



Apstra® was selected for Yahoo Japan Corporation's Clos fabric network infrastructure

Simplifying the network design, build, and operations processes

Yahoo Japan Corporation, one of Japan's largest Internet service providers, is deploying Clos fabric networks for efficiently addressing their ever-growing data center traffic. Apstra® was selected for streamlining the design, build, and operations of these networks.

Challenges before AOS® adoption

- How to manage and operate large-scale Clos fabric networks with a small number of staff
- How to support a multi-vendor environment

Benefits of the solution

- To enable automation of Clos fabric network design, build, and operations
- To support multi-vendor Clos fabric networks



YAHOO!
JAPAN

Operates "Yahoo! JAPAN", one of the largest Internet portal sites in Japan. Provides advertising, e-commerce, and subscription services, supported by the company's technical expertise and strong user attraction.

Realized benefits after deployment

- Substantial streamlining of network management operations
- Easy and quick detection of network issues

Founded: January 1996

Headquarters: Kioi Tower, Tokyo Garden Terrace Kioicho, 1-3 Kioicho, Chiyoda-ku, Tokyo, 102-8282, Japan

Common stock: 8,711 million yen (as of December 31st, 2017)

Employees: 6,290 (as of Dec. 31, 2017)
www.yahoo.co.jp

Challenges in Clos fabric network management operations



Kenya Murakoshi
Senior Manager, Site Operations Division, System Management Group

Yahoo Japan Corporation is a leading Internet service provider in Japan offering a wide range of services including Japan's largest portal site "Yahoo! JAPAN", and is expecting the arrival of a new president in June 2018. Yahoo Japan Corporation's vision is to become a "data company" under the leadership of the new president.

A network infrastructure that can carry massive amounts of data traffic is essential to realizing this vision. Yahoo Japan Corporation has been aggressively researching and deploying new networking technologies. According to Mr. Kenya Murakoshi, Senior Manager, System Group, Site Operations Division, Infrastructure Technology Group, "Yahoo Japan Corporation has had its eye on Clos fabric networking technology for quite some time."

"At Yahoo Japan Corporation, the east-west traffic between servers and devices within a data center has been growing more than the traffic between the data center and the Internet. Other leading Internet service providers outside of Japan deploy Clos fabric networks that allow a flexible scale-out expansion in order to successfully address this challenge. Yahoo Japan Corporation is following their path."

The company had already adopted the Clos fabric as part of a Hadoop data analysis infrastructure and is planning to adopt it in other networks in the future. Yahoo Japan Corporation needs to be able to make full use of the flexible scalability, they needed to respond to the rapid expansion of network equipment, and simplify the operation and maintenance of the ever-increasing devices.

This, along with the need to scale the network to meet the ever increasing amount of data generated by the growth of the business, made it clear that it was impossible to respond with only the current limited number of staff.

Apstra: A perfect solution for multi-vendor Clos fabric networking



Satoshi Tsuhata
Data Center Network 2, Site Operations Division, System Management Group

Yahoo Japan Corporation asked "is there a way to make the design, build, and operation of a Clos fabric somehow more efficient?" After extensive research and evaluation of many technologies and products, Yahoo Japan Corporation selected "Apstra", a multi-vendor intent-based networking software solution as the answer to this question. Yahoo Japan Corporation's Mr. Satoshi Tsuhata, Data Center Network 2, Site Operations Division, System Management Group, explains the value of Apstra: "Apstra's AOS enables extensive automation and simplifies a Clos fabric network and earned high marks for design, build and operations. It was compelling to us to leverage the best practices of leading companies.

Other products had some similar capabilities to Apstra AOS, but Yahoo Japan Corporation runs a multi-vendor environment, including white box products, so Apstra's hardware-inclusive solution was a very good fit for our needs."

Yahoo Japan Corporation began the validation of Apstra's solution with little delay. It created a small Clos fabric network within the company and deployed the Apstra AOS software to validate its performance and usability in all aspects of Yahoo Japan Corporation's operations. Mr. Kai Fukazawa,

Yahoo Japan's Data Center Network 3, Site Operations Division, System Management Group recalls, "Apstra's AOS and Intent-Based Analytics™(IBA) simplify Yahoo Japan Corporation's network design, build and operations processes by abstracting the network configuration with "intent." This was a new concept to us, but once we became familiar with it the benefits were clear. Whenever we had questions, we made inquiries to Apstra's support desk through the distributor. Apstra provided timely responses and the validation went very smoothly."

Simplifying network design, build, and operations, with a short time to deployment

After the 2 month-long validation test, Yahoo Japan Corporation formally selected Apstra, which was first deployed in parts of the network infrastructure supporting the Hadoop clusters for corporate-wide data analytics. The 1st part of the deployment was about 30 network devices (500 nodes) which were migrated from the legacy network to the new Apstra-based Clos fabric network. Mr. Kakuya Ando of Yahoo Japan Corporation's Data Center Network 3, Site Operations Division, System Management Group says that the introduction of Apstra significantly reduced the labor involved in network construction and operation.



Kai Fukazawa
Data Center Network 3, Site Operations Division, System Management Group

"All you need to do is to connect the switches to the network and Apstra automatically configures them. The efficiency of network construction and device replacement operations is greatly improved and we can easily replicate it; what used to take several days is now completed in tens of minutes! In addition, even if you make a mistake, for example with cabling, thanks to Apstra's IBA telemetry, you can grasp the problem with a simple glance of the GUI."

Mr. Murakoshi speaks highly about the benefits of the Apstra deployment, saying that Apstra's capabilities brought agility to Yahoo Japan Corporation's network design, build and operations.

"Because the entire network management operations are now streamlined, we are able to focus more on other value-added work. We are going to continue leveraging Apstra's new capabilities and expand the adoption of Apstra at Yahoo Japan Corporation."

AOS: Automation tool purpose built for Clos IP fabrics



USER

Apstra
GUI



- **Intent based**
(Just define IP addresses, number of racks, and uplink bandwidth)
- **Automatic configuration rendering**
- Improve operations: cabling error detection, troubleshooting, and telemetry

