Huawei Desktop Cloud Helps Hong Kong Airlines Fly High

"HKA purchased Huawei's proven cloud-desktop technologies to reduce operating costs, improve work efficiency, and accelerate the implementation of the 'Digital Aviation' development strategy."

— Yang Jianhong, CEO of HKA

Executive Summary

Industry

Transportation

Challenges

- Decentralized operations made it difficult for IT personnel to provide onsite maintenance services.
- High power consumption: 500 PCs had an annual power consumption of 500,000 kWh.
- Low security level: User data was stored on local PCs, which were prone to information leaks and cyber attacks.

Solution

- Deployed the Huawei FusionCloud desktop cloud solution using FusionCompute virtualization software and Huawei FusionAccess desktop-cloud software.
- Deployed two sets of E6000 blade servers for the computing platform and one set of S5500T for the storage platform.

Customer Benefits

- Quick deployment, improving work efficiency by 50 times
- Centralized operation and maintenance, improving system operation efficiency by 10 times
- Energy-saving design, reducing annual power consumption by 70%

Introduction

When founded in 2006, Hong Kong Airlines (HKA) was Hong Kong's third airline company to provide civil aviation services. With its headquarters located in Hong Kong, HKA is now a world-renowned airline company whose services cover over 30 cities in Asia and Europe. HKA was recently awarded the highly-esteemed four-star rating from Skytrax because of its outstanding customer service and amenities. As one of the world's leading airlines, HKA strives to feature industry-leading digital technologies and top-level services.

Challenges

As the newest airline in Hong Kong, HKA has used lower operating costs as a key competitive advantage, while still offering secure, comfortable, and cost-effective travel services.

In its global operation, HKA realized that their company development was closely related to IT system development. To effectively coordinate with global airline companies, expand aviation services, control operating costs, and improve customer satisfaction, HKA needed an advanced IT system.

By the end of 2012, HKA had made significant progress in the construction of its core IT systems, such as ticketing, departure, shipment, aviation management, baggage query, financing, settlement, flight arrangement, and crew scheduling. Most of these IT systems were developed based on the Browser/Server (B/S) or Client/Server (C/S) architecture. Employees could use a PC client to access different service systems.

Recently, HKA had experienced quick expansion in the size of their aircraft fleet, number of flights, and service traffic. To meet ever-growing service requirements, HKA was continuously expanding its IT systems by deploying more servers and applications; however, traditional stovepipe-style IT architectures have low flexibility. Each application has an independent platform, adding difficulties to system management and service expansion.

Yang Jianhong, CEO of HKA, realized that rapid development of information technologies would allow his company to cope with the airline's fierce competition. As a result, HKA began to actively develop a digital service system and use business and technical innovations to implement effective management and accurate decision-making.

At the end of 2011, HKA's IT system integrator Société Internationale de Télécommunications Aéronautiques (SITA) advised HKA to use cloud computing technologies to upgrade their existing IT systems. In late 2012, HKA discussed the IT system reform with Huawei and decided to deploy a cloud computing solution for HKA's office

system as the pilot project.

The existing system of 500 traditional PCs faced the following challenges:

- Low maintenance efficiency

  HKA had a large number of PCs provided by different vendors. The high device failure rate and frequent software upgrades caused problems for users with diversified requirements for desktop environments. Due to the lack of unified management, HKA's IT personnel needed to manually maintain individual PCs.

- High power consumption

  The power consumption of a common PC is 240W. Assuming that a PC works 300 days a year and 10 hours a day, the annual power consumption of HKA office system's 500 PCs would be 360,000 kWh. If the power consumption of the matching air-conditioning system is taken into consideration, the annual power consumption would exceed 500,000 kWh.

- Low security

  Each PC was an independent system. HKA could not manage and control PCs in a centralized manner. Users could connect external devices to PCs and install non-standard software; therefore, data stored on PCs was prone to cyber attacks and was vulnerable to information leakage.

- Long deployment interval

  To deploy a PC, HKA's IT personnel had to order the hardware, take it on-site, install the operating system and applications, and perform system commissioning. The entire process was time-consuming.

Solution

HKA chose the Huawei FusionCloud desktop cloud solution to upgrade existing office systems. The solution features a "cloud data center + thin client" architecture, eco-friendly design, easy maintenance, and secure and efficient operation.

- The desktop-cloud virtualization platform, also known as the cloud data center, supports 500 concurrent Virtual Machine (VM) users. The platform runs the Huawei FusionCompute virtualization system. To ensure the normal operation of the system, Huawei deployed two sets of E6000 servers and one S5500T SAN storage system.
- The FusionAccess desktop cloud software and FusionManager management software ensure the unified operation and maintenance of the virtualization platform and desktop cloud system. IT management personnel can use FusionManager to automatically deploy a VM in a few minutes, based on the preset VM template, and upgrade software and virus libraries using optimization tools, which improves operation and maintenance efficiency more than 10 times.
- The end-to-end security solution covers office terminal access, user authentication, user behavior audit, encrypted data transmission, content encryption, and user rights management. Service data is centrally stored in the back-end data center instead of on PCs, maximizing the system information security.
- Thin Clients (TCs) have lower noise and heat dissipation than PCs. The B/S architecture allows users to access their desktops from anywhere, using a wide range of devices.

Customer Benefits

The solution provides the following customer benefits:

- Centralized operation and maintenance and improved work efficiency

  The Huawei FusionManager management software allows unified upgrade and maintenance of software and virus libraries.

- Low power consumption and eco-friendly design

  The power consumption of a traditional PC is more than 240W, while that of a VM is only about 70W. Though VM servers provide 24/7 uninterrupted services, the desktop cloud system can still reduce power consumption by over 70% via advanced energy-saving technologies. The HKA office system now has 500 desktops, which can reduce the total annual power consumption by up to 350,000 kWh.

- Better security

  The solution separates data from terminals. All data is centrally stored in the data center. The system uses various cutting-edge security protection technologies, such as terminal access control and encrypted data transmission, to provide comprehensive security protection for data.

- Quick deployment and low labor requirements

  The desktop cloud system allows IT to use VM templates to manage all services and applications in a unified manner. IT management personnel can set standard VM templates and quickly deploy VMs based on the site requirements, improving work efficiency by more than 30 times.

Summary

The Huawei desktop cloud solution significantly lowers Total Cost of Ownership (TCO) and improves data security for HKA's office system. In the future, HKA is considering integrating the contact center, ticket-booking, and baggage query system into the cloud system. Huawei's cloud-desktop platform supports information sharing, quick service deployment, flexible resource distribution, and data center transformation, making it possible for HKA to fully implement their "Digital Aviation" development strategy and keep flying high.