Speeding Performance Problem Solving by Breaking Down Silo Views on Your z/OS Systems

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IBM Tivoli OMEGAMON

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Session Number 12616

SHARE
in San Francisco
2013

Speeding Performance Problem Solving

- Transparent Development – customer driven

- Pro-Active Performance Management

- Problem Solving -- Silo examples (zOS, CICS, IMS, DB2, MQ, Storage, Networks)

- Problem Solving -- Multi-Domain examples-demo

How we deliver software – Transparent Development

Changing How we Develop Software

- Client involvement from the beginning and throughout the development process
  - Over 40 clients throughout North America and Europe
  - Different size IT shops
  - Different customers for each monitor.

- Agile (transparent) development model validates use cases and functions as we go

- Over 100 pieces of feedback driven into the product by monthly reviews and demonstrations.

Request for enhancements
30 day reviews
90 day response

z/OS WW customer Advisory Council
Quarterly calls

- Early Adopters Programs
- Monthly Calls and Demos

Development

Roadmap

Beta Program
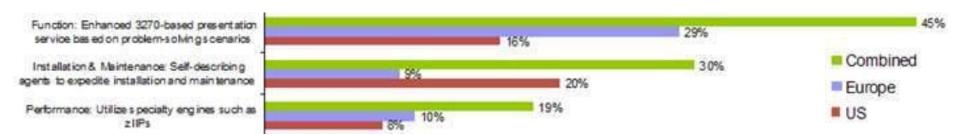
Release

in San Francisco

2013

IBM interviewed over 200 customers to understand future monitoring challenges needing to be addressed

2010 NA & European Customer Advisory Council Survey

Top 3 Customer Requirements

#1 Requirement - Enhance 3270 UI with Problem Solving scenarios

#2 Requirement - Improve Maintenance

#3 Requirement - Improve Performance utilizing zIIP

In addition to customer ranking, conducted:
- Advisory Councils
- "Outside-in design" prototyping
- Early Adopter and Beta programs

Now OMEGAMON customers walk side by side as we build new functions

zSMC – Service Management Connect – join with us

https://www.ibm.com/developerworks/servicemanagement/z/index.html

#1 Requirement - focus on - Design/ review/ code/demo/ feedback/use

#2 Requirement – Then move on to next item - same

#3 Requirement – And so on till we have a release set of content

In addition to customer ranking, conducted:
- Advisory Councils
- "Outside-in design" prototyping
- Early Adopter and Beta programs

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Strategy with OMEGAMON 510s

- Move customers with e3270ui/ITM to PROACTIVE monitoring
  - not eyes on over 30 screens looking at lights or numbers

- Do not look at STATUS screens -- get alerted on real issues

- Simplification – reduction in the number of monitoring address spaces

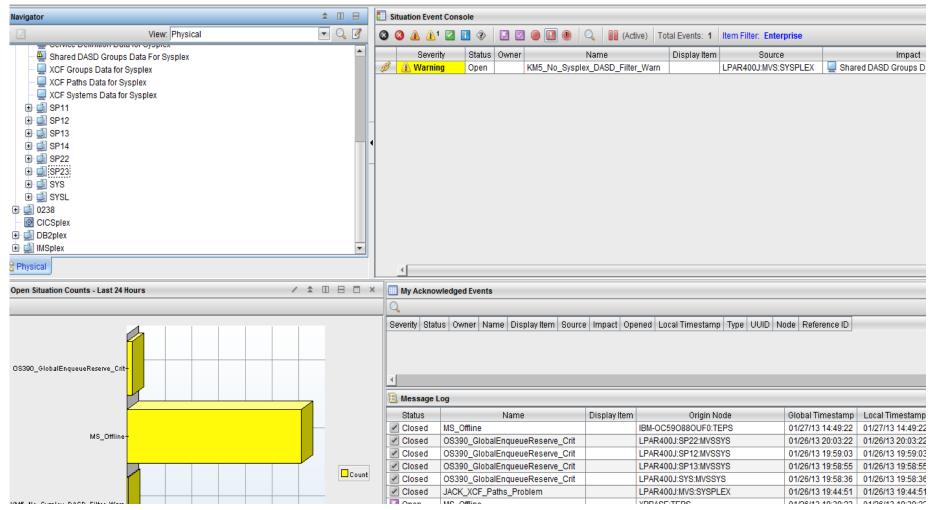- Go from alerts to SME problem solving

Sample Situations for my zOS LPARs

Name	Status	Description	Auto Start	Overrides Exist	Advice	Action	Until	Interval	Persist Count	Display Item	Formula
Excess_Process_UNIX_Run_Time	Started	Detect when a process exceeds 50% UNIX run time	✓		ⓘ			0d / 0h : 15m : 0s	1		*IF *VALUE USS_Processes.UNIX_Run_Time% *GT 50
JACK_Paging_Dataset_Util	Stopped	Paging_Dataset_Utilization						0d / 0h : 15m : 0s	1		*IF *VALUE Page_Dataset_Activity.Percent_Full *GT 75 *A..
KM5_CPU_Loop_Warn	Started	Detect potential address spaces in CPU Loop	✓		ⓘ			0d / 0h : 5m : 0s	2		*IF *VALUE Address_Space_Bottlenecks.CPU_Loop_Ind..
KM5_HealthChecker_Problems	Started	The Health Checker is not active on this system	✓		ⓘ			0d / 1h : 0m : 0s	1		*IF *VALUE KM5_Health_Check_Status.Status *NE Active
KM5_High_Severity_Check	Stopped	Indicates one or more checks has found a high severity ex...			ⓘ			0d / 0h : 15m : 0s	1		*IF *VALUE KM5_Health_Checks.Result *EQ 12
KM5_LPAR_Cap_Warn	Started	Detect capping of an LPAR	✓		ⓘ			0d / 0h : 10m : 0s	1		*IF ((*VALUE System_CPU_Utilization.Average_Unused..
KM5_Storage_Shortage_Critical	Closed	Critical Memory Alert	✓		ⓘ			0d / 0h : 15m : 0s	1		*IF *VALUE KM5_Storage_Shortage_Status.Storage_Shor..
KM5_Storage_Shortage_Warning	Closed	Critical Memory Alert	✓		ⓘ			0d / 0h : 15m : 0s	1		*IF ((*VALUE KM5_Storage_Shortage_Status.Storage_S..
MVS_XCFSystemPaths_Warn	Started	Cross System Coupling Facility Paths Warning	✓		ⓘ			0d / 0h : 5m : 0s	1		*IF (*VALUE XCF_Path.Retry_Percent *GT 80 *AND *VAL..
OS390_Allocated_CSA_Crit	Closed	Allocated CSA Critical Situation	✓		ⓘ			0d / 0h : 15m : 0s	1		*IF *VALUE Common_Storage.Area *EQ CSA *AND *VAL..
OS390_Allocated_CSA_Warn	Closed	Allocated CSA Warning Situation	✓		ⓘ			0d / 0h : 15m : 0s	1		*IF *VALUE Common_Storage.Area *EQ CSA *AND *VAL..
OS390_ECSA_Allocation_Pct_Crit	Closed	Extended CSA Allocation % Critical Situation	✓		ⓘ			0d / 0h : 15m : 0s	1		*IF *VALUE Common_Storage.Area *EQ ECSA *AND *VA..
OS390_ECSA_Allocation_Pct_Warn	Closed	Extended CSA Allocation % Warning Situation	✓		ⓘ			0d / 0h : 15m : 0s	1		*IF *VALUE Common_Storage.Area *EQ ECSA *AND *VAL..
OS390_GlobalEnqueueReserve_Crit	Closed	System Global Enqueue and Reserve Critical	✓		ⓘ			0d / 0h : 15m : 0s	1		*IF *VALUE Enqueues.Maximum_Wait_Time *GT 60 *OR..
OS390_GTF_Active_Warn	Closed	GTF Active Warning Situation	✓		ⓘ			0d / 0h : 15m : 0s	1		*IF *VALUE Operator_Alerts.GTF_Active *EQ True
OS390_Max_ASIDs_in_Use_Crit	Started	Percent Max ASID in use Critical Situation	✓		ⓘ			0d / 0h : 15m : 0s	1		*IF *VALUE Operator_Alerts.ASVT_Slot_Utilization *GE 90
OS390_Outstanding_WTORs_Crit	Closed	Outstanding Operator Replies Critical Situation	✓		ⓘ			0d / 0h : 15m : 0s	1		*IF *VALUE Operator_Alerts.Outstanding_Operator_Repli..
OS390_RMF_Not_Active_Crit	Closed	RMF Not Active Critical Situation	✓		ⓘ			0d / 0h : 15m : 0s	1		*IF *VALUE Operator_Alerts.RMF_Not_Active *EQ True
OS390_SMF_Not_Recording_Crit	Closed	SMF Not Recording Critical Situation	✓		ⓘ			0d / 0h : 15m : 0s	1		*IF *VALUE Operator_Alerts.SMF_Not_Recording *EQ Tru..
OS390_Syslog_Not_Recording_Crit	Closed	Syslog Not Recording Critical Situation	✓		ⓘ			0d / 0h : 15m : 0s	1		*IF *VALUE Operator_Alerts.SYSLOG_Not_Recording *E..
OS390_WTO_Buffers_Left_Warn	Closed	WTO Buffers Remaining Warning Situation	✓		ⓘ			0d / 0h : 15m : 0s	1		*IF *VALUE Operator_Alerts.WTO_Buffers_Remaining *L..
Shortage_of_UNIX_Processes_Crit	Started	Check if current number of processes very close to MAXP...	✓		ⓘ			0d / 0h : 15m : 0s	1		*IF *VALUE USS_Kernel.Used_Processes *GE 90

ITM - TEP Situation Event Console

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e3270ui - ITM Situation Event Console

Complete your sessions evaluation online at SHARE.org/SanFranciscoEval

Simplified OMEGAMON Architecture on z

v5.1 Enhanced OMEGAMON Architecture

TEMS

TEPS

CICS | IMS | z/OS | DB2 | Stor | MfN | MSG | ...

OMEGAMON XE Agents

Tivoli OMEGAMON Manager

Enhanced 3270

Single Manager for 3270 User Interface across OMEGAMON family

TEP GUI

v4.2 OMEGAMON Architecture

TEMS

TEPS

CICS | IMS | z/OS | DB2 | Stor | MfN | MSG | ...

OMEGAMON XE Agents

z/OS | Stor | MfN | MSG

CICS | DB2 | IMS

CUA 3270

Classic 3270

z/OS | CICS | DB2 | IMS

Multiple Address Spaces and User Interfaces across each OMEGAMON

TEP GUI

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Problem Solving Scenario
OMEGAMON XE for zOS 5.1.0

USS Process gone WILD !!

Situation Alerts me – Out of Control Process on SYS LPAR

Two alerts – CPU Looper warning and maybe WILD USS process on SYS

zOS Systems -overview who is the LOOPING job?
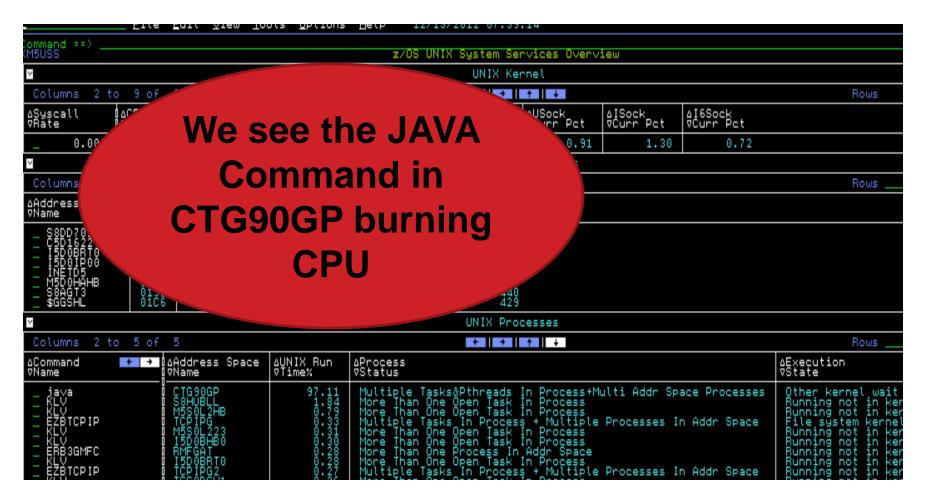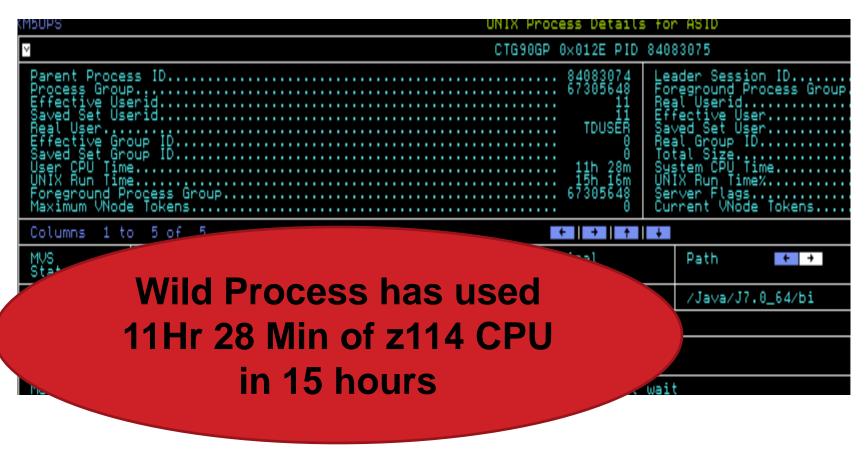
JAVA (of course ☺)– CTG90GP Process

We see the JAVA Command in CTG90GP burning CPU
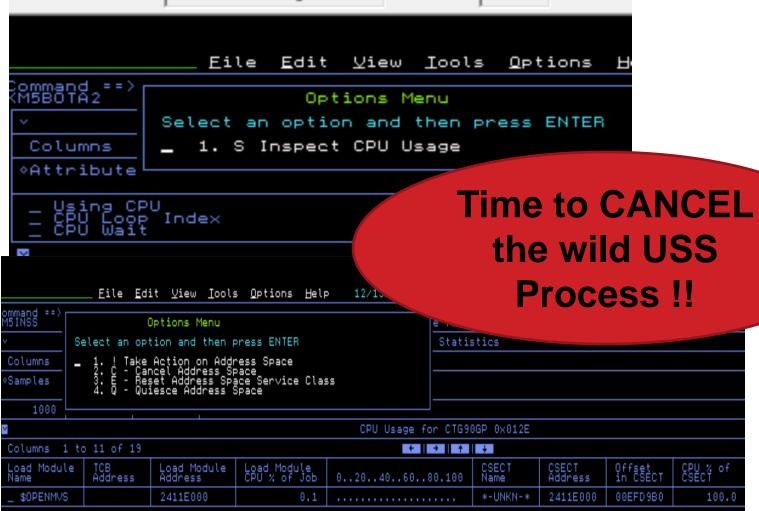
CTG90GP USS -JAVA use Details

UNIX Process Details for ASID

CTG90GP 0x012E PID 84083075

Parent Process ID....................................84083074   Leader Session ID.......
Process Group...67305648   Foreground Process Group
Effective Userid..11   Real Userid............
Saved Set Userid...11   Effective User.........
Real User...TDUSER   Saved Set User.........
Effective Group ID...0   Real Group ID..........
Saved Set Group ID...0   Total Size.............
User CPU Time..11h 28m   System CPU Time........
UNIX Run Time..15h 16m   UNIX Run Time%.........
Foreground Process Group..............................67305648   Server Flags...........
Maximum VNode Tokens...0   Current VNode Tokens...

Columns 1 to 5 of 5

MVS   Path
Stat   /Java/J7.0_64/bi

Wild Process has used 11Hr 28 Min of z114 CPU in 15 hours

Bottleneck Analysis and Inspect CTG90GP to get to looping code code

File   Edit   View   Tools   Options   H

```
Command ==>
KM5BOTA2                    Options Menu
                 Select an option and then press ENTER
  v
                   _  1. S  Inspect CPU Usage
   Columns
  ◊Attribute

  _ Using CPU
  _ CPU Loop  Index
  _ CPU Wait
  v
```

Time to CANCEL the wild USS Process !!

```
                File Edit View Tools Options Help   12/1
Command ==>
M5INSS                  Options Menu                        Statistics
  v
      Select an option and then press ENTER
   Columns     _  1. ! Take Action on Address Space
                   2. C - Cancel Address Space
  ◊Samples         3. E - Reset Address Space Service Class
                   4. Q - Quiesce Address Space
   1000

v                                    CPU Usage for CTG90GP 0x012E
Columns  1 to 11 of 19                          ←  →  ↑  ↓
```

Load Module Name	TCB Address	Load Module Address	Load Module CPU % of Job	0..20..40..60..80.100	CSECT Name	CSECT Address	Offset in CSECT	CPU % of CSECT
_ $OPENMVS		2411E000	0.1	....	*-UNKN-*	2411E000	00EFD9B0	100.0

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Problem Solving Scenario
OMEGAMON XE for zOS 5.1.0

Running out of USS Processes on an LPAR

Situation Alerts me – impending doom on SP14 LPAR

Look USS Process use over 90% on SP14

SP14 -Unix System Service overview

282 out of max 300 Processes in use – lets see what they are?
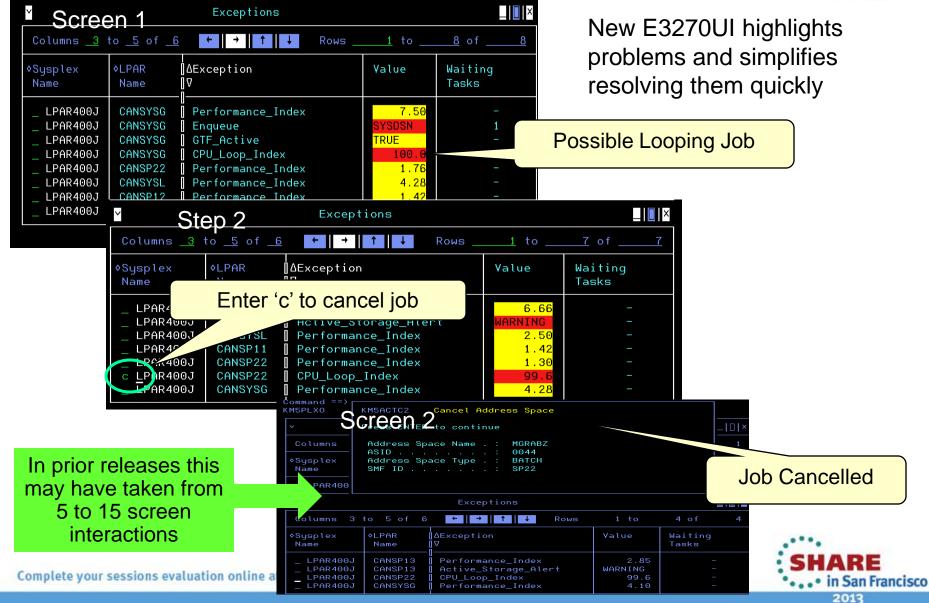
User WLAND4 – what are they doing?

Contact the SME – WAND4

- Configuring USS Server on another LPAR blocking this LPAR
- Cancel this work on other LPAR
- USS Process use goes down to 14%
- Success – SP14 dodges DOOM

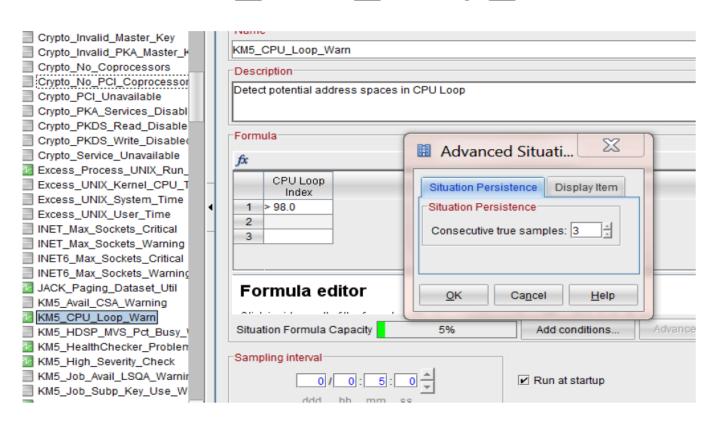# Example of quickly finding and fixing z/OS Problem-Job CPU Looping

New E3270UI highlights problems and simplifies resolving them quickly

Screen 1

Possible Looping Job

Step 2

Enter 'c' to cancel job

Screen 2

Job Cancelled

In prior releases this may have taken from 5 to 15 screen interactions

Maybe change PPS -CPU Loop Warning
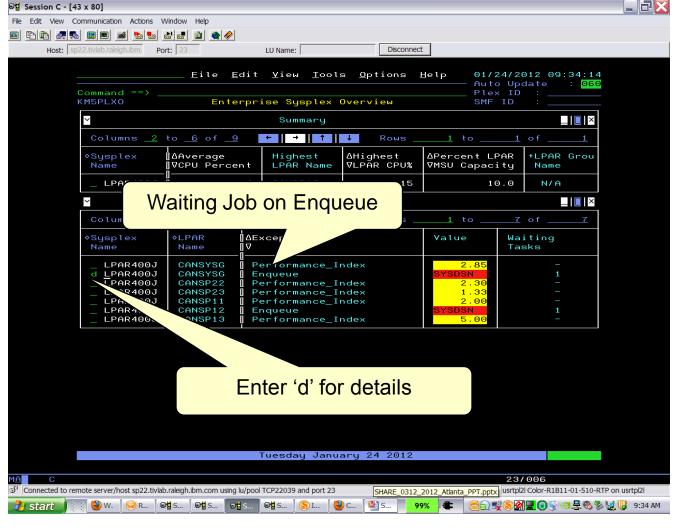
Complete your sessions evaluation online at SHARE.org/SanFranciscoEval

Example of quickly finding and fixing z/OS Problem – Job Held Dataset

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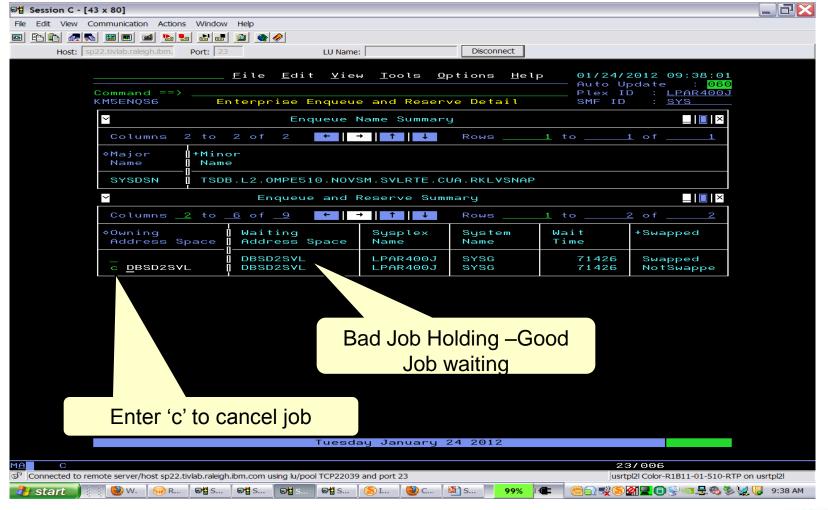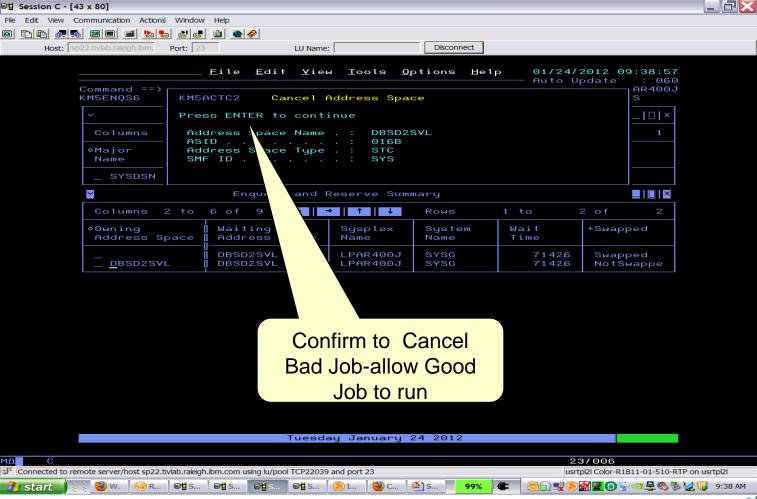
Problem Solving Scenario
OMEGAMON XE for CICS 5.1.0

MRO delay maybe effecting RT

Start with Service Level Analysis -

Complete your sessions evaluation online at SHARE.org/SanFranciscoEval
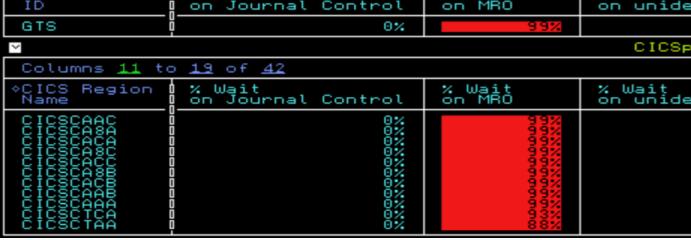
CICSCTCA and CICSCTAA Better RT

Complete your sessions evaluation online at SHARE.org/SanFranciscoEval

CICSCAAA to CICSCTCA

Complete your sessions evaluation online at SHARE.org/SanFranciscoEval

Compare Active Tasks - CICSCAAA

Complete your sessions evaluation online at SHARE.org/SanFranciscoEval
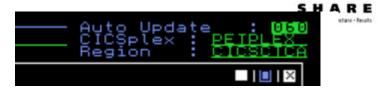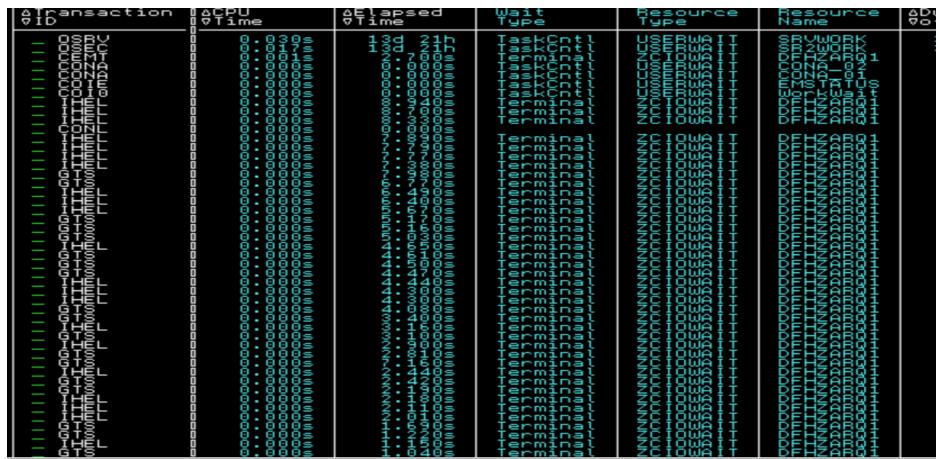
Active Tasks CICSCTCA- overtyped name

CICS Dispatcher view

CICSCAAC 36 active and
CICSCTCA – 68 active

Complete your sessions evaluation online at SHARE.org/SanFranciscoEval

CICS SME needed to continue

Problem Solving Scenario
OMEGAMON XE for Messaging 7.1.0

Queue Filled due to Application not started

Situation Alerts me – QMGR MQB1 Queue Health Critical


```
                  File  Edit  View  Tools  Options  Help      12/18/2012 11:37:58
Command ==>
KMQSTART                                              WebSphere MQ Health Overview
∨                                                        Queue Manager Status
Columns _2 to 13 of 24                           ← | → | ↑ | ↓                          Rows
△QMgr  ← → ⫶ Host ← → ⫶ △QMgr    △Queue    △Channel  △Current  QMgr      Channel   Command   Conn #    DLQ
∨Name      ⫶ Name     ⫶ ∨Health  ∨Health   ∨Health   ∨MQEvents Status    Initiator Server              Depth
_ CSQB     ⫶ JB0      ⫶ Warning  Critical  OK               2  Running   Running   Waiting      129         0
_ MQB1     ⫶ JB0      ⫶ Warning  Critical  Critical        10  Running   Running   Waiting       81       233
```

Look MQB1 – Queue Health Critical – lets check why

Looking at the QNAME - see the issue


```
KMQQOEHS                              Queue High Depth Summary

V                              Queues with High Depth

Columns  2 to  9 of  9                        [←] [→] [↑] [↓]

△Queue          [←][→]△Current  Input   Output  Get      Put      Trigger  % Full   High Depth
▽Name                 ▽Depth    Opens   Opens   Status   Status   Control           Threshold %

_  BOOK.BUY.WS.PROD         4999    0       3    Enabled  Enabled  Off       99.9        10.0
_  BOOK.BUY.REPLY.WS.J8      623    0       0    Enabled  Enabled  Off       12.4        10.0

V                              Queues with Depth > 0
```

Queue Book.Buy.WS.Prod is 99.9% FULL

Queue details shows no applications OPEN for Input


```
Command ==>                                                                    HostName : JMRU
KMQQUESD                          Queue Status Details                         QmgrName : MQBI

                              Queue BOOK.BUY.WS.PROD

Current Depth.............................. 4999     Short_Term Queue Time.................... 692225
Input Opens...............................    0     Long Term Queue Time..................... 9910299
Output Opens..............................    3     Oldest Msg Age...........................   8753
Last Get Date............................ 12/12/18  Last Put Date........................... 12/12/1
Last Get Time............................ 10:20:01  Last Put Time........................... 01:45:2

Queue Usage...............................  Normal  Definition Type......................... Predefi
Get Status................................ Enabled  Trigger Control.........................      Of
Put Status................................ Enabled  Trigger Type............................    Firs
Default Persist...........................     No   Trigger Priority........................
Default Priority..........................     0    Trigger Depth...........................
Creation Date............................ 12/05/16  Alter Date.............................. 12/05/1
Creation Time............................ 15:05:38  Alter Time.............................. 15:05:3
Max Depth.................................  5000

                         Applications with Open Handle for Queue

Columns  2 to 12 of 20                     ← → ↑ ↓                     Rows ____ 1 to ____ 3 of

ΔAppl ← → ΔAppl   ΔASID  ΔUser ← →  Open for  Open for  Open for  Open for  Open for  Channel          Connection ← →  +CI
▽Tag      ▽Type   ▽      ▽ID        Input     Output    Browse    Inquire   Set       Name             Name            Re

_ MQB1CHIN  CHINIT  02E0   MQB1CHIN  No        Yes       No        No        No        TO.JB1.CHANNEL   ::ffff:10.20.22.156
_ MQB1CHIN  CHINIT  02E0   MQB1CHIN  No        Yes       No        No        No        TO.JB1.CHANNEL   ::ffff:10.20.22.158
_ MQB1CHIN  CHINIT  02E0   MQB1CHIN  No        Yes                           Yes       TO.JB1.CHANNEL   ::ffff:10.20.22.157
```

Queue Book.Buy.WS.Prod no applications reading the queue

Contact the correct MQ SME

- **Please start the application to start reading the queue.**

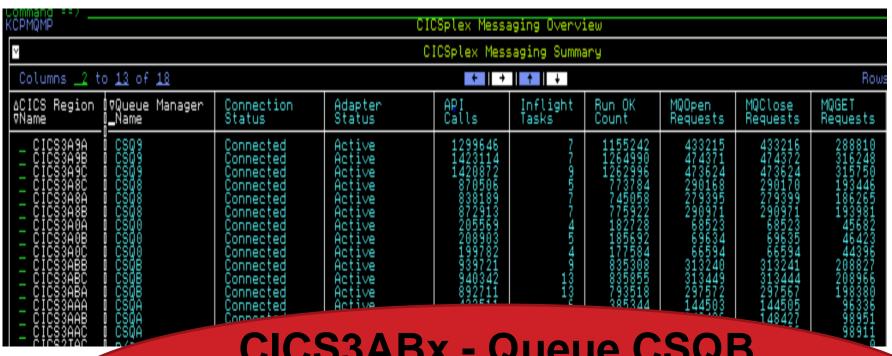**Then the messages in the queue will get processed !**

Problem Solving Scenario
OMEGAMON XE for Messaging 7.1.0

OMEGAMON XE for CICS 5.1.0

CICS and MQ interaction

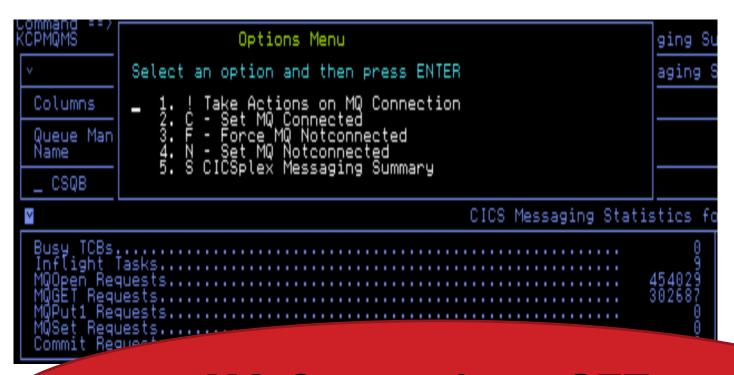

CICS3ABx - Queue CSQB
MQOPEN,MQCLOSE, MQGET,
activity

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CICS shows CSQB details CICS3W8B


```
                          CICS Messaging Status                              ■|■
Columns  1 to  3 of  3              ◆|➜|⬆|⬇              Rows    1 to     1 of

Queue Manager                 Connection                      Adapter
Name                          Status                          Status

_ CSQB                        Connected                       Active

            CICS Messaging Statistics for CSQB in CICS3W8B                    ■|■
Busy TCBs......................................    0  API Calls.............................. 1296032
Inflight Tasks.................................    6  Run OK Count........................... 1152028
MQOpen Requests................................ 432010  MQClose Requests....................... 432012
MQGET Requests................................. 288008  MQPut Requests......................... 144002
MQPut1 Requests................................    0  MQInq Requests.........................       0
MQSet Requests.................................    0  Backout Requests.......................       0
Commit Requests................................ 288010  Miscellaneous Requests.................       0

            Resource Signature Data for CSQB in CICS3W8B                      ■|■
Define Time.................................... 22:10:35  Define Date............................ 10/01/21
Definition Source.............................. STARTMQ  Change Agent........................... CSDAPI
Change Time.................................... 11:01:59  Change Date............................ 10/01/22
Change Userid.................................. CICSUSER  Change Agent Release...................     0660
Install Userid.................................  CICSPS  Install Agent.......................... GRPList
Install Time................................... 10:55:35                                       12/12/19
```

CICS3W8B - Queue CSQB Statistics

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From CICS we can TAKE ACTION


```
Command
KCPMQMS                                          ging Su

                     Options Menu                aging S

v          Select an option and then press ENTER

Columns    _   1.  ! Take Actions on MQ Connection
               2.  C - Set MQ Connected
Queue Man      3.  F - Force MQ Notconnected
Name           4.  N - Set MQ Notconnected
               5.  S CICSplex Messaging Summary
_ CSQB

v                                          CICS Messaging Statistics fo

Busy TCBs.......................................................        0
 Inflight Tasks................................................        9
MQOpen Requests...........................................   454029
MQGET Requests............................................   302687
MQPut1 Requests...........................................        0
MQSet Requests............................................        0
Commit Request
```

MQ Connection – SET , FORCE Notconnected

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Now lets go over to MQ – See its view

Queue CSQB Critical Health

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CSQB Queue list and # Input/Output Opens


```
Command ==>
KMQQUEOP                                        Open Queue Summary
▼                                               Open Queue List
Columns   2 to 12 of 12                          ← | → | ↑ | ↓
```

△Queue ▽Name	Input Opens	Output Opens	△Queue ▽Type	Queue Usage	▽Current _Depth	Get Status	Put Status	Trigger Control
SYSTEM.CLUSTER.REPOS	1	1	Local	Normal	175	Enabled	Enabled	Off
SYSTEM.CLUSTER.TRANS	9	9	Local	XmitQ	72	Enabled	Enabled	On
SYSTEM.CHANNEL.SYNCQ	17	17	Local	Normal	45	Enabled	Enabled	Off
TAN2.CICS3ABB.OTMA	1	0	Local	Normal	10	Enabled	Enabled	Off
TAN2.CICS3A8A.OTMA	1	0	Local	Normal	6	Enabled	Enabled	Off
TAN2.CICS3A9A.OTMA	1	0	Local	Normal	5	Enabled	Enabled	Off
TAN2.CICS3A9B.OTMA	1	0	Local	Normal	5	Enabled	Enabled	Off
TAN2.CICS3A8B.OTMA	1	0	Local	Normal	5	Enabled	Enabled	Off
TAN2.CICS3ABA.OTMA	1	0	Local	Normal	4	Enabled	Enabled	Off
TAN2.CICS3AAC.OTMA	1	0	Local	Normal	4	Enabled	Enabled	Off
TAN2.CICS3A9C.OTMA	1	0	Local	Normal	4	Enabled	Enabled	Off
MQGP.JPMC.REPLYQ	18	0	Local	Normal	4	Enabled	Enabled	On
TAN2.CICS3A8C.OTMA	1	0	Local	Normal	3	Enabled	Enabled	Off
TAN2.CICS3ABC.OTMA	1	0	Local	Normal	3	Enabled	Enabled	Off
TAN2.CICS3AAB.OTMA	1	0	Local	Normal	3	Enabled	Enabled	Off
TAN2.CICS3AAA.OTMA	1	0	Local	Normal	2	Enabled	Enabled	Off
TAN2.CICS3A0C.OTMA	1	0	Local	Normal	0	Enabled	Enabled	Off
SYSTEM.QSG.TRANSMIT.	1	0	Local	XmitQ	0	Enabled	Enabled	Off

CSQB Queue list by Queue Name – XMITQ – lets look

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Drill down to a Queue – Channel Status

Queue CSQB XMIT Queue

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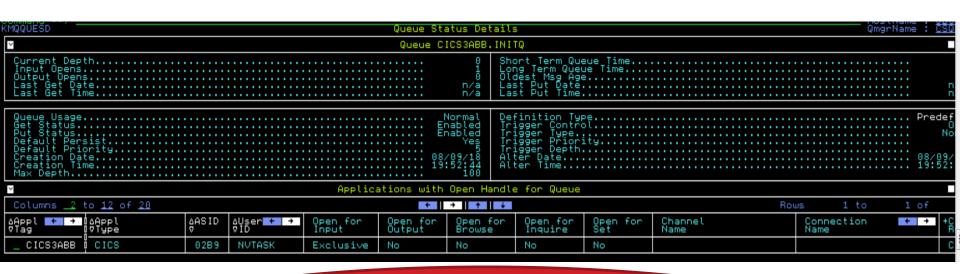
Look at CICS3ABB   Queue Details
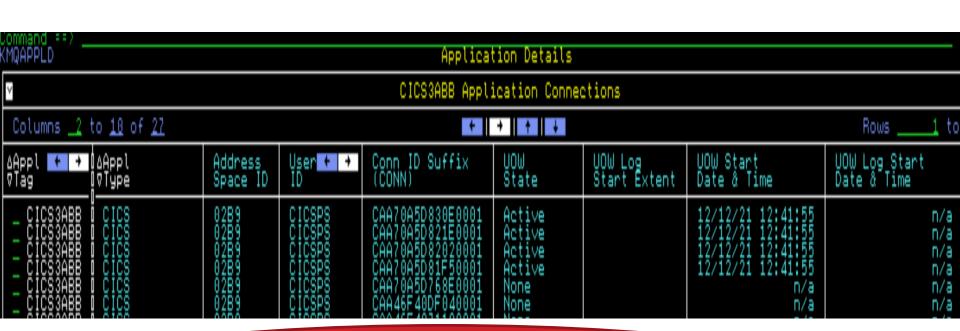
CICS3ABB – INITQ details

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CICS3ABB – In flight work from MQ


```
Command ==>
KMQAPPLD                              Application Details

                              CICS3ABB Application Connections

Columns  2 to 10 of 27                  [←][→][↑][↓]                    Rows ___ 1 to

△Appl [←][→]△Appl   Address   User[←][→] Conn ID Suffix  UOW    UOW Log      UOW Start      UOW Log Start
▽Tag        ▽Type   Space ID  ID        (CONN)           State  Start Extent Date & Time    Date & Time

_ CICS3ABB  CICS    02B9      CICSPS    CAA70A5D830E0001 Active              12/12/21 12:41:55        n/a
_ CICS3ABB  CICS    02B9      CICSPS    CAA70A5D821E0001 Active              12/12/21 12:41:55        n/a
_ CICS3ABB  CICS    02B9      CICSPS    CAA70A5D82020001 Active              12/12/21 12:41:55        n/a
_ CICS3ABB  CICS    02B9      CICSPS    CAA70A5D81F50001 Active              12/12/21 12:41:55        n/a
_ CICS3ABB  CICS    02B9      CICSPS    CAA70A5D768E0001 None                             n/a        n/a
_ CICS3ABB  CICS    02B9      CICSPS    CAA46F40DF040001 None                             n/a        n/a
```

CICS3ABB – MQ work

CSQB Events list – Channel Start/Stops

Recent Events in last Hour
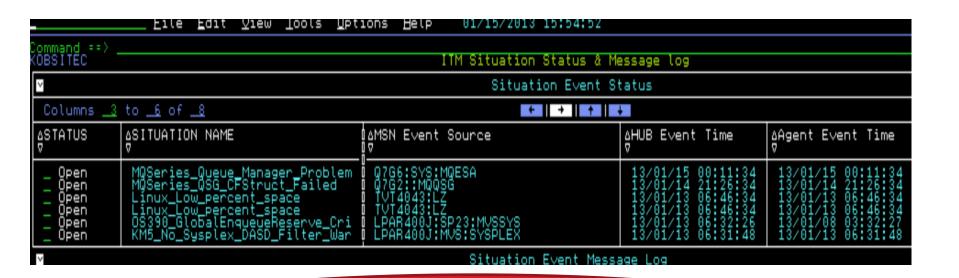
Problem Solving Scenario
OMEGAMON XE for Messaging 7.1.0

CF Structure Issue

e3270ui MQ Situation popped

MQ_QSG_CFStruct_Failed

Complete your sessions evaluation online at SHARE.org/SanFranciscoEval
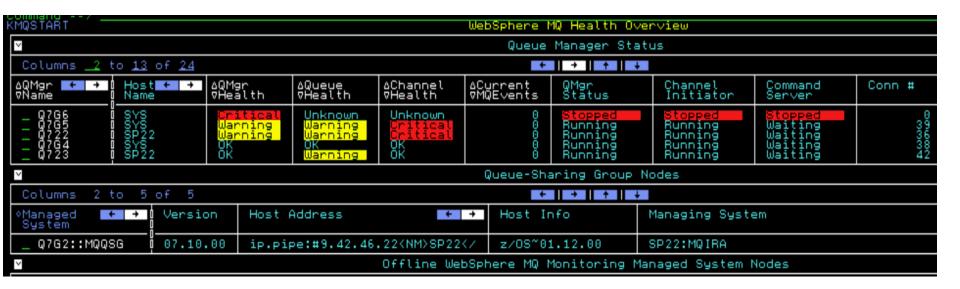
MQ Queue Sharing Group

Q7G2 –lets look

Complete your sessions evaluation online at SHARE.org/SanFranciscoEval

Q7G2 - Inactive

Complete your sessions evaluation online at SHARE.org/SanFranciscoEval

Drill Down – CF for Q7G2

```
Command ==>
KMQQGCFS                           Queue-Sharing Group Coupling Facility Structures
```

```
                                    QSG Q7G2 Coupling Facility Structures
```

Columns 2 to 12 of 12   ← | → | ↑ | ↓   Row

ΔCF Struct ▽Name	CF Struct Type	Struct Status	Struct Level	% Stor Used	% Entries Used	Failure Date & Time	Recovery Supported	Max Stor	Max Entries
APPLICATION1	Appl	Active	3	1.0	0.3	n/a	No	32768	9895
CSQ_ADMIN	Admin	Active	0	1.0	0.0	n/a	No	32768	20816
CSQSYSAPPL	Appl	Failed	3	0.0	0.0	12/08/31 09:06:06	Yes	0	0
MQ001	Appl	Active	3	1.0	0.3	n/a	No	32768	9895

```
                                    QSG Q7G2 CF Structure Connections
```

Columns 2 to 5 of 5   ← | → | ↑ | ↓   Row

ΔCF Struct ▽Name	QMgr Name	Conn Status	Failure Date & Time	Host Name
APPLICATION1	Q723	Active	n/a	SP22
CSQSYSAPPL	Q723	Failed	12/08/31 09:06:06	
MQ001	Q723	Active	n/a	SP22

```
                                    QSG Q7G2 CF Structure Backups
```

Columns 2 to 8 of 8   ← | → | ↑ | ↓   Row

ΔCF Struct ▽Name	QMgr Name	Struct Status	Backup Date & Time	Backup Size	Backup Start RBA	Backup End RBA	Failure Date & Time
CSQSYSAPPL	Q7G6	Failed	12/08/15 12:48:00	0	000000116090	0000001160D8	12/08/31 09:06:06

CSQSYSAPPL Connect Failed

Contact the correct MQ SME

- **Please fix the CF Structure failure for this application!**

Problem Solving Scenario

OMEGAMON XE for CICS 5.1.0

DB2 waits impacting CICS Response time

CICSPlex Service Level Analysis
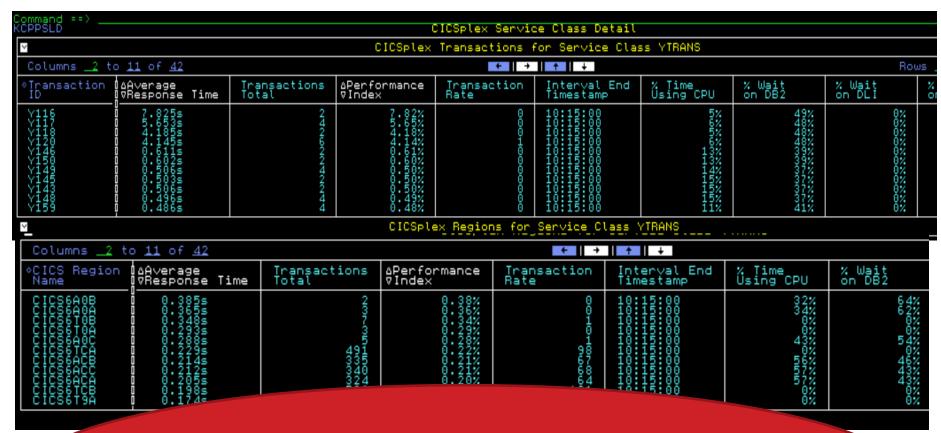
Look at YTRANS group

YTRANS – Got OK RT and some DB2 wait %

Complete your sessions evaluation online at SHARE.org/SanFranciscoEval

YTRANS Transactions – DB2 waits
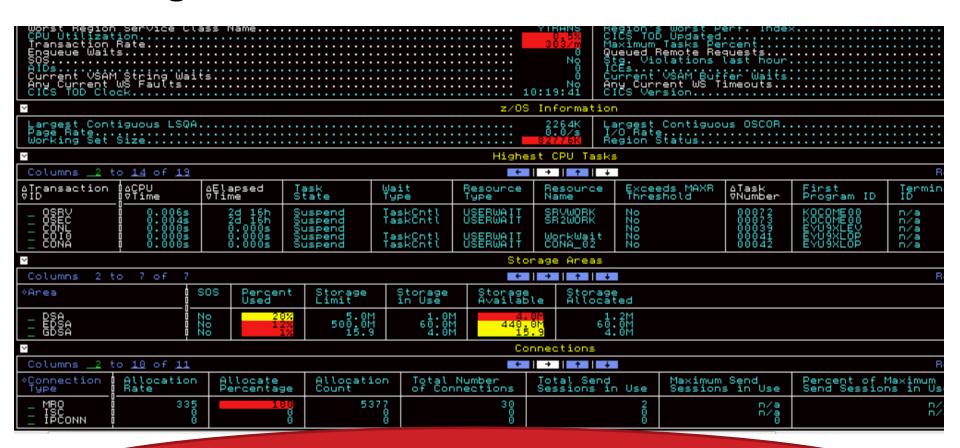
CICSxxxx – Drill down on one Region with DB2 wait%

Complete your sessions evaluation online at SHARE.org/SanFranciscoEval

One Region details for YTRANS

CICSxxxx – looking OK

Complete your sessions evaluation online at SHARE.org/SanFranciscoEval
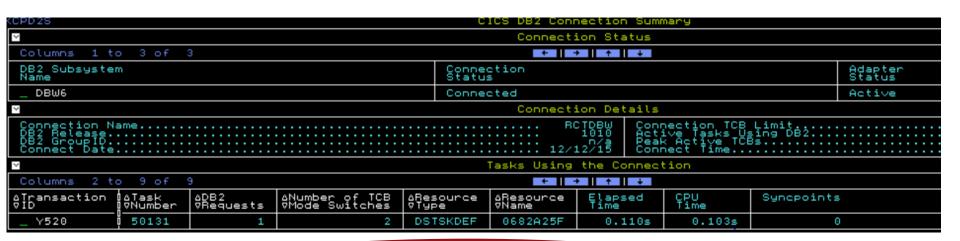
DB2 Region connected to CICS Region


```
KCPD2S                                          CICS DB2 Connection Summary
▼                                                Connection Status
 Columns  1 to  3 of  3                          ← | → | ↑ | ↓
 DB2 Subsystem                           Connection                              Adapter
 Name                                    Status                                  Status
 _  DBW6                                 Connected                               Active
▼                                                Connection Details
 Connection Name.........................................  RCTDBW   Connection TCB Limit.................
 DB2 Release.............................................    1010   Active Tasks Using DB2..............
 DB2 GroupID.............................................     n/a   Peak Active TCBs....................
 Connect Date...........................................12/12/15   Connect Time........................
▼                                                Tasks Using the Connection
 Columns  2 to  9 of  9                           ← | → | ↑ | ↓
 ΔTransaction  ΔTask   ΔDB2      ΔNumber of TCB   ΔResource  ΔResource  Elapsed   CPU       Syncpoints
 ▽ID           ▽Number ▽Requests ▽Mode Switches   ▽Type      ▽Name      Time      Time
 _  Y520         50131        1               2   DSTSKDEF   0682A25F    0.110s    0.103s            0
```

CICSxxxx – DBW6 region connected to this CICS

Complete your sessions evaluation online at SHARE.org/SanFranciscoEval

Next step go over to DB2 look at the regions and threads to continue

Problem Solving Scenario
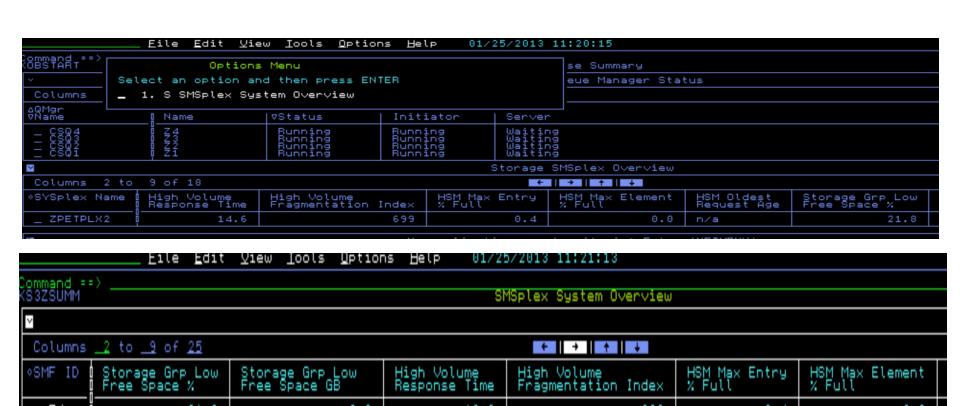
OMEGAMON XE for Storage 5.1.0

Storage Allocation and Performance issues

e3270ui – ZPETPLX2 SMS overview

Complete your sessions evaluation online at SHARE.org/SanFranciscoEval

Lets Look at Space and then Performance

```
      File   Edit   View   Tools   Options   Help      01/25/2013 11:21:42
_____
Command ==>
KS3ZSUMM                      Options Menu                          stem Ov
_____
 v            Select an option and then press ENTER
_____
 Columns          1:  A Channel Path
_____      2:  B Cache CU Status                            lume
◇SMF ID |          3:  C Logical Control Unit                       tation
        |          4:  D Tape Group
        |          5:  E SMS Storage Groups Performance
 _  Z4   |         6:  F SMS Storage Groups Space
 _  Z3   |         7:  G DFSMShsm Status
 _  Z2   |         8:  H DFSMrmm Status
 _  Z1   |         9:  I Dataset Attributes System Summary
                  10:  J SMS Configuration
```

Pick "F" for Storage Groups Space

Complete your sessions evaluation online at SHARE.org/SanFranciscoEval

SMS Storage Groups Space Summary

Group Space, Lowest volume Free space

Complete your sessions evaluation online at SHARE.org/SanFranciscoEval

Lets Pick Volume Space

Complete your sessions evaluation online at SHARE.org/SanFranciscoEval

Volume D83VE3 Space details

Back and Look at Storage Performance

Complete your sessions evaluation online at SHARE.org/SanFranciscoEval

Dataset – LPARs – Job's using

```
mand ==>
PS                                    Dataset Performance Summary
lume:  P2CPL0
                                 Dataset Performance Summary Report
lumns  _2 to _9 of 20              ← | → | ↑ | ↓                                    Rows
taset Name                          ┃△Response │△IOSQ    │△Pend    │△Connect  │Device Active │△Total
                                    ┃▽Time     │▽Time    │▽Time    │▽Time     │Only Time     │▽Disconnect Time
SYS1.CFRM.CDS21                     ┃    39.0  │    0.0  │    0.3  │   37.7   │     0.0      │        1.0

                              Datasets with MSR > Storage Class Objective
```

```
DSN:   SYS1.CFRM.CDS21      Volume:   P2CPL0
✓                                     Dataset Performance Detail Report
Columns  _1 to 11 of 19               ← | → | ↑ | ↓
Jobname       │ ASID     │△Response │△IOSQ    │△Pend    │△Connect  │Device Active │△Total
              │          │▽Time     │▽Time    │▽Time    │▽Time     │Only Time     │▽Disconnect Time
_ XCFAS       │     6    │   36.7   │    0.0  │    0.3  │   35.4   │     0.0      │        1.0
```

```
Columns   1 to   5 of   5                            ← | → | ↑ | ↓
Application   │ Application  │ Control  │ Application │ System
              │ Type         │          │ Waiting     │
XCFAS         │ Unknown      │ Shared   │ No          │ Z2
XCFAS         │ Started Task │ Shared   │ No          │ Z1
XCFAS         │ Unknown      │ Shared   │ No          │ Z3
XCFAS         │ Unknown      │ Shared   │ No          │ Z4
⌄                                     Dataset SMS Constructs
Columns   1 to   4 of   4                            ← | → | ↑ | ↓
Storage       │              │ Data     │ Management  │ Stripe
Class         │              │ Class    │ Class       │ Count
              │              │          │             │ n/a
⌄                                     Dataset Performance Summary
Columns  _2 to 12 of 20                              ← | → | ↑ | ↓
◇Volume ┃△Response │ IOSQ Time │△Pend Time │△Connect │Device Active │△Total           │△Read
        ┃▽Time     │           │▽          │▽Time    │Only Time     │▽Disconnect Time │▽Disconnect Time
P2CPL0 ┃    36.7  │    0.0    │    0.3    │   35.4  │     0.0      │        1.0      │        1.0
```

A SME drills down for Volume Space or Performance issues

Problem Solving Scenario
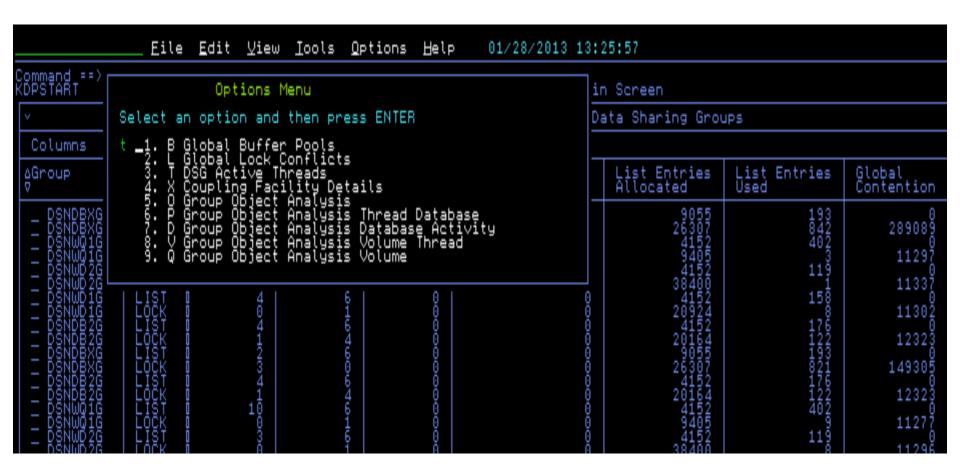
OMEGAMON XE for DB2PE 5.1.1

DB2 Plans running in a Sharing Group

Look at Active DB2 Data Sharing Groups

Complete your sessions evaluation online at SHARE.org/SanFranciscoEval

Plans running in the PLEX right now

Complete your sessions evaluation online at SHARE.org/SanFranciscoEval

Group Thread Statustics

File Edit View Tools Options Help   01/28/2013 13:30:19

Command ==>
KDPPTHDS   DB2 Group Thread Statistics

Columns 1 to 12 of 17   ← | → | ↑ | ↓   Rows

Plan Name	Correlation ID	GetPage Requests	Number of SETW	Synchronous Read I/O	Sequential Prefetch	Immediate Write I/O	List Prefetch	Dynamic Prefetch	Successful Hiperpool Read
ASNQC910	QREPCAP.Admi	1568	635	0	0	0	0	0	0

Complete your sessions evaluation online at SHARE.org/SanFranciscoEval

Problem Solving Scenario

OMEGAMON XE for Mainframe Networks 5.1.0

Drill down to TCP/IP details

Network Health for Applications Overview

Complete your sessions evaluation online at SHARE.org/SanFranciscoEval

Select TCP Stack overview

Complete your sessions evaluation online at SHARE.org/SanFranciscoEval

TCP/IP Stack Overview

Complete your sessions evaluation online at SHARE.org/SanFranciscoEval

Problem Solving Scenario

OMEGAMON XE for IMS 5.1.0

Overview drill down
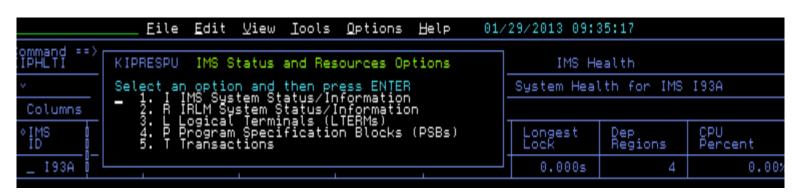
Monitored IMS Subsystems

Complete your sessions evaluation online at SHARE.org/SanFranciscoEval

IMS Transactions in the Susbsystem

Complete your sessions evaluation online at SHARE.org/SanFranciscoEval

Speeding Performance Problem Solving

- Transparent Development – customer driven

- Pro-Active Performance Management

- Problem Solving -- Silo examples

- Problem Solving -- Multi-Domain examples-demo

Speeding Performance Problem Solving by Breaking Down Silo Views on Your z/OS Systems

Joe Winterton

IBM Tivoli

February 5, 2013

Session Number 12616

Insert Custom Session QR if Desired.