Quick Note 043

Telit HE910-D Firmware update.

December 2018
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1 INTRODUCTION

1.1 Introduction

Beginning with the 5246 firmware release, the TransPort WR11, WR21, WR41v2, WR44v2 (including the WR44R) and WR44RR platforms will support upgrading of the Telit HE910-D module from the Web GUI or CLI of Digi TransPort router.

Upgrading the Telit module firmware should only be done if advised / requested by Digi Technical Support. Please contact tech.support@digi.com if you require guidance or information to upgrade your module.

1.2 Assumptions

This guide has been written for use by technically competent personnel with a good understanding of the communications technologies used in the product and of the requirements for their specific application. It also assumes a basic ability to access and navigate a Digi TransPort router.

This application note applies only to:

**Model:** Digi TransPort WR11/WR21/41/44 with a Telit HE910-D Cellular Module

**Firmware versions:** 5246 and later

**Configuration:** This document assumes that the devices are set to their factory default configurations. Most configuration commands are shown only if they differ from the factory default.

**Please note:** This application note has been specifically rewritten for firmware release 5246 and later and will not work on earlier versions of firmware. Please contact tech.support@digi.com if your require assistance in upgrading the firmware of the Digi TransPort router.

1.3 Corrections

Requests for corrections or amendments to this application note are welcome and should be addressed to: tech.support@digi.com

Requests for new application notes can be sent to the same address.

2 VERSION

<table>
<thead>
<tr>
<th>Version Number</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>Published</td>
</tr>
<tr>
<td>1.1</td>
<td>Filename update for Firmware 5.2.10.x</td>
</tr>
<tr>
<td>1.2</td>
<td>Rebranding and GUI update</td>
</tr>
<tr>
<td>1.3</td>
<td>Added new firmware update command details</td>
</tr>
</tbody>
</table>
3 FIRMWARE IMAGES

3.1 Telit HE910-D Firmware Image

The Telit HE910D firmware image consists of 1 file: 
*.bin this file is approximately 10MB in size.

The firmware images can be obtained from Digi Technical Support

Please note: For the Digi TransPort to proceed with the upgrade, the Telit firmware file must have a specific filename. Rename the bin file to the following according to the Digi TransPort firmware version being used on the Router:

- Digi TransPort Firmware 5246 up to and including 5.2.9.X: telit.bin
- Digi TransPort Firmware 5.2.10.X and later: he910d.bin

3.2 TransPort Firmware Version

To verify the Digi TransPort WR firmware version installed on your device.

From the Web GUI:

Administration - System Information

| Model: | TransPort WR21 |
| Part Number: | WR21-U22B-DE1-XX |
| Ethernet 0 MAC Address: | 00:04:20:05:2D:05 |
| Serial: | 337979 |
| Firmware Version: | 5.2.15.6 [Aug 17 2016 17:42:05] |
| SBIOS Version: | 7.56u |
| Build Version: | WW |
| HW Version: | 1201a |
| CPU Utilization: | 1% (Min: 1%, Max: 54%, Avg: 7%) |
| Up Time: | 7 hours 56 minutes 2 seconds |
| Date and Time: | 17 Nov 2016 15:50:35 |
| Total Memory: | 131072 KB |
| Used Memory: | 43623 KB |
| Free Memory: | 88049 KB |
| Mobile Module: | Telit 3G |
| SW Opt: | 0x141 0x0 |
| SW Cnts: | 5 64 0 0 3 0 0 0 24 0 0 0 0 0 0 0 |
| Switch Mode: | Hub |
From the CLI:

ati5

ati5

ss337979>ati5
Digi TransPort WR21-U22B-DE1-XX Ser#:337979 HW Revision: 1201a
Software Build Ver5.2.15.6. Aug 17 2016 17:42:05 WW
ARM Bios Ver 7.29u v43 454MHz B987-M995-F80-01,0 MAC:00042d052d05
Power Up Profile: 0
Async Driver Revision: 1.19 Int clk
...
OK
ss337979>
3.3 Telit Firmware Version

To verify the module type and current firmware version installed in your device.

From the Web GUI:

Management – Network Status > Interfaces > Mobile

Check for the “Model” line, it should read **HE910-D**

Management – Network Status > Interfaces > Mobile

<table>
<thead>
<tr>
<th>Mobile Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Results of Last Module Status Poll at 17 Nov 2016 16:02:32</td>
</tr>
<tr>
<td>Outcome: Got modem status OK</td>
</tr>
<tr>
<td>SIM status: Not Ready</td>
</tr>
<tr>
<td>Signal strength: -101 dBm</td>
</tr>
<tr>
<td>Radio technology: WCDMA</td>
</tr>
<tr>
<td>Signal quality (UMTS): RSSI -96 dBm, Ec/Io -6.0 dB</td>
</tr>
<tr>
<td>Channel: 10787</td>
</tr>
<tr>
<td>Network: Orange F 208 01</td>
</tr>
<tr>
<td>Manufacturer: Telit</td>
</tr>
<tr>
<td>Model: HE910-D</td>
</tr>
<tr>
<td>Firmware: 12.00.024</td>
</tr>
</tbody>
</table>

From the CLI:

```bash
modemstat ?
```

Command: modemstat ?

Command result

Outcome: Timeout reading modem status

Time: 1 Jan 2000 00:23:47

SIM status: 2,0
Signal strength: -85 dBm
Radio technology: WCDMA
Signal quality (UMTS): RSSI -81 dBm, Ec/Io -4.0 dB
Channel: 10680
Manufacturer: Telit
Model: HE910-D
Firmware: 12.00.027
IMEI: 35157905245387
IMSI: ERROR
ICCID: ERROR
Phone number: ERROR
GPRS Attachment Status: ERROR
GPRS Registration: Not registered, not searching
GSM Registration: Not registered, not searching
Network: 0,0,"BYTEL",2
Diversity: Enabled
Preferred system: Auto
Network Technology: ERROR
Connection Status: Normal, unspecified
Network Selection Mode: Automatic
OK
4 UPGRADING MODULE Firmware

4.1 Upload module image to the router using FTP

Open an FTP connection to the TransPort router that you wish to update. In this example, using FileZilla.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Host</td>
<td>192.168.1.23</td>
<td>IP Address of the TransPort router</td>
</tr>
<tr>
<td>Username</td>
<td>username</td>
<td>Username with Access Level : Super to log in to the TransPort router (default : username)</td>
</tr>
<tr>
<td>Password</td>
<td>password</td>
<td>Password for the user with Access Level : Super to log in to the TransPort router (default : password)</td>
</tr>
<tr>
<td>Port</td>
<td>21</td>
<td>Default FTP port.</td>
</tr>
<tr>
<td>telit.bin or he910d.bin</td>
<td>-</td>
<td>Telit module firmware file (<a href="#">refer to section 3.1</a>)</td>
</tr>
</tbody>
</table>

Transfer the firmware image file to the root directory of the Digi TransPort.
4.2 Update module firmware

4.2.1 Update module firmware via Web GUI.

Open a web browser to the IP Address of the Digi TransPort router

Configuration – Network > Interfaces > Mobile > FW Update

Click **Start** to initiate the firmware update process. The device will reboot a several times during the update process and takes exactly **5 minutes**. Do not use the back button or remove the power from the device during this process to prevent any damage on the module.

After 5 minutes, log back in to the unit. Navigate to **Management > Event Log** and check for the following entry to confirm the update was successful:

17:28:43, 10 Jul 2014, Telit FW update completed: Success

You will also see an event when the download started:

17:24:51, 10 Jul 2014, Telit FW update started: SW Version: [12.00.027] Product Name: [HE910_D]

You can verify that the module has the newer version by navigating to **Management – Network Status > Interfaces > Mobile** and check the “Firmware” line.
4.2.2 Update firmware via Command Line Interface (CLI)

4.2.2.1 Firmware version 6.1.1.x and earlier

Open a Serial, Telnet or SSH connection to the Digi TransPort router

Log in using your credentials

Type the following command:

```
tel_update
```

The terminal window will close.

The device will reboot several times during the update process and takes at least 5 minutes.

**Do not use the back button or remove the power from the device during this process to prevent any damage on the module.**

Log back in to the unit and check the event log using the following command:

```
type eventlog.txt
```

Check for the following entry to confirm that the firmware update was successful:

```
17:28:43, 10 Jul 2014, Telit FW update completed: Success
```

You will also see an event when the download started:

```
17:24:51, 10 Jul 2014, Telit FW update started: SW Version: [12.00.027] Product Name: [HE910_D]
```

You can verify that the module is now running the new version by using the following command:

```
modemstat ?
```

Check for the **Firmware** line:

```
Outcome: Got modem status OK:
    Time: 1 Jan 2000 05:04:26
    SIM status: Not Ready
    Signal strength: -87 dBm
    Radio technology: WCDMA
    Signal quality (UMTS): RSSI -81 dBm, Ec/Io -6.0 dB
    Channel: 10812
    Manufacturer: Telit
    Model: HE910-D
    Firmware: 12.00.027
```
4.2.2.2  *Firmware version 6.1.3.x and newer*

Open a Serial, Telnet or SSH connection to the Digi TransPort router

Log in using your credentials

Type the following command:

```plaintext
carrier all
```

The terminal will show the following while downloading the firmware to the module:

```
Waiting to download...
1%
...
```

Wait for the process to reach 100% and show:

```
Download Completed.
OK
```

The device will reboot a several times during the update process and takes at least **5 minutes**.

*Do not use the back button or remove the power from the device during this process to prevent any damage on the module.*

Log back in to the unit and check the event log using the following command:

```plaintext
type eventlog.txt
```

Check for the following entry to confirm that the firmware update was successful:

```
16:40:11, 08 Mar 2017,Telit FW update completed: Success,1
```

You can verify that the module is now running the new version by using the following command:

```plaintext
modemstat ?
```

Check for the **"Firmware"** line:

```
Outcome: Got modem status OK:
    Time: 1 Jan 2000 05:04:26
    SIM status: Not Ready
    Signal strength: -87 dBm
    Radio technology: WCDMA
    Signal quality (UMTS): RSSI -81 dBm, Ec/Io -6.0 dB
```
4.2.2.3 **OTA update, firmware version 6.1.3.x and newer only**

Since firmware version **6.1.3.x and newer**, the module firmware can also be downloaded directly from the router without having to upload it via FTP first.

To do so, issue the following command:

```
carrier all -ftp
```

The terminal will show the following while downloading the firmware to the module:

```
Waiting to download...
1%
...
```

Wait for the process to reach 100% and show:

```
Download Completed.
OK
```

The device will reboot several times during the update process and takes at least **5 minutes**.

**Do not use the back button or remove the power from the device during this process to prevent any damage on the module.**

Log back in to the unit and check the event log using the following command:

```
type eventlog.txt
```

Check for the following entry to confirm that the firmware update was successful:

```
16:40:11, 08 Mar 2017,Telit FW update completed: Success,1
```

You can verify that the module is now running the new version by using the following command:

```
modemstat ?
```

Check for the **“Firmware”** line:

```
Outcome: Got modem status OK:
  Time: 1 Jan 2000 05:04:26
  SIM status: Not Ready
  Signal strength: -87 dBm
  Radio technology: WCDMA
  Signal quality (UMTS): RSSI -81 dBm, Ec/Io -6.0 dB
  Channel: 10812
```
Manufacturer: Telit
Model: HE910-D
Firmware: 12.00.028