

Shanghai Patent & Trademark Law Office

Case Study

SPTL Implements VDI with Affordable Nexenta Storage

Shanghai, China
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Government Agency



Summary

Challenges: To support transition to a VDI environment with high storage capacity requirements

Solution: NexentaStor with Fiber Channel plug-in

Platform: Cisco UCS

Use case: Desktop virtualization

Benefits:

- Cost-effective storage without the expense of specialized hardware
- Full functionality at a low price
- Easy and economical on-demand extension and upgrade
- Initial investment 25 - 60 percent less than other options

Business Overview

Founded in 1984, SPTL is one of the oldest and largest international intellectual property agencies. From its headquarters in Shanghai and branches in Beijing, Hong Kong, and Washington, it provides customers with comprehensive high-quality intellectual property services. SPTL has established business relationships with thousands of clients from more than 70 countries and actively participates in various intellectual property organizations including INTA, AIPPI, and LES.

SPTL has been awarded the title of Shanghai Civilized Unit by Shanghai Municipal People's Government eight consecutive times, proving that it is a trustworthy intellectual property agency.

Challenges

SPTL's core businesses are very dependent on PCs. All its businesses depend on the Office software installed on PCs, local/network translation procedures, and internal business system clients. Due to historical reasons and work habits, IT develops its office software and operating system clients based on Windows XP, rather than the latest operating system. When rapid growth of SPTL's business made it difficult to keep up operation and maintenance of its IT system, the organization looked to VDI to provide a solution—but SPTL's limited budget and high storage costs made it hard to choose a VDI system.

Solution

After comparing and testing various storage solutions including NetApp, NexentaStor, Imation NexSAN, Fusion IO, and Ramdisk, SPTL chose NexentaStor Software-Defined Storage (SDS) on Cisco UCS-C as its storage solution. A Cisco UCS-C240M3 rack server is used as the system's NAS/FC SAN unified storage controller and 128G system memory acts as a storage controller cache (ARC) with 400G SSD serving as secondary controller cache (L2ARC) and 100G SSD as the writing acceleration cache (ZIL). FC SAN function enables the front-end VMware VDI system to achieve high-performance data storage of VDI VM >= 100 IOPS, and NAS/iSCSI function provides the company's CommVault data backup server with inexpensive bulk storage memory.

Benefits

NexentaStor SDS on UCS is a streamlined, unified storage solution that facilitates management and provides greater scalability in the same space. It saves the software and hardware costs for adding NAS heads and reduces cabinet installation space, operation, and maintenance costs.

NexentaStor on UCS is an economical hybrid storage solution. Through memory, SSD cache acceleration, ZFS Copy-on-Write, and its data compression write optimization algorithm, it can improve the performance of an ordinary high-capacity 7200rpm NL-SAS hard disk to dozens of times that of a 15K SAS hard disk system. This enables SPTL to meet business demands for high performance and high capacity, reduce its initial investment cost by 25-60 percent compared to other options, and achieve the overall TCO of 3-5 years.

Cisco UCS-C240M3 is a reliable and economical platform, widely used in Oracle RAC database, big data system, HPC, and graphics workstation virtualization projects. Nexenta SDS on UCS supports flexible and economical on-demand extension and upgrade of the storage controller and storage system. It is usually unnecessary to replace the storage controller host for system upgrade and expansion.

System Configuration

- NexentaStor 4.0, Nexenta FC plugin
- Cisco UCS 240M3, 2*E5-2609 2.4G 4 core CPU
128G DDR3-12800 memory (16G*8)
- Two 300G 10K system disk LSI 9211-8i
(system disk controller)
- Two LSI 9200-8e (connecting SAS JBOD)
Emulex LPE12002 dual port 8Gb FC HBA
- Two Intel DC3700 200G SATA MLC SSD (L2ARC)
- Two Intel DC3700 100G SATA MLC SSD
(Mirror ZIL)
- IQuanta JB7 SAS JBOD
- Twenty-four Hitachi 3TB NL-SAS



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