



IBM Software Group

Improve Data Sharing Management from IMS Sysplex Manager

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IBM – IMS Tools Development



ON DEMAND BUSINESS™

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Agenda

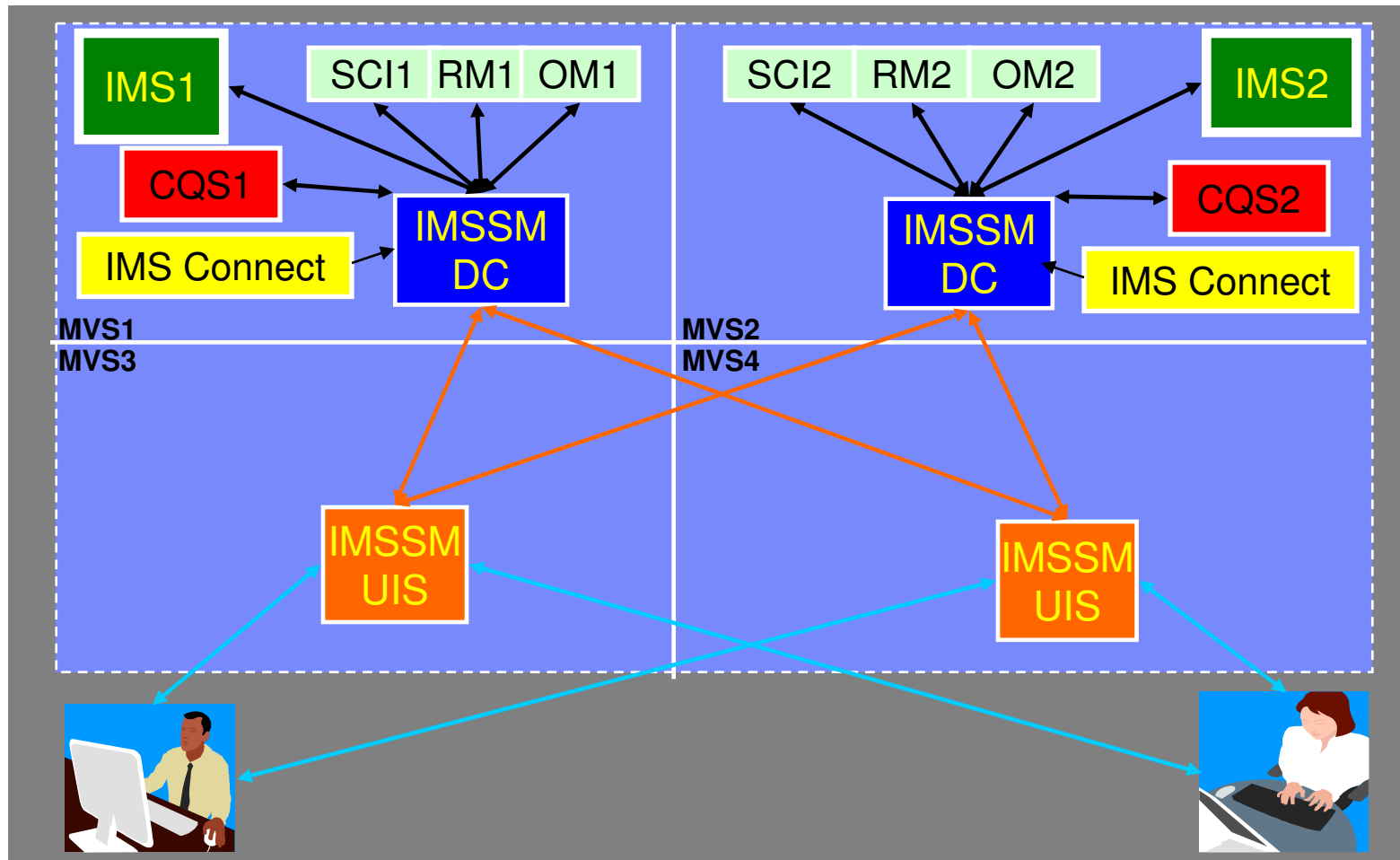
- **Product Highlights**
- **Data Sharing Management**
 - SQ transaction affinity routing
 - IRLM real-time and long lock report
 - CSL RM structure management
- **Other Product Use Scenarios**

IMS Sysplex Manager Highlights

- **Real-time management of the IMS Sysplex Environment**
 - Single point of control
 - Single system image thru local and aggregate view of data
 - Simplified User Interface (TSO/ISPF)
 - Structured displays of IMS resources and CF structures
 - Global Type-1 command, OM Type-2 and IMS SPOC
 - Basic z/OS performance information and SVC dump capture
 - Statistics for CSL (OM, RM and SCI), IRLM and CQS
 - Dashboard with key system indicators and threshold monitoring
 - Management functions
 - Intercept System exceptions and generate Console alerts
 - Produce real-time IRLM Long Lock Report
 - Browse, delete and recover messages on Shared Queues
 - Delete RM resource structure entries
 - Assign affinity for transactions in Shared Queues environment
 - Support IMS DB/TM, DBCTL, and DCCTL for IMS v9 and later



IMS Sysplex Manager Sample Configuration

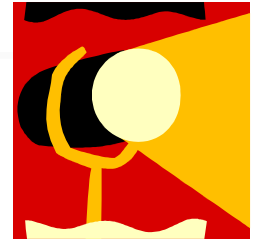


IMS Data Sharing

- **Shared Queues**
 - SQ transaction affinity routing
- **Shared Databases**
 - IRLM real-time and long lock report
- **Shared Resources**
 - CSL RM structure management

Shared Queue Transaction Affinity Routing

Shared Message Queues Transaction Affinity



- **IMS Shared Message Queues provides**
 - Enhanced scalability, throughput, and response time
 - Enhanced availability through redundancy
- **IMS Shared Message Queues creates**
 - Additional components to manage
 - Additional operational complexity
 - Possible false scheduling
 - Possible resource contention

Transaction Affinity Highlights

- **Finer control of transaction scheduling**
- **Non-invasive to existing definition and operation**
 - **No** omission of transaction definitions in sysgen
 - **No** stopping of transactions
 - **No** re-classing of dependent regions
 - **No** operational impact for loss of a system
- **User defined affinity to route transaction messages**
 - Any IMS in the shared queues group
 - Any subset of IMS systems
 - Equal or weighted distribution



Transaction Affinity Implementation

- **User affinity definitions created in IMS Proclib**
- **Definitions “copied” to CQS list structure**
 - IMS initialization
 - Shared by all IMS systems
 - Persistent across IMS restarts
 - Synchronized affinity definitions across Sysplex
- **Seamless operations**
 - Local informs/registration issued for transactions with affinity
 - Backup IMS system destination for planned and unplanned outages
 - Option to reject transaction if destination IMS systems not available
- **SPE (PK68900/UK45873) enables tweaking affinity definitions dynamically**



Transaction Affinity Implementation

Sample Proclib Definitions

```
OPTIONS(STRUCTURE(GJESMAFN),STATUS(ENABLED),
PGMREJECT(ABEND(U3303)),NETREJECT(2175))
SYSTEM(TARG(IMSGRP01),IMS(IMS1),STATUS(ENABLED))
SYSTEM(TARG(IMSGRP02),IMS(IMS2),STATUS(ENABLED))
SYSTEM(TARG(IMSGRP03),IMS(IMS3),STATUS(DISABLED))
SYSTEM(TARG(IMSGRP1A),IMS(IMS1,IMS1A,IMS1),STATUS(ENABLED))
AFFINITY(TYPE(TRANSACT),TARG(IMSGRP1A,IMSGRP02),DISP(REJECT),
DEST(NAME(APOL12)),STATUS(ENABLED))
AFFINITY(TYPE(TRANSACT),TARG(IMSGRP02,IMSGRP01),DISP(REJECT),
DEST(NAME(JAVC%NV*)),STATUS(ENABLED))
AFFINITY(TYPE(TRANSACT),TARG(IMSGRP1A),DISP(QUEUE),
DEST(NAME(TRAN%%C,TRANAB*)),STATUS(DISABLED))
AFFINITY(TYPE(TRANSACT),TARG(IMSGRP01),DEST(NAME(%%F3,%%F4)))
AFFINITY(TYPE(TRANSACT),TARG(IMSGRP1A),DEST(CLASS(1,2,3)))
```



Scenario 1 – Reducing False Scheduling Overhead

- **Multiple IMS systems taking ownership of arriving transaction**
 - Causes additional overhead
 - Can limit with Sysgen, transaction and/or dependent region classing, or via command (/STO TRAN)
 - Causes operation complexity during outages
- **IMS Sysplex Manger Transaction Affinity**
 - Can rotate distribution of transactions
 - No false scheduling
 - No modification to sysgen, class structure, or transaction status
 - No operation complexity during outages
 - Provides for weighted distribution



Reducing False Scheduling Overhead – cont.

Example

- **Three systems in group IMSA, IMSB, and IMSC**
- **Transaction TRAN1 causes false scheduling**
- **Balanced affinity definition**
 - Arriving TRAN1 messages rotated to each

```
SYSTEM(TARG(SYSTEM1),IMS(IMSA,IMSB,IMSC))  
AFFINITY(DEST(TRAN1),TARG(SYSTEM1))
```

- **Weighted affinity definition**
 - 50% of TRAN1 messages routed to IMSA

```
SYSTEM(TARG(SYSTEM1),IMS(IMSA,IMSA,IMSB,IMSC))  
AFFINITY(DEST(TRAN1),TARG(SYSTEM1))
```



Scenario 2 – Reducing Database Lock Contention

- **Additional parallelism introduced by datasharing**
 - More frequent collisions and deadlocks
 - Causes additional overhead
 - Can limit with Sysgen, transaction and/or dependent region classing, or via command (/STO TRAN)
 - Causes operation complexity during outages
- **IMS Sysplex Manger Transaction Affinity**
 - Can limit distribution of transactions to decrease parallelism
 - No modification to sysgen, class structure, or transaction status
 - No operation complexity during outages
 - Provides alternate backup system capability



Reducing Database Lock Contention – cont.

Example

- **Three systems in datasharing group IMSA, IMSB, and IMSC**
- **Transaction TRAN2 causes contention**
- **Affinity definition**
 - Arriving TRAN2 messages limited rotation to subset
 - IMSC only used if IMSA and IMSB are unavailable

SYSTEM(TARG(SYS1),IMS(IMSA,IMSB))

SYSTEM(TARG(SYS2),IMS(IMSC))

AFFINITY(DEST(TRAN2),TARG(SYS1,SYS2))

Affinity Routing Statistics – System View

```

Menu  View  Options  Help
-----
GJEP93A                      Affinity Options/Systems      Realtime snapshot
COMMAND ==>                  Row 1 to 6 of 6
                               SCROLL ==> PAGE

IMSpIex. . . PLEX1           Date. . . : 04/08/08
SM server. : UIS1           Time. . . : 14:41:59
Route. . . . *

Structure name: GJESMAFN
Updated on. :Date: 04/07/08  Time: 15:46:18
Status.: ENABLED          PGMREJECT.: AB-U3303      NETREJECT.: 2175
                               More: >

Target . . . *

Total number of calls for routing. . . . . : 17
Total number of messages routed. . . . . : 9

Target  Status  Msgs-Routed to  Target-IMS -----
IMSGRP02  ENABLED    4             IMS2
IMSGRP03  DISABLED   0             IMS3
IMSGRP01  ENABLED    0             IMS1
IMSGRP13  ENABLED    2             IMS1 IMS3
IMSGRP1A  ENABLED    3             IMS1 IMSA
IMSGRP04  ENABLED    0             IMS4

***** Bottom of data *****

```

Affinity Routing Statistics – Destination View

```

Menu  View  Filter  Options  Help
-----
GJEP94A          Destination Affinities          Realtime snapshot
COMMAND ==>                               Row 1 to 15 of 15
                                           SCROLL ==> PAGE

IMSplex. . . PLEX1          Date. . . : 04/08/08
SM server. : UIS1          Time. . . : 14:43:02
Route. . . . *

Structure name: GJESMAFN
Updated on. :Date: 04/07/08 Time: 15:46:18
Status.: ENABLED          PGMREJECT.: AB-U3303          NETREJECT.: 2175

Transact . . *

Enter 's' to view transaction detail data
      'r' to view affinity router statistics
      'c' to exec IMS commands

-Destination- -----Target-----
Cmd      Name/Class  Primary  Secondary  Match-count  Disposition  Status
-----
TRAN2    IMGRP01    IMGRP02    0 REJECT      ENABLED
APOL11   IMGRP02    IMGRP01    4 REJECT      ENABLED
TRAN1    IMGRP01    IMGRP02    0 REJECT      ENABLED
APOL12   IMGRP1A    IMGRP02    3 REJECT      ENABLED
XYZ      IMGRP04
TSTAD2R2 IMGRP1A    IMGRP02    0 REJECT      ENABLED
APOL21   IMGRP13    IMGRP02    2 REJECT      ENABLED
TRAN%%C  IMGRP1A
%%F3     IMGRP01
%RAN23U% IMGRP01    IMGRP02    0 REJECT      ENABLED
T%B%     IMGRP01    IMGRP02    0 REJECT      ENABLED
JAVC%NV* IMGRP02    IMGRP01    0 REJECT      ENABLED
%%F4     IMGRP01
TXBANK*  IMGRP1A    IMGRP02    0 REJECT      ENABLED
TRANAB*  IMGRP1A
0 QUEUE  DISABLED
***** Bottom of data *****

```


Affinity Routing Statistics – Destination View

```

Menu  View  Options  Help
-----
GJEP94R      Destination Affinities - Router Statistics      Realtime snapshot
COMMAND ==>                                     Row 1 to 3 of 3
                                                SCROLL ==> PAGE

IMSplex. . . : PLEX1                          Date. . . : 04/08/08
SM server. . : UIS1                          Time. . . : 14:43:55

Structure name: GJESMAFN
Updated on. :Date: 04/07/08  Time: 15:46:18
Status.: ENABLED          PGMREJECT.: AB-U3303      NETREJECT.: 2175

Transact . . *

Primary target . . : IMSGRP02      Secondary target : IMSGRP01
Status . . . . . : ENABLED          Disposition. . . : REJECT

Destination. . . : APOL11
From      Match-count  Other destination router statistics
IMS2                0
IMS1                2
IMS1                2
***** Bottom of data *****

```

Managing IRLM locks

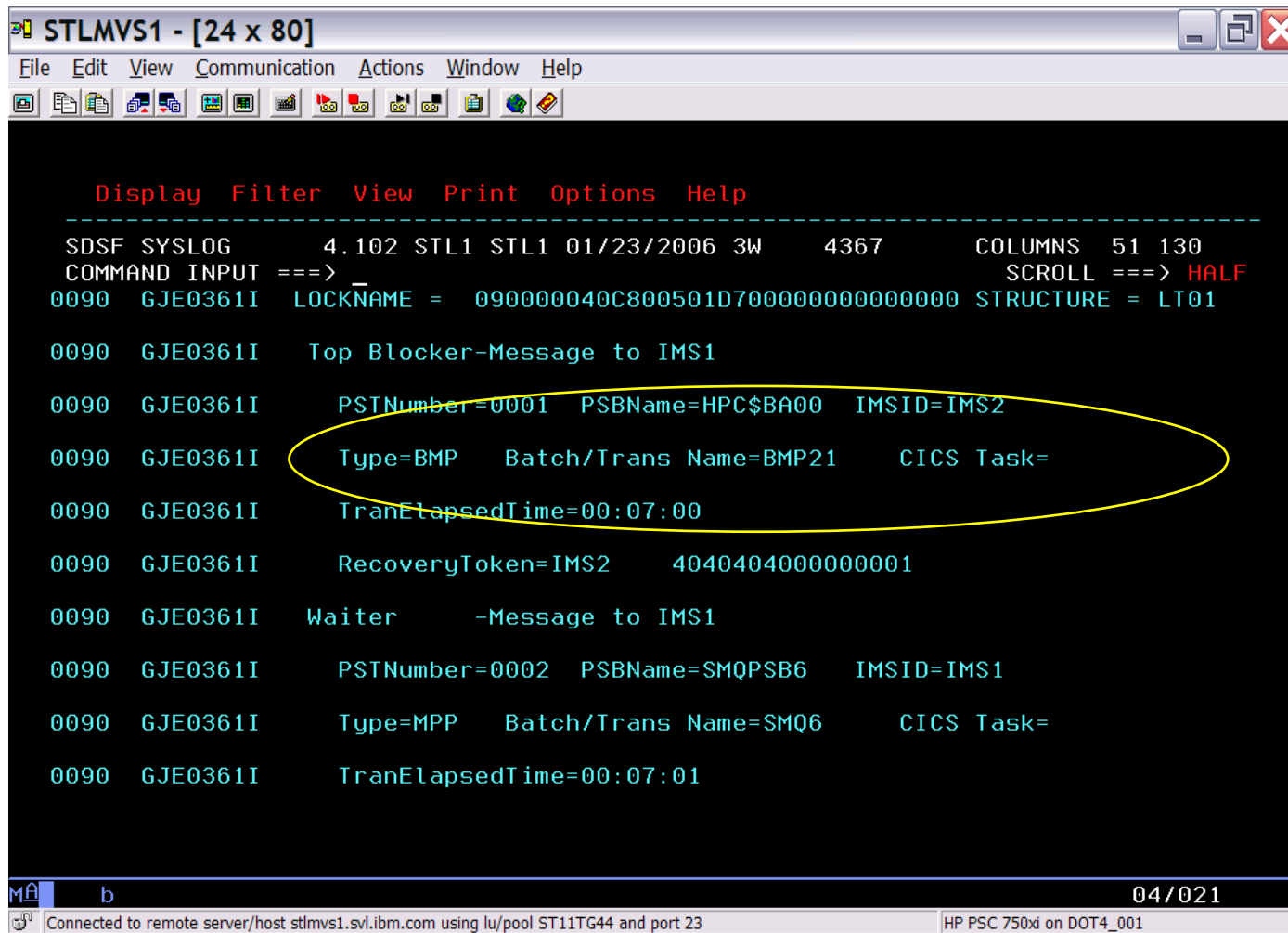
Data Sharing Long Locks

- **DB Lockouts by applications holding IRLM locks for an inordinate amount of time**
 - Could go unrecognized until it becomes critical
 - Lack of supported tools to assist in recognition and identification of problem
 - Manual intervention required to resolve

- **Exception processing for Long Locks**
 - Automatic real-time recognition when IRLM detects
 - Information consolidated, analyzed for top blocker, and presented
 - Information recorded in exceptions file and sent to z/OS console
 - Messages can be sent to z/OS console using user exit so that automated operations can resolve
 - Problem quickly resolved without manual intervention



Data Sharing Long Lock Exceptions



```
STLMVS1 - [24 x 80]
File Edit View Communication Actions Window Help
-----
Display Filter View Print Options Help
-----
SDSF SYSLOG      4.102 STL1 STL1 01/23/2006 3W      4367      COLUMNS 51 130
COMMAND INPUT ==> _ SCROLL ==> HALF
0090 GJE0361I LOCKNAME = 090000040C800501D700000000000000 STRUCTURE = LT01
0090 GJE0361I Top Blocker-Message to IMS1
0090 GJE0361I PSTNumber=0001 PSBName=HPC$BA00 IMSID=IMS2
0090 GJE0361I Type=BMP Batch/Trans Name=BMP21 CICS Task=
0090 GJE0361I TranElapsedTime=00:07:00
0090 GJE0361I RecoveryToken=IMS2 40404040000000001
0090 GJE0361I Waiter -Message to IMS1
0090 GJE0361I PSTNumber=0002 PSBName=SMQPSB6 IMSID=IMS1
0090 GJE0361I Type=MPP Batch/Trans Name=SMQ6 CICS Task=
0090 GJE0361I TranElapsedTime=00:07:01
Mâ b 04/021
Connected to remote server/host stlmvs1.svl.ibm.com using lu/pool ST11TG44 and port 23 HP PSC 750xi on DOT4_001
```

Data Sharing Long Lock Exceptions

The screenshot shows a terminal window titled 'STLMVS1 - [24 x 80]' with a menu bar (File, Edit, View, Communication, Actions, Window, Help) and a toolbar. The main display area shows a system log with the following text:

```

Display Filter View Print Options Help
-----
SDSF SYSLOG      4.103 STL2 STL2 01/24/2006 2W      5721      COLUMNS 51 130
COMMAND INPUT ==>                                SCROLL ==> HALF
0290 R 15,/STO REGION JOBNAME BMP21      ABDUMP.
0090 IEE600I REPLY TO 15 IS;/STO REGION JOBNAME BMP21      ABDUMP.
0090 DFS058I 10:09:46 STOP COMMAND IN PROGRESS  IMS2
0090 *16 DFS996I *IMS READY*  IMS2
0090 DFS554A BMP21      00001 BMP      HPC$BA00(2)      000,0474 PSB
      2006/024 10:09:47 IMS2
0090 DFS552I BATCH REGION BMP21      STOPPED ID=00001 TIME=1009 IMS2
0090 WTSC |S WTSC THIS |W (AUTOMASTER |DFS970I 9:09: |GJE2201I DATA
      |GJE2200I IMS S|DFS554A BMP21 |DFS552I BATCH |
0090 IEA995I SYMPTOM DUMP OUTPUT 520
0090 USER COMPLETION CODE=0474
0090 TIME=10.09.46 SEQ=00065 CPU=0000 ASID=002D
0090 PSW AT TIME OF ERROR 078D1000 9130664A ILC 2 INTC 01
0090 ACTIVE LOAD MODULE ADDRESS=113058B0 OFFSET=00000D9A
0090 NAME=DFSREXX1
0090 DATA AT PSW 11306644 - 5410AEF8 0A015850 92695860
0090 AR/GR 0: 80C62A4A/00000001 1: 00000000/1130C518
0090 2: 00000000/000069B0 3: 00000000/000000FF
0090 4: 00000000/1130C518 5: 00000000/113252D8
0090 6: 00000000/000000FF 7: 00000000/00000000
  
```

A yellow circle highlights the following lines in the log:

```

0090 DFS554A BMP21      00001 BMP      HPC$BA00(2)      000,0474 PSB
      2006/024 10:09:47 IMS2
0090 DFS552I BATCH REGION BMP21      STOPPED ID=00001 TIME=1009 IMS2
  
```

The terminal window also shows a status bar at the bottom with the text 'Connected to remote server/host stlmvs1.svl.ibm.com using lu/pool ST11TJ76 and port 23' and 'HP PSC 750xi on DOT4_001'.

Real-time IRLM / PI Locking Display

- **Identify resource contention**
 - Which IMS, dependent region, application is holding resources
 - Untangle queue of holder/waiters
 - Determine resources with contention

- **Display of resources with contention**
 - Select by dependent region and drill down to resource
 - Select by resource and drill down to dependent region



Real-time IRLM Locking Display

```
Menu  View  Options  Help
----- Realtime snapshot
GJEP1RLK          IRLM Locks
Option ==> █
IMSpdex. . . PLEX1
SM server. : UIS1
Route. . . . IMS1

Select one of the following options:

1. View dependent regions holding locks
2. View locks being held
3. View dependent regions waiting for locks
4. View locks being waited on
```



Real-time IRLM Locking Display

```

Menu  View  Options  Help
-----
GJEP310                      Locks Being Held
COMMAND ==>

Realtime snapshot
Row 1 to 3 of 3
SCROLL ==> PAGE

IMSplex. . . PLEX1           Date. . . : 04/10/08
SM server. : UIS1           Time. . . : 11:38:14
Route. . . : *

Enter 's' to see holder/waiter information

Cmd  IMSID  LockID  DBName  RBA          DCB    Lock  Global/  Waiter
     IMSID  LockID  DBName  address      number type  Local   Count
s    IMS1  LOCK    DIVNTZ02 000000001071C500 1    P    G        2
    IMS1  LOCK    DHVNTZ02 0000000000006C800 1    P    G        1
    IMS2  LOCK    DBHDOK01 00000000000040C00 1    P    G        1
***** Bottom of data *****
    
```


Real-time IRLM Locking Display

```

Menu  View  Options  Help
-----
GJEP311                               Locks Being Held
COMMAND ==> _____ Realtime snapshot
                               Row 1 to 3 of 3
                               SCROLL ==> PAGE

IMSpdex. . : PLEX1                Date. . : 04/10/08
SM server. : UIS1                 Time. . : 11:38:14
Route. . . : *

IMSid. : IMS1      Lock. : DIVNTZ02 000000001071C500

Enter 'c' to process IMS commands
      'r' to display region activity

  Holder/
Cmd Waiter  IMSid RegionID JobName  StepName type  Lock  CurExecStatus
---  -----
  HOLDER  IMS1     4    BMP3    BMP    BMP    UPD    ACTIVE
  WAITER  IMS2     2    BMP2    BMP    BMP    UPD    ACTIVE
  WAITER  IMS2     4    MPP21   MPP    TP     UPD    ACTIVE
***** Bottom of data *****

```

Real-time PI Locking Display

```
Menu View Options Help
----- Realtime snapshot
GJEPIF Program Isolation Locks
Option ==> _____

IMSpdex. . . PLEX1
SM server. : UIS1
Route. . . . IMS1

Select one of the following options:

1. View dependent regions holding locks
2. View locks with contention
3. View dependent regions waiting for locks
```



Real-time PI Locking Display

```

Menu View Options Help
----- Realtime snapshot
GJEP350      Program Isolation: Dependent Regions Holding Lock Row 1 to 2 of 2
COMMAND ==> _____ SCROLL ==> PAGE

IMSplex. . . PLEX1          Date. . . : 04/10/08
SM server. : UIS1          Time. . . : 09:22:51
Route. . . . *_____

Enter 's' to select a region for LOCK information
      'r' to display region activity

Cmd IMSid RegionID  JobName  StepName  Type  CurExecStatus
s_  IMS1   3         MPPU3    MPP      TP      ACTIVE
__  IMS2   3         BMP2     BMP      BMP     ACTIVE
***** Bottom of data *****

```



Real-time PI Locking Display

```

Menu  View  Options  Help
----- Realtime snapshot
GJEP352      Program Isolation: Dependent Regions Holding Lock Row 1 to 4 of 4
COMMAND ==> _____ SCROLL ==> PAGE

IMSpdex. . . : PLEX1          Date. . . : 04/10/08
SM server. . : UIS1          Time. . . : 09:22:51
Route. . . . : *

IMSid. . . : IMS1          RegionID . : 3      JobName. . : MPPU3      StepName. . : MPP
Lock . . . : DBHDDK01 0000000000000404

Enter 'c' to process IMS commands
      'r' to display region activity

  Holder/
Cmd  Waiter  RegionID  JobName  StepName  Job    Lock    Wait    CurExecStatus
-----
  ---  ---      ---        ---      ---      type   state   time(ms)
  ---  ---      ---        ---      ---      ---    ---    ---
  ---  ---      ---        ---      ---      ---    ---    ---
  ---  ---      ---        ---      ---      ---    ---    ---
  ---  ---      ---        ---      ---      ---    ---    ---
  ---  ---      ---        ---      ---      ---    ---    ---
***** Bottom of data *****

```

Aggregated IRLM Statistics

- **Managing the well being of IRLM(s)**
 - Deadlocks, false contentions, storage utilization?
 - Multiple IRLMs to check

- **Information gathered from IRLMs across Sysplex**
 - Aggregated into single system image
 - Drill down for information from individual IRLMs



Aggregated IRLM Statistics

```

Menu  View  Options  Help
-----
GJEP140                      Aggregated IRLM Statistics      Realtime snapshot
COMMAND ==>                   Row 1 to 31 of 51
                               SCROLL ==> PAGE

IMSplex. . . PLEX1           Date. . . : 04/10/08
SM server. : UIS1           Time. . . : 09:47:26
Route. . . . *

Enter 's' to view detailed IRLM statistics.  s

GLOBAL ACTIVITY COUNTERS:
Total global LOCK request. . . . . : 4
Child locks propagated . . . . . : 0
IRLM to IRLM notify request. . . . . : 0

REQUESTS
Lock . . . . . : 4
Unlock . . . . . : 0
Change . . . . . : 0
Synchronous notify . . . . . : 0
Asynchronous notify. . . . . : 0
Verify . . . . . : 0
Purge. . . . . : 2
Query. . . . . : 0
Takeover . . . . . : 0

EXIT COUNTERS
Suspend. . . . . : 6
Resume . . . . . : 6
Status . . . . . : 0
Notify . . . . . : 0
Deadlock . . . . . : 0
Timeout. . . . . : 0

EXIT EXTENSION REQUESTS:
Synchronously propagated locks . . . . . : 4
Synchronously propagated change. . . . . : 0
Synchronously propagated unlocks . . . . . : 0
Asynchronously propagated locks . . . . . : 0
Visits to contention exits . . . . . : 0
    
```

Aggregated IRLM Statistics

```

Menu  View  Options  Help
-----
GJEP141          IRLM Statistics          Realtime snapshot
COMMAND ==>          SCROLL ==> PAGE
Row 34 to 62 of 146

IMSplex. . . PLEX1          Date. . . : 04/10/08
SM server. : UIS1          Time. . . : 09:47:26
Route. . . . *

IMSId  Description                                     Value
IMS1   RESOURCE CONTENTIONS:
IMS1   Local. . . . . : 0
IMS1   Global. . . . . : 0
IMS1   False. . . . . : 0
IMS1
IMS1   SYSTEM ACTIVITY COUNTERS:
IMS1   Identify requests. . . . . : 2
IMS1   Quit requests. . . . . : 0
IMS1   Local deadlocks. . . . . : 0
IMS1   Global deadlocks . . . . . : 0
IMS1   Timeouts RLBS purged . . . . . : 0
IMS1

```

Managing CSL RM Structure

Managing CSL RM Structure

- **Common Service Layer RM Structure Content**
 - Holds global status of IMS Resources in IMSplex
 - Determines IMSplex wide status of Trans, LTERMs, Users
 - No capability to view content
 - No capability to alter/delete inconsistently defined resources

- **Resource Management Structure display**
 - Real-time display of structure content
 - Selectable via resource type and name filtering
 - Global status info to aid delete decision
 - Capability to delete selected resource definitions (multiple delete, delete by resource type or by owner)
 - Eliminates need to scratch and reallocate resource structure



IMS Resource Structure Content

```
Menu View Options Help
----- Realtime snapshot
GJEPRML          IMS RM Management
Option ==> 14
-----
IMSplex. . . PLEX1
SM server. : UIS1
Route. . . : *
Filter . . . *
-----
Select one of the following resource types:

1. Transactions          9. Userids
2. Lterms               10. Static node users
3. Remote MSnames      11. Databases
4. Dynamic users       12. Scheduled Serial Programs
5. Remote Nodes        13. Areas
6. IMSplex             14. All of the above
7. CPIC transactions
8. APPC descriptors
```



IMS Resource Structure Content

```

Menu View Options Help
-----
GJEP7611          RM Resource Information          Realtime snapshot
COMMAND ==>      Row 1 to 27 of 392
SCROLL ==> PAGE

IMSplex. . : PLEX1          Date. . : 04/08/08
SM server. . : UIS1        Time. . : 12:57:54
Route. . . : *
Filter . . . : *

Resource type. . : TRANSACT
Enter 'd' to delete the resource
      'dxx' to delete multiple resources (xx = 1-99)

Cmd Resource      Prompt  Version      Owner      Glbl-stat  Cmd-timestamp
----
___ APOL21          0000000000000001  NONE      NONE
___ BHA2           0000000000000001  NONE      NONE
___ BHF1           0000000000000001  NONE      NONE
___ BHG3           0000000000000001  NONE      NONE
___ CONV12M0      0000000000000001  NONE      NONE
___ CONV21C0      0000000000000001  NONE      NONE
___ CONV21M1      0000000000000001  NONE      NONE
d| CONV21U0      0000000000000001  NONE      NONE
___ DSPINV        0000000000000001  NONE      NONE
___ ETRAN29       0000000000000001  NONE      NONE
___ GMC           0000000000000001  NONE      NONE
___ NQG1          0000000000000001  NONE      NONE
___ NQHC1         0000000000000001  NONE      NONE
___ NQH3          0000000000000001  NONE      NONE
    
```

IMS Resource Structure Content

```

Menu View Options Help
-----
GJEP7611 RM Resource Information Realtime snapshot
COMMAND ==> Row 1 to 27 of 392
SCROLL ==> PAGE

IMSpdex. . GJEP76Y Confirm RM Resource Delete
SM server. COMMAND ==> _____
Route. . .
Filter . .
Resource ty Resource name . . : CONV21U0
Enter 'd' Resource type . . : TRANSACT
'dxx' Resource version. : 0000000000000001

_ Abort delete ALL request
_ Set resource delete confirmation off

Press ENTER to confirm delete.
Press PF3 (END) to cancel delete.

F1=HELP F2=SPLIT F3=END
F4=RETURN F5=RFIND F6=RCHANGE

Cmd Resourc t Cmd-timestamp
APOL21 NONE
BHA2 NONE
BHF1 NONE
BH63 NONE
CONV12M NONE
CONV21C NONE
CONV21M1 0000000000000001 NONE
D CONV21U0 0000000000000001 NONE
DSPINV 0000000000000001 NONE
ETRAN29 0000000000000001 NONE
GMC 0000000000000001 NONE
NQ61 0000000000000001 NONE
NQHC1 0000000000000001 NONE
NQH3 0000000000000001 NONE
    
```

IMS Resource Structure Content

```

Menu View Options Help
----- Realtime snapshot
GJEP7611          RM Resource Information      Row 8 to 34 of 392
COMMAND ==>          SCROLL ==> PAGE

IMSplex. . : PLEX1          Date. . : 04/08/08
SM server. . : UIS1        Time. . : 12:57:54
Route. . . : *
Filter . . . : *

Resource type. . : TRANSACT
Enter 'd' to delete the resource
      'dxx' to delete multiple resources (xx = 1-99)

Cmd Resource      Prompt Version      Owner      Glbl-stat  Cmd-timestamp
---
___ CONY21U0      Deleted 0000000000000001  NONE      NONE
___ DSPINV        0000000000000001  NONE      NONE
___ ETRAN29       0000000000000001  NONE      NONE
___ GMC           0000000000000001  NONE      NONE
___ NQG1          0000000000000001  NONE      NONE
___ NQHC1         0000000000000001  NONE      NONE
___ NQH3          0000000000000001  NONE      NONE
___ NRCV11B0      0000000000000001  NONE      NONE
___ ODSAGRC2      0000000000000001  NONE      NONE
___ RCK1MM        0000000000000001  NONE      NONE
    
```

IMS Resource Structure Content

```

Menu View Options Help
----- Realtime snapshot
GJEP7611      - 1. Autorefresh          Row 8 to 34 of 392
COMMAND ==*  *. Preferences...      SCROLL ==> PAGE
              3. Enter IMS commands
IMSplex. .   4. Delete resources by owner  8/08
SM server. . 5. Delete all displayed resources 7:54
Route. . .
Filter . . . *

Resource type. . : TRANSACT
Enter 'd'   to delete the resource
      'dxx' to delete multiple resources (xx = 1-99)

Cmd Resource      Prompt  Version          Owner   Glbl-stat  Cmd-timestamp
CONV21U0         Deleted 0000000000000001  NONE   NONE
DSPINV           0000000000000001  NONE   NONE
ETRAN29         0000000000000001  NONE   NONE
GMC             0000000000000001  NONE   NONE
NQG1            0000000000000001  NONE   NONE
NQHC1           0000000000000001  NONE   NONE
NQH3            0000000000000001  NONE   NONE
NRCV11B0        0000000000000001  NONE   NONE
ODSAGRC2        0000000000000001  NONE   NONE
RCK1MM          0000000000000001  NONE   NONE
SHD1            0000000000000001  NONE   NONE
SHE3            0000000000000001  NONE   NONE
SKEA            0000000000000001  NONE   NONE
SKT2            0000000000000001  NONE   NONE
    
```

Other Product Use Scenarios

Scenarios

- **IMS**
 - Scenario 1 – Taking Inventory and capture diagnostic data
 - Scenario 2 – Managing IMS System Parameters
 - Scenario 3 – Verifying IMS Resource Definitions
 - Scenario 4– Issuing IMS Commands
 - Scenario 5 – Maintaining Command Audit Trail
 - Scenario 6 – Managing Dependent Regions
 - Scenario 7 – Viewing IMS CF Structures
- **IMSpIex**
 - Scenario 9 – Viewing Aggregate SCI, RM, OM Statistics
- **Shared Queue and CQS**
 - Scenario 10 - View local buffer utilization
 - Scenario 11 – Managing Destination Queue Depth
 - Scenario 12 – Viewing CQS Structures
- **Dashboard**
 - Scenario 13 – Dashboard and Thresholds



Scenario 1 – Taking Inventory and Capture Diagnostics

- **Many address spaces – IMS Control Region, IMS DLI/SAS, IMS DBRC, IRLM, CQS, RM, OM, SCI, etc..**
 - How do you identify related IMS components across the Sysplex?
 - What is the status of these components?
 - What version of IMS components are involved?
 - How much resource are they using from z/OS perspective?
 - How do you collect diagnostic data to debug sysplex problem?

- **IMS Sysplex Manger structured TSO/ISPF interface**
 - Guided display of IMS components
 - Provides component id, task or job name, version, status and basic z/OS information such as CPU time and EXCP counts
 - Drill-down to detailed component information
 - Easily capture console dumps for IMS components across the plex
 - Check DBRC RECON datasets placement and VSAM stats



Component List

```

Menu  View  Options  Help
-----
GJEP600          IMSplex/SMplex Component List          Realtime snapshot
COMMAND ==>>          Row 1 to 19 of 19
SCROLL ==>> PAGE

IMSplex. . . PLEX1          Date:          04/08/08          More:  >
SM server. : UIS1          Time:          14:50:23

Enter 's' to display statistics for the selected component
Enter 'i' to display z/OS information for the selected component
Enter 'd' to produce an SVC dump for the selected component
Enter 'dt' to produce SVC dumps for the selected component type across the plex

Cmd ID      Type Version z/OSname Jobname  DBRCname DLIname  IRLMname Status
---
IMS2        IMS  9.1.0  ECTST22  IMS2    DBREASAJ DLIEASAJ  IRLME2N  READY
DBRC 9.1.0  ECTST22  DBREASAJ
DSAS 9.1.0  ECTST22  DLIEASAJ
IRLM 2.1.0  ECTST22  IRLME2N
CQS2        CQS  1.4.0  ECTST22  CQSEJ2
OM20M      OM   1.2.0  ECTST22  OM2
RM2RM      RM   1.2.0  ECTST22  RM2
SCI2SC     SCI  1.2.0  ECTST22  SCI2
IMS1        IMS  9.1.0  ECTST21  IMS1    DBREASAJ DLIEASAJ  IRLME2N  READY
DBRC 9.1.0  ECTST21  DBREASAJ
DSAS 9.1.0  ECTST21  DLIEASAJ
IRLM 2.1.0  ECTST21  IRLME2N
IMS1        IMS  9.1.0  ECTST21  IMS1    DBREASAJ DLIEASAJ  IRLME2N  READY
DBRC 9.1.0  ECTST21  DBREASAJ
DSAS 9.1.0  ECTST21  DLIEASAJ
CQS1        CQS  1.4.0  ECTST21  CQSEJ1
OM10M      OM   1.2.0  ECTST21  OM1
RM1RM      RM   1.2.0  ECTST21  RM1
SCI1SC     SCI  1.2.0  ECTST21  SCI1
***** Bottom of data *****

```

Component List (cont)

```

Menu  View  Options  Help
-----
GJEP601          IMSplex/SMplex Component List          Realtime snapshot
COMMAND ==>          Row 1 to 19 of 19
                                SCROLL ==> PAGE

IMSplex. . . PLEX1          Date:          04/08/08          More: <
SM server. : UIS1          Time:          10:34:27

Enter 's' to display statistics for the selected component
Enter 'i' to display z/OS information for the selected component
Enter 'd' to produce an SVC dump for the selected component
Enter 'dt' to produce SVC dumps for the selected component type across the plex

Cmd ID      Type  IMS/Datasharing  CQS/SMQ-Structures  CPUtime(hs)  EXCPs
---
IMS2        IMS   Y                Y                    2.95         9,540
            DBRC                .05          357
            DSAS                .17         1,230
            IRLM                4.51         319
CQS2        CQS   Y                Y                    3.34         2,609
OM20M       OM                .34         1,085
RM2RM       RM                .36         1,194
SCI2SC      SCI                .45         1,399
IMSA        IMS   Y                Y                    2.16         9,590
            DBRC                .05          357
            DSAS                .17         1,208
            IRLM                4.49         319
IMS1        IMS   Y                Y                    1.71         9,608
            DBRC                .05          385
            DSAS                .18         1,255
CQS1        CQS   Y                Y                    2.11         2,727
OM10M       OM                .31         1,088
RM1RM       RM                .30         1,197
SCI1SC      SCI                .41         1,402
***** Bottom of data *****

```

Capture Console Dumps

```
GJEPSVC                                SDUMPX Options
COMMAND ==> _____

Title . . . IMSSM SDUMPX on 04/08/08 11:14:13

Jobname . . . . . : IMS1
Address space type. : IMS
z/OS name . . . . . : ECTST21

Enter Y to include or N to exclude the SDUMPX option.

ALLNUC (All nucleus areas) . . . _      ALLPSA (All PSAs in system). . _
COUPLE (Couple). . . . . _            CSA. . . . . _
GRSQ . . . . . _                      IO (I/O areas) . . . . . _
LSQA . . . . . _                      LPA (Active LPAs for region) . _
NUC (Nucleus). . . . . _              PSA (Current PSA). . . . . _
RGN (Region private area). . . . _    SQA. . . . . _
SUMDUMP (Summary dump) . . . . _     SWA (SWA for region) . . . . _
TRT (Trace tables/GTF buffers) . _   XESDATA. . . . . _

_ Set SDUMPx option display off
```



IMS Menu Options

```
Menu View Options Help
----- Realtime snapshot
GJEPVIM View IMS Data
Option ==> _____
IMSplex. . . PLEX1
SM server. : UIS1
Route. . . . IMS1_____

Select one of the following options:

1. System configuration options and parameters
2. Destination queue depths
3. IMS resource definitions
4. IMS operations
5. Latch statistics
6. IRLM statistics
7. PI locks
8. IMS dependent region activity
9. DBRC and VSAM information for RECON data sets
10. View z/OS information for IMS address spaces
11. View shared queue local buffer utilization
12. Shared queue affinities
```



z/OS perspective for IMS address spaces

```

Menu  View  Options  Help
-----
GJEPIAS      z/OS Information For IMS Address Spaces      Realtime snapshot
COMMAND ==>                                     Row 1 to 25 of 25
                                                    SCROLL ==> PAGE

IMSplex. . . PLEX1                               Date. . . : 04/08/08
SM server. : UIS1                               Time. . . : 11:23:40                More: >

'd' to produce an SVC dump for the selected address space
'dt' to produce SVC dumps for the selected address space type plex-wide

Cmd  Jobname  Type  z/OSname  Prty  ASID  TCB  time  SRB  time  CPU  time  EXCPs
---  ---     ---  ---      ---  ---  ---  ---  ---  ---  ---  ---  ---
IMS2  IMS      ECTST22  C9      0091  3.04  .70  3.74  9,540
DBREASAJ  DBRC  ECTST22  FE      0088  .05  .00  .05  357
DLIEASAJ  DSAS  ECTST22  FE      0097  .06  .15  .21  1,230
IRLME2N  IRLM  ECTST22  FE      008C  .06  5.93  5.99  319
CQSEJ2   CQS   ECTST22  C2      002A  1.59  2.43  4.02  2,609
OM2      OM    ECTST22  C9      0031  .34  .11  .45  1,085
RM2      RM    ECTST22  C9      0095  .33  .11  .44  1,194
SCI2     SCI   ECTST22  C8      0028  .50  .08  .58  1,399
IMSA     IMS   ECTST21  C9      0032  2.16  .63  2.79  9,590
DBREASBJ  DBRC  ECTST21  FE      001A  .05  .00  .05  357
DLIEASBJ  DSAS  ECTST21  FE      0094  .06  .14  .20  1,208
IRLME2N  IRLM  ECTST21  FE      008C  .06  5.89  5.95  319
IMS1     IMS   ECTST21  C9      0091  1.90  .55  2.45  9,608
DBREASAJ  DBRC  ECTST21  FE      008D  .05  .00  .05  385
DLIEASAJ  DSAS  ECTST21  FE      0093  .06  .15  .21  1,255
CQSEJ1   CQS   ECTST21  C5      002A  .61  2.38  2.99  2,727
OM1      OM    ECTST21  C9      0031  .30  .08  .38  1,088
RM1      RM    ECTST21  C9      0028  .30  .08  .38  1,197
SCI1     SCI   ECTST21  C8      0090  .51  .07  .58  1,402
MPP23    TP    ECTST22  C9      0030  .01  .00  .01  153
MPP22    TP    ECTST22  C9      0025  .01  .00  .01  153
MPP21    TP    ECTST22  C9      0032  .01  .00  .01  153
MPP13    TP    ECTST21  C9      002F  .01  .00  .01  153
MPP12    TP    ECTST21  C9      0030  .01  .00  .01  153
MPP11    TP    ECTST21  C9      002E  .01  .00  .01  153
***** Bottom of data *****

```

DBRC RECON datasets and VSAM stats

- Show RECON datasets placement (COPY1, COPY2, SPARE) for all IMS systems
- Built-in LISTCAT for RECONS when drill down

```

Menu  View  Options  Help
-----
GJEP880          RECON / VSAM Statistics          Realtime snapshot
COMMAND ==>          Row 1 to 3 of 3
SCROLL ==> PAGE

SMplex . . . ISM01          Date. . . : 05/20/08
SM server. : UIS1          Time. . . : 10:41:43
Route. . . : *
More: >

Enter 's' to select a VSAM cluster for statistics

Cmd  IMSid  Cluster name          Version  Status  DDname
s   SYS3  IMSTESTL.IMS.RECON1   V9R1    COPY1   RECON1
   SYS3  IMSTESTL.IMS.RECON2   V9R1    COPY2   RECON2
   SYS3  IMSTESTL.IMS.RECON3   V9R1    SPARE   RECON3
***** Bottom of data *****

```

DBRC RECON VSAM stats

```

Menu  View  Options  Help
-----
GJEP881                                RECON / VSAM Statistics
COMMAND ==> |                          Realtime snapshot
                                           Row 1 to 23 of 84
                                           SCROLL ==> PAGE

SMplex . . . ISM01                      Date . . . : 05/20/08
SM server . . : UIS1                     Time . . . : 10:41:43
Route . . . . : SYS3

IMSid . . . . . : SYS3
Cluster name . . . . : IMSTESTL.IMS.RECON1
Catalog name . . . . : VCATQAV
Version . . . . . : V9R1
Status . . . . . : COPY1
DDname . . . . . : RECON1
Last backup Date/Time . : NONE / NONE

Description                                Value
Entry data section 1
Component name . . . . . : IMSTESTL.IMS.RECON1.DATA
Comp. Type I=Index,D=Data . . : D
Creation date (yyyymmdd) . . . : 2008141
Key position . . . . . : 0
Key length . . . . . : 32
Volume serial number . . . . : USER03
Device type . . . . . : 3010200F
Number of extents . . . . . : 01
Allocation type . . . . . : TRK
Physical blocks per track . . : 6
Tracks per allocation unit . . : 3
Number of bytes per track . . : 0
Bytes per allocation unit . . : 0
Primary space allocation . . . : 000003
Secondary space allocation . . : 000003
Entry data section 2
CI size . . . . . : 8,192
Maximum record size . . . . . : 143,360
Average record size . . . . . : 4,086
Physical block size . . . . . : 8,192
Bufferspace . . . . . : 24,576
High used RBA . . . . . : 147,456
    
```



Scenario 2 – Managing IMS System Parameters

- **Many system run-time parameters**
 - Sources: DFSPBxxx, overrides via Control Region PARM=
 - Which ones are being used?
 - Are the parameters the same across the Sysplex?

- **System parameter display**
 - Real-time scrollable display of “resolved” values
 - Parameter values across all IMS systems for easy comparison
 - New – System Parameter Tutor for instant description



IMS System Parameters

```

Menu  Edit  Option
-----
GJEP200  System configuration options and parameters  Realtime snapshot
COMMAND ==>  Row 1 to 30 of 262
                SCROLL ==> PAGE

    IMSplex: PLEX1          Date:          08/23/06
    SM server: UIS         Time:          11:55:16
    Route: *

    Keyword
    IMSid Parameter  Description  Value
    -----
    IMS1  ALOT       User auto logoff time, minutes  1440
    IMS2  ALOT       User auto logoff time, minutes  1440
    IMS1  AOIP       AOI pool upper limit, bytes     2147483647
    IMS2  AOIP       AOI pool upper limit, bytes     2147483647
    IMS1  AOIS       Cmd auth exit security option, A/C/N/R/S  N
    IMS2  AOIS       Cmd auth exit security option, A/C/N/R/S  N
    IMS1  AOI1       Type 1 AOI cmd auth option, A/C/N/R/S    N
    IMS2  AOI1       Type 1 AOI cmd auth option, A/C/N/R/S    N
    IMS1  APPC       Activate APPC/IMS LU 6.2 support, Y/N     N
    IMS2  APPC       Activate APPC/IMS LU 6.2 support, Y/N     N
    IMS1  APPCSE     APPC RACF security option, Check/Full/None  F
    IMS2  APPCSE     APPC RACF security option, Check/Full/None  F
    IMS1  APPLID1    VTAM Applid for IMS subsys
    IMS2  APPLID1    VTAM Applid for IMS subsys
    IMS1  APPLID2    VTAM Applid for XRF alternate subsys
    IMS2  APPLID2    VTAM Applid for XRF alternate subsys
    IMS1  APPLID3    VTAM Applid for RSR tracking subsys        APPL7
    IMS2  APPLID3    VTAM Applid for RSR tracking subsys        APPL7
    IMS1  ARC        OLDS automatic archiving interval         01
    IMS2  ARC        OLDS automatic archiving interval         01
    IMS1  ARMRST     MVS ARM to restart IMS after failure, Y/N  N
    IMS2  ARMRST     MVS ARM to restart IMS after failure, Y/N  N
    
```

IMS System Parameters

```

Menu  Edit  Option
-----
GJEP200
COMMAND ===
      IMSplex:
      SM server:
      Route: *

      4  1. Autorefresh
         2. Preferences...
         3. Enter IMS commands
         4. Display unequal values

Realtime snapshot parameters Row 1 to 30 of 131
SCROLL ==> PAGE

08/30/06
10:46:18

Keyword
IMSId Parameter Description Value
-----
IMS1 ALOT User auto logoff time, minutes 1440
IMS1 AOIP AOI pool upper limit, bytes 2147483647
IMS1 AOIS Cmd auth exit security option, A/C/N/R/S N
IMS1 AOI1 Type 1 AOI cmd auth option, A/C/N/R/S
    
```

IMS System Parameters – Showing Unequal Parm

```

Menu  Edit  Option
-----
GJEP201  System configuration options and parameters      Realtime snapshot
COMMAND ===>                                           Row 1 to 6 of 6
                                                    SCROLL ===> PAGE

  IMSplex: PLEX1
SM server: UIS
  Route: *

Date:      08/23/06
Time:      11:55:16

      Keyword
IMSId Parameter  Description
-----
IMS1  DC          DC proclib member suffix      C01
IMS2  DC          DC proclib member suffix      C02
IMS1  IMSID       IMS subsystem identifier      IMS1
IMS2  IMSID       IMS subsystem identifier      IMS2
IMS1  SHAREDQ     DFSSQxxx shared queues member suffix  E11
IMS2  SHAREDQ     DFSSQxxx shared queues member suffix  E12
***** Bottom of data *****
  
```

IMS System Parameters – Tutor

```

Menu  View  Options  Help
-----
GJEP200      System Configuration Options and Parameters      Realtime snapshot
COMMAND ==> HELP                                     Row 1 to 30 of 131
                                                    SCROLL ==> PAGE

SMplex . . .
SM server.
Route. . .

      Keyw
      IMSid Para
SYS3  ALOT
SYS3  AOIP
SYS3  AOIS
SYS3  AOI1
SYS3  APPC
SYS3  APPC
SYS3  APPL
SYS3  APPL
SYS3  APPL
SYS3  ARC
SYS3  ARMR
SYS3  ASOT
SYS3  AUTO
SYS3  BSIZ
SYS3  CCTC
SYS3  CIOP
SYS3  CMDMCS
SYS3  CPLOG
SYS3  CRC
SYS3  CRTYPE

      GJEPFLDH      IMS Startup Parameter Tutor Row 1 to 13 of 37
      COMMAND ==>
      Keyword. : CMDMCS
      N: Commands cannot be entered from an MCS console.
      N is the default.
      Y: Commands can be entered from an MCS or E-MSC
      console by entering the command recognition
      character (CRC) followed by the command text.
      R: Commands can be entered from an MCS console in
      the form CRC followed by the command text. The
      calls RACF (or equivalent) to verify that the
      user ID of the console is authorized to issue
      the command.
      C: Commands can be entered from an MCS console in
      the form CRC followed by the command text.
      DFSCCMDO is called to verify that the user ID of
      F1=Help      F2=Split      F3=Exit      F7=Backward
      F8=Forward   F9=Swap      F10=Actions  F12=Cancel

      Communication I/O pool upper limit, bytes      2147483647
      Command security option . . . . . N
      System log checkpoint frequency . . . . . 0000032767
      IMS command recognition character . . . . . /
      IMS Cntl Rgn type (DB/DC, DBCTL,DCCTL,FDR)  DB/DC
    
```

Scenario 3 – Verifying IMS Resource Definitions

■ Resource definitions

- Transactions, Programs, Data Bases, Nodes, LTERMS, etc.
- Are the definitions the same across the Sysplex?
- What is the resource status across the Sysplex?
- How do you alter the status across the Sysplex?

■ Resource definition display

- Query resource by status or attribute
- Real-time scrollable display of resources
- Resource attributes and status across all IMS systems for easy comparison
- Integrated IMS Type 1 command interface to alter resource status
- Ability to drill-down to related resource (from transaction to PSB, from PSB to databases...)



IMS Resource Definitions – Filter Specification

```

GJEP50S                               Transaction selection specification
COMMAND ===> _____

Enter a value for one of the selection criteria below. The default
is ALL (no filtering).

Transaction name: _____ PSB name: _____ Route code: _____

Execution class.....: _____ value (1-999)
Local system id.....: _____ value (0-9999)
Remote system id.....: _____ value (0-9999)

Status : _____ Place cursor and press enter for help.
Settings: WFI Place cursor and press enter for help.

Priority (value 0-99999 preceded by operator >, =, or <)
Current priority: _____ Normal priority : _____ Limit priority: _____

Counts (value 0-9999999 preceded by operator >, =, or <)
ENQ : _____ DEQ : _____ ONQ: _____
Limit : _____ Max region: _____ WFI: _____
Plimit: _____ PROCLIM : _____
  
```

IMS Resource Definitions – Drill-down to PSB

```

Menu Edit Option Filter
-----
GJEP500      IMS Resource Information - Transactions      Realtime snapshot
COMMAND ==>                               Row 1 to 24 of 27
                                           SCROLL ==> PAGE

    SMplex: ISM01          Date:          08/30/06
    SM server: UIS         Time:          09:46:11
    Route: *
    Settings: WFI
                                           more: >

Enter 's' to view transaction detail data
    'p' to view PSB detail data
    'c' under Cmd to exec IMS commands

    Cmd  IMSid  Tran      PSB      Route  Exec  ---Priority---
           Name  PSB      Code  Class  Curr  Norm  Lim      Segsz  Segno
-----
    |  SYS3  AOBMP    TS2IAOB0  |  23  |  0  |  0  |  0  |  0  |  0
    |  SYS3  APOL18  APOL1    |  1  |  1  |  1  |  1  |  0  |  0
    | p_  SYS3  HPCSTCL1 HPC$M$00 |  1  |  1  |  1  |  1  |  0  |  0
    |  SYS3  HPCSTCL2 HPC$M$00 |  2  |  1  |  1  |  1  |  0  |  0
    |  SYS3  HPCSTCL3 HPC$M$00 |  3  |  1  |  1  |  1  |  0  |  0
    |  SYS3  HPCSTCL4 HPC$M$00 |  4  |  1  |  1  |  1  |  0  |  0
    |  SYS3  HPCSTCL5 HPC$M$00 |  5  |  1  |  1  |  1  |  0  |  0
    |  SYS3  HPCSTCL6 HPC$M$00 |  6  |  1  |  1  |  1  |  0  |  0

```


IMS Resource Definitions – Drill-down to Database

```

Menu Edit Option Filter
-----
GJEP510          IMS resource information - Programs          Realtime snapshot
COMMAND ===>                                         Row 1 to 1 of 1
                                                         SCROLL ===> PAGE

  SMplex: ISM01          Date:          08/30/06
SM server: UIS          Time:          09:48:08
  Route: *
  Program: HPC$M$00
                                                         more! >

Enter 'c' to exec IMS commands
      's' to view program detail data
      'p' to view PCB (databases) detail data

Cmd IMSid Name      Type Lang PSBSize PSBSize PSBSize Size of
p_  SYS3  HPC$M$00  TP   ASSEM  1,728  19,136  19,328  3,968  N   P
***** Bottom of data *****
    
```

IMS Resource Definitions – Databases for a PSB

```

Menu  Edit  Option  Filter
-----
GJEP520          IMS resource information - Databases          Realtime snapshot
COMMAND ===>                                         Row 1 to 9 of 9
                                                    SCROLL ===> PAGE

      SMplex: ISM01          Date:          08/30/06
SM server: UIS             Time:          09:49:40
      Route: *
      Program: HPC$M$00
                                                    more: >

Enter 's' to view database detail data
      'c' under Cmd to exec IMS commands

Cmd  IMSid  Name          Area/          DMB          Gl DMB          DMBSize          DMBuff          DBAcc
-----
SYS3  DBHDOJ01  DL/I          33             0             42             42             UP
SYS3  DBHDOK01  DL/I          34             0             49             49             UP
SYS3  DBOHIDK5  DL/I          40             0             53             53             UP
SYS3  DBOVLFPC  DL/I          41             0             44             44             UP
SYS3  DBVHDJ05  DL/I          42             0             46             46             UP
SYS3  DDYBTZ02  DL/I          43             0             45             45             EX
SYS3  DXYHIDK5  DL/I          251            0             8              8             UP
SYS3  D2XHDJ05  DL/I          262            0             8              8             UP
SYS3  D2XHIDK5  DL/I          264            0             8              8             UP
***** Bottom of data *****

```

IMS Resource Definitions – Manage Transactions

```

Menu Edit Option Filter
-----
GJEP50C          IMS Resource Information - Transactions      Row 1 to 24 of 1,288
COMMAND ===>    SCROLL ===> PAGE
Realtime snapshot

  IMSplex: PLEX1          Date:          08/23/06
  SM server: UIS          Time:          12:00:20
  Route: *
  Transact: *
                                     more: <>

Enter 's' to view transaction detail data
      'p' to view PSB detail data
      'c' under Cmd to exec IMS commands

  Cmd  IMSid  Tran  -----STATUS-----  -----SETTINGS-----
  Name  Stop Pstop Purge Lock Qerr Ustop  Sched  Seq  Trunc WFI
                Opt  Opt  Opt  Opt  Opt  Opt  Opt  Opt
  ___
c_  IMS1  ADDINY  Y  Y  Y  N  N  N  1  N  N  N
  ___
  IMS2  ADDINY  N  N  N  N  N  N  1  N  N  N
  ___
  IMS1  ADDPART  N  N  N  N  N  N  1  N  N  N
  ___
  IMS2  ADDPART  N  N  N  N  N  N  1  N  N  N
  ___
  IMS1  AOBMP  N  N  N  N  N  N  1  N  N  Y
  ___
  IMS2  AOBMP  N  N  N  N  N  N  1  N  N  Y
  ___
  IMS1  AOP  N  N  N  N  N  N  1  N  N  N
  ___
  IMS2  AOP  N  N  N  N  N  N  1  N  N  N
  ___
  IMS1  APOL11  N  N  N  N  N  N  1  N  N  N
  ___
  IMS2  APOL11  N  N  N  N  N  N  1  N  N  N
  ___
    
```

IMS Resource Definitions – Manage Transactions

```

Menu  Edit  Option  Filter
-----
GJEP50C      IMS Resource Information - Transactions      Row 1 to 24 of 1,288
COMMAND ==>                               SCROLL ==> PAGE

IMSplex:    GJEPTRCM ect an IMS command
SM server:
Route:      Resource name: ADDINV                      more: <>
Transact:   Resource type: TRANSACTION

Enter 's' t      1_ 1. /START
            'p' t      2. /STOP
            'c' u      3. /PSTOP
                        4. /LOCK
                        5. /UNLOCK
                        6. /PURGE

Cmd  IMSid  N
c    IMS1   A      F1=HELP      F2=SPLIT    F3=END
    ___ IMS2   A      F4=RETURN    F5=RFIND    F6=RCHANGE
    ___ IMS1   A
    ___ IMS2  ADDPART  N      N      N      N      N      N      1
    ___ IMS1  AOBMP    N      N      N      N      N      N      1
    ___ IMS2  AOBMP    N      N      N      N      N      N      1
    ___ IMS1  AOP      N      N      N      N      N      N      1
    ___ IMS2  AOP      N      N      N      N      N      N      1
    ___ IMS1  APOL11  N      N      N      N      N      N      1
    ___ IMS2  APOL11  N      N      N      N      N      N      1

SETTINGS-----
Seq  Trunc  WFI
Opt  Opt
N    N      N
N    N      N
N    N      N
N    N      N
N    N      N
N    N      N
N    N      N
N    N      N

```

Scenario 4 – Issuing IMS Commands

- **Issue Type 1 command to all IMS systems**
 - Display same resource type across Sysplex
 - Alter resource status across Sysplex

- **Command issued to each IMS system**
 - Output recorded to command file and logged history file
 - ISPF Browse(view) used to display result
 - Scrollable, Primary and line commands (find, exclude, etc.)
 - Retrievable list of previously entered commands



IMS Commands – Type-1

```
Menu View Options Help
-----
GJEPCMD          Execute IMS Type-1 Commands          Row 1 to 24 of 25
COMMAND ==>> _____ SCROLL ==>> PAGE
IMSplex. . . . PLEX1
SM server. : UIS1
Route. . . . *
Enter IMS command below
==>> /DIS OLDS
-----
Place cursor on choice and press Enter to retrieve command
=> /DIS QCNT TRAN ALL
=> /DIS OLDS
=> /DIS ACT
=>
=>
=>
=>
```

IMS Commands – Type-1

```

File Edit Edit_Settings Menu Utilities Compilers Test Help
VIEW      USRT004.ECTST21.IMSSM.CMDOUT1          Columns 00001 00080
Command ==> █                                  Scroll ==> PAGE
***** Top of Data *****
==MSG> -Warning- The UNDO command is not available until you change
==MSG> your edit profile using the command RECOVERY ON.
000001 *-----*
000002 * FIRST Response from: IMS1 *
000003 *-----*
000004
000005 W70 OLDS-DDNAME % FULL RATE ARCH-JOB     ARCH-STATUS  OTHER-STATUS
000006 W00 *DFSOLP00      65      0              IN USE
000007 W00 DFSOLP03              AVAILABLE
000008 W00 DFSOLP02              AVAILABLE
000009 W00 DFSOLP01              AVAILABLE
000010
000011 W01 SINGLE OLDS LOGGING, SINGLE WADS LOGGING
000012 W02 AUTOMATIC ARCHIVE = 01
000013 W03 WADS = *DFSWADS0 DFSWADS1
000014 W04 SLDSREAD ON
000015 X99 *08101/093352*
000016 *-----*
000017 * FIRST Response from: IMS2 *
000018 *-----*
000019
000020 W70 OLDS-DDNAME % FULL RATE ARCH-JOB     ARCH-STATUS  OTHER-STATUS
000021 W00 *DFSOLP00      41      0              IN USE
000022 W00 DFSOLP03              AVAILABLE
000023 W00 DFSOLP02              AVAILABLE
000024 W00 DFSOLP01              AVAILABLE
000025
000026 W01 SINGLE OLDS LOGGING, SINGLE WADS LOGGING
000027 W02 AUTOMATIC ARCHIVE = 01
000028 W03 WADS = *DFSWADS0 DFSWADS1
000029 W04 SLDSREAD ON
000030 X99 *08101/093352*
***** Bottom of Data *****

```

IMS Commands – Type-2

```
Menu Edit Option
-----
GJEPCMD          Execute IMS Type-2 commands          Row 1 to 24 of 25
COMMAND ==> _____ SCROLL ==> PAGE

  IMSplex: PLEX1
  SM server: UIS
  Route: *

Enter IMS command below

==> QRY IMSPLEX SHOW(ALL)

  Place cursor on choice and press Enter to retrieve command

=> QRY DB NAME(AUTODB)
=> QRY IMSPLEX SHOW(ALL)
=>
=>
=>
```


IMS Commands – Type-2

```

File Edit Edit_Settings Menu Utilities Compilers Test Help
VIEW      USRT005.IMSSM.CMDOUT1                      Columns 00001 00080
Command ==>                                         Scroll ==> PAGE
***** Top of Data *****
==MSG> -Warning- The UNDO command is not available until you change
==MSG> your edit profile using the command RECOVERY ON.
000001 *-----*
000002 * FIRST Response from: SCI1 *
000003 *-----*
000004 IMSplex . . . . . : PLEX1
000005 Routing . . . . . : *
000006 Date. . . . . : 06/08/30
000007 Time. . . . . : 10:33:34.2
000008
000009 Response for: QRY IMSPLEX SHOW(ALL)
000010 IMSplex MbrName CC Member JobName Type Subtype Version OSName
000011 Status
000012 -----
000013 CSLPLEX1 OM10M 0 OM10M OM1 OM 1.2.0 ECTST21
000014 READY,ACTIVE
000015 CSLPLEX1 OM10M 0 IMS1 IMS1 IMS DBDC 9.1.0 ECTST21
000016 READY,ACTIVE
000017 CSLPLEX1 OM10M 0 DCIMS19 DCIMS19 OTHER 1.2.0 ECTST21
000018 READY,ACTIVE
000019 CSLPLEX1 OM10M 0 SCI1SC SCI1 SCI 1.2.0 ECTST21
000020 READY,ACTIVE
000021 CSLPLEX1 OM10M 0 RM1RM RM1 RM MULTRM 1.2.0 ECTST21
000022 READY,ACTIVE
***** Bottom of Data *****

```

Scenario 5 – Maintaining command Audit Trail

- **Keeping track of operations of your IMS systems**
 - Need for audit trail?
 - Easy way of viewing IMS commands & system messages?
 - Automatic archive of audit log?

- **Sysplex Manager with its history datasets**
 - Log most type-1 IMS commands, command responses and MTO messages from all IMS images regardless of origins (z/OS console, terminal, OTMA, AOI programs using CMD or ICMD interface)
 - Searchable, filterable online viewing of log data using ISPF dialog
 - Automatic archive for full history dataset
 - Archive Directory to assist locating archived data
 - Issue type-1 and type-2 IMS commands while viewing log data (similar to z/OS SDSF)
 - Check SM History datasets status



Command Audit Trail

```
Menu Edit Option
-----
GJEPS00          System exceptions/log data selection specification
Command ==>

  IMSplex: PLEX1      SM server: UIS

Enter the criteria to view the system exceptions/Log data from history dataset:
Enter the System Exception Type for system exception view
      Data type : CMD          (LLKX, CQSX, LOG, MTO, CMD or *)

Enter the LOG, MTO, CMD filter : *          (IMSid or *)
Enter the CQS filter           : _____ (CQSid or *)

Enter the start date and time of data
      Start date: 08/25/06      (mm/dd/yy)
      Start time: 15:48:14     (hh:mm:ss)

Enter the end date and time of data
      End date  : 08/25/06      (mm/dd/yy)
      End time  : 15:49:39     (hh:mm:ss)
```



Command Audit Trail

```

ROUTE: 0017000:IMS1:END001
COMMAND ==>
Route: *
IMSPLEX: PLEX1          REQUEST: Start date time: 01/03/07 14:25:04
SM server: UIS1         End   date time: 01/04/07 11:25:03
Filters:                RESPONSE: First record  : 01/03/07 14:29:16
Data Type: *           Last record   : 01/03/07 17:21:32
000035 IMS1 CMD 01/03/07 16:35:48 ----->  COMMAND ISSUED FROM: OTHER ORIGIN
000036 IMS1 CMD 01/03/07 16:35:48          BY USERID:                LTERM: IMS1
000037 IMS1 CMD 01/03/07 16:35:48          /STO PGM HPC$M$00
000038 IMS1 CMD 01/03/07 16:35:48          DFS058I 16:35:48 STOP COMMAND COMPLETED
000039 IMS1 MTO 01/03/07 16:36:16          DFS551I MESSAGE REGION MPP11   STARTED ID=00001 TIME=1636 CLASS=001,002,003,00
000040 IMS1 MTO 01/03/07 16:36:16          4
000041 IMS1 MTO 01/03/07 16:36:17          DFS551I MESSAGE REGION MPP12   STARTED ID=00002 TIME=1636 CLASS=001,002,003,00
000042 IMS1 MTO 01/03/07 16:36:17          4
000043 IMS1 MTO 01/03/07 16:36:17          DFS551I MESSAGE REGION MPP13   STARTED ID=00003 TIME=1636 CLASS=001,002,003,00
000044 IMS1 MTO 01/03/07 16:36:17          4
000045 IMS2 CMD 01/03/07 16:36:29          ----->  COMMAND ISSUED FROM: OTHER ORIGIN
000046 IMS2 CMD 01/03/07 16:36:29          BY USERID:                LTERM: IMS2
000047 IMS2 CMD 01/03/07 16:36:29          /STO PGM HPC$M$00
000048 IMS2 CMD 01/03/07 16:36:29          DFS058I 16:36:29 STOP COMMAND COMPLETED
000049 IMS2 MTO 01/03/07 16:36:58          DFS551I MESSAGE REGION MPP23   STARTED ID=00001 TIME=1636 CLASS=001,002,003,00
000050 IMS2 MTO 01/03/07 16:36:58          4
000051 IMS2 MTO 01/03/07 16:36:58          DFS551I MESSAGE REGION MPP22   STARTED ID=00002 TIME=1636 CLASS=001,002,003,00
000052 IMS2 MTO 01/03/07 16:36:58          4
000053 IMS2 MTO 01/03/07 16:36:58          DFS551I MESSAGE REGION MPP21   STARTED ID=00003 TIME=1636 CLASS=001,002,003,00
000054 IMS2 MTO 01/03/07 16:36:58          4
000055 IMS1 CMD 01/03/07 16:37:18          ----->  COMMAND ISSUED FROM: OTHER ORIGIN
000056 IMS1 CMD 01/03/07 16:37:18          BY USERID:                LTERM: IMS1
000057 IMS1 CMD 01/03/07 16:37:18          /CLS NODE NDSLU2A1
000058 IMS1 CMD 01/03/07 16:37:18          DFS551I BATCH   REGION SMQBMP   STARTED ID=00004 TIME=1636
000059 IMS1 CMD 01/03/07 16:37:18          DFS2500I DATABASE DBHDOJ01 SUCCESSFULLY ALLOCATED
000060 IMS1 CMD 01/03/07 16:37:18          DFS2500I DATABASE DBHDOK01 SUCCESSFULLY ALLOCATED
000061 IMS1 CMD 01/03/07 16:37:18          DFS552I BATCH   REGION SMQBMP   STOPPED ID=00004 TIME=1636
000062 IMS1 CMD 01/03/07 16:37:18          DFS058I 16:37:18 CLSDST COMMAND COMPLETED EXCEPT NODE NDSLU2A1
000063 IMS1 CMD 01/03/07 16:37:50          ----->  COMMAND ISSUED FROM: OTHER ORIGIN
000064 IMS1 CMD 01/03/07 16:37:50          BY USERID:                LTERM: IMS1
000065 IMS1 CMD 01/03/07 16:37:50          /STA DC
000066 IMS1 LOG 01/03/07 16:37:50          ----->  ACCOUNTING RECORD                LOGREC 06
000067 IMS1 LOG 01/03/07 16:37:50          IMS ID: IMS1                YTAM RECONNECTED
000068 IMS1 LOG 01/03/07 16:37:50          PRILOG START TIME: 2007004F00330240    CURRENT TIME: 2007004F00375022
000069 IMS1 CMD 01/03/07 16:37:50          DFS2179I 16:37:19 QUICK YTAM SHUTDOWN REQUESTED
F1=HELP F2=SPLIT F3=END F4=RETURN F5=REIND F6=RCHANGE F7=UP F8=DOWN F9=SWAP F10=LEFT F11=RIGHT F12=RETRIEVE
    
```

SM History database status and usage

- Up to 8 VSAM Linear datasets make up SM history database
- Used in a circular fashion similar to IMS OLDS
- Automatic archive process to save full datasets to user-defined output location
- Directory to help users keep track of archive output
- Real-time information on status of these history datasets

```

Menu  View  Options  Help
-----
GJEP102          History Dataset Information          Realtime snapshot
COMMAND ==>>> |                                     Row 1 to 2 of 2
                                                    SCROLL ==>>> PAGE

SMplex . . . : ISM01          Date. . . : 05/20/08
SM server. . : UIS1           Time. . . : 14:55:39

Database ID. . . . . : IMSSMH12
Number of records recorded . . . : 8,548
Number of datasets allocated . . : 2
Number of datasets used. . . . . : 2
Earliest history record. . . . . : 08/05/01 19:15:56 yy/mm/dd hh:mm:ss
Latest history record. . . . . : 08/05/20 17:41:43 yy/mm/dd hh:mm:ss

          ----Recording yy/mm/dd hh:mm:ss----
DDname  St.   RecCnt  Earliest          Latest          MaxSize(K)  UsedSize(K)
HIST1   F     8,490  08/05/01 19:15:56  08/05/03 12:59:45    12,956      12,288
HIST2   R         58  08/05/03 12:59:55  08/05/20 17:41:43    10,796       2,048
***** Bottom of data *****

```

Scenario 6 – Managing Dependent Regions

- **Transaction workload back-logged**
 - What dependent regions are available?
 - What transaction classes do they handle?
 - Are they occupied with work?
 - What are they doing?

- **Scrollable list of all dependent regions across Sysplex**
 - Enhanced IMS /DISPLAY ACTIVE REG
 - Displays overall DL/I DB/TM call counts
 - Sort the lock held column to see which reg holds the most locks
 - Resequenced by primary or secondary classes
 - Drill down to lower level of detail



Dependent Region Display

```

GJEP22S                               Region Selection Specification
COMMAND ==> _____

Enter a value for one of the selection criteria below. The default
is ALL (no filtering).

Jobname. . . . . : *_____
Region type. . . . . : _____ Place cursor and press enter for help.
Transaction name . . . : _____
Program name . . . . . : _____
Stepname . . . . . : _____
Status . . . . . : _____ Place cursor and press enter for help.

Class1 . . . . . : _____ 1-999
Class2 . . . . . : _____ 1-999
Class3 . . . . . : _____ 1-999
Class4 . . . . . : _____ 1-999

Counts (value 0-9999999) preceded by operator >, =, or <
TMCalls. . . . . : _____
DBCalls. . . . . : _____

```



Dependent Region Display

```

Menu  View  Options  Help
-----
GJEP220          IMS Dependent Region Activity          Realtime snapshot
COMMAND ==>          Row 1 to 8 of 8
SCROLL ==> PAGE

IMSplex. . . PLEX1          Date. . . : 04/10/08
SM server. : UIS1          Time. . . : 11:30:51
Route. . . *
More: >

Enter 's' to select a region for detailed activity
      't' to view transaction resource definition data
      'p' to view PSB resource definition data
      'c' to process IMS commands
      'd' to produce an SVC dump for the selected region
      'dt' to produce SVC dumps for the selected region type across the plex

Cmd  IMS  Rgn  Type  Jobname  Trancode  Program  X-M  Locks-held  CPUtime(hs)
---  ---  ---  ---  ---  ---  ---  ---  ---  ---
s  IMS1  4    BMP  BMP3     PLVAPZ12  N        3        .01
  IMS1  3    BMP  BMP1     PLVAPZ02  N        2        .01
  IMS1  2    TP   MPP02    SMQ6      SMQPSB6   Y        0        2.53
  IMS1  1    TP   MPP01    NQF2      PMVAPZ22  Y        0        .01
  IMS2  4    TP   MPP21    NQF1      PMVAPZ12  Y        0        .01
  IMS2  3    TP   MPP22    NQF1      PMVAPZ12  Y        0        .01
  IMS2  2    BMP  BMP2     PLVAPZ22  Y        3        .01
  IMS2  1    BMP  BMP21    HPC$BA00  N        2        .03
***** Bottom of data *****

```


Dependent Region Display

```
Menu View Options Help
GJEPRGN IMS Dependent Region Activity Realtime snapshot
Option ==> 2

IMSpdex. . . PLEX1
SM server. : UIS1

Jobname. . . : MPP02
Region-id. : 2      Type. . . : TP      Status . : ACTIVE
PSBname. . . : SMQPSB6  Trancode. : SMQ6    Classes. : 1  2  3  4
In Cross Memory Window state. . : Y

Select one of the following options:

1. MVS information
2. Queue Manager statistics
3. Database information
4. Fastpath information and statistics
5. DL/I information and statistics
```

Dependent Region Display

```

Menu  View  Options  Help
-----
GJEP230          IMS Dependent Region Activity          Realtime snapshot
COMMAND ==>>                                     Row 1 to 28 of 30
                                                SCROLL ==> PAGE

IMSpIex. . . : PLEX1          Date. . . : 04/10/08
SM server. . . : UIS1         Time. . . : 11:34:34
Route. . . . . : IMS1

Jobname. . . : MPP02
Region-id. . . : 2          Type. . . : TP          Status . . : ACTIVE
PSBname. . . : SMQPSB6     Trancode. : SMQ6       Classes. . : 1  2  3  4
In Cross Memory Window state. . . : Y

Userid. . . . . : SMQLTM07
Userid indicator. . . . . : L
Originating Input Lterm . . . : SMQLTM07
LU6.2 network identifier . . . :
Date/time when msg rcvd . . . : 04/10/08
                                      10:40:32.9

QUEUE MANAGER BUFFER COUNTS:
Short buffer . . . . . : 0
Long buffer. . . . . : 0

Messages dequeued . . . . . : 1
Accum. msg DEQ cnt. for rgn: 0

SUBQUEUE 6 TIMES:
For this message . . . . . : 0
Accumulated. . . . . : 0

ENQUEUE/DEQUEUE COUNTERS:
Test enqueues. . . . . : 0
Waits on test enqueues . . . : 0
Test dequeues. . . . . : 0
Q command enqueues . . . . . : 0
Waits on Q command enqueue: 0
Q command dequeues . . . . . : 0
Update enqueues. . . . . : 0
Waits on update enqueues . . : 0
Update dequeues. . . . . : 0
Exclusive enqueues . . . . . : 0

```

Dependent Region Display

```

Menu  View  Options  Help
-----
GJEP230          IMS Dependent Region Activity          Realtime snapshot
COMMAND ==>>>                                     Row 1 to 16 of 16
                                                    SCROLL ==>>> PAGE

IMSplex. . . : PLEX1          Date. . . : 04/10/08
SM server. . : UIS1          Time. . . : 11:35:32
Route. . . . : IMS1

Jobname. . . : MPP02
Region-id. . : 2             Type. . . : TP           Status . . : ACTIVE
PSBname. . . : SMQPSB6      Trancode. : SMQ6        Classes. . : 1  2  3  4
In Cross Memory Window state. . : Y

DB2 subsystem name . . . . :
DB2 plan name. . . . . :

Class assoc. with exc.tran.: 0
Number of locks,curr. held.: 0
Maximum number of locks . . : 0

PCB INFORMATION SECTION . . :
PCB Type-TP/DB PCB . . . . : TP-PCB
Status code. . . . . :
PCB name . . . . . : IOPCB
DBD name . . . . . : N/A
Terminal name. . . . . : SMQLTM07
Segment name feedback. . . :
Function code. . . . . : GHU
Processing option. . . . . :

***** Bottom of data *****
    
```

Dependent Region Display

```

Menu  View  Options  Help
-----
GJEP230          IMS Dependent Region Activity          Realtime snapshot
COMMAND ==>>> |                                     Row 1 to 28 of 36
                                                    SCROLL ==>> PAGE

IMSpIex. . . : PLEX1                               Date. . . : 04/10/08
SM server. . . : UIS1                               Time. . . : 11:36:36
Route. . . . : IMS1

Jobname. . . : MPP02
Region-id. . . : 2      Type. . . . : TP           Status . . : ACTIVE
PSBname. . . : SMQPSB6  Trancode. . : SMQ6       Classes. . : 1  2  3  4
In Cross Memory Window state. . . : Y

MSG GU  CALLS. . . . : 1
MSG GN  CALLS. . . . : 0
MSG CHNG CALLS. . . . : 0
MSG ISRT CALLS. . . . : 0
MSG PURG CALLS. . . . : 0
MSG CMD  CALLS. . . . : 0
MSG GCMD CALLS. . . . : 0
MSG AUTH CALLS. . . . : 0
MSG SETD CALLS. . . . : 0
DB GU   CALLS. . . . : 0
DB GN   CALLS. . . . : 0
DB GNP  CALLS. . . . : 0
DB GHU  CALLS. . . . : 1
DB GHN  CALLS. . . . : 0
DB GHNP CALLS. . . . : 0
DB ISRT CALLS. . . . : 0
DB DLET CALLS. . . . : 0
DB REPL CALLS. . . . : 0

TOTAL OF PREVIOUS DB CALLS: 1
DB DEQ  CALLS. . . . : 0
System Service Calls. . . . :
APSB CALLS. . . . . : 0
DPSB CALLS. . . . . : 0
GMSG CALLS. . . . . : 0
ICMD CALLS. . . . . : 0
RCMD CALLS. . . . . : 0
CHKP CALLS. . . . . : 0

```

Scenario 7 – Viewing IMS CF Structures

- **Growing use of Coupling Facility Structures**
 - Data Sharing, Shared Message Queues, Resource Manager
 - No single source for list of in use structures and details

- **Coupling Facility Structure display**
 - Real-time display of structure list
 - Statistics, Connections, Coupling Facility information



IMS Coupling Facility Structures

```

Menu View Options Help
-----
GJEP900                               Coupling Facility Structures
COMMAND ==> █

IMSpIex. . . PLEX1                     Date. . . : 04/10/08
SM server. : UIS1                       Time. . . : 09:37:41
Route. . . : *

Enter 's' to select a structure for statistics

-Connections-  ----Utilization---
Cmd Structure name  Type Status  Conns/Maxconns  Entries  Elements
---
IMSMGQ01          MSGQ ALLOCATED    2 /   32         0 %      0 %
IMSMGQ010FLW     OVFL UNALLOCATED 0 /    0         0 %      0 %
IMSEMHQ01         EMHQ ALLOCATED    2 /   32         1 %      1 %
IMSEMHQ010FLW     OVFL UNALLOCATED 0 /    0         0 %      0 %
IMRSRC01          RSRC ALLOCATED    2 /   32        31 %      0 %
GJESMAFN          AFFN UNALLOCATED  0 /    0         0 %      0 %
LT01              IRLM ALLOCATED    2 /   32         0 %      0 %
OSAMSESXI        OSAM ALLOCATED    2 /   32         0 %      0 %
***** Bottom of data *****

```

IMS Coupling Facility Structures

```
Menu View Options Help
Realtime snapshot
GJEPCFM IMSSM Coupling Facility Structure Data
Option ==> 1
IMSplex. . : PLEX1
SM server. : UIS1
Route. . . : *
Structure name. : IMSRSRC01 Type. : RSRC
Select one of the following options:
1. Structure statistics
2. Connections
3. CF Structure data
```



IMS Coupling Facility Structures

```

Menu View Options Help
-----
GJEP901                                CF Structure Statistics
COMMAND ==> █                          Realtime snapshot
                                         Row 1 to 22 of 22
                                         SCROLL ==> PAGE

IMSplex. . : PLEX1                      Date. . : 04/10/08
SM server. : UIS1                       Time. . : 09:37:41
Route. . . : *

Structure name. : IMSRSRC01              Type. : RSRC

Description                                Value
STRUCTURE STATISTICS
Entry count. . . . . : 690
Element count. . . . . : 14
Maximum entry count. . . . . : 2,161
Maximum element count. . . . . : 2,160
Entry ratio. . . . . : 1
Element ratio. . . . . : 1
Entries in use (%). . . . . : 31
Elements in use (%). . . . . : 0

Policy size. . . . . : 2,048K
Policy initial size. . . . . : 0K
Policy minimum size. . . . . : 0K
Structure full threshold (%). . . . . : 80
Actual structure size. . . . . : 2,048K
Storage increment size . . . . . : 256K

Event monitor control count. . . : 0
Max event monitor cntrl count. . : 0
Maximum connections. . . . . : 32
Nr of crnt IMS connections . . . : 2
CF Max access time (1/10th s). . : NOLIMIT
***** Bottom of data *****
    
```


IMS Coupling Facility Structures

```

Menu  View  Options  Help
-----
GJEP902      Coupling Facility Structure Connections      Realtime snapshot
COMMAND ==>                                     Row 1 to 2 of 2
                                                SCROLL ==> PAGE

IMSpIex. . . : PLEX1                               Date. . . : 04/10/08
SM server. . : UIS1                               Time. . . : 09:37:41
Route. . . . : *

Structure name. : IMSR SRC01                       Type. . . : RSRC

Connection name  ID      Version  OS-name  Jobname  ASID      Status
CQSCQS1CQS      0001  00010275  ECTST21  CQSEJ1   00000031  ACTIVE
CQSCQS2CQS      0002  00020002  ECTST22  CQSEJ2   00000031  ACTIVE
***** Bottom of data *****

```

IMS Coupling Facility Structures

```

Menu  View  Options  Help
-----
GJEP903          Coupling Facility Data          Realtime snapshot
COMMAND ==>          Row 1 to 12 of 12
                                SCROLL ==> PAGE

IMSplex. . : PLEX1          Date. . : 04/10/08
SM server. : UIS1          Time. . : 09:37:41
Route. . . : *

Structure name. : IMSRSRC01      Type. : RSRC

Description                               Value
COUPLING FACILITY DATA
ID. . . . . : 0000DCFF3
Name (node descriptor). . . . . : LF03
Side indicator (0 or 1) . . . . . : 1
Mode (PP or SI) . . . . . : SI
LPAR partition number . . . . . : 0
Node type . . . . . : SIMDEV
Model number. . . . . : 001
Node manufacturer . . . . . : IBM
Manufacturer plantid. . . . . : EN
Sequence number . . . . . : ND0300000000
CPCID . . . . . : 00000
***** Bottom of data *****

```

Scenarios

- **IMS**
 - Scenario 1 – Taking Inventory and capture diagnostic data
 - Scenario 2 – Managing IMS System Parameters
 - Scenario 3 – Verifying IMS Resource Definitions
 - Scenario 4– Issuing IMS Commands
 - Scenario 5 – Maintaining Command Audit Trail
 - Scenario 6 – Managing Dependent Regions
 - Scenario 7 – Viewing IMS CF Structures
- **IMSpIex**
 - Scenario 8 – Viewing Aggregate SCI, RM, OM Statistics
- **Shared Queue and CQS**
 - Scenario 9 - View local buffer utilization
 - Scenario 10 – Managing Destination Queue Depth
 - Scenario 11 – Viewing CQS Structures
- **Dashboard**
 - Scenario 12 – Dashboard and Thresholds



Scenario 8 – Aggregated SCI, RM, OM Statistics

- **Managing the well being of Common Service Layer (CSL) address spaces**
 - Lack of tools to obtain CSL statistical information
 - Multiple instances to check

- **Information gathered from CSL address spaces across Sysplex**
 - Aggregated into single system image
 - Drill down for information from individual address space



Aggregated RM Statistics

```
Menu View Options Help
GJEPVPL View IMSplex Data Realtime snapshot
Option ==> █

IMSplex. . . PLEX1
SM server. : UIS1
Route. . . : *

Select one of the following options:

1. RM resource management
2. RM aggregate of locals
3. OM aggregate of locals
4. SCI aggregate of locals
```

Aggregated RM Statistics

```

Menu  View  Options  Help
-----
GJEP720                      Aggregated Local RM Statistics
COMMAND ==>                   Realtime snapshot
                               Row 1 to 23 of 23
                               SCROLL ==> PAGE

IMSpIex. . . . PLEX1          Date. . . : 04/10/08
SM server. : UIS1             Time. . . : 09:45:03
Route. . . : *

Enter 's' to view detailed RM statistics. s

Description                               Value
LOCAL STATISTICS:
Update . . . . .                20
Query. . . . .                  16
Delete . . . . .                 0
Register . . . . .              8
De-register. . . . .            0
Internal De-register (normal):    0
Internal De-register(abnormal):  0
Initiate . . . . .              0
Terminate: . . . . .            0
Process: . . . . .              0
Response . . . . .              0
Query structure commands . . . . 0

Resource Structure Name . . . . : IMSRSRC01
Structure Version (Date). . . . : 04/08/08
Structure Version (Time). . . . : 15:30:52.6
CQS id. . . . .                 CQS1CQS
Registered Client Count . . . . : 8
Resource Create Count . . . . . 682
Resource Update Count . . . . . 11
Resource Delete Count . . . . . 0

***** Bottom of data *****

```

Aggregated RM Statistics

```

Menu  View  Options  Help
-----
GJEP72A          RM Statistics          Realtime snapshot
COMMAND ==>          Row 1 to 32 of 46
                                SCROLL ==> PAGE

IMSplex. . . : PLEX1          Date. . . : 04/10/08
SM server. . . : UIS1          Time. . . : 09:45:03
Route. . . . : *

RM-id      Description                      Value
RM1RM     LOCAL STATISTICS:
RM1RM     Update . . . . .           9
RM1RM     Query. . . . .             3
RM1RM     Delete . . . . .           0
RM1RM     Register . . . . .         4
RM1RM     De-register. . . . .       0
RM1RM     Internal De-register (normal).: 0
RM1RM     Internal De-register(abnormal): 0
RM1RM     Initiate . . . . .          0
RM1RM     Terminate: . . . . .          0
RM1RM     Process: . . . . .           0
RM1RM     Response . . . . .           0
RM1RM     Query structure commands . . . : 0

RM1RM     Resource Structure Name . . . : IMSRSRC01
RM1RM     Structure Version (Date). . . . : 04/08/08
RM1RM     Structure Version (Time). . . . : 15:30:52.6
RM1RM     CQS id. . . . .              CQS1CQS
RM1RM     Registered Client Count . . . . : 4
RM1RM     Resource Create Count . . . . . : 681
RM1RM     Resource Update Count . . . . . : 1
RM1RM     Resource Delete Count . . . . . : 0

RM2RM     LOCAL STATISTICS:
RM2RM     Update . . . . .           11
RM2RM     Query. . . . .             13
RM2RM     Delete . . . . .           0
RM2RM     Register . . . . .         4
RM2RM     De-register. . . . .       0
RM2RM     Internal De-register (normal).: 0
RM2RM     Internal De-register(abnormal): 0
RM2RM     Initiate . . . . .          0
    
```

Scenarios

- **IMS**
 - Scenario 1 – Taking Inventory and capture diagnostic data
 - Scenario 2 – Managing IMS System Parameters
 - Scenario 3 – Verifying IMS Resource Definitions
 - Scenario 4– Issuing IMS Commands
 - Scenario 5 – Maintaining Command Audit Trail
 - Scenario 6 – Managing Dependent Regions
 - Scenario 7 – Viewing IMS CF Structures
- **IMSpIex**
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- **Shared Queue and CQS**
 - Scenario 9 - View local buffer utilization
 - Scenario 10 – Managing Destination Queue Depth
 - Scenario 11 – Viewing CQS Structures
- **Dashboard**
 - Scenario 12 – Dashboard and Thresholds



Scenario 9 - SQ local buffer utilization

```

Menu  View  Options  Help
-----
GJEP890          Shared Queue Local Buffer Usage          Realtime snapshot
COMMAND ==>          Row 1 to 10 of 10
                                SCROLL ==> PAGE

IMSplex. . . PLEX1          Date. . . : 04/08/08
SM server. : UIS1          Time. . . : 14:45:41
Route. . . : IMS1

IMSId Description                               Value
IMS1  BUFFER QUEUE STATISTICS:
IMS1  Buffers in use . . . . . : 141
IMS1  Count of buffers available . . : 200
IMS1  Percent buffers in use . . . . : 70
IMS1  High threshold for buffers . . : 160
IMS1  Low threshold for buffers. . . : 0
IMS1  In use high water mark . . . . : 143
IMS1  Times buffer pool expanded . . : 0
IMS1  Percentage to expand/compress.: 20
IMS1  Maximum bfr expansion reached.: N
***** Bottom of data *****
    
```

Scenario 10 – Destination Queue Depth

- **Managing Destination Queue Depth & CQS for Shared Queues**
 - Limited tools to browse, delete and recover messages on Shared Queues
 - Lack of tools to obtain CQS statistical information and manage messages on Shared Queues
 - Required to optimize Shared Queues environment

- **DQD data & List of Shared Queue Structures in use**
 - Filter based on Destination name or ID
 - High level information, Drill down to levels of detail
 - Browse, Delete and Recover messages from Cold queue
 - Statistics for: structure, rebuild, checkpoint
 - CQS processing counters



Destination Queue Depth

```

Menu Edit Option Filter
-----
GJEP210          Destination Queue Depths          Realtime snapshot
COMMAND ==>                                           Row 1 to 2 of 2
                                           SCROLL ==> PAGE

  IMSplex: PLEX1          Date:          08/24/06
  SM server: UIS          Time:          10:08:12
  Route: IMS1
                                           more: >

Enter 's' to list messages on the destination queue
      'd' to delete all messages on the destination queue
      'r' to recover all messages on the cold queue

-----Counts----- Affinity
Cmd ID  Destination      Type      On-Q    Enq     Deq  SIDR  IMSI
s_      CQS1  SMQ6          TRANSERQ  1,000   N/A    N/A    IMS2
_       CQS1  SMQ6          TRANSERQ   560    N/A    N/A    IMS1
***** Bottom of data *****
  
```


Destination Queue Depth

```

Menu Edit Option
-----
GJEP630          Detailed message view          Realtime snapshot
COMMAND ==>          Row 1 to 24 of 53
                                SCROLL ==> PAGE

    IMSplex: PLEX1          Date:          08/24/06
    SM server: UIS          Time:          09:59:50
    Route: IMS1

Destination.....: SMQ6          Most severe status.....:
Message source...: SMQLTM11      Message id.....: 10

    Enter 'd' to delete this message
    Enter 'r' to recover this message

Message
INPUT MESSAGE QUEUED          MSGS LENGTH:00530
NODE NAME: SMQLU111          SOURCE LTERM: SMQLTM11
DEST LTERM/TRAN: SMQ6
ORIGIN IMS:IMS2          PROCESSING IMS: IMS2
MSG TIMESTAMP: 2006235173834360135
1ST/CURRENT DRRN:08000003/08000003
UOW: C9D4E2F240404040BF4C318B87947A1A
** SQ MESSAGE - PUT PROCESS **
    BASIC PREFIX
00000000 02120000 01C18110 08000003 08000003 .. .Aa.. .. <.>
00000010 01CE9000 C9D4E2F2 40404040 BF4C318B .60 IMS2 |<.>
00000020 87947A1A C9D4E2F2 40404040 BF4C318B gm:.IMS2 |<.>
00000030 87947A1A 80000400 00000000 00000000 gm:..~ .

    SYSTEM PREFIX
00000000 00408100 C8000000 E2D4D8D3 E4F1F1F1 a H SMQLU111
00000010 00040000 00000000 00000000 00000001 .
00000020 E2D4D8D3 E3D4F1F1 E2D4D8F6 40404040 SMQLTM11SMQ6
00000030 00000000 00000000 40404040 40404040
    
```

Destination Queue Depth

```

Menu  Edit  Option
-----
GJEP520          Destination Queue Depths          Realtime snapshot
COMMAND ==>          Row 2 to 25 of 1,000
                                SCROLL ==> PAGE

IMSplex:
SM server:
Route:

SysID: CQS1

Enter 's' t
      'd' t
      'r' t

Cmd Msg sou
d  SMQLTM1
-- SMQLTM1
-- SMQLTM1
-- SMQLTM1
-- SMQLTM11      10      SMQLTM11
-- SMQLTM11      10      SMQLTM11
-- SMQLTM11      10      SMQLTM11
-- SMQLTM11      10      SMQLTM11
-- SMQLTM11      10      SMQLTM11

GJEPDMQ onfirm message delete
QType: 00000004
QName: 04E2D4D8F640404040C9D4E2F2404040
- Set message delete confirmation off
Press ENTER to confirm delete.
Press PF3 (END) to cancel delete.

---Prompt-----
g count Action

F1=HELP      F2=SPLIT      F3=END
F4=RETURN    F5=RFIND      F6=RCHANGE

TRANSERQ
    
```

Destination Queue Depth

```

Menu  Edit  Option
-----
GJEP620          Destination Queue Depths          Realtime snapshot
COMMAND ===>    Row 2 to 25 of 1,000
                SCROLL ===> PAGE

  IMSplex: PLEX1          Date:          08/24/06
  SM server: UIS          Time:          10:11:55
  Route:  IMS1

SysID: CQS1  Destination: SMQ6          Type: TRANSERQ

Enter 's' to view message on the destination queue
      'd' to delete message on the destination queue
      'r' to recover message on the cold queue

Cmd Msg source      Message  Security access RACF      -----Prompt-----
   |   |             | source ID facility  UserID   | Msg count Action
---|---|             |-----|-----|-----|
   | SMQLTM11      | 10          SMQLTM11 |         | 1 Deleted
   | SMQLTM11      | 10          SMQLTM11 |         |
   | SMQLTM11      | 10          SMQLTM11 |         |
   | SMQLTM11      | 10          SMQLTM11 |         |
   | SMQLTM11      | 10          SMQLTM11 |         |

```

Scenario 11 - CQS Shared Message Queues

```

Menu  View  Options  Help
-----
GJEP190      Aggregated IMS Common Queue Server Structures      Realtime snapshot
COMMAND ==>                                     Row 1 to 2 of 2
                                                SCROLL ==> PAGE

IMSplex. . . PLEX1                               Date. . . : 04/10/08
SM server. : UIS1                               Time. . . : 09:58:03
Route. . . : *

Enter 's' to select a structure for statistics

          ---Utilization---
CMD Structure  Name          Entries  Elements
---
EMHQ          IMSEMHQ01      1 %      1 %
OVFL          NOT-CONNECTED  0 %      0 %

s_ PRIM       IMSMSGQ01      <1 %     <1 %
OVFL          NOT-CONNECTED  0 %      0 %

***** Bottom of data *****
    
```


CQS Shared Message Queues

```
Menu View Options Help
----- Realtime snapshot
GJEPSQM          Common Queue Server Structure Statistics
Option ==> _____
IMSplex. . . : PLEX1
SM server. . : UIS1
Route. . . . : *

Structure name. : IMSMSGQ01          Type. : PRIM

Select one of the following options:

1. Structure statistics
2. Processing counters
3. Structure rebuild statistics
4. Structure checkpoint statistics
```



CQS Shared Message Queues

```

Menu  View  Options  Help
-----
GJEP191      Common Queue Server Structure Statistics      Realtime snapshot
COMMAND ==> █

IMSplex. . . : PLEX1
SM server. . : UIS1          Date. . . : 04/10/08
Route. . . . : *            Time. . . : 09:58:03

CQS-id. . . . : *          Structure name. : IMSMSGQ01      Type. : PRIM

Checkpoint
System . . . . . : 6
Structure. . . . . : 0
Rebuild . . . . . : 0
Overflow threshold processing . . . : 0
Entry counts
Total. . . . . : 41      Primary      Overflow
Maximum. . . . . : 18,084
Entry ratio . . . . . : 1      0
Percentage in use . . . . . : <1      0
Element counts
Total. . . . . : 78      Primary      Overflow
Maximum. . . . . : 18,084
Element ratio . . . . . : 1      0
Percentage in use . . . . . : <1      0
    
```



CQS Shared Message Queues

```

Menu  View  Options  Help
-----
GJEP192      Common Queue Server Processing Counters      Realtime snapshot
COMMAND ==>                                     Row 1 to 30 of 38
                                                SCROLL ==> PAGE

IMSpIex. . . : PLEX1                               Date. . . : 04/10/08
SM server. . . : UIS1                               Time. . . : 09:58:03
Route. . . . . : *

CQS-id. . . . : *_____ Structure name. : IMSMSGQ01      Type. : PRIM

Description                                     Value
Requests:
CQSBWSE. . . . . : 0
CQSCHKPT. . . . . : 0
CQSCONN . . . . . : 4
CQSDEL. . . . . : 0
CQSDISC . . . . . : 0
CQSINFRM. . . . . : 9
CQSMOVE . . . . . : 0
CQSPUT. . . . . : 74
CQSQUERY. . . . . : 4,110
CQSREAD . . . . . : 0
CQSRECVR. . . . . : 0
CQSRSYNC. . . . . : 4
CQSUNLCK. . . . . : 2

MVS requests:
IXGWRITE (MVS LOGGER) . . . . . : 78
IXGBRWSE (MVS LOGGER) . . . . . : 0
IXLLIST DEQ EVENTQ. . . . . : 0
IXLLIST WRITE . . . . . : 53
IXLLIST READ. . . . . : 342
IXLLIST MOVE. . . . . : 0
IXLLIST DELETE. . . . . : 0
IXLMG . . . . . : 683
IXLUSYNC. . . . . : 4
    
```

CQS Shared Message Queues

```

Menu  View  Options  Help
-----
GJEP193      Common Queue Server Structure Rebuild Statistics
COMMAND ==> █

IMSplex. . . : PLEX1          Date. . . : 04/10/08
SM server. . : UIS1          Time. . . : 10:04:51
Route. . . . : *

CQS-id. . . . : CQS2      Structure name. : IMSMSGQ01      Type. : PRIM

                                Old   New (Rebuild)
Data Elements in use. . . . . :      78      78
Data Elements allocated . . . . : 18,084    18,084
Data Entries in use . . . . . :      41      41
Data Entries allocated . . . . . : 18,084    18,084
EMCS in use . . . . . :      1,243      622
EMCS allocated. . . . . :     36,487    36,487
Size in 4K Blocks . . . . . :      4,096      4,352
CF Total space in 4K Blocks . . . : 13,632    13,632
CF Free space in 4K Blocks. . . . :   2,048      6,144
Old CF name Structure allocated on. :      LF03      LF03

```



CQS Shared Message Queues

```

Menu View Options Help
-----
GJEP194      Common Queue Server Structure Checkpoint Stats
COMMAND ==>

Realtime snapshot
Row 1 to 30 of 36
SCROLL ==> PAGE

IMSpIex. . . : PLEX1           Date. . . : 04/10/08
SM server. . : UIS1           Time. . . : 10:06:45
Route. . . . : *

CQS-id. . . . : *          Structure name. : IMSMSGQ01      Type. : PRIM

Description                                     Value
Return code for this Structure checkpoint .    00000000

QUIESCE TIME
Start date . . . . . 04/10/08
Start time . . . . . 10:06:36.0
End date . . . . . 04/10/08
End time . . . . . 10:06:36.4
Quiesce elapsed time(ms) . . . . . 366

DATA SPACE/DATA SET CAPTURE TIME
Start date . . . . . 04/10/08
Start time . . . . . 10:06:36.4
End date . . . . . 04/10/08
End time . . . . . 10:06:36.5
Data space capture time (ms) . . . . . 90

End data set capture date . . . . . 04/10/08
End data set capture time . . . . . 10:06:36.5
Structure resume START date . . . . . 04/10/08
Structure resume START time . . . . . 10:06:36.5
Date all System checkpoints completed . . . 04/10/08
Time all System checkpoints completed . . . 10:06:37.6
    
```

CQS Shared Message Queues

```

Menu  View  Options  Help
-----
GJEP194      Common Queue Server Structure Checkpoint Stat Row 24 to 36 of 36
COMMAND ==> _____ SCROLL ==> CSR

IMSplex. . . : PLEX1          Date. . . : 04/10/08
SM server. . : UIS1          Time. . . : 10:08:28
Route. . . . : *

CQS-id. . . . : *          Structure name. : IMSMSGQ01      Type. : PRIM

Description                                     Value
PRIMARY STRUCTURE
Allocated elements . . . . .                18,084
Elements in use. . . . .                    78
Allocated list entries . . . . .            18,084
List entries in use. . . . .                42

OVERFLOW STRUCTURE
Allocated elements . . . . .                 0
Elements in use. . . . .                   0
Allocated list entries . . . . .            0
List entries in use. . . . .                0

SRDS WRITES required. . . . .               2
***** Bottom of data *****

```



Scenarios

- **IMS**
 - Scenario 1 – Taking Inventory and capture diagnostic data
 - Scenario 2 – Managing IMS System Parameters
 - Scenario 3 – Verifying IMS Resource Definitions
 - Scenario 4– Issuing IMS Commands
 - Scenario 5 – Maintaining Command Audit Trail
 - Scenario 6 – Managing Dependent Regions
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 - Scenario 12 – Dashboard and Thresholds



Scenario 12 – Dashboard Sysplex at a Glance

- **Managing the IMS Sysplex through key system indicators**
 - Determine overall Sysplex health at a Glance
 - Alert when indicators violate predefined thresholds
 - Set multiple monitoring thresholds depending on workloads, time of day...

- **Critical data from key areas summarized on one or more screens**
 - User customized content, positioning, threshold value
 - Threshold exceptions are logged for future review
 - One or more per user, default supplied
 - Automatic screen refresh capability for operational ease
 - Drill down for additional detail



Configure Your Dashboard

- Create and customize a new dashboard

```

Menu View Options Help
-----
GJEPDBC                      Configure Dashboards      Realtime snapshot
COMMAND ==>                   Row 1 to 26 of 92
                               SCROLL ==> PAGE

IMSpIex. . : ISM01
SM server. : UIS1

Dashboard name . . . . IMSSM_dashboard Type ? to list defined dashboards
Enter 'x' to exclude the selected field or element from the dashboard
      's' to include the selected field or element in the dashboard
      'i' to insert a blank field at current location
      'd' to delete the blank field

CMD  Element / Field                Field data
___  > MSGQ % in use-----
___  > P-Entry. :                      999
___  > P-Element:                      999
___  > O-Entry. :                      999
___  > O-Element:                      999
___  > Aggr. local OM request
___  > Reg commands . :                99,999
___  > Notify rdy . . :                99,999
___  > Notify not rdy:                99,999
___  > Dereg normal . :               99,999
___  > Dereg abnormal:                99,999
___  > Commands . . . :               99,999
___  > Queries. . . . :               99,999
___  > AO commands. . :               99,999
___  > ZQRY requests:                 99,999
___  > ZSHUT requests:                99,999
___  > QRY IMSplx cmd:                99,999
___  > Reg. clients . :               99,999
___  > Cmd timeouts . :               99,999
___  > Undel.output . :               99,999

```

When to monitor

- Define monitoring periods

```

GJEPTPD                                Define Monitoring Periods                                Row 1 to 7 of 7
COMMAND ==> _____ SCROLL ==> PAGE

Enter period data to add/edit a period.

Name. . . . . █
Active. . . . . Y                                (Y = yes, N = no)
Days. . . . . - - - - -                        (1 to 7 (1=Sun, 2= Mon, ..))
Hours (AM). . . . . - - - - -                  (0 to 11)
Hours (PM). . . . . - - - - -                  (12,1 to 11)

Enter 's' to define thresholds for a period, or 'd' to delete a period,
'e' to edit a period

Cmd  Name      Active Days      Hours
___  ANDY      Y      1 2 3 4 5 6 7 AM: 00 01 02 03 04 05 06 07 08 09 10 11
      THRESHAB N      1 - - - - - PM: 12 01 02 03 04 05 06 07 08 09 10 11
      TEST01  N      1 - - - - - AM: 00 -- -- -- -- -- -- -- -- -- --
      B       N      - 2 - - - - - PM: 12 -- -- -- -- -- -- -- -- -- --
      DJB     Y      - 2 3 4 5 6 - AM: -- 01 -- -- -- -- -- -- -- -- -- --
      PERIOD1 Y      - 2 - - - - - PM: -- -- 02 -- -- -- -- -- -- -- -- -- --
      A      Y      - 2 - - - - - AM: 00 01 02 03 04 05 06 07 08 09 10 11
      PM: 12 01 02 03 04 05 06 07 08 09 10 11
      PM: -- -- 02 -- -- -- -- -- -- -- -- -- --
      PM: -- 01 -- -- -- -- -- -- -- -- -- --
      PM: -- -- -- -- -- -- -- -- -- --

***** Bottom of data *****
    
```

Low and High Thresholds

- Define threshold values

```

Menu  View  Options  Help
-----
GJEPTPC          Define Threshold Values          Realtime snapshot
COMMAND ==>>    Row 79 to 92 of 92
SCROLL ==>>    CSR

IMSplex. . . : ISM01
SM server. . . : UIS1

Threshold dataset. . . : 'IMSTOOL.IMSSM.THRPARMS'
Period name. . . . . : ANDY

Element / Field          Field data          Low threshold          High threshold
Bfr shortage . . .      99,999              _____              _____
Othr Rsrc shtg:         99,999              _____              _____
Coupling facility stat
EMC high cnt :          999,999             _____              _____
Max EMCs. . . . .      999,999             5                      10
Max connects.:          999,999             _____              _____
IMS connects.:          999,999             _____              _____
Max acc. time:          999,999             _____              _____
Exceptions-----
Bfr ovflw:              99,999,999          _____              _____
Qbuff util:              999                 2                      6
IRLM locks:             99,999,999          _____              _____
PI locks . . .          99,999,999          1                      99999999
*** End of elements ***
***** Bottom of data *****
    
```

Threshold Processing Interval

- Set dashboard data collection interval

```

GJEPSET                               Settings
COMMAND ==> _____

Auto-refresh interval . . . . . 10      1-59 seconds
Dashboard data collection intvl . 060    15-999 seconds (default 60)
Date format . . . . . 3                 1 = yyyy/ddd, 2 = dd/mm/yy
                                       3 = mm/dd/yy, 4 = yy/mm/dd

IMS DS high level qualifier . . . █

Options to receive notifications
System exceptions . . . . . _          / = ON

Browse data set allocation parameters:
Data set name . . . . . _____
Primary CYLS. . . . . 010             1-999
Secondary CYLS. . . . . 010             1-999
UNIT. . . . . SYSALLDA optional (default SYSALLDA)
Volume serial number. . . . . _____ optional (default by system)
Number of lines for request . . 01000 optional (default 1000)
  
```



Dashboard

```

Menu View Options Help
-----
GJEPDBD View Dashboard Realtime snapshot
COMMAND ==> Page: * (1 of 1)
IMSplex. : PLEX1 Dashboard. : IMSSM dashboard Date: 04/10/08 Time: 11:41:56
- MSGQ % in use----- Aggr. local OM request- EMHQ % in use-----
  P-Entry. : <1 Reg commands. : 28 P-Entry. : 1
  P-Element: <1 Notify rdy. : 12 P-Element: 1
  O-Entry. : 0 Notify not rdy: 1 O-Entry. : 0
  O-Element: 0 Dereg normal. : 0 O-Element: 0
- Msg queue depths (SMQ)- Dereg abnormal: 0 - CQS system resources---
  COLDQ. . . : 0 Commands. . . : 0 Sys.chkp: 0
  TRAN RDY Q.: 0 Queries. . . : 0 Str.chkp: 2
  TRAN SPD Q.: 0 AO commands. : 8 - Msg queue depths(Local-
  TRAN SER Q.: 0 ZQRY requests: 1,518 TRANSACT: 0
  LTRM RDY Q.: 39 ZSHUT requests: 0 LTERM. : 40
  APPC RDY Q.: 0 QRY IMSplx cmd: 0 MSNAME. : 0
  RMTE RDY Q.: 0 Reg. clients. : 8 LU6.2. : 0
  OTMA RDY Q.: 0 Cmd timeouts. : 0 OTMA. : 0
  PRGMRDYQ-FP: 0 Undel.output. : 0 - Aggr. local RM request-
- DB processing stats--- Aggr. local SCI req.--- Update. . . : 20
  Lcl deadlocks.: 0 Local Regs. . : 8 Query. . . : 16
  Glbl deadlock.: 0 Remote Regs. : 5 Delete. . . : 0
- SCI IXCMSSGO statistics- Notify Rmte reg: 5 Register. . : 8
  Successful. : 1,578 Local Ready. : 8 Deregister. : 0
  Bfr shortage. : 0 Remote Ready. : 5 Initiate. . : 0
  Othr Rsrc shtg: 0 Local Quiesce. : 0 Terminate. : 0
- Coupling facility stat- Remote Quiesce.: 0 Process. . : 0
  EMC high cnt : 1,243 Lcl Dereg norm.: 0 Response. . : 0
  Max EMCs. . : 36,487 Lcl Dereg abn. : 0 QRY struct. : 0
  Max connects.: 32 Rmte Dereg norm: 0 Regtd.clients: 8
  IMS connects.: 2 Rmte Dereg abn.: 0 Rsrce create.: 682
  Max acc. time: NOLIMIT Notify abend. : 2 Rsrce update.: 11
- Exceptions----- Member init. : 2 Rsrce delete.: 0
  Bfr ovrlw: 0
  Qbuff util: 75
  IRLM locks: 0
  PI locks. : 0
    
```



Dashboard – Drill Down

```

Menu View Options Help
-----
GJEP890 Shared Queue Local Buffer Usage Realtime snapshot
COMMAND ==> █ Row 1 to 20 of 20
SCROLL ==> CSR

IMSplex. . . PLEX1 Date. . . : 04/10/08
SM server. : UIS1 Time. . . : 11:43:20
Route. . . : *

IMSId Description Value
IMS1 BUFFER QUEUE STATISTICS:
IMS1 Buffers in use . . . . . 150
IMS1 Count of buffers available . . . 200
IMS1 Percent buffers in use . . . . . 75
IMS1 High threshold for buffers . . . 160
IMS1 Low threshold for buffers. . . . 0
IMS1 In use high water mark . . . . . 150
IMS1 Times buffer pool expanded . . . 0
IMS1 Percentage to expand/compress.: 20
IMS1 Maximum bfr expansion reached.: N
IMS2 BUFFER QUEUE STATISTICS:
IMS2 Buffers in use . . . . . 142
IMS2 Count of buffers available . . . 200
IMS2 Percent buffers in use . . . . . 71
IMS2 High threshold for buffers . . . 160
IMS2 Low threshold for buffers. . . . 0
IMS2 In use high water mark . . . . . 142
IMS2 Times buffer pool expanded . . . 0
IMS2 Percentage to expand/compress.: 20
IMS2 Maximum bfr expansion reached.: N
***** Bottom of data *****
    
```

References

- **For publications and demo, visit IMS Sysplex Manager for z/OS at**
 - <http://www-306.ibm.com/software/data/db2imstools/imstools-library.html>



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Q & A

