Inmarsat’s Mobile Packet Data Service (MPDS) is a packet-based network that provides an “always on” connection to the Internet if used in connection with the Call Waiting functionality. The MPDS service is charged by the amount of data being sent and not the time spend connected. Technologies which use the Internet Protocol (IP) can transmit data across both the World Wide Web and private networks.

The Inmarsat Fleet F33 service already provides voice (4.8kbit/s), fax and data (9.6kbit/s) services. This has now been extended to provide the first ever availability of MPDS services using a small-sized terminal and antenna. Fleet F33 users now have the choice of selecting either circuit switched or packet switched data services (CS or MPDS), enabling them to match the most appropriate communication channel to operational requirements.

**Benefits of MPDS**

The “always on” nature of MPDS makes it a cost-efficient way for users to remain logged on to a corporate network or the Internet and to work in real time. E-mails can be immediately received and reporting applications can regularly update remote applications or databases. An “always on” connection allows event-driven data to be sent as it occurs.

Because MPDS is charged by the volume of data sent it is most suited to query and response types of applications. These include HTML browsing, e-mail, thin client applications, database access, engine telemetry and Supervisory Control and Data Acquisition (SCADA) applications.

**How Does MPDS Work?**

Most computer applications are either sending or receiving data with periods of inactivity due to the user assimilating on-screen information or composing a response. In a typical dial-up connection the user pays for the time spent online, regardless of any actual data transmissions taking place. With an MPDS connection the user only pays for the actual data transmitted, and not for any idle connection time. For the majority of office applications such as e-mail, intranet and web browsing this mode of connection is more cost-effective than circuit switched connections.

MPDS operates on shared satellite channels at different speeds depending on whether data is being uploaded or downloaded:

- up to 64kbit/s for downloading to the MPDS terminal,
- up to 28kbit/s for uploading from the terminal.

This difference in speed allows for the fact that most Internet query commands contain less data than most response commands. In effect, this difference in upload and download speeds is transparent to the user and performance generally appears identical in both directions.

**Implementation**

To use the service the users connects their PC to a Fleet 33 terminal using a serial or USB cable.

When a Fleet F33 terminal opens a MPDS connection it is registered as being in packet switched mode on the Inmarsat network. This registration process is transparent to the user and is not charged. Once connected via MPDS the mobile terminal is allocated an IP address that enables it to be identified and thereby participate in online activity.

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Operation
Mobile users can choose which Inmarsat data service to use by means of desktop software. Both MPDS and circuit switched services are accessed by a typical Windows log-on requesting username and password leading on to a dial-up network connection screen.

Once an MPDS session is established the terminal is busy from the network perspective and thus cannot place or receive circuit mode voice, fax or data calls. However, Call Waiting facilities are now being made available to notify users of incoming call requests. This application is preinstalled on newer terminals and can be supplied by the terminal manufacturer as a software upgrade.

With MPDS connections taking place over the Internet users are advised to take the usual precautions against IP access risks in a business environment.

However, MPDS does allow for a range of security enhancements for the transmission of sensitive data.

• MPDS users may set up a Virtual Private Network (VPN) between themselves and their remote users.

• MPDS supports the majority of VPN security protocols including L2TP (Layer 2 Tunnelling Protocol), IPSEC (IP Security Protocol) and PPTP (Point-to-Point Tunnelling Protocol).

• MPDS supports popular VPN technologies including Windows 2000 VPN and Checkpoint and Cisco.