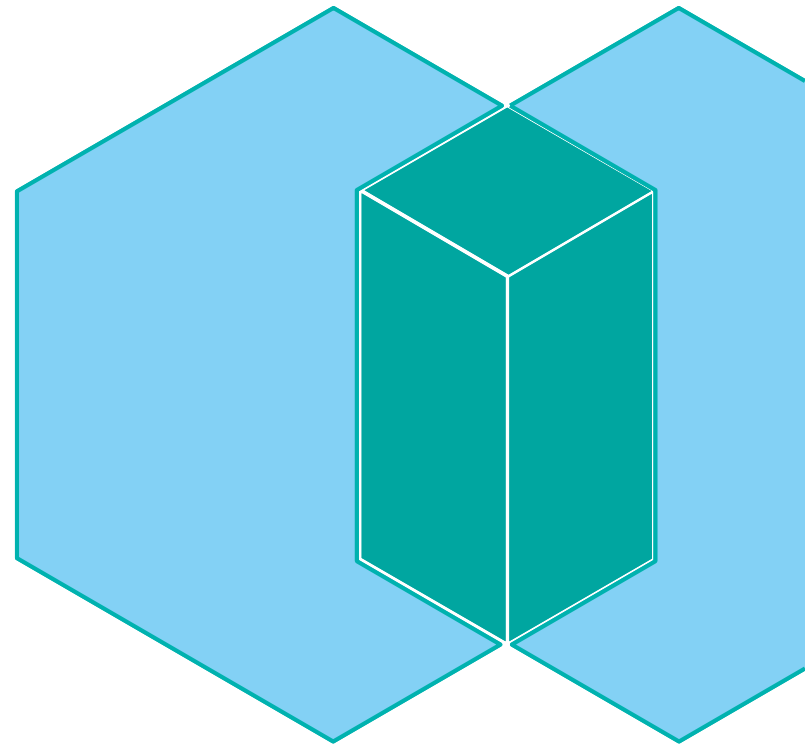




IMS Transaction Manager Tools

Andy Nguyen

nguyena@rocksoftware.com



Sharpen your competitive edge
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Agenda

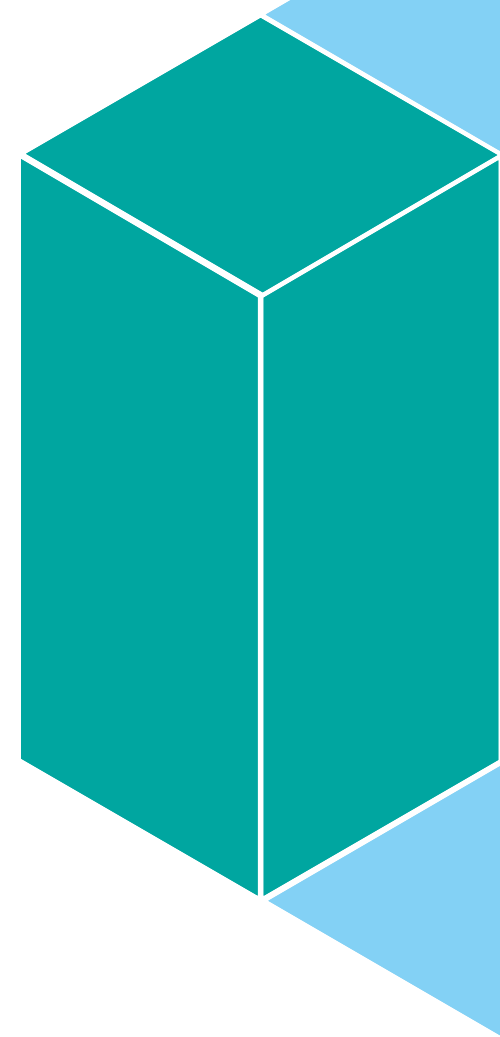
IMS Tools TM Portfolio Overview

- IMS Command Control Facility
- IMS ETO Support
- IMS HP Sysgen
- IMS Queue Control Facility
- IMS Workload Router
- IMS Sysplex Manager

■ IMS Technical Symposium 2016

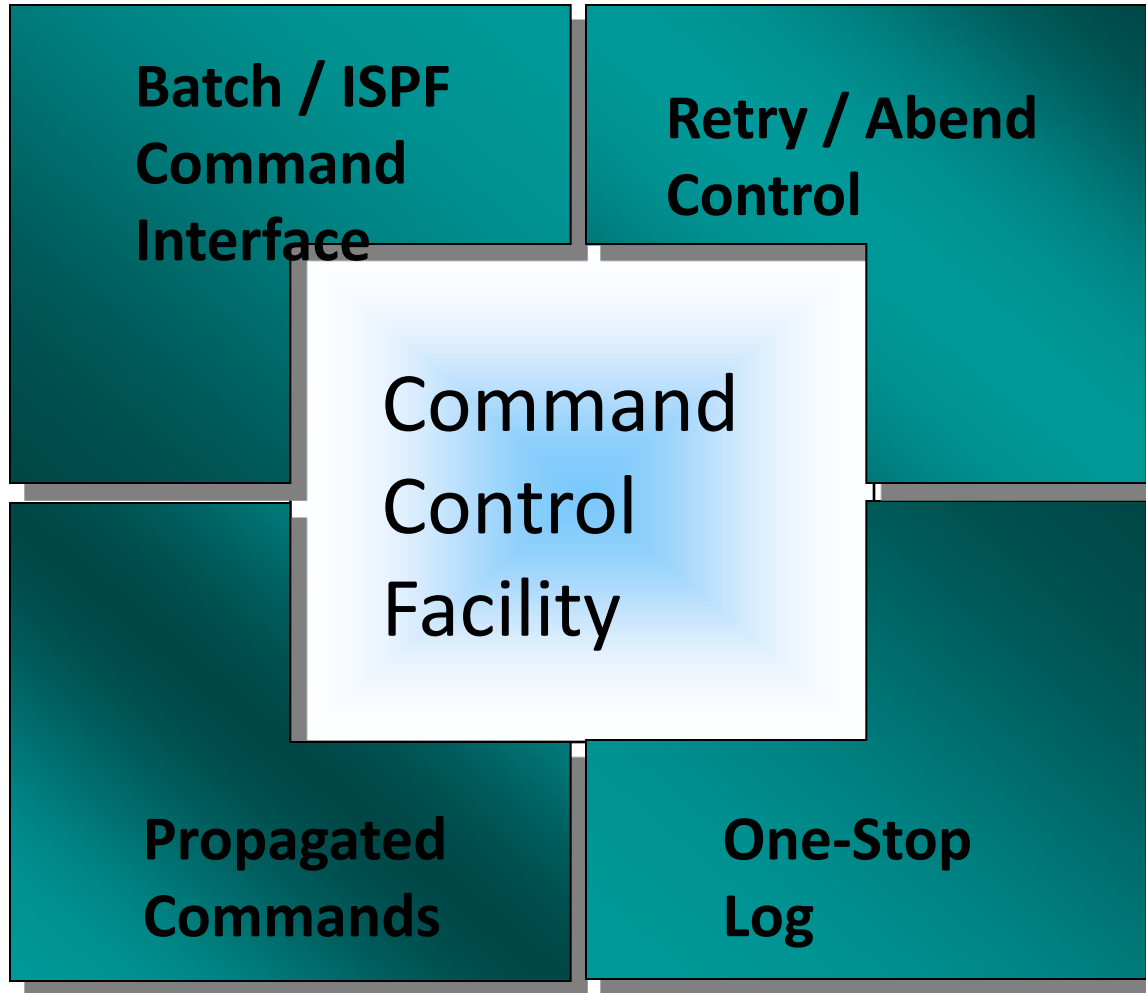
■ Date: 03/08/2016

Session: A07 and B12



IMS Command Control Facility

Solutions



IMS Command Control Facility

Simplify management of large IMS environments IMS commands from a single view while automating processes

- Issue commands to from 1 to 64 IMS systems simultaneously.
 - Store and forward for unavailable IMS systems
- Issue commands to any type of IMS system: DBCTL, DCCTL, or DB/DC.
- Issue commands using any of the following methods:
 - A batch program
 - An ISPF interface
 - A callable application programming interface (API)
 - GUI interface for CCF coming

IMS Command Control Facility

Simplify management of large IMS environments IMS commands from a single view while automating processes

- Provide powerful predefined procedures that can:
 - Automate online change processing
 - Clean up the dead letter queue
- Create a combined log for IMS messages, commands, and command responses
- Provide an ISPF dialog to manage messages that are to be suppressed from the IMS master terminal, the IMS Command Control Facility message log, or the IMS secondary master Note: Suppressing messages from the IMS secondary master is valid only for IMS 10.1 and above.
- Provide an ISPF dialog to route messages to a destination other than the IMS master terminal

IMS Command Control Facility

Command store/forward overview

You use command store/forward in an IMS sysplex to ensure that resources are in the same state (for example, stopped or started) across all members of the sysplex.

- ❑ Command store/forward consists of two components:
 - ❑ Store/forward VSAM data set
 - ❑ IMS Command Control Facility batch jobs (IMS BMP, IMS DL/I batch, or standard z/OS batch) use this data set to store failed commands.
 - ❑ REDO BMP
 - ❑ This BMP reads the store/forward VSAM data set and issues all of the commands that failed for a particular IMS system. You should reschedule the REDO BMP immediately at IMS startup. The REDO BMP uses the ICMD/RMCD AOI to issue the commands, which means that the user ID that is associated with this BMP needs authorization for all required commands.

IMS Command Control Facility

Predefined procedures

IMS Command Control Facility predefined procedures can perform complete tasks with the entry of a single input command. IMS Command Control Facility provides two predefined procedures that can be used by the IMS Command Control Facility driver:

- ❑ **Coordinated online change.** IMS Command Control Facility can perform an online change across multiple systems by supplying a single command to the IMS Command Control Facility batch job. Coordinated online change is valid from a batch environment only. This process coordinates the online change across multiple systems and minimizes the potential of out-of-sync conditions that might occur when online change is performed manually.
- ❑ **Dead letter queue cleanup.** IMS Command Control Facility can clean up any dead letter queue entries by supplying a single command to the IMS Command Control Facility batch job. Dead letter queue cleanup is valid in all command routing environments (batch, ISPF, and callable API).

IMS Command Control Facility

Database/AREA command completion verification

- ❑ Database/AREA command completion verification For database/AREA commands that change the state of the resource (for example, /DBD, /DBR, /STA, and /STO), IMS Command Control Facility verifies that the command completed the required action.
- ❑ When IMS Command Control Facility detects that a command did not complete successfully, IMS Command Control Facility tries the command again for any IMS region where the command was unsuccessful. The command is tried again a user-defined number of times, with a user-defined time interval between each retry.

CCF Group IMSID List

Command ==> _____ Scroll ==> CSR

CCF Group GRPI9
Shared RECONS (Y/N) Y

IMS

More: +

- 1. IMSI
- 2. IMS9
- 3. _____
- 4. _____
- 5. _____
- 6. _____
- 7. _____
- 8. _____
- 9. _____
- 10. _____
- 11. _____
- 12. _____

CCF IMS Command Panel

Option ==> _____ Scroll ==> CSR

IMSID/GROUP: GRPI9

Command ==> /DIS DB DBIZT1 DI21PART

***** Top of Data *****

CCF0329I - COMMAND EXECUTING ON: IMSI

/DIS DB DBIZT1 DI21PART

DATABASE	TYPE	TOTAL UNUSED	TOTAL UNUSED	ACC	CONDITIONS
DBIZT1	DL/I			EX	NOTOPEN, ALLOCS
DI21PART	DL/I			UP	NOTOPEN, ALLOCS

06241/075724

CCF0329I - COMMAND EXECUTING ON: IMS9

/DIS DB DBIZT1 DI21PART

DATABASE	TYPE	TOTAL UNUSED	TOTAL UNUSED	ACC	CONDITIONS
DBIZT1	DL/I			UP	NOTOPEN, ALLOCS
DI21PART	DL/I			UP	NOTOPEN, ALLOCS

06241/075724

***** Bottom of Data *****

TB@ 1:z236 07,15 00:00.547 07:57 SCOTCP27

IMS ETO Support

IMS ETO SUPPORT

- ❑ Terminal Management
 - ❑ Dynamic Network
- ❑ Exit Management
 - ❑ ETO exits
 - ❑ OTMA user data
 - ❑ DFSNDMX0
- ❑ Get rid of IMS exit management and use a standard solution
 - ❑ **avoid error prone exits coding**
 - ❑ dedicate people to other more challenging activities
 - ❑ allow a beginner to do the job
 - ❑ no need to know IMS control blocks structure and contents
- ❑ *No need to have Assembler skill*
 - ❑ or to look for external assembler knowledge (current and/or future)
- ❑ ***Continuous availability***
 - ❑ *Improve IMS services*
 - ❑ no need to re-cycle IMS to carry on new definitions and/or update
 - ❑ Apply to all IMS Members of an IMSplex environment
- ❑ **Allow dynamic deployment of new requests instead of waiting for IMS exit coding and test time (and IMS restart)**
 - ❑ **New definitions done in a matter of minutes instead of days or weeks**

IMS ETO SUPPORT

- ❑ ETO Exits
 - ❑ DFSINTX1 (Initialization user exit)
 - ❑ DFSGMSG1 (Greetings Messages user exit)
 - ❑ DFSCCMD1 (Command Authorization user exit)
 - ❑ DFSINSX1 (Output Creation user exit)
 - ❑ DFSSGFX1 (Signoff user exit)
 - ❑ DFSSGNX1 (Signon user exit)
 - ❑ DFSSGNX2 (Signon user exit – always called)
 - ❑ DFSLGNX1 (Logon user exit)
 - ❑ DFSLGNX2 (Logon user exit - always called, unless other logon user exits - DFSLGNX0 or DFSLGNX1 - reject the logon)
 - ❑ DFSINSX2 (Output creation exit - called when exit DFSINSX0 ends with a return code zero)

- ❑ OTMA exits
 - ❑ The OTMA Destination Resolution exit routine (DFSYPRX0)
 - ❑ The OTMA User Data Formatting exit routine (DFSYDRU0)

- ❑ DFSNDMX0 (Non-Discardable Messages)

Abend message routing options

- ❑ Via the DFSNDMX0 (Non-Discard-able Messages) IMS ETO Support provides the following options for routing of messages that cause an abend:
 - ❑ IMS default
 - ❑ IMS determines how the message is to be processed.
 - ❑ Discard the input message
 - ❑ The message that caused the transaction abend is removed from the message queue.
 - ❑ Queue the message to the suspend queue
 - ❑ The message is moved to the suspend queue.
 - ❑ Requeue the input message
 - ❑ The message is requeued to the message queue.
 - ❑ Queue to new destination
 - ❑ The message is queued to another transaction.

IMS ETO/SUPPORT SOLUTION: Global Signon Options

IZTRAN
COMMAND ===> _____

IMS ETO-SUPPORT
VERSION - 03.01.00
GLOBAL SIGNON OPTIONS

IMSID: QJ10
RELEASE: 10.1.0

LOGON PROCESS
1 1 - ETO-SUPPORT
2 - USER DFSLGNX1
3 - AUTO SIGNON

DFS3649
5 1 - IMS DEFAULT
2 - DFS2002 MESSAGE
3 - ETO-SUPPORT
4 - USER DFSGMSG1
5 - USER MOD IZT\$MOD1

DFS3650
5 1 - IMS DEFAULT
2 - DFS058 MESSAGE
3 - BLANK SCREEN
4 - USER DFSGMSG1
5 - USER MOD IZT\$MODX
6 - DFS2002 MESSAGE

LTERM/USER NAMING OPTIONS:
2 1 - IMS DEFAULT
2 - NODE=USER=LTERM
3 - USERID FROM TABLE
4 - SUFFIXED USERID
5 - USER DFSSGNX1
6 - APPEND "\$" TO USERID

IDLE NODE TIMEOUT: (BLANKS, 0000, 0010-1440)
ASOT _____
ALOT _____

Very little change to IMS ETO/Support
Reserved MOD Names for special MFS
formatting as requested by the customer

IMS ETO/SUPPORT SOLUTION : Update LTERM Abend Table

START ---- UPDATE LTERM ABEND TABLE

SEL	ORIGIN	ABEND	TYPE
—	CQS*		
—	CQS*	0777	USER
—	CQS*	3303	USER
—	GPA0*		
—	I*		
—	TCPL6*		
—	*	806	SYS
—	*	0777	USER

ROW COMMANDS: "S" OR "E" - TO EDIT ENTRY, "D" - TO DELETE ENTRY
COMMAND LINE: "A" OR "ADD" - TO ADD AN ENTRY, "F" - FORWARD,

NEW

- IMS ETO Support Solution implements the capability offered by DFSNDMX0 to decide how to handle abending messages
- It extends the functionality allowing to managed abending messages by input transaction (Transaction Name) or msg origin (Input Lterm/Tpipe/Luname)

Updating the OTMA destination table

Use the OTMA Destination Override panel to define and edit OTMA destination names.

The OTMA Destination Override panel is displayed when you choose option 3 from the Miscellaneous Menu.

Figure 1. OTMA Destination Override panel

```
IZTRAN                                IMS ETO-SUPPORT                                IMSID:  IMS0
COMMAND ===>                          VERSION - 03.02.00                                RELEASE: 13.1.0
START  ===>                            OTMA DESTINATION OVERRIDE
```

SEL	DESTINATION	MEMBER	TPIPE	USERDATA	PREFIX IMSID
---	-----	-----	-----	-----	-----
	OTMA1	MEMBER001	PIPE01	MQPROD1	NO
	OTMA2	MEMBER002	PIPE02	MQPROD1	NO
	OTMA3	MEMBER003	PIPE03	MQPROD1	NO
	OTMA4	MEMBER004	PIPE4	UDATA04	NO
	OTMA5	MEMBER005	PIPE5	MQ5	YES

ROW COMMANDS: "S" OR "E" - TO EDIT ENTRY, "D" - TO DELETE ENTRY

COMMAND LINE: "A" OR "ADD" - TO ADD AN ENTRY, "F" - FORWARD, "B" - BACKWARD

Command+Keyword Authorization panel

To provide authorization to a command+keyword combination, enter S next to the appropriate command.

Figure 1. Command+Keyword Authorization panel (part 1)

```
IZTRAN                IMS ETO-SUPPORT      IMSID:  IMS0
COMMAND ===>         VERSION - 03.02.00  RELEASE: 13.1.0
PROFILE ===> DBAGRP  COMMAND+KEYWORD AUTHORIZATION

      ACT              ASS              BRO              CHA
S     CHE              COM              CQC              DBR
      DEQ              DIS              END              EXC
      EXI              IAM              IDL              INI
      LOC              MOD              MSA              MSV
      PST              PUR              RCO              REC
      RST              SEC              SET              SMC
      STA              STO              SWI              TER
      UNL              UPD
```

"S" - TO SELECT FOR COMMAND+KEYWORD PROCESSING

IMS HP Sysgen

IMS High Performance System Generation

- ❑ Manage your IMS Sysgen Definitions using ISPF
 - ❑ Database, program, transaction, and route code definitions
 - ❑ Change, add, or delete resource definitions
 - ❑ Also update IMS security definitions, reload ACBs, and issue IMS commands.
- ❑ Provides the Tools you need to Manage your definitions
 - ❑ Dynamic changes to definitions
 - ❑ Tools to keep sysgen source in sync with IMS control blocks
 - ❑ One user can define what changes are required, and have another user implement the change at a later time, via ISPF or batch.
 - ❑ Back out changes installed by HP Sysgen Tools.
 - ❑ Support for IMS Dynamic Resource Definition

Option 2 – Edit a Resource Update List

Session A - [24 x 80]

File Edit View Communication Actions Window Help

EDIT IMS HP Sysgen Tools - Add a Transaction Definition

Command ==> _____

Primary Commands:

COPY Copy Attributes from an Existing Transaction Definition

Parameter	Value	Description	More:	+
Tran Code	<u>addinv2</u>	Transaction Code		
PSB Name	<u>DFSSAM04</u>	Associated PSB Name		
DCLWA	<u>NO</u>	DC Log Write Ahead (YES or NO)		
Edit Case	<u>UC</u>	Upper Case (UC) or Upper/Lower Case (ULC)		
EDIT Name	_____	Transaction Edit Routine Module Name		
FPATH	<u>NO</u>	Fast Path Specification (NO, YES or 12-30720)		
INQUIRY	<u>NO</u>	Inquiry Mode (NO or YES)		
RECOVER	<u>RECOVER</u>	Recoverable Transaction (RECOVER or NORECOV)		
MAXRGN	<u>0</u>	Maximum regions (0-255)		
MODE	<u>SNGL</u>	Mode (SNGL or MULT)		
MSGTYPE	<u>SNGLSEG</u>	Segments (SNGLSEG or MULTSEG)		
RESPONSE	<u>NO</u>	Response mode (NO or YES)		
CLASS	<u>3</u>	Transaction Class (1-999)		
PARLIM	<u>NONE</u>	Parallel Limit Count (NONE or 0-32767)		
COUNT	<u>65535</u>	PROCLIM Count (0-65535)		
SECONDS	<u>65535</u>	PROCLIM Time (0-65535)		

MR a 09/020

Connected to remote server/host 192.168.0.20 using lu/pool SCOTCP01 and port 23

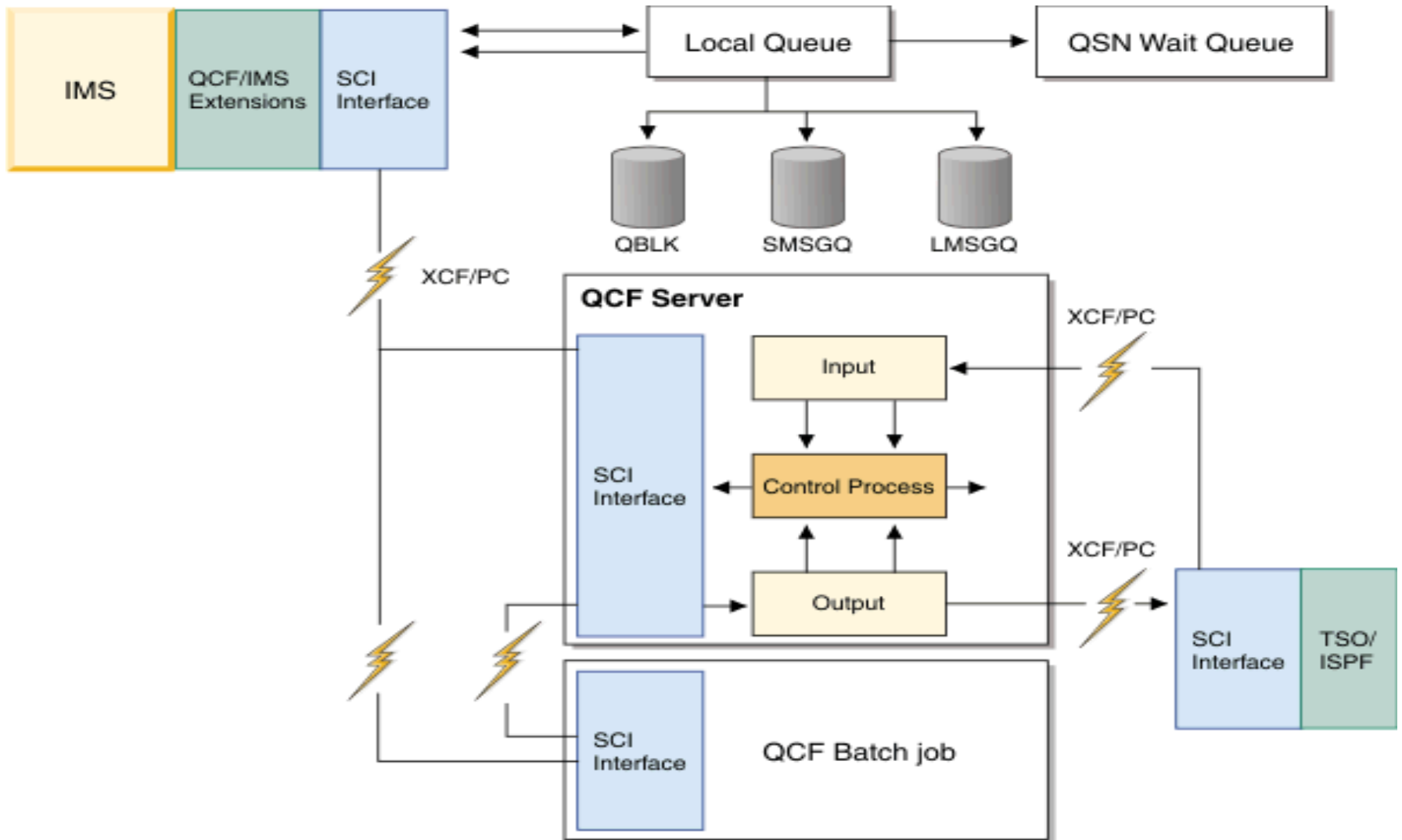
Acrobat PDFWriter on LPT1:

IMS Queue Control Facility

IMS Queue Control Facility

- ❑ Requeue messages - after IMS cold start, after application failures, for testing, for IMS migration, etc.
- ❑ Monitor the existing queue space usage and notify problems in time to do something about it
- ❑ Manage the in-process IMS Queue
 - ❑ List and manage tasks that are flooding the queue
 - ❑ Query the queues to determine the kind of queue usage by various IMS entities (input, program output, etc..).
 - ❑ Look at specific queue entries
 - ❑ View message content
 - ❑ Move or Copy messages to a dataset
 - ❑ Requeue moved or copied messages

IMS QCF V3.1 Architecture



QCF Capabilities

- RECOVERAB/RECOVERDM
 - Recover messages from previous IMS iteration after a cold start (local queue environment)

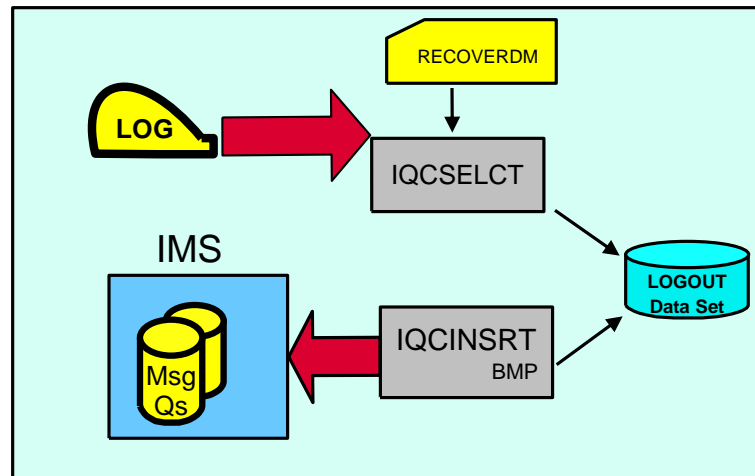
- RECOVER
 - Recover messages on the cold queue after a cold start (shared queue environment)

- REPROCESS
 - Reprocess messages after an application error
 - Some functions require an IMS checkpoint from which to select messages
 - Checkpoints can be selected manually
 - Checkpoints can also be selected automatically

QCF Operational Functions - Local Queues

RECOVERDM

- ❑ COLD start that followed a normal shutdown
- ❑ IQCSELCT (Function=RECOVERDM)
- ❑ Reads log (SLDS) from shutdown checkpoint
- ❑ IQCINSRT requeues the selected messages
- ❑ Each operational function is a single Job



Each operational function is a single Job with multiple steps

RECOVERDM

Sequence of events that are necessary to run RECOVERDM processing:

1. Shut down IMS using /CHE DUMPQ
2. Optional system maintenance
3. Cold start IMS
4. Run RECOVERDM

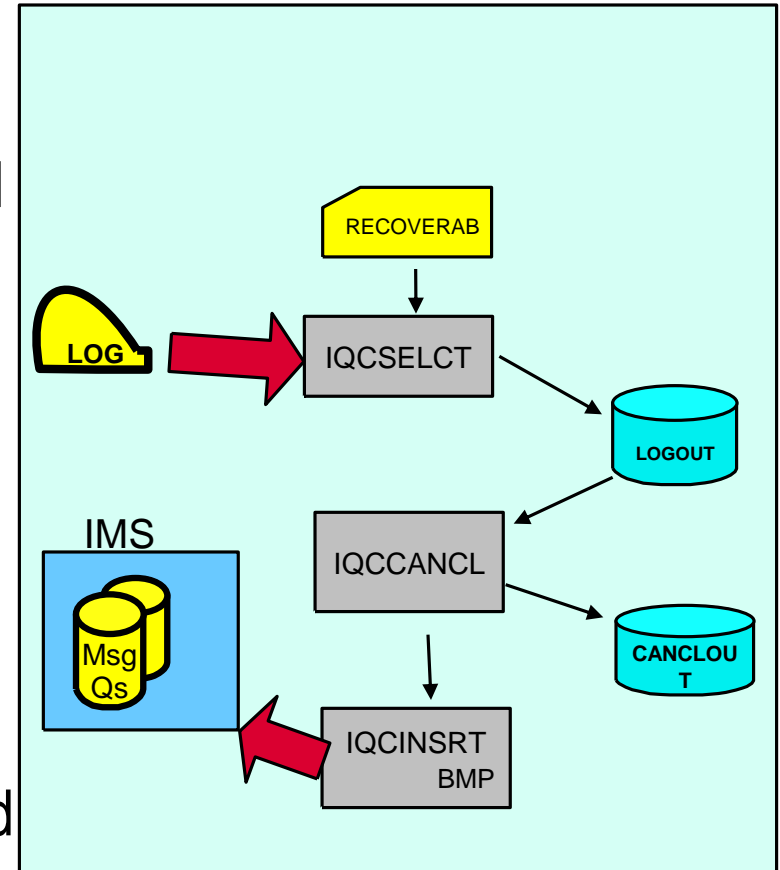
RECOVERDM can be automatically invoked at IMS Coldstart, if desired, or submitted manually.

RECOVERDM can also be used as a migration aid in the nonshared queue environment, to requeue messages across supported IMS releases. Messages created on one supported release of IMS can be inserted into another supported release of IMS if the source and destination resources (eg. LTERMs, transactions, MSC names, and other resources) are defined on both systems.

QCF Operational Functions - Local Queues

RECOVERAB

- ❑ After COLD start following IMS abend
- ❑ IQCSELCT (Function=RECOVERAB)
- ❑ Reads log (SLDS) uses latest PURGE, DUMPQ or SNAPQ checkpoint
- ❑ IQCCANCL examines selected records and deletes messages that were completely processed
- ❑ IQCINSRT requeues the unprocessed messages



Each operational function is a single Job with multiple steps

RECOVERAB

Sequence of events that are necessary to run RECOVERAB processing:

1. Shut down IMS using /CHE DUMPQ
2. Restart IMS
3. IMS ABEND
4. Restart IMS
5. /ERE failure
6. Back out updates or recover the database
7. Cold start IMS
8. Run RECOVERAB

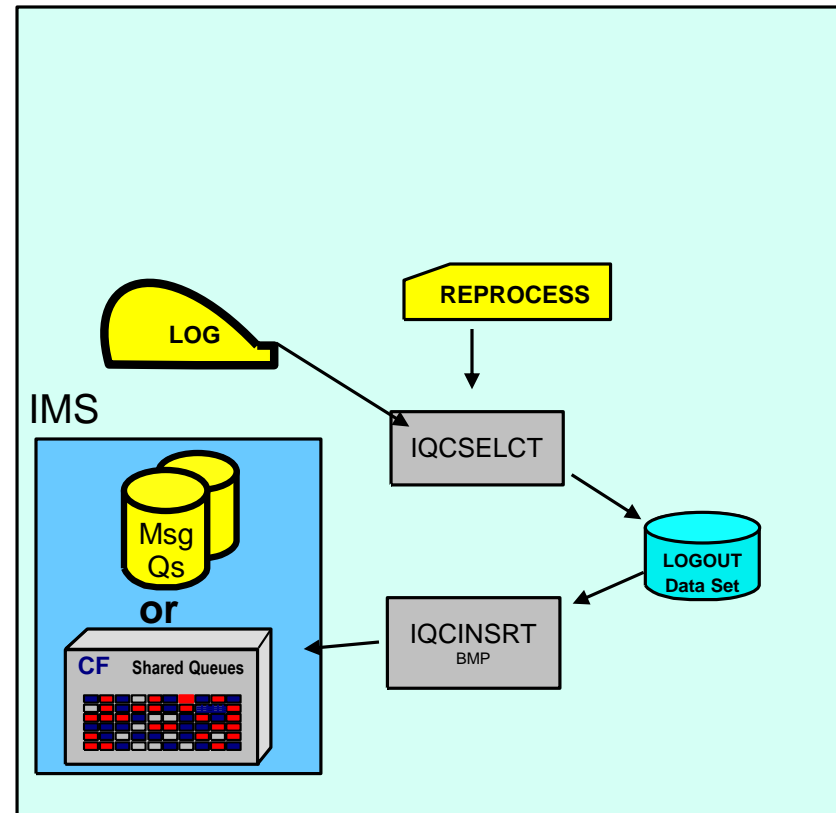
RECOVERAB is run to recover **unprocessed** messages starting from the last DUMPQ, PURGE or SNAPQ.

RECOVERAB provides a list of logs, starting with the log that contains the first record of the checkpoint preceding the DUMPQ or PURGE statement for normal IMS termination. All archived logs that contain these checkpoint records are included. IMS Queue Control Facility uses the list of logs to rebuild the queues.

QCF Operational Functions Local Queues

REPROCESS

- IQCSELCT (Function=REPROCESS) reads the log (SLDS) from specified (or first) checkpoint
- IQCINSRT requeues the selected messages



REPROCESS

- ❑ Use the REPROCESS procedure to reinsert messages that have been processed into the shared and nonshared message queues.
- ❑ If an application program has processed messages incorrectly because of a logic error, you can reprocess the messages after the program error is corrected.

Attention: Database batch backout or database recovery is required before using the REPROCESS function to avoid double updating.

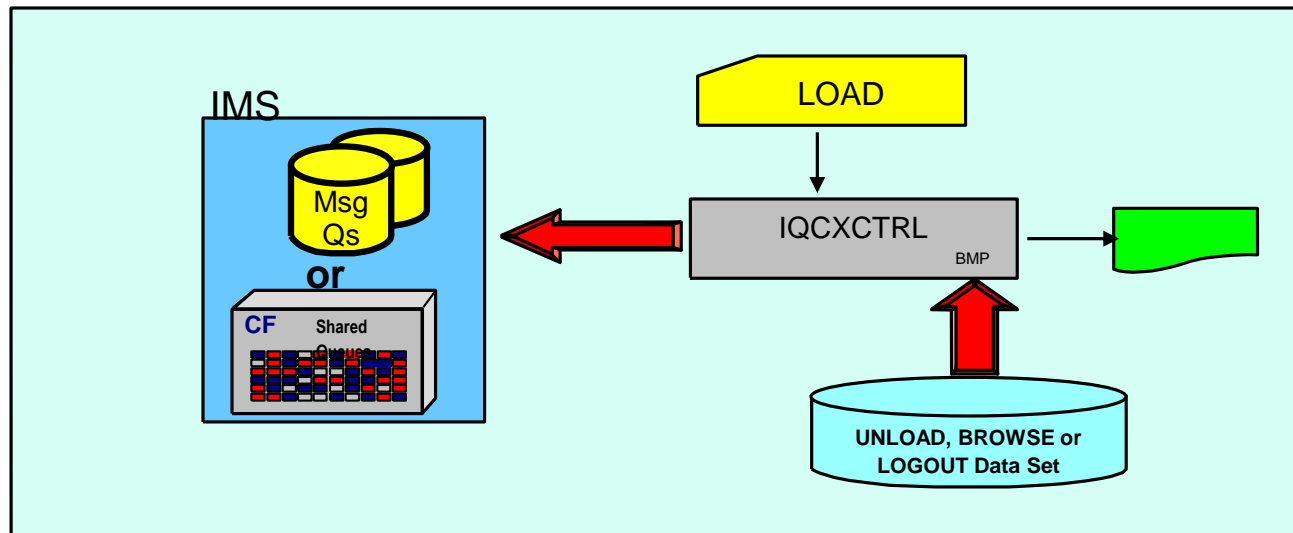
- ❑ You can locate checkpoints and mass-insert transactions into the IMS message queue by concatenating several system logs.
- ❑ REPROCESS can be used for stress, regression, or application testing an IMS system in the nonshared queue environment.

Additional QCF Batch Capabilities

- BROWSE
 - Browse the queues
- QUERY
 - Determine the age and number of messages on the queues
- UNLOAD
 - Remove messages from the queues
- LOAD
 - Load messages to the queues

QCF Queue Management Functions

- LOAD
 - Reads
 - QCF Unload Data Set or
 - QCF Browse Data Set or
 - QCF LOGOUT Data Set
 - Requeues messages onto IMS Queues



IMS Queue Space Management

QCF Overflow Protection

- ❑ IMS message queues have a limit on the number of messages that they can contain. The IMS Queue Manager can detect when this limit is reached and will respond to this limit by shutting down IMS (UABEND 758). This condition is known as *queue overflow*.
- ❑ IMS Queue Control Facility has the capability to prevent a queue overflow condition.
- ❑ IMS Queue Control Facility implements queue overflow protection by monitoring the message queue usage. IMS Queue Control Facility analyzes the message queue usage to determine when to send an alert or to take action to prevent the excessive queue usage from continuing.
- ❑ You can configure queue overflow protection by specifying various parameters to specify partition values, set queue usage limits, and specify appropriate alerts and actions.

IMS Queue Space Management

QCF provides 3 different approaches which can be used to implement Overflow Protection. Each one has been kept for compatibility between QCF Versions.

Each subsequent approach provides for more capability and flexibility.

- ❑ Type 1: Queue space notification exit (DFSQSPC0)
- ❑ Type 2: Queue overflow protection using threshold settings to define queue space partitions
- ❑ Type 3: Queue overflow protection using area and failsafe settings to define queue space partitions

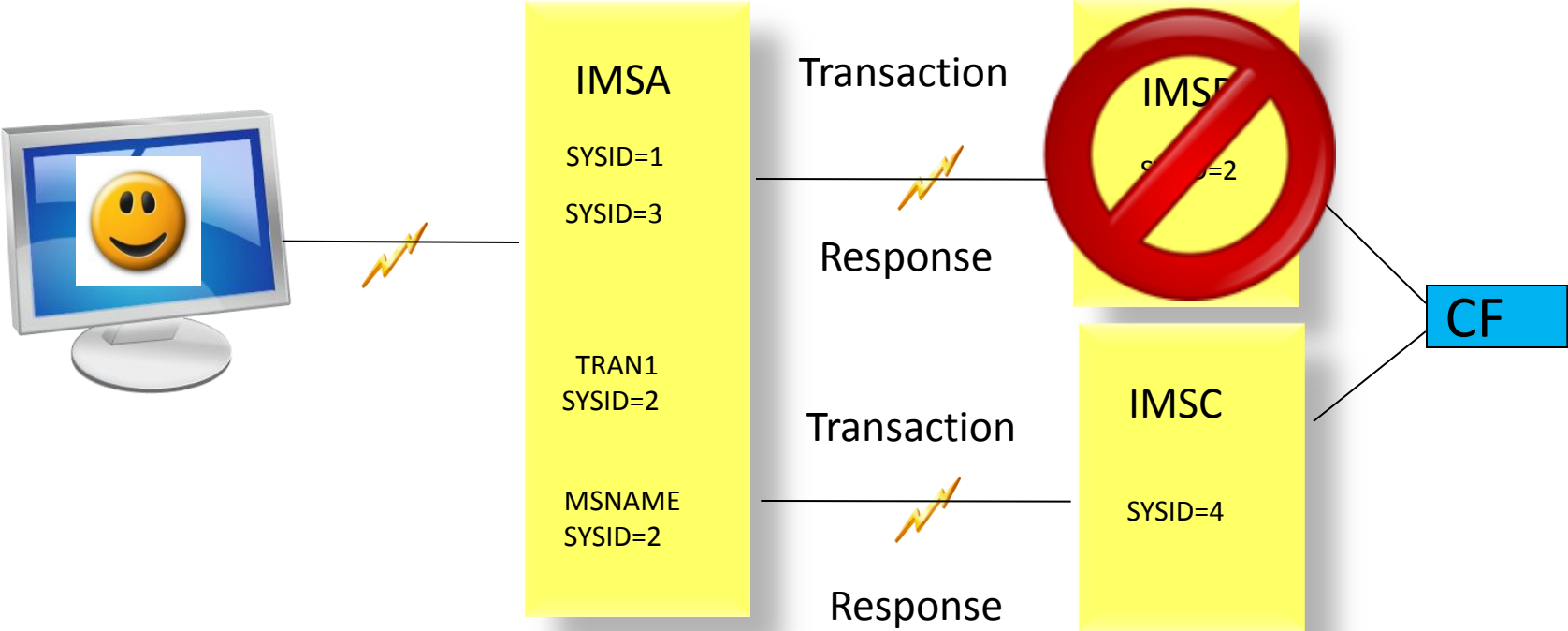
Type 1 and 2 are only mentioned in this presentation as they are older and less effective methods. Type 3 will be covered in more depth.

IMS Workload Router

IMS Workload Router

- ❑ Routes IMS transactions that originate from network input or program-to-program message switches.
- ❑ Provides for weighted distribution of transactions, that is, different MSC Links can receive different parts of the work load.
- ❑ Provides an online, real-time administrator interface for monitoring and dynamically updating the IMS Workload Router configuration.
- ❑ Supports parallel MSC sessions between MSC end-points.
- ❑ Automatically recognizes and avoids routing transactions to unavailable IMS systems and MSC links. Automatically reconfigures the work load when planned or unplanned outages occur.
- ❑ Allows routing to single paths or links, or to a system of IMS Workload Router-defined paths or links.

WLR Inter-Plex Configuration – Partner Outage



IMS Sysplex Manager

IMS Sysplex Challenges and Solutions

Shared Queues

- Transaction affinity
- CF structures and log streams
- Queue monitoring and management
- In Memory Queue Protection
- CF Queue Protection in future

Shared Databases

- Long lock detection
- Investigate lock holders and waiters
- IRLM statistics
- DEDB VSO statistics

Shared Resources

- Sysplex serial programs

Transaction affinity – The Challenges

- ❑ Force local affinity for efficiency
- ❑ Assign affinity to specific IMS due to resource availability
- ❑ Reduce false-scheduling overhead
- ❑ Reduce contention

Sysplex Manager Simple Solution via Control Statements

```
SYSTEM(TARG(IMSGRP01),IMS(IMS1),STATUS(ENABLED))
```

```
SYSTEM(TARG(IMSGRP03),IMS(IMS3),STATUS(DISABLED))
```

```
AFFINITY(TYPE(TRANSACT),TARG(IMSGRP01,IMSGRP03),DISP(REJECT),  
DEST(NAME(APOL12)),STATUS(ENABLED))
```

Transaction affinity - Roll your own solution

- ❑ SYSGEN update – Define Trans with SERIAL=YES
- ❑ Dependent regions or transactions classing
- ❑ /STOP transactions where they should not run
- ❑ User exit
 - ❑ Implement the DFSMSCEO exit
 - ❑ Issue UPDATE TRAN NAME(*trannname*) START(SCHD) or STOP(SHCED) with the OPTION(AFFIN) command on the local IMS to get notifications of messages' arrival (Note: AFFIN status is lost across cold starts, so this command must be re-issued)

IMS CF Structures and log streams – The Challenges

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

- ❑ Check log stream attributes

- ❑ Monitor offload activities

SM Solution - IMS CF Structures and log streams

- ❑ Real-time display of structure list
- ❑ Statistics, Connections, Coupling Facility information
- ❑ Structure rebuild and checkpoint stats
- ❑ CQS Logstream Information

IMS Coupling Facility Structures

Menu View Options Help

Realtime snapshot

Coupling Facility Structures

Row 1 to 10 of 10

GJEP900
COMMAND ==>

SCROLL ==> PAGE

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

Date. . . : 05/22/13
Time. . . : 13:30:25

Enter 's' to select a structure for statistics
'l' to select a structure for logstream information

Cmd	Structure name	Type	Status	-Connections-		---Utilization---	
				Conns/Maxconns	Entries	Elements	
___	IMSMGQ01	MSGQ	ALLOCATED	2 /	32	0 %	1 %
___	IMSMGQ010FLW	OVFL	UNALLOCATED	0 /	0	0 %	0 %
___	IMSEMHQ01	EMHQ	ALLOCATED	2 /	32	0 %	0 %
___	IMSEMHQ010FLW	OVFL	UNALLOCATED	0 /	0	0 %	0 %
___	IMSRSRC01	RSRC	ALLOCATED	2 /	32	14 %	0 %
___	MVSLOGMSGQ01	FFLS	ALLOCATED	2 /	32	18 %	5 %
___	MVSLOGEMHQ01	FPLS	ALLOCATED	2 /	32	6 %	2 %
___	GJESMAFN	AFFN	ALLOCATED	2 /	32	0 %	0 %
___	LT01	IRLM	ALLOCATED	2 /	32	0 %	0 %
___	OSAMSESXI	OSAM	ALLOCATED	3 /	32	0 %	0 %

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

IMS Coupling Facility Structures

```
Menu  View  Options  Help
-----
GJEP901          Coupling Facility Structure statistics
COMMAND ==> _____ Realtime snapshot
                               Row 1 to 23 of 23
                               SCROLL ==> PAGE

IMSplex. . . : PLEX1          Date. . . : 04/24/14
SM server. . : UIS1          Time. . . : 21:32:56
Route. . . . : *

Structure name. : IMSMSGQ01   Type. . . : MSGQ

Description                               Value
STRUCTURE STATISTICS
Entry count. . . . . : 17
Element count. . . . . : 30
Maximum entry count. . . . . : 10,248
Maximum element count. . . . . : 10,369
Entry ratio. . . . . : 1
Element ratio. . . . . : 1
Entries in use (%). . . . . : 0
Elements in use (%). . . . . : 0

Policy size. . . . . : 27,648K
Policy initial size. . . . . : 18,432K
Policy minimum size. . . . . : 0K
Structure full threshold (%). . . . . : 80
Marginal structure size. . . . . : 2,176K
Actual structure size. . . . . : 18,432K
Storage increment size . . . . . : 512K

Event monitor control count. . . : 1,300
Max event monitor cntrl count. . : 13,437
Maximum connections. . . . . : 32
Nr of crnt IMS connections . . . : 2
CF Max access time (1/10th s).. : NOLIMIT
***** Bottom of data *****
```

CQS Structures

Menu View Options Help

Realtime snapshot

GJEP191 Common Queue Server Structure Statistics

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

	Primary	Overflow
Total.	41	0
Maximum.	18,084	0
Entry ratio	1	0
Percentage in use	<1	0

Element counts

Total.	78	0
Maximum.	18,084	0
Element ratio	1	0
Percentage in use	<1	0

CQS Log Stream info

```
Menu View Options Help
-----
GJEP904          CQS Logstream information
COMMAND ==>
Realtime snapshot
Row 1 to 21 of 21
SCROLL ==> PAGE

IMSplex. . . : PLEX1          Date. . . : 05/22/13
SM server. . : UIS1          Time. . . : 13:30:25
Route. . . . : *

Structure name. : MVSLOGMSGQ01      Type. : FFLS

Description                               Value
LOGSTREAM INFORMATION
Logstream name . . . . . : SYSLOG.MSGQ01.LOG
Auto delete. . . . . : N
Loss of data . . . . . : N
Uses physical structure. . . . . : Y
Uses secondary structure . . . . . : N
Local buffer duplexing . . . . . : Y
Staging DS duplexing . . . . . : N
Staging DS duplexing with XRC. : N
Structure duplexing. . . . . : N
DASD only logstream. . . . . : N
Retention period . . . . . : 0
Low loss data blockid. . . . . : 000000000000000000
High loss data blockid . . . . . : 000000000000000000
Most recent offload dataset. . . :
Most recent offload DS size. . . : 0
Structure size . . . . . : 12,582,912
Staging dataset size . . . . . : 0
Max # of logstream to structr. : 1
Nr of logstreams to strcuture. : 1
Nr of bytes usable in structr. : 3,397,120
***** Bottom of data *****
```

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     AD commands. . : 8     _ Msg queue depths(Local-
  TRAN SER Q.: 0     ZQRY requests.: 1,518 _ TRANSPORT: 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 IXCMGSO 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 ovflw: 0
  Qbuff util: 75
  IRLM locks: 0
  PI locks . : 0

```

Thank You

<http://www-01.ibm.com/software/data/db2imstools/products/ims-tools.html>

