DCS–M04–GDDR INSTALLATION GUIDE

INSTALLATION GUIDE TO GDDR

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1. INTRODUCTION

1.1 Scope

This document describes how to Install GDDR 1.1.0.

After following the Installation procedure, GDDR will be successfully installed into the GDDR Target and Distribution Datasets.

1.2 Objectives

It is the intention of this document to describe in detail how to Install GDDR from the z/OS System Programmers perspective.

1.3 Intended audience

Z/OS System Programmers responsible for the Installation and Maintenance of GDDR.

1.4 References

Ref. nbr.	Reference	Title
[1]		Project Definition Report
[2]		Project High Level Technical Design
[3]		

1.5 Change history

Version	Nature of change	Date
00.00	Create Document (draft)	14-02-2005
01.01	First Draft Complete – Available for Review	01-06-2005
01.02		
01.03		

1.6 Forecast changes

Version	Nature of change	Date

1.7 Abbreviations

Abbreviation	Full text
DCS	Data Center Strategy
HLTLS	High Level Test & Launch Strategy
GDDR	Geographically Dispersed Disaster Recovery
ConGroup	EMC Software Product Consistency Group
K1	GDDR K-System at the DC1 Site
K2	GDDR K-System at the DC2 Site
K3	GDDR K-System at the DC3 Site

1.8 Definitions

Terminology	Definition
Systems	The word system or systems used in this document refers to an z/OS Image and all systems tasks and applications running in it.
K-System	A controlling LPAR, one in each of DC1, DC2 and DC3. Monitors the status of the DASD and DASD mirroring to DC2 and DC3.
K-System Master Function	The K-System that is currently responsible for monitoring the status of DASD and DASD mirroring. Is also responsible for taking action when problems with DASD and DASD mirroring are detected.
Primary Site	The live site where the Production z/OS Images run. Usually DC1.
Secondary Site	The backup site that has a synchronous copy of the Production data. Usually DC2.
Tertiary Site	A backup site that has an asynchronous copy of the Production data. Always DC3.
CA-OPS/MVS MSF	CA-OPS/MVS Multi System Facility
Trip	The action ConGroup takes when it detects that one or more R1 devices in a consistency group cannot propagate data to their corresponding secondary (R2) devices. During a trip, ConGroup suspends all the primary (R1) devices in the consistency group. This suspension ensures that the data flow to the secondary (R2) side is halted and the data on the remote side of the configuration is consistent.
SRDF/S	
SRDF/A	

2. INSTALLING GDDR

2.1 Overview of Installation

This chapter describes the installation procedure for GDDR.

GDDR is ONLY to be Installed on designated GDDR K-Systems

The GDDR installation material is provided as:

- A 3480 format cartridge

2.1.1 Pre-Installation Steps

Before you begin installing GDDR, do the following:

- Review the hardware and software requirements listed below.

2.1.2 Reviewing Hardware and Software Requirements

GDDR has the Mainframe hardware and software requirements listed in the table below. Before you install GDDR, make sure your Mainframe environment meets these requirements.

Item	Requirements
Processor Hardware Configuration	Any system that supports current IBM Mainframe Operating Systems
DASD Hardware Configuration	Any supported EMC Symmetrix DASD Model at microcode level 5671-32 or higher
Software	Any currently supported IBM Operating System

Note: For additional software pre-requisites please see the Appendix: Software Pre-Requisites.

2.1.2.1 Minimum Software requirements

The minimum software requirements needed to run GDDR 1.1.0 are as follows:

- z/OS 1.4.0
- CA-OPS/MVS 4.4.4
- EMC SRDF/HC 5.3.0 (Base)
- EMC ResourcePak Base 5.5.0 (Base)
- EMC Consistency Group 6.2.0 (Base)
- EMC Timefinder Mirror 5.4.0 (PTF 02)
- EMC Autoswap 1.0.1 (Base)

2.2 Installing from a 3480 Cartridge

GDDR is distributed on a 3480 format cartridge in SMP/E format. The following sections describe how to install GDDR from a 3480 cartridge.

2.2.1 3480 Cartridge Contents

The installation 3480 cartridge contains the files listed in the table below:

File	Dataset Name	Contents
1	GDDR.SGDRvrm.RIMLIB	Unloaded PDS containing the following members: • $0ALLHFS • $00MKDIR • $00ALSMP • $01ALLOC • $02ALZON • $03SEED • $04DDDEF • $05RECEV • $06APPLY • $07ACEPT • $08RCPTF • $09APPTF There are also the following members: • $jobcard • GDRMKDIR • SGDC102 • SGDR102 • TSTAPP (temporary) • TSTREC (temporary) • TSTREST (temporary)
2	GDDR.SGDRvrm.HOLDDATA	Unloaded sequential dataset containing exception SYSMOD data for the GDDR Base Function
3	GDDR.SGDRvrm.SMPMCS	Unloaded sequential dataset containing MCS SYSMOD data for the installation of GDDR Base Function using the RELFILE technique
4	GDDR.SGDRvrm.F1	++JCLIN

5	GDDR.SGDRvrm.F2	SMP/E distribution file. Contains GDDR JCL Skeletons
6	GDDR.SGDRvrm.F3	SMP/E distribution file. Contains GDDR PROCLIB
7	GDDR.SGDRvrm.F4	SMP/E distribution file. Contains GDDR PARMLIB
8	GDDR.SGDRvrm.F5	SMP/E distribution file. Contains GDDR ISPF MSGS
9	GDDR.SGDRvrm.F6	SMP/E distribution file. Contains GDDR ISPF Panels
10	GDDR.SGDRvrm.F7	SMP/E distribution file. Contains GDDR Assembler Source
11	GDDR.SGDRvrm.F8	SMP/E distribution file. Contains GDDR OPS/MVS AOF Rules
12	GDDR.SGDRvrm.F9	SMP/E distribution file. Contains GDDR REXX Source
13	GDDR.SGDRvrm.F10	SMP/E distribution file. Contains GDDR JCL Scripts
14	GDDR.SGDCvrm.RIMLIB	Unloaded PDS containing the following members: • $0ALLHFS • $00MKDIR • $00ALSMP • $01ALLOC • $02ALZON • $03SEED • $04DDDEF • $05RECEV • $06APPLY • $07ACEPT • $08RCPTF • $09APPTF There are also the following members: • $jobcard • GDRMKDIR • SGDC102 • SGDR102 • TSTAPP (temporary) • TSTREC (temporary) • TSTREST (temporary)
15	GDDR.SGDCvrm.HOLDDATA	Unloaded sequential dataset containing

		exception SYSMOD data for GDDR
16	GDDR.SGDCvrm.SMPMCS	Unloaded sequential dataset containing MCS SYSMOD data for the installation of the GDDR HMC Function using the RELFILE technique
17	GDDR.SGDCvrm.F1	++JCLIN
18	GDDR.SGDCvrm.F2	SMP/E distribution file. Contains GDDR Text and Shell Scripts
19	GDDR.SGDCvrm.F3	SMP/E distribution file. Contains GDDR C Source

2.2.2 Installation Cartridge

The installation cartridge is standard-labeled and has a VOLSER in the following format:

- GDRvrm

Where:

- v= version
- r= release
- m= modification level

For example, GDDR version 1.1.0 would have the VOLSER, GDR110.

2.2.2.1 GDDR SMP/E Functions

The following SMP/E Functions are supplied on the installation cartridge:

- SGBA110 – GDDR Assembler Utilities
- SGDB110 – GDDR Base Function
- SGDC110 – GDDR HMC Functions
- SGDS110 – GDDR Source Code

2.2.3 GDDR SMP/E Target Libraries

The installation process applies GDDR into the following GDDR SMP/E Target libraries:

DDDEF	SMP/E Target Library
GDDRSKL	GDDR.SKELS
GDDRPROC	GDDR.PROCLIB
GDDRPARM	GDDR.PARMLIB
GDDRMSG	GDDR.MSGS
GDDRPNL	GDDR.PANELS
GDDRRULE	GDDR.AOF.RULES
GDDRREXX	GDDR.REXX
GDDROPSX	GDDR.OPSEXEC
GDDRJCL	GDDR.SCRIPTS
GDDRSRC	GDDR.SOURCE
LINKLIB	SYS1.LINKLIB
CSSLIB	SYS1.CSSLIB
HFSGDR	/gddr/source

Note: The LINKLIB and CSSLIB DDDEF can be pointed at a Local Site specific Link Listed dataset, rather than the default IBM SYS1.LINKLIB and SYS1.CSSLIB.

LINKLIB and CSSLIB must point to a Link Listed dataset.

2.2.4 GDDR SMP/E Distribution Libraries

The installation process accepts GDDR into the following GDDR SMP/E Distrbution libraries:

DDDEF	SMP/E Distribution Library
AGDRSKL	GDDR.ASKELS
AGDRPROC	GDDR.APROCLIB
AGDRPARM	GDDR.APARMLIB
AGDRMSG	GDDR.AMSGS
AGDRPNL	GDDR.APANELS
AGDRRULE	GDDR.AOF.ARULES
AGDRREXX	GDDR.AREXX
AGDROPSX	GDDR.AOPSEXEC
AGDRJCL	GDDR.ASCRIPTS
AGDRSRC	GDDR.ASOURCE
AGDRLINK	GDDR.AGDRLINK

2.2.5 Installation Pre-Requisites

The Installer of GDDR must have ALTER access (or at the very least UPDATE access) to the RACF profile protecting the GDDR SMP/E Target and Distribution datasets.

Ideally this dataset profile should be GDDR.* and have UACC(NONE).

2.2.6 Installing GDDR

Perform the following to unload GDDR from cartridge.

1. Create and customise the following JCL to unload the first file on the installation cartridge.

```
//  Jobcard
//UNLOAD01  EXEC PGM=IEBCOPY,REGION=0M
//INDD1     DD DSN=GDDR.SGDRvrm.RIMLIB,DISP=(OLD,PASS),
//         UNIT=tape_unit,VOL=SER=volser,LABEL=(1,SL,EXPDT=98000)
//OUTDD1    DD DSN=your_dataset_name,DISP=(,CATLG),
//           UNIT=3390,SPACE=(TRK,(50,50,20))
//SYSUT3    DD UNIT=3390,SPACE=(CYL,10)
//SYSUT4    DD UNIT=3390,SPACE=(CYL,10)
//SYSPRINT DD SYSOUT=*
//SYSIN     DD *
 COPY OUTDD=OUTDD1,INDD=INDD1
/*
//
```

2. Once the RIMLIB has been unloaded, customise each of the following jobs to your sites standards and run the jobs in the order indicated:
    a. $0ALLHFS – Allocate the GDDR HFS Dataset
    b. $00MKDIR – Create the GDDR Mount Point in the HFS root and mounts the GDDR HFS Dataset
    c. $00ALSMP – Allocates SMP/E Datasets – SMPPTS, SMPMTS, SMPSCDS, SMPSTS
    d. $01ALLOC – Allocates all SMP/E Target and Distribution datasets
    e. $02ALZON – Allocates the SMP/E zone datasets
    f. $03SEED – IDCAMS repro to seed the SMP/E datasets
    g. $04DDDEF – Add the DDDEF's to the SMP/E zones
    h. $05RECEV – SMP/E Receive GDDR
    i. $06APPLY – SMP/E Apply GDDR
    j. $07ACEPT – SMP/E Accept GDDR
    k. $08RCPTF – SMP/E Receive GDDR PTF's (if required)
    l. $09APPTF – SMP/E Apply GDDR PTF's (if required)

2.2.7 Post-Installation Tasks

After the SMP/E installation of GDDR, several actions are required to be completed before the GDDR installation can be considered complete.

Please turn to the "GDDR Customisation Guide" for detailed Post-Installation tasks/actions required to complete the installation and customisation of GDDR.

3. APPENDIX

3.1 Packaging GDDR with SMP/E

The following documents how GDDR is packaged to allow installation using SMP/E.

3.1.1 Source RELFILE's

The following are the source RELFILES that the SMP/E install tape will be created from and are used by SMP/E Receives to test the Function construction.

RELFILE	Description
GDDR Assembler Utilities	
HLQ.SGDA110.F1	JCLIN
HLQ.SGDA110.F2	Assembler Source
GDDR Base Function	
HLQ.SGDB110.F1	JCLIN
HLQ.SGDB110.F2	Skeletons
HLQ.SGDB110.F3	Proc's
HLQ.SGDB110.F4	Parameters
HLQ.SGDB110.F5	Messages
HLQ.SGDB110.F6	Panels
HLQ.SGDB110.F7	CA-OPS/MVS AOF Rules
HLQ.SGDB110.F8	Compiled REXX
HLQ.SGDB110.F9	JCL Scripts
GDDR HMC Functions	
HLQ.SGDC110.F1	JCLIN
HLQ.SGDC110.F2	Text and shell scripts
HLQ.SGDC110.F3	C Source code
GDDR Source Code	
HLQ.SGDS110.F1	JCLIN
HLQ.SGDS110.F2	GDDR REXX Source
HLQ.SGDS110.F3	GDDR AOF Rule Source
HLQ.SGDS110.F4	GDDR Assembler Source
HLQ.SGDS110.F5	GDDR C Source

3.1.2 SMPTLIB's

During the SMP/E Receive process the following SMPTLIB's will be allocated and filled from the RELFILES.

The SMPTLIB DDDEF DSPREFIX is defined as DSPREFIX(HLQ.GDDR).

SMPTLIB	Description
GDDR Base Function	
HLQ.GDDR.SGDR102.F1	JCLIN
HLQ.GDDR.SGDR102.F2	Skeletons
HLQ.GDDR.SGDR102.F3	Proc's
HLQ.GDDR.SGDR102.F4	Parameters
HLQ.GDDR.SGDR102.F5	Messages
HLQ.GDDR.SGDR102.F6	Panels
HLQ.GDDR.SGDR102.F7	Assembler Source
HLQ.GDDR.SGDR102.F8	OPS/MVS AOF Rules
HLQ.GDDR.SGDR102.F9	REXX Source
HLQ.GDDR.SGDR102.F10	JCL Scripts
GDDR HMC Functions	
HLQ.GDDR.SGDC102.F1	JCLIN
HLQ.GDDR.SGDC102.F2	Text and shell scripts
HLQ.GDDR.SGDC102.F3	C Source code

3.1.3 GDDR SMP/E Elements

Below is a list of all supplied GDDR SMP/E elements.

Element Type	Element Name
MSG	GDDRM00
	GDDRM01
	GDDRM02
	GDDRM03
	GDDRM04
	GDDRM05
PROC	GDDREVM
	GDDRHBM
	GDDRPROC
PARM	GDDR0BCV
	GDDR0CA7
	GDDR0CFG
	GDDR0CPL
	GDDR0DC3
	GDDR0GNS
	GDDR0HMC
	GDDR0IPL
	GDDR0MSF
	GDDR0SYS
	GDDRLPAR
	GDDRPARM
	GDDRSITE
	GDDRSTAR
SCRIPTS	ALLSITE
	ALLSITEU
	CAXSWAP
	DASDSITE
	SSNOWDC3

	SYSSITE
	SYSSYSNM
SKELS	@CONTEXT
	ALLSITE
	DASDSITE
	DC3ONLY
	DC3TEST
	PARMUPDT
	RESUME33
	RESUMEJ0
	SSNOWDC3
Assembler Source	GDDR0SMF
	GDDRCSS0
Panels	TBA
AOF Rules	TBA
Text Shell Scripts	TBA
C Source	TBA
REXX Source	TBA

3.2 Software Pre-Requisites

The following software pre-req's must be available before the GDDR HMC Functions (FMID SGDC110) can be installed.

3.2.1 C Compiler/Binder

The following datasets must be in the system LNKLST:

- SYS1.CBC.SCBCCMP (IBM supplied as CBC.SCBCCMP)
- SYS1.CBC.SCCNCMP (IBM supplied as CBC.SCCNCMP)

3.2.2 HMC API

IBM's Hardware Management Console API must be available for the compile and bind of GDDR C code.

3.2.2.1 hwmcaapi.h

This is header file for the Hardware Management Console External APIs.

Note: when uploaded into the HFS, the following characters need to be changed (square brackets problem):

- x'BA' -> x'AD'
- x'BB' -> x'BD'

3.2.2.2 hwmcamvs.tar

This file when un-tarred (tar –xvf) provides the HWMCAAPI file and the HWMCAAPI.x side deck for binding programs that use the API.