



# Quick Note 301

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Gobi™ 3G Cellular Carrier Conversion -  
Digi TransPort and Digi Connect Families

Digi Technical Support  
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## Contents

1	Document Version .....	2
2	Intro to Gobi 3G Cellular modules .....	3
3	Gobi Benefits on Digi 3G Cellular Routers .....	3
	Network Flexibility .....	3
	Carrier Flexibility .....	3
	Global Footprint .....	3
	Focused Gobi SKUs .....	3
4	Determining if Your Device Has a Gobi Module .....	4
4.1	Digi TransPort Products .....	4
4.2	Digi Connect/ConnectPort Products .....	5
5	Configuring the Digi Device for a New Carrier .....	6
5.1	Digi TransPort Products (Gobi 2000) .....	6
5.2	Digi TransPort Products (Gobi 3000) .....	7
5.3	Digi Connect/ConnectPort Products (Gobi 2000) .....	8
5.4	Digi Connect/ConnectPort Products (Gobi 3000) .....	9
6	Information Needed to Activate Devices with CDMA Carriers .....	9
6.1	Digi TransPort Products .....	9
6.2	Digi Connect/ConnectPort Products .....	10
7	More Information .....	10

## 1 DOCUMENT VERSION

Version Number	Status
1.0	Initial release – 2011-Mar-1
2.0	Updated info for Gobi 3000

## 2 INTRO TO GOBI 3G CELLULAR MODULES

Advances in cellular technology have addressed one of the major issues in cellular/modem selection - network and carrier compatibility. Qualcomm's Gobi™ technology addresses this issue by featuring a single hardware module with a 'soft' firmware with support for multiple network technologies. For example- CDMA 1xRTT/EVDO (rev A) for Sprint and Verizon (USA) and GSM GPRS/EDGE/UMTS/HSPA+ for global GSM are all supported on a single module.

However, the full benefits of Gobi are realized depending on how the technology is implemented. The next section demonstrates the benefits of Gobi platform across Digi's Cellular router portfolio.

## 3 GOBI BENEFITS ON DIGI 3G CELLULAR ROUTERS

### ***Network Flexibility***

- CDMA – 1xRTT/EVDO (rev A)
- GSM – GPRS/EDGE/UMTS/HSPA+

### ***Carrier Flexibility***

- Sprint/Verizon/other CDMA/EVDO carriers
- AT&T Mobility and other global GSM carriers

### ***Global Footprint***

- Many Digi International SKUs include a worldwide power kit with power options for all relevant regions.

### ***Focused Gobi SKUs***

- More SKU options are available via the model selection on the product page.

<b>Digi Products with Gobi 2000</b>	<b>Applicable SKUs</b>	<b>Configuring for New Carrier</b>
Digi TransPort	WR41-U500-DV1-SU WR44-U500-DE1-SU	In-the-Field
Digi Connect WAN 3G/ConnectPort X	DC-WAN-T311-A – Verizon DC-WAN-T310-A – Sprint X4-Z11-C11-A – Verizon X4-Z11-C10-A – Sprint	In-the-Field

Digi Products with Gobi 3000	Applicable SKUs	Configuring for New Carrier
Digi TransPort	WR21-U81B-DE1-SU WR41-U800-DV1-SU WR44-U800-DE1-SU	In-the-Field
Digi Connect WAN 3G/ConnectPort X	DC-WAN-U801-A X4-Z1U-U801-A	In-the-Field

## 4 DETERMINING IF YOUR DEVICE HAS A GOBI MODULE

To be able to take advantage of the Gobi module's carrier conversion feature, it first must be determined that your device has a Gobi module installed. The following steps will help determine if your device has a Gobi module installed from either the Web Interface or Command Line Interface.

### 4.1 Digi TransPort Products

#### 1. Web Interface

- a. Connect to the Digi TransPort using an Ethernet port, and log into the Web Interface using the device IP address (default IP is 192.168.1.1).
- b. Once in the Web Interface, on the left hand side navigate to **Management > Network Status > Interfaces > Mobile**.
- c. On the Mobile page, look for the section titled **Mobile Information**.
- d. On the Mobile Information section, look for the field titled **Model**. The Model field will differ depending on the module installed:
  - i. Gobi 3000 – This module will show as **Huawei EM680 w/Gobi Technology**.
  - ii. Gobi 2000 – This module will show as **Qualcomm Gobi 2000**.

#### 2. Command Line Interface

- a. Connect to the Digi TransPort using an Ethernet port, and log into the Command Line Interface (CLI) using the device IP address (default IP is 192.168.1.1) via Telnet or SSH.
- b. Once at the CLI, issue the command '**modemstat ?**' (without the quotes), and press **Enter**.
  - i. **NOTE:** You can also issue this command from the WebUI from the **Administration > Execute a command** page in the WebUI.

- c. Look at the output that is generated for the field titled **Model**. The Model field will differ depending on the module installed:
  - i. Gobi 3000 – This module will show as **Huawei EM680 w/Gobi Technology**.
  - ii. Gobi 2000 – This module will show as **Qualcomm Gobi 2000**.

## 4.2 Digi Connect/ConnectPort Products

### 1. Web Interface

- a. Connect to the Digi Connect/ ConnectPort using an Ethernet port, and log into the Web Interface using the device IP address (default IP is 192.168.1.1).
- b. Navigate to **Administration > System Information > Mobile**.
- c. On the Mobile page, look for the section titled **Mobile Information**.
- d. On the Mobile Information section, look for the field titled **Modem Model**. The Modem Model will differ depending on the module installed:
  - i. Gobi 3000 – This module will show as **Huawei EM680 w/Gobi Technology**.
  - ii. Gobi 2000 – This module will show as **Qualcomm Gobi 2000**.

### 2. Command Line Interface

- a. Connect to the Digi Connect/ ConnectPort using an Ethernet port, and log into the Command Line Interface (CLI) using the device IP address (default IP is 192.168.1.1).
- b. Once at the CLI, issue the command '**display mobile**' (without the quotes), and press **Enter**.
- e. Look at the output that is generated for the field titled **Model ID**. The Model ID will differ depending on the module installed:
  - i. Gobi 3000 – This module will show as **Huawei EM680 w/Gobi Technology**.
  - ii. Gobi 2000 – This module will show as **Qualcomm Gobi 2000**.

## 5 CONFIGURING THE DIGI DEVICE FOR A NEW CARRIER

Digi Connect/ConnectPort and TransPort products are sold with a default carrier, for example GSM by default, but may be configured for CDMA/EVDO carriers in the field and vice versa. Below are steps for both Gobi 2000 and 3000 modules for each device family:

### 5.1 Digi TransPort Products (Gobi 2000)

Digi TransPort products benefit from additional free memory which is used to store the entire Gobi 2000 firmware image for local configuration of a new carrier. The following process outlines how to update a Digi TransPort for a new carrier.

1. Connect to the Digi TransPort using an Ethernet port, and log into the Web Interface using the device IP address (default IP is 192.168.1.1).
2. Once in the Web Interface, on the left hand side click **Wizards**.
3. On the Wizards page, choose the option for **GOBI module carrier wizard** and click **Next**.
4. Choose the carrier you want to use for the TransPort, and click **Next**.
5. Once the process completes, you will need to save the change. Look for the line that states “Save configuration changes [here](#)”, and click the word **here**. Click the **Save** button on the next screen to save the changes.
6. Once the device reports that the changes have been saved, click the **Reboot** link on the left to reboot the device. When the device comes back online, the carrier that was previously selected is now the carrier for the Digi TransPort.
7. Additional steps are necessary to activate the TransPort on the selected carrier’s network. Please see the TransPort’s manual for detailed information on activating the device for a particular carrier. Below are brief explanations of what needs to be done for CDMA and GSM carriers:
  - a. CDMA – The device will need to be Provisioned on the carriers network to activate the modem. After the Provisioning process is completed, the device will connect to the carrier’s network.
  - b. GSM – A SIM card is required from the provider, which needs to be installed into the device. At a minimum, the provider will also need to supply an APN (and possibly other activation information) to be entered into the Digi device for proper activation.

**NOTE:** Performing the conversion from one carrier to another is **NOT** recommended to be performed over the cellular link. Please use extreme caution if trying to convert the device over the mobile connection, as this could cause the device to become remotely inaccessible and will require an onsite visit to correct the issue. For example, if the module is changed from GSM to CDMA, but it has not been provisioned for CDMA, then it will fail to reconnect. For CDMA to GSM, a SIM will need to be installed and the inserted SIM must have an active account and the APN be configured properly for the device to connect.

## 5.2 Digi TransPort Products (Gobi 3000)

With the Gobi 3000 modules, the Gobi firmware image for each provider is included directly on the Gobi module for local configuration of a new carrier which frees up additional memory space on the Digi TransPort device. The following process outlines how to update a Digi TransPort for a new carrier.

1. Connect to the Digi TransPort using an Ethernet port, and log into the Web Interface using the device IP address (default IP is 192.168.1.1).
2. Once in the Web Interface, on the left hand side click **Wizards**.
3. On the Wizards page, choose the option for **GOBI module carrier wizard** and click **Next**.
4. Choose the carrier you want to use for the TransPort, and click **Next**.
5. Once the process completes, you will need to save the change. Look for the line that states “Save configuration changes [here](#)”, and click the word **here**. Click the **Save** button on the next screen to save the changes.
6. Once the device reports that the changes have been saved, click the **Reboot** link on the left to reboot the device. When the device comes back online, the carrier that was previously selected is now the carrier for the Digi TransPort.
7. Additional steps are necessary to activate the TransPort on the selected carrier’s network. Please see the TransPort’s manual for detailed information on activating the device for a particular carrier. Below are brief explanations of what needs to be done for CDMA and GSM carriers:
  - a. CDMA – The device will need to be Provisioned on the carriers network to activate the modem. After the Provisioning process is completed, the device will connect to the carrier’s network.
  - b. GSM – A SIM card is required from the provider, which needs to be installed into the device. At a minimum, the provider will also need to supply an APN (and possibly other activation information) to be entered into the Digi device for proper activation.

**NOTE:** Performing the conversion from one carrier to another is **NOT** recommended to be performed over the cellular link. Please use extreme caution if trying to convert the device over the mobile connection, as this could cause the device to become remotely inaccessible and will require an onsite visit to correct the issue. For example, if the module is changed from GSM to CDMA, but it has not been provisioned for CDMA, then it will fail to reconnect. For CDMA to GSM, a SIM will need to be installed and the inserted SIM must have an active account and the APN be configured properly for the device to connect.

### 5.3 Digi Connect/ConnectPort Products (Gobi 2000)

Digi Connect/ConnectPort products may be configured locally for a new carrier with the appropriate Gobi 2000 firmware image. The following steps outline how to update a Digi Connect/ConnectPort for a new carrier.

1. Download the correct Gobi firmware for the carrier you want to convert to from the link below:

[Gobi Firmware Download Page](#)

2. Rename the zip file that was downloaded to 'gobi.zip' (without the quotes).
3. Log into the Web Interface of the Digi Connect/ConnectPort device through the Ethernet port (default IP is 192.168.1.1).
4. Navigate to **Administration > File Management**. If necessary, click the check box next to the existing 'gobi.zip' file, and click **Delete**.
5. Click the **Browse** button, browse to the 'gobi.zip' file on your hard drive, and click **Upload**.
6. When the upload is complete, **Reboot** the device and it will now show the new carrier on the **Configuration > Mobile** page.
7. Choose the appropriate provider from the drop down menu. Additional steps are necessary to activate the Connect/ConnectPort on the selected carrier's network. Please see the device's manual for detailed information on activating the device for a particular carrier. Below are brief explanations of what needs to be done for CDMA and GSM carriers:
  - a. CDMA – The device will need to be Provisioned on the carriers network to activate the modem. After the Provisioning process is completed, the device will connect to the carrier's network.
  - b. GSM – A SIM card is required from the provider, which needs to be installed into the device. At a minimum, the provider will also need to supply an APN (and possibly other activation information) to be entered into the Digi device for proper activation

**NOTE:** Performing the conversion from one carrier to another is **NOT** recommended to be performed over the cellular link. Please use extreme caution if trying to convert the device over the mobile connection, as this could cause the device to become remotely inaccessible and will require an onsite visit to correct the issue. For example, if the module is changed from GSM to CDMA, but it has not been provisioned for CDMA, then it will fail to reconnect. For CDMA to GSM, a SIM will need to be installed and the inserted SIM must have an active account and the APN be configured properly for the device to connect.



## 5.4 Digi Connect/ConnectPort Products (Gobi 3000)

With the Gobi 3000 modules, the Gobi firmware image for each provider is included directly on the module for local configuration of a new carrier, which frees up additional memory space on the Digi Connect/ConnectPort device. The following process outlines how to update a Digi Connect/ConnectPort for a new carrier.

1. Log into the Web Interface of the Digi Connect/ConnectPort device through the Ethernet port (default IP is 192.168.1.1).
2. Navigate to **Configuration > Mobile** on the left-hand side.
3. Choose the appropriate provider from the drop down menu, and go through the process of activating the module for the given carrier:
  - a. CDMA – The device will need to be Provisioned on the carriers network to activate the modem. After the Provisioning process is completed, the device will connect to the carrier’s network.
  - b. GSM – A SIM card is required from the provider, which needs to be installed into the device. At a minimum, the provider will also need to supply an APN (and possibly other activation information) to be entered into the Digi device for proper activation.

**NOTE:** Performing the conversion from one carrier to another is **NOT** recommended to be performed over the cellular link. Please use extreme caution if trying to convert the device over the mobile connection, as this could cause the device to become remotely inaccessible and will require an onsite visit to correct the issue. For example, if the module is changed from GSM to CDMA, but it has not been provisioned for CDMA, then it will fail to reconnect. For CDMA to GSM, a SIM will need to be installed and the inserted SIM must have an active account and the APN be configured properly for the device to connect.

## 6 INFORMATION NEEDED TO ACTIVATE DEVICES WITH CDMA CARRIERS

Once you convert your device to a new carrier, you will need to provide the carrier with specific information for your device so that it can be activated on the network. For CDMA carriers, you will need to know the ESN/MEID number of the device to give to the carrier. For GSM carriers, a SIM card and APN will need to be obtained from the carrier to obtain network access.

As the GSM carriers do not need any specific information from the device to provide a SIM card and APN information, the below steps are instructions on obtaining the ESN/MEID number from Digi devices to give to CDMA carriers for activation.

### 6.1 Digi TransPort Products

1. Log into the WebUI of the device, and navigate to **Management > Network Status > Interfaces > Mobile**.
2. Look to the section titled ‘Mobile Information’, and you should see two numbers of interest:
  - a. **ESN** – The ESN number

- b. **MEID** – the MEID number
3. Give the MEID number to CDMA provider you want to acquire service with. The ESN may not be necessary unless the carrier specifically asks for this information.

## **6.2 Digi Connect/ConnectPort Products**

1. Log into the WebUI of the device, and navigate to **Administration > System Information > Mobile**.
2. Look to the section titled 'Mobile Information', and you should see two numbers of interest:
  - a. **Modem Serial Number** – The ESN number
  - b. **Modem MEID** – the MEID number
3. Give the MEID number to CDMA provider you want to acquire service with. The ESN may not be necessary unless the carrier specifically asks for this information.

## **7 MORE INFORMATION**

For more details about provisioning for cellular networks, please refer to the following documents:

Digi TransPort

[CDMA Provisioning Guide](#)

Digi Connect/ConnectPort

[Sprint Provisioning Guide](#)

[Verizon Provisioning Guide](#)

For Digi hardware issues or questions:

- Digi Technical support: <http://www.digi.com/support/> or +1 952-912-3456 (USA) or +44 1943 605055 (UK)
- Digi Sales: 952-912-3444 opt. 2 (USA) or +44 1943 605055 (UK)
- Product info: [www.digi.com](http://www.digi.com)

Contact your local GSM or CDMA account representative for more information on data plan offerings.