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Hitachi, Ltd.

Establishing a flexible SD-WAN network infrastructure to support a broad range of business
Optimizing use of the network to create a diverse, secure, and cost-effective network infrastructure

Service : Hybrid WAN Solution

Motoaki Satoyama
General Manager,Unified IT Platform Office, IT Services Division, Hitachi, Ltd.
"We have aimed toward reducing the burden of application management by switching to a service without owning network equipment as assets."

Eiji Kato
General Manager,Security & Network Service Department, Unified IT Platform Office, IT Services Division, Hitachi, Ltd.
"One of the reasons we chose NTT Communications was that they could implement almost all of our ideas."

Challenges
- Increase network diversity and flexibility to respond quickly to business needs.
- Proactive usage of the internet and the Cloud.

Solution
- Adopted SD-WAN to create more flexible and agile network operations.
- Expansion of Internet usage.Replaced branch office network assets with Cloud-based services.

Benefits
- Gained flexibility and reduced networking costs through the use of the internet and Cloud-based network services.
- Centralized management and the ability to quickly segment networks for increasing security level.

Company Information

Company Name: Hitachi, Ltd.
Business Overview:Since its establishment in 1910, the Hitachi Group has continually ventured into a broad range of fields, and created various products. The company is focusing on Social Innovation Business, which combines our strengths in operational technologies(OT) and information technology(IT) to solve social issues by using digital technologies like big data analytics and AI. Social Innovation Business combines Hitachi's strengths, OT and IT.
URL www.hitachi.com

Challenges

A flexible and diverse network infrastructure was urgently needed to support a wide-range business developments

The Hitachi Group is providing in a broad range of industries, including energy systems, infrastructure systems, information and telecommunication systems, construction machinery, and high functional materials. The company is also helping resolve social issues through the global implementation of its Social Innovation Business which combines Hitachi's strengths in Operational technology (OT) and information technology (IT) by using of digital technologies like big data analytics and AI.

Maintaining the flexibility to support the IT demands that accompany business growth highlighted the need to strengthen the company's network infrastructure.

"The Hitachi Group needs diversity and flexibility from a network because of our expansion over a broad range of businesses. On the other hand, it is also necessary to work towards reducing the cost of the network, and we questioned how we could solve these problems," said Mr. Motoaki Satoyama , Hitachi, Ltd.

Across the globe, internet connectivity and cloud services have been improving in reliability. Hitachi determined that standardizing their IT services and adopting the internet and cloud would give them the diversity and flexibility they needed, while also keeping costs down. To implement a solution, Hitachi turned to NTT Communications

(NTT Com). The NTT Com Hybrid WAN Solutions included CLOUDWAN, a software defined networking (SDN) service developed by the NTT Group North American global innovation center, NTT Innovation Institute (NTTi3).

Solution

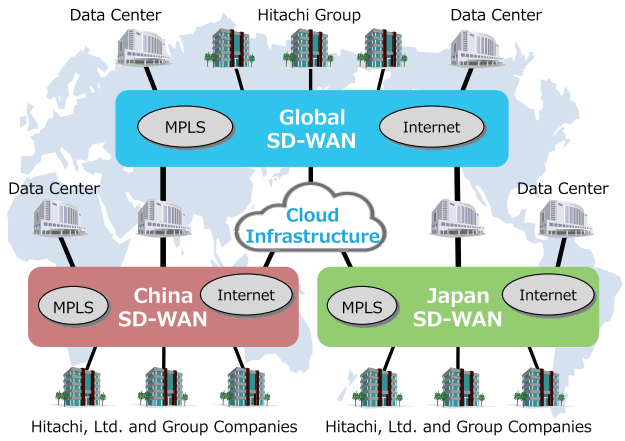
Revolutionize the network by using SD-WAN
Achieve increased agility and strengthened security

CLOUDWAN is an SD-WAN solution. It applies SDN to the wide area network (WAN) to increase network flexibility and ease configuration. The SD-WAN solution added intelligence to the Hitachi network enabling it to automatically route network traffic over the internet or over a private MPLS network, based on the content of the network traffic and established policies.

SD-WAN improves network management agility by reducing the time needed to provision network resources from months to hours. Previously, when network configuration changes were needed, it would take weeks or months from the request being logged to the work being completed. In today's business climate, this type of delay is not acceptable. SD-WAN configures the network using software. This dramatically improves flexibility, so changes in network configuration are responded to swiftly.

SD-WAN also supports the use of network functions virtualization (NFV). NFV virtualizes various network services that previously required dedicated appliances and security equipment, such as firewalls. The services are based in the Cloud, making it possible to take advantage of NFV functionality without having to acquire fixed cost assets and deploy them at branches and remote offices across the WAN. For Hitachi, with its large number of global locations, NFV services are a considerable cost savings. "We don't own assets such as firewalls and use a service to provide them on the network. We also felt that it was a good decision for things like version upgrades and renewal of outdated assets, things that are necessary for operation, to be carried out on the vendor side," added Mr. Satoyama.

Diagram - Image of the SD WAN Configuration



Hitachi operates a global WAN (GWAN) connecting the local networks used in locations all over the world. SD-WAN segmenting enables the global network to be logically divided based on the content of the communications and company-wide policies. Segmenting can also be used to restrict unauthorized communications, such as when a cyber-attack occurs. Filter functions and NFV firewalls can be configured swiftly to improve security.

"We felt that SD-WAN was the only way to deliver a diverse and flexible network that also offers the agility, security, and cost we wanted." said Mr. Eiji Kato, Hitachi, Ltd..

Hitachi's GWAN is also used by local offices to connect to the internet. A proxy provides exit-point security, cutting off external communications in the event of malware. However, as use of the internet has increased, the GWAN proxy has become a bottleneck, slowing down network traffic. SD-WAN supports an internet breakout capability that routes traffic directly from the local offices to the internet via cloud-based proxies. This significantly reduces the load on the network.

Benefits

Implementing a virtual network through active use of SD-WAN and NFV

The deployment of SD-WAN at Hitachi has increased business agility, improved network security, and reduced communication costs. It has also increased the ease with which the internet can be used for business. A significant advantage.

"Due to the problems of security and connection cost, there may be cases where use of the Internet is restricted, but if it is necessary for business, then it should be used. I expect there will be a good result from a cost perspective," said Mr. Satoyama.

"We felt NTT Com had the attitude to understand the way the world is going, focus on the future, and take on new challenges. Also, from a functionality perspective, another key point was that they could implement most of the things we wanted. These are the reasons we decided on NTT Com in the end," added Mr. Kato.