Application Note 23

Configure Automatic Emails

TransPort Support

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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

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>
<tr>
<td>1.1</td>
<td>Digi Transport branded</td>
</tr>
<tr>
<td>1.2</td>
<td>Updated to new GUI</td>
</tr>
</tbody>
</table>
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:

```plaintext
68,0,%e %a X25 Call gone
69,0,%e %a X25 Deactivated
```
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 Description</td>
<td>A numerical value that represents 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 trigger 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</td>
</tr>
</tbody>
</table>
Click on **Time Set Request** reason (ensure that it is under the **SNTP Client** description).

![Table of SNTP Client Reasons](image)

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

![Parameter Configuration](image)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alarm Priority</td>
<td>9</td>
<td>This is the trigger priority – change it from 0 to 9</td>
</tr>
<tr>
<td>Attach a snapshot of the Event Log</td>
<td>Checked</td>
<td>On – The email will have the Eventlog Attached Off – The email won’t have the Eventlog Attached</td>
</tr>
<tr>
<td>After this event</td>
<td>Leave the event log</td>
<td>Leave the Event Log – Does nothing Delete the Event Log – Clears the Eventlog</td>
</tr>
</tbody>
</table>

Click OK, then ‘Save All Event Code Changes’ to save the changes to the logcodes.dif file
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=> will trigger an automatic email. i.e. 9, 10, 11, 12....

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

![Configuration settings](image)

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

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

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

Navigate to the Configuration - Alarms > SMTP Account page.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hostname or IP address of your SMTP Server</td>
<td>195.1.1.1</td>
<td>The IP address or host name of your ISP's or your own SMTP server.</td>
</tr>
<tr>
<td>Server Port</td>
<td>25</td>
<td>The port that the SMTP server listens on.</td>
</tr>
<tr>
<td>Username</td>
<td><a href="mailto:user@smtp.com">user@smtp.com</a></td>
<td>Only if required: The SMTP username</td>
</tr>
<tr>
<td>Password</td>
<td>password</td>
<td>Only if required: The SMTP password</td>
</tr>
<tr>
<td>Display “Email From” as</td>
<td><a href="mailto:WR-demo@digi.com">WR-demo@digi.com</a></td>
<td>An email address from which the SMTP server will accept emails from.</td>
</tr>
<tr>
<td>Attachment size limit</td>
<td>0</td>
<td>Default is 0 (Off)</td>
</tr>
<tr>
<td>“Reply To” address</td>
<td>Blank</td>
<td>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.</td>
</tr>
<tr>
<td>Route using</td>
<td>Interface</td>
<td>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.</td>
</tr>
<tr>
<td>Interface</td>
<td>PPP</td>
<td>The interface through which to send the email.</td>
</tr>
<tr>
<td>Interface #</td>
<td>1</td>
<td>The interface entity.</td>
</tr>
<tr>
<td>Retry delay (s)</td>
<td>30</td>
<td>Retry to send the email in 30 seconds if the first attempt to send fails.</td>
</tr>
</tbody>
</table>

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**.

![SNTP Configuration Screenshot](image)

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

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

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.da0 file:

```plaintext
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"
smtpl 0 username "user@smtp.com"
smtpl 0 mail_from "user@mail.com"
smtpl 0 retry_dly 10

event 0 etemp "event.eml"
event 0 emax 10
event 0 etrig 9
event 0 to "uksupport@diqi.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
```
SCRIATSK                 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