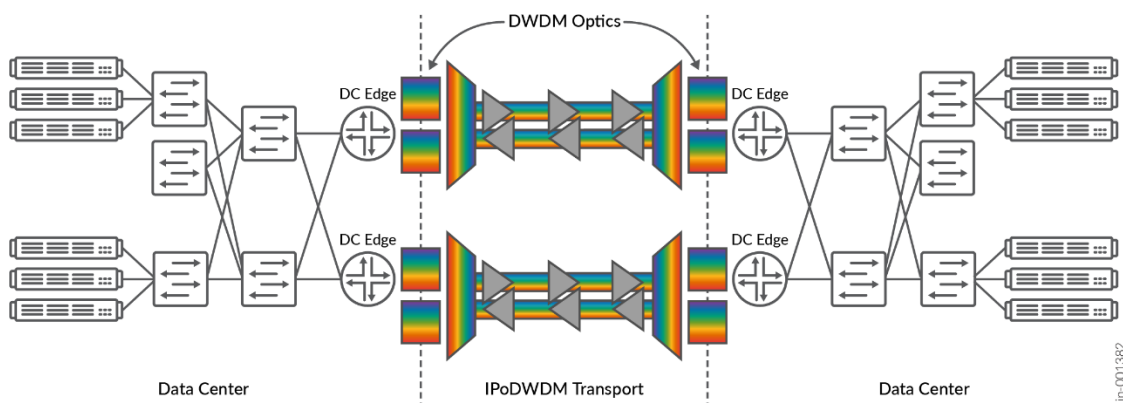
Data-Center Interconnect (DCI) needs a High-Capacity Transport interconnecting two or more data centers. This solution focuses on HCT that can be leveraged by an Internet Protocol over Dense Wavelength-Division Multiplexing (IPoDWDM) network. Juniper calls this architecture Converged Optical Routing Architecture (CORA).

Solution Overview

The traditional DWDM networks need to have transponders to convert Ethernet signals into a DWDM signal suitable for DWDM transport. CORA integrates DWDM optics into our routers and switches. DWDM optics in a router can connect directly to a DWDM multiplexer, so there is no need for a separate transponder. In this model, the Internet Protocol (IP) and Optical network management operate as a single domain controller, which in turn:

- Simplifies operations
- Lowers operational expenses
- Increases network efficiency
- Lowers power consumption
- Allows router to see the performance of the DWDM link
- Allows router to make routing decisions based on the DWDM link performance
- Troubleshoots faster and reduces downtime

Figure 1: Data Center Interconnect over IPoDWDM Topology



This solution utilizes the following routing platforms: Juniper ACX7000 Router Series, MX Series Router, and PTX Series Router, with Juniper 400G Coherent Optics as transceivers and Adtran as an Open Line System.

**Corporate and Sales Headquarters**

Juniper Networks, Inc.
1133 Innovation Way
Sunnyvale, CA 94089 USA
Phone: 888.JUNIPER (888.586.4737)
or +1.408.745.2000
Fax: +1.408.745.2100
www.juniper.net

APAC and EMEA Headquarters

Juniper Networks International B.V.
Boeing Avenue 240
1119 PZ Schiphol-Rijk
Amsterdam, The Netherlands
Phone: +31.207.125.700
Fax: +31.207.125.701

Copyright 2024 Juniper Networks, Inc. All rights reserved. Juniper Networks, the Juniper Networks logo, Juniper, Junos, and other trademarks are registered trademarks of Juniper Networks, Inc. and/or its affiliates in the United States and other countries. Other names may be trademarks of their respective owners. Juniper Networks assumes no responsibility for any inaccuracies in this document. Juniper Networks reserves the right to change, modify, transfer, or otherwise revise this publication without notice.

Send feedback to: design-center-comments@juniper.net V1.0/071125