Infinera empowers network operators to accelerate service innovation and simplify optical network operations. Service providers, cloud operators, governments and enterprises across the globe rely on Infinera Intelligent Transport Networks™ to enable services that create rich end-user experiences based on efficient, high bandwidth optical networking.

Industry Background

Optical networking equipment carries vast amounts of information using light waves over fiber optic cables. With the advent of wavelength-division multiplexing (WDM) systems data is transmitted by using multiple wavelengths of light over a single optical fiber. Network operators deploy WDM systems to carry information between continents, across countries, between cities and within metropolitan areas, and in some cases all the way to the end user. Streaming high-definition videos, the proliferation of mobile broadband and the growth of cloud-based services are driving the need for increased bandwidth. Networks are transforming. In addition to WDM operations, network operators need to manipulate packet flows and control with software defined networking (SDN). Infinera delivers highly scalable optical networking solutions to support the growing demand for high bandwidth across various network locations from the core to the access.

Infinera Intelligent Transport Networks

Infinera was founded with the vision of enabling an infinite pool of intelligent bandwidth that the next communications infrastructure is built upon. Intelligent Transport Networks from Infinera deliver on this founding vision by enabling network operators to offer new services that address the increasing demand for bandwidth. Infinera provides an end-to-end portfolio of packet-optical solutions for the long-haul, metro and cloud. Infinera Intelligent Transport Networks:

- **Accelerate service innovation** Features such as Instant Bandwidth”, software-based Open Transport Switch (OTS) and others enable Infinera to provide network operators with an unparalleled level of transport agility, flexibility and SDN-based control. Optimized and converged packet, OTN and WDM platforms carry and protect traffic at the most cost effective layer while delivering highly flexible services like mobile front and backhaul, business Ethernet and broadband aggregation closer to the user.

- **Simplify optical network operations** Infinera enables network operators to scale bandwidth without the need to scale operations. Infinera leads the industry in photonic integration with large-scale photonic integrated circuits (PICs) and packet optical convergence that each reduce space and power requirements while simplifying network operations. The PIC combines hundreds of discrete optical functions on a single microchip, drastically improving density, power consumption, heat dissipa-
tion and reliability. Infinera’s large-scale PICs enable 500 gigabit per second (500G) super-channels that allow network operators to provision 500G of capacity from a single linecard. Additional capabilities of Infinera Intelligent Transport Networks including software control and point-and-click service provisioning

- **Scale**: Infinera Intelligent Transport Networks deliver unparalleled scalability radically surpassing 100G with 500G and terabit super-channels

### Infinera Solutions

**Long-Haul and Subsea**

- **Infinera DTN-X Family**: The Infinera DTN-X family of packet-optical transport networking (POTN) platforms are the only optical transport systems available today that provide 500G superchannel WDM capacity with integrated packet OTN switching capability and a software-defined control plane. The DTN-X XTC Platforms for mesh-based switched networks are joined by the DTN-X XT-500 Platform for optimized point-to-point long-haul applications

- **Infinera DTN Platform**: The Infinera DTN Platform allows reconfigurable add/drop of multiple services up to 800G per chassis with the ability to virtualize bandwidth for efficient operations enabling signals to travel long distances and amplifying those signals

- **Infinera FlexILS**: The Infinera Flexible Grid Line System (FlexILS), including FlexROADM, is the optical line system with fixed and flexible grid for higher capacity and reach in Intelligent Transport Networks

### Cloud Networks and Metro Datacenter Interconnection

- **Infinera Cloud Xpress**: The Infinera Cloud Xpress is a server-like rack-and-stack platform optimized for point-to-point hyper-scale datacenter interconnect applications across regional, metro and campus environments

- **Infinera TM-Series**: The Infinera TM-Series is a packet-optical platform that provides the transport of services between 10 megabit per second (10M) and 100G in metro access, metro aggregation and metro core networks

### Metro

- **Infinera TM-Series**: The Infinera TM-Series is a packet-optical platform that provides the transport of services between 10 megabit per second (10M) and 100G in metro access, metro aggregation and metro core networks

- **Infinera TG-Series**: The Infinera TG-Series is a family of cost-effective, passive optical WDM products. Designed for access applications, the TG-Series provides one of the most compact WDM access solutions on the market

- **Infinera ATN Platform**: The Infinera ATN Platform extends the Infinera Intelligent Transport Network to the metro edge

### Software

- **Infinera SDN and NMS**: The Infinera SDN and NMS platform enables software-defined networking (SDN) and network management solutions for both metro and core networks

### Infinera’s Intelligent Transport Network portfolio
Infinera Management Suite: The Infinera Management Suite is a combination of tools for end-to-end control with integrated functions – such as network planning, point-and-click service provisioning, and operations – along with support for third party umbrella management systems.

Infinera Enlighten™: Infinera Enlighten, a software suite for multi-layer metro networks, provides operators with a set of tools for planning, deploying and operating the transport network in a cost effective and simple manner.

Infinera Open Transport Switch (OTS): Infinera OTS is an SDN Platform that enables service providers to rapidly deliver innovative services with SLAs while efficiently using their network resources.

Support Services

Infinera Support Services: Infinera provides a comprehensive range of support services for all hardware and software products. Support services cover all phases of network ownership, from the initial design through day-to-day maintenance activities and professional services. Infinera’s support services are designed to efficiently manage and maintain customer network operations in the face of today’s demands for minimized downtime.

Innovation at Layer T

The networking world is undergoing a transformation of its existing infrastructure. Proprietary hardware and software appliances that perform network functions focused on the upper layers of the Open Systems Interconnection (OSI) model are being transformed into software instances running on standardized x86 servers in cloud datacenters through network functions virtualization (NFV). This transformation to an on-demand delivery model and from specialized, proprietary platforms to open, software-enabled cloud services, is referred to as Layer C. The datacenters supporting these cloud services need to be connected to each other as well as to end users. Today this connectivity is provided by a plethora of proprietary devices operating at the lower layers of the OSI stack. This layer is also transforming to a highly scalable, space and power efficient packet-optical intelligent transport network referred to as Layer T.

The increasing demands of the cloud services layer (Layer C) is driving the need for scalability, flexibility and programmability in the underlying intelligent transport (Layer T).

Scale and virtualization are giving rise to a simplified network model of Layer C and Layer T. Layer C is growing at an unprecedented rate with bandwidth demands increasing every second. To cater to the growing Layer C, an intelligent Layer T is needed. The transformation in Layer C often reduces the requirements for the hardware that supports these services. Because of this network transformation Layer T is increasingly strategic.

New cloud network architectures and new traffic patterns are driving increasing bandwidth requirements. Taking an example of a Facebook request, a single web search from a PC or mobile device, initiates a series of cascading interactions including server-to-server interactions, generating nearly 1000 times the traffic between datacenters. This “magnification effect” is associated with a distributed computing model resulting from new cloud network architectures.

Infinera enables this network transformation by providing Intelligent Transport Networks that accelerate service innovation and simplify optical network operations. Massive optical scale is the foundation of Layer T and can be achieved through optical “super-channels” that leverage PICs. Packet-optical capabilities further simplify Layer T to support this evolution. The strategic importance of Layer T has never been higher and as a consequence it is vital to build Layer T.
INFINERA AT-A-GLANCE:

Our business
Infinera empowers network operators to scale network bandwidth, accelerate service innovation and simplify optical network operations. Network operators across the globe rely on Infinera Intelligent Transport Networks to create rich end-user experiences based on efficient, high bandwidth optical networking.

Infinera is a vertically integrated company. Infinera designs and manufactures in-house a variety of solutions from PIC and ASIC chips to complete hardware and software systems.

Industry Recognitions
2015: Leading Lights Company of the Year (Public) – For the 2nd Consecutive Year
2015: IHS Names Infinera Leader in Optical Networking and Datacenter Interconnect Market
2015: Long-Haul Market Leader - Infinera has 24% of all 100G Long-Haul ports ever sold since 1Q-10 - Dell’Oro
2015: Infinera Named Fastest Growing Optical Company in the West (North America and EMEA Combined) - Infonetics
2015: Ovum Ranked No. 1 DCI Equipment Supplier to ICPs & CNDCs Worldwide in 2014 (Plus Fastest Growing DCI Supplier in 2014)
2014: Infinera (Transmode) named as “#1” market leader for metro packet-optical in EMEA - Infonetics

Customers
Customers include service providers, cloud operators, governments and enterprises. To learn more, visit: http://www.infinera.com/company/customers/

Customer Benefits
End-to-end product portfolio to fully address the optical networking market
Accelerate service innovation
Simplify optical network operations
Scale network bandwidth

Company At-A-Glance

Type
Public—NASDAQ: INFN

Industry
Telecommunications

Products
Packet-optical networking systems and software

Financial performance
2 years 20+% year-over-year revenue growth (2014-2013, 2013-2012)

Headquarters
Sunnyvale, CA, USA

Global presence
Offices worldwide with engineering centers of excellence in California, USA, Canada, China, India, Maryland, USA, Pennsylvania, USA, and Sweden

Key people
Tom Fallon (CEO), Dr. David F. Welch (President and Co-Founder)

Employees
~1900

Website
www.infinera.com

Vision—Enabling an Infinite Pool of Intelligent Bandwidth
Infinera is redefining optical networking. Infinera Intelligent Transport Networks help network operators exploit the increasing demand for cloud-based services and datacenter connectivity. By building on our vision of enabling an infinite pool of intelligent bandwidth that the next communications infrastructure is built upon, Infinera is solving our customers’ networking challenges as the optical networking market continues its once-in-a-decade transition from 10G to 100G.