

Discovering OMEGAMON

Volume 5

OMEGAMON XE for Messaging v730

Enhanced 3270 User Interface Lab Exercises



An IBM Proof of Technology

Catalog Number

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Overview



Lab Prerequisites

This lab is designed for MQ system administrators to explore the newly designed OMEGAMON MQ e3270 user interface and verify how OMEGAMON can help monitor MQ performance. The e3270 UI introduction lab would help, though it is not mandatory if the user has general knowledge with TN3270 or TSO/ISPF on z/OS.




OMEGAMON XE for Messaging provides the ability to monitor WebSphere MQ subsystems and application performance, both on System z and the distributed systems environments. The enhanced 3270(e3270) user interface, included with OMEGAMON XE for Messaging v7.3, complements the Tivoli Enterprise Portal User Interface to monitor MQ systems and application performance. This series of hands-on exercises illustrate several of the features and functions available in this new e3270 interface specific to monitoring WebSphere MQ on z/OS.

Individual labs exercises will cover the following topics –

- Monitoring the health of WebSphere MQ environment
- Monitoring MQ resources from application and CICS-MQ transaction views
- Analyzing Queue statistics and taking actions to delete or forward messages
- Monitoring MQ Buffer Pools and Pageset utilization
- Monitoring Channel activities
- Monitoring Dead Letter Queue

Icons

The following symbols appear in this document at places where additional guidance is available.

Icon	Purpose	Explanation
	Important!	This symbol calls attention to a particular step or command. For example, it might alert you to type a command carefully because it is case sensitive.
	Information	This symbol indicates information that might not be necessary to complete a step, but is helpful or good to know.
	Trouble-shooting	This symbol indicates that you can fix a specific problem by completing the associated troubleshooting information.

Getting Started

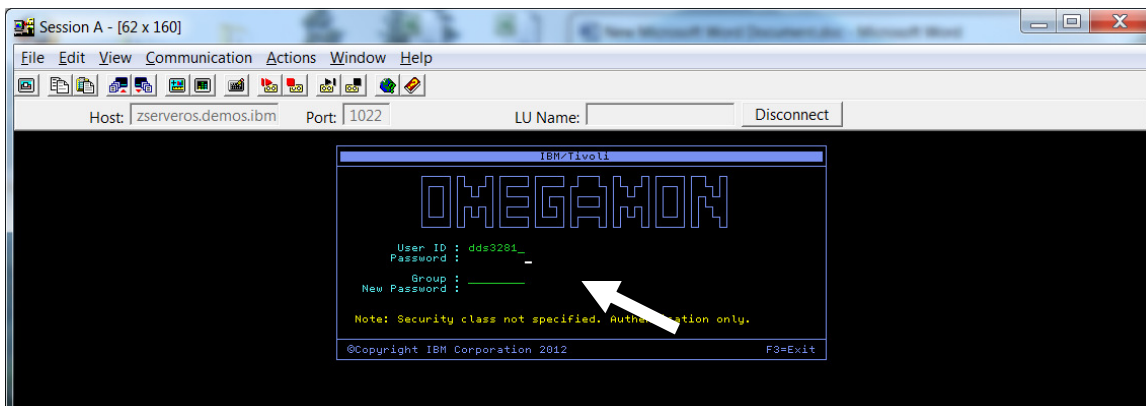
This section introduces the e3270 interface for OMEGAMON XE for Messaging. After you log on to the OMEGAMON VTAM Application ID, the first default 'start' panel ID is KOBSTART. KOBSTART is an overview panel for all installed OMEGAMON products. The Monitored MQ Subsystem workspace is included on KOBSTART and provides the starting point to drill down into OMEGAMON XE for Messaging detail displays.

Lab 1 illustrates several of the detailed displays available in OMEGAMON XE for Messaging.



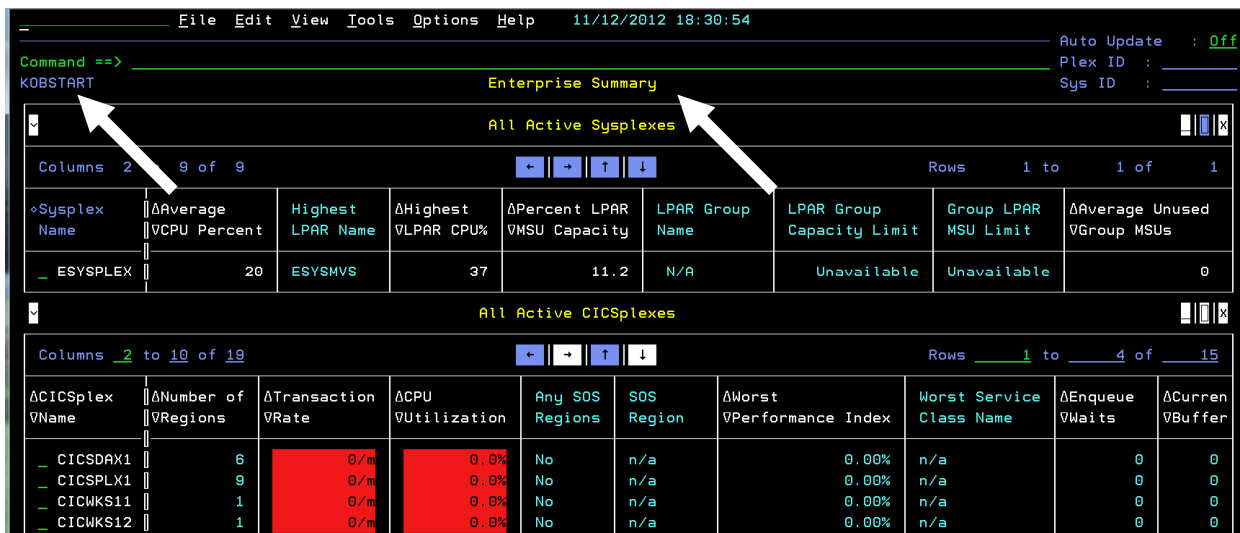
Security Information!

Prior to starting these exercises, please see the instructor for user ID/password and logon instructions.



a) Enter your userid ; DILxxS, and password (obtained from the Lab Instructor).

The first screen you see is the Enterprise Summary screen (KOBSTART)



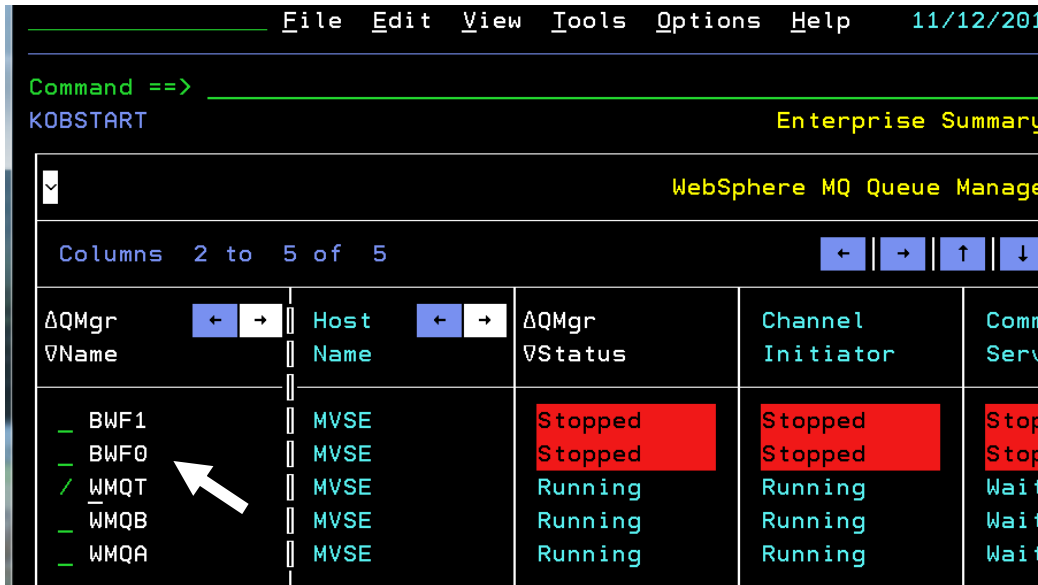
You can get to the MQ screens by **pressing PF8** to scroll up until you see the WebSphere MQ Queue Manager Status screen.



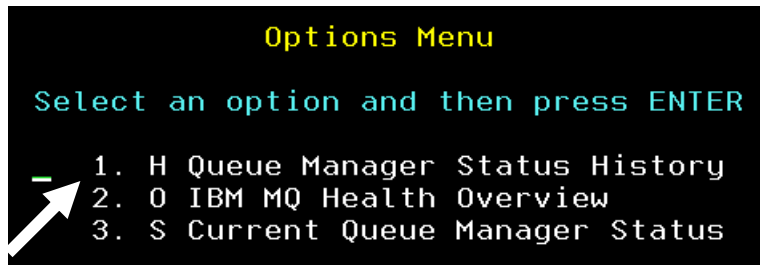
You are now looking at the WebSphere MQ portion of the KOBSTART panel.

Scenario #1 Monitoring MQ Health Overview

In this lab you will learn how to determine the health of your MQ environment



a) Place a / beside WMQT and **Press Enter** you will get the following pop-up menu.



b) Enter **0** for WebSphere MQ Health Overview and **Press Enter**.

WebSphere MQ Health Overview

Columns 2 to 11 of 24

Rows 1 to 5 of 5

ΔQMgr VName	Host Name	ΔQMgr VHealth	ΔQueue VHealth	ΔChannel VHealth	ΔCurrent VMQEvents	QMgr Status	Channel Initiator	Command Server	Conn #	+DLQ Depth
_ BWF0	MVSE	Critical	Unknown	Unknown	0	Stopped	Stopped	Stopped	0	0
_ BWF1	MVSE	Critical	Unknown	Unknown	0	Stopped	Stopped	Stopped	0	0
_ WMQA	MVSE	Warning	Critical	Critical	1	Running	Running	Waiting	37	21
_ WMQB	MVSE	Warning	Critical	OK	0	Running	Running	Waiting	114	14
_ WMQT	MVSE	Warning	Warning	Critical	1	Running	Running	Waiting	34	0

Queue-Sharing Group Nodes: No Data

Offline WebSphere MQ Monitoring Managed System Nodes: No Data

This is the WebSphere MQ Health Overview screen (KMQSTART). Notice that various alerts are indicated by highlighted fields.

- c) **Place the cursor** on any column heading then **Press PF1**. This will display field sensitive help and column threshold criteria where applicable.

Here we see the QMgr Health criteria.

WebSphere MQ Health Overview

Command ==> KMQSTART

Help for QMgr Health

Indicator of the queue manager health. Possible values are as follows:

- 15 (Critical) if the queue manager status is quiescing, stopping, stopped, or n/a
- 10 (Warning)
 - If the queue manager status is starting
 - If the channel initiator status is not running
 - If the command server status is not running
 - If the Queue Health or Channel Health attribute value is Critical
- 5 (OK)
 - If the queue manager, the channel initiator, and the command server are all running
 - If the queue manager status is standby

- d) **Press F3** to make the popup disappear.

WebSphere MQ Health Overview

Queue Manager Status

ΔQMGr VName	Host Name	ΔQMGr VHealth	ΔQueue VHealth	ΔChannel VHealth	ΔCurrent VMQEvents	QMGr Status	Channel Initiator	Command Server	Conn #	+DLQ Depth
— BWF0	MVSE	Critical	Unknown	Unknown	0	Stopped	Stopped	Stopped	0	0
— BWF1	MVSE	Critical	Unknown	Unknown	0	Stopped	Stopped	Stopped	0	0
— WMQA	MVSE	Warning	Critical	Critical	1	Running	Running	Waiting	37	21
— WMQB	MVSE	Warning	Critical	OK	0	Running	Running	Waiting	114	14
— WMQT	MVSE	Warning	Warning	Critical	1	Running	Running	Waiting	34	0

e) Place a / beside WMQT. You will get the following pop-up menu.

Options Menu

Select an option and then press ENTER

1. ! Take Actions on Queue Manager
2. A Application Summary
3. B Buffer Manager
4. C Channel Not Running Summary
5. D Dead Letter Queue Messages
6. G Cluster Queue Manager Summary
7. H Queue Manager Status History
8. I Channel Initiator and Summary Statistics
9. L Log Manager
10. M Message Manager
11. P Page Set Statistics
12. Q Queue High Depth Summary
13. S Current Queue Manager Status
14. T Topic Manager Performance
15. W IBM MQ Events
16. X Transmission Queue Summary

Note that you can select an item from the menu by using the number or the letter associated with that item. From this popup you may navigate to any of several different displays.

f) For example enter **A** for Application Summary and **Press Enter**.

File Edit View Tools Options Help 02/15/2013 12:30:45
 Auto Update : Off
 Command ==> HostName : MVSE
 KMQAPPLS Application Summary QmgrName : WMQT

Current Application Connections

Columns 2 to 6 of 27 Rows 1 to 16 of 31

ΔApp1 ▽Tag	ΔApp1 ▽Type	Address Space ID	User ID	Conn ID Suffix (CONN)	+UOW Stat
— DEMQGET	BATCH	0036	STC	CAED53D1F6DF0001	Act
— CXEGMC	BATCH	015A	SYSSTC	CAEC2A2A80750001	Non
— WMQTCHIN	CHINIT	018B	STC	CAED7CC0B7580001	Non
— WMQTCHIN	CHINIT	018B	STC	CAEC5EA68FBE0001	Non
— WMQTCHIN	CHINIT	018B	STC	CAE5D95B6F320001	Non
— WMQTCHIN	CHINIT	018B	STC	CAE5D95B87CA0001	Non
— WMQTCHIN	CHINIT	018B	STC	CAE5D95B752A0001	Non
— WMQTCHIN	CHINIT	018B	STC	CAE5D95B75130001	Non
— WMQTCHIN	CHINIT	018B	STC	CAE5D95B74EE0001	Non
— WMQTCHIN	CHINIT	018B	STC	CAE5D95B65200001	Non
— WMQTCHIN	CHINIT	018B	STC	CAE5D95B64190001	Non
— WLMSCN01	QMGR			CAE5D95A52350001	Non
— RTSSRV01	QMGR			CAE5D95AEF070001	Non
— EXPCTL01	QMGR			CAE5D95AEEDB0001	Non
— EXPWRK05	QMGR			CAE5D95AEED50001	Non
— EXPWRK04	QMGR			CAE5D95AEEDF0001	Non

You are now looking at the Application Summary display (KMQAPPLS).

This demonstrates how you can navigate from the MQ Health Overview panel easily to many different detailed displays.

Please remain on this panel for Lab 2.

Scenario #2 Monitoring MQ Application Performance

In this scenario we will look at data from applications that are using MQ. We will see a CICS region (CICST001), a batch job (DEMOGET), the OMEGAMON agent (CXEGMC), and the two MQ tasks (WMQTMSTR & WMQTCHIN).

In this scenario we will look at the CICS transaction example, but since this is a live environment you are free to look at other workloads that may be running on the system.

At the end of the prior scenario, you were on the KMQAPPLS display (as shown below).

The screenshot shows the KMQAPPLS application summary. The top section is titled "Current Application Connections" and displays a table with columns: ΔApp1 VTag, ΔApp1 VType, Address Space ID, User ID, Conn ID Suffix (CONN), UOW State, UOW Log Start Extent, UOW Start Date & Time, and +UOW Log Date & T. The bottom section is titled "Latest Application Statistics Sample" and displays a table with columns: ΔApp1 VID, ΔApp1 VType, Msgs Put, Msgs Read, Msgs Browsed, Avg MQ Resp Time, Avg Appl Time Between Calls, Avg MQGET Resp Time, Avg MQPUT Resp Time, and Input Msg Size Avg. A white arrow points to the row for application CICST001.

ΔApp1 VTag	ΔApp1 VType	Address Space ID	User ID	Conn ID Suffix (CONN)	UOW State	UOW Log Start Extent	UOW Start Date & Time	+UOW Log Date & T
- CXEGMC	BATCH	0031	SYSSTC	CA763AF9655C0001	None		n/a	n/a
- WMQTCHIN	CHINIT	016B	STC	CAB6FAC903CEE0001	None		n/a	n/a
- WMQTCHIN	CHINIT	016B	STC	CA76363581E90001	None		n/a	n/a
- WMQTCHIN	CHINIT	016B	STC	CA7179E745920001	None		n/a	n/a
- WMQTCHIN	CHINIT	016B	STC	CA70B88F91B90001	None		n/a	n/a
- WMQTCHIN	CHINIT	016B	STC	CAB65D72EE3B0001	None		n/a	n/a
- WMQTCHIN	CHINIT	016B	STC	CAB65D72E8480001	None		n/a	n/a
- WMQTCHIN	CHINIT	016B	STC	CAB65D72FED10001	None		n/a	n/a
- WMQTCHIN	CHINIT	016B	STC	CAB65D72EE7D0001	None		n/a	n/a

This screen provides two views; Current Application Connections, and Latest Application Statistics Sample (depending on your screen resolution you may have to scroll down using PF8 to see the bottom half of the screen).

The screenshot shows the KMQAPPLS application summary, specifically the "Latest Application Statistics Sample" section. The table displays performance metrics for various applications. A white arrow points to the row for application CICST001.

ΔApp1 VID	ΔApp1 VType	Msgs Put	Msgs Read	Msgs Browsed	Avg MQ Resp Time	Avg Appl Time Between Calls	Avg MQGET Resp Time	Avg MQPUT Resp Time	Input Msg Size Avg
- DEMOGET	BATCH	0	30	0	0.000	2.000	0.000	0.000	99
- CICST001	CICS	114	57	0	0.000	0.350	0.000	0.000	99
- WMQTMSTR	SYSTEM	389	16	0	0.000	0.152	0.000	0.000	104
- CXEGMC	BATCH	14	403	0	0.000	0.129	0.000	0.000	430
- WMQTCHIN	CHINIT	2	2	1	0.000	3.724	0.000	0.000	883

- a) In the Latest Application Statistics Sample portion of KMQAPPLS place the cursor beside the application CICST001 and Press Enter.

File Edit View Tools Options Help 12/13/2012 09:49:16 Auto Update : Off
 Command ==> HostName : MVSE
 KMQAPTQS Latest Detail Statistics Sample for Application QmgrName : MMQT

Transaction/Program Statistics for Appl CICST001 Type CICS

Columns 2 to 11 of 15 Rows 1 to 5 of 5

ΔTran/Pgm ▽	Msgs Put	Msgs Read	Msgs Browsed	Avg MQ Resp Time	Avg Appl Time Between Calls	% MQI Failures	Opens Per Sec	Avg MQGET Resp Time	Avg MQPUT Resp Time	+Inp Siz
SLGR	0	58	0	0.001	1.049	0.0	0.00	0.001	0.000	
SLPR	58	0	0	0.000	1.049	0.0	0.00	0.000	0.000	
SLQR	58	0	0	0.000	1.049	0.0	0.00	0.000	0.000	
CKTI	0	0	0	0.000	0.000	0.0	0.00	0.000	0.000	
CPLT	0	0	0	0.000	0.000	0.0	0.00	0.000	0.000	

Application Queue Statistics for Appl CICST001 Type CICS

Columns 2 to 10 of 14 Rows 1 to 4 of 4

ΔQueue VName	ΔTran/Pgm ▽	Msgs Put	Msgs Read	Msgs Browsed	Avg MQ Resp Time	Avg Appl Time Between Calls	Opens Per Sec	Avg MQGET Resp Time	+Avg Resp
LARGE	SLGR	0	58	0	0.001	1.049	0.00	0.001	

In the top half of the screen you see the Transaction/Program Statistics for the CICST001 application. This data reflects all MQ activity done by a transaction, across all queues which the transaction accessed.

Notice the three transactions that are running; SLGR, SLPR & SLQR:

SLPR is putting messages to the queue

SLGR is getting messages from the queue

SLQR is putting one message/second to a remote queue.

In the bottom half of the screen you will see the Application Queue Statistics (KMQAPTQS) for the application. Here we report on the MQ activity from the perspective of queue activity. Each row represents a queue being accessed by a unique workload. Multiple instances of a workload are combined, with each row reflecting the aggregated data.

b) If you see **"MORE"** in the bottom right hand corner you will have to **scroll using PF8** to see more data.

Note that you can clearly see that the LARGE queue is being accessed by two transactions concurrently.

```

File Edit View Tools Options Help 12/13/2012 09:55:19
Auto Update : Off
Command ==>
KMQAPTQS Latest Detail Statistics Sample for Application
HostName : MVSE
QmgrName : WMQT
    
```

Application Queue Statistics for Appl CICST001 Type CICS

Columns 2 to 10 of 14 Rows 1 to 4 of 4

ΔQueue VName	ΔTran/Pgm V	Msgs Put	Msgs Read	Msgs Browsed	Avg MQ Resp Time	Avg Appl Time Between Calls	Opens Per Sec	Avg MQGET Resp Time	+Avg Resp
LARGE	SLGR	0	58	0	0.001	1.049	0.00	0.001	
LARGE	SLPR	58	0	0	0.000	1.049	0.00	0.000	
NOT CHANNEL ACTIVITY	SLQR	58	0	0	0.000	1.049	0.00	0.000	
CICSTIV1.INITQ	CKTI	0	0	0	0.000	0.000	0.00	0.000	

c) Press F7 to return to the top of the display.

```

File Edit View Tools Options Help 12/13/2012 09:58:38
Auto Update : Off
Command ==>
KMQAPTQS Latest Detail Statistics Sample for Application
HostName : MVSE
QmgrName : WMQT
    
```

Transaction/Program Statistics for Appl CICST001 Type CICS

Columns 2 to 11 of 15 Rows 1 to 5 of 5

ΔTran/Pgm V	Msgs Put	Msgs Read	Msgs Browsed	Avg MQ Resp Time	Avg Appl Time Between Calls	% MQI Failures	Opens Per Sec	Avg MQGET Resp Time	Avg MQPUT Resp Time	+Inp Siz
S SLGR	0	57	0	0.001	1.049	0.0	0.00	0.001	0.000	
SLPR	57	0	0	0.000	1.049	0.0	0.00	0.000	0.000	
SLQR	57	0	0	0.000	1.049	0.0	0.00	0.000	0.000	
CKTI	0	0	0	0.000	0.000	0.0	0.00	0.000	0.000	
CPLT	0	0	0	0.000	0.000	0.0	0.00	0.000	0.000	

Application Queue Statistics for Appl CICST001 Type CICS

Columns 2 to 10 of 14 Rows 1 to 4 of 4

ΔQueue VName	ΔTran/Pgm V	Msgs Put	Msgs Read	Msgs Browsed	Avg MQ Resp Time	Avg Appl Time Between Calls	Opens Per Sec	Avg MQGET Resp Time	+Avg Resp
LARGE	SLGR	0	57	0	0.001	1.049	0.00	0.001	

d) Select the first transaction by putting an S next to the transaction and Press Enter.

File Edit View Tools Options Help 12/13/2012 09:59:07

Auto Update : Off
 HostName : MVSE
 QmgrName : WMQT

Command ==> _____
 KMQAPTRS Recent Application Transaction/Program Statistics

Appl CICST001 Type CICS Tran/Pgm SLGR

Columns 2 to 11 of 16 Rows 1 to 13 of 60

ASample VTime	Msgs Put	Msgs Read	Msgs Browsed	Avg MQ Resp Time	Avg Appl Time Between Calls	% MQI Failures	Opens Per Sec	Avg MQGET Resp Time	Avg MQPUT Resp Time	+Input Size
09:58:24	0	57	0	0.001	1.049	0.0	0.00	0.001	0.000	
09:57:24	0	57	0	0.001	1.049	0.0	0.00	0.001	0.000	
09:56:24	0	58	0	0.001	1.049	0.0	0.00	0.001	0.000	
09:55:24	0	57	0	0.001	1.049	0.0	0.00	0.001	0.000	
09:54:24	0	57	0	0.001	1.049	0.0	0.00	0.001	0.000	
09:53:24	0	57	0	0.001	1.049	0.0	0.00	0.001	0.000	
09:52:24	0	57	0	0.001	1.049	0.0	0.00	0.001	0.000	
09:51:24	0	58	0	0.001	1.049	0.0	0.00	0.001	0.000	
09:50:24	0	56	0	0.001	1.063	0.0	0.00	0.001	0.000	
09:49:24	0	57	0	0.001	1.049	0.0	0.00	0.001	0.000	
09:48:24	0	58	0	0.001	1.049	0.0	0.00	0.001	0.000	
09:47:24	0	57	0	0.000	1.049	0.0	0.00	0.000	0.000	
09:46:24	0	57	0	0.000	1.049	0.0	0.00	0.000	0.000	

Here you see details for the transaction SLGR. You can observe the Number of Messages Read, the Average MQ Response Time, and Average Application Time Between Calls.

Note you may use the PF keys (PF7/PF8, PF10/PF11) to scroll and see what other data is available.

e) **Press F3** to return to panel KMQAPTQS.

Now look at the next transaction SLPR.

f) **Position the cursor** next to the SLPR transaction, **enter S** and **Press Enter**.

File Edit View Tools Options Help 12/13/2012 10:04:57

Auto Update : Off
 HostName : MVSE
 QmgrName : WMQT

Command ==> _____
 KMQAPTQS Latest Detail Statistics Sample for Application

Transaction/Program Statistics for Appl CICST001 Type CICS

Columns 2 to 11 of 15 Rows 1 to 5 of 5

ΔTran/Pgm V	Msgs Put	Msgs Read	Msgs Browsed	Avg MQ Resp Time	Avg Appl Time Between Calls	% MQI Failures	Opens Per Sec	Avg MQGET Resp Time	Avg MQPUT Resp Time	+Inp Siz
SLGR	0	57	0	0.001	1.049	0.0	0.00	0.001	0.000	
S SLPR	57	0	0	0.000	1.049	0.0	0.00	0.000	0.000	
SLQR	57	0	0	0.000	1.049	0.0	0.00	0.000	0.000	
CKTI	0	0	0	0.000	0.000	0.0	0.00	0.000	0.000	
CPLT	0	0	0	0.000	0.000	0.0	0.00	0.000	0.000	

Application Queue Statistics for Appl CICST001 Type CICS

Columns 2 to 10 of 14 Rows 1 to 4 of 4

ΔQueue VName	ΔTran/Pgm V	Msgs Put	Msgs Read	Msgs Browsed	Avg MQ Resp Time	Avg Appl Time Between Calls	Opens Per Sec	Avg MQGET Resp Time	+Avg Resp
LARGE	SLGR	0	57	0	0.001	1.049	0.00	0.001	

Here you see details for the transaction SLPR. This transaction executes MQPUT commands.

ΔSample VTime	Msgs Put	Msgs Read	Msgs Browsed	Avg MQ Resp Time	Avg Appl Time Between Calls	% MQI Failures	Opens Per Sec	Avg MQGET Resp Time	Avg MQPUT Resp Time	+Input Size
10:05:24	58	0	0	0.000	1.049	0.0	0.00	0.000	0.000	
10:04:24	57	0	0	0.000	1.049	0.0	0.00	0.000	0.000	
10:03:24	57	0	0	0.000	1.049	0.0	0.00	0.000	0.000	
10:02:24	57	0	0	0.000	1.049	0.0	0.00	0.000	0.000	
10:01:24	57	0	0	0.000	1.049	0.0	0.00	0.000	0.000	
10:00:24	58	0	0	0.000	1.049	0.0	0.00	0.000	0.000	
09:59:24	57	0	0	0.000	1.049	0.0	0.00	0.000	0.000	

From this panel you can observe the Number of Messages Put, and the Average Application Time Between Calls. As before, use the PF keys (PF7/PF8, PF10/PF11) to scroll and see what other data is available.

- g) **Press PF3** to return to panel KMQAPTQS.
- h) **Press PF8** to scroll forward so that you can see the Application Queue Statistics portion of the panel.

ΔQueue VName	ΔTran/Pgm V	Msgs Put	Msgs Read	Msgs Browsed	Avg MQ Resp Time	Avg Appl Time Between Calls	Opens Per Sec	Avg MQGET Resp Time	+Avg Resp
— LARGE	— SLGR	0	57	0	0.001	1.049	0.00	0.001	
— LARGE	— SLPR	57	0	0	0.000	1.049	0.00	0.000	
— POT_CHANNEL.ACTIVITY	— SLQR	57	0	0	0.000	1.049	0.00	0.000	
— CICSTIV1.INITQ	— CKTI	0	0	0	0.000	0.000	0.00	0.000	

Here you see the queues associated with the CICST001 application and the transactions using those queues.

Notice that the LARGE queue is being use by two transactions: SLPR and SLGR. These transactions execute MQGET and MQPUT commands.

- i) **Press PF3** to return to the KMQAPPLS panel

You have completed the scenario. Please remain on panel KMQAPPLS for the next scenario.

Scenario #3 Using Embedded Data For Application Analysis (New in V7.3)

The OMEGAMON V5.3 monitoring agents (z/OS, CICS, and Storage), along with OMEGAMON Messaging V7.3 support a new feature called Embedded Data. Embedded data is a navigation feature that enables easy cross component analysis of an application or subsystem within the e3270 user interface. For example, if a user has monitoring installed for both OMEGAMON Messaging and OMEGAMON CICS, the user will be able to transparently navigate back and forth to more fully understand the application. This section will demonstrate this feature.

From the KMQAPPLS panel, under Current Application Connections

a) **Scroll the panel** until you see CICST001

KMQAPPLS Application Summary QmgrName : WMQT					
Current Application Connections					
Columns 2 to 6 of 27		Rows 20 to 35 of 35			
ΔAppL ▽Tag	ΔAppL ▽Type	User ID	Conn ID Suffix (CONN)	UR Type	UOW State
-	EXPCTL01		CDAB56D035060001	QMGR	None
-	EXPWRK05		CDAB56D034FE0001	QMGR	None
-	EXPWRK04		CDAB56D034FA0001	QMGR	None
-	WLMCLS01		CDAB56D014C10001	QMGR	None
-	EXPWRK02		CDAB56D034E70001	QMGR	None
-	WLMSCN01		CDAB56D014B50001	QMGR	None
-	SCAVNG0B		CDAB56D014B40001	QMGR	None
-	DATA CN00		CDAB56D015970001	QMGR	None
-	SCAVNG01		CDAB56D014B20001	QMGR	None
-	RAHEAD00		CDAB56CFF3450001	QMGR	None
-	SP64TK03		CDAB56CF60270001	QMGR	None
-	SCAVNG00		CDAB56D014B30001	QMGR	None
-	CICST001	SYSSTC	CDBDB50AFCCE0001	CICS	Active
-	CICST001	SYSSTC	CDBDB52C57C70001	CICS	Active
-	CICST001	SYSSTC	CDBA3BD73C480001	CICS	None
-	CICST001	SYSSTC	CDBDB52BDDFC0001	CICS	None

b) **Position the cursor** next to CICST001 and **Press Enter**

```

File Edit View Tools Navigate Help 09/11/2014 11:08:45
Auto Update : Off
Command ==> HostName : MVSE
KMQAPPCD CICS Application Details QmgrName : WMQT

```

Application CICST001 Task 93479

Columns 2 to 6 of 18 Rows 1 to 1 of 1

Conn ID Suffix (CONN)	User ID	UR Type	UOW State	Asynch State	Connection Options
CDBDB50AFCCE0001	SYSSTC	CICS	Active	None	00000000

CICS Transaction Details

CICS Region Name.....	CICSTIV1	User ID.....	CICSUSER
Transaction ID.....	SLQR	Task Number.....	93479
Terminal ID.....	n/a	Task State.....	Suspend
Elapsed Time.....	1h 36m	Wait Type.....	Interval
Duration of Suspend.....	0.590s	Resource Type.....	ICWAIT
CPU Time.....	2.790s	Resource Name.....	
Current Program ID.....	MQSLOPUR		

CICS Region Summary for CICSTIV1

CICS Region Name.....	CICSTIV1	CICS SYSIDNT.....	CTV1
Transaction Rate.....	106/m	SOS.....	No
Maximum Tasks Percent....	6%	Stg. Violations Last Hour.	0
Region's Worst Perf. Index	11.26%	Any Current WS Faults....	No
Worst Region Service Class	STRW	Any Current WS Timeouts...	No
Current VSAM String Waits.	0	Enqueue Waits.....	0
Current VSAM Buffer Waits.	0	Queued Remote Requests...	0
Largest Contiguous Availab	1252K	AIDs.....	0
Largest Contiguous Availab	1252K	ICES.....	17
VTAM ACB Open.....	Yes	Region Status.....	N/S
VTAM Generic Applid.....	CICST001	CICS Version.....	6.7.0
VTAM Applid.....	CICST001	XCFGROUP.....	DFHIR000

You are now looking at the CICS application detail information, as monitored by OMEGAMON Messaging. From this panel you may drill down directly to OMEGAMON CICS to see more detailed CICS specific performance information.

c) **Position the cursor** on the white text CICS Region Name and **Press Enter**

```

>
KCPMQTDZ Navigation Options for CICSTIV1

Select an action and then press ENTER

1. ! Take Actions on Task
2. M CICS Messaging Summary
3. B CICS Bottlenecks
4. F CICS File/Data Resources
5. R CICS Resources
6. S CICS Region Overview
7. T CICS Task Summary

```

You are presented with a popup panel with various drill down options to see CICS information. Note that you may look at CICS bottlenecks, CICS active tasks, CICS file/data resources, and the CICS region overview.

d) **Select option S** and **Press Enter**

```

File Edit View Tools Navigate Help 09/11/2014 11:14:59
Auto Update : Off
Command ==>
KCPRGNO CICS Region Overview CICSplex : TIVPLEX
Region : CICSTIV1
    
```

CICS Region	z/OS Address Space	Data Sources
-------------	--------------------	--------------

CICSTIV1 Overview

System ID.....	MVSE	CICS Region Name.....	CICSTIV1
Worst Region Service Class	MTRANS	Region's Worst Perf. Index	10.46%
CPU Utilization.....	0.3%	CICS TOD Updated.....	Yes
Transaction Rate.....	1227/m	Maximum Tasks Percent....	8%
Queued Remote Requests...	0	SOS.....	No
Stg. Violations last hour.	0	AIDs.....	0
ICES.....	23	CICS TOD Clock.....	11:14:59
Any Current WS Faults....	No	Any Current WS Timeouts...	No
CICS Version.....	6.7.0		

Bottleneck Summary

Columns 3 to 5 of 14 Rows 1 to 5 of 5

ΔResource ▽Type	ΔSummary Short ▽Term Percentage	ΔSummary Long ▽Term Percentage	Summary Short Term Percentage	+Sum Ter
_ EKCWAIT	62%	63%		
_ ICWAIT	19%	19%		
_ MQSeries	6%	6%		
_ IS_SCHED	6%	6%		
_ ECDFQEMW	6%	6%		

Highest CPU Tasks

Columns 2 to 7 of 19 Rows 1 to 5 of 24

ΔTransaction ▽ID	ΔCPU ▽Time	ΔElapsed ▽Time	Task State	Wait Type	Resource Type	+Resou Name
_ SLGR	3.086s	1h 42m	Suspend	Interval	ICWAIT	
_ SLQR	3.079s	1h 43m	Suspend	Interval	ICWAIT	
_ SLPR	2.449s	1h 42m	Suspend	Interval	ICWAIT	

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You are now looking at the KCPRGNO panel of OMEGAMON CICS. Embedded data has enabled a drill down in context from OMEGAMON Messaging to OMEGAMON CICS detail.

Note on the bottom of the panel the MQ transactions that had been viewed earlier in these exercises, SLGR, SLQR, and SLPR.

e) **Position the cursor** next to one of the transactions and **Press Enter**

```

File Edit View Tools Navigate Help 09/11/2014 11:17:46
Auto Update : Off
Command ==> CICSplex : TIVPLEX
KCPTASD      Region : CICSTIV1

```

Details Statistics Storage Timings I/O Definitions

Transaction Details

Transaction ID.....	SLGR	Time in Suspend.....	0.711s
CPU time.....	3.221s	Elapsed Time.....	1h 45m
Storage Used Above 16M....	99K	Storage Used Below 16M....	1K
Attach time.....	09:32:32	Time of Suspend.....	11:17:44
Suspend Timeout Due.....	None	Facility Type.....	Task
Facility ID.....	n/a	Task State.....	Suspend
Dispatcher Queue.....	TXN mstr	First Program ID.....	MQSLOGER
Current Program ID.....	MQSLOGER	Resource Type.....	ICWAIT
Resource Name.....		User ID.....	CICSUSER
EXEC CICS Command.....	DELAY	Purgeable Suspend.....	No
Purge Status.....	No purge	Suspend Type.....	Suspend
UOW State.....	Inflight	Umbrella Transaction ID..	None
Originating Transaction ID	SLGR	Trace active.....	No

You are now looking at the CICS transaction details.

f) **Press F3 multiple times** until you have returned to the KMQSTART panel

This concludes the demonstration of embedded data navigation using the e3270 user interface.

Scenario #4 Monitoring Queue Manager Status – Real Time and History (New in V7.3)

You may use OMEGAMON Messaging to monitor the MQ Queue Manager status information, both in real time, and now with V7.3 you may view Queue Manager Status history.

This exercise assumes you are on the KMQSTART panel

- a) **Position the cursor** next to QMGR WMQT **enter S** and **Press Enter**

Queue Manager Status			
Columns <u>2</u> to <u>7</u> of <u>24</u>			
ΔQMgr ▽Name	Host Name	ΔQMgr ▽Health	ΔQueue ▽Health
— BWF0	MVSE	Critical	Unknown
— BWF1	MVSE	Critical	Unknown
— WMQA	MVSE	Warning	Critical
— WMQB	MVSE	Warning	Critical
S WMQT	MVSE	Warning	Critical

You are now looking at QMgr real time status screen. From this panel you have a variety of drill down options for more detail.

Queue Manager Health	
QMGR Name.....	WMQT
QMGR Health.....	Warning
QMGR Status.....	Running
Command Server Status.....	Waiting
Host Name.....	MVSE
Connection Count.....	35
Channel Initiator Status..	Running
Current MQEvents.....	1

Queue Health	
Queue Health.....	Critical
High Depth Queue Count....	1
Total XMIT Queue Messages..	2435
Total Messages.....	21849
DLQ Depth.....	0
Put Inhibited Queue Count..	1
Get Inhibited Queue Count..	2
Open Queue Count.....	19

Channel Health	
Channel Health.....	Critical
Current Not Running.....	1
Current Connections.....	1
Active Connections.....	0
Indoubt Connections.....	0
Server Connections.....	0
% Max Channels.....	0.5
% Max Active Channels.....	0.0

- b) **Press F3** to return to KMQSTART

Queue Manager Status			
Columns <u>2</u> to <u>7</u> of <u>24</u>		Rows	
ΔQMgr ▽Name	Host Name	ΔQMgr ▽Health	ΔQueue ▽Health
— BWF0	MVSE	Critical	Unknown
— BWF1	MVSE	Critical	Unknown
— WMQA	MVSE	Warning	Critical
— WMQB	MVSE	Warning	Critical
H WMQT	MVSE	Warning	Critical

c) Now **Position the cursor** next to QMGR WMQT **enter H** and **Press Enter**

Queue Manager WMQT						
Columns <u>2</u> to <u>7</u> of <u>23</u>		Rows <u>1</u> to <u>8</u> of <u>8</u>				
◊Recording Time	QMgr Health	Queue Health	Channel Health	Current MQEvents	QMgr Status	+Chann Initi
— 10:15:00	Warning	Critical	Critical	1	Running	Runn
— 10:00:00	Warning	Critical	Critical	1	Running	Runn
— 09:45:00	Warning	Critical	Critical	1	Running	Runn
— 09:30:00	Warning	Critical	Critical	1	Running	Runn
— 09:15:00	Warning	Critical	Critical	1	Running	Runn
— 09:00:00	Warning	Critical	Critical	1	Running	Runn
— 08:45:00	Warning	Critical	Critical	1	Running	Runn
— 08:30:00	Warning	Critical	Critical	1	Running	Runn

You are now looking at Queue Manager Status history. Each line represents an interval of history data for the Queue Manager. You may scroll the history data, and you may also drill down to see more detailed history.

d) **Position the cursor** next to a time interval and **Press Enter**


```

File Edit View Tools Navigate Help 09/11/2014 10:19:50
Command ==>
KMQQMSTD Queue Manager Status History Detail Display : HISTORY
                                                HostName : MVSE
                                                QmgrName : WMQT

```

Queue Manager Health			
QMgr Name.....	WMQT	Host Name.....	MVSE
QMgr Health.....	Warning	Connection Count.....	36
QMgr Status.....	Running	Channel Initiator Status..	Running
Command Server Status.....	Waiting	Current MQEvents.....	1

Queue Health			
Queue Health.....	Critical	DLQ Depth.....	0
High Depth Queue Count....	1	Put Inhibited Queue Count.	1
Total XMIT Queue Messages.	1641	Get Inhibited Queue Count.	2
Total Messages.....	21382	Open Queue Count.....	19

Channel Health			
Channel Health.....	Critical	Indoubt Connections.....	0
Current Not Running.....	1	Server Connections.....	0
Current Connections.....	1	% Max Channels.....	0.5
Active Connections.....	0	% Max Active Channels....	0.0

Log Datasets			
Oldest Active UOW Log Dataset Name.....	WMQ.WMQT		
Page Set Recovery Log Dataset Name.....	WMQ.WMQT		
Active Log Copy 1 Dataset Name.....	WMQ.WMQT		
Active Log Copy 2 Dataset Name.....	WMQ.WMQT		

```

09:45 ← Display 10:00 → 10:15
<< HISTORY

```

You are now looking at the Queue Manager Status history. Note the upper right corner indicates 'History'. Note also a tool bar at the bottom that allows you to navigate through history.

- e) **Position the cursor** on the history tool bar and **Press Enter** to navigate through various time intervals

```

09:45 ← Display 10:00 → 10:15
<< HISTORY

```

Note how as you press enter the time frame for the history on the display will change.

- f) **Press F3 twice** to return to the KMQSTART panel

You may see history in several different levels within OMEGAMON Messaging V7.3

- g) To see another example **position the cursor** next to QMGR WMQT **enter Q** and **Press Enter**

```

File Edit View Tools Navigate Help 09/11/2014 10:26:56
Auto Update : Off
Command ==>
KMQQUEHS Queue High Depth Summary HostName : MVSE
QmgrName : WMQT
    
```

Queues with High Depth						
ΔQueue ▽Name	ΔCurrent ▽Depth	Input Opens	Output Opens	Get Status	+Put Status	
_ LARGE	18810	2	1	Enabled	Enabl	

You are now looking at the Queue Depth Summary display. From here you may look at what is happening real time within MQ, but you may also see history of Queue activity.

- h) **Position the cursor** next to Queue Name LARGE **enter H** and **Press Enter**

```

File Edit View Tools Navigate Help 09/11/2014 10:29:04
Display : HISTORY
Command ==>
KMQQUELS Queue Statistics History HostName : MVSE
QmgrName : WMQT
    
```

◇Recording Time	Current Depth	Input Opens	Output Opens	Get Status	Put Status	+Trigger Control
_ 10:15:00	19094	2	1	Enabled	Enabled	No
_ 10:15:00	19116	2	2	Enabled	Enabled	No
_ 10:00:00	19445	2	2	Enabled	Enabled	No
_ 10:00:00	19465	2	2	Enabled	Enabled	No
_ 09:45:00	19745	2	2	Enabled	Enabled	No
_ 09:45:00	19764	2	2	Enabled	Enabled	No
_ 09:30:00	13598	0	0	Enabled	Enabled	No

You are now looking at the history summary for the Queue LARGE. As with the Queue Manager Status example, you may drill down on a given interval and display history detail for a given time period, and then navigate through the history intervals.

- i) **Position the cursor** next to a time interval and **Press Enter**

```

File Edit View Tools Navigate Help 09/11/2014 10:31:16
Command ==> Display : HISTORY
KMQQUELD Queue History Details HostName : MVSE
QmgrName : WMQT

Queue Name..... LARGE

Queue Status History
Current Depth..... 19451 Queue Monitoring..... Medium
Uncommitted Msgs..... Yes Short Term Queue Time..... 976562K
Output Opens..... 1 Long Term Queue Time..... 976562K
Input Opens..... 2 Oldest Msg Age..... 1687
Last Put Date..... 14/09/11 Last Get Date..... 14/09/11
Last Put Time..... 10:00:08 Last Get Time..... 10:00:08

Queue Statistics History
Msgs Put..... 941 Msgs Read..... 1220
Msgs Put per Sec..... 1.1 Msgs Read per Sec..... 1.5
Time to Full Queue (Secs). Sufficie Time to Zero Msgs (Secs).. 58604.30
Last Put Date..... 14/09/11 Last Read Date..... 14/09/11
Last Put Time..... 09:59:24 Last Read Time..... 09:59:24
Put Status..... Enabled Get Status..... Enabled
Output Opens..... 2 Input Opens..... 2
Total Opens..... 4 Cur Opened Exclusive..... No
Output Msg Size Avg..... 99 Input Msg Size Avg..... 80
Avg Appl Time Between Call 0.390 Avg MQ Resp Time..... 0.001
# of Tran/Pgms..... 7 Msgs Browsed..... 0
Current Depth..... 19465 Highest Depth..... 19725
% Full..... 38.9 Max Depth..... 50000
Queue Type..... Local High Depth Threshold..... 10
Queue Usage..... Normal Definition Type..... Predefin
Trigger Control..... No Trigger Type..... First
Trigger Depth..... 1 Trigger Priority..... 0
Process Name..... Initiation Queue Name....
Page Set ID..... 04 Buffer Pool ID..... 03
Storage Class..... DEFAULT CF Struct Name.....
QSG Disp..... Qmgr QSG Name.....
Creation Date & Time..... 10mo 23d Cur Defn..... Yes
Retent Intvl Exceeded..... No Interval Time (seconds)... 840.00

09:45 ← Display 10:00 → 10:15 << HISTORY

```

Again, you may use the history tool bar to look at other time intervals. Note variations in message counts (Msgs PUT and Msgs READ), queue % full, and other relevant counters.

- j) Try using the tool bar to navigate to different time intervals.
- k) When done, **Press F3 three times** to return to KMQSTART

Scenario #5 Monitoring Queue Statistics

In this scenario we will look at the queue statistics related to particular applications. We will also learn how to delete and forward messages from queues.

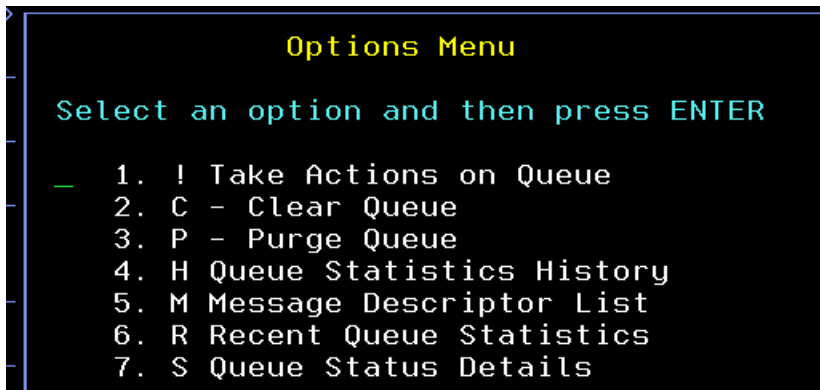
ΔQMgr ▽Name	Host Name	ΔQMgr ▽Health	ΔQueue ▽Health	ΔChannel ▽Health	ΔCurrent ▽MQEvents	QMgr Stat
_ BWF0	MVSE	Critical	Unknown	Unknown	0	Stop
_ BWF1	MVSE	Critical	Unknown	Unknown	0	Stop
_ WMQA	MVSE	Warning	Critical	Critical	1	Runn
_ WMQB	MVSE	Warning	Critical	OK	0	Runn
q WMQT	MVSE	Warning	Warning	Critical	1	Runn

- a) From the KMQSTART panel, **position the cursor** next to QMGR WMQT **enter Q** and **Press Enter.**

ΔQueue ▽Name	ΔCurrent ▽Depth	Input Opens	Output Opens	Get Status	Put Status	Trigger Control	% Full	High Depth Threshold %
_ LARGE	19936	2	1	Enabled	Enabled	Off	39.8	10.0
_ TESTQ	200	0	0	Enabled	Enabled	Off	0.0	80.0
_ WMQB	152	0	1	Enabled	Enabled	On	0.0	80.0
_ SYSTEM.CHANNEL.SYNCO	91	0	0	Enabled	Enabled	Off	0.0	80.0

You are now looking at the Queue High Depth Summary display.

- b) Place a **/** beside the LARGE queue and **Press Enter** to see what options are available.



Note - Please DO NOT CLEAR or PURGE any queues at this time.

c) From the popup, select option **R** for Recent Queue Statistics and **Press Enter**.

File Edit View Tools Options Help 12/13/2012 10:55:45

Auto Update : Off

Command ==> HostName : MVSE

KMQQUERS Recent Queue Statistics QmgrName : WMQT

Queue LARGE

Columns 2 to 11 of 25 Rows 1 to 13 of 65

ΔSample Time	Δ% Full	Msgs Read per Sec	Msgs Put per Sec	Total Opens	Last Read	Last Put	Avg MQ Resp Time	Avg Appl Time Between Calls	Input Msg Size Avg	+Outp Size
10:55:24	0.0	1.4	0.9	3	10:55:24	10:55:24	0.001	0.385	99	
10:54:24	0.0	1.5	1.0	3	10:54:24	10:54:24	0.000	0.417	99	
10:53:24	0.0	1.5	1.0	3	10:53:24	10:53:24	0.000	0.418	99	
10:52:24	0.0	1.6	1.1	3	10:52:24	10:52:24	0.000	0.008	99	
10:51:24	0.0	1.5	1.0	3	10:51:24	10:51:24	0.000	0.413	99	
10:50:24	0.0	1.5	1.0	3	10:50:24	10:50:24	0.000	0.418	99	
10:49:24	0.0	1.4	0.9	3	10:49:24	10:49:24	0.000	0.418	99	
10:48:24	0.0	1.4	0.9	3	10:48:24	10:48:24	0.000	0.420	99	
10:47:24	0.0	1.5	1.0	3	10:47:24	10:47:24	0.000	0.379	99	
10:46:24	0.0	1.5	0.9	3	10:46:24	10:46:24	0.000	0.412	99	
10:45:24	0.0	1.5	1.0	3	10:45:24	10:45:24	0.000	0.397	99	
10:44:24	0.0	1.3	0.8	3	10:44:24	10:44:24	0.000	0.006	99	
10:43:24	0.0	1.5	1.0	3	10:43:24	10:43:24	0.000	0.385	99	

Here you see all the vital information related to queue health. Metrics include messages read per second, messages put per second, total opens, and more.

Use the PF keys or the white arrows to scroll around within this display.

d) Press **PF3** to return to panel KMQQUEHS.

e) Place an **S** beside the LARGE queue and **Press Enter**.

```

File Edit View Tools Navigate Help 09/10/2014 15:05:32
Auto Update : Off
Command ==>
KMQQUESD Queue Status Details
HostName : MVSE
QmgrName : WMQT

```

Status Statistics Parameters

Queue LARGE

Current Depth.....	21698	Queue Monitoring.....	Medium
Uncommitted Msgs.....	Yes	Short Term Queue Time.....	976562K
Output Opens.....	1	Long Term Queue Time.....	976562K
Input Opens.....	1	Oldest Msg Age.....	10470
Last Put Date.....	14/09/10	Last Get Date.....	14/09/10
Last Put Time.....	15:05:31	Last Get Time.....	15:05:31

Queue Usage.....	Normal	Definition Type.....	Predefin
% Full.....	43.3	Max Depth.....	50000
Get Status.....	Enabled	Trigger Control.....	Off
Put Status.....	Enabled	Trigger Type.....	First
Default Persist.....	No	Trigger Priority.....	0
Default Priority.....	0	Trigger Depth.....	1
Creation Date.....	12/10/23	Alter Date.....	14/01/14
Creation Time.....	15:53:55	Alter Time.....	12:39:25

Applications with Open Handle for Queue

Columns 2 to 7 of 20 Rows 1 to 2 of 2

ΔAppl ▽Tag	ΔAppl ▽Type	ΔASID ▽	ΔUser ▽ID	Open for Input	Open for Output	+Open Brow
- CICST001	CICS	0166	CICSUSER	No	Yes	No
- CICST001	CICS	0166	CICSUSER	Shared	No	No

Here you see the Queue Status Details panel (KMQQUESD) for the LARGE queue.

Here you see the Open Handles for the LARGE Queue.

Notice that the **CICST001** application has two open handles. Why do you think this is?

f) Press F3 to return to KMQQUEHS.

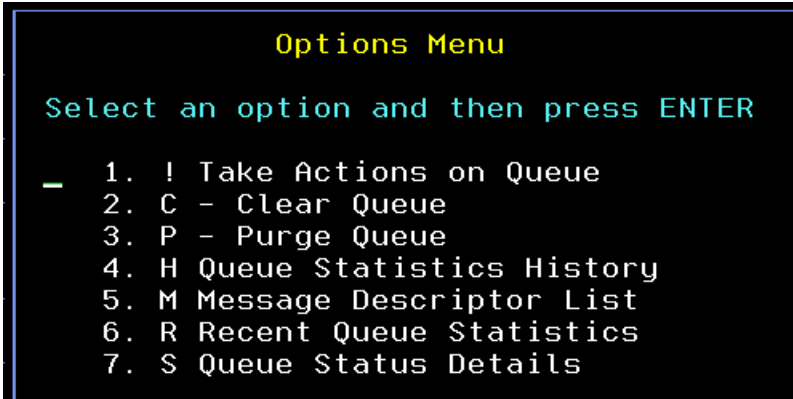
```

Queues with Depth > 0
Columns 2 to 9 of 9

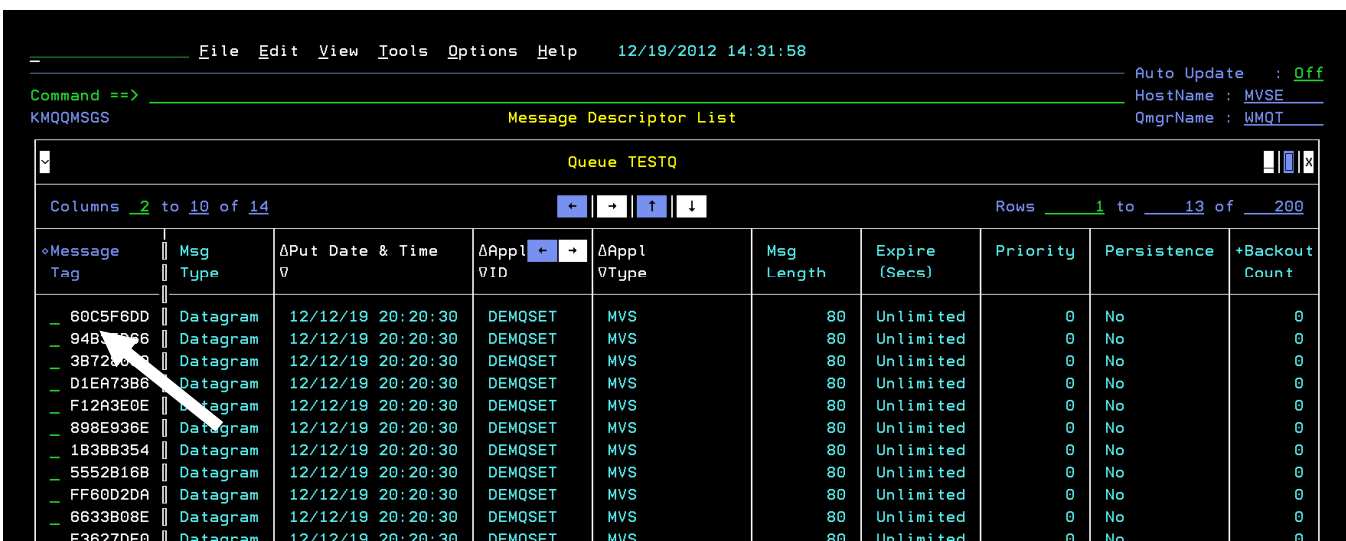
```

ΔQueue ▽Name	ΔCurrent ▽Depth	Input Opens	Output Opens	Get Status	Put Status	Tr Cor
- LARGE	19936	2	1	Enabled	Enabled	Of
/ TESTQ	200	0	0	Enabled	Enabled	Of
- WMQB	152	0	1	Enabled	Enabled	On
- SYSTEM.CHANNEL.SYNCQ	91	0	0	Enabled	Enabled	Of

g) Position the cursor next to TESTQ enter / and Press Enter.

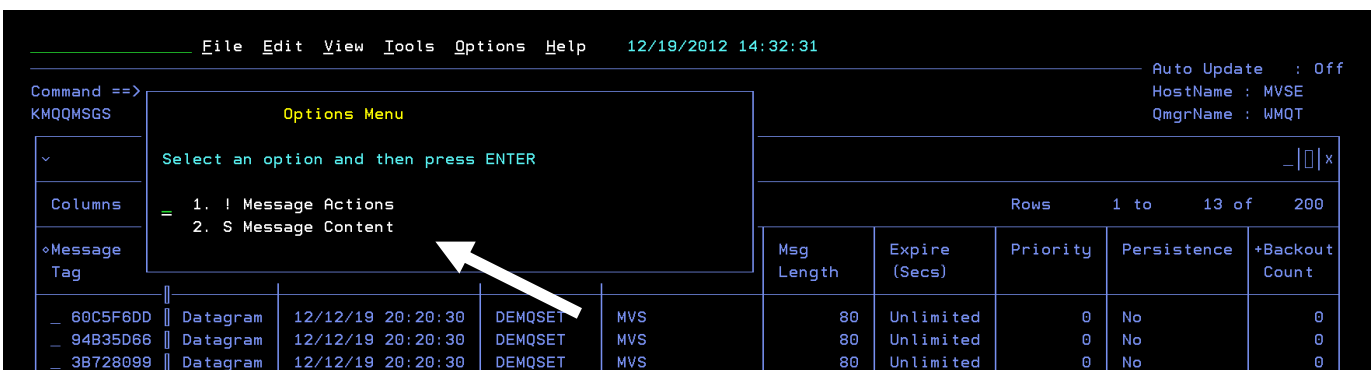


h) From the popup select Message Descriptor list **option 5** and **Press Enter**



You are now looking at messages on the queue.

i) Select any message using a / and **Press Enter**.



From the popup you can look at the message content or take action on that message.

j) In this example, look at its content by selecting **option 2** and **Press Enter**.

```

File Edit View Tools Options Help 12/19/2012 14:33:41
Command ==>
KMQQMSCS Message Contents
Auto Update : Off
HostName : MVSE
QmgrName : MQT

Message on Queue TESTQ
Columns 2 to 4 of 4
Rows 1 to 5 of 5

```

Disp	Hexadecimal Data	Character Data	Character Data CCSID
0000	E6E6E6E6 E6E6E6E6 E6E6E6E6 E6E6E6E6	*XXXXXXXXXXXXXXXXXXXX*	500
0010	E6E6E6E6 E6E6E6E6 E6E6E6E6 E6E6E6E6	*XXXXXXXXXXXXXXXXXXXX*	500
0020	E6E6E6E6 E6E6E6E6 E6E6E6E6 E6E6E6E6	*XXXXXXXXXXXXXXXXXXXX*	500
0030	E6E6E6E6 E6E6E6E6 E6E6E6E6 E6E6E6E6	*XXXXXXXXXXXXXXXXXXXX*	500
0040	E6E6E6E6 E6E6E6E6 E6E6E6E6 E6E6E6E6	*XXXXXXXXXXXXXXXXXXXX*	500

You are now looking at the message contents.

k) To see actions on a message, **Press PF3** to return to the list of messages (KMQQMSGs).

l) Select any message using a / and **Press Enter**

m) Now select **option 1** and **Press Enter**

```

File Edit View Tools Options Help 12/19/2012 14:36:16
Command ==>
KMQQMSGs
Options Menu
Select an option and then press ENTER
1. ! Message Actions
2. S Message Content

```

n) Now select **option 1** to see how to delete a message and **Press Enter**

```

File Edit View Tools Options Help 12/19/2012 14:36:52
Command ==>
KMQQMSGs
KMQQMSA Message Manipulation
Select an action and then press ENTER
1. D Delete Message
2. F Forward Message

```

Message Tag	Msg Type	ΔPut Date & Time	ΔApp1 VID	ΔApp1 VType	Msg Length	Expire (Secs)	P
_ 60C5F6DD	Datagram	12/12/19 20:20:30	DEMQSET	MVS	80	Unlimited	


```

File Edit View Tools Options Help 12/19/2012 14:37:24
Command ==>
KMQQMSG
Action Confirmation
You have chosen to Delete Message
Type a selection number, enter Y to confirm,
enter N to cancel, or press PF3 to return.
= 1. Y Confirm the action
  2. N Cancel the action
Columns
Message Tag
Msg Length Expire (Secs)
_ 60C5F6DD Datagram 12/12/19 20:20:30 DEMQSET MVS 80 Unlimited

```

o) Choose option 1 and **Press Enter** to confirm your delete request.

```

File Edit View Tools Options Help 12/19/2012 14:38:09
Command ==>
KMQTAMSG
Take Action Results
SUCCESSFUL
Columns
Message Tag
Msg Type ΔPut Date & Time ΔAppl VID ΔAppl VType Msg Length Expire (Secs) Prior

```

Note the action was successful.

Now let's take a look at forwarding a message from one queue to another. For this exercise we will forward a message from the TESTQ to the LARGE queue.

To return to the Queue High Depth Summary screen use the fast path command

p) =KMQQUEHS and **Press Enter**. You should now be on the KMQQUEHS panel.

File Edit View Tools Options Help 12/13/2012 12:50:50

Command ==> KMQQUEHS Queue High Depth Summary Auto Update : Off HostName : MVSE QmgrName : WMQT

Queues with High Depth

ΔQueue VName	ΔCurrent VDepth	Input Opens	Output Opens	Get Status	Put Status	Trigger Control	% Full	High Depth Threshold %
_ LARGE	9996	0	0	Enabled	Enabled	Off	19.9	10.0

Queues with Depth > 0

ΔQueue VName	ΔCurrent VDepth	Input Opens	Output Opens	Get Status	Put Status	Trigger Control	% Full	High Depth Threshold %
_ LARGE	9996	0	0	Enabled	Enabled	Off	19.9	10.0
_ TESTQ	1405	0	0	Enabled	Enabled	Off	0.0	80.0
_ SYSTEM.CHANNEL.SYNCQ	91	1	1	Enabled	Enabled	Off	0.0	80.0
_ WMQR.DEFXMIT.QUEUE	10	0	0	Enabled	Enabled	Off	0.0	80.0

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q) Place a / next to TESTQ and Press Enter

Options Menu

Select an option and then press ENTER

1. ! Take Actions on Queue
2. C - Clear Queue
3. P - Purge Queue
4. H Queue Statistics History
5. M Message Descriptor List
6. R Recent Queue Statistics
7. S Queue Status Details

r) From the popup select option 5 Message Descriptor list and Press Enter.

File Edit View Tools Options Help 12/19/2012 14:31:58

Command ==> KMQMSGSGS Message Descriptor List

Auto Update : Off
HostName : MVSE
QmgrName : WMQT

Queue TESTQ

Columns 2 to 10 of 14 Rows 1 to 13 of 200

Message Tag	Msg Type	ΔPut Date & Time	ΔAppl VID	ΔAppl VType	Msg Length	Expire (Secs)	Priority	Persistence	+Backout Count
60C5F6DD	Datagram	12/12/19 20:20:30	DEMQSET	MVS	80	Unlimited	0	No	0
94B35D66	Datagram	12/12/19 20:20:30	DEMQSET	MVS	80	Unlimited	0	No	0
3B728099	Datagram	12/12/19 20:20:30	DEMQSET	MVS	80	Unlimited	0	No	0
D1173B6	Datagram	12/12/19 20:20:30	DEMQSET	MVS	80	Unlimited	0	No	0
F12A91	Datagram	12/12/19 20:20:30	DEMQSET	MVS	80	Unlimited	0	No	0
898E936E	Datagram	12/12/19 20:20:30	DEMQSET	MVS	80	Unlimited	0	No	0
1B3BB354	Datagram	12/12/19 20:20:30	DEMQSET	MVS	80	Unlimited	0	No	0
5552B16B	Datagram	12/12/19 20:20:30	DEMQSET	MVS	80	Unlimited	0	No	0
FF60D2DA	Datagram	12/12/19 20:20:30	DEMQSET	MVS	80	Unlimited	0	No	0
6633B08E	Datagram	12/12/19 20:20:30	DEMQSET	MVS	80	Unlimited	0	No	0
E3627DF0	Datagram	12/12/19 20:20:30	DEMQSET	MVS	80	Unlimited	0	No	0
BF13C1E6	Datagram	12/12/19 20:20:30	DEMQSET	MVS	80	Unlimited	0	No	0
4898BE3C	Datagram	12/12/19 20:20:30	DEMQSET	MVS	80	Unlimited	0	No	0

s) Select any message by putting a / beside it and Press Enter.

File Edit View Tools Options Help 12/13/2012 12:57:29

Command ==> KMQMSGSGS

Options Menu

Select an option and then press ENTER

- 1. ! Message Actions
- 2. S Message Content

Message Tag	Msg Type	ΔPut Date & Time	ΔAppl VID	ΔAppl VType	Msg Length	Expire (Secs)
6E73809B	Datagram	12/04/19 18:11:37	DNFT498B	MVS	21	Unlimited

t) From the popup select Option 1 for Message Actions and Press Enter.

Command ==> KMQMSGSGS

KMQQMSA Message Manipulation

Select an action and then press ENTER

- 1. D Delete Message
- 2. F Forward Message

Message Tag	Msg Type	ΔPut Date & Time	ΔAppl VID	ΔAppl VType	Msg Length	Expire (Secs)
6E73809B	Datagram	12/04/19 18:11:37	DNFT498B	MVS	21	Unlimited

u) Select Option 2 for forward message, and Press Enter.

You get the following pop-up window

```
KMQMSGF    Forward Message
Specify target queue name and target queue manager name
Queue==> Unknow
Queue manager==> WMQT
```

v) Type **LARGE** in the queue name and hit enter.

Note that you could send the message to queue on a different queue manager by typing over the queue manager name. For this exercise we will stay within the same queue manager, WMQT.

```
KMQTAMSG                Take Action Results
SUCCESSFUL
_
```

This is the end of the Queue Statistics exercise, but if you have time please explore some more.

w) When you are done fast path back to the Queue Manager Health screen using **=KMQSTART**

Scenario #6 Monitoring MQ Buffer Pools and Page Sets

In this scenario we will look at MQ Buffer Pools and Page Sets utilization and performance statistics.

WebSphere MQ Health Overview

Queue Manager Status

ΔQMgr VName	Host Name	ΔQMgr VHealth	ΔQueue VHealth	ΔChannel VHealth	ΔCurrent VMQEvents	QMgr Status	Channel Initiator	Command Server	Conn #	+DLQ Depth
BMF0	MVSE	Critical	Unknown	Unknown	0	Stopped	Stopped	Stopped	0	0
BMF1	MVSE	Critical	Unknown	Unknown	0	Stopped	Stopped	Stopped	0	0
WMQA	MVSE	Warning	Critical	Critical	1	Running	Running	Waiting	37	21
WMQB	MVSE	Warning	Critical	OK	0	Running	Running	Waiting	114	14
WMQT	MVSE	Warning	Warning	Critical	1	Running	Running	Waiting	34	0

a) From the KMQSTART panel, place a **B** beside WMQT and **Press Enter**.

Buffer Manager

Latest Buffer Manager SMF Sample Summary

# of Pools In Use.....	4	Low % Avail.....	15.7
Low # Avail.....	3145	Zero Bufrs Count.....	0
Synch Writes.....	0	GetPg IO %.....	0.0
% GetPg Outside Pool.....	0.0		

Buffer Pools

ΔPool VID	Δ% of Bufrs VAvailable	Available Buffers	Low # Avail	Zero Bufrs Count	Page Sets Assigned	Queues Assigned	Number Buffers	GetPg IO %	% GetPg Outside Pool	+Synch Writes
00	100.0	49979	49979	0	2	10	50000	0.0	0.0	0
01	100.0	19999	19999	0	1	1	20000	0.0	0.0	0
02	100.0	49991	49991	0	1	5	50000	0.0	0.0	0
03	15.7	3145	3145	0	1	75	20000	0.0	0.0	0

You are now looking at the Buffer Manager display for WMQT.

b) Put an **S** beside Pool ID 03 and **Press Enter** to display the Queues in that Buffer pool.


```

File Edit View Tools Options Help 12/13/2012 13:19:12
Command ==>
KMQPGSTD Page Set Statistics
Auto Update : Off
HostName : MVSE
QmgrName : WMQT
Latest Page Set Sample Summary
# of Page Sets..... 5 High % In Use..... 22.8
Unavailable Page Sets..... 0 Avg Extents..... 5.6
Full Page Sets..... 0 High Extents..... 24
Avg % In Use..... 22.0 Avg Pages Allocated..... 20301.0
Page Sets
Columns 2 to 10 of 18 Rows 1 to 5 of 5

```

ΔPage Set VID	Status	Δ% Pages VIn Use	Allocated Data Pages	Unused Pages	Persistent Pages	Non-Persistent Pages	Total Extents	Extents Since Restart	Buffer Pool ID
_ 00	Available	10.0	1078	970	108	0	1	0	00
_ 01	Available	9.5	1078	975	103	0	1	0	00
_ 02	Available	0.1	1078	1076	2	0	1	0	01
_ 03	Available	0.5	1078	1072	3	3	1	0	02
_ 04	Available	22.7	97193	75079	8	22106	24	7	03

You are now looking at page set statistics.

- e) To drill down for more information, place an **S** beside Page Set 04 and **Press Enter** to display the Queues in the Page Set.

```

File Edit View Tools Options Help 12/13/2012 13:20:54
Command ==>
KMQQUPGS Queues in Page Set
Auto Update : Off
HostName : MVSE
QmgrName : WMQT
Latest Sample for Queues in Page Set 04
Columns 2 to 9 of 29 Rows 1 to 13 of 77

```

ΔQueue VName	Δ% Full V	Msgs Read per Sec	Msgs Put per Sec	Total Opens	Last Read	Last Put	Queue Usage	+Defi Type
_ LARGE	79.8	1.5	1.0	3	12/12/13 13:20:24	12/12/13 13:20:24	Normal	Pre
_ TESTQ	0.0	0.0	0.0	0	12/12/13 13:03:24	12/12/13 13:19:24	Normal	Pre
_ WMQB	0.0	0.0	0.0	3	12/12/13 13:19:24	n/a	XmitQ	Pre
_ DIL01S.WMQB	0.0	0.0	0.0	0	12/12/13 13:16:24	n/a	XmitQ	Pre
_ MQ05.TEAM00.INIT	0.0	0.0	0.0	0	n/a	n/a	Normal	Pre
_ DDS0201.SENDQ	0.0	0.0	0.0	0	n/a	n/a	Normal	Pre
_ DIL28S.WMQB	0.0	0.0	0.0	0	n/a	n/a	XmitQ	Pre
_ DIL27S.WMQB	0.0	0.0	0.0	0	n/a	n/a	XmitQ	Pre
_ DIL26S.WMQB	0.0	0.0	0.0	0	n/a	n/a	XmitQ	Pre
_ DIL29S.WMQB	0.0	0.0	0.0	0	n/a	n/a	XmitQ	Pre
_ DIL23S.WMQB	0.0	0.0	0.0	0	n/a	n/a	XmitQ	Pre
_ DIL22S.WMQB	0.0	0.0	0.0	0	n/a	n/a	XmitQ	Pre
_ DIL21S.WMQB	0.0	0.0	0.0	0	n/a	n/a	XmitQ	Pre

From the KMQQUPGS panel observe the % full, and the last Put and last Read times, and the message PUT and GET rates.

- f) **Position the cursor** by the LARGE queue enter an **S** and **Press Enter**.

You should now be on the Queue Statistics panel, KMQQUESD.

```

File Edit View Tools Navigate Help 09/11/2014 09:33:33
Auto Update : Off
Command ==>
KMQQESD Queue Status Details HostName : MVSE
QmgrName : WMQT

```

Queue LARGE

Current Depth.....	19987	Queue Monitoring.....	Medium
Uncommitted Msgs.....	Yes	Short Term Queue Time.....	87183464
Output Opens.....	2	Long Term Queue Time.....	566852K
Input Opens.....	2	Oldest Msg Age.....	92
Last Put Date.....	14/09/11	Last Get Date.....	14/09/11
Last Put Time.....	09:33:33	Last Get Time.....	09:33:33

Queue Usage.....	Normal	Definition Type.....	Predefin
% Full.....	39.9	Max Depth.....	50000
Get Status.....	Enabled	Trigger Control.....	Off
Put Status.....	Enabled	Trigger Type.....	First
Default Persist.....	No	Trigger Priority.....	0
Default Priority.....	0	Trigger Depth.....	1
Creation Date.....	12/10/23	Alter Date.....	14/01/14
Creation Time.....	15:53:55	Alter Time.....	12:39:25

Applications with Open Handle for Queue

Columns 2 to 7 of 20 Rows 1 to 4 of 4

ΔAppl ▽Tag	ΔAppl ▽Type	ΔASID ▽	ΔUser ▽ID	Open for Input	Open for Output	+Open Brow
_ CICST001	CICS	0166	CICSUSER	No	Yes	No
CICST001	CICS	0166	CICSUSER	No	Yes	No

g) To look at the application details; put an **S** beside CICST001 and Press Enter.

You are now looking at the Application Details panel.

```

File Edit View Tools Navigate Help 09/11/2014 09:33:03
Auto Update : Off
Command ==>
KMQAPQCD CICS Application Details for Queue HostName : MVSE
QmgrName : WMQT

```

Queue LARGE Task 0093507

Columns 2 to 7 of 17 Rows 1 to 1 of 1

◊Appl Tag	User ID	Handle Status	Asynch State	Open for Input	Open for Output	+Open Brows
_ CICST001	CICSUSER	Inactive	None	No	Yes	No

CICS Transaction Details

CICS Region Name.....	CICSTIV1	User ID.....	CICSUSER
Transaction ID.....	SLPR	Task Number.....	93507
Terminal ID.....	n/a	Task State.....	Suspend
Elapsed Time.....	2m 30s	Wait Type.....	Interval
Duration of Suspend.....	0.050s	Resource Type.....	ICWAIT
CPU Time.....	0.051s	Resource Name.....	
Current Program ID.....	MQSLOPUR		

h) Once finished, return to the Queue Manager Status main screen by entering the fast path command **Press F3 multiple times** to return to the KMQSTART panel.

Scenario #7 Monitoring MQ Channel Performance

In this scenario we will look at channel activity and connections between queue managers.

ΔQMgr ▽Name	Host Name	ΔQMgr ▽Health	ΔQueue ▽Health	ΔChannel ▽Health	ΔCurrent ▽MQEvents	QMgr Status
— BWF0	MVSE	Critical	Unknown	Unknown	0	Stopped
— BWF1	MVSE	Critical	Unknown	Unknown	0	Stopped
— WMOA	MVSE	Warning	Critical	Critical	1	Running
— WMQB	MVSE	Warning	Critical	OK	0	Running
s WMQT	MVSE	Warning	Warning	Critical	1	Running

a) From the KMQSTART panel place an **S** beside WQMT and **Press Enter**

Queue Manager Health	
QMgr Name.....	WMQT
QMgr Health.....	Warning
QMgr Status.....	Running
Command Server Status.....	Waiting
Host Name.....	MVSE
Connection Count.....	36
Channel Initiator Status..	Running
Current MQEvents.....	1

Queue Health	
Queue Health.....	Critical
High Depth Queue Count...	1
Total XMIT Queue Messages.	675
Total Messages.....	20756
DLQ Depth.....	0
Put Inhibited Queue Count.	1
Get Inhibited Queue Count.	2
Open Queue Count.....	19

Channel Health	
Channel Health.....	Critical
Current Not Running.....	1
Current Connections.....	1
Active Connections.....	0
Indoubt Connections.....	0
Server Connections.....	0
% Max Channels.....	0.5
% Max Active Channels.....	0.0

b) On this screen **Cursor Select** Current Connections (bottom left) and **Press Enter**.

```

File Edit View Tools Navigate Help 09/11/2014 09:45:35
Auto Update : Off
Command ==>
KMQCHLCC Current Channel Connection Summary HostName : MVSE
QmgrName : WMQT
    
```

Current Channel Connection Status

Columns 2 to 4 of 16 Rows 1 to 1 of 1

ΔChannel ▽Name	ΔConnection ▽Name	ΔChannel ▽Type	ΔChannel ▽Status
_ WMQT.TO.HLIU	9.191.52.194	Sender	Retryi

Here we see the Current Channel Connection Status display.

- c) **Place an X** beside the Channel Name and **Press Enter** to display the Transmission Queue Status Details

```

File Edit View Tools Navigate Help 09/11/2014 09:46:49
Auto Update : Off
Command ==>
KMQQXMTD Transmission Queue Status Details HostName : MVSE
QmgrName : WMQT
    
```

Status Parameters

Xmit Queue HLIU

Current Depth.....	0	Short Term Queue Time.....	0
Input Opens.....	0	Long Term Queue Time.....	0
Output Opens.....	0	Oldest Msg Age.....	0
Last Get Date.....	n/a	Last Put Date.....	n/a
Last Get Time.....	n/a	Last Put Time.....	n/a

Queue Usage.....	XmitQ	Definition Type.....	Predefin
Get Status.....	Disabled	Trigger Control.....	Off
Put Status.....	Enabled	Trigger Type.....	None
Default Persist.....	Yes	Trigger Priority.....	0
Default Priority.....	0	Trigger Depth.....	1
Creation Date.....	08/06/13	Alter Date.....	14/09/11
Creation Time.....	03:02:13	Alter Time.....	09:37:26
Max Depth.....	976562K		

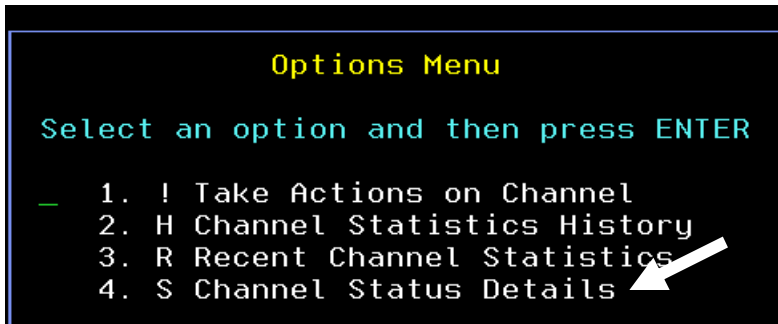
Channel Status for Xmit Q Channel

Columns 2 to 4 of 16 Rows 1 to 1 of 1

◇Channel Name	Connection Name	Channel Status	+In-Doubt Status
_ WMQT.TO.HLIU	9.191.52.194	Retrying	Not In-Doub

Note information such as the channel status.

- d) Now put a / beside the channel and **select option 4** from the popup and **Press Enter** to display the Channel Status Details



You are now looking at the Channel Status detail display.

File Edit View Tools Navigate Help 09/11/2014 09:51:04
 Auto Update : Off
 HostName : MVSE
 QmgrName : WMQT

Command ==> KMQCHLSN Channel Status Details

Status Statistics Parameters

Channel WMQT.TO.HLIU Conn 9.191.52.194

Channel Type.....	Sender	Message Count.....	0
Channel Status.....	Retrying	Bytes Received (Deprecated)	0
In-Doubt Status.....	Not In-D	Bytes Sent (Deprecated)...	0
CurBatch Messages.....	0	Short Term Compression Tim	0
CurMsg SeqNo.....	0	Short Term Exit Time.....	0
CurBatch LUW ID.....	00000000	Short Term Net Time.....	0
SeqNo Last Committed.....	0	Short Term XmitQ Time.....	0
LUW Last Committed.....	00000000	Short Term Batch Size.....	0
Last Message Date.....	n/a	Start Date.....	14/09/11
Last Message Time.....	n/a	Start Time.....	09:35:51
Heartbeat Interval.....	300	Long Retries Left.....	976561K
Keep Alive Interval.....	0	Short Retries Left.....	0
User Stop Request.....	Stop Not	Current Action State.....	Other

- e) **Press the Statistics tab** to see detailed statistics for the channel.

```

File Edit View Tools Navigate Help 09/11/2014 09:52:09
Auto Update : Off
Command ==> HostName : MVSE
KMQCHLS3 Channel Statistics Summary QmgrName : WMQT

[Status] [Statistics] [Parameters]

Channel Statistics for WMQT.TO.HLIU

Connection Name..... 9.191.52      Channel Type..... SDR
Cur Defn..... Yes      Channel Status..... Retrying
In-Doubt Status..... No      Message Count..... 0
Transmit KB/Sec..... 0.00      Batches Complete..... 0
Start Date..... 14/09/11      CurBatch LUW ID..... 00000000
Start Time..... 09:35:50      CurMsg SeqNo..... 0
CurBatch Messages..... 0      SeqNo Last Committed..... 0
LUW Last Committed..... 00000000      Last Send Date..... n/a
Interval Time..... 60.01      Last Send Time..... n/a
Transport Type..... TCP      XmitQ Depth..... 0
Short Retries..... 10      Long Retries..... 950
Completed Retry Time..... 1140600      Local Address.....
Remote Qmgr Name.....      MCA Job Name.....
Bytes Sent (Deprecated)... 0      Bytes Received (Deprecated) 0
Buffers Sent..... 0      Buffers Received..... 0
QSG Name.....      QSG Disp..... Qmgr
Short Term Compression Rat 0      Long Term Compression Rate 0
Short Term Compression Tim 0      Long Term Compression Time 0
Short Term Exit Time..... 0      Long Term Exit Time..... 0
Short Term Net Time..... 0      Long Term Net Time..... 0
Short Term XmitQ Time..... 0      Long Term XmitQ Time..... 0
Remote Partner Application      Current Action State..... Other
Short Term Batch Size..... 0      Long Term Batch Size..... 0
XmitQ Messages Available.. 0      SSL Key Date & Time..... n/a
SSL Key Count..... 0      Default Header Compression  None
Last Header Compression... None      Default Message Compression  None
Last Message Compression.. None      MCA Status..... Stopped
User Stop Request..... Stop Not      XmitQ Name..... HLIU
    
```

You are now looking at the Channel statistics. Note if the channel is operational or not, the status of the channel, transmission and retry counts.

f) **Perform =KMQSTART** to return to the KMQSTART panel for the next exercise.

This completes lab exercise.

Scenario #8 Monitoring Dead Letter Queue

Now let's look at the Dead Letter Queue on WMQB. Begin on the KMQSTART panel.

ΔQMgr ▽Name	Host Name	ΔQMgr ▽Health	ΔQueue ▽Health	ΔChannel ▽Health	ΔCurrent ▽MQEvents	QMgr Status
— BWF0	MVSE	Critical	Unknown	Unknown	0	Stopped
— BWF1	MVSE	Critical	Unknown	Unknown	0	Stopped
— WMQA	MVSE	Warning	Critical	Critical	1	Running
d WMQB	MVSE	Warning	Critical	OK	0	Running
— WMQT	MVSE	Warning	Warning	Critical	1	Running

- a) From the KMQSTART panel, position the cursor next to WMQB, enter D, and Press Enter.

DLQ Name	DLQ Maximum
WMQB.DEA	976562K

Dest. QMgr	ΔDest. ▽Queue	Message Tag	ΔReason ▽Code	Segmented or Group Message	Msg Length	+DLQ Put Date & Tim
— WMQB	DIL02S.APPL	9074E80E	(KMQW000W) 2053-Q Full	No	252	12/10/23
— WMQB	DIL02S.APPL	67404EEF	(KMQW000W) 2053-Q Full	No	252	12/10/23
— WMQB	DIL02S.APPL	386DDED6	(KMQW000W) 2053-Q Full	No	252	12/10/23
— WMQB	DIL02S.APPL	2A4B797B	(KMQW000W) 2053-Q Full	No	252	12/10/23
— WMQB	DIL02S.APPL	94418C31	(KMQW000W) 2053-Q Full	No	252	12/10/23
— WMQB	DIL02S.APPL	3735F922	(KMQW000W) 2053-Q Full	No	252	12/10/23
— WMQB	DIL02S.APPL	7284A0F7	(KMQW000W) 2053-Q Full	No	252	12/10/23
— WMQB	DIL02S.APPL	EDDB4677	(KMQW000W) 2053-Q Full	No	252	12/10/23
— WMQB	DIL02S.APPL	F12B4196	(KMQW000W) 2053-Q Full	No	252	12/10/23

Here you see the messages on the DLQ (Dead Letter Queue).

- b) Place a / and Press Enter beside any message to get the pop-up menu.



- c) To see the message contents try option **2**.
- d) To see the message actions look at option **1**.
- e) If you recall the earlier exercise:
 - Try to delete a message.
 - Try to forward a message to the LARGE queue on WMQT.

Congratulations! This concludes the scenario, and also concludes the OMEGAMON XE for Messaging Enhanced 3270 exercises.

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Appendix C. Documentation Revision History

Date of Revision	Number	Completed by	Revision Log
9/10/2014	V16.0	Ed Woods	Principal author Lab design and lab document creation Combined e3270 and classic into one doc
9/19/2014	V730	Lih Wang	Edits for Enterprise2014 conference lab session. and rename the file with matching GA release number



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