

Tech Notes

LT-3100 Windows Dial-up Networking

This Tech Note describes how to configure Windows Dial-up Networking to use the LT-3100 Iridium terminal.

The description and illustrations are based on MS Windows 10. However, earlier versions of MS Windows also support Dial-up Networking, though the configuration differ slightly.

Required Documentation

N/A

Requirements/Pre-requisites

Personal Computer or Laptop. The following Windows 32 and 64-bit versions are support: Windows Vista, 7, 8, 8.1, 10, Server 2003, Server 2008, 2008 R2, Server 2012, 2012 R2.

LT-3100 Satellite Communication System with software version 1.06 or later.

If using the Fabulatech Serial Port Redirector, it must be version 2.8.11 or later.

The PC and the LT-3100 Communication System shall be connected using an Ethernet cable – either directly or through a network (e.g. a router or switch).

Configuration Instructions

Right click on the network icon on the right side of the task bar (second to the right).



And select *Open Network & Internet Settings*.

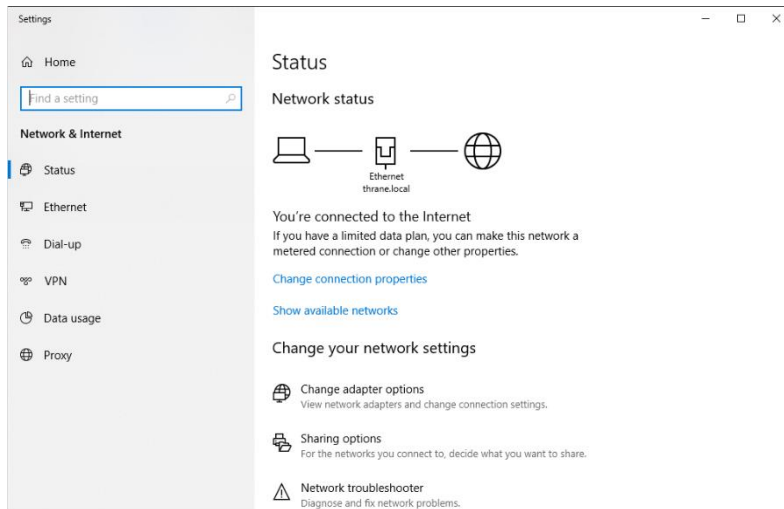


Figure 1 Network & Internet Settings

Select the *Dial-up* menu option.

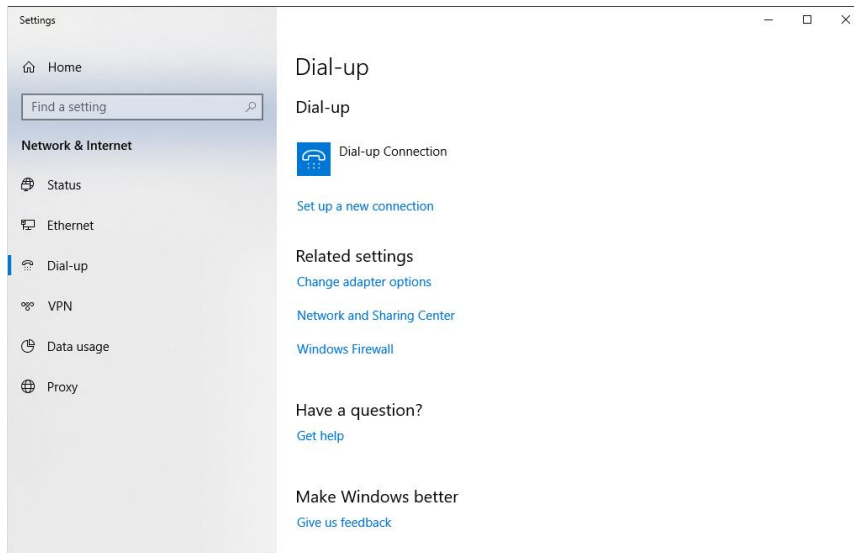


Figure 2 Dial-up

Select *Set up a new connection*.

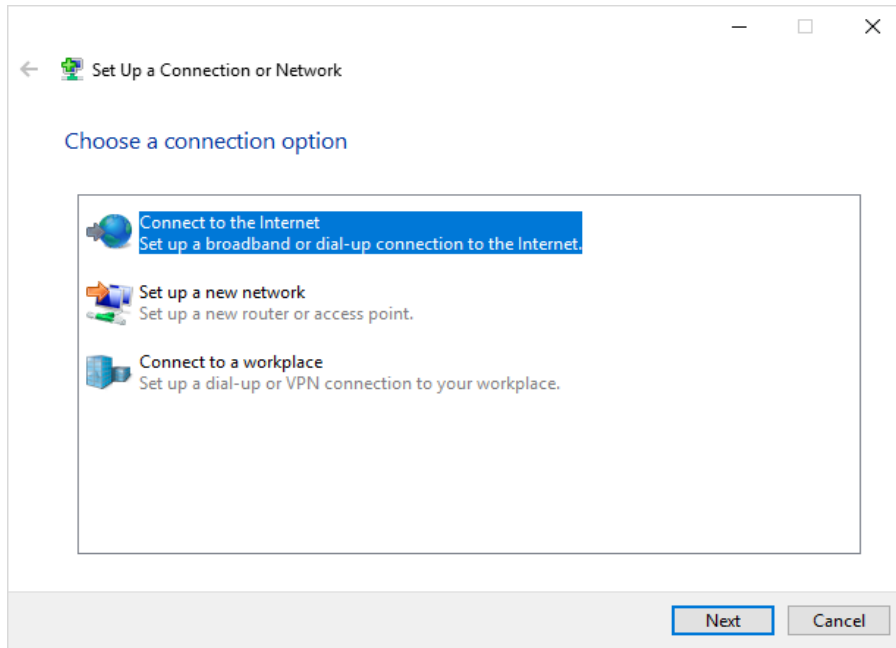


Figure 3 Choose connection

Select *Connect to the Internet* and press Next

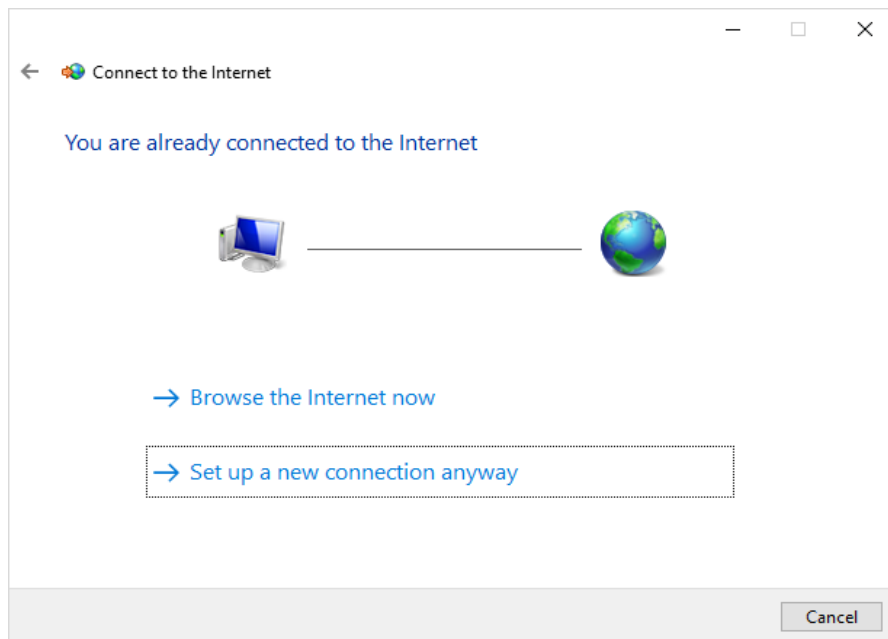


Figure 4 New connection to the Internet

Select *Set up a new connection anyway*. This window is only shown if the PC is already connected to the internet.

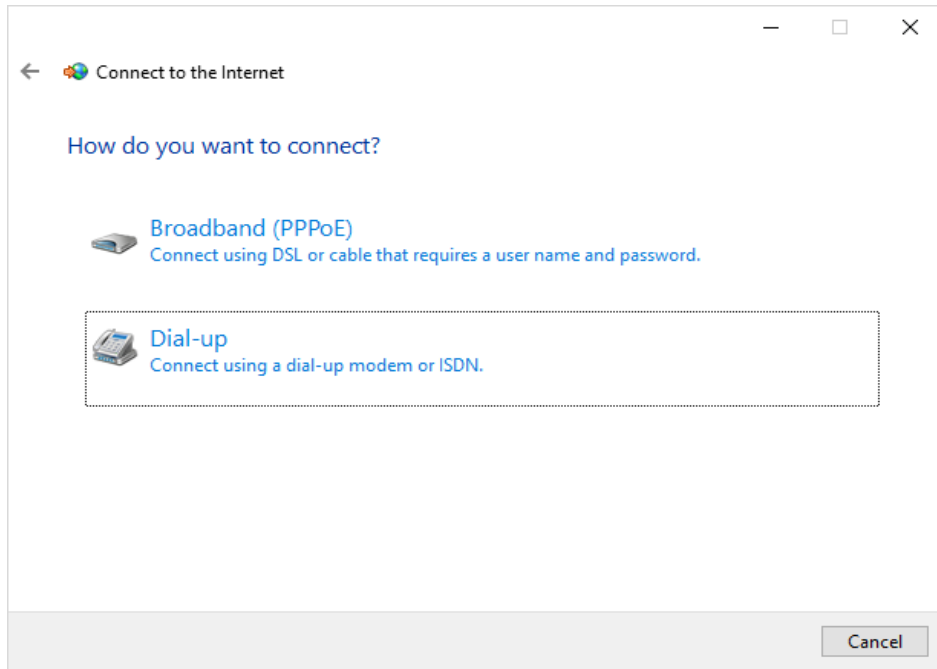


Figure 5 Select Dial-up

Select *Dial-up*.

If more than one modem is installed, you will be asked to select a specific modem. Select the modem which is connected to the LT-3100 (by default it is the *Standard 2400 bps Modem*).

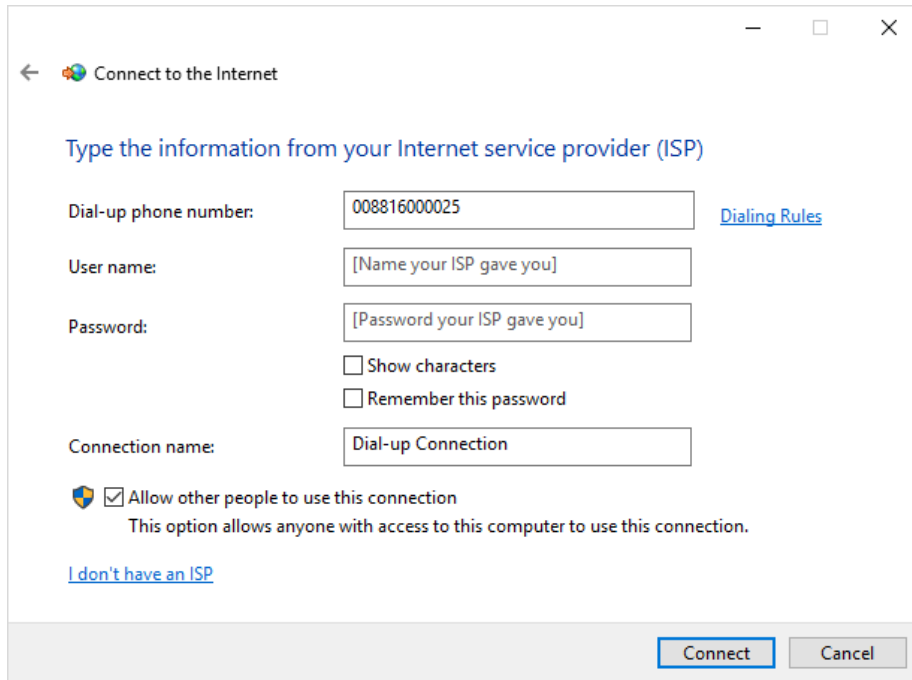


Figure 6 Connect to Internet

Enter the *Dial-up phone number*: 008816000025 and change the default name of the connection, e.g. "LT-3100 Dial-up". Do not enter *User name* and *password*.

IMPORTANT: Some applications (e.g. the e-catch application) require a specific name of the Dial-up connection.

NOTE: It is possible to configure multiple Dial up connections (with different names) using the same modem.

Firewall configuration

The Windows dial-up networking establishes a connection to the Internet through the Iridium satellite network. It is a low bandwidth connection and the transmission rate is significantly less than the transmission rate of a normal LAN connection.

When the dial-up networking connection is established MS windows and several different applications will access the Internet on a regular basis. Due to the low bandwidth of the satellite connection it will most likely cause congestion, high latency and dropped IP packets.

It is recommended to set-up firewall rules that only allow exactly the type of protocols that are required for the specific applications to work.

In general, the rules should block all outgoing protocols with exception of some specific protocols.

The firewall rules should only be associated with the *Remote access* (RAS) type of interface (not to interfere with LAN and wireless networks).

NOTE: The firewall rule affects all Remote access type of connections, it is not limited to the specific Iridium RAS connection. If other type of RAS connections are defined the firewall rules must be enabled only when the Iridium dial-up connection is activated (see example below).

If for example, the dial-up networking connection is intended for sending and receiving e-mails using the POP3 and SMTP protocols on port 110 and 587, a firewall rule blocking for all outgoing TCP ports, except for TCP port 110 and 587 is required.

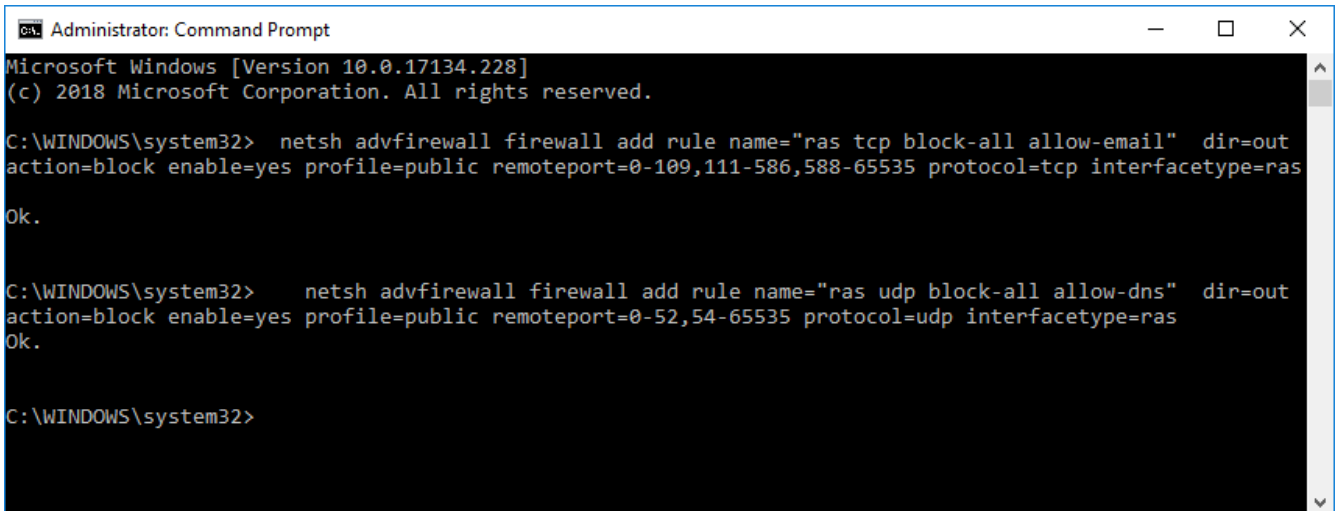
The firewall rules can be added by using the *Windows Defender Firewall* (GUI) application or by using the *netsh* command line application.

The example below shows how to setup two firewall rules using the *netsh* application. The firewall rules allow e-mail protocols at port 110 and 587 (TCP) and DNS at port 53 (UDP).

Open the *Command Prompt* in administrator mode (Run as administrator) and enter the following commands:

```
netsh advfirewall firewall add rule name="ras tcp block-all allow-email" dir=out  
action=block enable=yes profile=public remoteport=0-109,111-586,588-65535 protocol=tcp  
interfacetype=ras
```

```
netsh advfirewall firewall add rule name="ras udp block-all allow-dns" dir=out  
action=block enable=yes profile=public remoteport=0-52,54-65535 protocol=udp  
interfacetype=ras
```



```
Administrator: Command Prompt
Microsoft Windows [Version 10.0.17134.228]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\WINDOWS\system32> netsh advfirewall firewall add rule name="ras tcp block-all allow-email" dir=out
action=block enable=yes profile=public remoteport=0-109,111-586,588-65535 protocol=tcp interfacetype=ras
Ok.

C:\WINDOWS\system32> netsh advfirewall firewall add rule name="ras udp block-all allow-dns" dir=out
action=block enable=yes profile=public remoteport=0-52,54-65535 protocol=udp interfacetype=ras
Ok.

C:\WINDOWS\system32>
```

Figure 7 Add e-mail/DNS firewall rules

In the example the firewall rules are enabled as they are defined (enable=yes). It is also possible to add the firewall rule, disable it by default (enable=no) – and then enable the rule, when a specific application is launched.

The following commands enable the e-mail firewall rule (assuming that the rule has been added previously), launch an application and disable the firewall rule when the application exits.

```
netsh advfirewall firewall set rule name="ras tcp block-all allow-email" new enable=yes
start /wait <the application>
netsh advfirewall firewall set rule name="ras tcp block-all allow-email" new enable=no
```

Verification Instructions

Open the *Network & Internet Settings* and select the *Dial-up* menu option.

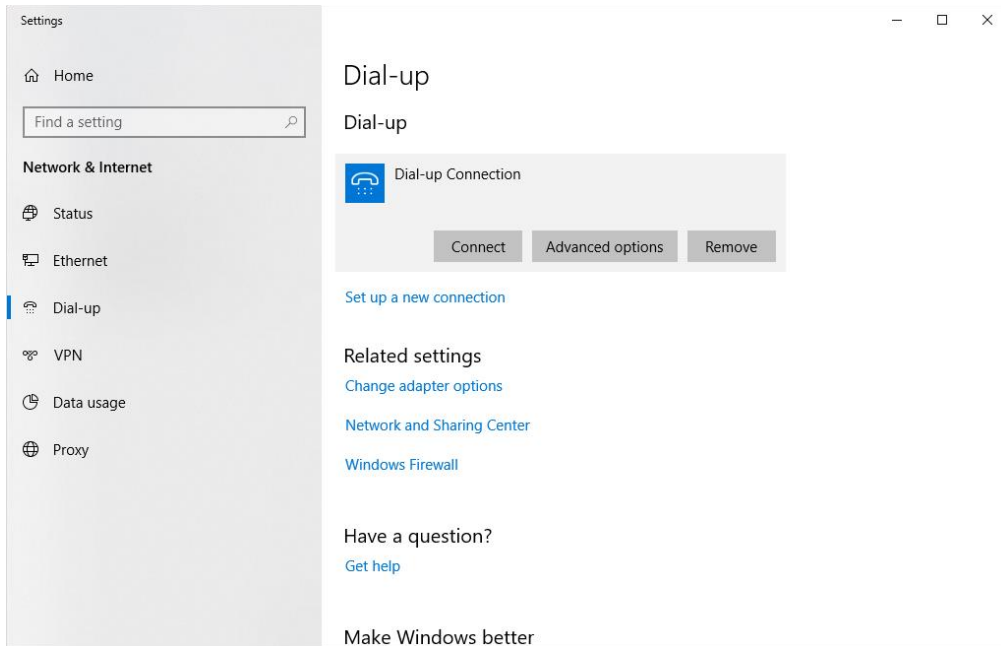


Figure 8 Verification - dial-up

Then select the new dial-up connection and press *Connect*.



Figure 9 Verification - dial

Press the *Dial* button and verify that the a connect to internet is established. Do not enter user name or password.