

Dump and interpretation of CEL
File: H_FCP_DHS_3014.xls
Author: cmevi-hp



Procedure Summary

Objectives

This procedure describes the steps needed to dump the Critical Event Log (CEL).

The Critical Event Log (CEL) is a dedicated area (100 kbytes) in the Safe Guard Memory (SGM) and contains the following TM packet types (for all APIDs):

- TM(1,2) and TM(1,8);
- TM(5,2) and TM(5,4);
- TM(5,1) in case the Mass Memory A and B are not available;

The CEL is useful particularly after a reconfiguration; in fact by downloading it Ground can analyze the series of events leading to the reconfiguration.

Summary of Constraints

From an operational point of view the CEL is handled as a packet store but with the following restrictions:

- CEL has a fixed packet store ID (7Fh/127d for SGM A and FFh/255d for SGM B);
- the whole CEL is always downlinked (no filter condition or time range can be specified).

The CEL is downlinked on VCO. Only one CEL at a time can be downlinked.

Spacecraft Configuration

Start of Procedure

- CDMU in default configuration, that is:
- PM A or B ON (nominally A)
 - TM Encoder/OBT A or B active (nominally A)
 - RM A and B enabled
 - MM A and B ON

End of Procedure

- CDMU in default configuration, that is:
- PM A or B ON (nominally A)
 - TM Encoder/OBT A or B active (nominally A)
 - RM A and B enabled
 - MM A and B ON

Reference File(s)

Input Command Sequences

Output Command Sequences

HFD3014

Referenced Displays

ANDs GRDs SLDs

Dump and interpretation of CEL
 File: H_FCP_DHS_3014.xls
 Author: cmevi-hp



ZAZAO999
 ZAZOG999
 ZAZOS999

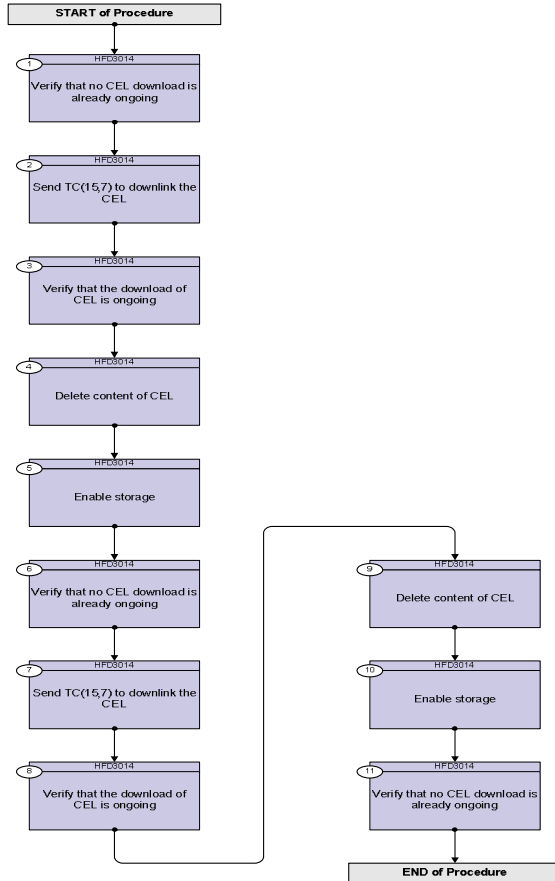
Configuration Control Information

DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
13/12/07		1	Created	cmevi-hp	
16/01/08		2	Batch update of TC flags	S. Manganelli	
19/02/08		3	TC flags updated.	cmevi-hp	
19/02/08	1	4	DB checked.	cmevi-hp	
02/01/09	2	5	DB check for OBSW 3_6 added comment about deletion of CEL	S. Manganelli	
17/07/09	2.5	6	Commands to delete and safely re-enable storage on CELs after dumps added.	cmevi-hp	

Dump and interpretation of CEL
File: H_FCP_DHS_3014.xls
Author: cmevi-hp



Procedure Flowchart Overview



Dump and interpretation of CEL
 File: H_FCP_DHS_3014.xls
 Author: cmevi-hp



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand ReportCatSelPktStore Command Parameter(s) : Store_Id DH003160 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : Report Catalogues for Selected Packet Store	DC169160 127 <dec>	
		Verify Telemetry WR_PTR_127 XM319991	= 0 <dec>	AND=ZAZ0G999
5		Enable storage		Next Step: 6
		The CEL is linear and will therefore be disabled when full. It can not be manually disabled with TC(15,2), but can be enabled with TC(15,1). The following command is necessary only when the CEL was declared full but we send it in any case in order to have a procedure that is valid in any case.		
		Execute Telecommand EnStoragePktStore Command Parameter(s) : N DH002160 Store_Id DH003160 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : Enable Storage in Packet Stores	DC150160 1 <dec> (Def) 127 <dec>	
6		Verify that no CEL download is already ongoing		Next Step: 7
		Verify Telemetry DownloadCEL DELA3160	= 0 <dec>	AND=ZAZA0999
7		Send TC(15,7) to downlink the CEL		Next Step: 8
		When this request is received by the CDMS, the contents of the specified CEL is downlinked.		

Dump and interpretation of CEL
 File: H_FCP_DHS_3014.xls
 Author: cmevi-hp



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand ReportCatSelPktStore Command Parameter(s) : Store_Id DH003160 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : Report Catalogues for Selected Packet Store	DC169160 255 <dec>	
		Verify Telemetry WR_PTR_255 XM328991	take note	AND=ZAZ0S999
		Execute Telecommand DownlinkPktStoreCont_A Command Parameter(s) : Store_Id DH003160 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : Downlink Packet Store Contents - All stored TM packets	DC162160 255 <dec>	
8		Verify that the download of CEL is ongoing		Next Step: 9
		Verify Telemetry DownloadCEL DELA3160	= 1 <dec>	AND=ZAZA0999
		The CEL will be downloaded on VC0.		
		Wait for dump to be completed.		
		Verify Telemetry DownloadCEL DELA3160	= 0 <dec>	AND=ZAZA0999
9		Delete content of CEL		Next Step: 10
		Execute Telecommand DelPktStoreContents Command Parameter(s) : End_Time DH063160 Abs_Time N DH002160 1 <dec> (Def) Store_Id DH003160 255 <dec> TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : Delete Packet Stores Contents up to Specified Storage Time	DC167160 Abs_Time 1 <dec> (Def) 255 <dec>	

Dump and interpretation of CEL
 File: H_FCP_DHS_3014.xls
 Author: cmevi-hp



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		or the following command if no VALID TCO is available.		
		Execute Telecommand <p style="text-align: right;">DelPktStoreContents</p> Command Parameter(s) : Coarse Time XH027991 Fine Time XH028991 N XH004991 Store_Id XH005991 TC Control Flags : <p style="text-align: right;">GBM IL DSE --Y -- ---</p> Subsch. ID : 10 Det. descr. : Delete Packet Stores Contents up to Specified Storage Time This Telecommand will not be included in the export	XC309991 Coarse_Time 0 <dec> 1 <dec> (Def) 255 <dec>	
		Execute Telecommand <p style="text-align: right;">ReportCatSelPktStore</p> Command Parameter(s) : Store_Id DH003160 TC Control Flags : <p style="text-align: right;">GBM IL DSE --Y -- ---</p> Subsch. ID : 10 Det. descr. : Report Catalogues for Selected Packet Store	DC169160 255 <dec>	
		Verify Telemetry <p style="text-align: center;">WR_PTR_255 XM328991</p>	= 0 <dec>	AND=ZAZ0S999
10		Enable storage The CEL is linear and will therefore be disabled when full. It can not be manually disabled with TC(15,2), but can be enabled with TC(15,1). The following command is necessary only when the CEL was declared full but we send it in any case in order to have a procedure that is valid in any case.		Next Step: 11
		Execute Telecommand <p style="text-align: right;">EnStoragePktStore</p> Command Parameter(s) : N DH002160 Store_Id DH003160 TC Control Flags : <p style="text-align: right;">GBM IL DSE --Y -- ---</p> Subsch. ID : 10 Det. descr. : Enable Storage in Packet Stores	DC150160 1 <dec> (Def) 255 <dec>	

Dump and interpretation of CEL File: H_FCP_DHS_3014.xls Author: cmevi-hp	 
--	--

Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
11		Verify that no CEL download is already ongoing		Next Step: END
		Verify Telemetry DownloadCEL DELA3160	= 0 <dec>	AND=ZAZA0999
End of Procedure				