



# Application Note 23

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## Configure Automatic Emails

TransPort Support

November 2015

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# 1 INTRODUCTION

## 1.1 Outline

This document contains information regarding the configuration and use of automatic emails as a diagnostic tool.

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 or on products with GPRS 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 WR41v1.

**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 to allow IP access to an SMTP server.

## 1.3 Corrections

Requests for corrections or amendments to this application note are welcome and should be addressed to: [support.wizards@digi.com](mailto:support.wizards@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
1.1	Digi Transport branded
1.2	Updated to new GUI

## 2 CONFIGURATION

### 2.1 Configuring the Event Logcodes

First it is necessary to choose which events should trigger the automatic emails.

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 email when a particular event occurs, the trigger 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 trigger priority which applies to all the reasons. It is also possible to override the global event trigger priority with a different trigger priority for each reason. In the example below the event "SNTP Client" will be used to trigger an automatic email but only for the reason "Time Set Request". So the trigger priority for the "Time Set Request" reason will be changed and the trigger priority for the "SNTP Client" event will not be changed.

**Note:** Using X25 events for TPAD

If you wish to diagnose a problem with on line authorisation using TPAD then use the following events to trigger automatic emails (event numbers 68 and 69).

Extract from logcodes.txt:

```
68,0,%e %a X25 Call gone
69,0,%e %a X25 Deactivated
```

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

**Configuration - Alarms > Event Logcodes**

▶ Event Settings  
 ▼ Event Logcodes

The logcodes describe the logged events. It is possible to configure each event / reason with a specific priority which can be used to control when that event / reason causes an alarm to be created.

Event Description	Filter	Event Priority	Reasons	Reason Priority
1 <a href="#">Power-up[%c]</a>			1 <a href="#">Reboot command</a>	
			2 <a href="#">Reboot command via web</a>	
			3 <a href="#">Message shortage reboot</a>	
			4 <a href="#">Buffer shortage reboot</a>	
			5 <a href="#">Buffers excessive</a>	
			6 <a href="#">MsgLog</a>	
			7 <a href="#">High CPU usage</a>	
			8 <a href="#">Locked task %c</a>	
			9 <a href="#">Watchdog timeout</a>	
			10 <a href="#">Reboot command via iDigi Server</a>	
			11 <a href="#">Python script watchdog</a>	
			12 <a href="#">ESPAD request</a>	
2 <a href="#">Clear Event Log</a>		1		
3 <a href="#">Reboot</a>				
4 <a href="#">%e %a up</a>		3		
5 <a href="#">%e %a down</a>			1 <a href="#">Inactivity</a>	
			2 <a href="#">Remote disconnect</a>	
			3 <a href="#">LL disconnect</a>	
			4 <a href="#">Upper layer reg</a>	
			5 <a href="#">Negotiation failure</a>	2
			6 <a href="#">Retransmit failure</a>	6
			7 <a href="#">DISC transmit</a>	
			8 <a href="#">TEI failure</a>	5
			9 <a href="#">TEI lost</a>	5
			10 <a href="#">Lower deactivated</a>	
			11 <a href="#">DISC receive</a>	
			12 <a href="#">B_Channel clr</a>	
			13 <a href="#">Protocol failure</a>	
			14 <a href="#">PPP PING Failure</a>	
			15 <a href="#">PPP TX Link Failure</a>	
			16 <a href="#">Call Req Timeout</a>	
			17 <a href="#">LCP Echo Failure</a>	
			18 <a href="#">Rebooting</a>	
			19 <a href="#">Firewall Request</a>	
			20 <a href="#">Timeband Off</a>	
			21 <a href="#">Max up time</a>	
			22 <a href="#">Max negotiation time</a>	
			23 <a href="#">LL remote disconnect</a>	
			24 <a href="#">WEB request</a>	
			25 <a href="#">CLI request</a>	

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 trigger priority.
Reasons	The reason that the event is triggered.
Reason Priority	The priority that the reason currently has assigned

Click on **Time Set Request** reason (ensure that it is under the **SNTP Client** description).

50	<a href="#">%e %a No Transaction Response</a>		
51	<a href="#">%e %a Overlapped Transactions</a>		
52	<a href="#">%e %a SAPI 16 Up</a>		
53	<a href="#">%e %a SAPI 16 Down</a>		
54	<a href="#">SNTP Client</a>	1 <a href="#">Time Set Request</a>	0
		2 <a href="#">Retries Exceeded</a>	1
55	<a href="#">SMTP Retry</a>		
56	<a href="#">%e %a Excessive Tran Time</a>		
57	<a href="#">PPP %a Busy. Mapped to PPP %s</a>		
58	<a href="#">Default Route %a Out Of Service</a>		
59	<a href="#">Static Route %a Out Of Service</a>		

You will then be presented with the following options, configure as shown:

**Event: SNTP Client Reason: Time Set Request**

Log Priority: 0

Inherit alarm priority from event  
 Alarm Priority: 9

Alarm Priority is dependent on the event being logged by Entity   All  instance 0

Priority only applies to

PPP 0     PPP 1     PPP 2     PPP 3  
 PPP 4     PPP 5     PPP 6     PPP 7

Store a snapshot of the Traffic Analyser trace on the log drive  
 If this event creates an Email alarm

Attach a snapshot of the Traffic Analyser trace  
 After this event:  Leave the Analyser trace  
 Freeze the Analyser trace  
 Delete the Analyser trace

Attach a snapshot of the Event Log  
 After this event:  Leave the Event Log  
 Delete the Event Log

Attachment List ID: 0

If this event creates a Syslog alarm, use  
 Syslog Priority: Info  
 Syslog Facility: User

Parameter	Setting	Description
Alarm Priority	9	This is the trigger priority – change it from 0 to 9
Attach a snapshot of the Event Log	Checked	On – The email will have the Eventlog Attached Off – The email won't have the Eventlog Attached
After this event	Leave the event log	Leave the Event Log – Does nothing Delete the Event Log – Clears the Eventlog

Click OK, then 'Save All Event Code Changes' to save the changes to the logcodes.dif file

**Configuration - Alarms > Event Logcodes**

▶ Event Settings

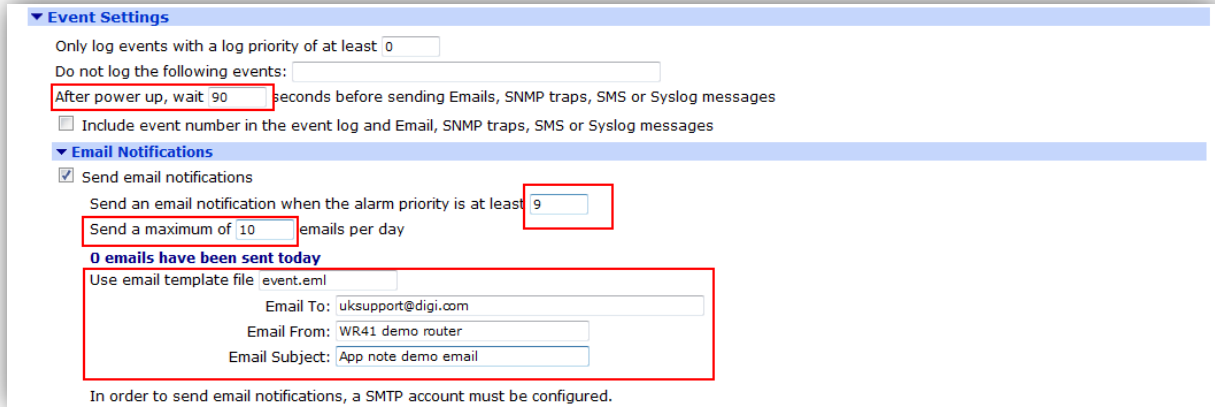
▼ Event Logcodes

The logcodes describe the logged events. It is possible to configure each event / reason with a specific priority which can be used to control when that event / reason causes an alarm to be created.

## 2.2 Configuring the Event Handler

In the Event Handler the Email trigger priority should be set to a number the same or lower than the event trigger priority configured for the event. If the Email trigger priority is set to say 9, then every event (or event reason) with a trigger priority of  $9 \Rightarrow$  will trigger an automatic email. i.e. 9, 10, 11, 12....

Navigate to **Configuration - Alarms > Event Settings** and configure the following parameters:



**Event Settings**

Only log events with a log priority of at least 0

Do not log the following events:

After power up, wait 90 seconds before sending Emails, SNMP traps, SMS or Syslog messages

Include event number in the event log and Email, SNMP traps, SMS or Syslog messages

**▼ Email Notifications**

Send email notifications

Send an email notification when the alarm priority is at least 9

Send a maximum of 10 emails per day

**0 emails have been sent today**

Use email template file event.eml

Email To: uksupport@digicom.com

Email From: WR41 demo router

Email Subject: App note demo email

In order to send email notifications, a SMTP account must be configured.

Check the “Send email notifications” box to display Email Notifications settings

Parameter	Setting	Description
Email Trigger Priority	9	This will trigger emails on any event with a priority of 9 or higher.
Send a maximum of $n$ emails per day	10	The maximum number of emails to send in any 24 hours. (Reset at midnight and when the Digi Transport is rebooted.)
Use email template file	event.eml	Built in template, but can be changed.
Email To	youraddress@yourcompany.com	The Address where you want the auto emails sent
Email From	WR41 demo router	The name of the Digi Transport sending the email
Email Subject	App note demo email	The subject of the email

## 2.3 Configuring SMTP

The Digi Transport's SMTP client must also be configured.

Navigate to the **Configuration - Alarms > SMTP Account** page.

Parameter	Setting	Description
Hostname or IP address of your SMTP Server	195.1.1.1	The IP address or host name of your ISP's or your own SMTP server.
Server Port	25	The port that the SMTP server listens on.
Username	user@smtp.com	<b>Only if required: The SMTP username</b>
Password	password	<b>Only if required: The SMTP password</b>
Display "Email From" as	WR-demo@digi.com	An email address from which the SMTP server will accept emails from.
Attachment size limit	0	Default is 0 (Off)
"Reply To" address	Blank	This address will be inserted into the email header if it is found that no reply address exists in the appropriate email template or else override the default reply address.
Route using	Interface	The route used for the SMTP server can be locked to an interface or use any valid route. This demo is only allowing PPP 1 to be used by the SMTP client.
Interface	PPP	The interface through which to send the email.
Interface #	1	The interface entity.
Retry delay (s)	30	Retry to send the email in 30 seconds if the first attempt to send fails.

If the SMTP server requires authentication, fill in the **SMTP AUTH parameters** section, otherwise leave these parameters blank.

**Note:** Configuring the interface through which the emails will be sent.

In the previous section, PPP 1 was chosen as the Interface through which the emails will be sent. If using a product with GPRS or ADSL then PPP 1 will most likely already be configured for Internet access.



## 2.4 Configuring SNTP

The SNTP client must be configured to request the time from an SNTP server to trigger the event.

Navigate to **Configuration - System > Date and Time > Autoset Date and Time**

Select **Use SNTP to auto-set the system time**.

**Date and Time**  
 Current system time: 14 Mar 2012 11:51:04

Manually set the time  
 Hours: 11 Minutes: 51 Seconds: 4  
 Month: March Day: 14 Year: 2012  
 [Set]

**Autoset Date and Time**

Do not auto-set the system time  
 Use SNTP to auto-set the system time

SNTP Server: 95.154.209.28  
 Check on Power-Up

Update:  every 24 hours  
 randomly between 0 and 0 seconds

Offset from GMT: 0

Disable SNTP when interface: None 0 is out of service

Update for Daylight Saving Time  
 Start: Month: March Day: 25 Hour: 1  
 End: Month: October Day: 28 Hour: 1

[Apply]

Parameter	Setting	Description
SNTP Server	95.154.209.28	IP address of an SNTP server
Check on power-up	Yes	This will try to set the time on power up and therefore trigger an email event.
Update (hours)	24	This will trigger an email every 24 hours

Click **Apply**, then **save the configuration to flash**.

### 3 TESTING

Make sure the configuration changes are saved to flash.

To test that the Digi Transport is configured correctly, simply reboot it.

The events in **Management - Event Log** will look similar to this:

```
11:44:44, 14 Mar 2012,SMTP success
```

```
11:44:30, 14 Mar 2012,Time set/changed OK
```

```
11:44:13, 14 Mar 2012,SMTP req by CMD email event.eml
```

```
11:42:53, 14 Mar 2012,SNTP Client,Time Set Request
```

Reading the events from bottom to top, the SNTP requests the time from the server and an email event (SMTP) is triggered by the 'Time Set Request'. The email sent from the router will have the eventlog.txt file attached. Also, due to configuring a time set request every 24 hours, a new email will be generated on the router each time.

## 4 CONFIGURATION FILES

### 4.1 Digi Transport Configuration Files

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

```
sntp 0 server "95.154.209.28"  
sntp 0 pwrchk ON  
sntp 0 dstonmon 3  
sntp 0 dstonday 25  
sntp 0 dstonhr 1  
sntp 0 dstoffmon 10  
sntp 0 dstoffday 28  
sntp 0 dstoffhr 1  
  
smtp 0 server "195.1.1.1"  
smtp 0 username "user@smtp.com"  
smtp 0 mail_from "user@mail.com"  
smtp 0 retry_dly 10  
  
event 0 etemp "event.eml"  
event 0 emax 10  
event 0 etrig 9  
event 0 to "uksupport@digi.com"  
event 0 from "WR41 demo router"  
event 0 subject "App note demo email"  
event 0 action_dly 90
```

This is the contents of the logcodes.dif file:

```
R54,1,9 e,
```

### 4.2 Digi Transport Firmware Versions

This is the firmware \ hardware information from the unit:

```
Digi TransPort WR41-HXA1-DV1-XX(WR41v1) Ser#:100000 HW Revision: 7103a  
Software Build Ver5146. Feb 08 2012 12:24:12 ZW  
ARM Bios Ver 6.55 v36 399MHz B128-M128-F80-0100,0 MAC:00042d000000  
Power Up Profile: 0  
Async Driver Revision: 1.19 Int clk  
Ethernet Driver Revision: 1.11  
Firewall Revision: 1.0  
EventEdit Revision: 1.0  
Timer Module Revision: 1.1  
(B)USBHOST Revision: 1.0  
SDMMC Revision: 1.0  
L2TP Revision: 1.10  
PPTP Revision: 1.00  
TACPLUS Revision: 1.00  
MODBUS Revision: 0.00  
MultiTX Revision: 1.00  
LAPB Revision: 1.12  
X25 Layer Revision: 1.19  
MACRO Revision: 1.0  
PAD Revision: 1.4  
V120 Revision: 1.16  
TPAD Interface Revision: 1.12  
GPS Revision: 1.0
```

SCRIBATSK	Revision: 1.0
BASTSK	Revision: 1.0
PYTHON	Revision: 1.0
ARM Sync Driver	Revision: 1.18
TCP (HASH mode)	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
MODEM CC (Option 3G)	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
iDigi	Revision: 2.0
OK	