OAK Telecom Major Council Case Study

Background

Councils typically have a large number of small sites with various requirements to connect to the head office (usually the civic centre) for central applications or files or for connection to the Internet.

The issue is to provide a low-cost, secure network which connects these sites together in a simple solution which requires no complex operations by the users, who are often nurses or kindergarten teachers with little or no IT training. The network must also have a fixed monthly cost (for budgeting purposes), with low support costs and good, reliable performance versus cost.

A Major Council

One of the larger Victorian councils ("Council") decided to implement a Private Network solution from OAK Telecom twelve years ago.

Council was cautious at first, providing a small network for a few sites requiring access to head office files, then later extending the network to all councillors' homes, giving them secure access to council documents and files (council minutes, financial plans, planning documents, etc.) from a PC dedicated to the purpose. This avoided problems of security (or equity) in using private Internet connections also used by councillors' families. The initial connections were 512kbps/128kbps (very good at the time!)

The maternal and child health centres (MCHs) were added next, then kindergartens and various other sites such as community centres.

Over 60 sites were upgraded to ADSL2+ (up to 20Mbps/1Mbps) and the head office (civic centre) main access to a 15M/15M fibre, using an existing Telstra fibre connection.

Type of Network Chosen

The criteria for the network Council required were fairly simple: Easy to operate for the staff and councillors, secure, reliable, low maintenance and able to handle Citrix.

OAK Telecom's recommendation was for a layer two private network with a single Internet connection at the civic centre. The layer two was recommended because of the transparency to LAN IP addressing, making for easier set-up and maintenance.

Benefits of the OAK Telecom Private Network

The advantages of a private network are that it is like extending the blue cable on your office LAN to other locations simply, reliably and in complete security. The private network doesn't use the Internet, so is completely secure. The upload and download charges are included in the fixed monthly price, so there are no surprises.

A cheaper alternative can be constructed by creating a virtual private network (VPN) across the Internet, but the results are poorer and less certain and firewalls are required at all sites. In a private network the lower latency and jitter also provide a much improved end-user experience.
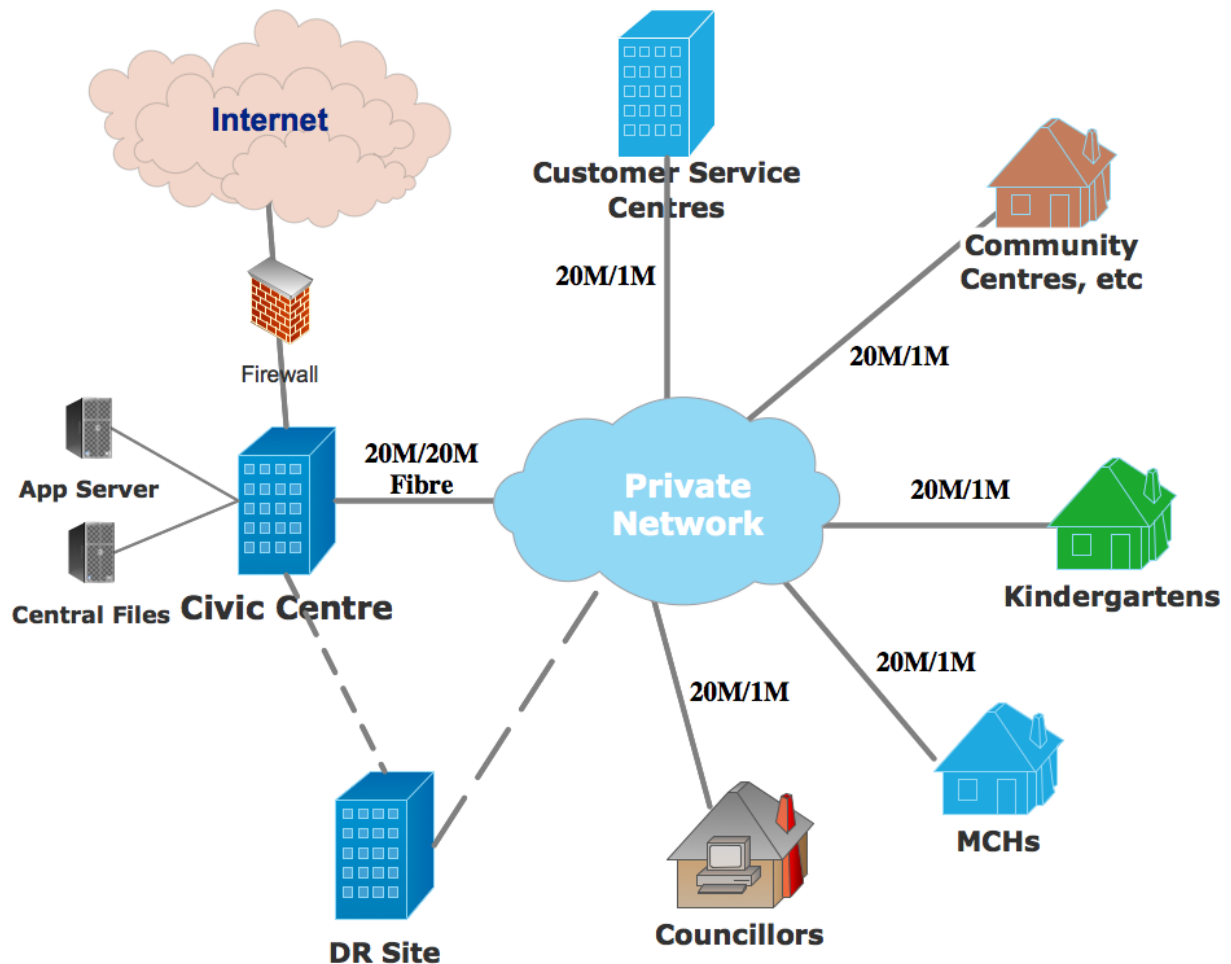
Future Directions

The use of multiple VLANs on the private network, enabling end-to-end separation and prioritisation, is of great interest to councils generally. One VLAN can be used for staff data communications, another for public WiFi, another for VoIP, etc.

Council is also keen to move to new standards and provide a full disaster recovery centre a few kilometres from the civic centre. This site already has an optical fibre connection to head office and separate private network and Internet connections are planned for redundancy.

The low latency and jitter also make the network suitable for IP telephony (with or without quality-of-service) and later also for video conferencing.

NBN connections can be added to the private network just like any other connections, plus ADSL links can be bonded together to increase capacity economically where NBN doesn't yet exist and other types of connection can be too expensive.

This case study has been prepared anonymously for website publication, but OAK Telecom can provide actual information privately or contact details for referees. Please contact us for further details or a free consultation.