Application Note 61

Configuring SMS alerting on a TransPort router

TransPort Support

November 2015
1 INTRODUCTION

1.1 Outline

This document contains information regarding the configuration and use of syslog alerting.

All Digi TransPort products contain an event log. Whenever the Digi TransPort firmware does any significant operation an event is stored in the event log. Each event can be used to trigger an automatic email, SNMP trap, syslog alert or on products with GPRS/WCDMA an SMS message.

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.

This application note applies to;

Models shown: Digi TransPort WR21.

Other Compatible Models: All Digi TransPort products.

Firmware versions: 5.146 or newer.

Configuration This Application Note assumes that the Digi TransPort product has a PPP instance configured to connect to the Internet. The SIM in use on the router is activated correctly and supports sending SMS text messages.

Alerts will be configured to notify a mobile phone via SMS when the PPP connection on the WAN interface changes its UP/DOWN status.

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.

1.4 Version & Revision History

<table>
<thead>
<tr>
<th>Version Number</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>Published</td>
</tr>
</tbody>
</table>
2 CONFIGURATION

2.1 Configuring the Event Logcodes

First it is necessary to choose which events should trigger the SMS alerts.

The Event logcodes are configured from Configuration - Alarms > Event Logcodes. The list of events and trigger priorities is held in a file called logcodes.txt, when the event logcodes are changed the changes will not appear in the config.dao or logcodes.txt files, but are stored in the logcodes.dif file once the changes have been saved.

In order to send an SMS alert when a particular event occurs, the Alarm Priority for the event should be changed. There can be a number of reasons for each event. Each event can be configured with a global Alarm Priority which applies to all the reasons. It is also possible to override the global event Alarm Priority with a different Alarm Priority for each reason.

In the example below the Event 5 “%e %a down” will be used to trigger an SMS alert when PPP 1 is down and Event 153 “PPP 1 up” will be used to trigger an SMS alert when PPP 1 is up.

Navigate to Configuration - Alarms > Event Logcodes
The following table describes the meaning of each column.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Event</td>
<td>A numerical value that represents the event.</td>
</tr>
<tr>
<td>Description</td>
<td>The main description of the event.</td>
</tr>
<tr>
<td>Filter</td>
<td>If the Filter is ON, this event will not be logged.</td>
</tr>
<tr>
<td>Event Priority</td>
<td>The priority that the event currently has assigned. This is the alarm priority.</td>
</tr>
<tr>
<td>Reasons</td>
<td>The reason that the event is triggered.</td>
</tr>
<tr>
<td>Reason Priority</td>
<td>The priority that the reason currently has assigned. This is the alarm priority.</td>
</tr>
</tbody>
</table>

Click on the %e %a down event (event number 5).

On the following page, configure the Alarm Priority.
### Parameter Setting Description

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alarm Priority</td>
<td>9</td>
<td>Change the Alarm Priority to 9, this will be used later.</td>
</tr>
</tbody>
</table>

Click Apply
Repeat the process for Event 153, 'PPP 1 up'.

Click Apply
Optional step

If required, alerts can be locked to a specific PPP interface by using the parameter **Alarm Priority** is **dependent on the event being logged by Entity** and configuring it as the PPP interface in use.

When all changed to the logcodes are complete, scroll up to the top of the screen, click 'Save All Event Code Changes' to save the changes to the logcodes.dif file.
2.2 Configuring the Event Settings

In the Event Settings, the delay after power up should be long enough for the router to detect and register on the mobile network, increase this if required.

The mobile number entered to send SMS alerts to should be in MSISDN format (for the UK this is no ‘+’ symbol, country code included, leading zero removed).

The SMS alarm priority (Send SMS messages to <MSISDN> if the alarm priority is at least <nn>) should be set to a number the same or higher than the alarm priority configured for the event in the previous steps. If the alarm priority on the Event Settings page is set to 9, then every event (or event reason) with an alarm priority of 9=> will trigger an SMS alert. i.e. 9, 10, 11, 12....

The SMS template should be set to event.sms to use the included factory default template, custom templates can be created if required.

The maximum number of SMS per day should be configured to take into account the SMS charges on the tariff in use.

Navigate to Configuration - Alarms > Event Settings, expand the SMS section and configure the following parameters:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>After power up, wait <strong>nn</strong> seconds before sending Emails, SNMP traps, SMS or Syslog messages</td>
<td>60</td>
<td>Delay in seconds, after power up, before alerts will be sent.</td>
</tr>
<tr>
<td>Send SMS messages to</td>
<td>Mobile phone number</td>
<td>Must be in MSISDN format</td>
</tr>
<tr>
<td>if the alarm priority is at least <strong>nn</strong></td>
<td>9</td>
<td>Events with an alarm priority equal or greater than this number will trigger an alert.</td>
</tr>
<tr>
<td>Use SMS template</td>
<td>event.sms</td>
<td>The message template to use.</td>
</tr>
<tr>
<td>Send a maximum of <strong>nn</strong> SMS messages per day</td>
<td>20</td>
<td>The maximum number of alerts to send per day, this counter is reset at midnight.</td>
</tr>
</tbody>
</table>
After configuring these parameters, click Apply.

3 TESTING

To test that the Digi TransPort is configured correctly and prove that SMS alerts work when PPP is down (PPP status has no effect on SMS functions), the PPP interface should be set so it does not try and reconnect automatically when deactivated. The PPP interface will then be disconnected, when the SMS is received, the PPP interface will be re-activated and a second SMS will be sent when PPP is up.

Only perform this test when connected to the router via the LAN because the WAN connection will now be disconnected and will require a manual re-connect.

Configure the PPP interface to not reconnect automatically.

Navigate to Configuration - Network > Interfaces > Advanced > PPP 1 > Advanced
Remove the tick from 'Enable "Always On" mode of this interface' and click Apply.

Navigate to Management - Connections > PPP Connections > PPP 1 and click on Drop Link. Note that the connection to the internet will disconnect.
When the PPP link is dropped, this will create an event in the event log and an SMS will be sent.
The events in Management - Event Log will look similar to this, the event that triggered the SMS is shown in red for clarification (note the reason for PPP 1 down is CLI request, this means manually disconnected by a logged in user), colouring of text in the actual event log does not happen.

10:11:29, 14 Mar 2013, SMS send, Sent OK
10:11:24, 14 Mar 2013, Modem disconnected on asy 4, Normal Breakdown
10:11:21, 14 Mar 2013, Default Route 0 Out Of Service, Activation
10:11:21, 14 Mar 2013, PPP 1 Out Of Service, Activation
10:11:21, 14 Mar 2013, PPP 1 down, CLI request
10:11:10, 14 Mar 2013, Par change by username, ppp 1 autoassert to 0

The received SMS is shown here:

![Received SMS]

Configure the PPP interface to reconnect automatically.

Navigate to Configuration - Network > Interfaces > Advanced > PPP 1 > Advanced

Insert the tick in 'Enable "Always On" mode of this interface’ and click Apply.

![Configuration Interface]

After a few seconds the PPP interface will reconnect, when PPP 1 is up an SMS will be sent. This can be seen in the eventlog.
10:31:14, 14 Mar 2013, SMS send, Sent OK
10:30:54, 14 Mar 2013, Default Route 0 Available, Activation
10:30:54, 14 Mar 2013, PPP 1 Available, Activation
10:30:54, 14 Mar 2013, PPP 1 up
10:30:52, 14 Mar 2013, PPP 1 Start IPCP
10:30:52, 14 Mar 2013, PPP 1 Start AUTHENTICATE
10:30:52, 14 Mar 2013, PPP 1 Start LCP
10:30:51, 14 Mar 2013, PPP 1 Start
10:30:51, 14 Mar 2013, Modem connected on asy 4
10:30:50, 14 Mar 2013, Modem dialing on asy 4 #:*98*1#
10:30:44, 14 Mar 2013, Par change by username, ppp 1 autoassert to 1

The received SMS is shown here:

![SMS Receipt](image)

The number of SMS messages sent by the router since midnight can be checked by navigating to **Configuration - Alarms > Event Settings**, the number of messages sent is shown in the **SMS** section. This is the total number of alerts sent to all configured mobile numbers.
4 CONFIGURATION FILES

4.1 Digi TransPort Configuration Files

This is the relevant parts of the config.dao file:

```plaintext
ss237424>config c show
eth 0 IPaddr "10.1.51.21"
eth 0 mask "255.255.0.0"
eth 0 gateway "10.1.2.100"
ip 0 cidr ON
def_route 0 ll_ent "ppp"
def_route 0 ll_add 1
ppp 0 timeout 300
ppp 1 name "W-WAN"
ppp 1 phonenum "*98*1#"
ppp 1 username "bt"
ppp 1 epassword "Ois="
ppp 1 IPaddr "0.0.0.0"
ppp 1 timeout 0
ppp 1 use_modem 1
ppp 1 aodion 1
ppp 1 autoassert 1
ppp 1 ipanon ON
ppp 1 r_chap OFF
ppp 3 defpak 16
ppp 4 defpak 16
modemcc 0 asy_add 4
modemcc 0 info_asy_add 2
modemcc 0 init_str "+CGQREQ=1"
modemcc 0 init_str1 "+CGQMIN=1"
modemcc 0 apn "btmobile.bt.com"
modemcc 0 link_retries 10
modemcc 0 stat_retries 30
modemcc 0 sms_interval 1
modemcc 0 sms_cmd_sep "%"
modemcc 0 sms_concat 0
modemcc 0 init_str_2 "+CGQREQ=1"
modemcc 0 init_str1_2 "+CGQMIN=1"
modemcc 0 apn_2 "Your.APN.goes.here"
modemcc 0 link_retries_2 10
modemcc 0 stat_retries_2 30
cmd 0 unitid "ss%s>"
cmd 0 cmdnu "99"
cmd 0 hostname "digi.router"
cmd 0 asyled_mode 2
cmd 0 ent_name "sarian"
cmd 0 tremto 1200
user 0 access 0
user 1 name "username"
user 1 epassword "KD51SVJDVg="
user 1 access 0
user 2 access 0
```
This is the contents of the logcodes.dif file, manual configuration of the logcodes.dif is outside the scope of this application note, if further instruction is required please contact tech.support@digi.com:

E5,9,
E153,9,

### 4.2 Digi TransPort Firmware Versions

This is the firmware \ hardware information from the unit:

```
Digi TransPort WR21-U82B-DE1-XX Ser#:237424
Software Build Ver5169. Feb 27 2013 02:47:07 WW
ARM Bios Ver 6.91u v43 454MHz B987-M995-F80-08001,0 MAC:00042d039f70
Async Driver       Revision: 1.19  Int clk
Ethernet Hub Driver Revision: 1.11
Firewall            Revision: 1.0
EventEdit           Revision: 1.0
Timer Module        Revision: 1.1
(B)USBHOST          Revision: 1.0
L2TP                Revision: 1.10
PPTP                Revision: 1.00
TACPLUS             Revision: 1.00
MODBUS              Revision: 0.00
RealPort            Revision: 0.00
MultiTX             Revision: 1.00
LAPB                Revision: 1.12
X25 Layer           Revision: 1.19
MACRO               Revision: 1.0
PAD                 Revision: 1.4
X25 Switch          Revision: 1.7
TPAD Interface      Revision: 1.12
GPS                 Revision: 1.0
SCRIBATSK           Revision: 1.0
BASTSK              Revision: 1.0
PYTHON              Revision: 1.0
IDIGISMS            Revision: 1.0
TCP                 Revision: 1.14
TCP Utils           Revision: 1.13
PPP                 Revision: 1.19
```
<table>
<thead>
<tr>
<th>Component</th>
<th>Revision</th>
</tr>
</thead>
<tbody>
<tr>
<td>WEB</td>
<td>1.5</td>
</tr>
<tr>
<td>SMTP</td>
<td>1.1</td>
</tr>
<tr>
<td>FTP Client</td>
<td>1.5</td>
</tr>
<tr>
<td>FTP</td>
<td>1.4</td>
</tr>
<tr>
<td>IKE</td>
<td>1.0</td>
</tr>
<tr>
<td>PollANS</td>
<td>1.2</td>
</tr>
<tr>
<td>PPPoE</td>
<td>1.0</td>
</tr>
<tr>
<td>BRIDGE</td>
<td>1.1</td>
</tr>
<tr>
<td>MODEM CC (GOBI UMTS)</td>
<td>1.4</td>
</tr>
<tr>
<td>FLASH Write</td>
<td>1.2</td>
</tr>
<tr>
<td>Command Interpreter</td>
<td>1.38</td>
</tr>
<tr>
<td>SSLCLI</td>
<td>1.0</td>
</tr>
<tr>
<td>OSPF</td>
<td>1.0</td>
</tr>
<tr>
<td>BGP</td>
<td>1.0</td>
</tr>
<tr>
<td>QOS</td>
<td>1.0</td>
</tr>
<tr>
<td>PWRCTRL</td>
<td>1.0</td>
</tr>
<tr>
<td>RADIUS Client</td>
<td>1.0</td>
</tr>
<tr>
<td>SSH Server</td>
<td>1.0</td>
</tr>
<tr>
<td>SCP</td>
<td>1.0</td>
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<tr>
<td>CERT</td>
<td>1.0</td>
</tr>
<tr>
<td>LowPrio</td>
<td>1.0</td>
</tr>
<tr>
<td>Tunnel</td>
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<tr>
<td>OVPN</td>
<td>1.2</td>
</tr>
<tr>
<td>QDL</td>
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<tr>
<td>WiMax</td>
<td>1.0</td>
</tr>
<tr>
<td>iDigi</td>
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</tr>
<tr>
<td>OK</td>
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</tr>
</tbody>
</table>