IBM IMS™ TM/DB for z/OS®

by

IBM Z ISV Development Programs - Dallas

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INDEX

IMS TM/DB

IMS TM/DB is an optional product available upon request for the z/OS remote access environment. Please contact the IBM Innovation Center, Dallas, if you wish to add IMS TM/DB to your guest z/OS system.

1. IMS TM/DB Installation and Configuration

When requested to be connected to the guest z/OS system, IMS TM/DB will be installed and configured as documented in the IMS TM/DB program directory and installation guide, with some minor modifications to conform to IBM Innovation Center, Dallas installation guidelines. In this environment, you can only run one IMS subsystem at a time because there are two SVCs required for IMS, and we only define one pair of SVCs. We would need to define a pair of SVCs for each version of IMS to run multiple versions at the same time.

This first section is dedicated to the “classic” IMS environment, which is available for existing vendor systems prior to November 17, 2024. For the enhanced configuration of IMS for new vendor systems, please follow instructions found in Appendix A. “ ” on page 7 to activate it.

1.1 Dataset Information

IMS TM/DB datasets will have the following format and contain information as described below:

- The older versions high level qualifier(*hlq*) will be IMS*xxx*, with *xxx* representing the version and release of IMS, e.g. IMS1110 or IMS1210. The newer versions high level qualifiers(hlq) are DFSD10 for version 13, DFSE10 for version 14 and DFSF10 for version 15.
- The sample installation and IVP jobs are found in library *hlq*.INSTALIB.
- Installation, maintenance information, and configuration samples are provided in datasets named *hlq*.SVSC.* .
- The Stage 1 input macros reside in dataset *hlq*.IMSGEN.CNTL(STG1MACS).
- The jobs that run after the Stage 1 and Stage 2 jobs also reside in dataset *hlq*.IMSGEN.CNTL.

1.2 Special Instructions for doing STAGE1 Gen

All of these instructions are to be done with IMS NOT running. First run *hlq*.IMSGEN.CNTL(STAGE1) this uses member STG1MACS as input and generates a jobstream that is STAGE2. The STAGE2 job needs to be modified to have the output go to *hlq*.USER.SDFSRESL. You can do the modify using a clist. To execute the clist, go to option 6 and enter like this sample with the correct *hlq*:

EX '*hlq*.SVSC.CLIST(STAGE2U)' '*hlq*.IMSGEN.CNTL'

4 This will take the STAGE2 and make the modifications needed and create STAGE2U. Run all the steps or jobs of STAGE2U.

Then run SECURITY, DEFLTAGN, OLCUTL

1. PREPROC - checks names - not currently used.

2. STAGE1 - has STG1MACS as input

Run - *hlq*.IMSGEN.CNTL(STAGE1)

3. STAGE2 - STAGE1 output creates this job.

Go to TSO option 6 and copy all of Step 4 and press enter.

4. EX '*hlq*.SVSC.CLIST(STAGE2U)' '*hlq*.IMSGEN.CNTL'

This REXX exec stores the updated STAGE2 in STAGE2U member.

5. STAGE2U - STAGE2U clist creates this job.

Edit NOTIFY of job h*lq*.IMSGEN.CNTL(STAGE2U) to NOTIFY=&SYSUID

Run - *hlq*.IMSGEN.CNTL(STAGE2U)

6. SECURITY - we turn off security on these systems.

Run - *hlq*.IMSGEN.CNTL(SECURITY)

7. DEFLTAGN - replace Resource Access Security module - DFSISIS0

Run - *hlq*.IMSGEN.CNTL(DEFLTAGN)

8. OLCUTL - Online Change Utility - makes the changed objects available.

Run - *hlq*.IMSGEN.CNTL(OLCUTL)

The same process exists for IMS1210, DFSD10 and DFSE10, just change the dataset (*hlq*).

2. Instructions to start/stop the IMS subsystem

Depending on when IMS was requested for the system, the IMS started tasks are found in either SVTSC.PROCLIB or VENDOR.PROCLIB and follow a naming standard of IMSnn*, where nn is either 12, 13 or 14 representing the version of IMS.

The following commands can be issued from the LOG display in SDSF. From the TSO Primary Option Menu, type SD.LOG and press ENTER. In the following examples, IMS V15 is being started. To start IMS V13, substitute '13' for '15' in the commands below. To start IMS V14, substitute '14' for '15' in the commands below.

2.1 Starting IMS

In order to start IMS, the IRLM task must be started first. To start IRLM for IMS V15 issue the following command from SDSF command line:

/S IMS15RL1

5 This will start the task for the IRLM associated with IMS V15. The two digits in the task name refer to the version.

Next you will start the control region for IMS V15. Issue command:

/S IMS15CR1

As IMS starts running it will issue a write to operator with reply (WTOR). For a normal restart, you must reply with a command like:

/R 03,/NRE CHKPT 0 FORMAT ALL

In this example the **03** matches the reply number in the IMS response. This will cold start IMS.

2.2 Stop IMS

In order to stop IMS, you would use the following commands on the SDSF command line:

/R 04,/CHE SNAPQ

/R 05,/CHE FREEZE

These commands will close the checkpoint dataset and bring down the control region. You will still need to stop the IRLM with the following command:

/P IMS15RL1

3. IMS terminals in full screen APPLication mode

In order to connect to IMS, the IMS version you want to connect must be started and the VTAM APPL must be activated. The current highest level of IMS supported on the system will be the active VTAM APPL. i.e IMS15APL You can display which VTAM APPLs are active by issuing the following command:

/D NET,APPLS

6 To display the specifics about the IMS VTAM APPL that is active, issue the following command:

/D NET,ID=IMS15APL,E

If you want to activate a different IMS, you must first stop the current VTAM APPL and start the new VTAM APPL. For instance, to stop the IMS V15 APPL and start the IMS V14 APPL, issue the following commands:

/V NET,INACT,ID=IMS15APL

/V NET,ACT,ID=IMS14APL

Note: Since we only include one set of SVC's defined for IMS, you can run only one version of IMS at a time.

In the default STAGE1 for each version of IMS, there are predefined terminals named for LF02, LF03, LF04 which correspond to the F02, F03, F04 terminal attribute used on the DIAL command. To be connected as one of those predefined terminal names, use the DIAL command and specify one of the terminal IDs (either F02, F03, or F04). Following is an example of this command:

D ETPGyyy F02

To see the definitions for the terminals refer to the STAGE1 input found in the IMSGEN.CNTL library. i.e. DFSF10.IMSGEN.CNTL(STG1MACS).

When you specify IMS on your "WELCOME TO THE SOFTWARE VENDOR SYSTEMS CENTER" , you may see differences in the screen you are presented based on which terminal id you selected.

- Terminal ID F02 is defined as a Master Terminal and you will get a MTO session.
- Terminal ID F03 and F04 will give you a regular IMS terminal session without a /SIGN signon required.

If you did not connect with one of these F02, F03 or F04, you will see a signon screen. If you get the sign on screen, you must specify a user ID but no password is needed. Neither the user ID nor the password are checked

Note: To drop the VTAM terminal session to the IMS application use the /RCL command from any terminal connected to IMS.

7 Appendix A. IMS TM/DB with Enhancements

This appendix will provide information and instructions for the IMS 15 deliverable featuring on new vendor systems. These enhancements feature the IMS Repository working with the Comnon Service Layer (CSL) with IMSplex and Dynamic Resource Definition (DRD) support, IMS Connect using the Open Transaction Manager Access (OTMA) and Open Database Manager (ODBM), and the IMS catalog with managed ACBs on their remote development system. These instructions assume that the guest z/OS system is completely new, active, and that the solution developer is logged on to TSO to perform the tasks.

Additional information for these IMS features is available on IBM Documentation.

https://www.ibm.com/docs/en/ims/15.5.0

A. 1 IMS PROCS and PARMS for ENHACEMENTS

There are several additional started task procedures and parameters members required for the new features. You will find these members located in *hlq*.PROCLIB (*hlq* represents the high level qualifier of the version of IMS) or SVTSC.PROCLIB. Please verify that you have these members on your system with the latest updates. If not, please contact the IBM Innovation Center, Dallas support team:

IMSxxHWS – IMS Connect

IMSxxSCI – Structure Call Interface

IMSxxOM1 – Operations Manager

IMSxxRM1 – Resource Manager

IMSxxRS1 – IMS Repository Server

IMSxxOD1 – Open Database Manager

DFSDF000 – IMS parameter member for procedures

CSLRI000 – Resource Manager initialization member

RSCFIGNM – IMS Repository configuration member

HWSCFODB – ODBM configuration member for IMS Connect

A. 2 Implementation

No additional implementation by the solutions developer is required at this time as all featured enhancements are configured in the hlq.PROCLIB, for this enhanced version of IMS.

To ensure the IMS Connect ports are not blocked by other procedures or started tasks for DB and TM connectivity, please add the following 2 lines in your VENDOR.TCPPARMS(S0W1) under the PORT section of the member.

```
5555 TCP IMS15HWS       ; IMS 15 Connect DB
9999 TCP IMS15HWS       ; IMS 15 Connect TM
```

8 Ensure that the following line in the IMSxxHWS procedure contains the following statement to correctly invoke the port reservation, or otherwise add it in to best suit your system.

```
//SYSTCPD  DD   DISP=SHR,DSN=VENDOR.TCPPARMS(S0W1)
```

A. 3 Start Enhanced IMS Tasks

You must start the IMS tasks in the following order. Below are commands to complete this task:

1. /S IMS15RL1
2. /S IMS15CR1 (This will also start SCI, OM, RM procs during this initialization.)
3. /S IMS15RS1 (Necessary for the IMS READY message to appear)
4. /R ##,/NRE CHKPT 0 FORMAT ALL
5. /S IMS15OD1
6. /S IMS15HWS

You can test the IMS Repository functionality using the Single Point of Control application (TSO SPOC) panel.

TSO SPOC is used to QUERY and CREATE definitions to add, update/modify, and manage resource definitions. To access this ISPF panel, go to:

1. Option 6 for the TSO command shell
2. Enter the following string:
   . EXEC ‘DFSF10.SDFSEXEC(DFSAPPL)' 'HLQ(DFSF10)’
3. Select Option 1 for TSO SPOC.

You can test the following sample transaction to preview the repository functionality.

- Command: QUERY TRAN NAME(IVTNO) SHOW(ALL)
- Plex: PLEX1
- Route: IVP1

With the CSL and IMSplex support with DRDs, you can submit type-2 commands. Please refer to the following documentation for more information: https://www.ibm.com/docs/en/ims/15.5.0?topic=overview-equivalent-ims-type-1-type-2-commands

A. 4 Stop Enhanced IMS Tasks

Use the following order and commands to stop the IMS tasks – please wait for each shutdown to complete before continuing to the next one:

NOTE: Please start by responding to IMS READY message, not IMS CONNECT READY.

1. /R ##,/CHE SNAPQ
2. /R ##,/ CHE FREEZE
3. /F IMS15SCI,SHUTDOWN CSLLCL (or CSLPLEX) - takes down SCI, OM, RM, ODBM in succession
   . CSLLCL – shuts down the common service layer (CSL) associated with a single z/OS in the IMSPlex
   . CSLPLEX – shuts down the CSL associated with all z/OS images connected in the

4. /P IMS15RS1
5. /R ##,CLOSEHWS (to the IMS CONNECT READY prompt) -OR- /P IMS15HWS
6. /P IMS15RL1