NetApp®

Success Story

GameOn Improves Service, Reduces Costs by More Than 50% with 100% Virtualization and FlexPod

GameOn

KEY HIGHLIGHTS

Industry
Online gaming

The Challenge
Conversion to an environment based on a virtual infrastructure became necessary to increase operations rates, provide better service, and seek out new business opportunities through the reduction of costs and total cost of ownership (TCO).

The Solution
VMware® vSphere® on FlexPod®, a unified data center platform to optimize and virtualize the data center

Benefits
- Increases systems operations rate, improves response time to system malfunctions, and enables the provision of stable, improved service to customers
- 50% reduction in costs allows investment costs to be recouped within a year
- Accelerates deployment times
- Scales to meet current and future business needs
- Unification of maintenance points makes maintenance easier through virtualization

Customer Profile

GameOn: providing world-class online gaming services

GameOn, the Japanese subsidiary of the Korean company NeoWiz Games, is Japan's number one provider of massively multiplayer online role-playing games (MMORPGs). Involved in the sourcing and development of a variety of worldwide games, GameOn was the first to adopt item-based billing in Japan and is leading the game industry.

Since GameOn was founded in 2001, both Japanese society and the economic environment have undergone rapid changes, and the gaming market has followed suit. The time when GameOn competed only with other online gaming companies is over, and the company has decided to compete in a variety of online content industries. Therefore the company is taking these rapid changes as an opportunity to leap forward and step boldly into the future by marking its tenth anniversary as a "second founding" and implementing new processes and a new innovative management philosophy, referred to as "try". To support this aggressive growth strategy, GameOn required a dynamic, flexible IT infrastructure.

The Challenge

Cost reduction and innovation in service

As part of GameOn's continual efforts to find new business opportunities through the reduction of TCO and costs, the company began reviewing conversion to a virtual infrastructure environment three years ago. Online games are characterized by users who want to be able to connect any time and to enjoy a fast and smooth gaming experience. Making sure of this environment has a very large effect on the company's business. For example, if server maintenance is necessary due to a malfunction, the server's operation rate drops, which is certain to have a direct effect on revenue.

The IT department hoped that, through the adoption of differentiated technologies, it would be able to make better use of its resources and to gain flexibility through infrastructure scalability, and in doing so to provide customers with optimal service. Department head Park Jong Man, who took charge of the project, explains, "In IT infrastructure, your operations rate is your service rate, and this is directly related to profits. We determined that we were not able

"Maintaining the highest possible level of systems operations in order to make sure of 24/7 availability and a fast and smooth gaming experience was a priority. (With FlexPod), we've created an opportunity to introduce innovation into our business model while cutting costs by 50% and truly realizing uninterrupted service."

Park Jong Man
Department Head, GameOn

to increase the operations rate in the existing system environment, and we had been considering virtualization for the last three years."

The Solution

World's first complete virtual infrastructure

GameOn decided to adopt a virtual environment for all of its Internet data center (IDC) infrastructure, such as servers, storage, and network equipment. The company began the process of selecting vendors and laying the foundations for the project in the middle of 2011. The virtualization project's foundations and design were handled through the total solution company Inprontiv. The solution was selected quickly; the company decided to move forward with virtualization by creating a unified architecture with the VMware vSphere on FlexPod platform from NetApp® and Cisco®. Factors leading to the decision included a high level of credibility in the industry, examples of successful implementation, the suggestions of Inprontiv as the company in charge of design and implementation, and internal testing and review at GameOn.

Department head Park Jong Man says, "If only part of the IT infrastructure is virtualized, both the existing infrastructure and the virtual environment need to be maintained, increasing maintenance points and essentially doubling the workload for our engineers. In the end, that kind of solution limits the efficiency and other positives of the virtual system. This led us to decide that a wholly virtual infrastructure was the best option. We began selecting companies in April, started the project in the middle of September, and it was completed by the end of November."

The servers allow remote maintenance and are based on 10 Gigabyte Ethernet (10GbE) using Fibre Channel over Ethernet (FCoE) technology, achieving virtualization of all operations on 800 servers. Although GameOn had adopted virtualization in its development and testing departments, this project provided the opportunity to unify two IDCs and to reduce the size to one-tenth of one of the existing IDCs. This impressive effort, converting everything from the internal backbone of the IDC to the portal to a virtual format in only 10 weeks, is an example that is unmatched in any market.

The composition was as light and simple as possible. It was done through FlexPod and virtualization, a format built on the integrated, proven methods of NetApp, Cisco, and VMware. FlexPod uses the Cisco Unified Computing System™ server and the Cisco Nexus® switch to provide enhanced flexibility on a storage system by bringing together shared IT infrastructure and operating using NetApp Data ONTAP®, a proven data center solution. This platform, by integrating the benefits of all of its individual components, enables outstanding speed, efficiency, and cost reduction. Furthermore, integrated FlexPod composition eliminates uncertainty, allows timely operation and repetition, and supports the realization of consistency and standardization. The FlexPod infrastructure is optimized for its function as a virtual desktop infrastructure and the multi-tenancy environment that allows the use of a variety of blended application workloads and designs.

Business Benefits

"Zero service downtime": uninterrupted service and higher operation rates

GameOn unified all infrastructure maintenance through virtualization and thereby increased its strengths and reaped great benefits. Planned work and response times have been reduced, and operating rates across the entire system have been raised. NetApp's unending efforts to properly delegate the number of virtual servers and make the best possible use of personnel allowed the swift provisioning of server and storage resources through thin provisioning technology. Thin provisioning and NetApp FlexVol® technology allow immediate expansion or reduction

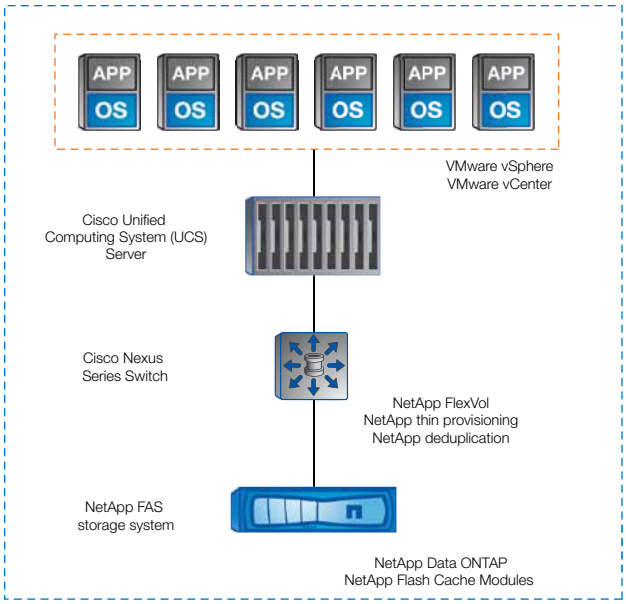

Figure 1) GameOn deployed a VMware vSphere on FlexPod solution by NetApp and Cisco to better and more cost-effectively support its expanding online gaming business. This easily managed, highly reliable, and agile platform gives the company the operational dexterity to delegate resources wherever needed to deliver an optimized gaming experience, while supporting business growth and new opportunities.

of volumes, enabling a significantly higher level of flexibility.

Volumes can be provided as requested by the administrator and are scaled to the amount of data that is actually being used. With NetApp FlexVol, new virtual volumes can be created for the movement or separate management of storage resources, allowing rapid response and adaptation to the company's storage needs.

Through this combination of technologies, GameOn is able to offer its customers a fast, error-free, and smooth game environment. Lag is a critical issue for online gaming, and in order to provide an optimized gaming environment, resources need to be flexible and operation distribution is crucial. If usage rates suddenly rise, CPU usage rises along with them, requiring upgrades to higher spec equipment, a response that is sure to take a long time to implement. However, with the new virtual environment, administrators can monitor game issues in real time and add more resources if a problem is expected.

Department head Park Jong Man explains, "If an error occurs and a CPU needs to be changed out, hardware has to be delivered, the OS has to be installed, and the equipment has to be mounted on a rack before the application can even be set up, the process can take up to a month. Even if the OS is installed on a backup server, backing up and restoring the database and all the precise settings takes two hours. Now we can do the same work in less than 20 minutes. Even in the case of emergency maintenance, time was a major issue, but now it takes just a few minutes. We've lowered our service downtime due to hardware issues to nearly zero."

Increase in simplicity and efficiency

GameOn is using a system that integrates VMware, Cisco UCS®, and NetApp storage, and is concentrating on application service and data. Additionally, the company has reduced complexities, significantly decreasing IT expenses. The NetApp and Cisco UCS platform provides very stable infrastructure management functionality.

Additionally, when a service is no longer offered, unused resources can be modified and implemented, thereby optimizing resource usage. GameOn estimates that these methods of increasing efficiency and reducing resources will yield a 50% decrease in overall costs. These savings include energy efficiency in data centers as well as saving space, cutting down software costs, and more. And the percentage of savings is expected to grow to 80% of costs, leading to recouping all investment costs in six months.

"Maintaining the highest possible level of systems operations in order to make sure of 24/7 availability and a fast and smooth gaming experience was a priority," says Park Jong Man. "The FlexPod solution allows us to switch to a totally virtual infrastructure. This allows the fast, flexible delegation of resources when they are needed. The system also allows the redelegation of resources to other services when they are no longer needed in one area and therefore improves efficiency. Through this, we've created an opportunity to introduce innovation into our business model while cutting costs by 50% and truly realizing uninterrupted service."

Future plans

GameOn plans to continue its efforts to increase system operations rates with the know-how it has gained through the construction of this virtualized environment throughout the company's infrastructure. The company is considering adding a comprehensive data protection plan in the future, encompassing backup and recovery, work continuity, and damage recovery. If a damage recovery system is adopted, GameOn plans to again work with Cisco, VMware, and NetApp to make sure of another successful adoption.

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Department Head, GameOn

SOLUTION COMPONENTS

FlexPod Components
NetApp FAS storage system
Cisco Unified Computing System (UCS)
Cisco Nexus switch

Virtualization Component
VMware vSphere
VMware vCenter

NetApp Technology
Thin provisioning
NetApp FlexVol
NetApp Data ONTAP
NetApp deduplication
NetApp Flash Cache™

Another NetApp solution delivered by:

CISCO vmware

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