

## CASE STUDY

# Yahoo Japan Optimizes Data Center Interconnect with Infinera XTM Series



### **CUSTOMER NAME** YAHOO JAPAN

### **CHALLENGE**

Boosting capacity between metro nodes connecting data centers within the metro region of Tokyo

Very limited available space in the nodes

Cost constraints requiring low power

### **SOLUTION**

XTM Series packet optical solution

Digital Network Administrator for XTM Series (DNA-M)

### **RESULTS**

Ease of operation

Cost-efficient network with additional economical benefits of low power design and high density design

Highly dedicated team of engineers

Easy to scale and grow within the same platform



Yahoo Japan is one of the leading Internet service providers in Japan, and was listed as one of Forbes magazine's "100 Most innovative" companies in the world (2013).

Yahoo Japan was facing exponential growth in demand from both residential and business customers, with its network infrastructure carrying millions of transactions generated from the company's operations.

This, in addition to the need to support new and innovative applications, was driving exponential capacity growth in the metro space, particularly between data centers between primary sites in Tokyo.

Yahoo Japan turned to Infinera with the need to optimize the interconnection between metro nodes that connect the data centers in the Tokyo metro region.

### **Boosting Metro Node Capacity for Data Center Interconnect (DCI)**

Yahoo Japan's metro point-to-point network provides connectivity between key nodes in the Tokyo metro region.



Yahoo Japan Needed to Boost Its Metro Node Capacity within the Metro Region of Tokyo.

These key nodes connect Yahoo Japan's data centers in the region, and the company's service provider customers access services and data hosted within the data centers from these nodes. Boosting capacity between the key nodes was seen as a major challenge that needed a long-term and future-proof solution.

Rapid growth of its network required more bandwidth and flexible interconnection. The space available for networking equipment in the metro nodes was limited and there was a need to keep power consumption low. However, the primary operational task was to keep costs low in order to meet the company's strategic goal of increased profitability.

### **A Robust Metro DWDM-based Solution**

The networking team at Yahoo Japan considered many technologies but decided to ensure future scalability by using a robust metro dense wavelength-division multiplexing (DWDM)-based DCI solution that both met operational criteria and minimized costs.

The team researched solutions from multiple optical vendors including the incumbent vendor but chose to work with the XTM Series from Infinera because it met all its requirements.



***“The Infinera XTM Series met our demands, but most importantly its network management system is easy to understand and enables easier day-to day operation.”***

*—Nobuhiro Takasawa, VP, Technical Director System Management Group  
at Yahoo Japan*

### **Successful Demonstration Proved Ease of Operation**

The local Infinera team in Japan, along with Infinera’s Japanese systems integrator ITOCHU Techno-Solutions Corporation, successfully demonstrated the key capabilities of the XTM Series. Its rich functionality, compact design and low power consumption, combined with ease of operation via the user-friendly graphical user interface (GUI) of DNA-M network

management system, were key takeaways from the demo.

Following the successful demo, the order for the first phase of deployment was commissioned.

### **Providing Key Requirements in One Single System and Chassis**

The Infinera XTM Series packet-optical networking solution supports all of the required protocols typically needed in data center applications for storage, video, data, voice and more in a single system and in one chassis.

Furthermore, the solution is also flexible enough to enable the

likely future upgrades to higher-capacity 100 Gb/s or packet-optical Ethernet-based services as and when the need arises.

### **Low Power and High Density – Key for Space and Power Constraints**

The XTM Series is well-known with customers for its low power design and high density design philosophies, meaning that low power consumption, low in-building cooling and high capacity per rack unit are provided along with industry-leading performance.

For Yahoo Japan’s immediate requirements, the XTM Series offers all the support needed, and is well-positioned for likely future expansion, managing connections between multiple sites thanks to its great flexibility.

**LOW  
POWER  
DESIGN**

The Infinera XTM Series Packet-Optical Solutions Are Well-known for Industry-Leading Low Power Consumption and High Density Design. These Are Capabilities that Make It Ideal in DCI Applications and Were Key to Yahoo Japan’s Decision.

**HIGH  
DENSITY  
DESIGN**

## Dedicated Team of Engineers

Yahoo Japan's metro point-to-point network was jointly designed by Infinera and ITOCHU Techno-Solutions Corporation for Yahoo Japan to meet its long-term needs. The result is a resilient and secure infrastructure with open standards to meet all of Yahoo Japan's current and expected future requirements.

Besides the technical specifications and performance of the installed system, a comprehensive training program was presented by Infinera experts to Yahoo Japan engineers. The ease of use of the system was efficiently demonstrated, providing Yahoo Japan with a smooth transition to its new system without any interruptions to daily operations.

## Conclusion and Future Outlook

The Infinera XTM Series has provided Yahoo Japan with the flexibility, scalability and increased capacity needed to support its data center interconnect applications in Tokyo.

10 Gb/s connections between key nodes and a back-up site are initially provided, but this can easily be scaled at any time to 100 Gb/s. A future upgrade to 100 Gb/s is possible with the same platform, the same chassis and management system without any forklift upgrade.

The joint design by Infinera and ITOCHU Techno-Solutions Corporation met the long term goals of Yahoo Japan; it helps the company deliver a better and faster network and ultimately enables a fast return on investment.

## About Infinera

Infinera (NASDAQ: INFN) provides Intelligent Transport Networks, enabling carriers, cloud operators, governments and enterprises to scale network bandwidth, accelerate service innovation and simplify optical network operations. Infinera's end-to-end packet-optical portfolio is designed for long-haul, subsea, data center interconnect and metro applications. Infinera's unique large-scale photonic integrated circuits enable innovative optical networking solutions for the most demanding networks. To learn more about Infinera visit

[www.infinera.com](http://www.infinera.com), follow us on Twitter @Infinera and read our latest blog posts at [blog.infinera.com](http://blog.infinera.com).

## About Yahoo Japan

Yahoo Japan offers multiple business services extending from web hosting to online real estate, travel and auto companies. It also provides data center services to Japanese businesses.

In addition it runs auction, shopping and Internet search services for consumers. As customers increase in number and devices become more powerful, both the number of transactions and the speed of these transactions are increasing.