

JPIX Deploys Infinera Cloud Xpress for Data Center Interconnect



CUSTOMER JPIX

CHALLENGE

Scalable capacity without service interruption to address exponential growth in traffic on its IX network

Interconnect solution that is simple to deploy and easy to operate

High density and power efficiency to fit space- and power-constrained data center environments

SOLUTION

Cloud Xpress provides high density (500 Gb/s in 2 RUs) with low power (<1 W/Gb/s)

Cloud Xpress enables "pay as you grow" 100 Gb/s bandwidth increments, which are as simple as point-and-click

Cloud Xpress provides easy 1-2-3 provisioning and rack-and-stack capacity scaling

RESULTS

JPIX dramatically increased available capacity, enabling it to quickly respond to a surge in network traffic

JPIX was able to scale capacity efficiently by limiting space and power costs



JAPAN INTERNET EXCHANGE CO., LTD. (JPIX) is Japan's first commercial internet exchange (IX) provider, established in 1997. JPIX offers a set of neutral locations where telecom, cloud and wholesale service providers exchange traffic and interconnect with enterprise users. As an IX, JPIX is a critical part of Japan's cloud infrastructure, offering high-performance connectivity services between providers, wholesalers and their end users. To meet its customers' growing bandwidth demands, JPIX selected the Infinera Cloud Xpress to connect its IX facilities with scalable capacity, simplicity and efficiency.

The JPIX IX service is a significant exchange point for major service providers and content providers in Japan, and plays an important role in powering the Japanese internet backbone. With the IX service delivered by JPIX, internet service providers (ISPs) and content providers are able to respond to continuous increases in internet traffic as demand increases from their customers.

Customer Challenge:

JPIX launched its IX service in Otemachi, Tokyo in 1997, and was the first commercial IX point in Japan. In 2000, JPIX started to use wavelength-division multiplexing (WDM) when it became possible to rent dark fiber at reasonable prices, providing the capacity needed to accommodate bandwidth growth in its metropolitan Tokyo area network.

JPIX's priority was to improve its network configuration and scalability to reduce the costs associated with frequent re-

placement of legacy transmission devices. JPIX required an optical transport device with improved scalability – one that was capable of transmitting massive amounts of data.

JPIX desired a 40 Gigabit Ethernet (40 GbE) solution to fit most of its client interfaces, and searched extensively for solutions but found that existing 40 GbE solutions were not a good fit. Manufacturers offering 40 GbE only supported short-range enhanced quad small form-factor pluggables (QSFP+). JPIX sought a 40 GbE long reach solution, enabling 10 kilometer transmission over single-mode fiber, but determined it was not readily available at the time. In addition, JPIX wanted a flexible solution that would be able to support future 100 gigabit (100G) interfaces and wanted a compact design, with low power consumption that was readily available for fast deployment.

Infinera Selection:

JPIX selected the Cloud Xpress for its hyperscale density,

operational simplicity and low power consumption, and its fit with JPIX's client interface requirements.

"As Japan's fastest growing commercial IX service, we continue to enhance our network to ensure the efficient flow of data in the metro cloud for internet users in Japan and globally. The Infinera Cloud Xpress allows us to interconnect all of our sites while only requiring a small amount of space and power, and the platform provides us operational benefits that massively simplify what it takes to deploy the network."

Yoshiki Ishida
Chief Executive Officer
JPIX

Infinera Partner Nissho Electronics

JPIX worked with Infinera's Japanese partner, Nissho Electronics, to select and deploy the Cloud Xpress. Nissho Electronics is an innovation-leading company bringing the world's most advanced technologies to an ever-wider segment of the Japanese and Asian market.

In October 2014, JPIX attended Nissho Electronics' Cloud Xpress launch event where an Infinera Cloud Xpress CX-40E platform was being demonstrated. JPIX determined that the Cloud Xpress was the ideal transmission device to fit JPIX's needs.

In January 2015, JPIX selected Nissho Electronics as a deployment vendor. JPIX was able to conduct an operational test of Cloud Xpress using trial equipment set up in the proof of concept laboratory area in Nissho Electronic's NETFrontier Center in Tokyo.

During the trial, JPIX found the engineers from Nissho Electronics instrumental in teaching JPIX how to operate the Cloud Xpress in the most efficient manner.



Benefits of the Infinera Cloud Xpress systems selected by JPIX include:

- 500 gigabits per second (Gb/s) super-channel of WDM bandwidth on one fiber pair in just 2 rack units (2RU)
- Support for 10 GbE, 40 GbE and 100 GbE client interfaces
- By racking and stacking Cloud Xpress, capacity can be easily scaled with no service interruption, delivering up to 8 terabits per second (Tb/s) on a single fiber pair
- Instant Bandwidth allows the activation of WDM bandwidth in 100 Gb/s increments with a click of a mouse, enabling capacity scaling to be aligned precisely to JPIX customers' bandwidth demands
- Cloud Xpress enables efficient scaling with simple provisioning and open interfaces to plug into existing cloud provisioning systems using open software-defined networking application programming interfaces. Provisioning and turn up is as simple as 1-2-3
- Cloud Xpress is very power-efficient, requiring less than 1 watt (W) per Gb/s, and keeping power-driven operational costs low

Since JPIX selected the Cloud Xpress, Infinera has introduced the second generation of Cloud Xpress, the Cloud Xpress 2, offering the same simplicity and scalability advantages with even greater density (1.2 Tb/s super-channel in 1 RU), capacity (27.6 Tb/s per fiber pair) and power efficiency (less than 0.6 W per Gb/s)

Results:

In April 2015, JPIX deployed the first Cloud Xpress CX-40E systems, followed by additional CX-40E systems deployed in August 2015. With support from Nissho Electronics and Infinera, JPIX completed deployment in about half the time typically required for new equipment deployments.

JPIX again selected Infinera in May 2016 when the company deployed the Infinera Cloud Xpress CX-100E with 100 GbE client interfaces for improved transmission efficiency. In February 2017, JPIX selected additional CX-100E devices for its Osaka Expansion project.

JPIX's benefits resulting from deploying the Infinera Cloud Xpress include:

- JPIX dramatically increased available capacity, enabling the company to quickly respond to surges in network traffic

- JPIX was able to add bandwidth in 100G capacity increments in a plug-and-play manner as network traffic increased
- JPIX was able to scale capacity efficiently by limiting space and power costs

For more information about the Infinera Cloud Xpress Family, please contact us.

"As a long-time partner of Infinera, we have been on the forefront of demonstrating their innovative networking solutions. The Cloud Xpress is a world-class solution that delivers the benefits that cloud and data center operators and IX providers need as they expand to establish closer connections to customers."

Mr. Toshiaki Kibe
Director and
Managing Executive Officer
Nissho Electronics