Update CDMU PM PROM ground image from memory dump
File: H_FCP_OBS_1241.xls
Author: lstefanov-hp

Procedure Summary

Objectives

This Herschel OBSM nominal procedure is used to perform a CDMU PM PROM ground image update from memory dump. The procedure assumes the whole CDMU PM PROM is dumped. The memory dump is commanded using TC(6,5) and the memory locations content is received on ground in TM(6,6) packets.

The procedure assumes that the command stack has already been generated using the OBSM system and is ready for loading on the Manual Stack. The command stack generation activity is not covered by this procedure.

Summary of Constraints

CDMU in Operational Mode

Memory areas are dumped through TC(6,5); this TC will be delayed when there is an ongoing:
- TC(6,2) Load Memory Using Absolute Addresses
- TC(6,5) Dump Memory Using Absolute Addresses
- TC(6,9) Check Memory Using Absolute Addresses
- TC(8,4,1,1) Copy Memory

Spacecraft Configuration

Start of Procedure

CDMU in Operational Mode

End of Procedure

Same as start, except:
- CDMU PM PROM memory dump executed

Reference File(s)

Input Command Sequences

Output Command Sequences

OFCP1241

Referenced Displays

ANDs **GRDs** **SLDs**

Configuration Control Information

DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
12/01/09	2	1	Created	lstefanov-hp	
13/04/09	2.3	2	1. corrected typo in steps 3.1 and 3.2: 'pmcsops' replaced by 'hmcsops' 2. step 3.3 updated: 1st comment updated to include MemID in address	lstefanov-hp	

Status : Version 2 - Unchanged
Last Checkin: 13/04/09

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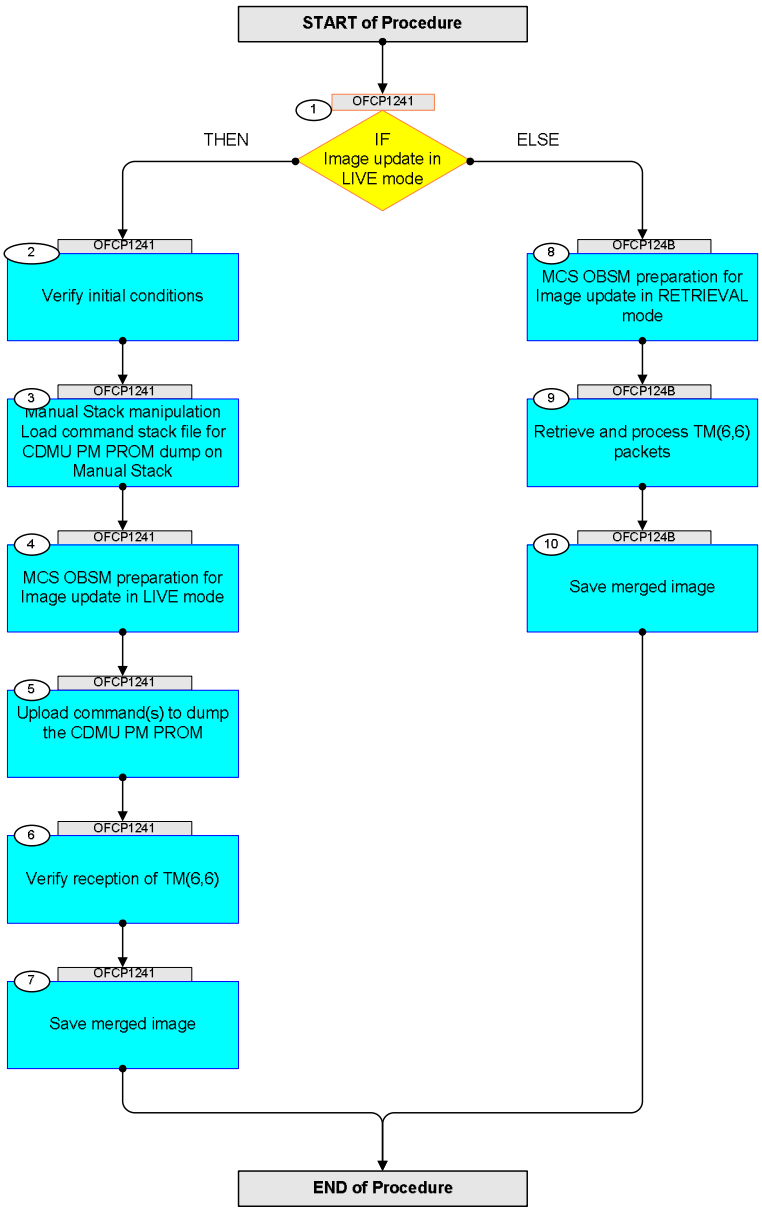
Procedure Flowchart Overview



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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
		Beginning of Procedure			
	OFCP1241	*TC Seq. Name :* OFCP1241 (CDMU PROM GI update) CDMU PM PROM Gnd image update in LIVE mode *TimeTag Type: B* *Sub Schedule ID:*			
1		IF Image update in LIVE mode type: [If]		Next Step: THEN 2 ELSE 8	
2		Verify initial conditions		Next Step: 3	
		Check: - CDMU in Operational mode			
		CDMS SOE to confirm CDMU mode			
3		Manual Stack manipulation Load command stack file for CDMU PM PROM dump on Manual Stack		Next Step: 4	
		NOTE: The current procedure assumes that the memory dump in Live mode is performed using commands with immediate execution.			
		Select the File -> **LoadStack** option from the main menu of the Manual Stack window			
3.1		IF CDMU PM A			
		Select file **CDMUPRPG_DI_XXXXYYY_N_NoModel_NoModel_YYYY_DDDThhmmss.machine** from directory /home/hmcsops/HPMCS/SESSION/current/data/CMD/STACKS/OBSM/CDMUPRPG as indicated by the OBSM engineer			
		IMPORTANT: XXXXYYYY = Image ID(X) and Version(Y) - depend on image used for stack generation YYYY_DDD hhmmss - depend on stack generation time machine - depends on the name of the machine used for stack generation			

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
		File name **examples** - No model associated to the memory image: CDMUPRPG_DI_0002001_N_NoModel_NoModel_2007_254T123300.sun043 - CT CDMUPRPG1, ID 0003, Version 001 associated to the memory image: CDMUPRPG_DI_0002001_C_CDMUPRPG1_0003001_2007_337T093320.sun043			
3.2		ELSE CDMU PM B			
		Select file **CDMUPRPB_DI_XXXXYYY_N_NoModel_NoModel_YYYY_DDDThhmmss.machine** from directory /home/hmcsops/HPMCS/SESSION/current/data/CMD/STACKS/OBSM/CDMUPRPB as indicated by the OBSM engineer			
		IMPORTANT: XXXXYYYY = Image ID(X) and Version(Y) - depend on image used for stack generation YYYY_DDD hhmmss - depend on stack generation time machine - depends on the name of the machine used for stack generation			
		File name **examples** - No model associated to the memory image: CDMUPRPB_DI_0002001_N_NoModel_NoModel_2007_254T123300.sun043 - CT CDMUPRPB1, ID 0003, Version 001 associated to the memory image: CDMUPRPB_DI_0002001_C_CDMUPRPB1_0003001_2007_337T093320.sun043			
3.3		Check memory dump command stack loaded			
		For a **full** CDMU PM PROM **dump** (**Memory ID** = **0000** included in the address): **Start Address** = **0000.0000 hex** **End Address** = **0000.FFFF hex** **Length** = **10000 hex**			
		Note: Following steps assume a **full** CDMU PM PROM **dump**. IF one or several partial dumps of the CDMU PM PROM are commanded, the number of dump TCs, start address and length will be different.			

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
3.3.1		Check number of memory dump commands in the stack			
		Check that loaded stack contains: **2** TCs **DC602180**			
3.3.2		Check Memory ID			
		Display the Manual Stack in 'Full mode' and check that the **Memory ID** parameter in the DC602180 commands is set to **0000 hex**: **Memory ID = 0000 hex** **Note**: The Memory ID of the target memory device is stored in the 16-bit long Mem ID TC parameter.			
		Execute Telecommand **DumpMem_AbsAddr** *Command Parameter(s) :* **Memory_ID DH003180** **Start_Address DH004180** **N DH105180** *TC Control Flags :* **GBM IL DSE** **--Y -- ---** *Subsch. ID : 10* Det. descr. : Dump Memory Using Absolute Addresses This Telecommand will not be included in the export	**DC602180** **0000 <hex>** **<hex>** (Def) **<hex>** (Def)	**TC**	
3.3.3		Check start address and length of the first dump command in the stack			
		With the Manual Stack in 'Full mode', check the **Start Address** and **Length** in the first DC602180 command: **Start Address** = **0000 hex** **Length = FFFF hex** **Note**: The Memory ID of the target memory device is stored in the 16-bit long Mem ID TM parameter.			
		Execute Telecommand **DumpMem_AbsAddr** *Command Parameter(s) :* **Memory_ID DH003180** **Start_Address DH004180** **N DH105180** *TC Control Flags :* **GBM IL DSE** **--Y -- ---** *Subsch. ID : 10* Det. descr. : Dump Memory Using Absolute Addresses This Telecommand will not be included in the export	**DC602180** **0000 <hex>** **0000 <hex>** **FFFF <hex>**	**TC**	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
3.3.4		Check start address and length of the second dump command in the stack			
		With the Manual Stack in 'Full mode', check the **Start Address** and **Length** in the second DC602180 command: **Start Address** = **FFFF hex** **Length** = **0001 hex** **Note**: The Memory ID of the target memory device is stored in the 16-bit long Mem ID TM parameter.			
		Execute Telecommand **DumpMem_AbsAddr** **DC602180** *Command Parameter(s) :* **Memory_ID DH003180 0000 <hex>** **Start_Address DH004180 FFFF <hex>** **N DH105180 1 <hex>** *TC Control Flags :* **GBM IL DSE** **--Y -- ---** *Subsch. ID : 10* Det. descr. : Dump Memory Using Absolute Addresses This Telecommand will not be included in the export		**TC**	
4		MCS OBSM preparation for Image update in LIVE mode		Next Step: 5	
		Note: It is assumed that the OBSM application is already running and the OBSM Desktop is displayed on the MCS client. Starting the OBSM application is not covered by the current procedure.			
4.1		Select 'Image UPDATE' from the menu			
		Select the **Image** menu of the ***OBSM Desktop***. From the Image menu, select **Update**. The 'Image Catalog' window opens.			
4.2		Select image to be updated			
4.2.1		IF CDMU PM A			
		Select the image to be updated for the memory device **CDMUPRPG.** The 'Image UPDATE' window opens.			

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4.2.2		ELSE CDMU PM B			
		Select the image to be updated for the memory device **CDMUPRPB.** The 'Image UPDATE' window opens.			
4.3		Start dump TM processing			
		In **LIVE** mode, processing of incoming real-time telemetry starts automatically after the image selection.			
5		Upload command(s) to dump the CDMU PM PROM		Next Step: 6	
		Uplink the **DC602180** memory dump command(s) with **ARM-GO**			
		After successful execution of the command, several TM(6,6) packets must be received on ground.			
6		Verify reception of TM(6,6)		Next Step: 7	
		Note: Several TM(6,6) packets will be received for the memory dump command uplinked.			
		Verify Packet Reception Memory Dump - Absolute Addresses - SAU 8 Packet Mnemonic : MemDmpAbsAdd APID : 16 Type : 6 Subtype : 6 PI1 : PI2 :			
6.1		Check OBSM dump packet processing			
		Check that the OBSM is processing the incoming memory dump packets.			
7		Save merged image		Next Step: END	
		Save merged image with **new ID**.			
		End of Sequence			

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
	OFCP124B	*TC Seq. Name :* OFCP124B (CDMU PROM GI updateB) CDMU PM PROM Gnd image update in Retrieval mode *TimeTag Type:* *Sub Schedule ID:*			
8		MCS OBSM preparation for Image update in RETRIEVAL mode		Next Step: 9	
		Note: It is assumed that the OBSM application is already running and the OBSM Desktop is displayed on the MCS client. Starting the OBSM application is not covered by the current procedure.			
8.1		Select 'Image UPDATE' from the menu			
		Select the **Image** menu of the ***OBSM Desktop***. From the Image menu, select **Update**. The 'Image Catalog' window opens.			
8.2		Select image to be updated			
8.2.1		IF CDMU PM A			
		Select the image to be updated for the memory device **CDMUPRPG.** The 'Image UPDATE' window opens.			
8.2.2		ELSE CDMU PM B			
		Select the image to be updated for the memory device **CDMUPRPB.** The 'Image UPDATE' window opens.			
8.3		Start dump TM packets processing			
		Set **retrieval start** and **stop time** and start retrieval of TM packets using the **PLAY buttons**.			

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9		Retrieve and process TM(6,6) packets		Next Step: 10	
		Use the **STEP** button to retrieve and process the TM(6,6) packets, packet by packet and starting from the time shown in the packet time field.			
		OR			
		Use the **PLAY** button to retrieve and process the TM(6,6) packets in automated mode. Pressing the PLAY button, the display will start to retrieve and process packets, starting from the time shown in the packet time field. This processing will stop automatically when a packet is received which creation time is greater than the one contained in the end time field.			
10		Save merged image		Next Step: END	
		Save merged image with **new ID**.			
		End of Sequence			
		End of Procedure			