5.6.3 **Notifier** **mta**

Notifier

Description: This tool collects alert messages and sends them via page or email to the appropriate address. In the case of pages it awaits verification.

Inputs:

- Alert messages from MTA monitor or trend codes
- emails from page recipients (this is a general input, the use of this input is specified below)

Outputs:

- Email to scientists of systems with red or yellow violations.
- Pages to scientists of systems with specific red violation.

Rules:

1. If, after monitoring a single group's menmonics, MTA_MONITOR_DATA has discovered one or more yellow alerts and/or one or more red alerts, MTA_MONITOR_DATA shall create and output email and/or pager text containing the information specified below. *An alert is not counted unless 5 consecutive data are out of green.*
2. MTA_MONITOR_DATA shall combine all of the information, without duplication, from the email messages that it has created per file into a single email message for the entire run.
3. Email Should only be sent at the end of a process run. Only one email should be sent per group, not at the end of each file. It is bad to recieve 55 separate emails of the same error. Better to receive one Email with 55 errors. *The intent here is that We send one email per group for each Solid state recorder dump.*
4. Each MTA alert shall be assigned a Serial Number. MTA_SN#XXXX. X shall start at 1 and increase by increments of 1 for each email sent or the programmer may choose any other method which insures the serial numbers do not repeat.

5. MTAPRS shall wait a specified amount of time (default = 30 minutes) for a reply to each pager message for which the corresponding email "Priority:" field is, or would have been, 1. If mtaprs has not received at least one reply to that pager message during the specified time, mtaprs shall resend the pager message. Mtaprs shall repeat the resend cycle until it has received at least one reply. After receiving at least one reply, mtaprs shall cease resending the message replied to. Mtaprs shall not resend email messages whether or not it receives a reply after the specified waiting interval.

6. All and only pages (red alert, Severity 5 (will become 4), urgency A) should require response from the reciever.

7. Science (an SOT representative, usually the MTA scientist) needs to provide the key for problem IDs.

8. It is a desirment that the emails contain the descipter of the MSID (the page should remain as is). (Definition: column name – The name assigned to a FITS data unit array column. See "mnemonic", "MSID".)

9. Query for returned email needs to occur at most once a minute, at least once per 5 minutes. The code should verify that mtadude's incoming mail drop, /var/mtadude, contains at least one alert message reply email before attempting to incorporate any messages into mtadude's MH directory."

Alerts:

Alert records shall contain the following information:

- alert level,
- alert date,
- alert time, in MM/DD/YY HH:MM:SS and TIME format
- mnemonic name for which the alert occured,
- mnemonic description,
- mnemonic range lower value,

- mnemonic range upper value,
- the value of the limit which was violated and
- number of seconds.
- status field is to be empty and populated by the PT.

Email Format:

```
Problem ID:                 19.2
System ID:                  eph
Status:
Responsible Scientist: Dr. Michael Juda
Severity, Urgency:           4A

HKP5VI (5 Volts Rail - Current) YELLOW HIGH
starting at 12/31/1993 12:37:40.800 0 (9.840003673791885E+03 s)
had range of 041.1 041.1 (upper YELLOW limit is 40.0) for   65 secs.

HKP5VI (5 Volts Rail - Current) YELLOW HIGH
Starting at 12/31/1993 13:58:35.20 0 (1.584000367379185E+04 s)
had range of 041.1 041.1 (upper YELLOW limit is 40.0) for   65 secs.

HKP5VI (5 Volts Rail - Current) YELLOW HIGH
Starting at 12/31/1993 14:00:46.400 0 (1.59400036737918E+04 s)
had range of 041.1 041.1 (upper YELLOW limit is 40.0) for   65 secs.

HKP5VI (5 Volts Rail - Current)  RED HIGH
Starting at 12/31/1993 14:02:57.600 0 (1.600003673791885E+04 s)
had range of 042.7 042.7 (upper RED limit is 42.0) for   65 secs.

HKP5VI (5 Volts Rail - Current) RED HIGH
Starting at 12/31/1993 14:05:08.800 0 (1.615003673791885E+04s)
had range of 042.7 042.7 (upper RED limit is 42.0) for   65 secs.

in file(s):
```

```
/proj/sciops/data/mta/test_checklimits/eph00059302_HKDTC.fits
/proj/sciops/data/mta/test_checklimits/eph00059303_HKDTC.fits
/proj/sciops/data/mta/test_checklimits/eph00059304_HKDTC.fits
/proj/sciops/data/mta/test_checklimits/eph00059305_HKDTC.fits
/proj/sciops/data/mta/test_checklimits/eph00059306_HKDTC.fits
```

Pages: Special rules apply to pages:

- Pages are only sent if an MSID violates limits in 5 consecutive measurements.(this 5 should be set-able)
- Once a Serial number (SN) is created for a given Problem_ID, no further pages are sent for that Problem_ID until the SN has been cleared (replied to) AND 7 hours have passed since the last transmission of that Problem_ID.
- Once a SN is generated it is sent a maximum of 3 times, once at creation and once after the first two timeouts. If a third timeout occurs a copy of the page is sent to isobe and swolk (list edit-able) and the SN is considered cleared.
- The time between resend of pages is 30 minutes (set-able).
- If there are more than 100 page messages awaiting reply. The notifier mails ascdsops, swolk, isobe (list edit-able) that:

  ```
  Notifier is going down at 12/31/1993 16:30:33...too many errors.
  ```

  and dies.
- SYSHELP is notified before each test including scope and time span of each test.

Page Format:

- Information for pages need to be readable in 20 character segments:
- generate pages on a per file basis.

Note - I have added a subject slug.

```
SUBJECT :SN02123 - HKP5VI

HKP5VI was RED 43
starting at:
12/31/1993 14:11:39
(1.675003673791885E+04s)

see
/proj/sciops/data/mt
a/test_checklimits/e
ph00059302_HKDTC.fit
s
 for details.

 Reply to confirm
 receipt - or page
 will be resent.
```

Alert Levels MTA priorities indicate two conditions, Severity (1-5) and urgency (A-E).

Severity

5	Mission Failure
4	Instrument Failure
3	Degraded Performance
2	No Threat
1	Software/docs

Urgency

A	immediate
B	< 24 hours
C	< 7 days
D	< 1 Month
E	< 6 months

Monitoring reports will all have immediate urgency. Trend reports will be dictated by trend codes. Serverity is given above.

Problem IDS:
first digit

1	monitor
2	trend
3	discreet
4	Dynamic (from State pipeline)
5	ACORN

second digit

1	HRMA
2	PCAD
3	HRC
4	ACIS
5	Gratings
6	SIM
7	alignments
8	S/C
9	EPHIN
0	Open

A decimal point is to be included after the first 2 digits. The third and fourth digits are incremtal changes of the first two to indicate different groups (or files) within the same subsystem.

```
MTA_mon_file   problem description Problem ID  Serverity

hrc temp HRC Temperatures 13.8 5
hrc elec HRC Electronics 13.9 5
hrc veto HRC Veto Counting Rates 13.5 3
hrc hk HRC Housekeeping 13.6 4
hrc dyn HRC State Dependant 43.6 3
#hrc psf HRC PSF
#hrc scnt HRC Source Counting Rates 13.2 3
#hrc bcnt HRC Background Counting Rates 13.1 3
#
#ACIS Science Instrument
```

```
acis tempa ACIS Thermal Control Side A 14.71 4
acis eleca ACIS Electronics Side A 14.81 4
acis tempb ACIS Thermal Control Side B 14.72 4
acis elecb ACIS Electronics Side B 14.82 4
acis mech ACIS Mechanism Controller 14.92 4
acis dyn ACIS State Dependant 44.6 3
#acis scnt ACIS Source Counting Rates
#acis bcnt ACIS Background Counting Rates
#
#PCAD - Pointing Control and Aspect Determination
pcad temp ACA Thermal 12.2 5
pcad iconf IRU Configuration 12.3 3
pcad itv IRU Temperatures and Electronics 12.10 5
pcad grate PCAD Gyro Rates 12.11 5
pcad ptva PCAD Temperatures and Electronics -A 12.17 5
pcad ptvb PCAD Temperatures and Electronics -B 12.18 5
pcad fid PCAD FID Light Magnitude 12.5 3
pcad qual Aspect Quality Solution 12.19 3
pcad ftsgrad FTS temp & gradient 12.8    5
pcad rwrate PCAD reaction wheel Rates 12.14 3
pcad drift Drift rate updates to gyros 12.12 3
acis dyn PCAD State Dependant 42.17 3
#
#EPHIN subsystem
eph hk EPHIN Housekeeping 19.1 4
eph tv EPHIN Temperatures and Voltages 19.2 4
eph rate EPHIN Rates 19.3 2
#
#Gradients
grad cap axial, ............... HRMA CAP 11.37 5
grad fap axial, ............... HRMA FAP 11.30 5
grad ahet axial, .... HRMA AFT Heater Plt. 11.33 5
grad hhflex axial, ......... HRMA H-Flexure 11.33 5
grad hpflex axial, ......... HRMA P-Flexure 11.33 5
grad pcolb axial, ..HRMA PreCol. Baffle Plt  11.33 5
grad hstrut axial, ............ HRMA Struts 11.33 5
grad ocyl axial, ...... HSA Outer Cylinder 11.33 5
```

```
grad aincyl axial, ....... OBA AFT Inner Cyl. 11.33 5
grad ablk axial, ........ OBA AFT Bulkhead 11.33 5
grad hcone axial, ............... OBA Cone 11.33 5
grad fblk axial, ........ OBA FWD Bulkhead 11.33 5
grad peri axial, .............. Periscope 11.33 5
grad sstrut axial,  .......Spacecraft Struts 11.33 5
grad tfte axial,  ...................TFTE 11.33 5
#
#Telescope (TEL)
tel therm OBA thermal 11.1 5
tel hrma HRMA Thermal 11.0 5
#
#Gratings (GRAT)
grat gen Grating Voltages and Rotation Angles 15.0 3
#
#SIM - Science Instrument Module
sim temp SIM Thermal 16.3 4
sim elec SIM Electronics 16.9 4
sim actu SIM Actuator Use 16.1 3
#
#Other subsystems
sub obc OBC State 18.2 3
sub sct Spacecraft Temperatures 18.4 5
sub batt Battery Usage 18.5 5
sub elec Spacecraft Electronics 18.90 5
sub eleca Spacecraft Electronics Side A 18.91 5
sub elecb Spacecraft Electronics Side B 18.92 5
sub dyna Spacecraft State Dependant Side A 48.91 3
sub dynb Spacecraft State Dependant Side B 48.92 3
```

Release: 4

Group: DSOPS

Analysis Domain:

DS Tool Class: 2

DS Tool Category: Monitoring

Spec Name: alerts.tex

Spec Category: New

Code Type: ASCDS

Code Source: New

Specification Version: 0.89

Change Control: 0.2 to 0.3 Added Rules in response to 10/98 test.

Change Control: 0.3 to 0.4 Added limits to messages

Change Control: 0.4 to 0.5 Added TIME in seconds to messages rearranged text in messages and added discreet error codes.

Change Control: 0.5 to 0.8 Added all the paging rules in reaction to tests of 3/19/99. Added decimal point to error codes. Noted that errors should occur in 5 consecutive measurments before error is sent.

Change Control: 0.8 to 0.85 Changed MSID to Problem_ID in second pager rule.

Change Control: 0.85 to 0.87 clarified that status field is not to be filled by notifier

Change Control: 0.87 to 0.89 Updated error codes, added ACORN and dynamic codes.

Last Edit: May 17, 1999