OcNOS® OTN

For Packet Optical Transponders

Overview

OcNOS on modular packet transponder systems based on open specifications combines best-in-class software, open network switch and coherent modules with a data center operations model for cost-effective, web-scale Data Center Interconnect (DCI) and mobile backhaul transport applications.

Web-scale networking requires new solutions designed from the ground up to provide high-capacity metro, regional, and long-haul interconnect with a web-scale operations toolset. IP Infusion's NOS running on open networking switches combines two key principles: best-in-class coherent technology and web-scale IT. For example, OcNOS on Edgecore Cassini packet transponder addresses the massive bandwidth requirements of DCI and backhaul networks while providing power and space efficiency, and its web-scale IT operations model provides easier integration and operations through programmable, open APIs.

A key concept that will enable next generation transport networks is disaggregation, whereby networking software is separated from the switching or routing hardware and broken down into functional components that can be more efficiently operated. One of the biggest advantages of disaggregation is CAPEX reduction, followed by OPEX savings and deployment flexibility.

Carriers need a new approach for network platform development and procurement to enable:

- Faster introduction of technologies, designs, and features by means of a collaborative ecosystem of hardware and software component vendors

- Flexibility in network design and service deployment via plug-n-play hardware and software components that can cost-effectively scale up and down

- Unit-cost reduction through use of standard hardware and software technology components with very large economies-of-scale wherever appropriate.

The OcNOS system enables community collaboration across network hardware, optical components, forwarding, and operating system layers. OcNOS provides an open NOS framework that leverages existing open source resources and complementary platforms such as switches and white box routers.

Features and Benefits:

- Enables massive capacity and density—1.6 Tb/s of line capacity plus 1.6 Tb/s of client Ethernet ports in a compact, 1.5RU form-factor—powered by standard CFP2 coherent optics from major optical vendors

- Supports flexible modulation: QPSK, 8QAM, and 16QAM for the highest capacity, from metro and regional to long-haul requirements

- Provides a new business and operational experience for deploying web-scale DCI solutions– with simplified planning, ordering, installation, operation, and maintenance

- Zero-Touch Provisioning (ZTP) simplifies onsite commissioning and service provisioning to get traffic up and running quickly

- Provides open APIs for automation, provisioning, and management programmability

- Open API to configure/manage optical modules: Transponder Abstraction Interface (TAI) significantly reduces network systems development and integration of optical subsystems and modules from months to weeks allowing faster time to market and deployment.

Packet Transponder Use Cases

- Data Center Interconnect
- Backhaul of access edge services
- Metro Ethernet services
- Long haul using ACO with appropriate DSP

Recommended for the following applications:

- 1.6T connectivity for DCI, cloud, internet exchange and colocation providers

- 1.6T connectivity for extending the reach in metro and mobile backhaul transport

- High capacity, 16 x 100G managed service platform

- Choice of ACO or DCO transponders for 8x200G or 8x100G links

The OcNOS-OTN on Cassini is a modular and cost-effective solution for rolling out 100G services or increasing existing network capacity. The device has eight 200G pluggable drawers and pluggable optical modules, delivering up to 1.6T in a 1.5U chassis, and enabling pay-as-you-grow architecture.
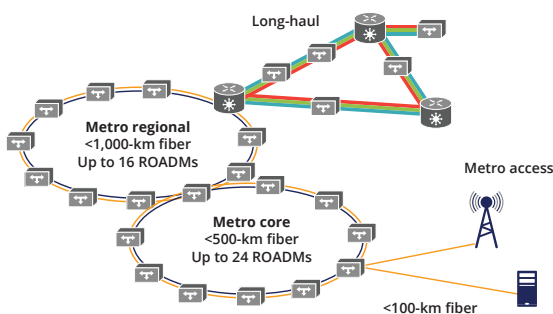
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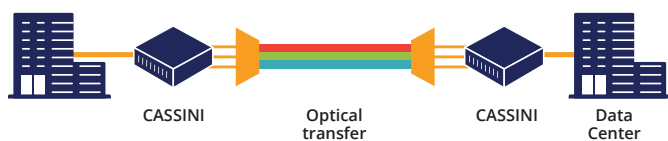
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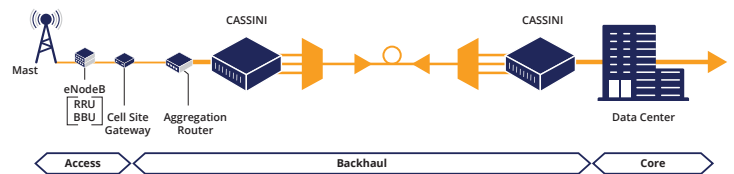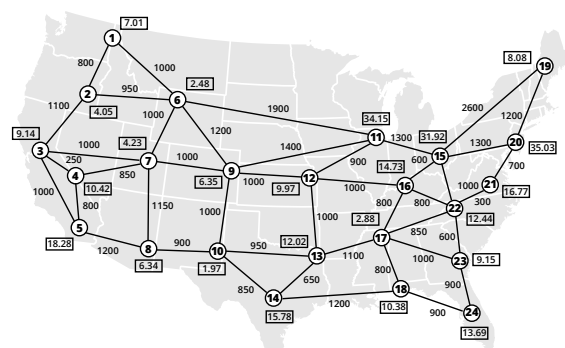

METRO:

LONGHAUL/BACKBONE TRANSPORT:

Figure 1: OcNOS packet transponder use cases

OcNOS-OTN-IPBASE Solution Ordering Guide

SKU	DESCRIPTION
OCNOS-OTN-IPBASE	Open Compute Network Operating System IPBASE image for Data Center and Service Provider networks with Coherent packet optical networking using DWDM optics with Layer 2, /L3 switching and Routing Support for (OSPF, IS-IS, BGP) with perpetual use license (1 license). Applicable for Data Center and Service Provider customers with modular whitebox packet transponders with integrated 100 Gigabit Ethernet (GbE) packet switching ports and 100/200 Gbps coherent optical interfaces. Please refer Data Sheet and Hardware Compatibility Matrix for supported platforms and detailed feature set descriptions
OCNOS-OTN-CFP2-WDM	Modular slot with pluggable CFP2 ACO or DCO module. Can support 2x100G with configuration and monitoring of the optical line. Software SKU to enable each slot of 2x100G
OCNOS-MS-1Y OCNOS-MS-3Y OCNOS-MS-5Y	Software License is perpetual for the ODM device and locked to a device Maintenance and Support Options available for 1,3,5 years increments

Service and Support

IP Infusion offers a wide range of network services to help accelerate your success in deploying and optimizing the Network Operating System on open networking switches. These innovative IP Infusion Advanced Network Services offerings are delivered through a unique combination of people, processes, tools, and global system integration partners, and they are focused on helping you increase operating efficiency and improve your network operation. IPI Advanced Network Services uses an architecture-led approach to help you align your network infrastructure with your business goals and achieve long-term value.

For More Information

For more information about the OcNOS Packet Transponder solution, contact your IP Infusion sales representative.

Phone | +1 877-MYZEBOS
Email | sales@ipinfusion.com
Web | www.ipinfusion.com

U.S. (Santa Clara) | +1 408-400-1912
Japan (Tokyo) | +81 03-5259-3771
Korea (Seoul) | +82 (2) 3153-5224

India (Bangalore) | +91 (80) 6728 7000
China (Shanghai) | +86-186 1658 6466
EMEA | +49 (208) 8290 6464

IP Infusion | An ACCESS Company | (408) 400-3000 | www.ipinfusion.com | 3965 Freedom Circle, Suite 200 Santa Clara, CA 95054