

Network Operators Can Now Evaluate the Ripple Effect of Architectural Decisions on the Total cost of Network Ownership

Infinera has introduced the network Efficiency Quotient (EQ). Network EQ is a framework for comparing next-generation optical transport network architectures, enabling network operators to evaluate the ripple effect of architectural decisions on the total cost of ownership (TCO). As part of the announcement, Infinera unveiled two new applications that enable rapid estimation and analysis of transport network EQ, the EQ Estimator and EQ Power Analyzer. Additionally, Infinera is introducing EQ Engagement which provides select customer engagements with Infinera consultants for network specific TCO analysis. As a relative measure of optical transport network efficiency, EQ compares the impact of capital expenses (CapEx) and operating expenses (OpEx) of architectural alternatives over time. The results show that some operators may be able to reduce TCO by up to 70% with an optimal architectural approach.

As optical transport bandwidth requirements grow—driven by mobile, cloud and video services — operators have to invest in scaling their networks to meet these demands. Simultaneously, operators must maintain or improve CapEx and OpEx over revenue financial ratios to satisfy their investors. Network operators can no longer meet both of these objectives by simply increasing optical capacity, such as moving from 10 gigabits per second (Gb/s) to 40 (Gb/s) or 100 (Gb/s) optical transmission speeds; they also need to deploy modern architectures that deliver scalability while converging network layers to simplify operations and boost efficiencies. An architecture that integrates OTN switching with WDM transmission without compromise can dramatically improve network EQ, helping network operators improve their bottom line over legacy architectures that rely only on WDM transmission, without the benefits of OTN switching.

The TCO benefits of integrated Optical Transport Network (OTN) switching and WDM architecture can be further enhanced through the use of systems that utilize photonic integrated circuit (PIC) technology. PICs enable converged OTN/WDM architectures without compromise and provide important additional benefits; rapid system commissioning to lower installation costs; service-ready bandwidth to enable operators to respond faster to customer service requests; lower power use, higher density to reduce rack space and co-location costs; reduced numbers of line-cards and fiber connections to simplify network operations; and greater reliability for improved service availability.

“Through several years of deploying and maintaining Infinera technology across our optical transport network we have enjoyed the improved network efficiencies enabled by a system that combines OTN switching with Photonic Integrated Circuit-based WDM optics,” said Randy Nicklas, senior vice president and chief technology officer at XO Communications. “By working with Infinera, we’ve been able to realize the benefit of increasing wavelength efficiency while reducing space and power consumption compared to alternative solutions.”

“In conversations with service providers around the world, we are seeing increased focus on driving efficiencies from the transport network to the bottom line of their income statement,” said Tom Fallon, Infinera CEO. “The EQ framework simplifies the analysis of transport network architectures as they impact total cost of ownership, providing operators a quick way to recognize opportunities to improve network efficiency for their bottom line.”