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IMS Queue Control Facility (QCF)

Geoff Jackson



Miami Beach, FL

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IMS QCF V1.1 - Overview

- Why is IMS Queue Control Facility (QCF) needed?
- Batch functions
- Using the ISPF Interface
- IMS Queue Space Notification
- Summary

IMS QCF V1.1 - why is it needed?

- **Every IMS customer from time to time has the need to manage the Queue Data Sets.**
- **Have you ever had to recover from an IMS failure due to one of the Queue Data Sets overflowing?**
- **Do you ever shut down IMS using a Checkpoint Dump Queue and then do a restart Buildq?**
- **What happens if the Restart Buildq fails?**
- **How do you know if the queue is in danger of overflowing in time to take the appropriate action?**
- **Have you ever wanted to rerun an application after fixing a bug and restoring the Data Base?**
- **Have you ever wanted to create a set of test input using the input from an existing IMS system?**
- **Have you ever wanted to view and or unload messages on the Queue?**

IMS QCF V1.1 - Batch Functions Overview

QCF provides a set of utilities designed to provide the user with a means to select and requeue IMS messages and to help manage the IMS Shared Message Queue (SMQ) environment.

IMS QCF V1.1 - Batch Highlights

- **Supports IMS Shared Queues with QCF commands:**
 - ▶ **Query**
 - ▶ **Browse**
 - ▶ **Load**
 - ▶ **Unload**
 - ▶ **Recover**
- **Provides extended sub-commands:**
 - ▶ **Pacing rate messages are inserted**
 - ▶ **Comprehensive selection criteria**
 - ▶ **Control number of messages inserted**
- **Assists user by providing:**
 - ▶ **Comprehensive processing reports**
 - ▶ **User exits**

IMS QCF V1.1 - Reasons for Running Batch Jobs

- Queue recovery after planned or unplanned system outages
- Queue migration and fallback between supported releases of IMS
- Application program error recovery
- Stress, regression and application testing
- Shared queues maintenance
 - ▶ Removal of old or unwanted messages

QCF V1.1 User interface

- **The ISPF user interface is driven through a series of panels**
- **All panels have an intuitive feel and are very easy to use and learn**
- **Help panels are provided to assist data entry and navigation through the processes**
- **Messages can be selected by area and queue type, then by unique destination, and then the actual message content may be viewed**
- **Multiple ISPF users can have sessions with IMS at the same time**

IMS QCF V1.1 Address Space Interaction



QCF Main Menu

Copy selected text to clipboard

IMS QUEUE CONTROL FACILITY

Command ==>

Select a task for IMS1 or press END to exit.

JDTE. .2001.236
TIME. .09:19:08.52
DATE. .2001/08/24

Transaction Queue Interactive Functions

Task . . _	1	Status	IMS environment and queue statistics
	2	Query	List destinations with queued messages
	3	Load	Re-insert removed queued messages

Queue Overflow Protection Functions

	4	Waited	List and operate on waited tasks
	5	Tables	View, modify and load overflow parameters

Non-Shared Queue IMS Status

IMS QUEUE CONTROL FACILITY

Function ENVIRONM for IMS1 IMS system

Command ==>

JDTE. .2001.236
TIME. .09:20:56.15
DATE. .2001/08/24

Press END to exit

Refresh status. . N (Y or N)

IMS Environment

IMS job name . . IMS1
JES ID JOB00109
IMSID/RSENAME . . IMS1
Version 710
GMT start time. . 2001.233/20.02.02.79
Restart type . . COLD

Components/Optional Features

. DB/DC
. MSC
. FAST PATH
. OTMA
.
.

Shared Queue Environment

CQS job name. . .
CQS grp name. . .
Structure Data
Type
Attributes
Status

QCF Options

. . IQCQSPC0 IS INSTALLED



Non-Shared Queue Queues Status

IMS QUEUE CONTROL FACILITY

Function LOCALQ for IMS1 IMS system
Command ==>

JDTE. .2001.236
TIME. .09:22:03.79
DATE. .2001/08/24

Press END to exit

Refresh status . . N (Y or N)

Local Message Queue Status

Local Message Queue Data Set Capacity

In-core buffers	. .	20	QBLK records	. .	1364
Buffer blocksize	. .	2600	<1 % INUSE	. .	5
Locate calls	. .	243	100 % AVAILABLE	. .	1359
Release calls	. .	90	<1 % HIGHWATER	. .	5
Purge calls	. .	1	SMSGQ records	. .	2350
Reads	. .	8	<1 % INUSE	. .	4
Writes	. .	6	100 % AVAILABLE	. .	2346
			<1 % HIGHWATER	. .	19
			LMSGQ records	. .	1075
			<1 % INUSE	. .	1
			100 % AVAILABLE	. .	1074
			<1 % HIGHWATER	. .	1

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Filter Messages

IMS QUEUE CONTROL FACILITY

Function ended

Generate parameters for FILTER for IMS1 IMS system
Command ==>

JDTE. .2001.236
TIME. .09:28:53.29
DATE. .2001/08/24

Press ENTER to continue or END to exit.

Queue Type Filters within Local Message Queue

All	(Y). . Y	APPC	(Y). .
LTERM	(Y). .	OTMA	(Y). .
Remote	(Y). .	Serial	(Y). .
Suspend	(Y). .	Transaction	(Y). .

Options

Get old msgs . . (Number of 24 hour periods prior to current time)

Generate parameters for:

INCLUDE	(Y). . Y	EXCLUDE	(Y). . _
---------	----------	---------	----------

QCF user built control statement data set (if required):

Data set name . .

Member . .

Filter Parameters

IMS QUEUE CONTROL FACILITY

Create INCLUDE parameters for FILTER processing for IMS1 IMS system
Command ==>

Press ENTER to continue or END to exit.

JDTE. .2001.236
TIME. .09:30:25.97
DATE. .2001/08/24

Dest name	. . T*_	Start date/time	. .
Dest SYSID	. .	End date/time	. .
Source name	. .	LU 6.2 name	. .
Source SYSID	. .	Network ID	. .
Tmember name	. .	Dest LUname	. .
Dest TMname	. .	Dest NetID	. .
Source TMname	. .	Source LUname	. .
Tpipe name	. .	Source NetID	. .
IMSID	. .	Sidename	. .
VTAM LUname	. .	TP name	. .

UOW proc IMSID	. .	UOW proc token	. .
UOW origin IMSID.	. .	UOW origin token.	. .

Msg Filters (Y)	APPC	DTMA	MSC	VSP	LTERM	LTRAN	RTRAN	TRANS
Dest type	. . N	. . N	. . N	. . N	. . N	. . N	. . N	. . N
Source type	. . N	. . N	. . N	. . N	. . N			

List Filtered Messages

IMS QUEUE CONTROL FACILITY

Row 1 to 7 of 7

IMS system . IMS1

QCF task . FILTER

For Q types . ALL

Command ==>

JDTE. .2001.236

Select an option or press END to exit.

TIME. .09:32:34.57

DATE. .2001/08/24

Table options:

copy(P),delete(E),copy/delete(Z)

all msgs in table

Row options:

copy(C),delete(D),copy/delete(X),list(L),unlock(U) in row

Sort (A or D):

S Destination

Struc/ Q Percent --- Msg Count ---

Name Queue Typ Lmg Smg Prim 2ndry Status

L T3270LC	LOC	LT	0	0	3	0	
TRAN31C0	LOC	TR	0	0	2	0	
TRAN31B0	LOC	TR	0	0	2	0	
TRAN31V0	LOC	TR	0	0	2	0	
T3767A	LOC	LT	0	0	1	0	
T3270LA	LOC	LT	0	0	1	0	
TRAN31B1	LOC	TR	0	0	1	0	

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

Listed Messages for T3270LC

```

                                IMS QUEUE CONTROL FACILITY
                                QCF task . FILTER
                                Row 1 to 3 of 3
IMS jobname . IMS1
Command ==>
                                JDTE. .2001.236
                                TIME. .09:36:46.13
                                DATE. .2001/08/24
Select an option or press END to exit.
Get more data:      yes(Y)
Table options:     copy(P),delete(E),copy/delete(Z),unlock(U) all msgs in table
Row options:       copy(C),delete(D),copy/delete(X),view(V),unlock(U) in row
Messages for:
Q TYPE=LTERM, DEST=T3270LC
Sort A/D:
----- Source -----
S Name      IMSID      SYSID      Format      Msgcnt      Date/Time      Status
LUNAME =    SYS3         10      DFSM01      0      2000141/205934
V LTERM =    SFIMS2      SYS1         10
LTERM =    IMSUS06     SYS1         10      1999309/014618
                                0      1999309/013429
***** Bottom of data *****

```



View Message Contents - Screen 1

IMS QUEUE CONTROL FACILITY
Message for IMS: IMS1

Row 1 to 10 of 63

Command ==>

JDTE. .2001.236
TIME. .09:41:32.65
DATE. .2001/08/24

Select an option or press END to exit.

Show log record prefix: Y (Y or N)
Show log record user data: Y (Y or N)
Show QCF prefix: N (Y or N)

Message for:

Q TYPE=LTERM, DEST=T3270LC

Source:

Name= LTERM = SFIMS2 IMS ID= SYS1 SYSID= 10 Format=

----- Message Prefix and Text Segments -----

BASIC PREFIX

+00000000	01C60000	01C48210	080000DA	0800009C	.F .Db.. I. .
+00000010	01B40000	E2E8E2F1	40404040	B31985B3	.w SYS1 p.ep
+00000020	16A67F82	C9D4E2F1	40404040	B65595CB	.w"bIMS1 XNn~
+00000030	B2E67C84	00000000	00000000	00000000	iW@d

SYSTEM PREFIX

+00000000	00408100	E8600000	D3F6C1D7	D7D3F140	a Y- L6APPL1
+00000010	00010000	00000000	00000000	00000001	.
+00000020	E2C6C9D4	E2F24040	E3F3F2F7	F0D3C340	SFIMS2 T3270LC
+00000030	D3F6F3E2	D7F14040	40404040	40404040	L63SP1

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View Message Contents - Screen 2

IMS QUEUE CONTROL FACILITY
Message for IMS: IMS1

Row 11 to 20 of 63

Command ==> _

JDTE. .2001.236
TIME. .09:42:59.42
DATE. .2001/08/24

Select an option or press END to exit.

Show log record prefix: Y (Y or N)
Show log record user data: Y (Y or N)
Show QCF prefix: N (Y or N)

Message for:

Q TYPE=LTERM, DEST=T3270LC

Source:

Name= LTERM = SFIMS2 IMS ID= SYS1 SYSID= 10 Format=

----- Message Prefix and Text Segments -----

ISC/LU6.1 PREFIX

+00000000	00168400	00000000	00000000	0006E3F3	.d	.T3
+00000010	F7F6F7C5	0000			767E	

EXTENDED PREFIX HEADER

+00000000	00108600	011E7C00	00000000	00000000	.f	..@
-----------	----------	----------	----------	----------	----	-----

SECURITY PREFIX

+00000000	00168800	E2C6C9D4	E2F24040	40404040	.h	SFIMS2
+00000010	40404040	D600				D

WORK LOAD MANAGER PREFIX

+00000000	00108900	00000000	B31985B3	16AB8CC2	.i	p.ep.U<B
-----------	----------	----------	----------	----------	----	----------

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View Message Contents- Screen 3

IMS QUEUE CONTROL FACILITY
Message for IMS: IMS1

Row 21 to 30 of 63

Command ==> _

JDTE. .2001.236
TIME. .09:42:59.42
DATE. .2001/08/24

Select an option or press END to exit.

Show log record prefix: Y (Y or N)
Show log record user data: Y (Y or N)
Show QCF prefix: N (Y or N)

Message for:

Q TYPE=LTERM, DEST=T3270LC

Source:

Name= LTERM = SFIMS2 IMS ID= SYS1 SYSID= 10 Format=

----- Message Prefix and Text Segments -----

SYSTEM EXTENSION PREFIX

+00000000 00188A00 1999309F 01461857 2472032D

+00000010 00008000 00000000

MSC EXTENSION PREFIX

+00000000 005C8B00 00000000 00000000 00000000

+00000010 00000080 00000000 00000000 00000000

+00000020 00000000 00000000 00000000 00000003

+00000030 00000000 00000000 00000000 00000003

+00000040 000A000A E2E8E2F1 40404040 B31985B3

+00000050 16A67F82 00000000 00000000

.↑ .r.←.E.P."..
~
*↓
~
. .SYS1 p.ep
.w"b

View Message Contents - Screen 4

IMS QUEUE CONTROL FACILITY
Message for IMS: IMS1

Row 31 to 40 of 63

Command ==> _

JDTE. .2001.236
TIME. .09:42:59.42
DATE. .2001/08/24

Select an option or press END to exit.

Show log record prefix: Y (Y or N)
Show log record user data: Y (Y or N)
Show QCF prefix: N (Y or N)

Message for:

Q TYPE=LTERM, DEST=T3270LC

Source:

Name= LTERM = SFIMS2 IMS ID= SYS1 SYSID= 10 Format=

----- Message Prefix and Text Segments -----

TRANSACTION MANAGER ROUTING PREFIX

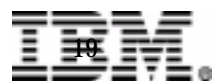
+00000000	00748C00	00000003	00000000	00000001
+00000010	E3F3F2F7	F0D3C340	E2C6C9D4	E2F24040
+00000020	0A0A0108	00080000	00000000	00000000
+00000030	00000000	00000000	00000000	00000000
+00000040	00000000	06100000	00000000	00000000
+00000050	00000000	00000000	00000000	00000000
+00000060	00000000	00000000	00000000	00000000
+00000070	00000710			

.<
T3270LC SFIMS2
....
..
..

QCF PREFIX (NOT PART OF MESSAGE)

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View Message Contents - Screen 5

IMS QUEUE CONTROL FACILITY
Message for IMS: IMS1

Row 41 to 50 of 63

Command ==> _

JDTE. .2001.236
TIME. .09:42:59.42
DATE. .2001/08/24

Select an option or press END to exit.

Show log record prefix: Y (Y or N)
Show log record user data: Y (Y or N)
Show QCF prefix: N (Y or N)

Message for:

Q TYPE=LTERM, DEST=T3270LC

Source:

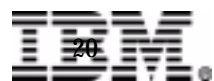
Name= LTERM = SFIMS2 IMS ID= SYS1 SYSID= 10 Format=

----- Message Prefix and Text Segments -----

+00000000	01400003	5BD8C3C6	D4E2C700	07100101	.. . \$QCFMSG
+00000010	01400000	00000000	00000000	00000000	.
+00000020	00048400	C8880100	1999309F	01461857	.d Hh. .r.+.E.P
+00000030	2472032D	E2E8E2F1	40404040	B31985B3	.. . SYS1 p.ep
+00000040	16A67F82	C9D4E2F1	40404040	B65595CB	.w"bIMS1 XNn~
+00000050	B2E67C84	00000000	00000000	00000000	iW@d
+00000060	00010001	00000000	080000DA	E2C6C9D4	. . . ISFIM
+00000070	E2F24040	E3F3F2F7	F0D3C340	D3F6C1D7	S2 T3270LC L6AP
+00000080	D7D3F140	00000000	00000000	82004000	PL1 b
+00000090	0000C3C3	00000000	00000000	000A000A	CC . .

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View Message Contents - Screen 6

IMS QUEUE CONTROL FACILITY
Message for IMS: IMS1

Row 51 to 60 of 63

Command ==> _

JDTE. .2001.236
TIME. .09:42:59.42
DATE. .2001/08/24

Select an option or press END to exit.

Show log record prefix: Y (Y or N)
Show log record user data: Y (Y or N)
Show QCF prefix: N (Y or N)

Message for:

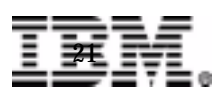
Q TYPE=LTERM, DEST=T3270LC

Source:

Name= LTERM = SFIMS2 IMS ID= SYS1 SYSID= 10 Format=

----- Message Prefix and Text Segments -----				
+000000A0	00000000	00000000	00000000	00000000
+000000B0	00000000	00000001	D8C3C6E5	F1D9F140
+000000C0	40404040	40404040	00000000	00000000
+000000D0	00000000	00000000	00000000	00000000
+000000E0	00000000	00000000	00000000	00000000
+000000F0	00000000	00000001	00000001	00000000
+00000100	00000000	00000000	00000000	00000000
+00000110	00000000	00000000	00000000	00000000
+00000120	00000000	00000000	00000000	00000000
+00000130	00000000	00000000	00000000	00000000

.QCFV1R1



View Message Contents - Screen 7

IMS QUEUE CONTROL FACILITY
Message for IMS: IMS1

Row 61 to 63 of 63

Command ==> _

JDTE. .2001.236
TIME. .09:42:59.42
DATE. .2001/08/24

Select an option or press END to exit.

Show log record prefix: Y (Y or N)
Show log record user data: Y (Y or N)
Show QCF prefix: N (Y or N)

Message for:

Q TYPE=LTERM, DEST=T3270LC

Source:

Name= LTERM = SFIMS2 IMS ID= SYS1 SYSID= 10 Format=

----- Message Prefix and Text Segments -----

USER DATA FROM PRIMARY RECORD

+00000000	00122300	E3F3F2F7	F0D3C340	C8C5D3D3	.. T3270LC HELLO
+00000010	D64B				0.

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



Load Messages into Queues

IMS QUEUE CONTROL FACILITY

Row 1 to 13 of 29

IMS system . IMS1

QCF task . LOAD

For Q types . ALL

Command ==>

JDTE . .2001.236

Select an option or press END to exit.

TIME . .10:28:11.17

DATE . .2001/08/24

Table options:

load(L),delete(D)

unloaded messages

Row options:

load(L),delete(D),list(S),reset(R)

messages in row

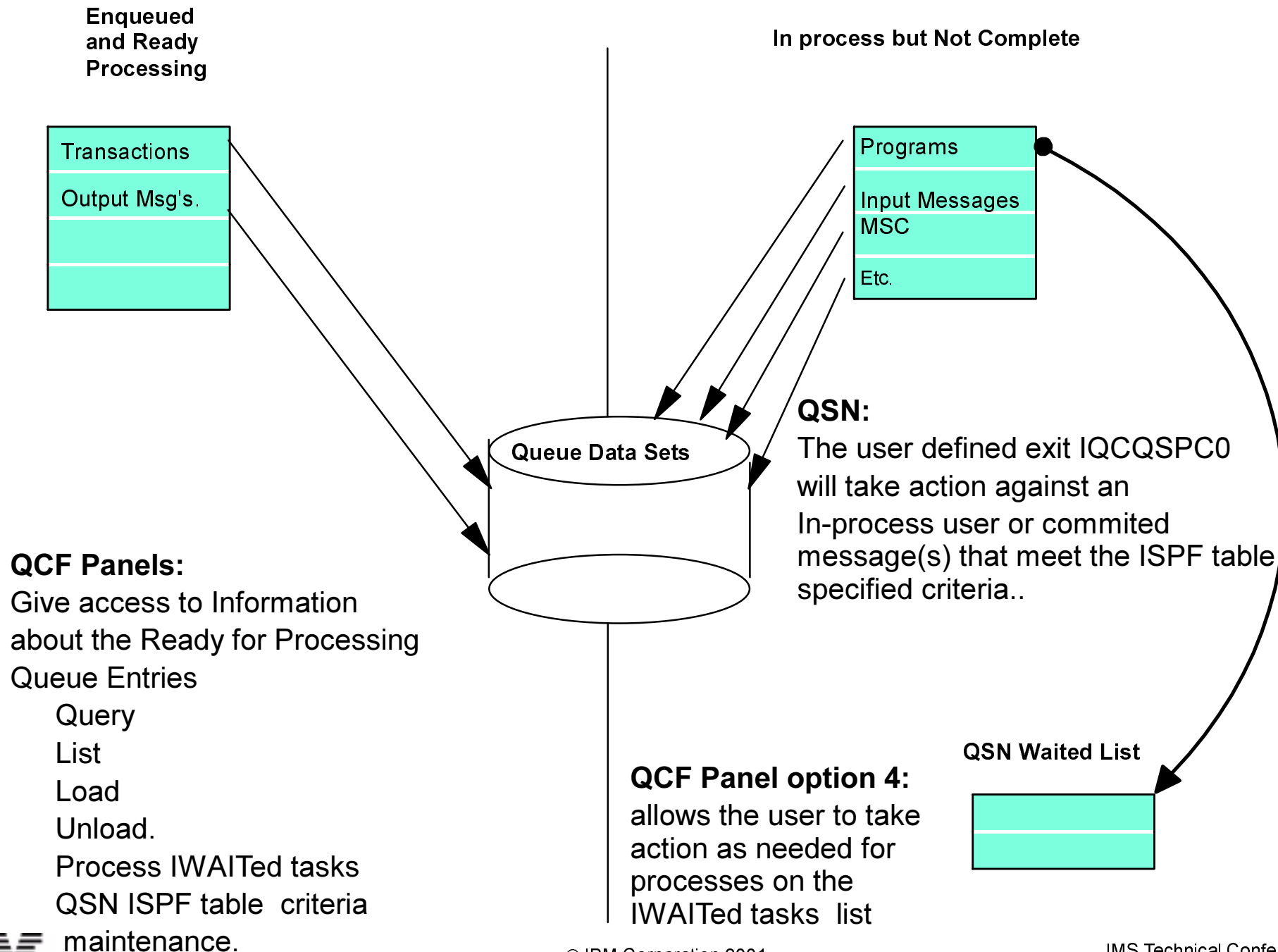
Sort (A or D):

S Destination

Struc/ Q Percent --- Msg Count ---

Name	Queue	Q Typ	Lmg	Smg	Prim	2ndry	Status
CDEBTRN4	LOC	TR	0	0	1	0	
TRAN31B0	LOC	TR	0	0	2	0	
TRAN31C0	LOC	TR	0	0	2	0	
APOL12	LOC	TR	0	0	1	1	
TRAN31V0	LOC	TR	0	0	2	0	
APOL11	LOC	TR	0	0	2	0	
TRAN31B1	LOC	TR	0	0	1	0	
WTOR	LOC	LT	6	0	65	2	
IMSUS06	LOC	LT	0	0	1	0	
L62TERM1	LOC	LT	0	0	1	0	
T3270LA	LOC	LT	0	0	1	0	
IMSUS03	LOC	LT	0	0	2	0	
LTERM10	LOC	LT	0	0	1	0	

QCF Interfaces Overview



IMS QCF V1.1 Queue Space Notification

- **IMS ships a sample of user exit DFSQSPC0 to help customers manage IMS Message Queue usage.**
- **QCF provides IQCQSPC0, it's version of DFSQSPC0.**
- **IQCQSPC0 is entered for get and free of queue space.**
- **Upon "get" entry, the exit is told**
 - ▶ **Records Used in Data Set**
 - ▶ **Records Allocated to Caller**
 - ▶ **Type of caller**
 - **Application program**
 - **LU6.2 (APPC)**
 - **Data Communications (input terminal)**
 - **OTMA**
 - **MSC**
 - ▶ **Other queue information e.g. destination stopped**

IMS QCF V1.1 Queue Space Notification (cont.)

- **IMS passes user supplied upper (QTU) and lower (QTL) threshold limits to the exit**
 - ▶ **Defaults are 75% and 60% respectively**
- **QTU and QTL are used by the exit to split the message queue usage into 4 thresholds**
- **The exit specifies actions based on which threshold was exceeded, type of caller, and the current message's contribution to the threshold**
- **The first time a caller is "waited" an IMS message is issued**
- **The exit can take the following actions:**
 - ▶ **No action (let the insert continue)**
 - ▶ **Stop the message insert**
 - ▶ **Put the message insert on the QSN wait list**

Note that these values can be overridden using the ISPF Table maintenance function.

IMS QCF V1.1 Queue Space Notification (cont.)

- **The ISPF panel interface option 4 is used to query the QSN wait list**
 - ▶ **Actions which can be taken:**
 - **Release to continue processing**
 - **Terminate (Abort)**
 - **Send Status Code A7**
 - **Put Input Message on the suspend queue**

- **The ISPF panel interface option 5 is used to modify the defaults for the threshold criteria**

IMS QCF V1.1 QSN Waited Tasks List

IMS QUEUE CONTROL FACILITY
IMS system IMS1 waited processes

Empty dataset

Command ==>

Select an option or press END to exit.

JDTE. .2001.236
TIME. .10:07:13.29
DATE. .2001/08/24

Table options: _ release(E),stop(T)

all tasks

Row options: release(R),abort(A),stop(X),suspend(S),list(L)

task in row

Sort:

-----Task----- 2ndry

S	Type	Identifier	Msgcnt	Dest	Insert Time	PCB	Status
---	------	------------	--------	------	-------------	-----	--------

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

IMS QCF V1.1 QSN Threshold Criteria Table Maintenance Menu

IMS QUEUE CONTROL FACILITY

Queue Overflow Protection Parameter Maintenance

IMS1

IMS system

Command ==>

JDTE. .2001.236

Press ENTER to continue or END to exit.

TIME. .10:11:38.46

DATE. .2001/08/24

Uncommitted Messages Parameters

Task . . _ 1 QSN Table Select queue space notification table

Committed Messages Parameters

2 Area A-B Select AREA A-B invoked command processing

3 Area B-C Select AREA B-C invoked command processing

4 Area C-D Select AREA C-D invoked command processing

5 User Set Threshold

IMS QCF V1.1 Select QSN Notification Table

IMS QUEUE CONTROL FACILITY

IMS system : IMS1 QSN Table Maintenance for uncommitted messages
 Command ==> _ Member IQCQSNUN

JDTE. .2001.236
 TIME. .10:16:39.23
 DATE. .2001/08/24

Press ENTER to continue or END to exit.

Queue upper threshold : 007 Ignore application calls
 Queue lower threshold : 004 inserting messages
 Queue IQC6101 threshold : 080 to express PCB;s : Y

	AREA A		AREA B		AREA C		AREA D	
Caller	STOP	START	STOP	START	STOP	START	STOP	START
Type	(Prct Actn)		(Prct Actn)		(Prct Actn)		(Prct Actn)	
Type0	100 N	100 N	050 W	050 W	008 W	005 W	008 S	005 S
APPL	100 N	100 N	050 W	050 W	008 W	005 W	008 S	005 S
APPC	100 N	100 N	050 W	050 W	008 W	005 W	008 S	005 S
DC	100 N	100 N	050 W	050 W	008 W	005 W	008 S	005 S
OTMA	100 N	100 N	050 W	050 W	008 W	005 W	008 S	005 S
MSC	100 N	100 N	050 W	050 W	008 W	005 W	008 S	005 S

Job names to process committed messages when crossing thresholds:

A-B: IQCPRCAB B-C: IQCPRCBC C-D: IQCPRCCD

Job name to process committed messages at point of IQC6101: IQCPRCUT

IMS QCF V1.1 Replace QSN Notification Table

IMS QUEUE CONTROL FACILITY

IMS system : IMS1 Default Member in dataset IMSVS.QCFT.IMS7.IQCQSNTU

Command ==>

Press ENTER to continue or END to exit

JDTE. .2001.236
TIME. .10:17:49.94
DATE. .2001/08/24

Warning: N Do you really want to update the default table IQCQSNUN
After update the table will be inserted to IMS IMS1
Enter Y to confirm update and insert.

IMS QCF V1.1 Update QSN Committed Messages Parameters

IMS QUEUE CONTROL FACILITY

Row 1 to 6 of 6

Create INCLUDE/EXCLUDE parameters for automated committed messages processing for crossing threshold AB IMS1 IMS system

Command ==> _ Member IQCQSNAB

JDTE. .2001.236

Press ENTER to continue or END to exit.

TIME. .10:25:04.29

DATE. .2001/08/24

Table options: save(S)

Row options: edit(E),copy(C),delete(D),insert(I)

Action	Queue Type/Age	Filter Type	Dest QType	Destination Name	Queue Prc/Cnt	Source QType	Source Name
UNLOAD	ALL	IN	MSC		01		
UNLOAD	ALL	IN	VSP		30		
UNLOAD	APPC	IN	APPC		30		
UNLOAD	LTERM	IN	LTER		30		
UNLOAD	OTMA	IN	OTMA		30		
UNLOAD	TRANS	IN	TRAN		30		

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

IMS QCF V1.1 Summary

- **IBM is now offering a tool which can help the customer manage all aspects of the IMS Queue.**
 - ▶ **Monitor the existing queue space usage and notify in case of problems in time to do something about the problem.**
 - **Manage the inprocess IMS Queue**
 - **Ability to Query, Browse, and Unload input/output which is flooding the queue**
 - **Ability to save unloaded data for additional processing and possible reloading after fixing a problem.**
 - ▶ **Query the existing Queue to determine the kind of queue usage by various IMS entities (input, program output, etc..).**
 - ▶ **Look (Browse) specific queue entries**
 - ▶ **View message content**
 - ▶ **Remove (Unload) specific queue entries**