SRX110 Services Gateway 3G USB Modem Quick Start

JUNIPER NETWORKS®

The instructions in this guide help you install the SRX110 Services Gateway 3G USB modem. For details, see

- *SRX110 Services Gateway Hardware Guide* at http://www.juniper.net/techpubs/a063.html
- Junos OS documentation at http://www.juniper.net/techpubs/en_US/release-independent/junos/information-products/pathway-pages/srx-series/product/index.html

Overview of 3G Connectivity on SRX Series Services Gateways

The SRX110 Services Gateway has a built-in **3G-WAN** USB port on the back panel to support 3G. You can use the GSM 3G USB modem for wireless data connectivity to 3G networks.

Support for the 3G USB modem extends the WAN connectivity options available on the SRX110 Services Gateway. The SRX110 Services Gateway supports a wireless interface as a backup for primary interfaces such as VDSL2. You can also use the 3G interface as the primary interface. The 3G USB modem is secured with a USB protection cover as shown in the following illustration:
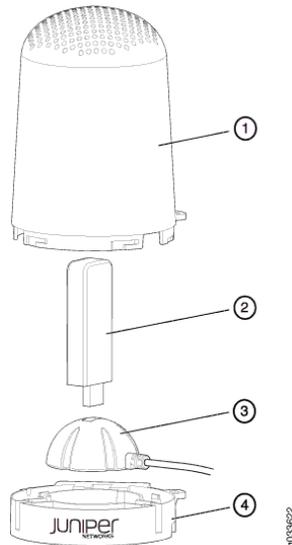
Callout	Description	Callout	Description
1	USB mount top cover	3	USB mount (magnetic/nonmagnetic)
2	USB modem	4	USB mount base

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3G Connectivity on GSM USB Modems

To facilitate wireless connectivity, the device has a **3G-WAN** USB port on the back panel that supports the external 3G USB modem using a 3G USB modem extension cable. When the services gateway is equipped with a 3G USB modem and used in a branch office, the device can provide dial-out services to PC users and forward IP traffic to the service provider's cellular network.

Juniper Networks supports the Sierra Compass 888, AirCard 308U, and AirCard 319U Wireless USB modems. The 3G USB modem is not supplied by Juniper Networks.

GSM digital cellular phone technology competes with CDMA digital cellular phone technology. The majority of the 30 largest mobile network providers worldwide supports GSM.

Installing the 3G USB Modem in the SRX110 Services Gateway 3G USB Port

Use the following instructions to install the 3G USB modem in the SRX110 Services Gateway. See the following illustration for details on the location of the **3G-WAN** USB port on the services gateway back panel.
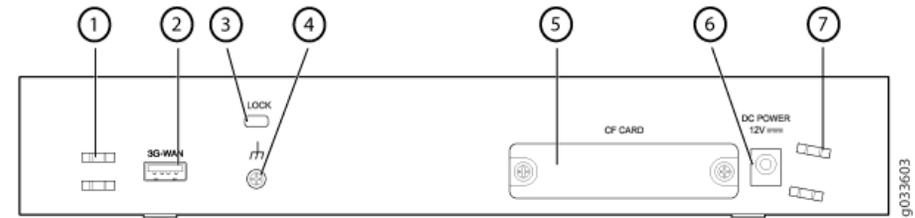
Callout	Description	Callout	Description
1	Cable tie holder	5	CompactFlash Card
2	3G-WAN (USB port)	6	Power supply point
3	Lock for security cable	7	Cable tie holder
4	Grounding point		

Task 1: Before You Begin

Before you begin, perform the following tasks:

1. Install your SRX110 Services Gateway and establish basic connectivity. For more information, see the *SRX110 Services Gateway Hardware Guide* at http://www.juniper.net/techpubs/a063.html .

2. Establish an account with a cellular network service provider. Contact your service provider for more information about creating an account.

For HSPA (GSM/UMTS) 3G USB modems, you should obtain a SIM card from the service provider and insert it into the SIM slot of the 3G USB modem.

Task 2: Install the 3G USB Modem

To install the 3G USB modem on the SRX110 Services Gateway:

1. Ensure that the services gateway is powered off.
2. To connect the 3G USB modem on the USB modem extension cable mount (see the illustration shown in *Overview of 3G Connectivity on SRX Series Services Gateways*):
   a. Place the USB mount on the USB mount base.
   b. Insert a 3G USB modem in the USB mount port.
   c. Close the USB mount top cover on the USB mount.
   d. Lock the USB modem protection cover.
3. On the rear side of the services gateway, insert the 3G USB modem extension cable into the **3G-WAN** USB port until the cable is engaged.

   NOTE: The 3G USB modem is not hot-swappable.
4. At the 3G USB modem extension cable-mount USB port, insert the 3G USB modem.

   NOTE: Ensure that the base of the 3G USB extension of the cable-mount is 18 inches away from the services gateway.
5. Power on the services gateway. The 3G LED on the front panel of the device indicates the status of the 3G USB modem interface.

The following illustration depicts the insertion of the 3G USB modem to the SRX110 Services Gateway using the 3G USB modem extension cable.
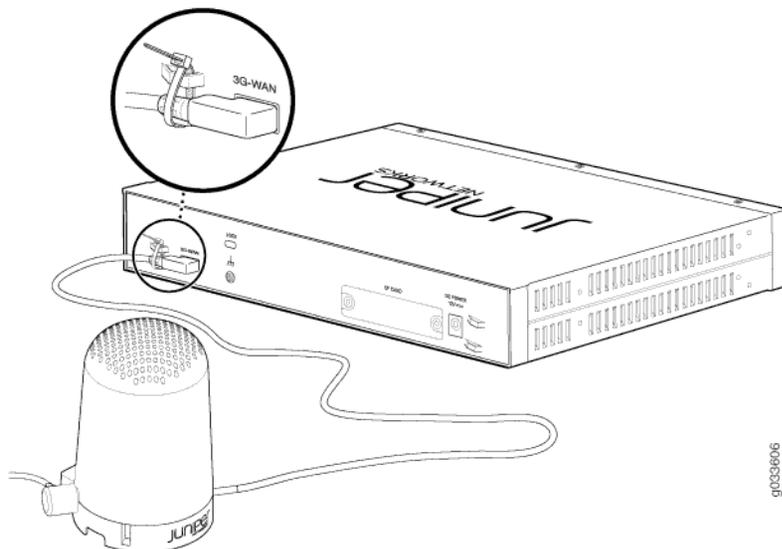
NOTE: You can mount the USB protection cover on a wall in two ways using keyholes as shown in the following illustrations, respectively.
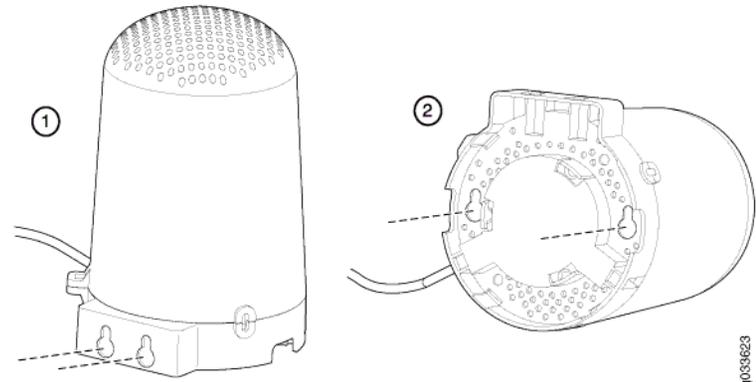
Task 3: Check the 3G USB Modem Status

To check the 3G USB modem status:

1. In the J-Web interface, select **Monitor** > **Interfaces**.
2. Select **cl-0/0/8** to view admin and link status.

   NOTE: You can change the value of **Refresh interval** to check the admin and link status at the desired interval.
3. When a 3G call is down or not triggered (no call in progress):
   - **cl-0/0/8** status - **Admin Status** is down and **Link Status** is up
   - **cl-0/0/8.0** status - **Admin Status** is up and **Link Status** is down
4. When a 3G call is up or triggered (call in progress):
   - **cl-0/0/8** status - **Admin Status** is up and **Link Status** is up
   - **cl-0/0/8.0** status - **Admin Status** is up and **Link Status** is up
5. Click **Details** to view hardware and network details.

Task 4: Configure the 3G USB Modem

To configure the 3G USB modem:

1. In the J-Web interface, select **Configure** > **Interfaces** > **Ports**.
2. Select **cl-0/0/8** and then click **Edit** to configure the 3G USB modem and the dialer interfaces.

NOTE: The J-Web interface supports SIM unlock option. If SIM is already in un-locked state, then this option is disabled.

GSM USB Modem

Use the following Junos OS CLI commands to lock or unlock the SIM card inserted in the GSM USB modem. If the SIM is locked, you must unlock it before you can make a call.

1. To enable SIM lock for the GSM SIM:
    - user@host> **request modem wireless gsm sim-lock pin** *xxxx* **enable cl-0/0/8**

    where *xxxx* is the SIM pin provided by the cellular provider for the SIM.

NOTE: Once SIM lock is enabled, you can view the status of the SIM card with the CLI command **show modem wireless interface cl-0/0/8**. The output displays the PIN security status as **Modem PIN security status: Enabled**.

When the SRX110 Services Gateway is rebooted, the SIM is locked and must be unlocked with a given PIN.

2. To unlock the GSM SIM:
    - user@host> **request modem wireless gsm sim-unlock cl-0/0/8 pin**

3. To unlock the SIM automatically on reboot:
    - [edit]
      user@host# **set interfaces cl-0/0/8 cellular-options gsm-options sim-unlock-code**

When you attempt to unlock the SIM, if you enter a wrong PIN three times in a row, the SIM enters the PIN Unlock Key (PUK) state. You must then obtain the PUK code from your service provider to unlock the SIM with the CLI.

4. To recover the SIM from the PUK state:
    - [edit]
      user@host# **request modem wireless gsm sim-unblock cl-0/0/8 puk** *puk-number* **pin** *xxxx*

Configuring the 3G USB Modem as a Failover/Backup Link

The following figure illustrates a basic setup for 3G connectivity for two branch offices. Branch Office A has a VDSL2 port as the primary WAN link and a 3G connection as the failover link. Branch Office B uses the 3G connection as the primary WAN link.
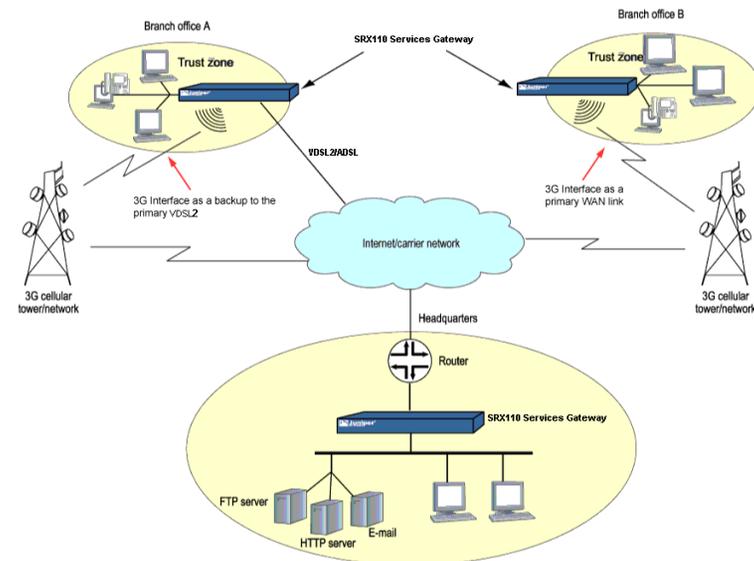
Task 1: Configure the 3G USB Modem and the Dialer Interfaces

To configure the 3G USB modem and the dialer interfaces:

1. In the J-Web interface, select **Configure** > **Interfaces** > **Ports**.
2. Select **cl-0/0/8** and then click **Edit**.
3. Click the **3G Options** tab. Under Modem Options, enter the **Init String** value.

    NOTE: This step is optional.
4. Click the **Address Configuration** tab. Dialer interface 'dl0' address can either be:
    a. Set to Negotiate To do this, select **Negotiate**.
    b. Configured statically by user. To do this, select **IPV4** and then click **Add** to configure an address for the dialer interface.

    NOTE: If you select a negotiate address under **Address Configuration** tab, you can also add a route through dialer **dl0** interface.

Task 2: Check for Authentication from the Service Provider and Configure One of Two Available Options

To check authentication and configure the options available from the service provider:

1. In the J-Web interface, select **Configure** > **Interfaces** > **Ports**.
2. Select **cl-0/0/8** and then click **Edit**.

3. Click the **3G Options** tab. Under Active Profile:
   a. Enter the **Access Point** name.
   b. Enter the SIP username and password and then select **CHAP, PAP,** or **None** authentication method as provided by the service provider.
   c. Click the **Set** or **Modify** button

Task 3: Configure an Option for Triggering a Call Using the 3G Wireless Network

To configure an option for triggering a call using 3G wireless network:

1. In the J-Web interface, select **Configure** > **Interfaces** > **Ports**.
2. Select **cl-0/0/8** and then click **Edit**.
3. Click the **Dialer Options** tab. Under Trigger Call, select a call option (**Dialer Backup**, **Dialer Filter**, or **Dialer Watch)**.

   NOTE: Under the **Dialer Options** tab, you can select a security zone for the dialer interface **dl0**.

Frequently Asked Questions

Q: Is there a license associated with using 3G options?

A: No. A license is not required to use 3G functionality; however, check with your service provider, because we do not provide 3G USB modems.

Q: My country does not yet have UMTS/3G enabled, only GPRS/EDGE. Can I still use the 3G Solution?

A: Yes. 3G USB modems automatically fall back to carrier-supported technology. To ensure compatibility, however, we recommend that you check with your carrier to verify that their technology supports the 3G USB modem.

Q: Will a wireless carrier need to certify a solution (SRX110 + USB Modem) before a customer can use it?

A: Solution certification depends on the carrier. In the USA, most service providers will need to certify the platform before customers can use the platform in their 3G network. We will work with service providers where certification is necessary.

Q: How do I return the modem to Juniper Networks for repair or replacement?

A: If the USB modem needs to be replaced or repaired, any service and activation charges required to reconnect the card to the 3G service will be the customer's responsibility.

Contacting Juniper Networks

For technical support, see www.juniper.net/support/requesting-support.html .