

# Iridium Technical Advisory

## Direct Internet & PPP Service

May 10 2005



### Revised Access Capability for Internet Protocols Accessed via Direct Internet & PPP

**Summary:** Due to an increasing trend of virus, spam, trojan and other suspicious connection attempts via Direct Internet, Iridium will limit access to the Internet to certain defined network service protocols and ports effective June 1<sup>st</sup> 2005.

**Background:** Due to an increasing trend of suspicious connection attempts originating from computers connecting to the Internet via Iridium's Direct Internet and PPP Dial-up Data Services, Iridium is taking action to limit access to the Internet to certain defined network service protocols and ports. Iridium has determined that only the following commonly used protocols and ports that will be accessible via Direct Internet. All other ports will be blocked.

Protocol Name	Port Number	Simple Functional Description
HTTP	80	Used for web browsing
HTTPS (or SSL)	443	Used for encrypted web browsing
FTP	21	File Transfer Protocol – Used for transferring data files to/from FTP servers
SMTP	25	Simple Mail Transfer Protocol - Used for Email
POP	110	Post Office Protocol - Used for Email
Telnet	23	Used to remote login to a remote computer
NTP	123	Network Time Protocol – Used to synchronize or update computer clocks
IMAP3	259	Used for Email
TCP	50	Used for Email
PPTP		Point to Point Tunneling Protocol – Used for encrypted point to point links across the Internet. Also know generically as a VPN or Virtual Private Network
Terminal Service		Used by various operating systems for administrative purposes
UDP	32000	User Datagram Protocol – A communications protocol used by some computers to exchange information.
DNS	53	Domain Name Service - Provides the ability to convert useful names, e.g. <a href="http://www.cnn.com">www.cnn.com</a> into their actual numeric IP address

Iridium is committed to supporting the use of its data services for legitimate purposes that benefit its subscribers. This list covers the standard ports and protocols needed for access to the World Wide Web, FTP sites, E-mail services, VPN and Terminal Services, DNS, as well as Telnet and Time Synchronization protocols. Restrictions on non-standard TCP/IP ports are necessary to ensure that Iridium networks are not being unknowingly used for propagating computer viruses and other malicious activity. Iridium reserves the right to modify the list at will. Access numbers affected by this are 8816000021, 8816000022, and 8816000023.

**Iridium will update it's infrastructure to restrict Internet data traffic to this list on June 1<sup>st</sup> 2005.**



# PPP DATA

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## Installation/Configuration

(Windows 95/98/Me/NT/2000/XP)

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# 1 PPP Data Overview

Iridium's PPP Data Service allows customers to connect directly to the Internet via the Iridium gateway without having to load any special software onto their computer. The service utilizes standard dial-up networking and has been shown to work with a variety of operating systems, though only machines running Windows are supported. As Figure 1 shows, Iridium's PPP service connects to the Internet via the Direct Internet (Apollo) server. Since no client software is loaded onto the client side, PPP Data users are not able to take advantage of the Direct Internet features of Smart Connect and Spoofing. Through the compression setting in Microsoft Dial-Up Networking, however, throughput levels can be attained that are similar to those when using Direct Internet.

## 1.1 Equipment

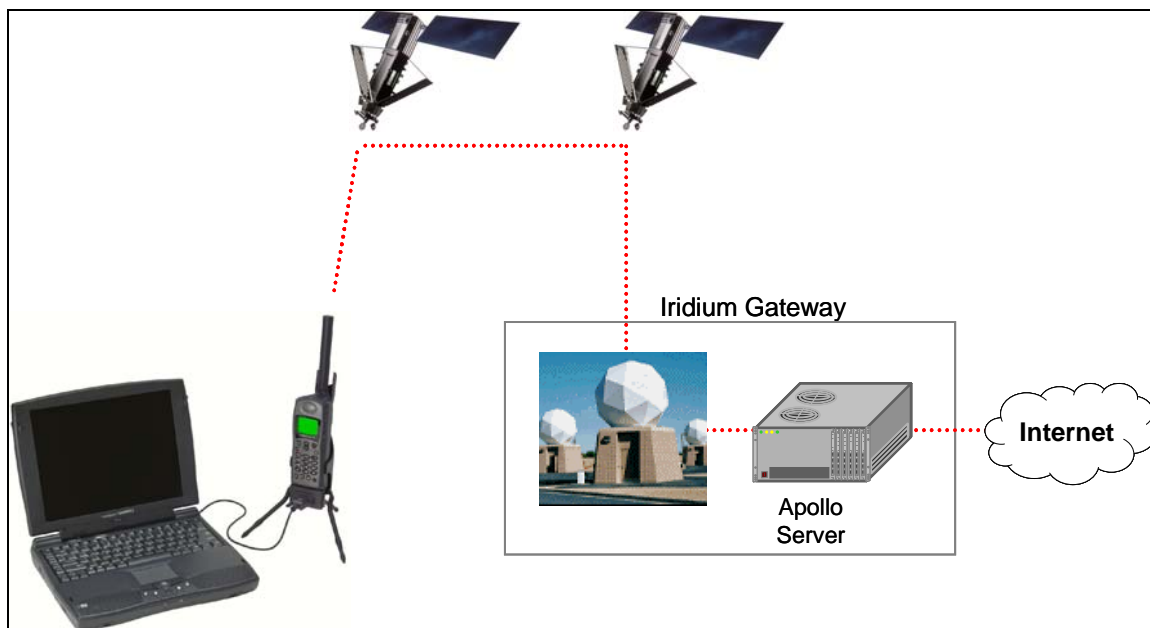


Figure 1

## 2 Modem Driver Installation and Configuration

Prior to using your Iridium phone as a modem for PPP Data, you must do the following:

- Install a “Standard 19200 bps” modem driver on your computer
- Set up and configure a dial-up networking connection

### 2.1 Important Considerations

- The modem driver must be configured with the following “extra initialization string”, which sets the correct bearer service for the connection: **AT+CBST=71,0,1**
- In the dial-up networking connection, TCP/IP should be the only enabled network protocol.
- You must have an available serial port on your computer (e.g., COM1).
- You must have Administrator privileges if using Windows NT, 2000 or XP Professional.

## 2.2 Windows 95/98 Setup

### 2.2.1 Install the Modem Driver

1. Close all applications.
2. Choose *Start > Settings > Control Panel*.
3. Double-click on *Modems*.
4. If a *Modem Properties* window appears, Click *Add...*
5. If you are using a laptop, you may be presented with a screen asking “*What type of modem do you want to install?*” Select the *Other* button and click *Next >*.
6. Choose the checkbox marked “Don’t detect my modem; I will select it from a list” and then click *Next*.
7. Click *Standard 19200 bps Modem* to highlight it, and then click *Next>*.
8. Click on an available COM Port (e.g., *COM1*). This is the port to which you will connect your Iridium phone. Click *Next >*.
9. Click *Finish*.
10. Click *Standard 19200 bps Modem* to highlight it, and then click *Properties*.
11. Select the *Connection* tab and then click *Advanced...*
12. In the Extra settings box, enter **AT+CBST=71,0,1**
13. Click *OK, OK, Close*.

### 2.2.2 Configure Dial-Up Networking

1. In Windows 95: Choose *Start > Programs > Accessories > Dial-Up Networking*  
In Windows 98: Choose *Start > Programs > Accessories > Communications > Dial-Up Networking*
2. Double-click *Make New Connection*.
3. Enter a connection name (e.g., “Iridium PPP”).
4. In the “Select a device” pull-down menu, select the “*Standard 19200 bps Modem*”, and then click *Next>*.
5. Leave the Area Code box blank, and enter **008816000023** in the *Telephone number* box, and then click *Next >*.
6. Click *Finish*.
7. Right-click on your new dial-up connection and select *Properties*.
8. Uncheck the “*Use area code and Dialing Properties*” box.
9. Select the “*Server Types*” tab.

10. Uncheck “*Log on to network*”, “*NetBEUI*” and “*IPX/SPX Compatible*”.
11. Make sure the “*TCP/IP*” box is checked.
12. Click *OK*.

## 2.3 Windows Me Setup

### 2.3.1 Install the Modem Driver

1. Close all applications.
2. Choose *Start > Settings > Control Panel*.
3. Double-click on *Modems*.
4. If a *Modem Properties* window appears, Click *Add...*
5. If you are using a laptop, you may be presented with a screen asking “*What type of modem do you want to install?*” Select the *Other* radio button and click *Next >*.
6. Choose the checkbox marked “Don’t detect my modem; I will select it from a list” and then click *Next*.
7. Click *Standard 19200 bps Modem* to highlight it, and then click *Next>*.
8. Click on an available COM Port (e.g., *COM1*). This is the port to which you will connect your Iridium phone. Click *Next >*.
9. Click *Finish*.
10. Click *Standard 19200 bps Modem* to highlight it, and then click *Properties*.
11. Select the *Connection* tab and then click *Advanced...*
12. In the Extra settings box, enter **AT+CBST=71,0,1**
13. Click *OK, OK, Close*.

### 2.3.2 Configure Dial-Up Networking

1. Choose *Start > Programs > Accessories > Communications > Dial-Up Networking*
2. Double-click *Make New Connection*.
3. Enter a connection name (e.g., “Iridium PPP”).
4. In the “Select a device” pull-down menu, select the “*Standard 19200 bps Modem*”, and then click *Next>*.
5. Leave the Area Code box blank, and enter **008816000023** in the *Telephone number* box, and then click *Next >*.
6. Click *Finish*.
7. Right-click on your new dial-up connection and select *Properties*.
8. Uncheck the “*Use area code and Dialing Properties*” box
9. Select the “*Networking*” tab.
10. Uncheck “*NetBEUI*” and “*IPX/SPX Compatible*”.

11. Make sure the "*TCP/IP*" box is checked.
12. Click the "*Security*" tab.
13. Uncheck the "*Log on to network*" box.
14. Click *OK*.

## 2.4 Windows NT4.0 Setup

### 2.4.1 Install the Modem Driver

1. Close all applications.
2. Choose *Start > Settings > Control Panel*.
3. Double click on *Modems*.
4. Click *Add...*
5. Choose the checkbox marked "*Don't detect my modem; I will select it from a list.*" Then, click *Next >*.
6. Click *Standard 19200 bps Modem*, and then click *Next>*.
7. Click the "*Selected ports*" radio button. Click on an available COM Port (e.g., *COM1*). This is the port to which you will connect your Iridium phone. Click *Next >*.
8. Click *Finish*.
9. Click *Standard 19200 bps Modem* to highlight it, and then click *Properties*.
10. Select the *Connection* tab and then click *Advanced...*
11. In the Extra settings box, enter **AT+CBST=71,0,1**
12. Click *OK, OK, Close*.
13. The Modem Setup window appears and asks if you would like to configure Dial-Up Networking. Click *Yes*.
14. The Remote Access Setup window appears. Note: If a modem is already installed on the COM port that you would like to use for the Standard 19200 bps Modem, select the modem in the list and click *Remove*.
15. Click *Add* and select the "*Standard 19200 bps Modem*" from the list of RAS capable devices. Click *OK*.
16. The new entry is added to the list of modems. Click *Continue*.
17. When asked if you would like to restart the computer, click *Yes*.

### 2.4.2 Configure Dial-Up Networking

1. Choose *Start > Programs > Accessories > Dial-Up Networking*. If Dial-Up Networking has no "phonebook entries", you will be prompted to "Press OK to add an entry".
2. Click *New...*
3. In the *Entry name* box, enter a connection name (e.g., "Iridium PPP).
4. In the *Phone number* box, enter **008816000023**
5. Uncheck the "*Use Telephony dialing properties*" box.

6. In the *Dial using* list, select "*Standard 19200 bps Modem*"
7. Select the *Server* tab.
8. Make sure "*TCP/IP*" is checked.
9. Uncheck "*IPX/SPX compatible*", "*NetBEUI*".
10. Click *OK, Close*.

## **2.5 Windows 2000 Setup**

### **2.5.1 Install the Modem Driver**

1. Close all applications.
2. Choose *Start > Settings > Control Panel*.
3. Double click on *Phone and Modem Options*.
4. Select the *Modems* tab and click *Add...*
5. Check “*Don’t detect my modem; I will select it from a list.*” Then, click *Next >*.
6. Click *Standard 19200 bps Modem*, and then click *Next>*.
7. Click the “*Selected ports*” button. Click on an available COM Port (e.g., *COM1*). This is the port to which you will connect your Iridium phone. Click *Next >*.
8. Click *Finish*.
9. Click the *Standard 19200 bps Modem* to highlight it, and then click *Properties*.
10. Select the *Advanced* tab.
11. In the “*Extra initialization commands*” box, enter **AT+CBST=71,0,1**
12. Click *OK, OK*.

### **2.5.2 Configure Dial-Up Networking**

1. Choose *Start > Programs > Accessories > Communications > Network and Dial-up Connections*.
2. Double-click *Make New Connection*, and click *Next>*.
3. Select “*Dial-up to private network*” and click *Next>*.
4. If a “*Select a Device*” window appears, check the box next to “*Modem - Standard 19200 bps modem*”, and uncheck all other devices. Click *Next>*.
5. In the *Phone number* box, enter **008816000023** and click *Next>*.
6. Choose either “*For all users*” or “*Only for myself*” and click *Next>*.
7. Enter a name for your connection (e.g., “*Iridium PPP*”) and click *Finish*.
8. Click *Properties*.
9. Click the *Networking* tab.
10. Make sure “*Internet Protocol (TCP/IP)*” is checked. Uncheck all other components.
11. Click *OK*.
12. Close the connection box.

## 2.6 Windows XP Setup

### 2.6.1 Install the Modem Driver

1. Close all applications.
2. Choose *Start > Control Panel*.
3. Double click on *Phone and Modem Options*.
4. Select the *Modems* tab and click *Add...*
5. Check “*Don’t detect my modem; I will select it from a list.*” Then, click *Next >*.
6. Click *Standard 19200 bps Modem*, and then click *Next>*.
7. Click the “*Selected ports*” button. Click on an available COM Port (e.g., *COM1*). This is the port to which you will connect your Iridium phone. Click *Next >*.
8. Click *Finish*.
9. Click the *Standard 19200 bps Modem* to highlight it and then click *Properties*.
10. Select the *Advanced* tab.
11. In the “*Extra initialization commands*” box, enter **AT+CBST=71,0,1**
12. Click *OK, OK*.

### 2.6.2 Configure Dial-Up Networking

1. Choose *Start > All Programs > Accessories > Communications > Network Connections*.
2. Click “*Create a new connection*”.
3. Click *Next>*.
4. Select “*Connect to the Internet*” and click *Next>*.
5. Select “*Set up my connection manually*” and click *Next>*.
6. Select “*Connect using a dial-up modem*” and click *Next>*.
7. If a “*Select a Device*” window appears, check the box next to “*Standard 19200 bps modem*”, and uncheck all other devices. Click *Next>*.
8. Enter a connection name (e.g., “*Iridium PPP*”) and click *Next>*.
9. In the Phone Number box, enter **008816000023** and click *Next>*.
10. If using XP Professional Edition, a window may appear to select either “*Anyone’s use*” or “*My use only*”. Choose either selection and click *Next>*.
11. A username and password are not necessary. Click *Next>*.

12. Click *Finish*
13. Click *Properties*.
14. Click the *Networking* tab.
15. Make sure "Internet Protocol (TCP/IP)" is checked. Uncheck all other components.
16. Click OK.
17. Close the connection box.

### 3 Dialing a Call

To place a PPP Data call, you must open the Dial-Up Networking window and select the dial-up connection you created for your Iridium phone.

1. Connect the computer and phone.
2. Orient the phone's antenna with a clear view of the sky.
3. If your computer is turned off, turn it on and wait for it to boot up.
4. Turn on your Iridium phone and wait for it to register with the satellite network.
5. Depending on your Windows operating system, choose one of the following to open the Dial-Up Networking window:
  - *Start > Programs > Accessories > Dial-Up Networking*
  - *Start > Programs > Accessories > Communications > Dial-Up Networking*
  - *Start > Programs > Accessories > Communications > Network and Dial-up Connections*
  - *Start > All Programs > Accessories > Communications > Network Connections*
6. For **Windows 95/98/Me/2000/XP**, double-click the dial-up connection you created (e.g., "Iridium PPP"), and then click *Connect* or *Dial*. (Note: A username and password are not necessary, and anything in these fields will be ignored).

For **Windows NT**, select your connection from the drop down list (e.g., "Iridium PPP"), and then click *Dial*. When prompted to enter a username and password, click *OK*. (Note: A username and password are not necessary, and anything in these fields will be ignored).

7. As the Iridium phone is dialing, it will blink "Data Call In Progress" and a Dial-Up Networking window will appear on your computer showing the current status of the connection.
8. Once connected, the handset will continue to display "Data Call In Progress," but it will no longer blink.
9. Once authenticated, a dial-up networking session is established, and the dial-up networking icon will appear in your task bar.
10. You can now launch your Internet application.

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