

IIJ Utilizes Nutanix as Managed VPN Virtualization Platform for Multi-Site WAN

Nutanix Enterprise Cloud OS Selected as Virtual Network Solution

INDUSTRY

Communication Service

CHALLENGES

- Construction of custom environment for individual customers for which existing standard IIJ service is not suitable
- Real-time communications with tens of thousands of locations, and once-a-week distribution of large volume of data
- Construction of environment that minimizes impacts of failures and guarantees redundancy

SOLUTION

Nutanix Enterprise Cloud OS

- Nutanix AOS
- Nutanix Prism
- Nutanix Technical Account Manager (TAM)

APPLICATION

- High-performance router “SEIL”

BUSINESS BENEFITS

- Platform constructed capable of stable operation for virtual network solution with VPN functionality
- System can be operated with ease just as a part of IIJ’s standard service without thinking about the differences
- Enables expansion in menu of the existing managed services by building high-bandwidth VPN virtualization platform for numerous locations



“We wanted to see if we could take services built to date on IIJ’s cloud and use them on other clouds. We did not consider a 3-tier configuration for systems designed for individual customers. Instead, we decided on Nutanix, which has an easy-to-understand configuration and with the ability to scale out easily.”

- Naoki Miyazaki, Director of the Cloud Services Department #3, System Cloud Division



“Thanks to abundant support from Nutanix TAM, we have been able to provide our services confidently, especially for individual projects where we are managing operation for our customers.”

- Yusuke Yoshikawa, Acting Section Chief of the Section #1, Professional Services Division #1

CHALLENGE

Internet Initiative Japan Inc. (IIJ) was founded in 1992 as Japan's first domestic Internet service provider, and since then it has been driving the industry as an Internet pioneer in Japan. In addition to Internet service, the company also offers WAN and network-related services; construction, operation, and maintenance of network systems; and development and sales of communication equipment. IIJ delivers numerous network services to the market by standardizing revolutionary technology. In addition, while leveraging its backbone network that is among the largest in Japan, it uses advanced operation technology and network monitoring technology to provide high-quality access service. The company also offers various solutions from the cloud that contain essential features for businesses. These solutions include the cloud service IIJ GIO, which includes operations management primarily in the form of IaaS; IIJ Omnibus, which uses SDN/NFV technology to achieve network virtualization; and wizSafe, which provides a secure environment through the Security Operations Center (SOC) that includes integrated operations management.

IIJ has been using a virtual platform with its IIJ GIO cloud service to provide a managed VPN that meets the performance needs and requirements of customers, but cases have emerged where certain customers require construction of specific environments. Naoki Miyazaki, Manager of the Cloud Services Department #3, System Cloud Division, explained, "We have come to require an environment that communicates over VPN in real-time with tens of thousands of locations and can regularly distribute large volumes of data. Initially we considered providing this environment using an IIJ GIO base, but because large amounts of traffic would be caused during each distribution, we anticipated that rather than selecting a service where customers share a common area, a dedicated environment would be ideal especially when also considering future needs."

The plan was to deploy the VPN that IIJ GIO had been operating previously, onto the Nutanix environment. Miyazaki says that when considering future increases in number of locations, deciding on using a dedicated environment would enable them to provide a more stable environment into the future.

SOLUTION

After consideration, IIJ turned its attention to Nutanix, which supports flexible platform creation of new environments. "Although we had experience as a company, our team never had experience with Nutanix. In addition to the virtual network service that we were planning as the VPN platform, various other systems exist in our customers' environments. We were impressed that with Nutanix and its simple configuration, it would be easy-to-implement similar solutions and scale out, meaning its scope of application would increase," said Yusuke Yoshikawa, Acting Section Chief of the Section #1, Professional Services Division #1.

"Since it was not an environment that required large amounts of storage, we felt that the required environment could be constructed with Nutanix even without a new silo of shared storage. Also, because it would distribute data to tens of thousands of locations, if it were all housed in a traditional physical appliance, we were afraid this might increase the extent of impact during a problem, so we decided that Nutanix, which supports clusters with smaller nodes, secures redundancy, and also support of failover would be superior in terms of fault resilience," said Miyazaki.

So they turned their attention to Nutanix Enterprise Cloud OS. "While being as feature rich as VMware, Nutanix gave us the impression of being easy-to-use. Particularly for this project, because it is used in a specific case for the virtual network platform, we looked for a solution that could be operated simply. We were very impressed by Nutanix for its simple features and its ability to create an ideal environment," said Miyazaki. He adds that they also thought highly of the proposal from Nutanix for its support of custom requirements, which meets the needs of customers who would like to use a stable platform over the long term.

After comparing their options, IIJ chose to deploy Nutanix Enterprise Cloud OS for a hosted private solution that will become a virtual network platform featuring VPN functionality sought by customers.

CUSTOMER OUTCOME

Currently, about 50 virtual machines—with a VPN virtual appliance and distribution server comprising one set—are in operation on 10 physical nodes used for both the production and testing environment. Service is now being provided to a portion of the locations, and the plan is to eventually roll it out as a virtual network solution that will ultimately distribute to tens of thousands of locations. While real-time communications will normally take place with each location, IJJ has successfully built a virtual network platform for stable bidirectional communications including uploads from each location, as well as large volume data distribution to each location about once every week.

Despite some specification differences in platform construction including server sizing and the network environment, a similar applications environment as on the IJJ GIO has been created. “As long as we can construct the platform, the rest can be operated just as before. It is a relief for employees on the ground to be able to operate the system without thinking about the differences,” said Yoshikawa. A full managed VPN for specific customers is now operating stably, and engineers have also given positive feedback about being able to operate it comfortably. “The system has been operating stably without any problems since being deployed. The fact that there haven’t been any complaints from customers is probably evidence of their positive impression,” said Yoshikawa.

This was the first time for IJJ to use Nutanix in environments for specific customers and gaining insight about Nutanix has been a benefit. “Not all environments have begun operating, but no major problems have arisen. Because we gain various knowledge when a problem arises—such as how robust the support system is during a problem or how simple the failover is— we would like to determine whether we can use Nutanix in other environments when we accumulate more insights at those times,” said Yoshikawa. “I was primarily involved in the deployment. By gaining experiencing with Nutanix, we have created an internal environment that makes it easier for us to use it in other projects as well. I would like to see us further expand this environment,” adds Miyazaki.

As for building the environment, the project was able to proceed as scheduled with the assistance of Nutanix Technical Account Manager (TAM). “We can operate the system completely on our own, but there are times when an urgent response is needed, for example when there is equipment failure or for detailed log analysis. For this project, because engineers working with Nutanix for the first time are handling operation, support was essential. Thanks to abundant support from Nutanix TAM, we have been able to provide our services confidently, especially for individual projects where we are managing operation for our customers,” said Yoshikawa. Daily support is conducted remotely with close communication through screen sharing and videoconferencing tools. IJJ has been very pleased with the robust support system at Nutanix.

NEXT STEPS

Having created a solution for customers with different requirements that is built around IJJ GIO, Yoshikawa says “Moving forward, we would like to use Nutanix as a leading option for hosted private solutions in situations when each customer requires specific attention.”

Although VMware ESXi is used as the hypervisor for this project, there is also the possibility that Nutanix hypervisor AHV will be in consideration moving forward. “We are interested in solution from Nutanix to meet the needs of various customers. There are frequent version upgrades with the current hypervisor, and we would like to minimize the associated time and risk involved. It is a possibility that Nutanix AHV will be a candidate when the current hypervisor reaches its life cycle,” said Miyazaki about future possibilities.



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