

EMC Mainframe Software Support Newsletter March 2013

Welcome to this month's EMC Mainframe Software Support Newsletter - MSSN.

MSSN is a technical resource for our mainframe customer base. In it you will find tips on product usage, various host based software commands, Knowledge Base Solutions written in the past month specific to the mainframe environment and other things we feel might be important for you to maximize your EMC product experience.

While this newsletter is part of the EMC effort to keep our customers up to date on the use of our products, we also encourage you to visit the [EMC Mainframe Enablers Support page](#) for more in-depth information.

Table of Contents

- [Featured Topic: ME, M6, M9 - Who are We?](#)
- [This Month's Tech Tips](#)
- [Useful SW Release information](#)
- [Your Questions Answered](#)
- [Ask the Expert](#)
- [Recent Knowledge Base Solutions](#)
- [Customer Experiences](#)
- [Monthly Diversion](#)
- [We need your feedback!](#)

Featured Topic: ME, M6, M9 - Who are We?

Overview of the Remote Replication Cleanup Utilities

Have you ever had EMC support personnel ask you to run the SRDF/A Multi-Session Consistency (MSC) or SRDF/STAR (STAR) cleanup procedure and were not sure what it did or how to run it? Hopefully, this month's article will shed a little light on the process.

There are 3 utilities:

1. EHCMSME: for MSC, STAR and SQAR environments
2. EHCMSM6: STAR environment:
3. EHCMSM9: STAR environment, executed at the secondary site when link(s) from the primary site are not available.

When EMC first introduced SRDF/A, if a link dropped or some other issue occurred, cleanup was pretty simple: resume the devices and then re-start SRDFA. All the cycle switching was done in the SYMM by the hardware and software was not needed to manage cycle switching. When MSC was introduced, it created a different set of problems. If we lost one link, or had an issue which caused MSC or SRDF/A to drop, we needed a way to clean up the SRDF/A sessions across multiple frames. The utilities can be processed on either the primary side or secondary side with the exception of the third cleanup utility, which is for R2 cleanup when the links are not available. The utilities are delivered with MainFrame Enablers (MFE). Samples are included in MFE v7.5 SAMPLIB (for customers who have not yet had a chance to upgrade to v7.5, M9 can be found in SRDFASR3). SAMPLIB member names are the same as the program names listed above. If you review the MFE LINKLIB, you will also notice that the program names have an alias of SCFRDFME, SCFRDFM6 and SCFRDFM9.

When the MSC environment cannot complete automatic host cleanup, the batch cleanup utilities are needed. You can identify this by issuing the SQ SRDFA command to the secondary side of all Symmetrix systems in the MSC or Star group. If one or more Symmetrix systems have both the CLEANUP RUNNING and HOST INTERVENTION REQUIRED settings on, you need to run one of the batch cleanup utilities. In the partial example output below, we can see that cleanup is running and host intervention is required.

```

EMCQR00I SRDF-HC DISPLAY FOR (49) W75SQ SRDFA,LCL(7450,7E) 043
MY SERIAL #          MY MICROCODE
-----
0001957-00255/0GKWR      5876-159

MY GRP ONL PC OS GRP  OS SERIAL  OS MICROCODE SYNCHDIR FEATURE
-----
  LABEL      TYPE      AUTO-LINKS-RECOVERY  LINKS_DOMINO  MSC_GROUP
-----
  7E      N      U      ?      0001957-00240      SRDFA I STAR
76_GRP_7E      (WMMSC1 )
( SW,HW ) CMPR ENABLED = ( N,N )

-----
SECONDARY SIDE: CYCLE NUMBER      20 CYCLE TOD      02/25/2013 13:05:17
SECONDARY CONSISTENT ( Y )
CYCLE SUSPENDED      ( N )      RESTORE DONE      ( Y )
RECEIVE CYCLE SIZE      12,306 APPLY CYCLE SIZE      0
AVERAGE CYCLE TIME      31 AVERAGE CYCLE SIZE      0
TIME SINCE LAST CYCLE SWITCH  8,990 DURATION OF LAST CYCLE      30
MAX THROTTLE TIME      0 MAX CACHE PERCENTAGE      75
TOTAL RESTORES      1,097,646 TOTAL MERGES      0
SECONDARY DELAY      NOT ACTIVE DROP PRIORITY      33
CLEANUP RUNNING      ( Y )      HOST INTERVENTION REQUIRED ( Y )
SRDF/A TRANSMIT IDLE ( Y )      SRDF/A DSE ACTIVE      ( N )
MSC ACTIVE      ( Y )      ACTIVE SINCE      02/25/2013 12:58:01
RECEIVE TAG      E0000000 00000010 APPLY TAG      E0000000 0000000F
GLOBAL CONSISTENCY ( Y )      STAR RECOVERY AVAILABLE ( Y )
STAR SRDF/A AHEAD ( N )      STAR/S TARGET INCONSISTENT ( N )
WRITE PACING ACTIVE ( N )      WRITE PACING STATS ON ( N )
GPACING ACTIVE      ( N )      DPACING ACTIVE      ( N )
WP THRESHOLD      60 WP DSE THRESHOLD      90
WP MAXDELAY      50,000 WP (GRP,DEV) AUTO ACTIVATE ( N,N )
CEXMPT      0

-----
END OF DISPLAY
SCF1454I MSC - GROUP=MVS2STAR      NEXT WAKE UP AT

```

In order to run the utilities, the following is required:

- ResourcePak Base (SCF) must be running.
- For M6 and ME to finish successfully, the links for all SRDF/A sessions must be up and available to run the utility from the primary side. However, it will clear Host Intervention for MSC or SQAR, even when the links are down, when run from the secondary side.
- M9 must be run on a secondary side. It will not run on the primary side. This is discussed later.

The utilities require specific parameters to execute, which are passed through a PARM variable on the EXEC statement:

- RECOVERY EXEC PGM=EHCMSCMx,PARM='Y,GK,grupname,RA'
 - Y/N – whether or not DEBUG is on

- GK – the gatekeeper in the form of CUA or VOLSER, which points to a device in one of the Symmetrixes in the MSC or STAR group.
- grupname – the MSC group name (remember this is an 8 byte field)
- RA – optional, used for cascaded SRDF

The gatekeeper parameter points to a device in a Symmetrix system that is in a MSC group. The code then locates the SRDF/A sessions participating in the MSC group and produces a report written to the RPTOUT DD (samples can be found in the Host Component Product Guide). Information about a MSC group is kept in each Symmetrix system that has SRDF/A groups participating in that group. This metadata is referred to as the multi-box list and scratch data area for RDF.

Just to recap, there are 3 utilities: one for MSC, STAR and SQAR (ME), one for STAR (M6) and one for cleanup at the R2 from the secondary site (M9).

If STAR is running under GDDR management, GDDR scripts will determine what utility will be used.

To Summarize Program usage:

EHCMSM6:

This utility is only for STAR. It can be run from the primary side or the secondary side using a gatekeeper in either a primary or secondary Symmetrix containing the MSC group. The main purpose of this utility is to remove the old box information before STAR or MSC is started again. Once this utility is run, STAR configuration data is removed from the scratch area and mblst on all Symmetrixes in the STAR environment. Running M6 when you should be running ME will cause problems in subsequent attempts to clear host intervention and will cause a full sync in the STAR reconfiguration procedures.

This utility will:

- Erase the MSC scratch area.
- Erase the MSC box list.
- Remove the STAR attribute.

EHCMSME:

This utility can be used for SRDF/A MSC or SRDF/A STAR. It can be run from the primary side or the secondary side. It interrogates the receive cycle tags for each of the RDF groups participating in the configuration to determine the cycle tag number and the completeness of the “bucket” and whether to commit or discard.

SRDF/A MSC:

- The code will locate all of the other Symmetrix sessions belonging to the SRDF/A MSC group.
 - Execute appropriate commit or discard actions to prepare the MSC or Star group for restart processing.
- Will remove the box information.

SRDF/A STAR :

Running from primary side this utility will:

- Perform SRDF/A stand alone cleanup.
- Not erase the star configuration - you must run EHCMSCM6

Running from synchronous secondary side this utility will:

- Produce the device pairing from site b -> c
- Perform SRDF/A stand alone cleanup.
- Not erase the star configuration - you must run EHCMSCM6

Running from asynchronous secondary side this utility will:

- Produce the device pairing from site c_&b or c_&a in a cascaded environment.
- Perform SRDF/A stand alone cleanup.
- Not erase the star configuration - you must run EHCMSCM6

EHCMSCM9

This utility is only for STAR. In the event that production site A is completely lost, MSC's normal cleanup process will not be able to complete. As a result, while SRDF/A is not actually cycle switching due to the link(s) drop, the R2 Symmetrix still believes SRDF/A is active.

The utility executes a one-sided MSC clean up when links are unavailable. It is run from the secondary side using a single device in a secondary Symmetrix containing the MSC group.

This utility will:

- Drop_side SRDF/A.
 - See Host Component product guide for drop_side description
- Perform SRDF/A stand alone cleanup.
- Not erase the star configuration - you must run EHCMSCM6

Refer to the SRDF Host Component product guide for more information on SRDF/STAR and SRDFA/MSC recovery considerations.

Next issue: What is SNAP Group and how do I do it?

This Month's Tech Tip

Obtaining Dumps When Running SUB=MSTR

When planning for running EMCSCF and ConGroup/AutoSwap with SUB=MSTR, a few considerations need to be taken into account.

SUB=MSTR is needed when JES2 and/or PAGE datasets being used by the *own* LPAR are protected via ConGroup/AutoSwap or SRDF/A.

There will be no STCLOG for EMCSCF and EMCCGRP; any messages will go only to SYSLOG, along with the additional messages that will go to SCFLOG and SCFTRACE.

A quick list of suggestions to capture information relevant to any issue:

- 1) Ensure that your INI parms for SCF TRACE and SCF LOG provide sufficient space for these datasets, along with a long enough time frame to keep them (see emc140436).
- 2) Two methods are preferred to obtain a DUMP of the SUB=MSTR address spaces:
 - a. Set a pair of SLIP traps to capture an SVCDUMP
 - b. Issue the DUMP console command

A SLIP trap can be defined, enabled, disabled and modified, which gives the most important capabilities to manage it. The kind of SLIP traps described below are not expected to consume measurable cpu cycles – they get into action only if any of the address spaces being monitored experiences an ABEND.

The following example define the SLIP traps:

```
SL SET, ID=EMC1, ML=3, ER=ALL, JL= (EMCSCF, EMCCGRP) , J=EMCSCF, A=SVCD,  
SD= (ALLNUC, CSA, SQA, PSA, RGN, SWA, SUM, TRT, LSQA, LPA, GRSQ) , END
```

```
SL SET, ID=EMC2, ML=3, ER=ALL, JL= (EMCSCF, EMCCGRP) , J=EMCCGRP, A=SVCD  
, SD= (ALLNUC, CSA, SQA, PSA, RGN, SWA, SUM, TRT, LSQA, LPA, GRSQ) , END
```

The parms and their meaning:

SL SET,	Define a slip trap
ID=EMC1,	Reference name
ML=3,	Up to 3 times triggered before being disabled
ER=ALL,	Triggers for all abend types
J= (EMCSCF) ,	address space being monitored
JL= (EMCSCF, EMCCGRP) ,	both address spaces are dumped
A=SVCD,	Action is to take an SVCDUMP
SDATA= (ALLNUC, CSA, SQA, PSA, RGN , SWA, SUM, TRT, LSQA, LPA, GRSQ) ,	Defines which data is to be captured for the SVCDUMP
END	

Display the current status of the SLIP traps

```
D SLIP=EMC1
D SLIP=EMC2
```

Results in

```
IEE735I 11.03.18 SLIP DISPLAY 213
ID=EMC1, NONPER, ENABLED
ACTION=SVCD, SET BY CONS JACKOBS, RBLEVEL=ERROR, MATCHLIM=3, 0
JOBNAME=EMCCGRP
ERRTYP=MACH, PROG, REST, ABEND, MEMTERM, SVCERR, DAT, PGIO
SDATA= (PSA, SQA, LSQA, RGN, LPA, TRT, CSA, SWA, SUMDUMP, ALLNUC, GRSQ)
JOBLIST=EMCSCF, EMCCGRP
```

```
D SLIP=EMC2
IEE735I 11.04.46 SLIP DISPLAY 263
ID=EMC2, NONPER, ENABLED
ACTION=SVCD, SET BY CONS JACKOBS, RBLEVEL=ERROR, MATCHLIM=3, 0
JOBNAME=EMCSCF
ERRTYP=MACH, PROG, REST, ABEND, MEMTERM, SVCERR, DAT, PGIO
SDATA= (PSA, SQA, LSQA, RGN, LPA, TRT, CSA, SWA, SUMDUMP, ALLNUC, GRSQ)
JOBLIST=EMCSCF, EMCCGRP
```

Once any of the pair of SLIP traps has triggered, an SVCDUMP is taken for both address spaces (EMCSCF and EMCCGRP), and the “remaining trigger” counter for this particular SLIP trap is diminished by one.

When the counter reaches zero, the SLIP TRAP gets DISABLED.
After enabling the SLIP trap, the trigger counter (MATCHLIM) is set to it’s original value.

```
SLIP MOD, ENABLE, ID=EMC2
```

To finally delete a SLIP trap, enter `SLIP DEL, ID=EMC1`

A DUMP console command example:

```
DUMP COMM=(SUB=MSTR: sample svcdump )
R mm, JOBNAME=(EMCSCF, EMCCGRP), CONT
R nn, SDATA=(ALLNUC, CSA, SQA, PSA, RGN, SWA, SUM, TRT, LSQA, LPA, GRSQ), END
```

Similar to the SLIP trap, both address spaces are specified; the SDATA options are identical.

Each of the two methods obtains the SVCDUMP for both address spaces simultaneously, which is an advantage because of the inter-address-space communication between the two.

Useful SW Release information

New

MFE 7.4 level set EMC7401 See MFE 7.4 Level Set Read Me File on EMC Support Zone

Current

MFE 7.4 level set EMC7401

MFE 7.3 level set EMC7304

MFE 7.2 level set EMC7204

Your Questions Answered

Preliminary Data Gathering for Mainframe Enablers issues.

We often hear that a lot of data is requested for what appear to be simple problems. However, as our solutions become more sophisticated and complex, relationships between the products are not always evident at a cursory glance. It also allows us to rule out issues. In order to provide problem resolution, due diligence requires we understand the entire scope of your DR environment.

Listed below is the data needed to begin addressing any issue. The first 8 steps are necessary for identifying the problem and describing the environment. The logs collected, Step 9, depend on where the problem is, so you can use some discretion in the logs you gather. If you are unsure, do not hesitate to call the CS Help Desk.

1. Verify that your contact information and preferred method of contact (email, phone, WEB updates via the SR) is correct in the SR.
2. What MFE version and maintenance level are you running?
3. The nature of the problem, i.e., error message, production or test environment.
4. What was being done when the event occurred, i.e., SC command; CGRP trip; AutoRecovery; BCV split; etc.?
5. Were there any recent changes in the environment, such as microcode or SW upgrades?
6. What recovery steps were attempted and their outcome?
7. Topology
 - 7.1. How many hosts
 - 7.2. How many Symms
 - 7.3. List of RAGRPS and Gatekeepers

- 7.4. Your MFE plex (MSC, Congroup, STAR or SQAR)
- 7.5. A diagram of above if available
- 8. Output from EMCGRAB utility (see DECEMBER 2012 issue for a description)
- 9. Full Logs to be collected, please do not cut and paste error messages or a small set of the log:
 - 9.1. SCF STCLOG
 - 9.2. Depending on where the problem is occurring:
 - 9.2.1. Host Component STCLOG
 - 9.2.2. CONGROUP STCLOG
 - 9.2.3. SNAP job output along with a SNAP Query of the box:
 - 9.2.3.1. QUERY VOLUME (UNIT(cua) SESSIONLIST(YES,DETAIL,DIFF))
 - 9.2.4. TimeFinder job output along with a TimeFinder Query of the devices having an issue
 - 9.2.5. Output from any utilities you might have run:
 - 9.2.5.1. ME, M6, M9
 - 9.2.5.2. ECGUTIL
 - 9.2.5.3. SCFCLEAN or SCFTERM
 - 9.3. SYSLOG for the time period surrounding the event
 - 9.4. SCF LOG and SCF TRACE datasets

There will possibly be more data requested by the support team after preliminary research is done and the problem scope is better understood. These requests will be more focused and may contain requests to run various Queries or collect more specific data such as HYPPRINT, SVCDUMPS, additional SCF TRACE or SCF LOG datasets.

Ask The Expert

Watch out for our “Ask the Expert” session on EMC Mainframe Grab Tool that will be live at the URL below from April 29th :

<https://community.emc.com/message/716765#716765>

Recent Knowledge Base Solutions

emc314007 Large ESQA utilization seen for the Master Scheduler address space when one or more EMC Mainframe software products are present on a given LPAR.

emc313060 #90SAFJB does not include member ESFGPMCM for LMOD EMCSAFD

emc312765 GDDRMAIN Heart Beat Monitor (HBM) does not account for Daylight Savings time change, or New Year's Eve change.

emc316371 Error message: ESNPK86W CONSISTENT ACTIVATE WITH BOTH SRDF/A R2 DEVICE AND OTHER DEVICES – WILL NOT BE CONSISTENT with VALID SRDF/S device

emc314889 Error message: Abend SOC4-11 in ESFHTRAP +x'D2'

emc313785 SCF0495I, SCF0496W, and SCF0497E messages display with unnecessary special characters

emc315381 Error message: IEFSSI ACTIVATE ERROR - RC: 0000000C RS: 000000C9

emc314673 What recommended steps are needed when dynamically replacing an existing controller with a new controller, configured with the identical SSID, CU and device addresses as the original controller?

emc315597 If AutoRecovery is active for a MSC group, execution of GLOBAL,PARM_REFRESH is prevented.

emc315273 Error msg: BCVM021E BCV 17B6 ENQ failed, in use by another JOB

emc315279 Error msg: BCVM008E SPLIT rejected, BCV 1CFC is not in use

emc312927 Multiple dsns have been assigned the same track

emc313191 A merged extent of the source dataset occurs during logical migration which can cause issues with the datasets

Customer Experiences

Each month we would love to hear from you on your experiences with EMC solutions. Tell us about a DR test, a new implementation, even a problem that was encountered and the steps taken to resolve. Sharing this type of experience with our mainframe community could be of benefit to us all! There is a comment box at the end of the survey (see link below) where you can send questions and a way to contact you for your customer experience.

Monthly Diversion

q) What sits on your shoulder and squawks:

“pieces of seven, pieces of seven, pieces of seven”?

a) A parity error

We need your feedback!

We would be very grateful if you could take the time to answer our 2 question [survey](#).

