



# Configuring Modem for Dual PDN

## 6350-SR

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Difficulty Level: *Intermediate*

Minimum Firmware: *18.4.54*

## Goal

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To configure network interfaces to establish two separate cellular connections using one modem. This is often referred to as *Dual Packet Data Network (PDN)*.

**!** Dual PDN configuration is currently only available with Sierra Wireless modems. Telit-based modems do not support more than one active cellular connection at a time. As such, the following models/modems are incompatible with this feature:

- 1002-CM04
- IX14

All other ACL routers and modems are compatible with this dual PDN feature.

## Setup

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The Access Point Names (APNs) and authentication credentials used in this sample configuration are hypothetical. However, this article assumes authentic/valid APN and credentials are used in place of the hypothetical entries.

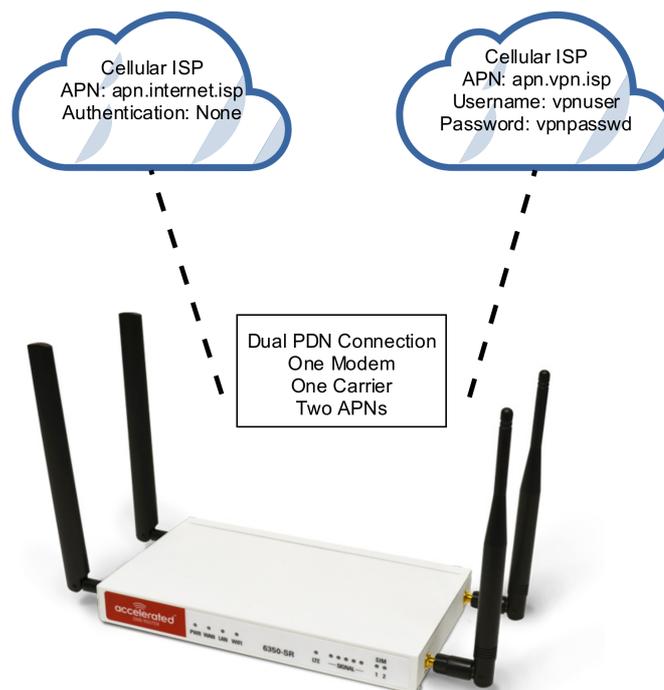
The two APNs of the hypothetical carrier "ISP" are:

- *apn.internet.isp*: The APN of the public internet, no authentication method required
- *apn.vpn.isp*: The APN of the internal VPN, authentication requires a username and a password

## Sample

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In order for this configuration to function, active SIM and cellular service must be present, and the device appropriately set up. This article also assumes the device's current configuration is default.



## Sample Configuration

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In device configuration, navigate to **Network > Interfaces**.

1. Using **Modem** to connect to the public internet, first **Enable** the interface
2. Set **Match SIM by** to **SIM slot**, or any other options that is suitable
3. Set **Match SIM slot** to **SIM1**, this sample configuration assumes SIM slot 1 contains the ISP SIM
4. Disable **SIM failover**
5. Enable **APN list only** to ensure this interface only attempts connection to the APN(s) listed in the APN list
6. In **APN list > APN**, set **APN** to **apn.internet.isp**
7. The rest of the fields can be default

The screenshot displays the configuration page for a network modem. The 'Modem' section is active, showing various settings. The 'APN list' section is expanded to show a single entry for 'apn.internet.isp' with the following details:

APN	APN
1. apn.internet.isp	apn.internet.isp

Additional settings visible include: Interface type: Modem, Zone: External, Device: Modem, Match SIM by: SIM slot, Match SIM slot: SIM1, Use DNS: When primary default route, and Authentication method: None.

To add APN *apn.vpn.isp*, a new network modem interface is required.

1. In **Add Interface** field, insert *modem\_vpn* and click **Add**.
2. In **Interface type**, select *Modem*
3. In **Zone**, select *External*
4. In **Device**, select *Modem*
5. In **Match SIM by** and **Match SIM slot**, select *SIM slot* and *SIM1* like *Interface > Modem*
6. Enable **APN list only**
7. In **APN list > APN**, set **APN** to *apn.vpn.isp*
8. Set **Authentication method** to *Automatic*
9. Insert the appropriate **Username** and **Password** into its own fields: *vpnuser*, *vpnpasswd*

The screenshot shows the configuration page for a modem named 'modem\_vpn'. The 'Enable' checkbox is checked. The 'Interface type' is set to 'Modem', 'Zone' to 'External', and 'Device' to 'Modem'. 'Match SIM by' is 'SIM slot' and 'Match SIM slot' is 'SIM1'. The 'PIN' and 'Phone Number' fields are empty. 'Use DNS' is set to 'When primary default route'. 'SIM fallover' is unchecked. 'APN list only' is checked. Under the 'APN list' section, there is one entry '1. apn.vpn.isp' with the following details: APN: apn.vpn.isp, IP version: Automatic, Authentication method: Automatic, Username: vpnuser, Password: vpnpasswd, and a checked 'Show' checkbox. There are 'Add APN' and 'Add' buttons below the APN list. Other sections like 'Passthrough', 'Custom gateway', 'IPv4', and 'IPv6' are collapsed. At the bottom, there is an 'Add Interface' button.

**i** NOTE: on firmware versions 18.8 or higher, you will also need to increase the *Maximum number of interfaces* from 1 to 2 under the *Network -> Modems -> Modem* section of the configuration. This enables the device to allow more than one active cellular connection at a time.

The screenshot shows the 'Modem' configuration page under the 'Network' section. The 'Enable' checkbox is checked. 'Match modem by' is 'Port', 'Match port' is 'Modem port: Module', and 'Active SIM slot' is 'Any'. The 'Maximum number of interfaces' is set to 2, highlighted with a red box and a red arrow. 'Carrier switching' is checked. 'Access technology' is 'All technologies' and 'Antennas' is 'Main and auxillary'. There is an 'Add Modem' button with 'Modem' in the text field and an 'Add' button. Other sections like 'Dynamic DNS', 'VRRP', and 'Advanced' are collapsed.

When all required configurations are set, click **Save** at the bottom of the device configurations.