Application Note 61

Configuring SMS alerting on a TransPort router

TransPort Support

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Contents

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

Version Number	Status
1.0	Published

2 CONFIGURATION

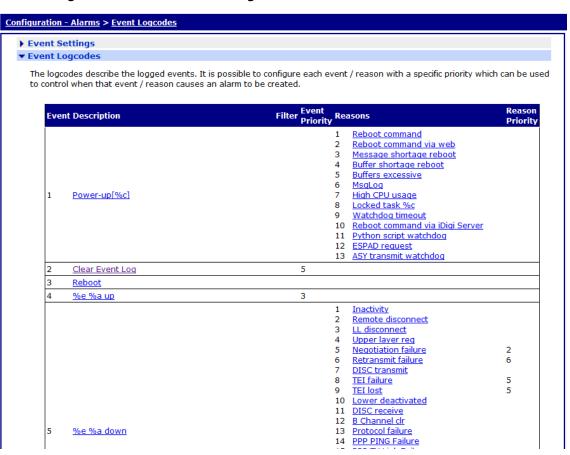## 2.1 Configuring the Event Logcodes

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.
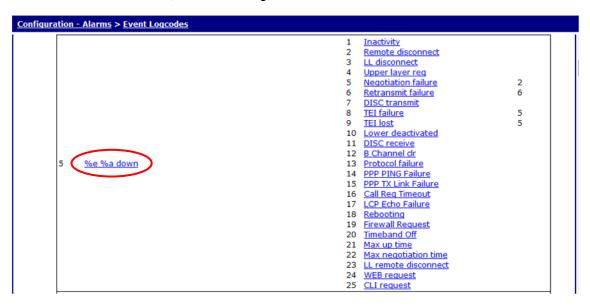
Navigate to **Configuration - Alarms > Event Logcodes**

The following table describes the meaning of each column.

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

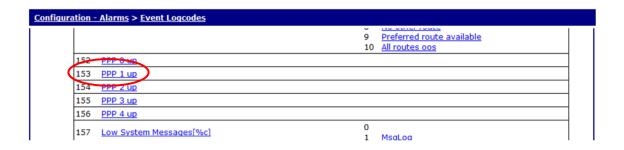Click on the **%e %a down** event (event number 5).

On the following page, configure the Alarm Priority.

Parameter	Setting	Description
Alarm Priority	9	Change the Alarm Priority to 9, this will be used later.

Click Apply

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

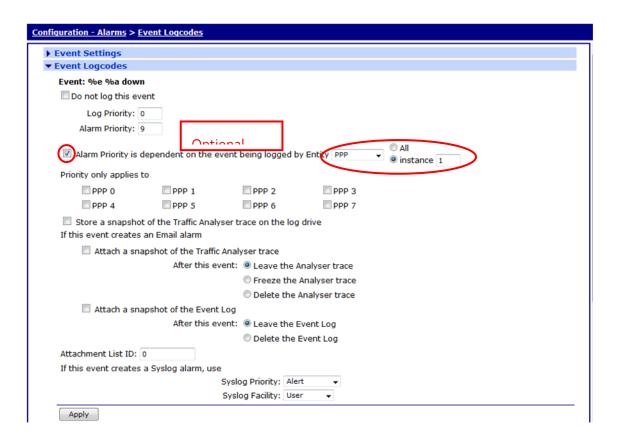Click Apply

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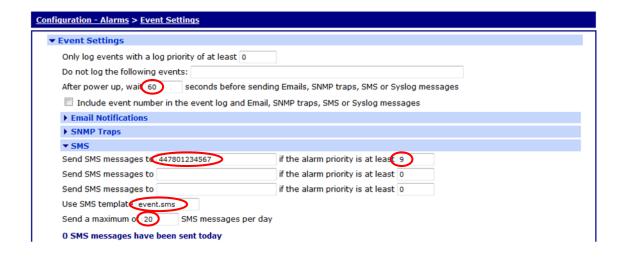
The mobile number entered to send SMS alerts to should be in MSISDN format (for the UK this is no '+' symbol, country code included, leading zero removed).

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:

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

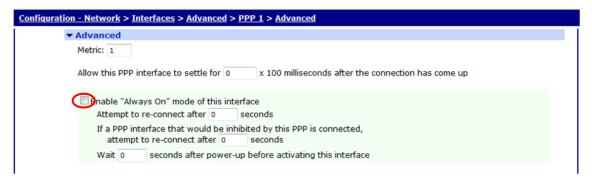After configuring these parameters, click Apply.

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.
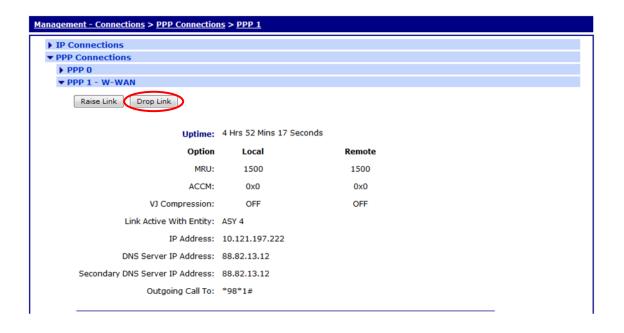
Configure the PPP interface to not reconnect automatically.

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.

▶ IP Connections
▼ PPP Connections
  ▶ PPP 0
  ▼ PPP 1 - W-WAN

[Raise Link] [Drop Link]

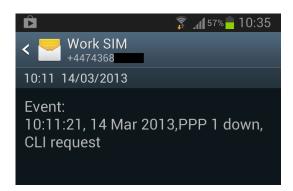|		
Uptime:	4 Hrs 52 Mins 17 Seconds	
Option	**Local**	**Remote**
MRU:	1500	1500
ACCM:	0x0	0x0
VJ Compression:	OFF	OFF
Link Active With Entity:	ASY 4	
IP Address:	10.121.197.222	
DNS Server IP Address:	88.82.13.12	
Secondary DNS Server IP Address:	88.82.13.12	
Outgoing Call To:	*98*1#	

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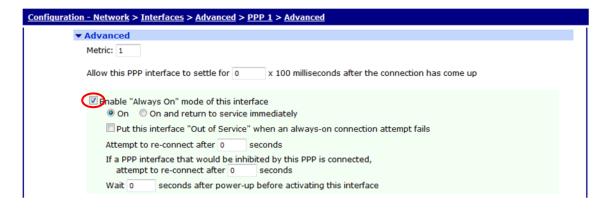
```
10:11:29, 14 Mar 2013,SMS send,Sent OK
10:11:24, 14 Mar 2013,Modem disconnected on asy 4,Normal Breakdown
10:11:21, 14 Mar 2013,Default Route 0 Out Of Service,Activation
10:11:21, 14 Mar 2013,PPP 1 Out Of Service,Activation
10:11:21, 14 Mar 2013,PPP 1 down,CLI request
10:11:10, 14 Mar 2013,Par change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

The received SMS is shown here:

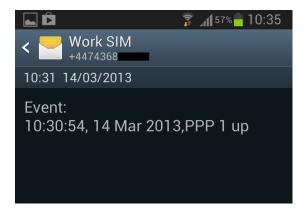Configure the PPP interface to reconnect automatically.

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

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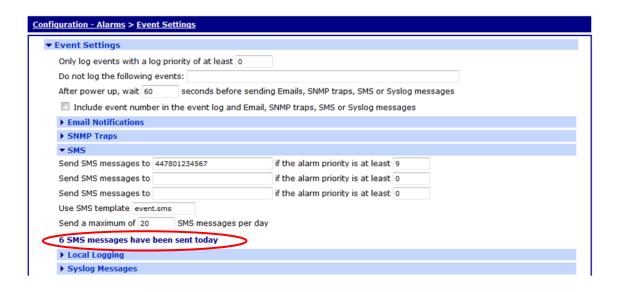

After a few seconds the PPP interface will reconnect, when PPP 1 is up an SMS will be sent. This can be seen in the eventlog.

```
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:

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:

```
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 cmdnua "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 "KD5lSVJDVVg="
user 1 access 0
user 2 access 0
```

```
user 3 access 0
user 4 access 0
user 5 access 0
user 6 access 0
user 7 access 0
user 8 access 0
user 9 access 0
local 0 transaccess 2
event 0 sms_max 20
event 0 smstemp "event.sms"
event 0 sms_to "447801234567"
event 0 sms_trig 9
event 0 action_dly 60
ssh 0 hostkey1 "privSSH.pem"
ssh 0 nb_listen 5
ssh 0 v1 OFF

Power Up Profile: 0
OK
```

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-O8001,0 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
```

```
WEB                     Revision: 1.5
SMTP                    Revision: 1.1
FTP Client              Revision: 1.5
FTP                     Revision: 1.4
IKE                     Revision: 1.0
PollANS                 Revision: 1.2
PPPOE                   Revision: 1.0
BRIDGE                  Revision: 1.1
MODEM CC (GOBI UMTS)    Revision: 1.4
FLASH Write             Revision: 1.2
Command Interpreter     Revision: 1.38
SSLCLI                  Revision: 1.0
OSPF                    Revision: 1.0
BGP                     Revision: 1.0
QOS                     Revision: 1.0
PWRCTRL                 Revision: 1.0
RADIUS Client           Revision: 1.0
SSH Server              Revision: 1.0
SCP                     Revision: 1.0
CERT                    Revision: 1.0
LowPrio                 Revision: 1.0
Tunnel                  Revision: 1.2
OVPN                    Revision: 1.2
QDL                     Revision: 1.0
WiMax                   Revision: 1.0
iDigi                   Revision: 2.0
OK
```