EXCITE JAPAN CO., LTD.

Excite Japan provides a wide variety of Internet services, including online portals. NetApp all-flash storage fully backs up Excite service infrastructure.

Built a Private Cloud Infrastructure with All-Flash Storage, Achieving a Low-Cost, Agile Service Foundation

In Japan, numerous Internet business companies emerged in the late 1990s. Excite Japan is one of those companies. Providing versatile Internet services, including its service portal "Excite," it continues to grow by developing a large number of services. It has also made significant changes in its services and infrastructure within the turbulent Internet industry. Looking toward the future, the company has also built and begun to operate a new full-scale private cloud infrastructure.

Performance improvement
over public cloud

300%

Infrastructure cost savings
over public cloud

50%

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> "By deploying SolidFire, our new OpenStack-based private cloud has enabled us to operate an AI-based recommendation engine, "wisteria," while meeting its strict I/O requirements. Now we can bring other services, which had required dedicated servers, into the private cloud. This allows our infrastructure staff, including development engineers, to focus more on their own primary duties."

Excite Japan Co., Ltd.
Infrastructure Section, Infrastructure Department
Takashi Fukuda

Change is Essential

Excite Japan launched its original service, the service portal "Excite," in December 1997. Now it has a 20-year history. In the fast-changing Internet industry, it is not only vital for the company to constantly evolve services to gain more users, but it is also important to continue improving the service infrastructure to achieve prompt business development and cost reductions.

The Infrastructure Section, Infrastructure Department, of Excite Japan is solely responsible for the building and operational management of the company's service infrastructure. This section is a professional team consisting of seven expert engineers who manage all equipment, from servers to storage and networks. The team wanted to speed the release of new services by creating a development environment that allows each engineer to build needed servers.
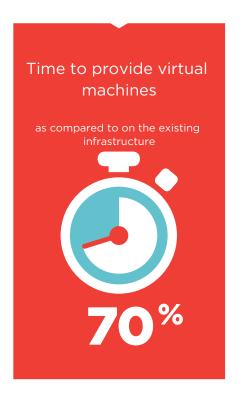
"The engineers previously had to submit a request when new servers were needed. Then the infrastructure staff like us prepared the necessary equipment, including virtual machines. A self-service-like public cloud reduces

both server preparation time and our workload, allowing us to focus on our primary duties. But our service scale did not allow us to operate all services based only on a public cloud, especially in terms of cost. So we wanted to build our own low-cost private cloud as an in-house infrastructure," explained Takashi Fukuda, a member of the Infrastructure Section.

Deploying All-Flash Storage to Remove Bottlenecks

The staff of the Infrastructure Section has observed OpenStack trends for a couple of years and believed in its stability. Around 2015, the section started to move toward full introduction of this technology. They also examined new storage technologies.
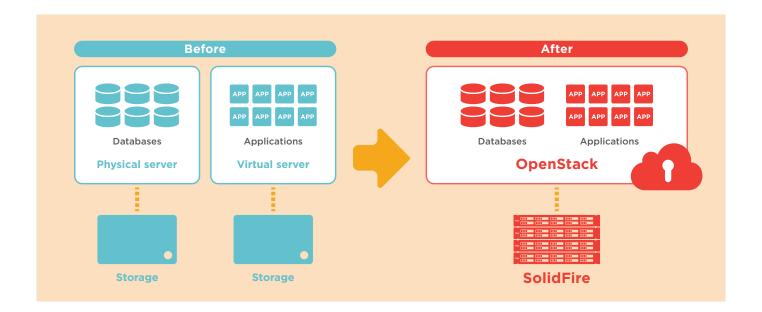
Disk storage has played the primary role in conventional virtual infrastructure. But due to performance restrictions, independent physical servers, including hybrid storage, were also necessary for some applications, such as databases with strict I/O requirements. Since the infrastructure brings about increases in building cost and operational load, it is also necessary to eliminate the bottlenecks related to storage I/O.

Time to provide virtual machines

as compared to on the existing infrastructure

70%

To implement a private cloud that can unify all systems, the staff examined price-competitive all-flash storage products from various vendors and finally adopted NetApp SolidFire.

"SolidFire is excellent not only on the cost front, but also in terms of scalability. The dashboard interface is user-friendly, and the QoS management function for I/O performance is also attractive. There are many scalable storage products hitting the market, but

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Before		After

Databases — Physical server
Applications — Virtual server
Storage   Storage

Databases   **Applications**
OpenStack
SolidFire

we wanted the one that could scale capacity and performance simultaneously. SolidFire satisfied our exact requirements," says Fukuda. "NetApp not only focuses on OpenStack as a vendor, but it also has sales staff and engineers with trustworthy knowledge and an attitude that convinced us to use this vendor's products without any worries."

Enabling integration of an AI Engine with Strict I/O Requirements

Excite Japan started to build its private cloud infrastructure by adopting the Red Hat OpenStack Platform as an OpenStack distribution with support from Red Hat. The development of the SolidFire-based infrastructure was completed in the summer of 2016. Services started to run on this infrastructure around November 2016 and are gradually increasing. With the development of this private cloud, Excite Japan dramatically improved it operations, adding automation and efficiency through discussions with development engineers. This attempt served to reduce the time from planning to launching services.

An AI-based recommendation engine developed by Excite, "wisteria" is noteworthy as an example of services running on the private cloud. "wisteria" recommends content tailored to each user by conducting text analysis based on natural language processing and machine-learning user behavior analysis. This engine also provides other media in addition to Excite Japan's in-house services, including "Excite News."

Since "wisteria" needs to read/write a massive amount of data, storage performance is critically important. "wisteria" ran on a public cloud at first, but migration to a private cloud with SolidFire reduced the infrastructure cost by 50% and enhanced performance by 300% (when compared to the public cloud previously used).

"SolidFire provided significant room not only for storage capacity but also for I/O performance. We were also able to unify a system with heavy I/O into the same infrastructure while remarkably reducing the need for dedicated servers. No one can predict what will become a big hit in this industry, and it is almost impossible to estimate future

resources. So it was quite risky for us to procure dedicated hardware only for a certain specified service." Fukuda explains what the private cloud brought about. "SolidFire set development engineers free from the fetters of services and hardware. It also reduced equipment and hardware needs under the management of our infrastructure staff, providing us with a more comfortable working environment."

Unifying More Services into the Same Infrastructure

The Infrastructure Section is currently considering additional uses for SolidFire. For example, use of the QoS function was an early focus during the selection process, and it is still under consideration. The section is gradually migrating from the current virtual infrastructure into the public cloud environment with the coordination of development engineers. The section also plans to utilize API-based storage management for operational efficiency enhancement.

SolidFire's outstanding performance has made it possible to unify the systems which were previously installed on the dedicated servers

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because of performance requirements. This includes the systems used on the traditional virtual infrastructure. The section will migrate these systems, taking advantage of opportunities like system updating. Thus Excite Japan continues to scale its private cloud infrastructure with servers and storage that are gradually strengthened.

"Unlike servers or networks, we consider storage as a special place to store data. NetApp is a reliable vendor--having provided ONTAP to us for many years. We have great expectations for the future potential of SolidFire," says Fukuda.

Takashi Fukuda,
Excite Japan Co., Ltd.
Infrastructure Department
Infrastructure Section

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