

Discovering OMEGAMON

Volume 3

**OMEGAMON XE for IMS v510
Enhanced 3270 User Interface and
Classic Interface Lab Exercises**



An IBM Proof of Technology

Catalog Number

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Overview



Lab Prerequisites

It is recommended that the participant has, at a minimum, previously taken the e3270 UI Introduction lab and preferably the e3270 UI z/OS lab as well. Alternately, if the participant has previous hands-on experience with the e3270 UI, then this lab will be of value to them.




OMEGAMON XE for IMS provides the ability to monitor IMS subsystems, both in a data sharing and non-data sharing configuration. The new, enhanced 3270(e3270) user interface, included with OMEGAMON XE for IMS v5.1, complements the existing Classic and Tivoli Enterprise Portal Server (TEPS) interfaces by providing the ability to monitor IMS systems from the new e3270 user interface. This series of exercises will illustrate several of the IMS monitoring features and functions available in this new e3270 interface as well as the Classic interface.

Individual labs exercises will cover the following topics:

- Monitoring the health of the IMS environment
- Monitoring critical IMS resources
- Identifying queued or stopped IMS resources
- How to view IMS DBCTL activity
- Optional exercise using field developed panel displays

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.

Lab #1 Introduction to OMEGAMON IMS Enhanced 3270 UI

This lab will demonstrate how to utilize the OMEGAMON XE for IMS V5.1 enhanced 3270 user interface (e3270 UI). In this lab's exercises, the user will perform a series of exercises focused on the following:


- Monitoring the health of the IMS environment
- Monitoring critical IMS resources
- Identifying queued or stopped IMS resources

While OMEGAMON XE for IMS V5.1 offers other user interfaces, such as Classic, CUA, and Tivoli Enterprise Portal (TEP), this lab will focus on the new enhanced 3270 user interface.

1.1 Monitoring the health of the IMS environment

Exercise 1 introduces the e3270 interface for OMEGAMON XE for IMS. This exercise is performed from the default 'start' panel, KOBSTART. KOBSTART is an overview panel for all installed OMEGAMON products. The Monitored IMS Subsystems screen, is included on KOBSTART and provides the starting point to drill down into OMEGAMON XE for IMS detail displays.

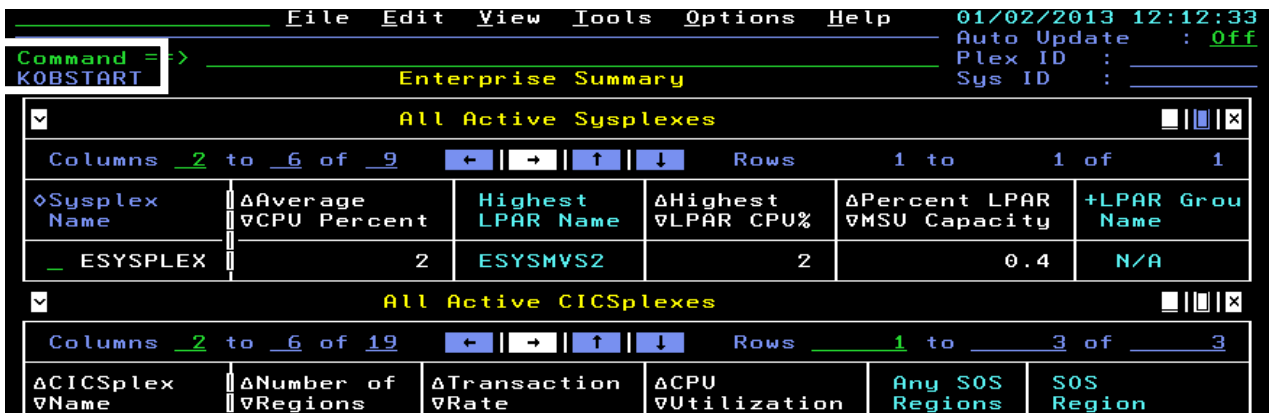
Exercise 1 illustrates several of the detailed displays available in OMEGAMON XE for IMS.



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

a) Sign on to the e3270 UI

You are now looking at the default initial screen, the Enterprise Summary, KOBSTART, which displays a high-level overview from each of the installed OMEGAMON products. Depending upon what OMEGAMON components are installed or active in a given environment, the specific contents of this panel may vary.



All Active Sysplexes					
◊Sysplex Name	ΔAverage CPU Percent	Highest LPAR Name	ΔHighest LPAR CPU%	ΔPercent LPAR VMSU Capacity	+LPAR Group Name
_ ESYSPLEX	2	ESYSMVS2	2	0.4	N/A

All Active CICSplexes					
ΔCICSplex Name	ΔNumber of Regions	ΔTransaction Rate	ΔCPU Utilization	Any SOS Regions	SOS Region

b) Locate OMEGAMON XE for IMS on KOBSTART

To see IMS information, depending again upon what OMEGAMON components and also on the screen resolution of your 3270 session, you may need to **Press F8** to scroll down the KOBSTART panel to see IMS information.

ΔIMS ▽ID	ΔIMSplex ▽Name	ΔMVS ▽ID	ΔSysplex ▽Name	Monitor Status	ΔDS ▽Group	ΔSQ ▽Group
_ IMSA	DEMOA	MVSE	DEMOPLX	Online	NONE	NONE

c) Review IMS health information

Position the cursor next to the IMS ID (in this example select IMSA), **Enter /**, and **Press Enter**.

```

File Edit View Tools Options Help 01/02/2013 12:11:47
Auto Update : Off
Command ==>
KOBSTART
Options Menu
Select an option and then press ENTER
s 1. P IMSplex Health
  2. S IMS Health
MOA
SA
Columns 2 to 7 of 12
4
up
  
```

You should see a popup with the option to drill down into either IMSplex health information or drill into IMS health information for a specific subsystem.

In this exercise we will focus on a specific IMS subsystem, IMSA. Therefore, **Enter S** and **Press Enter**.

```

File Edit View Tools Options Help 01/02/2013 12:17:58
Auto Update : Off
Command ==>
KIPHLTI
IMS Health
IMSplex : DEMOA
IMSid : IMSA
IMS System Health for IMS IMSA
Columns 2 to 7 of 11
Rows 1 to 1 of 1
◇IMS ID MVS ID ENQ Rate DEQ Rate Tran Queue Lock Waiters Longest Lock
_ IMSA MVSE 0.80 0.80 3 0 0.000s
  
```

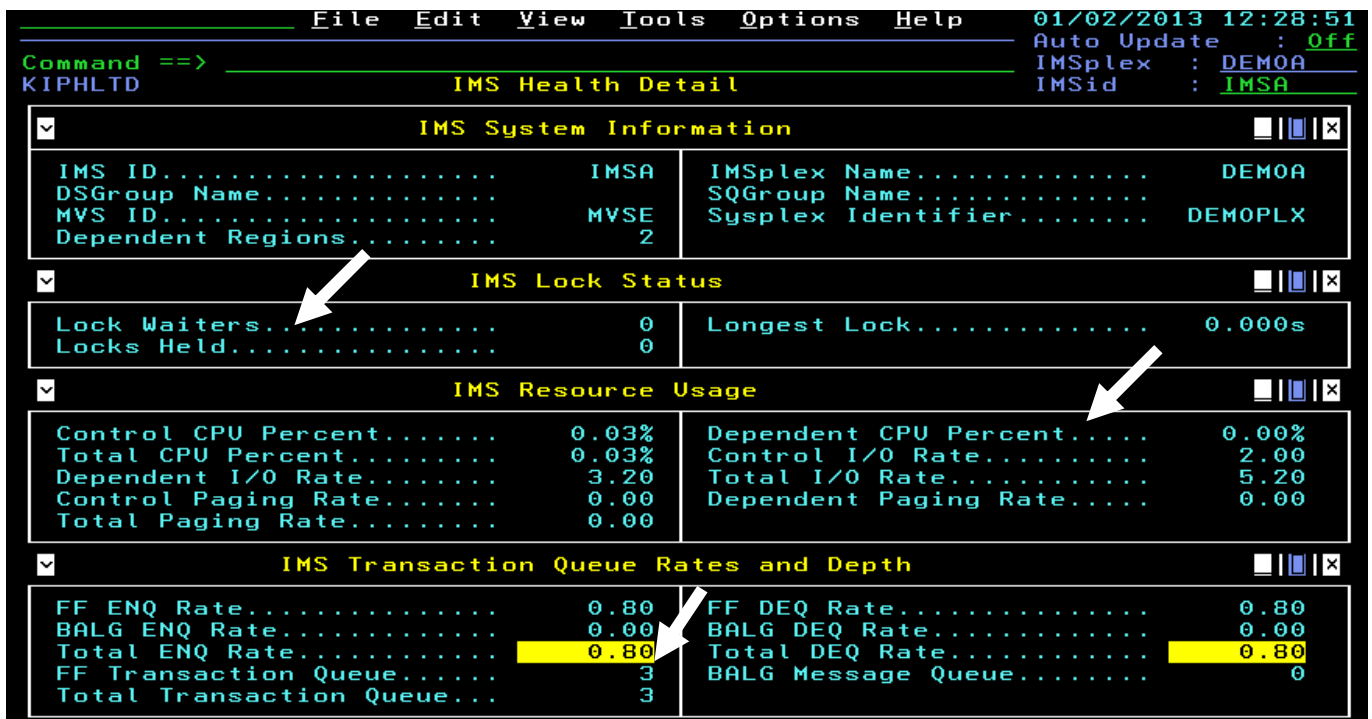
You are now looking at the IMS Health panel (KIPHLTI) for IMS subsystem IMSA. This panel shows some key performance metrics for the IMS system, such as the transaction enqueue and dequeue rate for the IMS system, number of transactions queued on the system, and number of IMS tasks waiting on locks. Depending upon the screen resolution of your 3270 session you may be able to scroll the screen to the right for more information using either F11 or the arrow button highlighted in white.

To see more information on the health of the IMS system, **position the cursor** next to the IMSID, **enter /**, and **Press Enter**.



You should see an options popup menu with several different options to display various IMS resources.

Enter **S** for Health Details and Press Enter.



You are now looking at the **IMS Health** detail overview panel. This display shows information on transaction rates, transaction queue depth, IMS locking, and IMS CPU and I/O activity summarized for the IMS subsystem 9 (in this example IMSA). In the above example we see that there is a transaction queue depth of 3 transactions and that there are not currently any tasks waiting on IMS locks.

This exercise demonstrated how to drill in on a specific IMS subsystem. **Press F3** to return to the KIPHLTI panel.


```

File Edit View Tools Options Help 01/02/2013 12:17:58
Auto Update : Off
Command ==> IMS Health
KIPHLTI IMSplex : DEMOA
IMSid : IMSA

```

IMS System Health for IMS IMSA						
IMS ID	MVS ID	ENQ Rate	DEQ Rate	Tran Queue	Lock Waiters	Longest Lock
IMS	MVSE	0.80	0.80	3	0	0.000s

This concludes Exercise 1 of the OMEGAMON IMS lab.

1.2 Monitoring critical IMS resources

Exercise 2 continues to explore the e3270 interface details. This exercise will explore how OMEGAMON for IMS monitors key IMS subsystem resources.

In this Exercise, the participants will view information for IMS address spaces, dependent regions, PSBs, transactions, and IMS locking.

- This assumes that you have finished Exercise 1 and you are currently on the KIPHLTI panel.
- To begin the exercise, **position the cursor** next to the IMSID, **enter /**, and **Press Enter**.

```

File Edit View Tools Options Help 01/02/2013 12:22:17
Auto Update : Off
Command ==>
KIPHLTI

```

IMS ID	MVS ID	ENQ Rate	DEQ Rate	Tran Queue	Lock Waiters	Longest Lock
IMS	MVSE	0.80	0.80	3	0	0.000s


```

Options Menu
Select an option and then press ENTER
1. ! IMS Commands (ICMD)
2. A Address Spaces
3. C Coupling Facility
4. D Dependent Regions
5. I System Information and Resources
6. L Lock Conflicts
7. S Health Details
8. Z All Monitored Systems (IMON)

```

You are again looking at the Options menu.

- Display IMS address spaces

From the Options menu **position the cursor**, **Enter A**, and **Press Enter**.

```

File Edit View Tools Options Help 01/02/2013 13:02:57
Auto Update : Off
Command ==> Address Spaces IMSplex : DEM0A
KIPADRS IMSid : IMSA
  
```

All Address Spaces for IMS IMSA						
ΔRegion ▽Name	ΔIMS ▽ID	Region Type	Swapped Out	ΔCPU ▽Percentage	ΔCPU ▽Time	ΔEXCP ▽Rate
— IMSADBRC	IMSA	DBRC	No	0.00%	0.110s	0.3
— IMSADLI	IMSA	DL/I SAS	No	0.00%	0.470s	0.0
— IMSAIRLM	IMSA	IRLM	No	0.00%	0.690s	0.0
— IMSAMAST	IMSA	Control	No	0.00%	2.970s	2.0
— IMSAMSG1	IMSA	Message	No	0.00%	1.870s	1.5
— IMSAMSG2	IMSA	Message	No	0.00%	1.900s	1.5

You are now looking at the Address Space overview panel for IMS subsystem IMSA. This panel shows a summary of CPU usage and I/O activity for the address spaces that make up the IMS subsystem.

To see resource details for a specific address space (for example the IMS control region – IMSMAST), **position the cursor** by one of the regions, and **Press Enter**.

```

File Edit View Tools Options Help 01/02/2013 13:41:10
Auto Update : Off
Command ==> IMS Address Space IMSplex : DEM0A
KIPADRD IMSid : IMSA
  
```

IMS Address Space Detail for IMSAMAST			
Job Name.....	IMSAMAST	Type.....	Control
Address Space ID.....	0100	Task Elapsed Time.....	4h 52m
CPU Percentage.....	0.00%	CPU Time.....	3.500s
TCB CPU Percentage.....	0.00%	TCB CPU Time.....	2.750s
SRB CPU Percentage.....	0.00%	SRB CPU Time.....	0.750s
EXCP Rate.....	0.8	EXCP Count.....	0
Common Page-In Rate.....	0.0	Common Page-Ins.....	0
Private Page-In Rate.....	0.0	Private Page-Ins.....	0
Working Set Size.....	3004	Swapped Out.....	No
LSQA Free.....	4.3M	Private Free.....	4.2M
LSQA Largest.....	4.2M	Private Largest.....	4.2M
LSQA Assured.....	0K	Private Top Block.....	4.2M
IMS ID.....	IMSA	MVS ID.....	MVSE
IMSplex Name.....	DEM0A		

You are now looking at the IMS Address Space detail panel. This panel will show relevant resource usage for the address space, such as CPU usage, I/O rates, and working set size for the address space.

Press F3 and then **Press F3** again to return to the KIPHLTI screen.

d) Display IMS dependent region details

It is a common requirement to display IMS dependent region processing activity.

```

File Edit View Tools Options Help 01/02/2013 13:44:24
Auto Update : Off
Command ==>
KIPHLTI IMS Health IMSplex : DEM0A
IMSid : IMSA

```

IMS System Health for IMS IMSA						
IMS ID	MVS ID	ENQ Rate	DEQ Rate	Tran Queue	Lock Waiters	Longest Lock
d IMSA	MVSE	0.80	0.80	3	0	0.000s

To see activity within dependent regions, from the KIPHLTI panel, **Position the cursor** next to the IMS ID, **Enter D** (for dependent regions), and **Press Enter**.

```

File Edit View Tools Options Help 01/02/2013 13:51:10
Auto Update : Off
Command ==>
KIPDEPS IMS Dependent Regions IMSplex : DEM0A
IMSid : IMSA

```

All Dependent Regions for IMS IMSA					
ΔRegion ▽Name	ΔIMS ▽ID	Region Type	ΔTran ▽Name	Region Status	ΔRegion ▽Occupancy
IMSMSG1	IMSA	Message		Idle	0.33%
IMSMSG2	IMSA	Message		Idle	0.16%

You are now looking at the IMS dependent region display. Each line represents an IMS dependent region in the IMS subsystem. Note key performance metrics, such as Region Occupancy, that is calculated for each region.

To see details for a dependent region, **position the cursor** by a region name and **Press Enter**.

```

File Edit View Tools Options Help 01/02/2013 13:54:38
Auto Update : Off
Command ==> IMSplex : DEM0A
KIPDEPD      IMSid   : IMSA
IMS Dependent Region Details for IMSAMSG1

Region Information and Status
-----
Region Name..... IMSAMSG1
Region Type..... Message
Transaction Name.....
Logical Terminal.....
Region Status..... Idle
External Subsystem Status..... N/A
Elapsed Lock Time..... N/A
Locks Held Count..... 0
Scheduling Class..... None
Defined Class 1..... 1
Defined Class 2..... None
Defined Class 3..... None
Defined Class 4..... None
IMS ID..... IMSA
IMSplex Name..... DEM0A

Region Identifier..... 3
Region Occupancy Percent.. 0.31%
PSB Name.....
Elapsed Transaction Time.. N/A
DMB Name.....
External Subsystem ID..... N/A
Syncpoint Interval Time.. 0.00000s
BMP Checkpoint Count..... 0
Job Status..... I/O
DB2 Plan Name.....
DB2 ID.....
DB2 Correlation ID.....
DB2 Target Node.....
MVS ID..... MVSE

Wait Times, Scheduling Statistics, and z/OS Attributes
-----
Elapsed Time Intent..... N/A
Elapsed Time Schedule..... N/A
Elapsed Time DBIO..... N/A
DB Calls Per Schedule..... 0
Performance Group..... 0
Residence Status..... NonSwap

Elapsed Time Poolspace.... N/A
Elapsed Time Locking..... N/A
Elapsed Wait Time..... 2.75351s
Msg Inserts Per Schedule.. 0
Limit Count..... 0
MVS Transaction..... Yes

DL/I Call Summary and Database I/O
-----
DLI Database Calls..... 0
DLI System Calls..... 0
Wait Test Enqueues..... 0
Wait Update Enqueues..... 0
VSAM Read Count..... 0
DBIO Per Transaction..... 0

DLI Message Calls..... 0
External Subsystem Calls.. 0
Wait Exclusive Enqueues... 0
Wait QCommand Enqueues... 0
OSAM Read Count..... 0
DBIO Per Schedule..... 0

DL/I Database Calls
Wednesday January 02 2013
MORE
    
```

You are now looking at the dependent region details panel for a specific IMS dependent region. For this panel you can see transactions flowing through the IMS region. If a transaction is active in the region, you can see details such as the transaction name and PSB being executed.

Press Enter a few times, and you may see some of the numbers increment as transactions flow through the IMS region.

Press F8 to see more information on the number and type of DL/I calls being executed by an application that is currently in the region.

```

File Edit View Tools Options Help 01/02/2013 14:15:32
Auto Update : Off
Command ==> IMSplex : DEMOA
KIPDEPD IMS Dependent Region Details for IMSAMSG1 IMSid : IMSA

```

DL/I Database Calls			
Database GU Calls.....	0	Database GHU Calls.....	0
Database GN Calls.....	0	Database GHN Calls.....	0
Database GNP Calls.....	0	Database GHNP Calls.....	0
Database ISRT Calls.....	0	Database REPL Calls.....	0
Database DLET Calls.....	0	Database RLSE Calls.....	0
Database FLD Calls.....	0	Database POS Calls.....	0
Database DEQ Calls.....	0		

DL/I Message Calls			
Message GU Calls.....	0	Message GN Calls.....	0
Message ISRT Calls.....	0	Message PURG Calls.....	0
Message CHNG Calls.....	0	Message AUTH Calls.....	0
Message CMD Calls.....	0	Message GCMD Calls.....	0
Message SETO Calls.....	0	Message ICAL Calls.....	0

DL/I System Service Calls			
System INIT Calls.....	0	System INQY Calls.....	0
System GMSG Calls.....	0	System ICMD Calls.....	0
System LOG Calls.....	0	System RCMD Calls.....	0
System ROLB Calls.....	0	System ROLS Calls.....	0
System SETS Calls.....	0	System SETU Calls.....	0

Most Recent DL/I Call Information			
Call Function.....	N/A	Call PCB Database Name....	N/A
Call PCB Segment Level....		Call PCB PROCOPT.....	N/A
Call PCB Segment Name.....	N/A	Call PCB Sensitive Segment	UNAVAIL
Call SSA.....	N/A	Call SSA Hex.....	N/A
Call IOAREA.....	N/A	Call IOAREA Hex.....	N/A
Call Status.....			

OTMA Information	
Wednesday January 02 2013	No Data

This panel will show call counts by type for an application that is currently executing within the region.

Press F3 and then **Press F3** again to return to the KIPHLTI panel.

1.3 View IMS System Information and Resources

a) Display IMS status and resources

From the KIPHLTI panel you can drill down to display various IMS resources and resource status.

```

File Edit View Tools Options Help 01/02/2013 14:53:50
Auto Update : Off
Command ==>
KIPHLTI IMS Health IMSplex : DEM0A
IMSid : IMSA
    
```

IMS System Health for IMS IMSA						
Columns	2 to 7 of 11		←	→	↑	↓
Rows	1 to 1 of 1					
IMS ID	MVS ID	ENQ Rate	DEQ Rate	Tran Queue	Lock Waiters	Longest Lock
i IMSA	MVSE	0.80	0.80	3	0	0.000s

To see activity within dependent regions, from the KIPHLTI panel, **Position the cursor** next to the IMS ID, **Enter I** (for System Information and resources) and **Press Enter**.

```

File Edit View Tools Options Help 01/02/2013 14:53:14
Auto Update : Off
Command ==>
KIPHLTI KIPRESPU IMS Status and Resources Options
plex : DEM0A
id : IMSA
    
```

Select an option and then press ENTER	
1. I IMS System Status/Information	
2. R IRLM System Status/Information	
3. L Logical Terminals (LTERMs)	
4. P Program Specification Blocks (PSBs)	
5. T Transactions	

Columns	1 of 1
IMS ID	Longest Lock
- IMSA	0.000s

You will be presented with a popup options panel.

Enter I for IMS System Status/Information, and **Press Enter**.

```

File Edit View Tools Options Help 01/02/2013 14:55:33
Auto Update : Off
Command ==>
KIPIMSD IMS System Information and Status for IMSA IMSplex : DEMOA
IMSid : IMSA

IMS System Information
IMS ID..... IMSA
IMS Version..... V11.1
IMS Restart Date UTC..... 13/01/02
IMS Restart Time UTC..... 14:50:53
MPPs Active..... 2
Applications Scheduled.... 6440
Msg Enqueue Rate..... 0.7
Msg Enqueue Total..... 6443
APPC IMS NETID..... USIBMNR
APPC GRNAME..... N/A
APPC Input Status..... Input St
APPC Output Status..... Output S
RSR TMIName..... N/A
RSR Type..... N/A
RSR Service Group..... N/A
RSR VTAM Connection..... N/A
MVS ID..... MVSE
IRLM Release..... V2.2
Checkpoints Taken..... 1
Checkpoint ID..... 20130021
BMPs Active..... 0
Transactions Queued..... 3
Msg Dequeue Rate..... 0.7
Msg Dequeue Total..... 6440
APPC IMS LName..... IMSALU62
APPC Status..... Enabled
APPC Desired Status..... Enabled
APPC RACF..... Full
RSR Transport Manager.... N/A
RSR Global Service Group.. N/A
RSR Readiness Level..... N/A

IMS System Status
ITASKS Waiting..... 0
Waiting On Dynamic SAPs... False
Parallel DL/I Status..... Active
IMS Shutdown In Progress.. False
DC Monitor Status..... Inactive
Online Change in Progress. False
Control Task TCB in SVC... False
VTAM Authorized Path Stat. Active
RECA Pool Utilization.... 0.00
IMSDIR Entry Missing..... False
APPC Conversation Count... 0
APPC Async Count..... 0
Log Tape Write-ahead..... Active
Receive Any Buffers..... 0
Selective Dispatch..... Inactive
IRLM Status..... Active
TCO Status..... Active
Start DC Performed..... True
Online Change has Occurred No
Physical Logger TCB In SVC False
VTAM ACB Status..... Open
Sequential Buffering Util.. 0.00
IMSDIR Defined..... True
APPC IMSLU Status..... Active
APPC Sync Count..... 0
Transport Manager Status.. N/A

IMS System Trace Status

Wednesday January 02 2013 MOREV

```

You are now looking at the IMS System Information panel (KIPIMSD). This panel shows the IMS ID and version, number of MPPs and BMPs active, and transaction enqueue and dequeue rates.

b) Display IRLM information

Press **F3** to return to the popup options panel. Enter **R** for IRLM Status/Information and Press **Enter**.

```

File Edit View Tools Options Help 01/02/2013 14:59:23
Auto Update : Off
Command ==>
KIPIRLD IRLM Information IMSplex : DEMOA
IMSid : IMSA

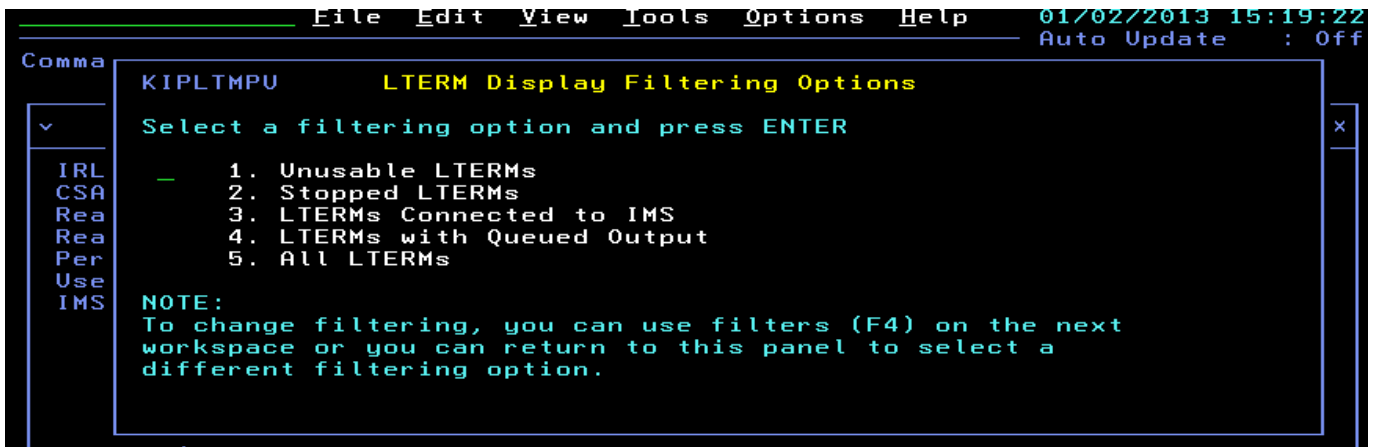
IRLM Information and Status
IRLM Name..... IRL3
CSA Usage..... 445.0K
Real Contention Rate..... 0.00
Real Contention Granted... 0
Percentage of RLEs in Use. 0.00%
Used Record List Entries.. 0
IMS ID..... IMSA
IRLM Active..... Yes
System Maximum CSA..... 0
False Contention Rate.... 0.00
Global False Contention... 0
Active In Data Sharing Grp Unknown
Defined Record ListEntries 0
MVS ID..... MVSE

```

You are now looking at the IRLM resource display. This panel shows CSA usage for IRLM, and also shows Real Contention and False Contention rates for IRLM locking activity.

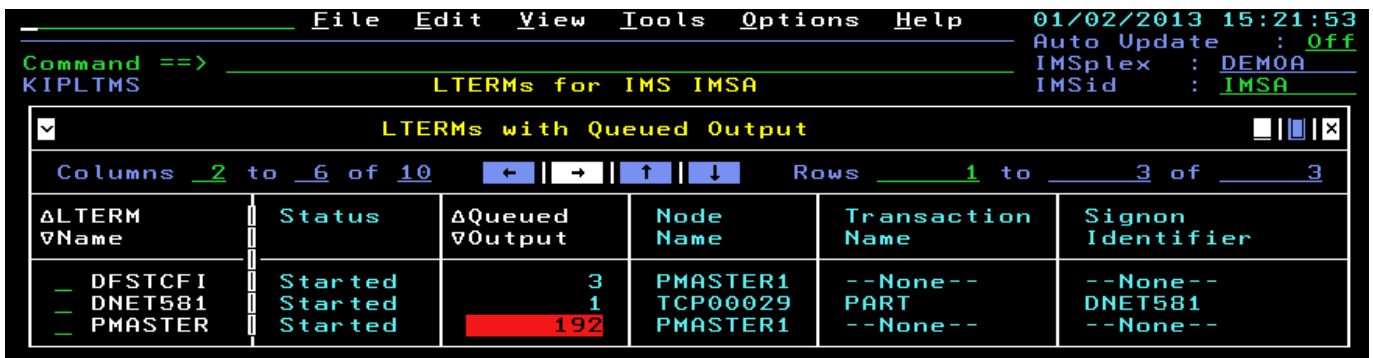
c) Displaying LTERM, Transaction, and PSB information

Press **F3** to return to the popup options panel. Enter **L** for LTERM Information and Press **Enter**.



You are looking at the LTERM display popup. From here you can display all the LTERMs in the IMS subsystem, or look at specific LTERMs, such LTERMs that have queued input or are stopped.

To see LTERMs with queued input, Enter **4** and Press **Enter**.



You are now looking at a panel that shows LTERMs with queued output.

Press **F3**, Press **F3** again, and then Press **F3** again to return to the KIPHLTI panel.

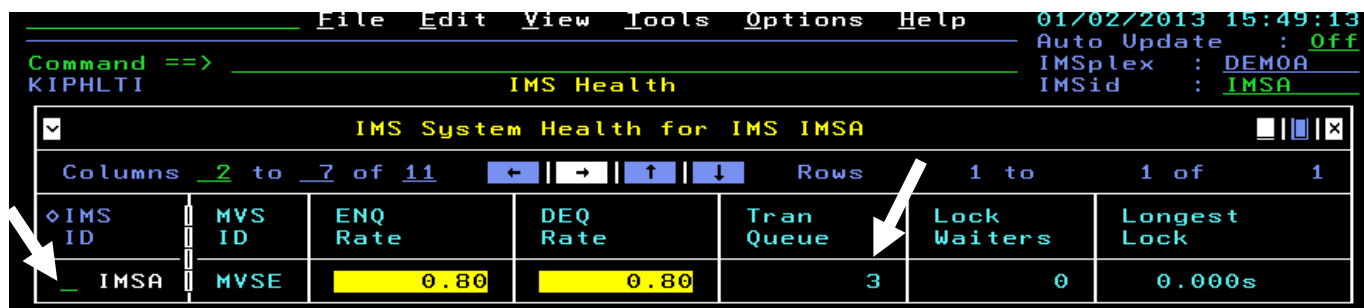
From here you can do the drill down again to display IMS transactions and PSBs. You will do this in the next Exercise scenario. This brings us to the conclusion of the second section.

1.4 Analysis of queued transactions

Exercise 3 continues to explore the e3270 interface details. This exercise will explore how OMEGAMON for IMS allows the user to identify, display and analyze queued transactions.

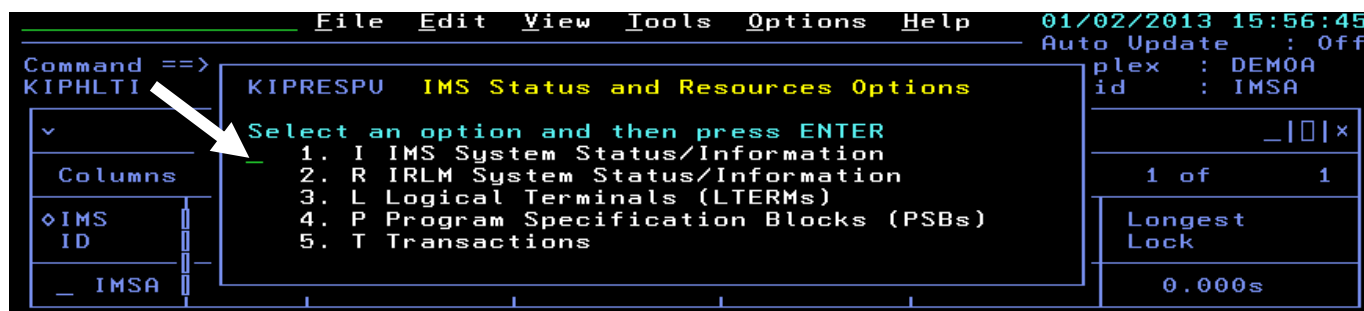
This lab section assumes that you have completed Exercises 1 and 2 and are logged on to the tool. You should be at the KIPHLTI panel.

The KIPHLTI panel shows key IMS performance metrics. One of the metrics of interest is the number of transactions queued in the IMS system. In the example below we see 3 transactions queued in the IMS subsystem.



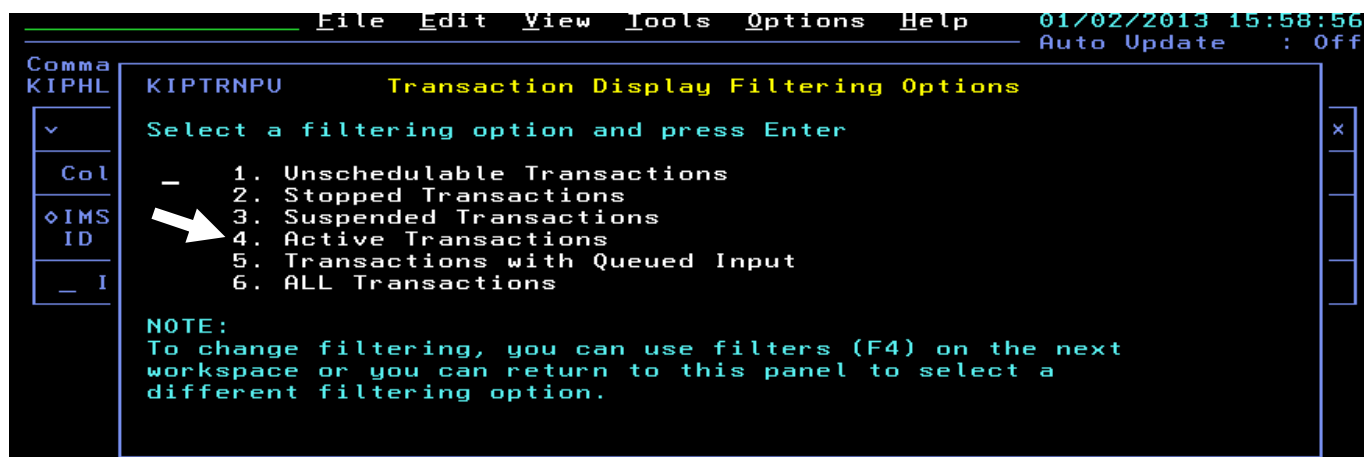
IMS ID	MVS ID	ENQ Rate	DEQ Rate	Tran Queue	Lock Waiters	Longest Lock
IMSA	MVSE	0.80	0.80	3	0	0.000s

To investigate and gather more information about what transactions are queued, **position the cursor** by the IMSID, **Enter I** and **Press Enter**.



Option	Description
1.	I IMS System Status/Information
2.	R IRLM System Status/Information
3.	L Logical Terminals (LTERMs)
4.	P Program Specification Blocks (PSBs)
5.	T Transactions

You are now looking at the options popup. To see Transactions, **Enter T** and **Press Enter**.



Option	Description
1.	Unschedulable Transactions
2.	Stopped Transactions
3.	Suspended Transactions
4.	Active Transactions
5.	Transactions with Queued Input
6.	ALL Transactions

NOTE:
To change filtering, you can use filters (F4) on the next workspace or you can return to this panel to select a different filtering option.

From this popup you have several options to display transactions, including stopped transactions, active transactions, and queued transactions.

In this scenario select the Transactions with queued input option. **Enter 5** and **Press Enter**.

The screenshot shows a terminal window with the command KIPTRNS. The title is 'Transactions for IMS IMSA'. The main display is a table titled 'Transactions with Queued Input'. The table has 6 columns: Transaction Name, Status, Queued Input, Messages Enqueued, Messages Dequeued, and Processing Status. The first row shows a transaction named 'DSPALLI' with a status of 'Queued', 3 queued inputs, 4 messages enqueued, 1 message dequeued, and a processing status of 'Non Competing'. An arrow points to the 'Transaction Name' column header.

Transaction Name	Status	Queued Input	Messages Enqueued	Messages Dequeued	Processing Status
DSPALLI	Queued	3	4	1	Non Competing

Here you see what transaction is queued, and the queue depth for that transaction.

For more detail on the transaction, **position the cursor** by the transaction and **Press Enter**.

The screenshot shows a terminal window with the command KIPTRND. The title is 'Transaction Detail'. The main display is a table titled 'Detail for Transaction DSPALLI'. The table has two columns: Transaction Name and Status. The first row shows a transaction named 'DSPALLI' with a status of 'Queued'. The table lists various transaction details such as Queued Input (3), Messages Enqueued (4), Class (1), Processing Limit (65535), Processing Status (Non Comp), PSB Name (DFSSAM07), Conversational (No), Current Priority (10), Limit Priority (10), Schedule Count (0), Trace Status (Off), Average Message Length (104), Messages Dequeued (1), Multi Segment (Yes), Max Region (0), Serial (No), Program Type (Online), Response Mode (No), Normal Priority (7), PARMLIM Value (65535), and Suspend Count (0). Two arrows point to the 'Status' and 'PSB Name' fields.

Transaction Name	Status
DSPALLI	Queued

You now see the detail for the transaction, including transaction queue depth, and the PSB name associated with the transaction. Note the name of the PSB for this transaction.

Analyze the program that correlates to the stopped transaction

Press F3, **Press F3** again, and then **Press F3** again to return to the resource popup.

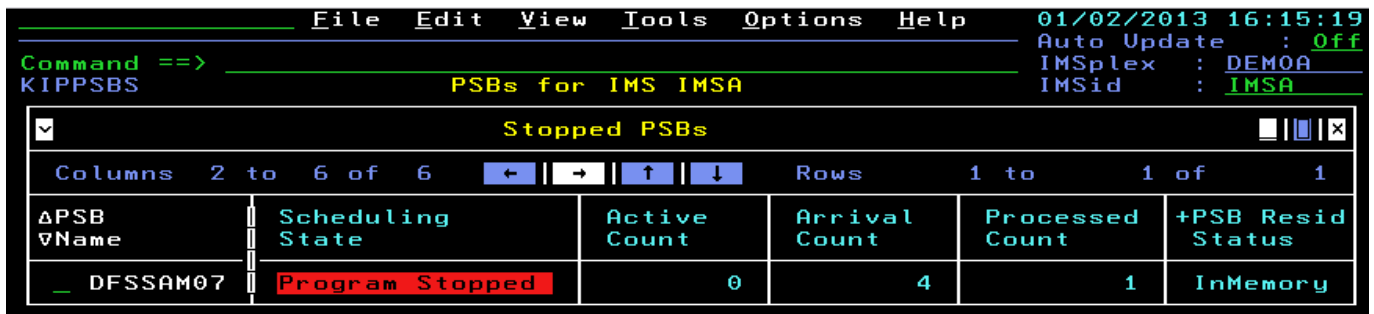
The screenshot shows a terminal window with the command KIPHLTI. The title is 'KIPRESPU IMS Status and Resources Options'. The main display is a list of options: 1. I IMS System Status/Information, 2. R IRLM System Status/Information, 3. L Logical Terminals (LTERMS), 4. P Program Specification Blocks (PSBs), 5. T Transactions. An arrow points to option 4. The table also shows 'Longest Lock' as 0.000s.

Option	Description
1	I IMS System Status/Information
2	R IRLM System Status/Information
3	L Logical Terminals (LTERMS)
4	P Program Specification Blocks (PSBs)
5	T Transactions

From the resource popup **Enter P** for PSBs and **Press Enter**.



You now are looking at the PSB display popup. To see if any PSBs are stopped (thereby potentially resulting in transactions being queued), **Enter 2** and **Press Enter**.



You are now looking at the PSB that is stopped.

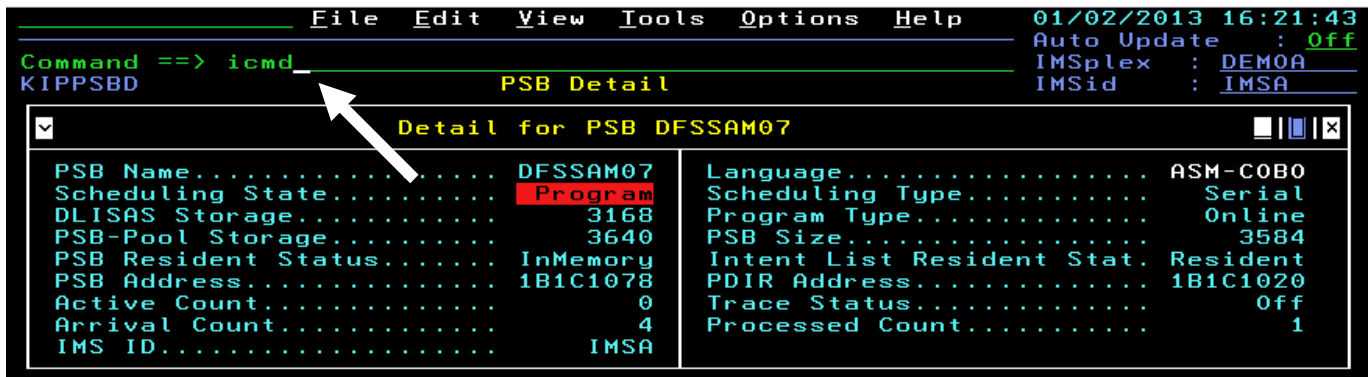
For more detail on the PSB, **position the cursor** by the PSB and **Press Enter**.



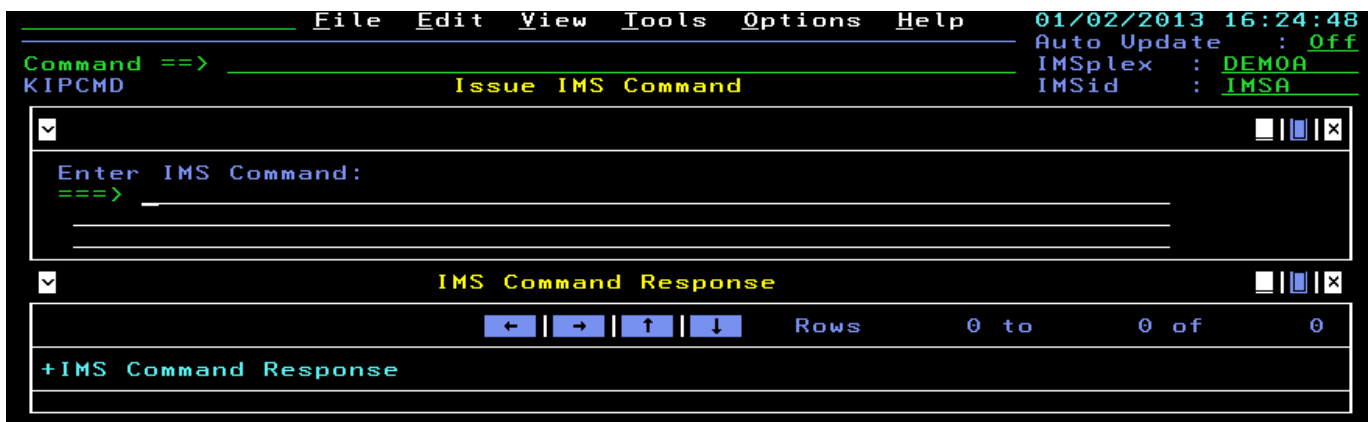
You are now looking at the details for the PSB.

Issuing IMS commands from OMEGAMON IMS

OMEGAMON IMS has the ability to issue commands to IMS. These commands may be issued directly from the enhanced 3270 interface.



To go to the IMS command interface, **position the cursor** on the command line, **Enter ICMD** and **Press Enter**.



You are now looking at the IMS Command panel (KIPCMD). From here you can enter IMS commands to the IMS subsystem. From here you could enter the appropriate commands to start the PSB that has been stopped.

NOTE - The command option is not enabled on this system due to security reasons.

To finish this portion of the Lab, **Press F3** multiple times until you have returned to the KOBSTART main panel.

You have now completed Exercise 3 of the OMEGAMON IMS module.

1.5 How to View DBCTL Activity

Exercise 4 continues to explore the e3270 interface details. One of the powerful features of the e3270 interface is that information from all of the relevant OMEGAMON monitoring tools is integrated within a single easy to use 3270 user interface.

This exercise will explore how to navigate within OMEGAMON to see IMS DBCTL activity.

OMEGAMON provides information on IMS DBCTL status and processing. In the enhanced 3270 user interface this information is technically part of OMEGAMON CICS. However, because the e3270 is an integrated interface, it is easy to go from OMEGAMON IMS panels to the relevant DBCTL displays.

- a) This exercise section assumes that you have completed Exercise 1, 2, and 3 and are logged on to the tool. You should be at the KOBSTART panel.
- b) Drill down to see DBCTL connections

Press F7 to scroll the KOBSTART panel up until you see the section entitled **“All Active CICSplexes”**.

Position the cursor by CICSplex Name CICSPLX1, **enter /** and **Press Enter**.

The screenshot shows the 'All Active CICSplexes' table with the following data:

ΔCICSplex Name	ΔNumber of Regions	ΔTransaction Rate	ΔCPU Utilization	Any SOS Regions	SOS Region
CICSDAX1	6	0/m	0.0%	No	n/a
CICSPLX1	9	1/m	0.0%	No	n/a
OMEGPLEX	7	6/m	0.0%	No	n/a

Select option **I** for DBCTL and **Press Enter**.

The screenshot shows the 'Options Menu' with the following list of options:

1. D CICSplex DB2 Connections Summary
2. E CICSplex Enqueue Summary
3. I CICSplex DBCTL Connections Summary
4. M CICSplex Storage Overview
5. Q CICSplex Messaging Overview
6. R CICSplex Service Level Analysis
7. S CICSplex Regions Summary
8. T CICSplex Dispatcher Summary

You are now looking at the DBCTL connection summary panel for the CICSplex. This panel shows every CICS region connected to IMS, and the IMSID of that IMS subsystem.

```

File Edit View Tools Options Help 01/03/2013 08:39:42
Auto Update : Off
CICSplex : CICSPLX1
Region :
Command ==>
KCPDLP CICSplex DBCTL Connections Summary
    
```

Connections Status and Details						
Columns 2 to 6 of 13		Rows 1 to 9 of 9				
ACICS Region VName	ADBCTL Subsystem VName	Connection Status	RMI Adapter Status	DBCTL Jobname	+DBCT Jobn	
— CICSA0R1	IMSA	Connected	Active	IMSAMAST	STC	
— CICSA0R2	n/a	Unconnected	Inactive	n/a	n/a	
— CICSA0R4	n/a	Unconnected	Inactive	n/a	n/a	
— CICSA0R5	n/a	Unconnected	Inactive	n/a	n/a	
— CICSA0R6	n/a	Unconnected	Inactive	n/a	n/a	
— CICSA0R7	n/a	Unconnected	Inactive	n/a	n/a	
— CICSA0R8	n/a	Unconnected	Inactive	n/a	n/a	
— CICSCM	n/a	Unconnected	Inactive	n/a	n/a	
— CICSWUI	n/a	Unconnected	Inactive	n/a	n/a	

From the connection summary panel you can drill down to see more information on DBCTL.

Position the cursor next to the CICS Region Name and **Press Enter**.

```

File Edit View Tools Options Help 01/03/2013 08:41:26
Auto Update : Off
CICSplex : CICSPLX1
Region : CICSA0R1
Command ==>
KCPDLS CICS DBCTL Connection Summary
    
```

Connection Status		
Columns 1 to 3 of 3		
DBCTL Subsystem Name	Connection Status	RMI Adapter Status
— IMSA	Connected	Active

Connection Details			
DBCTL Jobname.....	IMSAMAST	DBCTL Jobnumber.....	STC04336
Startup Table Suffix.....	00	DBCTL RSEname.....	IMSA
Connect Date.....	13/01/02	Connect Time.....	08:50:59
Active Thread RMI Calls...	0	Successful PSB Schedules..	0
Minimum Threads.....	1	Maximum Threads.....	5

Tasks Using the Connection	
No Data	

You are now looking at the DBCTL connections detail for the CICS region. If there were active CICS DBCTL tasks you would see these listed at the bottom of the panel.

Congratulations! This concludes Exercise 4, and also concludes the OMEGAMON IMS Enhanced 3270 exercises.

1.6 Optional Field developed OMEGAMON IMS panels

Exercise 5 continues to explore the e3270 interface details. One of the powerful features of the e3270 interface is that information from all of the relevant OMEGAMON monitoring tools is integrated within a single easy to use 3270 user interface.

This exercise will demonstrate some additional field developed OMEGAMON IMS enhanced 3270 user interface panels.

How to Navigate to The ZIMS field developed panels

OMEGAMON provides considerable information on IMS. The OMEGAMON enhanced 3270 user interface is very flexible and customizable. It is easy to create user defined panels. In this exercise you will be looking at some field developed OMEGAMON IMS panels that expand the capabilities of the base tool.

a) To begin this exercise you should be at the KOBSTART panel.

From the KOBSTART panel , scroll down using F8 to find the IMS information.

File Edit View Tools Options Help 05/15/2013 13:32:52
 Auto Update : Off
 Command ==> Plex ID :
 KOBSTART Enterprise Summary Sys ID :

Monitored IMS Subsystems

Columns 2 to 7 of 12 Rows 1 to 4 of 4

ΔIMS ∇ID	ΔIMSplex ∇Name	ΔMVS ∇ID	ΔSysplex ∇Name	Monitor Status	ΔDS ∇Group	ΔSQ ∇Group
— IMSA	DEMOA	MVSE	DEMOPLX	Online	NONE	NONE
— IMSB	DEMOB	MVSE	DEMOPLX	Online	NONE	NONE
— IMSC	DEMOB	MVSE	DEMOPLX	Online	NONE	NONE
— IMSD	DEMOD	MVSE	DEMOPLX	Online	NONE	NONE

Position the cursor next to IMSID IMSA and Press Enter.

File Edit View Tools Options Help 05/15/2013 13:35:00
 Auto Update : Off
 Command ==> IMSplex : DEMOA
 KIPHLTI IMS Health IMSid : IMSA

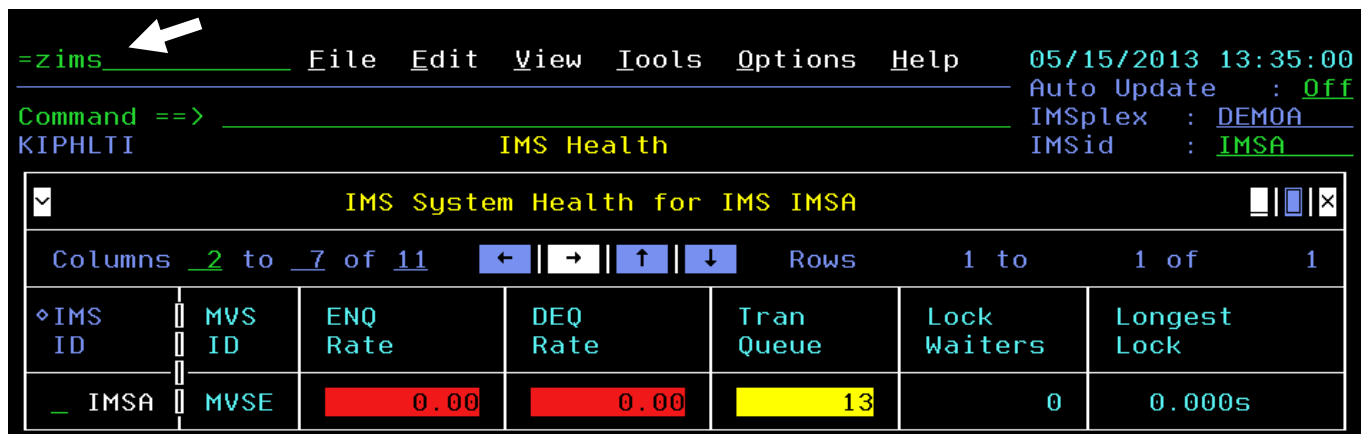
IMS System Health for IMS IMSA

Columns 2 to 7 of 11 Rows 1 to 1 of 1

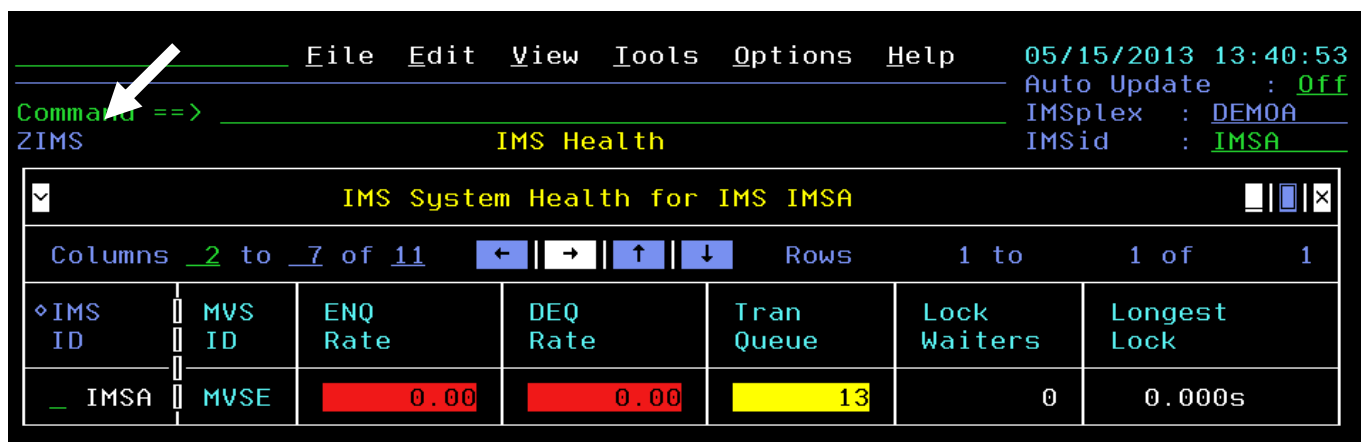
IMS ID	MVS ID	ENQ Rate	DEQ Rate	Tran Queue	Lock Waiters	Longest Lock
— IMSA	MVSE	0.00	0.00	13	0	0.000s

You are now looking at the IMS Health panel, KIPHLTI.

b) Invoke the field developed panels

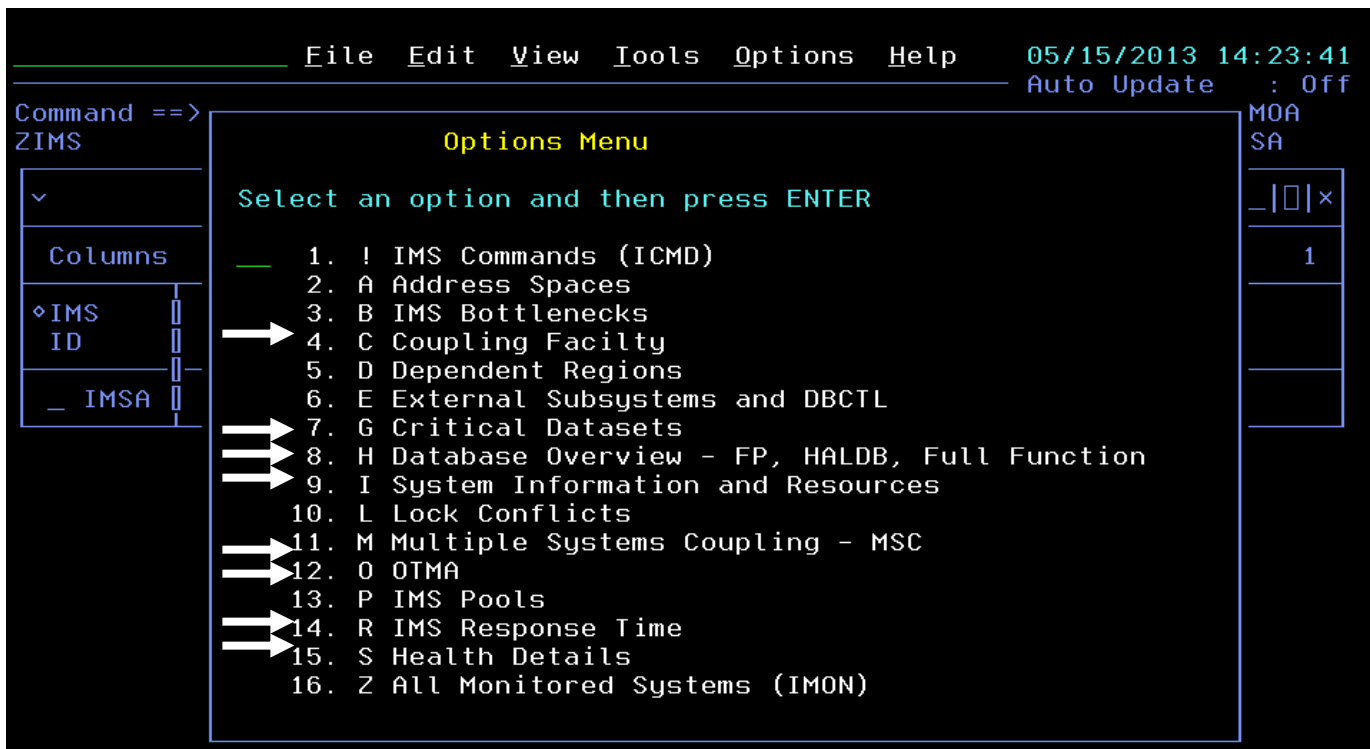


Position the cursor on the toolbar line and enter =zims and Press Enter.



You are now looking at the ZIMS field developed IMS Health panel (note the panelid is ZIMS)

To see the popup of options available from here, position the cursor next to the IMSID, enter /, and Press Enter



You are now looking at the options popup for the field developed OMEGAMON IMS panels. Notice that from here several new options appear, including Option B for Bottleneck analysis, Option E for External subsystems and DBCTL, Option G for Critical datasets, Option H for Database information, Option M for Multiple Systems Coupling, Option O for OTMA, Option P for IMS pools, and Option R for Response Time analysis (RTA).

c) Look at Bottleneck Analysis

Position the cursor in the options popup enter **B** and Press Enter.

```

File Edit View Tools Options Help 05/15/2013 14:31:30
Auto Update : Off
Command ==>
ZIMSBTLP IMS Bottleneck Analysis IMSplex : DEMOA
IMSid : IMSA
    
```

Wait/using percents by Category (Short term)						
IMS ID	Using CPU%	Using CPU in Appl%	Using CPU in IMS%	Scheduling Wait%	DB I/O Wait%	+MVS I/O Wait%
_ IMSA	0.0	0.0	0.0	100.0	0.0	

Wait/using percents by Category (Long term)						
IMS ID	Using CPU%	Using CPU in Appl%	Using CPU in IMS%	Scheduling Wait%	DB I/O Wait%	+MVS I/O Wait%
_ IMSA	0.0	0.0	0.0	99.9	0.0	

You are now looking at the Bottleneck analysis display for the IMS system. This shows the major wait reasons for the workload flowing through the IMS subsystem. The display shows both short term (default for 5 minutes) and long term (default of 30 minutes) bottleneck data.

d) Go to Response Time Analysis (RTA) Information

Let's demonstrate how you can drill down from bottleneck to response time information.

Position the cursor by the IMS ID and **Press Enter.**

File Edit View Tools Options Help							05/15/2013 14:36:51
Command ==>							Auto Update : Off
ZIMSRTA IMS Response Time Analysis Summary							IMSplex : DEM0A
							IMSid : IMSA
IMS Response Time for IMS IMSA - Short Term Interval							
Columns <u>4</u> to <u>7</u> of <u>11</u>							Rows <u>1</u> to <u>2</u> of <u>2</u>
◊IMSID	◊RTA Group Num	◊RTA Group Name	Input Queue Time	PgmInput Queue Time	Processing Time	+R0 Time	
_ IMSA	0	SYSTEM	0.000130	0.000000	0.003227		
_ IMSA	1	CLASS 1	0.000130	0.000000	0.003227		
IMS Response Time for IMS IMSA - Medium Term Interval							
Columns <u>4</u> to <u>7</u> of <u>11</u>							Rows <u>1</u> to <u>2</u> of <u>2</u>
◊IMSID	◊RTA Group Num	◊RTA Group Name	Input Queue Time	PgmInput Queue Time	Processing Time	+R0 Time	
_ IMSA	0	SYSTEM	0.000107	0.000000	0.003434		
_ IMSA	1	CLASS 1	0.000107	0.000000	0.003434		
IMS Response Time for IMS IMSA - Long Term Interval							
Columns <u>4</u> to <u>7</u> of <u>11</u>							Rows <u>1</u> to <u>2</u> of <u>2</u>
◊IMSID	◊RTA Group Num	◊RTA Group Name	Input Queue Time	PgmInput Queue Time	Processing Time	+R0 Time	
_ IMSA	0	SYSTEM	0.000107	0.000000	0.003434		
_ IMSA	1	CLASS 1	0.000107	0.000000	0.003434		

You are now looking at the IMS Response Time Analysis display. In this display you see the IMS transaction response time data broken out by transaction response time group (as defined within OMEGAMON IMS). RTA data shows response time detail including Input Queue time, Output Queue time, and transaction processing time for each RTA group. The panel is also broken into three sections, showing response time information for short term, medium term, and long term intervals.

Press F3 and then **Press F3** again to return to the ZIMS panel.

e) Look at External Subsystem Information

```

File Edit View Tools Options Help 05/15/2013 13:40:53
Auto Update : Off
Command ==>
ZIMS IMS Health IMSplex : DEMOA
IMSid : IMSA
    
```

IMS System Health for IMS IMSA						
Columns 2 to 7 of 11		Rows 1 to 1 of 1				
IMS ID	MVS ID	ENQ Rate	DEQ Rate	Tran Queue	Lock Waiters	Longest Lock
IMS	MVSE	0.00	0.00	13	0	0.000s

To see the external subsystem information, **position the cursor** next to the IMSID, **enter E**, and **Press Enter**

```

File Edit View Tools Options Help 05/15/2013 14:45:07
Auto Update : Off
Command ==>
ZIMSEXT IMS External Subsystem Overview IMSplex : DEMOA
IMSid : IMSA
    
```

External Systems Connected To IMS IMSA						
Columns 2 to 7 of 10		Rows 1 to 4 of 4				
IMS ID	MVS ID	Subsystem Name	Connection Status	Active Threads	Connection Status	+Running Status
IMS	MVSE	DSNA	Stopped	0	Stopped	Not Con
IMS	MVSE	WMQA	Stopped	0	Stopped	Not Con
IMS	MVSE	DSNA	Stopped	0	Stopped	Not Con
IMS	MVSE	WMQA	Stopped	0	Stopped	Not Con

CICS/DBCTL Activity for IMS IMSA						
Columns 2 to 7 of 13		Rows 1 to 1 of 1				
IMS ID	Thread ID	CICS Jobname	Active Threads	Available Threads	Unavailable Threads	+Indoubt Threads
IMS	CICSACB1	CICSAOR1	0	1	0	0

You are now looking at the IMS External Subsystem Overview display. From here you can see the connection status of IMS to both MQ and DB2. In addition, on the bottom portion of the panel you can see CICS regions connected to IMS via DBCTL.

You also have the option of drilling down for more detail on DBCTL threads.

To see more detail on DBCTL threads, **position the cursor** next to the IMSID and CICS jobname in question, and **Press Enter**

File Edit View Tools Options Help						05/16/2013 09:07:28
Command ==>						Auto Update : Off
ZIMSDBCT						IMSplex : DEMOA
IMS DBCTL Threads						IMSid : IMSA
CICS/DBCTL Thread Detail						
Columns 1 to 6 of 25			← → ↑ ↓	Rows 1 to 1 of 1		
IMS ID	Thread ID	Region ID	RCB Name	Thread State	Thread Status	
_ IMSA	CICSACB1	2	N/A	Available	Idle	

You are now looking at the thread detail panel for threads running in DBCTL. You can scroll the panel to the right to see more detail.

Press F3 twice to return to the ZIMS panel.

f) Look at Critical IMS datasets

To see the external subsystem information from the ZIMS panel, **position the cursor** next to the IMSID, **enter G**, and **Press Enter**.

```

File Edit View Tools Options Help 05/16/2013 09:10:03
Auto Update : Off
Command ==>
ZIMSDSN IMS Critical DSN Overview IMSplex : DEM0A
IMSid : IMSA
    
```

IMS DASD Logging Overview IMS IMSA

IMSID.....	IMSA	OLDS Buffer Waits.....	1
OLDS Buffer Wait Rate....	0.00	WADS Checkwrites.....	391
WADS Checkwrites Rate....	0.00	OLDS Checkwrites.....	314
OLDS Checkwrites Rate....	0.00	OLDS Block Reads.....	0
OLDS Block Read Rate....	0.00	OLDS Writes.....	3383
OLDS Block Write Rate....	0.00	OLDS with I/O Errors....	0
OLDS Inactive.....	0	OLDS Active.....	6
OLDS Stopped.....	0	WADS Spare.....	1
OLDS Defined.....	6	WADS Sets Defined.....	2
Write Ahead Status.....	Active	Auto Archive.....	Active
Logger Status.....	Active	OLDS Mode.....	Dual
WADS Mode.....	Single		

IMS OLDS DSNs For IMSA

Columns 1 to 5 of 5 Rows 1 to 12 of 12

IMS ID	DDname	Type	I/O Error	Status
IMSA	DFSOLP00	Primary	No	OPEN
IMSA	DFSOLS00	Secondary	No	OPEN
IMSA	DFSOLP05	Primary	No	CLOSED
IMSA	DFSOLS05	Secondary	No	CLOSED
IMSA	DFSOLP04	Primary	No	CLOSED
IMSA	DFSOLS04	Secondary	No	CLOSED
IMSA	DFSOLP03	Primary	No	CLOSED
IMSA	DFSOLS03	Secondary	No	CLOSED
IMSA	DFSOLP02	Primary	No	CLOSED
IMSA	DFSOLS02	Secondary	No	CLOSED
IMSA	DFSOLP01	Primary	No	OPEN
IMSA	DFSOLS01	Secondary	No	OPEN

IMS Critical DSNs For IMSA

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You are now looking at the critical IMS datasets for the IMS subsystem. This includes information on IMS logging (OLDS and WADS), PSBLIB, ACBLIB, Long and short message datasets, RECONS and much more.

Press F3 to return to the ZIMS panel.

g) Look at IMS Database information

To see the external subsystem information from the ZIMS panel, **position the cursor** next to the IMSID, **enter H**, and **Press Enter**

```

_____ File Edit View Tools Options Help      05/16/2013 09:34:17
Command ==> _____ Auto Update : Off
ZIMSDB          IMS Database Overview          IMSplex : DEMOA
                                           IMSid   : IMSA

```

Fast Path System Information For IMS IMSA

Columns 1 to 7 of 9 Rows 1 to 1 of 1

IMSID	Message Drvn Rgns	Batch Regions	Utility Regions	BALG Messages	BALG Messages	OTHR Defined
<u>IMS</u> A	0	0	0	0	0	0

IMS HALDB Overview for IMS IMSA No Data

OSAM Pools For IMS IMSA

Columns 1 to 7 of 14 Rows 1 to 6 of 6

IMS ID	Subpool Number	Number of Buffer	Buffer Size	Subpool Hit Ratio	Locate Calls	+Found In Pool
IMS	1	8	512B	0.00	0	0
IMS	2	8	1024B	0.00	0	0
IMS	3	8	2048B	0.00	0	0
IMS	4	8	4096B	0.00	0	0
IMS	5	8	8192B	0.00	0	0
IMS	6	4	32768B	0.00	0	0

VSAM Pools For IMS IMSA

Columns 1 to 8 of 16 Rows 1 to 3 of 6

IMS ID	Subpool Number	Pool Name	Pool Type	Number of Buffer	Buffer Size	Subpool Hit Ratio	+VSAM Read
IMS	1	XXXX	Data	8	512B	0.00	
IMS	2	XXXX	Data	8	1024B	0.00	
IMS	3	XXXX	Data	8	2048B	0.00	

You are now looking at the IMS Database Overview panel. From here you can get information for the various databases enabled and used within the IMS subsystem, including VSAM/OSAM, HALDB, and Fast Path.

To see more information on Fast Path, **position the cursor** next to the IMSID field in the Fast Path portion of the panel, and **Press Enter**.

```

File Edit View Tools Options Help 05/16/2013 09:57:43
Auto Update : Off
Command ==>
ZIMSFP IMS Fast Path IMSplex : DEMOA
IMSid : IMSA
    
```

Fast Path System Information For IMS IMSA			
IMSID.....	IMSA	Message Driven Regions....	0
Batch Regions.....	0	Utility Regions.....	0
BALG Messages Dequeued....	0	BALG Messages Queued.....	0
BALG Messages Deq Rate....	0.00	BALG Messages Enq Rate....	0.00
OTHR Defined.....	0	OTHR Active.....	0
OTHR Idle.....	0	Buffers Waiting OTHR.....	0
Buffers Queued OTHR.....	0	Buffers Defined.....	0
Fixed Buffers Defined....	0	Buffers Available.....	0
Buffer Size.....	0		

Fast Path Regions For IMS IMSA	
	No Data

Fast Path BALGs For IMS IMSA	
	No Data

You are now looking at more Fast Path detail information for the IMS subsystem.

Press F3 to return to the Database Overview panel.

From the Database Overview panel there are also drill downs for database detail. To see an example, **position the cursor** next to the IMSID field in the VSAM portion of the panel and **Press Enter**.

VSAM Pools For IMS IMSA							
IMS ID	Subpool Number	Pool Name	Pool Type	Number of Buffer	Buffer Size	Subpool Hit Ratio	+VSAM Read
IMS	1	XXXX	Data	8	512B	0.00	
IMS	2	XXXX	Data	8	1024B	0.00	
IMS	3	XXXX	Data	8	2048B	0.00	

This will allow you to drill down into detail for active VSAM databases in the IMS subsystem.

File Edit View Tools Options Help 05/16/2013 10:01:07
 Auto Update : Off
 Command ==> ZIMSDBV IMS Database Overview IMSplex : DEMOA
 IMSid : IMSA

VSAM DBs For IMS IMSA

Columns 3 to 8 of 16 Rows 1 to 2 of 2

IMS ID	Database Name	Access Method	Write Error	Dynamic Backout	Type	EXCP Rate	+EXCP Count
IMS	DI21PART	VSAM	No	No	HISAM	0.00	4
IMS	DI21PART	VSAM	No	No	HISAM	0.00	3

You are now looking at the database detail panel for VSAM databases. You may scroll the panel to see additional information for each of the databases.

Press F3 to return to the Database Overview panel.

File Edit View Tools Options Help 05/16/2013 09:34:17
 Auto Update : Off
 Command ==> ZIMSDB IMS Database Overview IMSplex : DEMOA
 IMSid : IMSA

Fast Path System Information For IMS IMSA

Columns 1 to 7 of 9 Rows 1 to 1 of 1

IMSID	Message Drvn Rgns	Batch Regions	Utility Regions	BALG Messages	BALG Messages	OTHR Defined
IMS	0	0	0	0	0	0

IMS HALDB Overview for IMS IMSA No Data

Position the cursor next to the IMSid field in the upper right portion of the panel (the field under IMSplex). Enter **IMSB** and Press **Enter**.

```

File Edit View Tools Options Help 05/16/2013 10:06:15
Auto Update : Off
Command ==>
ZIMSDB IMS Database Overview IMSplex : DEMOA
IMSid : IMSB
    
```

Fast Path System Information For IMS IMSB						
IMSID	Message Drvn Rgns	Batch Regions	Utility Regions	BALG Messages	BALG Messages	OTHR Defined
_ IMSB	0	0	0	0	0	0


```

Columns 1 to 7 of 9
Rows 1 to 1 of 1
    
```

IMS HALDB Overview for IMS IMSB						
◊IMSID	Database Name	Database Version N	Database Organization	Database Access Me	Partition Selection	+Partit Count
_ IMSB	DFSCD000	1	PHIDAM	OSAM	Key	1
_ IMSB	DFSCX000	1	PSINDEX	VSAM	Key	1

You are now looking at IMS Database Overview for the IMSB subsystem. Notice that HALDB is available in IMSB.

To see more information on HALDB on IMSB, **position the cursor** next to the IMSID in the HALDB portion of the panel, and **Press Enter**.

```

File Edit View Tools Options Help 05/16/2013 10:13:51
Auto Update : Off
Command ==>
ZIMSHAP IMS HALDB Information IMSplex : DEMOA
IMSid : IMSB
    
```

HALDB Partition Information For IMS IMSB						
◊IMSID	◊Database Name	Partition Name	Partition Version Nu	Partition Status	Partition OLR Active	+Data Acce
_ IMSB	DFSCD000	DFSCD01	0	Started	No	OSA

You are now looking at the HALDB partition information. To see more detail on the HALDB databases, **position the cursor** next to the IMSID, and **Press Enter**.

```

File Edit View Tools Options Help 05/16/2013 10:15:25
Auto Update : Off
Command ==>
ZIMSHAD IMS Database Overview IMSplex : DEMOA
IMSid : IMSB
    
```

DB Information For DB DFSCD000							
Columns 3 to 8 of 16				Rows 1 to 2 of 2			
IMS ID	Database Name	Access Method	Write Error	Dynamic Backout	Type	EXCP Rate	+EXCP Count
IMSB	DFSCD000	OSAM	No	No	PHIDAM	0.00	0
IMSB	DFSCD000	OSAM	No	No	PHIDAM	0.00	0

You are now looking at the HALDB database detail. You may scroll this panel to see additional database detail.

Press F3 three times to return to the ZIMS panel.

```

File Edit View Tools Options Help 05/16/2013 10:23:30
Auto Update : Off
Command ==>
ZIMS IMS Health IMSplex : DEMOA
IMSid : IMSB
    
```

IMS System Health for IMS IMSB						
Columns 2 to 7 of 11				Rows 1 to 1 of 1		
IMS ID	MVS ID	ENQ Rate	DEQ Rate	Tran Queue	Lock Waiters	Longest Lock
IMSB	MVSE	0.00	0.00	0	0	0.000s

Position the cursor in the IMSid field in the upper right Enter IMSA and Press Enter to return to the IMSA subsystem.

```

File Edit View Tools Options Help 05/16/2013 10:29:45
Auto Update : Off
Command ==>
ZIMS IMS Health IMSplex : DEMOA
IMSid : IMSA
    
```

IMS System Health for IMS IMSA						
Columns 2 to 7 of 11				Rows 1 to 1 of 1		
IMS ID	MVS ID	ENQ Rate	DEQ Rate	Tran Queue	Lock Waiters	Longest Lock
IMSA	MVSE	0.00	0.00	13	0	0.000s

h) View OTMA information

Now **position the cursor** next to the IMSID, **Enter O** and **Press Enter**.

The screenshot shows a terminal window with the following content:

```

File Edit View Tools Options Help 05/16/2013 10:30:09
Auto Update : Off
Command ==>
ZIMSOTMA IMS OTMA Summary IMSplex : DEMOA
IMSid : IMSA

```

Below the summary, there are two panels:

IMS OTMA Status For IMS IMSA

IMSID.....	IMSA	MVSID.....	MVSE
XCF Group Name.....	IMSGROUP	Member Name.....	IMSACB
Synchronous Conversations.	0	Asynchronous Conversations	1
Messages Enqueued.....	10042	Base NETID.....	N/A
Status.....	Enabled	IMS/OTMA Server Status...	Active
OTMA MVS/XCF Status.....	Active		

IMS OTMA Group Info For IMS IMSA

Columns 3 to 7 of 23 Rows 1 to 1 of 1

◊IMSID	◊Group Name	IMS Job Name	TMember Count	TPipe Count	Enqueue Count	Dequeue Count
_ IMSA	IMSGROUP	IMSAMAST	2	1	0	0

You are now looking at the OTMA information for the IMS subsystem. You may scroll the bottom portion of the panel to see additional detail including TPIPE count and enqueue/dequeue information for OTMA processing.

Press F3 to return to the ZIMS panel.

i) View IMS Pools information

On the ZIMS panel, **position the cursor** next to the IMSID, **Enter P**, and **Press Enter**.

```

File Edit View Tools Options Help 05/16/2013 10:40:22
Auto Update : Off
Command ==>
ZIMSPPOOL IMS Pools IMSplex : DEM0A
IMSid : IMSA

```

IMS Pools for IMS IMSA			
Pool Name	Pool Type	Pool Size	Current Storage Used
Communications I/O Pool	CIOP	17976B	528B
High I/O Pool	HIOP	99568B	13344B
LU 6.2 Manager Private Area Pool	LUMP	33592B	2064B
Message Format Pool	MFBP	24576B	0B
PSB Pool in Common Storage	DLMP	4096B	440B
Auto Operator Interface Pool	AOIP	83768B	144B
PSB Pool in Private Storage	DPSB	20480B	2848B
GEXD	GEXD	244B	0B
Comm External Subsystem Pool	CESS	0B	0B
Dynamic_Private_Buffer_Pool	DYNP	99144B	20528B
Database Work Pool	DBWP	12288B	0B
DMB Pool	DLDP	24576B	768B
LU 6.2 Manager Common Area Pool	LUMC	70128B	0B

You are now looking at the IMS pools panel. This panel shows the critical pools in the IMS subsystem.

Press F3 to return to the ZIMS panel.

This section of the lab is complete. You have now seen the OMEGAMON IMS enhanced 3270 user interface panels.

Lab #2 Monitoring IMS Using Classic Interface

Lab #2 introduces the basics of how to navigate the Classic 3270 interface for OMEGAMON XE for IMS. This lab is performed from the default 'start' panel, ZMENU.

Scenario 1 illustrates several of the detailed displays available in OMEGAMON XE for IMS.



Security Information!

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

2.1 View IMS system status information

- a) Sign on to the Classic 3270 user interface.



Press **ENTER** and you should see the following OMEGAMON screen:

You are now looking at the default initial screen for OMEGAMON IMS Classic Interface, ZMENU. This panel is the main panel for the OMEGAMON IMS Classic interface and provides menu options for all the other various displays within the tool.

```

ZMENU  VTM  OI-II  V510./C IMSA 01/23/13 10:05:34  B
> Help/News PF1  Exit PF3  Keys PF5  Command Mode PF12
> Return to CUA PA2  Colors PF18
>
-----
>          OMEGAMON for IMS Performance Monitor Main Menu
-----
_ E EXCEPTIONS ..... Current and potential system problems, latch conflicts
_ R RESPONSE TIME .... Transaction response times (RTA users)
_ B BOTTLENECKS ..... Resource contention (bottleneck analysis) (DEXAN users)
_ H TRANS HISTORY .... Application Trace and Journal Facility

_ M MONITOR ..... IMS status, graphs, and time controlled operations
_ W WORKLOAD ..... PSBs, DMBs, transactions, regions, and classes
_ Y OTMA ..... OTMA status, TMEMBERS, and TPIPEs
_ L LINES ..... Terminals, nodes, and lines
_ A ALL POOLS ..... Communication, database, and program pools
_ C COMPONENTS ..... I/O, logging, storage, and control blocks/modules

_ F FAST PATH ..... IMS Fast Path information
_ O OTHER SYSTEMS .... External subsystems (DB2 and MQ) and XRF information

_ T TOOLS ..... Operator tools
_ P PROFILE ..... Profile maintenance and session settings
>
-----

```

To navigate from the main panel you may enter the appropriate letter commands to the top left portion of the panel (to the left of the panel name), or you may select the letter by entering an S next to the panel option and pressing Enter.

b) View the IMS status

Position the cursor on the command line (upper left corner of the panel). Enter **M** and **Press Enter**.

```

_____ KOIIMS   VTM       OI-II     V510./C IMSA 01/23/13 11:38:40   B
> Help PF1          Back PF3          Up PF7          Down PF8

>       To view a topic below, enter a selection letter on the top line.

> *-IMS STATUS      B-POTENTIAL PROBLEMS      C-STARTUP PARMS      D-ACTIVE RESOURCES
> E-PLOT PAGE       F-PLOT TRAN          G-PLOT IMS
> H-TCO STATUS      I-TCO STARTUP       J-TCO DELAYED       K-TCO TIME OF DAY
=====
>
>       IMS, Operating System, and Fast Path Status

> IMS Status:
ISYS  IMS Version 11.1.0          Subsystem ID = 'IMSA'
----- MVS/ESA -- SP7.1.3        IRLM Release 2.2
+      IMS Restart date = 13.019 (Local)  IMS Restart time = 10:46:40 (Local)
+      IMS Restart date = 13.019 (UTC)     IMS Restart time = 16:46:40 (UTC)
+      Checkpoints taken = 1              Current Checkpoint id = 20130191646406
+      MPPs active = 2                    BMPs active = 0
+      Applications scheduled = 1116      Transactions queued = 3
+      Msg Enqueue rate =1.96/sec        Msg Dequeue rate =1.96/sec
+      System Dsn OSAM I/O's = 189       DLS OSAM I/O count = 0
+      >>> Remote Site Recovery not installed<<<
+      IMS Base LUname = IMSALU62        IMS Base Network Id = USIBMNR
+      APPC Status = ENABLED             APPC Desired Status = ENABLED
+      RACF Option = FULL                 Generic Resources LU = --N/A--
+      LU62 Active Sync Convs = 0        LU62 Active Async Convs = 0
=====
> Operating System:
MSYS  System CPU usage = 62.50%         System SIO rate = 2094.76/sec
----- IMS CPU usage = .32%           IMS SIO rate = 9.80/sec
+      Average IMS CPU = .00%           IMS SIO average = 2.10/sec
+      Number of active CPUs = 6        System ID = ESYSMVS
+
+      --Virtual Storage--              Real
+      Below 16m  Above 16m             Storage
+      Control Region :    2736K    26960K    9888K
+      DBRC Region :      248K     15704K    2060K
+      DLS Region :       796K     11540K    1684K
+      IRLM Region :      568K     15144K    2548K
+      TMS Region :           Region NOT active
=====

```

You are now looking at the IMS status display. From here you can see relevant information about the IMS subsystem. From this screen you can see IMS information such as Msg enqueue and dequeue rate, number of transactions queued, IMS version, and number of active IMS regions.

Classic screens (also called screen spaces) consist of what are called major and minor commands. The commands are visible on the left portion of the display. In this example, you see two major commands, ISYS to show IMS systems information, and MSYS to show relevant operating system information.

Press F3 to return to ZMENU.

c) View IMS resources and workloads

Position the cursor on the command line (upper left corner of the panel). Enter **W** and **Press Enter**.

```

_____ KOIWKLD  VTM      OI-II      V510./C IMSA 01/23/13 11:48:06  B
> Help PF1                               Exit PF3
>                               Enter a selection letter on the top line.
=====
>                               Workload Menu
-----
_ A PSBs ..... Program specification blocks
_ B DMBs ..... Data management blocks
_ C TRANS ..... Transactions
_ D REGIONS ..... IMS regions
_ E CLASSES..... Scheduling classes, unusable and all
_ F DBCTL Threads..... Thread summary and detail by CCTL (CICS)
=====

```

You are now looking at the Workload menu. From here you can look at the various resources, such as PSBs, DBs, transactions, and regions that make up a typical IMS subsystem.

Position the cursor on the command line (upper left corner of the panel). Enter **D** and **Press Enter**.

```

_____ KOIRGNA  VTM      OI-II      V510./C IMSA 01/23/13 11:59:12  B
> Help PF1                               Back PF3      Up PF7      Down PF8      Zoom PF11
>                               To view a topic below, enter a selection letter on the top line.
> *--ALL REGIONS   B--CONTROL   C--DLI      D--DBRC      E--IRLM      F--MPP
> G--FASTPATH     H--BMP      I--ESS      J--USER LIST K--DEPENDENT
=====
>                               All Regions
-----
> For more information about a region (RGNA), logical terminal (TERM),
> transaction (TRAN), scheduling class (CLAS), current referenced database
> (CDBM), or program specification block (PSBN), place the cursor on the
> appropriate item and press PF11.

#RGNA          7

RGNA  IMSAMAST  IMSADBRC  IMSADLI  IMSAIRLM  IMSAMSG2  IMSAMSG1  CICSOR1
rgid   --n/a--  --n/a--  --n/a--  --n/a--  3          2          1
term   --n/a--  --n/a--  --n/a--  --n/a--  --n/a--  --n/a--  --n/a--
tran   --n/a--  --n/a--  --n/a--  --n/a--  --none--  --none--  --none--
psbn   --n/a--  --n/a--  --n/a--  --n/a--  --none--  --none--  --none--
clas   --n/a--  --n/a--  --n/a--  --n/a--  --none--  --none--  --none--
cdbm   --n/a--  --n/a--  --n/a--  --n/a--  --n/a--  --n/a--  --n/a--
dbt    .R .....
dbt    --n/a--  --n/a--  --n/a--  --n/a--  --n/a--  --n/a--  --n/a--
msgt   --n/a--  --n/a--  --n/a--  --n/a--  --n/a--  --n/a--  --n/a--
syst   --n/a--  --n/a--  --n/a--  --n/a--  --n/a--  --n/a--  --n/a--
qtme   --n/a--  --n/a--  --n/a--  --n/a--  --n/a--  --n/a--  --n/a--

```

You are now looking at the IMS regions display (KOIRGNA). From here you may display various views of the regions that make up the IMS subsystem.

Looking at the screen space you see that the screen is composed of a major command, RGNA, and a set of what are called minor commands that are listed underneath the RGNA major command. For example, underneath the RGNA major command you see the rgid minor command for region id, tran for transaction in the region, psbn for PSB in the region, and more. You will note that while major commands are in uppercase, as in the RGNA major command example, and the minor commands are in lowercase, such as with the psbn command.

Position the cursor on the command line (upper left corner of the panel). Enter **K** and **Press Enter**.

```

KOIDEP  VTM      OI-II  V510./C IMSA 01/23/13 12:05:15  B
> Help PF1      Back PF3      Up PF7        Down PF8      Zoom PF11

>      To view a topic below, enter a selection letter on the top line.

>  A-ALL REGIONS  B-CONTROL  C-DLI      D-DBRC      E-IRLM      F-MPP
>  G-FASTPATH    H-BMP      I-ESS      J-USER LIST *-DEPENDENT
=====
>      All Dependent Regions

> For more information about a region (RGND), logical terminal (TERM),
> transaction (TRAN), scheduling class (CLAS), DMB (CDMB), or PSB (PSBN), place
> the cursor on the appropriate item and press PF11.

RGND  IMSMSG2  IMSMSG1  CICSA0R1
rgid   3      2      1
term  --n/a--  --n/a--  --n/a--
tran  --none-- --none--  --none--
psbn  --none-- --none--  --none--
clas  --none-- --none--  --none--
dbt   .R      .R      .R
dbt   --n/a--  --n/a--  --n/a--
msgt  --n/a--  --n/a--  --n/a--
syst  --n/a--  --n/a--  --n/a--
qtme  --n/a--  --n/a--  --n/a--
cdmb  --n/a--  --n/a--  --n/a--

stat   Idle   Idle   Idle
xsst  --n/a--  --n/a--  --none--
xsid  --none-- --none--  Not-Con
lkwt  --n/a--  --n/a--  --n/a--
qtme  --n/a--  --n/a--  --n/a--
wait  5:49 MN  5:46 MN  3 SEC
ocup  --init-- --init--  --n/a--
plim

scls01  1      1  --n/a--
scls02--none-- --none--  --n/a--
scls03--none-- --none--  --n/a--
scls04--none-- --none--  --n/a--

```

You are now looking at the region display just showing dependent regions.

You may Press enter multiple times to watch the screen refresh, and if possible catch a transaction as it flows through the region.

Once finished, **Press F3** and then **Press F3** one more time to return to the ZMENU.

From the main ZMENU panel let's now look at an example of IMS components.

Position the cursor on the command line (upper left corner of the panel). Enter **C** and **Press Enter**.

```

_____ KOIPMNU  VTM      01-II      V510./C  IMSA  01/23/13  12:12:10  B
> Help PF1                      Exit PF3
>                               Enter a selection letter on the top line.
=====
>                               Components Menu
-----
_ A  I/O ..... Device I/O
_ B  LOGGING ..... IMS logging:  DASD log, OLDS, and WADS
_ C  STORAGE ..... Storage utilization
_ D  APPL/DB ..... Application/database control blocks
_ E  CONTROL REGION ..... Control region control blocks
_ F  MODULES ..... Control region modules
_ G  IPAGE ..... DSA control block table
_ H  SYSTEM DATASETS ..... IMS System Dataset I/O Analysis
=====

```

You are now looking at the Components menu. From here you can look at subsystem I/O, logging, and key IMS system datasets.

Position the cursor on the command line (upper left corner of the panel). Enter **B** and **Press Enter**.

```

_____ KOIDLOG VTM      OI-II      V510./C IMSA 01/23/13 12:14:05  B
> Help PF1          Back PF3          Up PF7          Down PF8
>
>   To view a topic below, enter a selection letter on the top line.
>
>           *-DASD LOG           B-OLDS           C-WADS
=====
>           DASD Logging Environment and Statistics
LSYS  IMS/VS DASD Logging Environment and Statistics
lenv  OLDs Logging = DUAL           Auto Archive Limit = 1
+     OLDs sets Defined = 6         OLDs sets Active = 6
+     OLDs sets Stopped = 0        OLDs sets in ERROR = 0
+
+-----+
+     WADs Logging = SINGLE        WADs Defined = 2
+     WADs In Use = 1             Spare WADs left = 1
+
+-----+
+     Hardware assisted Log Compression/expansion is being performed
=====
lsta  Totals           Rates/Sec.           Delta
+     Total Log Records           370061           .00           0
+     Total Log Blocks            3292            .00           0
+
+-----+
+     Write Ahead Requests         72              .00           0
+     DC Waits for Write Ahead     4633            .00           0
+
+-----+
+     Output Buffer Waits           0               .00           0
+     Output Buffer Checkpoint Wait 2               .00           0
+     # System Checkpoints         1              n/a           0
+
+-----+
+     EXCPVRs to the WADs         2417            .00           0
+     Blocks Written to WADs      7674            .00           0
+
+-----+
+     WRITES to the OLDs           588             .00           0
+     READS from OLDs             0               .00           0
+
=====
lbuf  Log Buffer size = 22688  Buffer size without prefix = 22528
+     Log Buffers defined = 5   Total log buffer pool size = 135168
+     Log Buffers available = 4  Buffers allowed for reads = 2
+     Buffers used for writes = 1 Buffers used for reads = 0
=====

```

You are now looking IMS logging display. From here you can see IMS log status, number of OLDs defined, and the status of log archiving in the IMS subsystem. Note that the screen is composed of the LSYS major and three minor commands, lenv, lsta, and lbuf.

Try pressing Enter a few times to see the information increment.

Press F3 and then **Press F3** one more time to return to the ZMENU.

This concludes Scenario 1 of the OMEGAMON IMS Classic interface lab.

2.2 Response time and Bottleneck analysis

Scenario 2 continues to explore the Classic 3270 interface details. This lab will explore how OMEGAMON for IMS Classic interface displays transaction response time and performs bottleneck analysis of IMS workloads.

View IMS Response time

In this Scenario, you will view information on IMS transaction response time.

The OMEGAMON IMS Response time analysis (RTA) component tracks transaction response time as the transactions flow through the IMS subsystem. RTA groups and analyzes the response time information by groups, and also breaks down the response time data into sub-components (inqueue time, processing time, outqueue time).

- a) From the ZMENU main menu drill down to see response time information

Position the cursor on the command line (upper left corner of the panel). Enter **R** and **Press Enter**.

```

_____ KRIRTI   VTM   OI-II   V510./C IMSA 01/23/13 12:30:26   B
> Help PF1           Exit PF3
>           Enter a selection letter on the top line.
=====
>           Response Time Menu

_ A PROBLEMS ..... Transactions and LTERMs with longest response times
_ B GRAPH ..... 10-minute historical graph
_ C TIME OF DAY ..... Response time by time-of-day slots
_ D INTERVALS ..... Response time by recent time intervals
_ E CONTROL ..... Start/stop RTA and control data collection
_ F OPTIONS ..... Display time slot and group definitions
_ G END-TO-END ..... End-to-end response time
=====

```

You are now looking at the response time menu (panel KRIRTI). From here you can look at IMS transaction response time in a variety of different views.

- b) View longest running transactions

Position the cursor on the command line (upper left corner of the panel). Enter **A** and **Press Enter**.

```

_____ KRIIPROB VTM OI-II V510./C IMSA 01/23/13 12:31:58 B
> Help PF1 Back PF3 Up PF7 Down PF8
=====
> Transactions and LTERMs with the Longest Response Times
>RMON ON
>> OI341: RTM is already active; request ignored <<
> Transactions

XMON Transactions with longest R0 time (00:15) 00:04:19
+ ID I P R0 ID I P R0
+ PART 2,309µs 0.0250s 0.0273s

> Logical Terminals (LTERMs)

TMON Logical terminals with longest R1 time (00:15) 00:04:19
+ ID R1 ID R1 ID R1
+ DNET581 1.5515s
=====
    
```

You are now looking at a display which shows the transactions and terminals with the highest transaction response time. In this example you see that the PART transaction has the highest response time in the IMS subsystem. You also see the break down of IMS transaction response time into “I” for Input queue time and “P” for processing time. “R0” time represents the sum of I and P time.

From here **Press F3** once to return to the KRIRTI menu.

c) View Response time interval information

Position the cursor on the command line (upper left corner of the panel). Enter **D** and **Press Enter**.

```

_____ KRIINT VTM OI-II V510./C IMSA 01/23/13 12:36:03 B
> Help PF1 Back PF3 Up PF7 Down PF8
=====
> Overview by Recent Time Intervals

> The time interval analysis provides a graphic display for the selected
> IMS.

> To display information about a specific group, type the group number
> directly after IRSP below and press ENTER.

> To display information about a specific response time component, type I, P,
> P, O, R0, R1, or AL directly after TIME and press ENTER.

IRSP
+ ID (00:15) 00:03:45 (00:30) 00:18:45 (01:00) 00:48:45
+ time G=CLASS 1 36.009s 1.7659s 1.8570s
+ AVERAGES 36.009s 1.7659s 1.8570s
+ OTHER
+ SYSTEM 36.009s 1.7659s 1.8570s
=====
    
```

You are now looking at the IMS response time interval display. From here you can see IMS response time broken down by group (in this example a group of transactions running in Class 1), and then by interval (a 15 minute interval, a 30 minute interval, and a one hour interval). The

transaction groupings are user definable, and the time intervals may be customized. By looking at time intervals it becomes easier to identify spikes and outliers in transaction processing.

Press F3 and then **Press F3** one more time to return to the ZMENU.

View IMS Bottleneck analysis

In this portion of the scenario you will be able to see how to identify potential bottlenecks in IMS processing.

Bottleneck analysis is analytic component of OMEGAMON IMS that looks at the IMS workload running in the IMS subsystem, and breaks down that workload by component. Bottleneck analysis will show if the IMS workload is waiting and the percentage of time it is waiting for a given resource type. Note, Bottleneck analysis works on the same grouping mechanism as RTA.

- a) From the ZMENU main menu drill down to see Bottleneck analysis information

From the ZMENU main panel, **Position the cursor** on the command line (upper left corner of the panel). Enter **B** and **Press Enter**.

```

_____ K DIBTL   VTM       OI-II   V510./C IMSA 01/23/13 12:55:20   B
> Help PF1                               Exit PF3
>                               Enter a selection letter on the top line.
=====
>                               Bottleneck Analysis
_ A EXECUTING ..... Factors affecting executing transactions
_ B COMPETING ..... Wait breakdown of transactions competing for resources
_ C CONTROL ..... Start/stop the DEXAN collector and control data collection
_ D OPTIONS ..... Select eligible performance groups and other options
=====

```

You are now looking at the Bottleneck analysis selection panel. From here you may look at either executing (work actively running) workload or competing (work that is either running or waiting to run) workload. In this example we will look at executing workload.

- b) View Bottleneck analysis of excuting IMS workload

Position the cursor on the command line (upper left corner of the panel). Enter **A** and **Press Enter**.

```

_____ KDIEXEC VTM OI-II V510./C IMSA 01/23/13 12:55:00 B
> Help PF1 Back PF3 Up PF7 Down PF8
=====
>
Factors Affecting Executing Transactions

> To display information about a specific group, enter the group number
> directly after PDEX below.

> Enter D, I, M, or S directly to the left of PDEX to display database I/O,
> IMS internal, MVS, or scheduling waits only.

IDEG >> Elapsed time=13:14 MN, #samples(short)=387, #samples(long)=1581 <<
>dopt EXEC >> Only Executing Transactions Will Be Analyzed <<

pdex_ -----Short Term %----- -----Long Term %-----
+ (Elapsed time=13:14 MN) % 0 _____ 50 _____ 100 % 0 _____ 50 _____ 100
+ Using CPU: 0 | . . . . | 14.2 | -> . . . . |
+ Using CPU in IMS (0) | . . . . | (14.20) | -> . . . . |
+ MVS Waits: 100.0 | ----->>>>>> | 85.7 | ----->>>> |
+ CPU Wait (DEP) (00.00) | ----->>>>>> | (14.20) | -> . . . . |
+ BLDL I/O (0) | . . . . | (42.80) | -----> . . . . |
+ Application I/O (0) | . . . . | (28.50) | -----> . . . . |
+ -----> . . . . |
+ Avg. Trans Executing: .0 .0
=====

```

You are now looking at the Bottleneck analysis executing workload display (IDEG major command and pdex minor command). This display shows an analysis of the workload running in the IMS subsystem, and as in the example above will show the major workload wait reasons by percentage.

NOTE – Depending upon what is happening on the overall system you may or may not see information similar to the above example.

The above example screen shot shows the major wait reasons for the IMS workload for both the short term (5 minute) and long term (30 minute) interval. Here you can see that in the short term the main wait reason has been for CPU cycles for the dependent (meaning the message processing) region. In the longer term the workload is waiting for I/O along with CPU waits. Each of these waits is broken down by percentage of the overall wait time. Once you know where a workload is waiting you may have an insight into where you need to tune.

Press F3 and then **Press F3** one more time to return to the ZMENU.

This concludes Scenario 2 of the OMEGAMON IMS lab.

2.3 Analysis of queued transactions

Scenario 3 continues to explore the Classic 3270 interface details. This lab will explore how OMEGAMON for IMS allows the user to identify, display and analyze queued transactions.

Identification Of Queued Transactions

In this scenario you will see how to quickly identify transaction queue activity in an IMS subsystem.

- a) From the ZMENU main menu drill down to see IMS status information

Position the cursor on the command line (upper left corner of the panel). Enter **M** and **Press Enter**.

```

_____ KOIIMS   VTM      OI-II      V510./C IMSA 01/23/13 13:36:05   B
> Help PF1      Back PF3      Up PF7      Down PF8

>      To view a topic below, enter a selection letter on the top line.

> *-IMS STATUS   B-POTENTIAL PROBLEMS   C-STARTUP PARMS   D-ACTIVE RESOURCES
> E-PLOT PAGE    F-PLOT TRAN          G-PLOT IMS
> H-TCO STATUS   I-TCO STARTUP       J-TCO DELAYED    K-TCO TIME OF DAY
=====
>      IMS, Operating System, and Fast Path Status

> IMS Status:

ISYS  IMS Version 11.1.0      Subsystem ID = 'IMSA'
+     MVS/ESA -- SP7.1.3    IRLM Release 2.2
+     IMS Restart date = 13.019 (Local)  IMS Restart time = 10:46:40 (Local)
+     IMS Restart date = 13.019 (UTC)    IMS Restart time = 16:46:40 (UTC)
+     Checkpoints taken = 1             Current Checkpoint id = 20130191646406
+     MPPs active = 2                   BMPs active = 0
+     Applications scheduled = 5100      Transactions queued = 3
+     Msg Enqueue rate = .00/sec         Msg Dequeue rate = .00/sec
+     System Dsn OSAM I/O's = 203       DLS OSAM I/O count = 0
+     >>> Remote Site Recovery not installed <<<
+     IMS Base LUname = IMSALU62        IMS Base Network Id = USIBMNR
+     APPC Status = ENABLED             APPC Desired Status = ENABLED
+     RACF Option = FULL                Generic Resources LU = --N/A--
+     LU62 Active Sync Convs = 0        LU62 Active Async Convs = 0
=====

```

You are now looking at the IMS Status display. You were looking at this display earlier in the lab. From here you can see if IMS transactions are queued. Look in the middle of the ISYS command output where the screen says "Transactions queued". In the above example note that transactions are currently queued on the system.

Now that you have determined that transactions are queued on the subsystem, **Press F3** to return to the ZMENU main menu.

b) Determine what transactions are queued

Position the cursor on the command line (upper left corner of the panel). Enter **W** and **Press Enter**.

```
_____ KOIWKLD  VTM      0I-II      V510./C IMSA 01/23/13 13:41:46  B
> Help PF1                      Exit PF3
>                               Enter a selection letter on the top line.
=====
>                               Workload Menu
_ A  PSBs ..... Program specification blocks
_ B  DMBs ..... Data management blocks
_ C  TRANS ..... Transactions
_ D  REGIONS ..... IMS regions
_ E  CLASSES..... Scheduling classes, unusable and all
_ F  DBCTL Threads..... Thread summary and detail by CCTL (CICS)
=====
```

From the Workload Menu **position the cursor** on the command line (upper left corner of the panel). Enter **C** and **Press Enter**.

```

_____ KOITRAN VTM      OI-II      V510./C IMSA 01/23/13 13:43:07  B
> Help PF1      Back PF3      Up PF7      Down PF8      Zoom PF11

>      To view a topic below, enter a selection letter on the top line.

>      *-ALL TRANS      B-EXECUTING      C-USTOPPED      D-UNSCHEDULABLE
>      E-IN A CLASS      F-QUEUE > n      G-USER LIST

=====
>      All Transactions

> For the contents of the scheduler management block (SMB) associated with a
> specific transaction (TRXA), or for more information about a scheduling class
> (CLAS), program (PGMN), or route code (RCTE), place the cursor on the
> appropriate item, and press PF11.

#TRXA      56

TRXA      ADDINV      ADDPART      ADM      ADMPRINT      ADMUSP1      ADMUSP2      CANDLE1      CELTRAN1+
arvl
clas      1      1      1      1      1      1      1      1
stat      Idle      Idle      Idle      Idle      Idle      Idle      Idle      Idle

attr      .. .. MS      .. .. MS      .. RS MS      .. .. MS      .. .. ..      .. .. ..      .. .. ..      .. RS ..
pgmn      DFSSAM04      DFSSAM04      ADMUTIL      ADMOPUI      ADMUSP1      ADMUSP2      CANDLE1      CELPSB1
ptyp      Online      Online      Online      Online      Online      Online      Batch      Online
prcs
schc

enql      2      2      65535      65535      65535      65535      65535      65535
npri      7      7      1      1      1      1      0      1
cpri      7      7      1      1      1      1      0      1
lpri      10      10      1      1      1      1      0      1
prlm      65535      65535      65535      65535      65535      65535      65535      1

balg      Not FP X      Not FP X      Not FP X      Not FP X      Not FP X      Not FP X      Not FP X      Not FP X
iqln
rcte      Not FP X      Not FP X      Not FP X      Not FP X      Not FP X      Not FP X      Not FP X      Not FP X
=====

```

You are now looking at transaction display. From here there are various letter commands to view transactions by status (such as transactions executing, transactions stopped, or transactions queued).

c) See what transactions are queued

To see transactions that are queued, **position the cursor** on the command line (upper left corner of the panel). Enter **F** and **Press Enter**.

```

_____ KOITRXQ VTM      OI-II      V510./C IMSA 01/23/13 13:44:53  B
> Help PF1      Back PF3      Up PF7      Down PF8      Zoom PF11

>      To view a topic below, enter a selection letter on the top line.

>      A-ALL TRANS      B-EXECUTING      C-USTOPPED      D-UNSCHEDULABLE
>      E-IN A CLASS      *-QUEUE > n      G-USER LIST

=====
>      Transactions with Input Queue Length > n

> To change the input queue length, enter the new value following TRXQ and
> #TRXQ below.

> For the contents of the scheduler management block (SMB) associated with a
> specific transaction (TRXQ), or for more information about a scheduling class
> (CLAS), program (PGMN), or route code (RCTE), position the cursor on the
> appropriate item and press PF11.

#TRXQ03      1
TRXQ03 DSPALLI
arvl      4
clas      1
stat      Queued

attr      .. .. MS
pgmn      DFSSAM07
ptyp      Online
prcs      1
schc

enql      2
npri      7
cpri      10
lpri      10
prlm      65535

balg      Not FP X
iqln      3
rcte      Not FP X
=====

```

You are now looking at the display that shows each transaction that is queued in the IMS subsystem. In the above example we see one queued transaction (DSPALLI), and we see that there is a queue depth of 3 (look next to the iqln minor command). We also see that the program for this transaction is DFSSAM07.

d) Drill down to see program status for the transaction

From this display you may use an F11 drill down for additional information. For example, to see program information, **position the cursor** directly on the program name (in this example DFSSAM07) and **Press F11**.

Note – when doing F11 drill downs the position of the cursor is very important.

```

_____ KOIP SBL VTM OI-II V510./C IMSA 01/23/13 13:51:37 B
> Help PF1 Back PF3 Up PF7 Down PF8
=====
> Detailed Program Specification Block (PSB) Information

PSBL DFSSAM07

schd PSB-Stop
pres Not-in
ires Resident

arvl 4
prcs 1
psbc

styp Serial
ptyp Online

pdls Not-in
ppus 3640
psze 3584

trce Off
apsb NotInMem
pdra 1C23C350
lang NotInMem

Atx# Transaction
+ DSPALLI
Adb# Database Highest Intent
+ DI21PART Read
=====

```

You are now seeing the status of the program that pairs with the queued transaction, DSPALLI. In the above example we see that the program is in a PSB-Stop status.

To address the issue you could issue IMS commands to start the PSB. Note – for security reasons we will not be issuing commands in this lab.

Press F3, Press F3 again, then **Press F3** one more time to return to the ZMENU main panel.

You have now completed Scenario 3 of the OMEGAMON IMS module.

2.4 How to view IMS application trace information

Scenario 4 continues to explore the Classic interface details. One of the powerful features of the Classic interface is the OMEGAMON IMS application trace facility. The OMEGAMON IMS application trace facility is able to capture traces of IMS application executions, and retain this detailed information for later analysis. The application trace includes details on application elapsed and CPU time, IMS DL/I call, and if relevant DB2 and MQ call details.

This scenario will explore how to navigate within OMEGAMON to use the application trace function.

Look at OMEGAMON IMS trace information

- a) From the ZMENU main panel drill down to see Application trace information

Position the cursor on the command line (upper left corner of the panel). Enter **H** and **Press Enter**.

```

_____ KOINTAT  VTM      OI-II    V510./C IMSA 01/23/13 13:58:30  B
> Help PF1          Back PF3
>
>          Enter a selection letter on the top line
=====
>          TRANSACTION HISTORY MENU
_ A  APPLICATION TRACE. . . Control and display application traces
_ B  JOURNAL FACILITY . . . View/Start 64-bit Journal Facility
=====

```

From this panel you can either navigate to the trace or view the journal logging facility. The journal logging facility (JLF) is a data capture facility used by the trace to capture and store trace information. JLF will not be covered in this lab exercise, but feel free to explore it if you wish.

To see the application trace main panel, **position the cursor** on the command line (upper left corner of the panel). Enter **A** and **Press Enter**.

```

_____ KOIATF  VTM      OI-II    V510./C IMSA 01/23/13 14:04:52  B
> Help PF1          Back PF3
>
>          Enter a selection letter on the top line
=====
>          APPLICATION TRACE FACILITY MENU
> ADMINISTRATION:
_ A  MANAGE TRACES. . . . . Manage application trace requests
> TRACE RESULTS:
_ B  VIEW . . . . . View trace details by Group
_ C  GROUP/FILTER . . . . . Specify Group/Filter criteria
> TRACE EXCEPTION RESULTS:
_ D  VIEW . . . . . View trace exceptions
_ E  GROUP/FILTER . . . . . Specify Group/Filter criteria
> JOURNAL FACILITY STATUS:
_ F  I2ATF. . . . . View Trace Journal Status
_ G  I2ATX. . . . . View Trace Exception Journal Status
=====

```

You are now looking at the Application Trace Facility (KOIATF) main panel. From here you may go to various panels to manage (stop or start) or view application traces. Note that you have the ability to trace and to also specify exception based traces (only trace applications that meet certain criteria).

b) View application trace status

From the KOIATF panel, **position the cursor** on the command line (upper left corner of the panel). Enter **A** and **Press Enter**.

```

_____ KOIATMN  VTM      OI-II    V510./C IMSA 01/23/13 14:11:08  B
> Help PF1      Back PF3      Up PF7      Down PF8
>
>
> (H.A.A) Manage Application Trace (Define/Start/Stop)
>
> * - Manage Trace      B - View Trace      C - Search and Filter Criteria
>
ATMN
:   TraceID=*_____ StartDate=*_____ (YYYYMMDD)   Active=* (*Y/N)
+
+   _____ Actions:  A=Add  C=Clone  D=Delete  I=Activate/Inactivate  M=Modify
+   |           V=View trace results  X=View trace exceptions
+
+
+ V Trace ID   Start      Duration  Trace
+ | Date  Time  Minutes  Status   Trace Selection Criteria
+ |-----|-----|-----|-----|-----|
: | TESTDB   06/21 15:38    5  Inactive  PSB=DFHSAM05
: | DLET     05/30 13:26    5  Inactive  All defaults are in use
: | TEST     12/04 07:01    5  Inactive  TRN=PART

```

You are now looking at the panel used to define, start, and stop IMS application traces. You will not be actively running traces in this lab, but you will be able to see and analyze trace output.

From this panel you can add a definition for a new set of trace settings. Once defined, a new trace will be recalled by OMEGAMON each time you logon. You can specify traces based upon a set of criteria, including elapsed time, CPU time, transaction code, program and much more.

Press F3 to return to panel KOIATF.

c) View trace information

Once a trace is captured it will be retained within the journal logging facility (JLF). To see trace data within the JLF you may perform the following procedure.

Position the cursor on the command line (upper left corner of the panel). Enter **B** and **Press Enter**.

```

KOIATVG VTM OI-II V510./C IMSA 01/23/13 14:14:36 B
> Help PF1 Back PF3 Up PF7 Down PF8 Zoom PF11
>
> (H.A.B) View Application Trace Summary by Group
>
> A - Manage Trace * - View Trace C - Search and Filter Criteria
>
ATVG TOTAL TIME AVERAGES
+
+ Time Span: Last 5 Minutes
+
+ Group by --- Elapsed ---- CPU -----
+ Trancode Count Average Max Average Max Abends
+ -----
+
+ No data met requested filtering/grouping criteria

```

You will probably not see any trace information initially. To see trace information you will want to specify the trace search and filter criteria. That is where you would specify such information as the date/time criteria for the desired trace data.

Position the cursor on the command line (upper left corner of the panel). Enter **C** and **Press Enter**.


```

_____ KOIATFL VTM      OI-II      V510./C IMSA 01/23/13 14:17:20  B
> Help PF1      Back PF3      Up PF7      Down PF8
> -----
> (H.A.C) Application Trace Filter Criteria
> A-Manage Trace B-View Trace *-Search/Filter Criteria D-View Exceptions
> -----
ATFL
+
+      Time Range or Time Span
: Start Date.(YYYYMMDD)...: 20130101 Last nn minutes (1-99)...: ___
: Start Time..(HHMMSS)...: 000000 Last nn hours (1-99)...: ___
: End Date..(YYYYMMDD)...: 20130123 Today (Y/N)...: N
: End Time....(HHMMSS)...: 235959 Yesterday (Y/N)...: N
+
+      Filter Criteria
: Transaction Name.....: _____
: Scheduling Class (1-999): _____
: User ID.....: _____
: LTERM Name.....: _____
: Job Name.....: _____
: PSB Name.....: _____
: DBD Name.....: _____
: Abend Code.....: _____
: Exclude Region Type (Y/N) BMP N MPP N IFP N JMP N JBP N CICS N ODBA N
+
: Elapsed Time Total > : _____ (nn.nnnnnn seconds)
: DLI > : _____ DB2 > : _____ MQ > : _____
: CPU Time Total > : _____ (nn.nnnnnn seconds)
: DLI > : _____ DB2 > : _____ MQ > : _____
: DEP > : _____ CTL > : _____ DLS > : _____
+
+      Display Options
: Group results by.....: TRANS___ (Trans/PSB/Region/Lterm/None)

```

You are now looking at the filter criteria display. You can use this panel to filter and view trace data by a variety of criteria (such as tran code, job name, CPU or elapsed time greater than 'n', and date/time).

Position the cursor in the Start date field, **enter 20130101** and **Press Enter**. This will allow the facility to pull up prior trace information.

Position the cursor on the command line (upper left corner of the panel). Enter **B** and **Press Enter**.

```

KOIATVG VTM      OI-II      V510./C IMSA 01/23/13 14:22:10  B
> Help PF1      Back PF3      Up PF7      Down PF8      Zoom PF11
>
> (H.A.B) View Application Trace Summary by Group
>
> A - Manage Trace      * - View Trace      C - Search and Filter Criteria
>
ATVG              TOTAL TIME AVERAGES
+
+ Date/Time Range: 2013/01/01 00:00:00 to 2013/01/23 23:59:59
+
+ Group by          --- Elapsed ----  ----- CPU -----
+ Trancode      Count  Average      Max      Average      Max      Abends
+ -----
+ PART          209    4,027µs   0.0233s   1,377µs   1,539µs

```

You should now see transactions listed that have been traced and meet the search criteria. In the above example you see that 209 PART transactions meet the search criteria and have been traced.

To see details on the transactions, **position the cursor** on the transaction code and **press F11**.

```

KOIATVS VTM      OI-II      V510./C IMSA 01/23/13 14:25:01  B
> Help PF1      Back PF3      Up PF7      Down PF8      Zoom PF11
>
> (H.A.B) View Application Trace Summary
>
> A - Manage Trace      * - View Trace      C - Search and Filter Criteria
>
ATVS
+
+ Date/Time Range: 2013/01/01 00:00:00 to 2013/01/23 23:59:59
+
+ Strt Date\Time Trancode PSB Name RGN Name LTERM      Elap Time CPU Time  Abend
+ -----
+ 01/04 08:19:52 PART DFSSAM02 IMSAMSG2 DNET581      0.0233s   1,409µs
+ 01/04 08:19:54 PART DFSSAM02 IMSAMSG1 DNET581      3,326µs   1,364µs
+ 01/04 08:19:55 PART DFSSAM02 IMSAMSG2 DNET581      3,371µs   1,448µs
+ 01/04 08:19:56 PART DFSSAM02 IMSAMSG1 DNET581      3,281µs   1,306µs
+ 01/04 08:19:57 PART DFSSAM02 IMSAMSG2 DNET581      3,490µs   1,425µs
+ 01/04 08:19:59 PART DFSSAM02 IMSAMSG1 DNET581      5,014µs   1,410µs
+ 01/04 08:20:00 PART DFSSAM02 IMSAMSG2 DNET581      3,433µs   1,326µs
+ 01/04 08:20:01 PART DFSSAM02 IMSAMSG1 DNET581      4,413µs   1,390µs
+ 01/04 08:20:02 PART DFSSAM02 IMSAMSG2 DNET581      3,866µs   1,324µs
+ 01/04 08:20:03 PART DFSSAM02 IMSAMSG1 DNET581      3,922µs   1,432µs
+ 01/04 08:20:05 PART DFSSAM02 IMSAMSG2 DNET581      4,916µs   1,384µs
+ 01/04 08:20:06 PART DFSSAM02 IMSAMSG1 DNET581      3,764µs   1,369µs
+ 01/04 08:20:07 PART DFSSAM02 IMSAMSG2 DNET581      3,713µs   1,409µs
+ 01/04 08:20:08 PART DFSSAM02 IMSAMSG1 DNET581      5,281µs   1,361µs
+ 01/04 08:20:10 PART DFSSAM02 IMSAMSG2 DNET581      3,501µs   1,489µs
+ 01/04 08:20:11 PART DFSSAM02 IMSAMSG1 DNET581      3,293µs   1,418µs

```

You are now looking at the transaction that were traced by the Application Trace facility. Each line represents an individual execution of the transaction (in this example the PART transaction). From here you can drill down to see detail on a specific transaction.

For transaction detail, **position the cursor** on a specific transaction and **press F11**.

```

KOIATVW  VTM      OI-II   V510./C IMSA 01/23/13 14:28:25  B
> Help PF1      Back PF3      Up PF7      Down PF8      Zoom PF11
>               Prev Tran Detail PF5  Next Tran Detail PF6
>
>
> (H.A.B) View Application Trace Overview
>
ATVW
+ Transaction instance 000002 of 000209 displayed
+ Transaction . . . . . PART          PSB . . . . . DFSSAM02
+ Logical Terminal . . . DNET581      Transaction Class . . . 001
+ Region Type . . . . . MPP          Message Source . . . . TERM
+ Region Number . . . . . 3          Primed Message . . . . YES
+ Job Name . . . . . IMSAMSG1       Quick Schedule . . . . NO
+ Step Name . . . . . REGION        Current SPA Size . . . . N/A
+ UserID . . . . . DNET581         Abend Code . . . . .
+ Start Date . . . . . 01/04/13     CPU Time in DEP . . . . 1,364µs
+ Start Time . . . . . 08:19:54.065552 CPU Time in DL/I . . . . 332µs
+ End Time . . . . . 08:19:54.068879 CPU Time in DB2 . . . . 0µs
+ Elapsed Time in DL/I . . . 419µs   CPU Time in MQ . . . . 0µs
+ Elapsed Time in DB2 . . . 0µs     CPU Time in CTL . . . . 0µs
+ Elapsed Time in MQ . . . 0µs     CPU Time in DLS . . . . 0µs
+ Elapsed Time Total . . . 3,326µs  CPU Time Total . . . . 1,364µs
+
+
+ Event      Type      Count      Total      Average
+ -----      -----      -----      -----      -----
+ DLI TM     INQY      1          11µs       11µs
+ DLI TM     GU        1          8µs        8µs
+ DLI DB     GU        1          153µs     153µs
+ DLI DB     GN        1          10µs      10µs
+ DLI TM     ISRT     4          28µs       7µs
+ DLI TM     ASRT     1          210µs     210µs

```

You are now looking at the trace overview detail for a specific transaction execution. From here you can see elapsed time and CPU time details for the transaction. You also see the number of calls invoked by the application by type, and the elapsed times of those calls.

To see more DL/I call detail, **position the cursor** on the call type and **press F11**.

```

KOIATVD  VTM      OI-II      V510./C IMSA 01/23/13 14:32:25  B
> Help PF1      Back PF3      Up PF7      Down PF8      Zoom PF11
> Prev Tran Detail PF5  Next Tran Detail PF6
>
>
> (H.A.B) View Application Trace Detail
>
ATVD
+ Transaction instance 000002 of 000209 displayed
+ Transaction . . . . . PART          PSB . . . . . DFSSAM02
+ Start Date. . . . . 01/04/13      Region Name . . . . . IMSAMSG1
+ Start Time. . . . . 08:19:54.065552  Total CPU Time. . . . . 1,364µs
+
+
+ Start Time      L      Dura-  Accumul.  Event      Resources      Func.
+ Start Time      L      tion    CPU Time  Description  Resources      Verb
+ -----
+ 08:19:54.065725 0      0µs    75µs     MPP SCHEDULING
+ 08:19:54.066394 0      11µs + 329µs   DL/I CALL (TM)      I/O PCB      INQY
+                               CPU= 9µs      Status=<blank>
+ 08:19:54.067927 0      8µs + 267µs   DL/I CALL (TM)      I/O PCB      GU
+                               CPU= 7µs      Status=<blank>
+ 08:19:54.068026 0      153µs + 181µs   DL/I CALL (DB)      DI21PART PARTROOT  GU
+                               CPU= 90µs     Status=<blank>
+ 08:19:54.068222 0      10µs + 45µs    DL/I CALL (DB)      DI21PART STANINFO  GN
+                               CPU= 10µs     Status=<blank>
+ 08:19:54.068280 0      16µs + 63µs    DL/I CALL (TM)      I/O PCB      ISRT
+                               CPU= 16µs     Status=<blank>
+ 08:19:54.068327 0      7µs + 36µs    DL/I CALL (TM)      I/O PCB      ISRT
+                               CPU= 7µs      Status=<blank>
+ 08:19:54.068360 0      2µs + 28µs    DL/I CALL (TM)      I/O PCB      ISRT
+                               CPU= 2µs      Status=<blank>
+ 08:19:54.068389 0      2µs + 27µs    DL/I CALL (TM)      I/O PCB      ISRT
+                               CPU= 2µs      Status=<blank>
+ 08:19:54.068474 0      210µs + 271µs   DL/I CALL (TM)      ASRT
+                               CPU= 189µs    Status=<blank>
+ 08:19:54.068863 0      0µs + 19µs    MPP TERM THREAD

```

You are now looking at the trace call detail overview display. From here you can see the calls in sequence, and see the timings of the various calls. This example show just DL/I calls, but if this application had done DB2 or MQ calls, these calls would appear as well.

To see more detail on a specific call, **position the cursor** on the call and **press F11**.

```

_____ KOIATVX  VTM      OI-II    V510./C IMSA 01/23/13 14:35:32  B
>      Help PF1                                     Back PF3
=====
>      VIEW APPLICATION TRACE DL/I DETAIL
ATVX
+ Transaction . . . . . PART                PSB . . . . . DFSSAM02
+ Start Date. . . . . 01/04/13             Region Name . . . . . IMSAMSG1
+ Start Time. . . . . 08:19:54.065552
+
+ DL/I Call . . . . . GU                   DB. . . . . DI21PART
+ Status Code . . . . . <blank>
+ Start Time. . . . . 08:19:54.068026     Elapsed Time. . . . . 153µs
+ End Time. . . . . 08:19:54.068180      CPU Time. . . . . 90µs
+
+ Segment Search Argument (SSA):
+
+ 0000 D7C1D9E3 D9D6D6E3 4DD7C1D9 E3D2C5E8 *PARTROOT (PARTKEY*
+ 0010 40407EF0 F2C1D5F9 F6F0C3F1 F0404040 * =02AN960C10 *
+ 0020 40404040 5D000000 00000000 00000000 * ).....*
+ 0030 00000000 *.....*
+
+ IO Area:
+
+ 0000 F0F2C1D5 F9F6F0C3 F1F04040 40404040 *02AN960C10 *
+ 0010 40404040 40404040 4040E6C1 E2C8C5D9 * WASHER*
+ 0020 40404040 40404040 40404040 40404040 * *
+ 0030 40400000 00000000 00000000 00000000 * .....*
+ 0040 00000000 00000000 00000000 *.....*
+
+ Key Feedback Area:
+
+ 0000 F0F2C1D5 F9F6F0C3 F1F04040 40404040 *02AN960C10 *
+ 0010 40 * *
=====

```

You are now looking at the call detail for a specific IMS call in the IMS transaction trace. From here you can see SSA information, the key feedback area, and the call IO area.

This concludes the final scenario of the OMEGAMON IMS Classic interface lab.

Congratulations! You have completed the OMEGAMON IMS Classic interface lab.

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System z	Tivoli	WebSphere	Workplace	System p	

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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	V510	Lih Wang	Edits for Enterprise2014 conference lab session



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