



Quick Note 18

Configuring a Digi TransPort router to
accept CLI commands via SMS

UK Support

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1 INTRODUCTION

1.1 Outline

This document contains configuration instructions for allowing a Digi TransPort router with cellular access to accept CLI commands via SMS.

To be able to accept an SMS, the router only needs GSM access to the mobile network. Even if the router has lost its GPRS/3G connection, it will normally still be contactable via SMS, assuming the mobile network cell station is still providing GSM coverage.

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.

Configuration: This application note assumes that the router will be connecting to a cellular network.

This application note applies to;

Models shown: Digi Transport WR41 router with Option 3G module.

Other Compatible Models: All Digi Transport products with a cellular module.

Firmware versions: 4.694 and above.

Configuration: This Application Note assumes the devices are set to factory default configurations. Most configuration commands are only shown if they differ from the factory default.

1.3 Version

| Version Number | Status |
|----------------|-----------------------|
| 1.0 | draft |
| 2.0 | Updated and rebranded |

2 CONFIGURATION

2.1 Obtain the phone number of the router's SIM

Before an SMS message can be sent to the router the phone number assigned to its SIM needs to be known.

Browse to:

Administration - Execute a command

And enter the command to send a message to the mobile phone
The syntax is as follows:

Sendsms <phonenumber> "message"



Administration - Execute a command

Command:

Command: sendsms 447522954965 "test message"
Command result

SMS send success

Where <phonenumber> is the mobile phone number.

NOTE: The "message" must be in quotes ""

A second option is to send the message from the from the command line

```
sendsms 447522954965 "test message"  
SMS send success
```

The mobile phone will receive the "test message" and its *number* will be displayed.

It's now possible to send commands to the router with this *number* as its destination

2.2 SMS Configuration

All cellular TransPort routers have the ability to be configured by SMS. To configure a TransPort cellular router to accept CLI commands via SMS the following configuration will be required.

Browse to:

2.3 Configuration - Network > Interfaces > Mobile

And make the following changes

Configuration - Network > Interfaces > Mobile

SMS Settings

Poll for incoming SMS messages
every minutes

Enable command replies via SMS

Concatenate replies

Use this SMS message centre number instead of the network default

SMS access level:

Use as a command separator (default is CR)

Allow CLI commands from the following SMS numbers.
You may specify up to 10 numbers. Specifying * permits commands from any SMS number.

| Number |
|--|
| No numbers have been configured |
| <input type="text" value="447522954965"/> <input type="button" value="Add"/> |

Click Apply

IMPORTANT:

1. Make sure to click "Add" after configuring a phone number and then click Apply.
2. Make sure to replace the leading zero in the phone number when adding the international prefix (44 in this example)

| Parameter | Setting | Description |
|-----------------------|--|--|
| SMS Command Caller ID | 447522954965 (This number is just an example) | An MSISDN (mobile phone number) that is permitted to issue remote commands |
| SMS command separator | % | The character used to separate commands when sending via text. |

NOTE on SMS command caller ID

Configure the parameter SMS command caller ID, enter the MSISDN (mobile phone number) that will be issuing CLI commands to the TransPort router. This needs to include the country code but without the + sign. For example for a UK mobile phone number 07976123456 the number entered would be 447976123456. A different MSISDN can be entered on each line.

Accepting SMS commands from any mobile number

When the SMS Command Caller ID is set to an asterisk character "*" instead of an MSISDN, the TransPort router will accept and execute CLI commands from any MSISDN.

SMS access level

The parameter SMS access level will need to match the level required by the command sent by SMS for the command to be accepted. To execute all CLI commands, this should be set to *Super*.

Multiple CLI commands in a single SMS

SMS Command Separator, more than 1 CLI command may be sent per SMS, the CLI commands need to be separated by a character that will not be used in the CLI command, e.g. %

To receive feedback on the outcome of the CLI command, the parameter SMS Replies should be set to *On*.

3 EXAMPLE SCENARIO

Consider an example scenario where the username and password of a PPP interface need to be changed remotely. Using the CLI the commands would be as follows:

```
ppp 1 username <my-user>
ppp 1 password <my-pass>
config 0 save
reboot
```

Assuming that the command separator has been configured as % the SMS would be required would be:

```
ppp 1 username my-user%ppp 1 password my-pass%config 0 save%reboot
```

Please note:

Concatenate replies:

There is normally a limit of 160 characters per SMS but concatenation of messages is allowed.

Normally an SMS message is limited to 160 characters. However, the ETSI standard specifies a way to allow a number of SMS messages to be linked together by the sender (in this case the router). This enables the router to reply with long responses to SMS commands of longer than 160 characters. The reply comes back as a series of linked SMS messages which the phone reassembles and displays as one big message.

To allow the TransPort router to send/receive concatenated messages, on the web interface the “Concatenate replies” box must be ticked.

4 MONITORING

SMS receipt and actions from the SMS are logged in the event logger.

Here is an excerpt from the eventlog after a router is sent the commands in the example scenario above from a mobile phone (07522954965)

Note: 0 replaced by 44 for UK

The key lines from the event logger are listed below.

```
12:09:25, 15 Aug 2012,PPP 1 down,Rebooting
12:09:25, 15 Aug 2012,Par change by MODEM 0, ppp 1 username to my-user
12:09:25, 15 Aug 2012,SMS Received: 447522954965: Ppp 1 username my-user%ppp
1 password my-pass%confi,Executed
```

The following line from config.da0 also shows that the SMS updated the configuration.

```
config last_saved_user "MODEM 0"
```

5 CONFIGURING SMS ADMINISTRATION FROM THE COMMAND LINE

The following commands will configure SMS administration from the command line.

```
modemcc 0 sms_interval 1
modemcc 0 sms_callerid "447522954965"
modemcc 0 sms_cmd_sep %
modemcc 0 sms_access 0
modemcc 0 sms_replies on
```