Introduction

Cyan is an industry leader in the rapidly growing packet-optical transport systems market. With extensive deployments across North America and multiple European countries, Cyan's Z-Series of multi-layer transport systems enable service providers to scale, extend and simplify their transport networks for more profitable delivery of an expanding array of differentiated services. Established in 2006, Cyan is based in Petaluma, California, an area recognized for communication innovations and founded by a leadership team recognized as a common driving force behind many of those innovations.

Market Focus

Service providers face opposing market pressures to reduce capital and operational costs, and new business opportunities which require additional investments. This global market dichotomy has service providers seeking new ways to scale network capacity at a lower cost-per-bit, and upgrade infrastructure to deliver new higher-performing services with greater performance visibility. Cyan's revolutionary and unique "whole-solution" approach to packet-optical transport provides the rare opportunity to satisfy these challenging requirements.

Key applications which typically drive the introduction of new Z-Series systems into networks include:

| Wireless Backhaul | Broadband Backhaul (Middle Mile) | Business Ethernet | Data Center Connectivity | Wholesale Transport |

Cyan is focused on scaling the access edge (collector/aggregation), metro, and regional networks, while leveraging existing network investments.

A key differentiation from prior generation transport products, Cyan's Z-Series products economically snap into existing network architectures and provide support for a phased transformation of the network from single 10G transports to 40G, 80G, 400G, 800G and ultimately 4Tbps per fiber capacities, with associated multi-layer grooming of packet, TDM and wavelength services. Support for advanced connection oriented Ethernet (COE) capabilities provides SONET-like performance, including sub 50 ms protection, with packet efficiencies and economies. Additionally, Cyan's multi-layer planning, management and reporting software provides powerful new tools to more efficiently design, operate and verify networks – yielding higher performance with lower costs.

Solution Overview

Cyan developed the Z-Series of multi-layer transport platforms to assist service providers in scaling networks to support Ethernet, SONET/SDH, OTN and DWDM, with improved operational and capital efficiency.

The Cyan Z33 is a 5RU chassis supporting multi-layer add/drop multiplexer (MADM) functions which aggregate and groom Ethernet, SONET/SDH, OTN and wavelength services across one to forty 10G wavelengths and future 100G wavelengths per fiber with optional WSS-based ROADM functionality. The compact, cost-effective nature of the Cyan Z33 allows for access edge deployment as a basic 10 GbE, OC-192, STM-64, OTU-2 or wavelength transport platform, with the ability to modularly and economically scale to a mix of services with up to 400 Gbps of non-blocking service capacity.

The Cyan Z77 is a larger, mid-plane architecture platform supporting the same service modules and MADM functions as the Z33, plus multi-layer cross-connect (MXC) functions for even greater scalability with over 2.4 Tbps of non-blocking service capacity.

Architected for well over 100 Gbps of protected packet service capacity per card slot, both the Z33 and Z77 platforms are designed with the scale to support future 40G and 100G service modules and more.

Figure 1: Cyan Z33 and Z77 Multi-layer Transport Platforms

Cyan's revolutionary CyMS multi-layer management system provides full OAM&P functions plus innovative new management capabilities such as path computation, 3-dimensional network visualization and more to simplify network planning, design, implementation, operation, and verification.

The combination of massively scalable Z-Series platforms with modular "pay-as-you-grow" function-ality, and simplified multi-layer management gives service providers powerful new resources to reduce capital and operational expenses, while scaling networks for new revenue generating services.
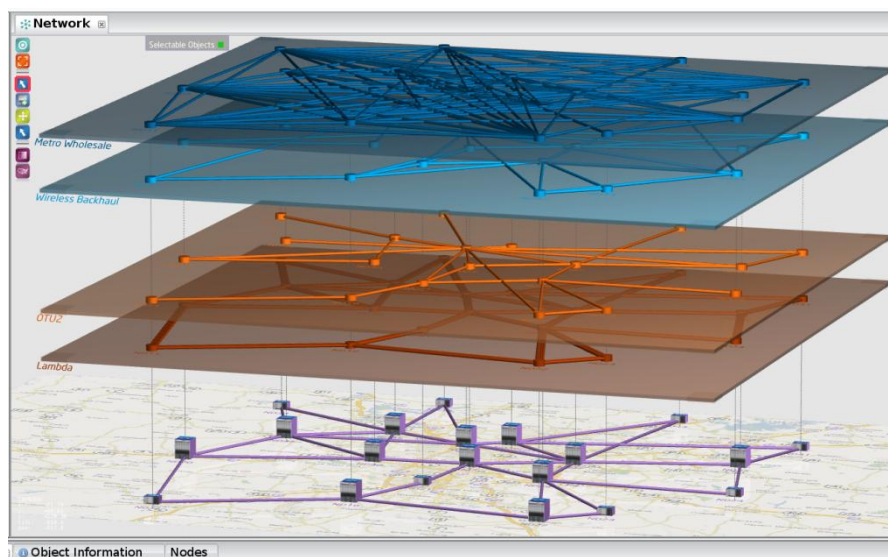
Figure 2: CyMS Multi-layer Management System with 3-D Network Visualization

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OVERVIEW
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