

Information system design

Design



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BUSTER**

Bundaberg Joy Flights embarks on an ambitious strategy designs to increase size from three offices to four offices, as well as replace the outdated information system and interrelated equipments. This solution report suggests an infrastructure to support the secure internal telecommunication, prompt search management, electronic financial transaction process and reliable data storage capability. Core Functionality: An internal connection establishes through virtual private network (VPN) to support internal telecommunication and management.

Customer and agent are allowed to access and check the authorized information through internet. Bundaberg Joy Flights offers flights to shuttle between five airports. The company now owns three existing offices in Bundaberg, Hervey Bay and Morroochydore airports. The company has outgrown its current premises at the Bundaberg airport and will be relocating its administrative staff to a larger office in the Bundaberg Central Business District (CBD) (external to the airport). The existing office at the Bundaberg airport will become a branch of the company; the Bundaberg CBD office will now be the main office.

This solution implements the intranet in each office as ring topology. The offices intranets are connected through virtual private network to form whole enterprise. Intranet, which allows staffing any office can securely access needed resources in main office. In each branch office, there is a local server which handles operations locally and storage data temporarily which will be sent to main office. This makes the data more reliable and also makes booking and accounting system more stable and reliable, safe from system failure and network failure.

Workstation can perform more complicated processing task, which will give more space to extend the operation in the future. The ring topology makes the whole network more reliable and the cost is lower compared with star topology and bus topology. In this solution, the local area network in each office is bus topology architecture. Each office local area network has a firewall and a router. The connections between branch office and main office are virtual private network connections, which will protect telecommunication between offices. In main office, there are file server, database server and application server.

The branch office will store data in these servers or retrieve information from these servers. In each office, there are shared printer and shared scanner. In main office, the director has a powerful workstation for his work, and the others use general workstations which will be helpful for the business extension in the future. In each branch office, there is a LAN server which acts as a local security manager and data buffer. Also every staff has a general workstation. The disadvantage of this sort of network is the low transaction speed. Plus the low cost equipment this topology may perform a lowest capability.

In this solution, the local area network in each office is ring/bus topology architecture. Each office local area network has a firewall and a router. The connections between branch office and main office are virtual private network connections, which will protect telecommunication between offices. In each office, there are shared printer and shared scanner. In main office, there are file server, database server and application server. The director

has a powerful workstation for his work, and the others use net PC or thin client which just provides limited computing capability.

The branch office will store data in these servers or retrieve information from these servers. In each branch office, there is a LAN server which acts as a local security manager and data buffer. In addition, every staff in branch offices uses net PC. This is the lowest cost design of three because of use of inexpensive device such as net PC, thin client and inkjet printer. As a result, the performance of this topology will be much poorer than first design in terms of transaction speed and data processing capability.

The most effective difference between the first design and the others is the intranet topology in each office. The topology of ring network (design 1) provides a more reliable internal environment. If one computer in the ring goes down, the other computers can continue to process their on work as well as to communicate with each other. Another point is that ring network gives every client a prompt access to connect either each other or server. However, the other designs content of bus network will decrease the processing speed; therefore the service quality will be affected as well.

It should be admitted the planning budget in first solution is the highest one, but it will bring a high quality performance which can increase the service profit. However, the other two economic solutions can not handle the complicated situation. Data management and storage In first solution, There are a Database sever and a file server to be the data manager. ServeRAID-4Lx Ultra160 SCSI Controller, the DAID witch is updated to 66MHz PCI bus performance, control for mid- and entry-range storage environments.

Supports Ultra160 SCSI technology - 160 MB/s data transfers. Virtual Private Network

A virtual private network can provide fast customer service between offices. Distance customer service officer can answer customer's inquiry immediately by the searching flight schedule from main office through VPN. The virtual private network uses the Internet as its main backbone network. It relies on the fire walls and other security software. A Firewall device for VPN is listed in Quote1 which is Firewall VPN 100 (Symantec). It will be installed in each office to build a Virtual private network. Workflow system This system completed by the Microsoft(r) Office XP Developer.

It will electronically collaborate to accomplish structured work tasks within ticket booking and confirming processes which is required by company. Decision Support System Decision support system software will be introduced in this stage: Decision Explorer (Banxia software). It is full-feature cognitive mapping tool - with many analysis capabilities. It will be an assistant to analysis, specialize the data for manager and every staff who have a decision support requirement. Accounting system MYOB- A Business, payroll and time management software.

It can fulfill the most financial processing requirement such as pay roll management, accounts payable, accounts receivable and inventory management. The total cost of the recommended solution is considered AUS\$365, 441. 77 (include GST). It also include training cost, Web hosting cost and maintenance cost. Training cost: Some staff can be trained together as a group - Pilots, Co-Pilots and Check-in staff. Web hosting service cost:

The e-commerce web site will be submitted to a Web service company. The company should be allowed to get the daily Flight schedule information.