

4.5 Data Security At Data Transmission Level

One possibility for future applications of the PENS program is to incorporate wireless data transfer. During our research of wireless data transmission we used two different communications network systems, Cellular Digital Packet Data (CDPD) and Frame Relay, to transfer the information. The data transfer using CDPD is between the mobile, wireless-networked computers with the MD-IS (Mobile Data Intermediate System), which is the central data exchange for the CDPD network. Frame Relay is the public wide area network system used to transfer the data connecting between the MD-IS and the Windows NT Server at the local or regional office. The security features for CDPD and Frame Relay will be addressed.

CDPD is packet-switched wireless data transfer network used to transfer the data from the wireless remote stations to the MD-IS. The data from mobile computers will be broken down into packets of data and will send these packets to their destination server through different cellular channels. This feature will keep the information more secure in the data transmission procedure.

Wide Area Network Communication (Frame Relay):

Frame Relay is also packet-switched network. It is point-to-point public wide area network system. The servers and MD-IS are connected through Frame Relay network system. The concept of data transmission for Frame Relay is really similar to CDPD. The data is broken down packets of data and send to the destination system through different network paths. This feature will keep data more secure in the public network.