WORLD DATA SERVICES

Overview

1   Introduction to Iridium World Data Services

The Iridium Satellite system provides a range of flexible and reliable data services. Using your computer and an Iridium satellite phone, you can connect to the Internet or a corporate network from virtually anywhere in the world, allowing you to:

- Browse the web
- Send and receive email
- Transfer files

With Iridium World Data Services, you can configure your computer for two different types of data calls, depending on your needs: **Dial-Up Data** and **Direct Internet Data**.

Using…	You can connect to…	At a typical speed of…
Dial-Up Data	Another computer, your corporate network or your personal Internet Service Provider, via a landline phone number you provide	2.4 Kbps
Direct Internet Data	The Internet, directly through the Iridium Gateway	Up to 10 Kbps*

* Depending on content. Graphics and images will result in lower effective throughput.

1.1   Which type of data service is right for you?

If you need to connect only to the Internet, and you do not require the services of your personal Internet Service Provider, then we recommend that you use *Direct Internet Data* to take advantage of the higher connection speed and airtime management features. If you need to connect to another computer, a corporate network or to your own personal Internet Service Provider, then you will need to use *Dial-Up Data*.

To use either type of Iridium World Data Services, you must connect a computer to a data-capable Iridium phone, use a SIM card that is provisioned for data, and install the appropriate software on your computer.

2   Dial-Up Data Overview

Dial-Up Data Service provides dial-up connectivity through your Iridium phone to another computer, a remote LAN (e.g., a corporate network), or an Internet Service Provider (ISP). This service offers a typical data rate of 2.4 Kbps.

You will be able to use Dial-Up Data service just as you would use the modem on your computer to dial a call through the public switched telephone network (PSTN). The only differences are that the dialed telephone number must conform to the international dialing pattern used by Iridium, and that you will use your Iridium phone as the data modem. In essence, your Iridium phone appears as an external modem to your computer. Before using Dial-Up Data, you will need to install the Motorola Satellite Series Data Modem driver (provided on the Iridium World Data Services CD) on your computer. You will then be able to use standard software applications (e.g., Microsoft Dial-Up Networking) to initiate data calls with Dial-Up Data Service.

How it works

You are probably familiar with using your computer and its modem to perform dial-up data applications across the PSTN. Most computers have an internal modem, to which you connect your telephone line. Figure 1 illustrates how you dial your ISP to access the Internet. (The modem is shown external to the computer for illustration purposes.) On your computer, you configure a dial-up networking connection. As part of that connection, you identify which modem to use and the phone number to dial. Then, in dial-up networking you enter your user name and

password to access your ISP, and you initiate the connection. Your modem dials into and connects to another modem at your ISP. Once connected and a session has been established, you can check your email and browse the Internet.
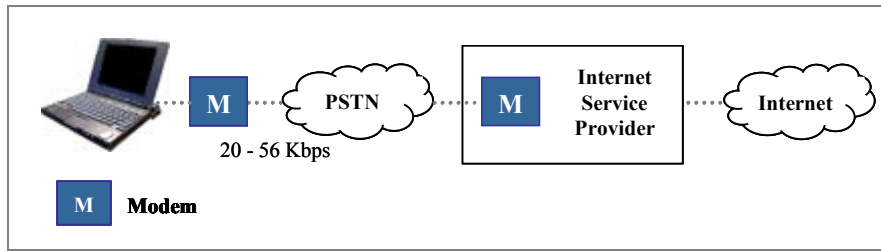

Figure 1. PSTN Dial-Up Connectivity

Dial-Up Data Service functions in much the same way. From the perspective of your computer, the Iridium handset is an external modem. On your computer, you will configure a dial-up networking connection. As part of that connection, you will identify the modem associated with the Iridium handset and the phone number to dial. Then, in dial-up networking you will enter your user name and password to access your ISP, and you will initiate the connection. Your handset will actually dial and initiate a connection with the Iridium gateway through the Iridium satellite constellation. This connection setup is similar to how a voice call is established, except a data connection is requested. Since your Iridium handset is requesting to establish a data connection, the switch at the gateway will route the call through a modem. The modem at the Iridium gateway will then dial into and connect to another modem at your ISP. Once connected and a session has been established, you can check your email and browse the Internet just like you would across the PSTN. Figure 2 illustrates how a Dial-Up data call is routed.
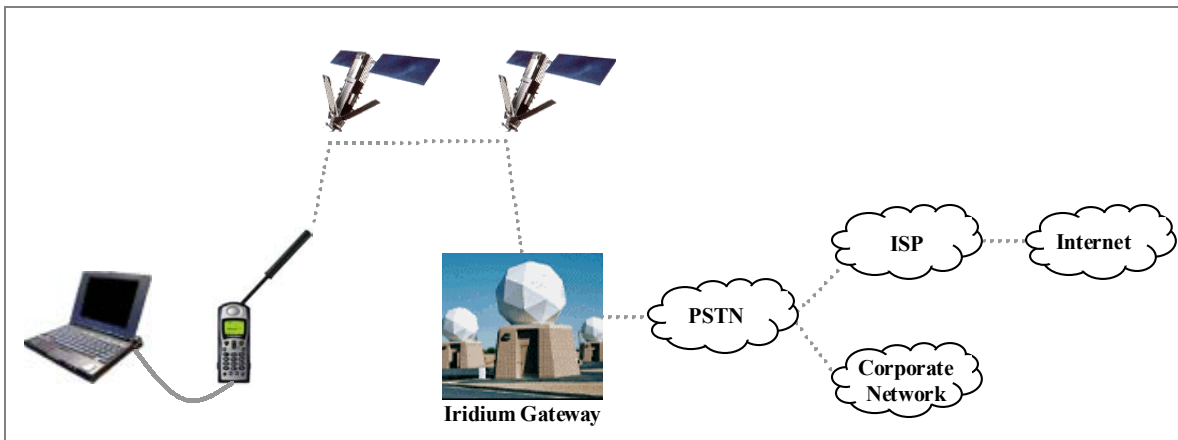

Figure 2. Iridium Dial-Up Data Connectivity

3 Direct Internet Data Overview

Direct Internet Data Service provides enhanced Internet connectivity through dedicated servers at the Iridium gateway, allowing you to execute accelerated file transfers and to more efficiently browse the Internet and exchange email. Using this service, you connect directly to the Internet, using your Iridium phone as a data modem. In essence, your Iridium phone appears as an external modem to your computer.

Direct Internet Data Service offers faster connection times, improved throughput, and Smart Connect™ features. Smart Connect™ assists you in managing your airtime by seamlessly connecting and disconnecting you through the Iridium system when no data is being transferred. This feature, called "spoofing", will reduce airtime charges, improve the phone's battery life, and allow you to seamlessly reconnect to the Iridium system if your connection is dropped. Airtime charges accumulate only while the call is connected.

Improved effective data throughput is achieved through the use of user-transparent data compression. The channel rate is still 2.4 Kbps. However, 10 Kbps effective throughput can be achieved depending on content (graphics and images will result in lower effective throughput).

Before using Direct Internet Data, you will need to install the client software (provided on the Iridium World Data Services CD) on your computer.

How it Works

To access Direct Internet Services, you will need a computer and data capable Iridium phone. You will connect the computer to the handset via a serial cable and data connector. (If you are using a 9570 Portable Dock, you will only require the serial cable. If you are using a 9520 Mobile Phone, you will not require any additional hardware). This service utilizes dedicated servers at the Iridium gateways, which provide high-speed connectivity to the Internet and optimized server-to-handset communications.

By initiating a connection through the client software, your handset will dial and initiate a connection with the Iridium gateway through the Iridium satellite constellation. This connection setup is similar to how a voice call is established, except a data connection is requested and the switch will route the call to the Direct Internet server. Once connected to the Direct Internet server and a session has been established, you will be seamlessly connected to the Internet, as if you were on a LAN. You can then check your email and browse the Internet just like you would via Dial-up Data Service, except that now you have the advantages offered by the Direct Internet Data Service. Figure 3 illustrates how a Direct Internet Data call is routed.
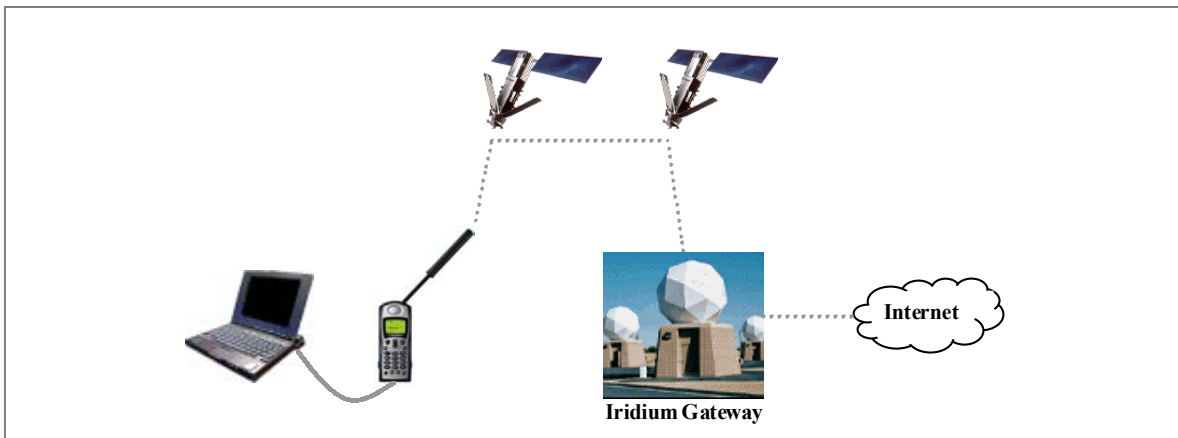

Figure 3. Iridium Direct Internet Data Connectivity

4   Hardware/Software Requirements

Iridium World Data Services are accessible via data-capable Motorola 9500 and 9505 Portable Phones, and the Motorola 9520 Mobile Phone. The Motorola 9570 Portable Dock also supports data services.

To use Iridium World Data Services, you will need the following:

✓ **A Windows®-based PC**, with:

- Windows® 95, 98, Me, NT4.0 (Service Pack 4 or later) or 2000
- CD-ROM drive
- Serial port

✓ **A SIM Card** that is provisioned for data (note that this SIM can also be used for voice calls).

✓ **An Iridium Phone** (A Motorola 9500 or 9505 Portable Phone, or a 9520 Mobile Phone) with a data-capable internal software version. Check the software version in the phone by pressing *#91# on the keypad.

- Motorola 9500 Phone must have software version INC0620 or later
- Motorola 9505 Phone must have software version LAC109G or later
- Motorola 9520 Phone must have software version RAC0620 or later

✓ **Hardware and Software**, depending on the type of phone you are using, according to the table below:

	Type of Iridium Phone used for data calls		
Hardware and Software	9500 or 9505 Phone	9500 or 9505 Phone, with a 9570 Portable Dock*	9520 Mobile Phone
Data Kit (shown below), which includes: • Data Adapter • Serial Cable (9-Pin, M/F) • Stand • Iridium World Data Services CD	✓		
Iridium World Data Services CD (Available in the Data Kit. Also sold separately)		✓	✓
Serial Cable (9-Pin, M/F) (Not sold as a standalone item by Iridium. This item is widely available at retail stores)		✓	

* The 9570 Portable Dock requires an adapter (sold separately) for use with the 9505 Portable Phone.

Data Kit Components:

Trademark Notice

Iridium and the Iridium logo are registered trademarks and/or service marks of Iridium Satellite LLC.

Windows, Windows 95, Windows 98, Windows Me, Windows NT, Windows 2000, Dial-Up Networking, Outlook, Outlook Express and Internet Explorer are registered trademarks of Microsoft Corporation.

Netscape, Netscape Navigator and Netscape Messenger are registered trademarks of Netscape Communications Corporation.

Apollo Emulator and Smart Connect are registered trademarks of Brand Communications Ltd.

Motorola and Satellite Series are registered trademarks of Motorola, Inc.

IRIDIUM WORLD DATA SERVICES --**TRADEMARK NOTICE**

Iridium Satellite LLC   7   Rev. 2; June 15, 2001