“Hitachi Data Systems combines manageability, virtualization, high performance and high reliability on Hitachi Virtual Storage Platform, and it is the most appropriate cloud storage solution to us.”

Hongjian Xu
Supervisor of IT Department
China Mobile Communications Corporation Fujian Co., Ltd.

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INDUSTRY    Telecommunications

SOLUTION    Enterprise Content, File and Content, Cloud

Hardware — Hitachi Virtual Storage Platform, Hitachi NAS Platform 3080, powered by BlueArc®
Software — Hitachi NAS Platform system software, powered by BlueArc, and Hitachi Universal Volume Manager
Fujian Mobile Enjoys “Splendid” Cloud Infrastructure, Thanks to Converged Storage Platform from Hitachi Data Systems

China Mobile Communications Corporation Fujian Co., Ltd. (Fujian Mobile), specializes in mobile communications. To support government communications and e-government infrastructure, application platform, and software service for government departments of all levels, Fujian wanted to build an e-government network cloud platform. Hitachi Data Systems created a converged storage solution for cloud, based on Hitachi enterprise storage and file and content technologies that answered Fujian Mobile’s requirements.

About Fujian Mobile
Established on October 9, 1999, Fujian Mobile is a wholly owned subsidiary of China Mobile (Hong Kong) Limited. Fujian Mobile is listed as public in both Hong Kong and New York. It has 9 municipal branches and 61 county (city) branches.

Fujian Mobile has built an integrated communication network with wide coverage, numerous business types and high communication quality. The company has become a professional mobile communications operator, specializing in mobile communication business, IP telephony and Internet service.

Requirements for E-Government Network Cloud Platform
As Fujian Mobile approached the idea of an e-government network cloud platform, the company recognized that the storage system is critical to data access. Basic solution requirements included storage system performance and reliability, as well as reuse of original storage devices and the capability to add high-performance storage devices as needed. Fujian Mobile wanted to ensure that storage virtualization could be performed with storage products from different vendors to implement high scalability. The e-government network cloud platform would serve as a common shared storage platform. Therefore, the company wanted to ensure that fast (expensive) and slow (economic) storage devices would be equipped to meet different data read/write performance requirements and maximize the cost optimization.

Cloud Storage Implementation Objectives
Fujian Mobile’s objective in building the e-government network cloud platform was to provide green, intensive and efficient e-government service for all levels of Fujian government departments. The company sought to address issues associated with traditional implementation approaches, including low resource utilization, high operation and maintenance costs, and inflexible system deployment. It wanted to drive the development of e-government efforts aggressively. Specifically, its objectives included:

- Improving the storage resource utilization.
- Enhancing the storage resource scalability.
- Accelerating the business deployment.
- Optimizing the storage cost structure, and reducing total cost of ownership (TCO).

The Hitachi Cloud Storage Solution
To meet the requirements of Fujian Mobile, Hitachi Data Systems delivered a cloud storage solution. The solution is built upon Hitachi Virtual Storage Platform (VSP) and

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**SUCCESS STORY**

Hitachi NAS Platform 3080 (HNAS 3080), powered by BlueArc® (see Figure 1). HNAS 3080 provides the block and file services, while VSP consolidates existing storage devices effectively to realize the storage resource sharing, hierarchical storage and unified management of business systems. Features and benefits of the solution include:

- **Storage Consolidation.** VSP manages existing storage devices and builds a unified storage virtualization infrastructure, creating the storage platform for cloud computing.

- **Unified Storage Platform.** The storage virtualization pool space consolidated by VSP supports file services and unified data management.

- **High Performance.** High-end storage virtualization platform improves performance to meet massive business requirements in the future.

- **Data Mobility.** With VSP, data can move online across storage systems, and a high-speed backup and online emergency recovery system can also be built.

- **Storage Quality of Service (QoS).** The storage logical partitioning technology guarantees performance of critical applications, and enhances business data reliability and access performance. This QoS matches storage virtualization resources with multiple application system host requirements.

- **High Scalability of Storage Virtualization.** High scalability ensures that the solution can answer business growth demands on the storage environment in upcoming years. Hierarchical storage, high availability of the storage, and remote disaster tolerance, contribute to the solution’s stability.

- **Reduced TCO.** Through flexible capacity expansion, virtualization increases storage resource utilization and builds green storage, reducing energy and emissions. These capabilities reduce the management cost, enable easy installation, configuration and daily management, and minimize risk.

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**Fujian Mobile Chooses Hitachi Solution**

Although other vendors were considered, Fujian Selected Hitachi Data Systems for its mature storage solution, including excellent storage products, powerful technical support, and project implementation capability. HDS demonstrated how its high-end storage products, VSP and HNAS, utilize advanced architecture and provide superior performance, scalability and reliability. As original designer and manufacturer of products, Hitachi can solve technical problems from the source to maintain the technical services quality. In addition, HDS was able to present many success cases of large-scale organizations in the industry.

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**Now Accessible: E-Government, Application Platform and Software Services**

With the implementation of the cloud storage project, Fujian Mobile and Hitachi Data Systems successfully built the storage infrastructure for Fujian E-government Network Cloud Platform. The solution provides e-government, application platform and software service.

- VSP enables high data availability.
- VSP can manage up to 255PB of data, and support over 4 million IOPS, 1TB buffer, 192GB/sec bandwidth and 32 storage partitions, with 300% higher than competitors.
- HNAS utilizes high-performance concurrent processing mode and can be extended linearly. It has global namespace and virtualized service, and it supports concurrent processing of massive files of multiple businesses.
- VSP and HNAS are used to build a unified storage architecture, which supports the cloud platform, has extra high scalability, stability, intelligent storage layering technology and long-term planning, and can meet long-term storage demand in the future.
Future Plan for Cloud Platform

In the future, Fujian Mobile expects many e-government services to be launched. Therefore, the company will extend the cloud platform and the storage on the existing platform. Further plans include:

- Equipment monitoring and capacity management software will be added on existing management platform to enhance manageability and improve storage resource utilization and flexibility.
- To accommodate the launch of myriad services, the data archiving and retrieval platform can be built to increase the data usage efficiency.
- Extra-high storage security will enable Hitachi High Availability Manager (HAM) storage cluster similar to the host cluster.
- The disaster tolerance system will be built to increase the application and data security.