

Densan. Co., Ltd.

Actively upgrading facilities to respond to needs for the utilization of data centers
Cisco UCS was chosen to centrally manage multiple rack-mounted servers with emphasis on system security, maintainability, and efficiency in everyday operations



Installation Solution

Cisco Unified Computing System
C Series (Cisco UCS C240 M3)
Cisco UCS 6248 Fabric Interconnect (Cisco UCS Manager)
Cisco Nexus 2232 Fabric Extender
Cisco Nexus 5548 Data Center Switch

Issues and cases for review prior to installation

- A server solution with excellent security (stability) was required when upgrading data center facilities.
- The aim was to make the monitoring operations and maintenance support that had become complex with the expansion of servers more efficient to reduce the workload created.
- Blade servers had been used in the past, but there were issues and concerns about a temporary increase in costs due to the addition of chassis and the scope of the impact in the event of a fault or maintenance.

Benefits of Installation

- By utilizing Cisco UCS, it is possible to realize an environment with excellent stability as service infrastructure provided to customers.
- Multiple servers and network devices can be managed together using Cisco UCS Manager, greatly improving the efficiency of monitoring and maintenance support.
- Using a combination of the rack-mounted Cisco UCS C Series and Cisco UCS Manager, it was possible to create an environment offering both the manageability of blade servers and the scalability of rack-mounted servers.
- Cisco UCS has excellent connectivity with other companies' storage products, and a multi-vendor storage environment could be created without any problems.

Densan is highly regarded for a wide range of services, such as the development of comprehensive information systems for the public sector and the provision of high-quality one-stop services, and is actively working to expand its data center facilities to respond to changing customer needs for data protection. The company chose the Cisco Unified Computing System due to its emphasis on security (stability) and also its desire to realize greater efficiency in maintenance operations. It is steadily increasing its track record of providing services by establishing infrastructure that gives peace of mind to the customers using it.

Details of installation

- **Facilities were upgraded to respond to increased demand for data protection and cloud computing**
- **Cisco UCS was considered with an eye to improving the efficiency of monitoring operations and maintenance support**

Headquartered in Nagano prefecture, Densan. Co., Ltd. does business with a wide range of clients including local governments, public organizations, private companies and hospitals, and has steadily grown by providing high-quality and secure IT services. The company was listed on the First Section of the Tokyo Stock Exchange in 2013. In 2013, Densan chose the Cisco Unified Computing System (Cisco UCS) equipped with Intel® Xeon® processors in its active efforts to expand data center facilities to respond to changing needs such as cloud computing and virtualization.

Data Center Manager Etsuya Arakawa described the course of events leading to the decision as follows.

"There is currently a high level of awareness of data protection in both the public sector and industry, and there is a growing trend of using data centers to achieve this. This trend has become even more pronounced from the perspective of improving business continuity since the Great East Japan Earthquake in 2011.

Furthermore, expectations in cloud services and market needs are steadily growing, and the expansion of data center facilities was essential to respond to this situation.

In order to quickly respond to requests from customers, we first established equipment, and selected a system with emphasis on security, maintainability and cost effectiveness. We chose Cisco UCS because it was particularly effective for administration (monitoring), and it matched the direction of our company."

The company built its server systems in its own data center and operated them as service infrastructure, but the complexity of maintenance and monitoring operations had become an issue as the servers were expanded. Shigenobu Ohinata, General Manager of the Data Center Planning Management Department, says Cisco UCS is an effective solution for this issue.

"Until now, monitoring screens (consoles) increased as servers were expanded. In addition to normal monitoring operations, it was also necessary to respond to faults individually, and our workload increased in various ways such as isolating servers and then network.

Cisco UCS offers excellent scalability, and the Cisco UCS Manager incorporated into the Cisco UCS 6248 Fabric Interconnect can centrally manage these even when servers are expanded. This was very appealing. We have also heard from the workplace that it is highly regarded for the ability to collectively manage everything from servers to network devices.



Data Center
Center Director

Etsuya Arakawa

Selection
Process

- Concerns were dispelled by experiencing the work process in a workshop held ahead of implementation
- A decision was made based not only on ease of use, but also cost effectiveness

Ohinata reflects that there were concerns in the review phase because the product was being used for the first time.

"I had a strong impression of Cisco as a network vendor, so I wondered why they were providing servers. After investigating various information and asking around, I began to understand the difference in direction compared to conventional server vendors and Cisco's approach such as centralized management, network affinity and scalability, and became convinced."

Tutomu Kamizu, Submanager of the Data Center Planning Management Department, says that he sensed the benefits of Cisco UCS when he participated in a Cisco workshop and actually handled it himself.

"I had some concerns that I wanted to dispel because it was a product that we had never used before, so I went to Cisco's offices and had them hold a workshop. I experienced the process from server creation to administration, and decided that the system could be smoothly implemented and operated due to functions not provided by other vendors, such as service profiles. This was a powerful boost for our choice."

Takanori Tojo, Submanager of the Data Center Planning Management Department, also participated in the workshop and sensed how easy Cisco UCS is to use.

"My first impression was that setup was extremely easy. Until now, network devices were configured using a command line interface and servers were worked on separately, but Cisco UCS can be configured by mouse click in Cisco UCS Manager, and I was impressed that the network and servers could be handled centrally. In the past, there were limitations on the number of people who could actually handle network devices and servers, creating a bottleneck. Anyone can handle Cisco UCS at a certain level, making it easier to share designs and information. I think this dispelled any concerns in the workplace.

In addition to this high assessment, a final decision was made by also taking cost effectiveness into account, says Arakawa.

"Cost effectiveness is important. We decided that Cisco UCS would be the optimal choice after reviewing not only functionality and operability, but also scalability, maintainability and security. What would be the benefit of changing from the existing system to Cisco UCS? Why change it at all? This was the result of careful consideration of whether it could be a strength that we could highlight to customers.



Data Center
Planning Management Department
General Manager

Shigenobu Ohinata

Integration
Process

- Several Cisco UCS C Series are centrally managed using Cisco UCS Manager in the same way as a single chassis blade server
- Emphasis was also placed on redundancy of components and interconnectivity with existing storage

The rack-mounted Cisco UCS C was used in this instance, and a balance of system manageability and scalability was provided by using Cisco UCS Manager for centralized management in the same way as a single chassis blade server. Furthermore, in addition to each server being equipped with two network interface cards (NIC), redundancy is provided for server components such as power supply units and HDDs wherever possible to create a configuration with greater reliability, says Ohinata.

"For example, we thought that we could make practical decisions such as isolating only the affected part in the event of a fault in a rack-mounted server. Although one approach is to increase the concentration of blade servers, another trend is that some of our engineers suggested that a rack-mounted type would be better in this case.

Based on previous experiences, we wanted to avoid single points, and adopted a unified configuration emphasizing stability such as mounting two NICs. The reason for this is that a server stopping if something happens is unacceptable for a data center."

Kamizu says that the decision to use the Cisco UCS C Series was also based on cost and operability aspects.

"Another company's blade servers are still being used, but we wanted to limit the cost of investment because they need chassis for housing, and these tend to cost a lot. Also, the switch portion is concentrated and there were concerns about interruptions and the scope of the impact when changing configurations. This was a major factor in the decision to place priority on using rack-mounted equipment."

This system is a multivendor configuration in which almost all server and network equipment is provided by Cisco, and these are connected to several products from the previously used vendor for storage. The connection is Fibre Channel on the storage side and FCoE on the Cisco UCS side. Interconnectivity was reviewed in advance. Tojo said the following including a comment about Cisco's response.

"The server and storage vendors differed in this case, so we carefully reviewed interconnectivity. In the end, we received information from Cisco and the storage vendor, and also tested this by implementing it on site. I am glad we reached the decision that there were no problems."



Data Center
Planning Management Department
Submanager

Tutomu Kamizu



Data Center
Planning Management Department
Subchief

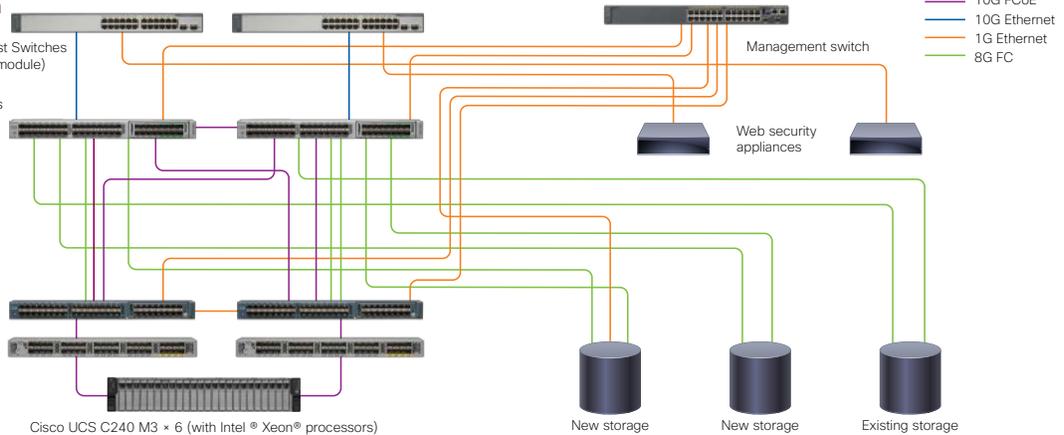
Takanori Tojo

System Configuration

Existing Cisco Catalyst Switches
(with additional 10G module)
Cisco Nexus 5548
Data Center Switches



Cisco UCS 6248
Fabric Interconnects
Cisco Nexus 2232
Fabric Extenders



Benefits of
Installation
- Future
Developments

- Steadily expanding a track record as stable service infrastructure
- In the future, additional upgrades will be made to offer new services

Around six months have passed since the system was implemented and it has operated stably without any problems. Implementation also went generally to plan without any significant trouble, says Ohinata.

"The general schedule was established when approval was given, and we were basically on schedule. I think the creation of the system went smoothly, including the fact that the personnel in the workplace received training in advance. It is infrastructure from providing services, so falling behind schedule would cause inconvenience such as arrangements with customers, and we were sure to pay careful attention to prevent this from happening. I am glad we were able to start without incident."

Cisco UCS is currently operating smoothly as infrastructure for Densan's "Cloud Virtual Server Service." Kamizu is also thinking about new uses for the system.

"We provide a virtual machine environment to customers as IaaS, and the number of units used is steadily increasing. We are also thinking about incorporating our company's services into virtual machines and providing them as SaaS in the future."

Tojo provided an example for future service deployment using SaaS.

"We plan to provide a security service supporting cloud environments. We will provide functionality for addressing vulnerabilities on servers through virtual antivirus for patches regardless of whether they are physical servers or in a cloud environment.

By providing the security functions that are equivalent or better than conventional functions even in a cloud environment, we aim to dispel security concerns and restrictions in the use of cloud computing to provide customers the peace of mind required for using services."

Densan plans to add server racks and expand servers themselves to meet rising demand from customers, and is also considering the additional implementation of Cisco UCS. Arakawa concluded,

"The national government's policies and the direction of local governments are changing, and there will be a further increase in demand for data protection. It is our mission to respond to such changes in the market, and we would like infrastructure that customers can use with peace of mind. We are also expanding our service lineup to accurately meet a diverse range of needs. Cisco UCS will play an even more important role in the expansion of our business.



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processor inside

Providing the industry's
highest level of performance
Cisco Unified
Computing System

Densan. Co., Ltd.



Head office address:

276-6 Nanase Nakamachi Tsuruga, Nagano-shi, Nagano

Established:

March 29, 1966

Capital

13.824 billion yen (FY2012)

Employees

765 (as of April 1, 2013)

URL

<http://www.ndensan.co.jp> [Japanese Only]

[Shinshu's leading IT company expanding nationwide]

The company provides a one-stop total service covering everything from system planning and design to development and operation, various services for the "avis" Internet provider, and a wide range of IT management services utilizing its own data center.

In the public sector, the company develops and provides the Reams comprehensive government information system utilizing the experience, technology and abundant business knowledge it has accumulated over the 47 years since it was founded, and the system is used by 140 local governments nationwide.

In industry, Densan is highly regarded for providing highly specialized services to a variety of customers in areas such as manufacturing, leasing and medical welfare.



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