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Subject: Closeout AI EGSE#45-3 and AI EGSE#45-4



nemo_2004_12.pdf Visio-memo_2004_1 OBSM.zip (253 KB)
 (41 KB) 2_08.pdf (14 ...

Closeout AI EGSE #45-3

In most cases the name of the HIFI-monitor-parameter-conversion-curves-description-
 fields is equal to the name of the monitor parameter it is associated with. Restriction
 to 23 characters does not harm HIFI.

Closeout AI EGSE #45-4


Attached a description of the script that could be used for OBS-loading, using the
 Manual Stack.

This script assumes that all Mem-load packets have a SAU of 32 bytes. If that is not
 the case, TC-definitions must be added to the MIB and to this script


The other assumption is that the CCS manual stack has the same functionality as the
 SCOS-2000 Manual Stack. The CCS-SUM does not mention any restricted functionality here
 so I would assume no obstructions here.

I have also added a tar file containing the manual stack file.

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|-----------------------------------------------------------------------------------|----------------------|--|
|  | OBSW and stack files | |
| HIFI | | |

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|----------------|-------------------------------------------|-----------------|--|
| Prepared by: | L. Dubbeldam | Date: 8/12/2004 | |
| Checked by: | | | |
| Agreed by: | | | |
| Authorized by: | | | |
| File: | C:\My Documents\MEMOs\memo_2004_12_08.doc | | |

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| HIFI | | |

1. Introduction

During the instrument tests the OBS is loaded directly after boot-up with a routine that converts TC.dm files to telecommands which are sent to the EGSE_router. (ObswLoader)

The goal is that an OBS-image can be loaded or patched by using SCOS-2000 OBSM (and while the application SW is active, rather than the boot-SW).

As the OBSM-tool is not (yet ?) available in the CCS we need another way to send the TC commands to the instruments.


This note describes how to write TC-commands into a file that can be imported by the manual stack.

Input parameters

The application takes makeStack.dat in the default directory as input.

The file contains the command and parameter names the should be defined in the CCS-MIB. The relevant records in the MIB are listed at the end of this note.

| Parameter | Value |
|---------------------|---------------|
| outputFileName | OBSM.sron0203 |
| egserouterhost | sron0203 |
| APID | 1024 |
| | |
| LOADMEM_CCF_NAME | HC075289 |
| | |
| MID_START_CPC_NAME | HP232197 |
| NAU_CPC_NAME | HP233197 |
| | |
| DATA_CPC_NAME_0 | HP234197 |
| DATA_CPC_NAME_1 | HP235197 |
| DATA_CPC_NAME_2 | HP236197 |
| DATA_CPC_NAME_3 | HP237197 |
| DATA_CPC_NAME_4 | HP238197 |
| DATA_CPC_NAME_5 | HP239197 |
| DATA_CPC_NAME_6 | HP240197 |
| DATA_CPC_NAME_7 | HP241197 |
| DATA_CRC_CPC_NAME | HP242197 |
| | |
| REL_RELEASE_TIME | 1 |
| RELEASE_TIME_PERIOD | 10 |
| VDF_NAME | 37 |

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The application connects to the EGSE-router and requests for TC-packets of the specified APID.

A new stackfile is created with the specified filename (OBSM.sron0203). The suffix should equal the hostname of the Manual-stack.

The packets with type=6 and subtype= 2 are processed, and appended to the stackfile.

The average number of packets per second that will be released is controlled by two parameters: REL_RELEASE_TIME and RELEASE_TIME_PERIOD. With the indicated values, one out of every 10 TC-packets will have a relative release time of 1s.

VDF_NAME is the name of the MIB

Procedure:

1. Start router
2. Start application
3. Start OBSM-load application.

Test procedure:

1. Use ObswLoader to generate telecommands
2. Log all commands in file A
3. Create a stackfile
4. Load the stack file
5. release all commands
6. Log these commands in file B
7. Compare file A with file B

This procedure was carried out with 1558 Telecommands, and comparison showed that resulting logfiles were identical.

(with the only exception the source part and the sequence part of the sequence field and the TC-packet checksum).

The size of 1558 TC packets expands to a stack-file of 2.5 Mbyte.

Undocumented features

The user must be careful with loading stack files as the SCOS-2000 MSTK does hardly any checks:

- o Pars in the command header record is irrelevant
- o ID in the comand parameter record is irrelevant
- o No check is performed on physical ranges. (a value will be masked to fit)
- o When comand parameter record are missing at the end of the stack, values will be generated by the MSTK1



The MIB contains the following packet to load memory.

Records in CPC:

| pname | descr | ptc | pfc | disfmt | radix | unit | categ | prfref | ccaref | pafref | inter | defval |
|----------|-----------------|-----|-----|--------|-------|------|-------|--------|--------|--------|-------|--------|
| HP232197 | HIF_mid_start | 2 | 32 | R | D | | N | | | | | |
| HP233197 | HIF_memload_n | 2 | 8 | R | D | | N | | | | | |
| HP234197 | HIF_memload_0 | 2 | 32 | R | D | | N | | | | | |
| HP235197 | HIF_memload_1 | 2 | 32 | R | D | | N | | | | | |
| HP236197 | HIF_memload_2 | 2 | 32 | R | D | | N | | | | | |
| HP237197 | HIF_memload_3 | 2 | 32 | R | D | | N | | | | | |
| HP238197 | HIF_memload_4 | 2 | 32 | R | D | | N | | | | | |
| HP239197 | HIF_memload_5 | 2 | 32 | R | D | | N | | | | | |
| HP240197 | HIF_memload_6 | 2 | 32 | R | D | | N | | | | | |
| HP241197 | HIF_memload_7 | 2 | 32 | R | D | | N | | | | | |
| HP242197 | HIF_memload_crc | 2 | 16 | R | D | | N | | | | | |

Records in CCF

| cname | descr | descr2 | ctype | critical | pktid | type | stype | apid | npars | plan | exec | ilscope | ilstage | subsys | hipri | mapid | defset | rapid | ack |
|----------|---------------|--------|-------|----------|---------|------|-------|------|-------|------|------|---------|---------|--------|-------|-------|--------|-------|-----|
| HC075289 | HIFI_mem_load | | | N | HSO_STD | 6 | 2 | 1024 | 12 | N | Y | N | C | | N | | | | 0 |

Records in CDF:

| cname | eltype | descr | ellen | bit | grpsize | pname | inter | value | tmid |
|----------|--------|-------|-------|-----|---------|----------|-------|-------|------|
| HC075289 | E | | 32 | 0 | | HP232197 | | 0 | |
| HC075289 | A | spare | 8 | 32 | | | | | |
| HC075289 | E | | 8 | 40 | 8 | HP233197 | | | |
| HC075289 | E | | 32 | 48 | | HP234197 | | | |
| HC075289 | E | | 32 | 80 | | HP235197 | | | |
| HC075289 | E | | 32 | 112 | | HP236197 | | | |
| HC075289 | E | | 32 | 144 | | HP237197 | | | |
| HC075289 | E | | 32 | 176 | | HP238197 | | | |
| HC075289 | E | | 32 | 208 | | HP239197 | | | |
| HC075289 | E | | 32 | 240 | | HP240197 | | | |
| HC075289 | E | | 32 | 272 | | HP241197 | | | |
| HC075289 | E | | 16 | 304 | | HP242197 | | | |

Sample of the stackfile:

```
2|MANS|0|0|37|0|
C|HC075289|1|1|0|0|0|0|0|0|0|59|0|1|0|0|0|0|0|0|
HP232197|0|0|2|0|1325402112|0|
HP233197|0|0|2|0|7|0|
HP234197|0|0|2|0|256|0|
HP235197|0|0|2|0|65618|0|
HP236197|0|0|2|0|17408|0|
HP237197|0|0|2|0|16777472|0|
HP238197|0|0|2|0|8|0|
HP239197|0|0|2|0|2470398262|0|
HP240197|0|0|2|0|11468|0|
HP241197|0|0|2|0|0|0|
HP234197|0|0|2|0|0|0|
HP235197|0|0|2|0|0|0|
HP236197|0|0|2|0|0|0|
HP237197|0|0|2|0|0|0|
HP238197|0|0|2|0|0|0|
HP239197|0|0|2|0|0|0|
HP240197|0|0|2|0|0|0|
HP241197|0|0|2|0|0|0|
HP234197|0|0|2|0|0|0|
HP235197|0|0|2|0|0|0|
HP236197|0|0|2|0|0|0|
HP237197|0|0|2|0|113115137|0|
HP238197|0|0|2|0|366679618|0|
HP239197|0|0|2|0|113115137|0|
HP240197|0|0|2|0|113115137|0|
HP241197|0|0|2|0|1345787470|0|
HP234197|0|0|2|0|104727552|0|
HP235197|0|0|2|0|0|0|
HP236197|0|0|2|0|0|0|
HP237197|0|0|2|0|0|0|
HP238197|0|0|2|0|8388608|0|
HP239197|0|0|2|0|917504|0|
HP240197|0|0|2|0|104726528|0|
HP241197|0|0|2|0|0|0|
HP234197|0|0|2|0|0|0|
HP235197|0|0|2|0|0|0|
HP236197|0|0|2|0|0|0|
HP237197|0|0|2|0|0|0|
HP238197|0|0|2|0|0|0|
HP239197|0|0|2|0|0|0|
HP240197|0|0|2|0|0|0|
HP241197|0|0|2|0|0|0|
HP234197|0|0|2|0|0|0|
HP235197|0|0|2|0|0|0|
HP236197|0|0|2|0|0|0|
HP237197|0|0|2|0|338362368|0|
HP238197|0|0|2|0|4096|0|
HP239197|0|0|2|0|1610518144|0|
HP240197|0|0|2|0|270336001|0|
HP241197|0|0|2|0|37369|0|
HP234197|0|0|2|0|336199688|0|
HP235197|0|0|2|0|1610518400|0|
HP236197|0|0|2|0|0|0|
HP237197|0|0|2|0|138374144|0|
HP238197|0|0|2|0|253689857|0|
HP239197|0|0|2|0|2448855540|0|
HP240197|0|0|2|0|270336001|0|
HP241197|0|0|2|0|338362368|0|
HP242197|0|0|2|0|17884|0|
```

C|HC075289|1|1|0|0|0|0|0|0|0|59|0|1|0|0||0|||0|
HP232197|0|0|2|0|1125124208|0|
HP233197|0|0|2|0|7|0|
HP234197|0|0|2|0|0|0|
HP235197|0|0|2|0|0|0|
HP236197|0|0|2|0|0|0|
HP237197|0|0|2|0|0|0|
HP238197|0|0|2|0|0|0|
HP239197|0|0|2|0|0|0|
HP240197|0|0|2|0|0|0|
HP241197|0|0|2|0|0|0|
HP234197|0|0|2|0|0|0|
HP235197|0|0|2|0|0|0|
HP236197|0|0|2|0|0|0|
HP237197|0|0|2|0|0|0|
HP238197|0|0|2|0|0|0|
HP239197|0|0|2|0|0|0|
HP240197|0|0|2|0|0|0|
HP241197|0|0|2|0|0|0|
HP234197|0|0|2|0|0|0|
HP235197|0|0|2|0|0|0|
HP236197|0|0|2|0|0|0|
HP237197|0|0|2|0|0|0|
HP238197|0|0|2|0|0|0|
HP239197|0|0|2|0|0|0|
HP240197|0|0|2|0|0|0|
HP241197|0|0|2|0|0|0|
HP234197|0|0|2|0|0|0|
HP235197|0|0|2|0|0|0|
HP236197|0|0|2|0|0|0|
HP237197|0|0|2|0|0|0|
HP238197|0|0|2|0|0|0|
HP239197|0|0|2|0|0|0|
HP240197|0|0|2|0|0|0|
HP241197|0|0|2|0|0|0|

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