

## **Whitmann Price Consulting: Telecommunications and Network Considerations**

The Advanced Mobile Communications and Information (AMCI) system that Sandra and Josh are developing for Whitmann Price Consulting (WPC) is all about telecommunications. The devices in the system should provide both synchronous and asynchronous forms of voice and text communications for consultants. They should also provide two-way data communications for interacting with corporate information systems.

If the system uses the services of a cellular network provider, it will be confined to the bandwidth provided. A typical cellular network transfers voice and data at a maximum speed of 56 Kbps. Josh and Sandra are concerned that this narrow bandwidth will slow some electronic interchanges and leave consultants (and their clients) hanging. After researching alternatives, they found out that their cellular service offers an optional high-speed broadband access that provides speeds of up to 2 Mbps. When they meet with Matt Bollinger, their manager, they suggest that the additional quality of service is worth the additional cost of \$59.99 per month per phone. Matt plans to try and negotiate a reduced corporate rate.

Josh and Sandra need to order optional features available from the cell phone provider. Besides the usual caller ID, voice mail, and text messaging services, WPC consultants want to initiate conference calls involving multiple parties using the speakerphone on their BlackBerries. This would be useful for arranging ad-hoc meetings involving consultants and clients.

The BlackBerry device they selected includes Bluetooth networking technology. Consultants can use Bluetooth to connect to a wireless headset or in-car communications system for hands-free voice communications in a personal area network (PAN). Dozens of today's vehicles are equipped with Bluetooth technology and in-dashboard displays. The Bluetooth system automatically connects to a Bluetooth-equipped cell phone as the driver enters the vehicle, and it allows the driver to issue commands through microphones built into the dashboard or doors to establish connections, and carry out conversation using the vehicles sound system. Contact lists, to-do lists and appointments stored on the BlackBerry can be viewed and manipulated on the in-dash display. Josh decides to look into adding this capability to company vehicles purchased in the future.

Another network technology built into the BlackBerry device lets users connect and synchronize data through a USB connection with personal computers. WPC consultants could maintain a synchronized personal information management system keeping their calendar, to-do lists, and contact lists in sync on their BlackBerries and PCs.

The BlackBerry devices can be outfitted with virtual private network (VPN) software to allow consultants to view private corporate information securely using the Internet and a Web browser. The custom-designed software running over the VPN will transform the BlackBerry from the standard off-the-shelf service to a customized Advanced Mobile Communications and Information System. Using this connection and these services, WPC consultants can access and manipulate most of the information systems that previously could only be accessed from the office.