Shanghai Telecom Builds High-Quality Public Virtual Desktop Infrastructure with Cisco FlexPod Solution

With Cisco FlexPod Solution, Shanghai Telecom rapidly deploys 1200 high-quality public cloud desktops within one month, which is regarded as an innovation of cloud computing area.

Case Outline

Customer Needs:

- Provide public cloud desktop service with high-quality
- Deploy up to 1200 cloud desktops rapidly
- High cost-effective solution compared with traditional solutions.

Solution and Products:

- FlexPod System developed by Cisco and NetApp
- Cisco UCS B200 Series Blade server
- Cisco 6140 fabric interconnect
- Cisco MDS 9000 series Multilayer Fabric Switch
- NetApp FAS3240A storage array
- Citrix XenDesktop 5.6 Enterprise Edition

Highlights:

- Advanced and mature FlexPod greatly accelerated the deployment of large number of virtual desktops.
- Decrease the requirement for switches and storage equipment. Help Shanghai Telecom save facility cost and simplify the network architecture.
- Citrix desktop virtualization technology provides flexible and secure services, and supports different end-system and system expansion.

China Telecom

China Telecom Corp. Ltd. is an extra-large state-owned telecommunication provider in China, which is listed oversea. Shanghai Telecom Corp. is its branch in Shanghai, providing integrative information services, including fixed telephone, mobile communication and Internet access services, etc.

Challenge

Nowadays, cloud computing has become one of the most important technologies. At the same time, it is a key technology to highlight the difference of services provided by telecom operators. Shanghai Telecom was keenly aware of what happened, and followed up on that. The public cloud desktop service is one important innovation of its cloud computing business.

Applications and deployment of cloud desktop pose severe challenges to service providers. The cloud desktop will be provided as a public service. Enterprises and individuals are strict with the service quality of cloud desktop. Totally 1200 cloud desktops have been provided to call centers, enterprises, and individual customers. Shanghai Telecom expected that the cloud desktops can be deployed rapidly, and the supporting and provisioning system can be monitored and managed in real time. At the same time, the cloud system is expected to be cost-effective.

Solution

Facing the requirements of public cloud desktops services from Shanghai Telecom, Cisco account team cooperated with NetApp and Citrix to provide a comprehensive and flexible solution by applying the FlexPod platform, which is developed by Cisco and NetApp, and the desktop virtualization technology provided by Citrix (XenDesktop 5.6 Enterprise Edition desktop virtualization software).This solution helped Shanghai Telecom rapidly deploy the public cloud desktop service with high quality, and establish a unified provisioning and monitoring platform for virtual and physical resources management.

Worked with Citrix desktop virtualization software, the whole system is primarily composed of 56 Cisco UCS B200 blade servers along with 2 mutually redundant UCS 6140 fabric interconnects. The system can provide up to 1200 virtual cloud desktops to customers with perfect virtualized PC services and computing

- Citrix desktop virtualization technology provides flexible and secure services.

resources.

The FAS3240A unified storage arrays provided by NetApp connects the Flexpod system through Cisco MDS 9000 and Nexus 6100 switches which supports Fiber Channel over Ethernet (FCoE) transport between the UCS systems and storage arrays.

Solution Highlights

In this case, with close cooperation with NetApp and Citrix, the two leading cloud solution providers, Cisco has shown its excellences in various respects.

Rapid Deployment: As the result of Cisco and NetApp collaborating, FlexPod solution has been integrated and standardized, which is ideal for virtual desktop infrastructure and secure Multi-tenancy environments required by Shanghai Telecom. The solution leads to speedy implementation and deployment of virtualized desktop infrastructure. It only took one month to complete the deployment and configures of 1200 public cloud desktops, which was originally planned for 3 months.

Cisco interconnects are integrated with FCoE, which will unify the data center and storage network. The technology further implements the integration of the server-end and store-end so that network administrators do not need additional time to configure FCoE switches separately. Moreover, adopting a Unified Fabric approach with FCoE for UCS servers, we can maximize networking performance, and save time and cost on configurations and connections of fabric.

High Cost-effective: Traditional virtual desktop infrastructure (VDI) deployment requires multiple components such as provisioning services, load balancers, and connection brokers to be installed, managed, and maintained, significantly increasing the cost per desktop. In contrast, the Cisco Solution for Citrix VDI-in-a-Box, with its all-in-one, built-in, preintegrated design requires far less overhead, thereby lowering the cost per desktop to approximately one-third that of the enterprise VDI cost model.

Traditional VDI

Cisco Solution for Citrix VDI-in-a-Box
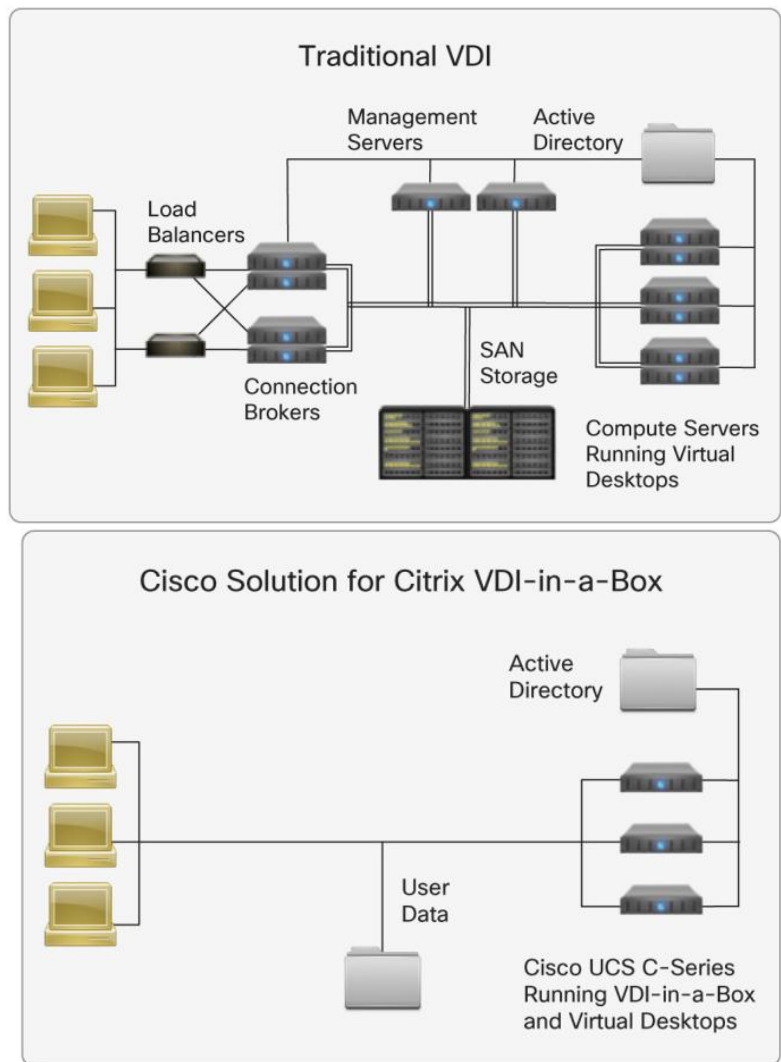
The Cisco Solution for Citrix VDI-in-a-Box, with its expansion architecture, scales easily to accommodate increases in the number of users without additional management or operation complexity. Scaling is as easy as adding another UCS server with a hypervisor installed in the VDI Manager console and the new server is automatically recognized and brought into the grid under the existing operational and management infrastructure. An existing server in the grid automatically updates the new server with all the VDI-in-a-Box software necessary to make it a peer to the rest of the servers in the grid.

The solution help Shanghai Telecom decrease the cost and simplify the network structure.

In addition, with Cisco VM-FEX technology, it is able to configure multiple virtual links on one single physical link, and to connect the virtual NIC in the virtual machine to the corresponding virtual interface of the exchange platform. The UCS server has the Cisco virtual interface card and the flexible I/O configuration so that the Cisco UCS Manager can create up to 256 arbitrary combinations of Ethernet NIC or HBA fiber channel for each virtual network card, and its identity (MAC address and WWN) can be edited dynamically. The virtual interface card provides sufficient interfaces to ensure that each virtual machine has one or more dedicated

physical interface. After cost comparison, the customer found FlexPod solution has more advantages than that of traditional deployment mode.

A significant cache amplification effect will occur when Flash Cache technology is used in conjunction with NetApp Deduplication. When the technologies are applied, the system will be able to store more data in most stable and secure way with the minimal space and cost. After a comprehensive comparison, Shanghai Telecom found that adopting FlexPod solution provided by Cisco is more competitive than traditional deployment mode.

The deployment for Shanghai Telecom has been completed. Different users really felt the advantages brought by the cloud computing and Cisco FlexPod solution. It is more secure for enterprise users that information and data have been transferred from the staff computers to back-end servers. Meanwhile, it is more convenient that managers can only bring one tablet rather than a laptop when they have travels. Individual users can access data and cloud applications via IPTV set-top box or small end system. All these improvements enhanced the viscosity between Shanghai Telecom and different users. Providing differentiated services for different groups of customers greatly strengthened the competitiveness of Shanghai Telecom.

In the future, Shanghai Telecom intends to expand its cloud desktop service, offering self-help provisioning and management of cloud applications. Meanwhile, Shanghai Telecom plans to increase 3000 cloud desktop nodes and will continue to apply industry-leading VDI FlexPod system to achieve outstanding success in terms of infrastructure development and business expansion.