

Network and System Administration Practical Exercises

Narrative – Campbell and Starr Bakers:

Campbell and Starr Super Breadmakers is an industrial bakery that employs 26 staff and produces 20,000 loaves of bread per day. Their clients are dairies, specialty bread shops and supermarkets in the local metropolitan area. They produce 4 standard loaves and 12 boutique varieties that make up their product range.

In addition to Mungo Campbell, the manager, the company employs the following staff.

- 15 bakers (14 + a shop floor manager)
- An accountant
- 3 accounts clerks who do Accounts Receivable, Accounts Payable and Payroll
- Sales manager
- 1 salesman
- Receptionist / Telephonist / PA
- 1 Dispatch clerk
- 2 delivery drivers

The main applications they currently use to run their business are as follows

- MS Office suite
- MYOB
- A recipe Database built using SQL server
- People Manager payroll system
- Specialist oven timer/temperature control software for 3 ovens on 3 non networked PCs. Time and Temp data is stored in the recipe DB

The network currently is a MS peer to peer network with several of the desktop computers acting as servers. The computer network has grown to its present state without any real planning. As services have been required they have just been connected up and grafted on. Of late the network has begun to degrade and reliability has become a problem.

People manager and MYOB are on a dedicated server in the office. The sales manager has his own copy of MYOB to manage orders. He is not able to use the office server copy because he can't get in. There is an access restriction problem with the server that no one has yet been able to solve. No one can access the orders file until the sales manager comes in to work and powers up his PC. The office is locked and only he and the manager have a key. As baking is done overnight the orders must be printed and ready for the bakers by 9pm each evening

Recently the payroll program crashed and wiped out the current month's payroll file and leave records. The accountant and payroll clerk spent 2 days re calculating and re creating the file from paper records. They are still not sure they've got everything correct. They suspect that one of the bakers has been paid for a 3 day leave without pay. Fortunately the PAYE tax file seems to be unaffected and so they believe the right amount of tax will be paid to the Inland Revenue this month.

Computers that control the bakery ovens themselves are not networked and data that is required on that system from elsewhere is being transferred to and from via floppy disk. Although these computers are not actually stored in the bake house, they are in an area where bakers have regular access. Floppy disks are frequently being corrupted as the area is

dusty and the disks are sometimes handled by bakers who are themselves covered in flour dust.

They recently acquired an Internet connection at the suggestion of one of their customers would like to be able to place his bread order online. They acquired an email server to accept orders and communicate with suppliers and clients. They also have a somewhat amateurish web site, created by the Boss' son who did a course in dreamweaver at night school. A web server was (incorrectly) installed on the email server box to host this site. These services were grafted on

Four weeks ago two problems arose that have prompted some action to sort out the networking mess.

1) The manager discovered the receptionist has been surfing the Internet during work time instead of taking care of her other duties. The manager was unaware that any staff had access to the outside world. As far as he knew all that was available was email to himself, the sales team, the accountant and the receptionist. He thought the "e" program was the company's own site.

2) Script kiddie hackers had managed to gain access to the web server via the unprotected network and attacked the company web server. It was pure luck that the hackers did not explore further but contented themselves with defacing the company's website. The manager was horrified to discover that not only did his staff have unrestricted access to the Internet but that the Internet had unrestricted access to his company network. The Internet connection was shutdown

Much panic and many management team meetings followed while they decided what to do about the state of the company network. Finally they decided that fixing the old network will be too difficult and that they need a properly designed and implemented network plan. For that they have called in the experts. You are part of the team that has been hired to solve the networking problems(s) for Campbell and Starr.

Your brief is on the separate Practical Exercise sheet.