

Mediant™ 800 MSBG

Multi-Service Business Gateway

SIP Protocol

Configuration Note

3G Cellular Modem WAN Connection



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 **AudioCodes**

Version 1.0

January 2012

Document # LTRT-31610

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Notice

This document describes the different ways of connecting the Mediant 800 Multi-Service Business Gateway (MSBG) to the Internet using a cellular modem connected to the MSBG's USB port.

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Date Published: January-8-2012

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Abbreviations and Terminology

Each abbreviation, unless widely used, is spelled out in full when first used.



Note: Throughout this manual, unless otherwise specified, the term *device* refers to the Mediant 800 MSBG.

Reader's Notes

1 Introduction

This document explains the different ways of configuring the Mediant 800 MSBG to the Internet using a cellular modem connected to the MSBG's USB port.

Many cellular operators worldwide provide a wireless Internet connection service. Connection speeds vary, depending upon the technology used by the operator and the load on the base stations. While a cellular Internet connection typically costs more than a landline service, it is common practice to configure a cellular modem as backup to the enterprise's fixed connection.

The cellular connection feature requires Software Version 6.4 and Hardware Revision 1 (CPLD Version 0A).

Reader's Notes

2 Using Supported Modems

The table below lists the modems tested for compatibility with the Mediant 800 MSBG.

Table 2-1: Compatible Modems with Mediant 800 MSBG

Modem	Operator	Settings	Notes
ZTE MF626	Cellcom-IL	Default	
ZTE MF637	Orange-IL	Default	
Huawei E160	Cellcom-IL	tty 0	
Huawei E182E (HSPA+)	Pelephone-IL	tty 0	This modem requires approximately three minutes to register with the 3G network
Alcatel X220	Cellcom-IL	Default	
Sierra 308 (HSPA+)	Orange-IL, Vodafone-IT	tty 2	Users of Sierra's AirCard 306 should upgrade to the newer AirCard 308, due to known power problems.

Reader's Notes

3 Configuring Cellular Modems using CLI

The following explains how to configure a cellular modem using the CLI command interface.

➤ **To configure a cellular modem using CLI:**

1. Use the **interface cellular 0/0** CLI command. The command is available in the *configure data* context, and allows the following settings:

Command	Defaults	Notes
initstr	AT&F	Defines the initialization string for the modem. The default string AT&F restores factory defaults.
apn	uinternet	Defines the Access Point Name (APN) used by the cellular operator.
phone	*99#	Defines the phone number for the dial-up data service. Most networks use the default *99#.
ppp user	(blank)	Defines the user-name and password for the PPP connection.
tty	last	Determines which of the modem's serial interfaces are to be used. Most modems provide multiple serial interfaces for diagnostic purposes. You need to select the one appropriate for Internet access. The " tty first " setting uses the first responsive serial interface. The " tty last " setting uses the highest numbered interface (default). Alternatively, a serial interface can be selected by number.
[no] shutdown	shutdown	Brings the connection up or down.
backup monitoring	(no)	Defines Backup mode; the cellular connection is used only when the primary interface fails.
[no] route default	(yes)	Defines the cellular connection as the default route for the MSBG. This setting is required even if the cellular connection is in backup mode.
[no] napt	(yes)	Enables NAPT mode. This setting is required unless your service provider supports routable addresses for your LAN hosts.
mtu	(automatic)	Controls the maximum transmission unit (MTU) of the cellular interface. This value is usually negotiated automatically.

2. Use the **no shutdown** command to enable the interface.
3. Exit the configuration context and then select **write** to save it.
4. Connect the modem to the USB port.
5. Use the **show data cellular status** command to display the modem's up/down state; the typical modem setup time is 1-2 minutes.

Reader's Notes

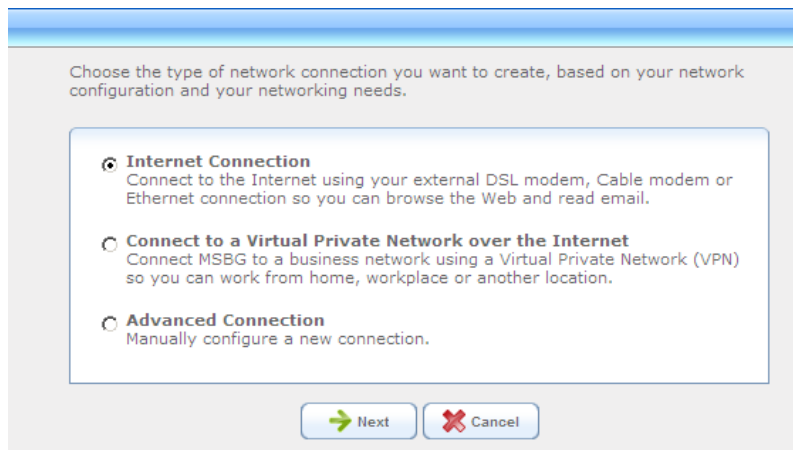
4 Configuring Cellular Modems using Web Interface

The following explains how to configure a cellular modem using the Web interface.

➤ **To configure a cellular modem using the Web interface:**

1. Set up a cellular connection, (**Data > Data System > Connections**) from the navigation tree, and click the **New Connection** link. The network setup wizard is displayed.
2. Click the **Internet Connection** option and then click **Next**.

Figure 4-1: Network Connection

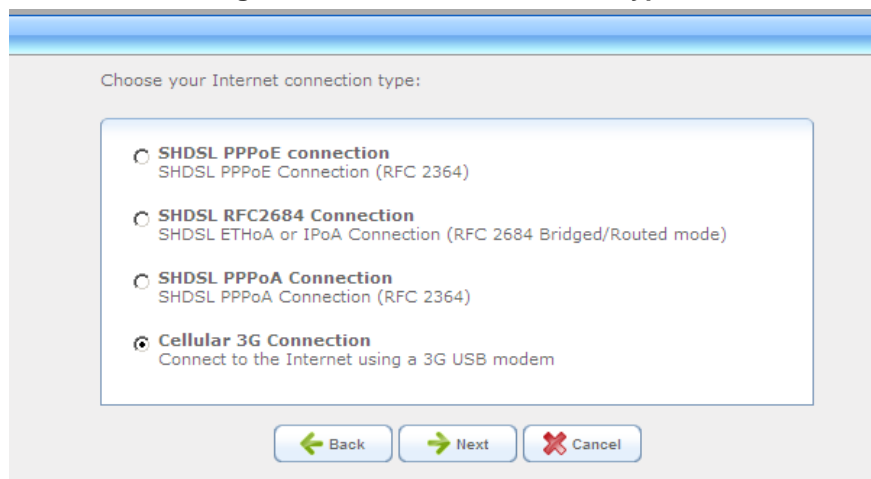


Choose the type of network connection you want to create, based on your network configuration and your networking needs.

- Internet Connection**
Connect to the Internet using your external DSL modem, Cable modem or Ethernet connection so you can browse the Web and read email.
- Connect to a Virtual Private Network over the Internet**
Connect MSBG to a business network using a Virtual Private Network (VPN) so you can work from home, workplace or another location.
- Advanced Connection**
Manually configure a new connection.

3. Click the **Cellular 3G Connection** option and then click **Next**.

Figure 4-2: Internet Connection Type



Choose your Internet connection type:

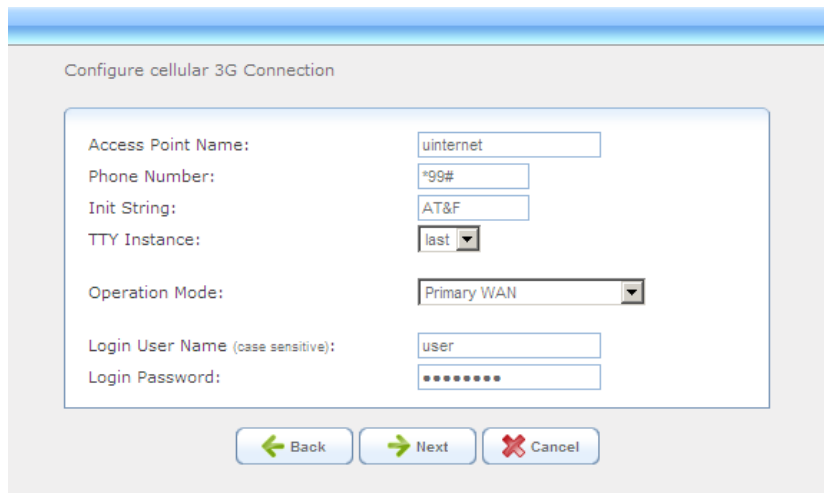
- SHDSL PPPoE connection**
SHDSL PPPoE Connection (RFC 2364)
- SHDSL RFC2684 Connection**
SHDSL ETHoA or IPoA Connection (RFC 2684 Bridged/Routed mode)
- SHDSL PPPoA Connection**
SHDSL PPPoA Connection (RFC 2364)
- Cellular 3G Connection**
Connect to the Internet using a 3G USB modem



Note: The screenshot above shows what the wizard looks like on the SHDSL variant of the Mediant 800 MSBG. Options may vary depending on the hardware configuration.)

4. Configure the cellular modem settings as described above, and then click **Next**.

Figure 4-3: Configure Cellular 3G Connection



Configure cellular 3G Connection

Access Point Name:	<input type="text" value="uinternet"/>
Phone Number:	<input type="text" value="*99#"/>
Init String:	<input type="text" value="AT&F"/>
TTY Instance:	<input type="text" value="last"/>
Operation Mode:	<input type="text" value="Primary WAN"/>
Login User Name (case sensitive):	<input type="text" value="user"/>
Login Password:	<input type="password" value="*****"/>

5. Click **Finish** to create the connection,
6. Save the configuration to Flash
7. Connect the cellular modem to the USB port.
8. Wait 1-2 minutes for the connection state to change to “Connected”.

5 Setting Backup Mode

By default, the 3G cellular modem connection (using the USB port) is created as a primary WAN – i.e. the link is always active, and may be used in parallel with the landline connection. Normal routing rules and metrics control the link through which packets are sent.

The 3G cellular connection may be configured as a backup to another WAN interface (such as ADSL). In this Backup mode, the modem is up and registered with the 3G network, but the PPP link remains down. Any failure of the primary link would bring the PPP connection up. When the primary link is restored, the cellular PPP connection goes down again. Configuration allows selecting which primary interface is to be monitored. This could be, for example, an Ethernet connection, a DSL-ATM PVC or a PPPoE tunnel.

To set up Backup mode, first configure the primary connection to be monitored; ensure this interface is in the “Connected” state.

➤ **To set up Backup using CLI:**

1. Enter the **interface cellular 0/0** context and specify for instance, **backup monitoring GigabitEthernet 0/0** to monitor Ethernet.
2. Replace the interface name and port as required.

➤ **To set up Backup using the Web interface:**

1. Open the Configure Cellular 3G Connection page (**Data > Data System > Connections > New Connection > Internet Connection > Cellular 3G Connection**).
2. From the ‘Operation Mode’ drop-down list, select **Backup to another interface**.
3. Click **Next**.

Figure 5-1: Configure Cellular 3G Connection - Backup

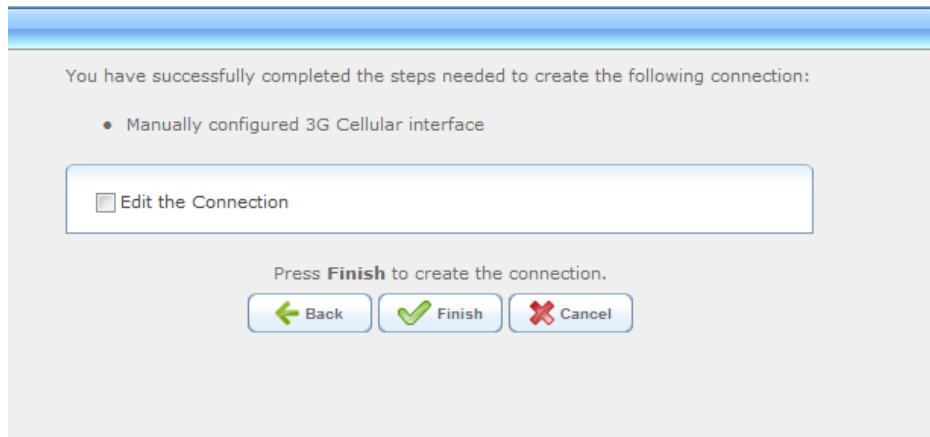
The screenshot shows a web form titled "Configure cellular 3G Connection". The form contains the following fields and options:

- Access Point Name: uinternet
- Phone Number: *99#
- Init String: AT&F
- TTY Instance: last (dropdown)
- Operation Mode: Backup to another interface (dropdown)
- Interface to monitor: WAN Ethernet (dropdown)
- Login User Name (case sensitive): user
- Login Password: [masked]

At the bottom of the form, there are three buttons: "Back" (with a left arrow), "Next" (with a right arrow), and "Cancel" (with a red X).

4. A successful connection message appears.

Figure 5-2: Successful Connection Completion



5. Click **Finish**.

6 Troubleshooting

If the cellular connection cannot be established, check the following:

- The cellular modem must be fully inserted into the USB port. Use a short USB extension cable if the modem is too large, or if the RS-232 connector is in the way.
- The modem must be equipped with a valid unlocked SIM card suitable for 3G networks.
- The LEDs on the modem; power is applied to the USB port at approximately one minute after system start-up. The LEDs should indicate that the modem is active and registered to the cellular network (Refer to the modem's manual for the meaning of each LED status indicator).
- Syslog messages during the Mediant 800 MSBG startup process. If the device's hardware revision is incapable of supporting USB, a notice is issued to the Syslog.
- Debug using captures on the 3G modem interface. For more information, refer to *LTRT-40302 Capturing Traffic on MSBG Devices Configuration Note*.
- Only modems listed in the Table 2-1 are supported.



Configuration Note