



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

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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





- 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 IARE y- Cornections - Results

z/OS WW customer Advisory Council Quarterly calls

- Early Adopters Programs
- Monthly Calls and Demos

Development Roadmap

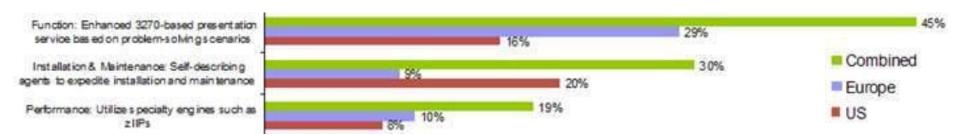
Beta Program

Release

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

2010 NA & European Customer Advisory Council Survey





- #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



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





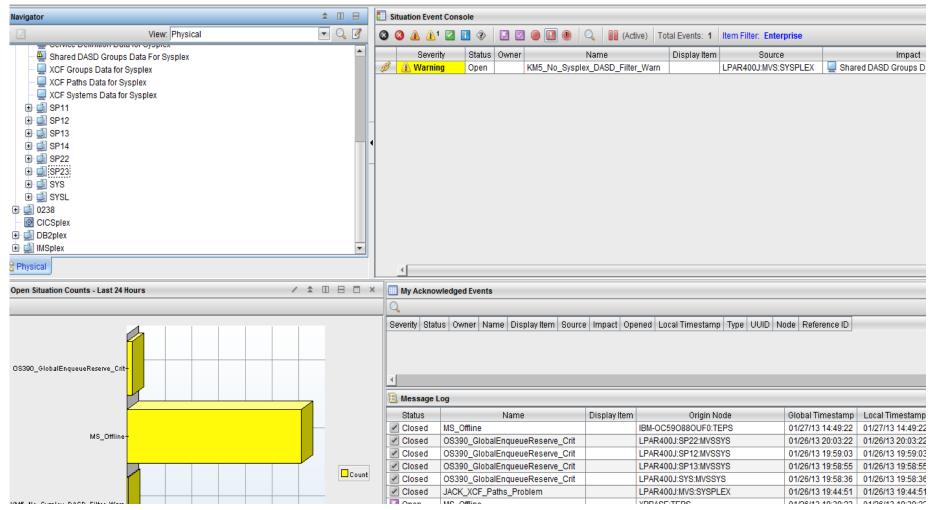
Sample Situations for my zOS LPARs

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JACK_Paging_Dataset_Util	Stopped	Paging_Dataset_Utilization						0d / 0h : 15m : 0s			*IF *VALUE Page_Dataset_Activity.Percent_Full *GT 75 *A.
			4								
KM5_CPU_Loop_Warn	Started	Detect potential address spaces in CPU Loop			U			0d / 0h : 5m : 0s			*IF *VALUE Address_Space_Bottlenecks.CPU_Loop_Ind
KM5_HealthChecker_Problems	Started	The Health Checker is not active on this system	\checkmark		U			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			0			0d / 0h : 15m : 0s	1		*IF *VALUE KM5_Health_Checks.Result *EQ 12
KM5_LPAR_Cap_Warn	Started	Detect capping of an LPAR	\checkmark		0			0d/0h:10m:0s	1		*IF ((*VALUE System_CPU_Utilization.Average_Unused
KM5_Storage_Shortage_Critical	Closed	Critical Memory Alert	\checkmark		0			0d/0h:15m:0s	1		*IF *VALUE KM5_Storage_Shortage_Status.Storage_Shor
KM5_Storage_Shortage_Warning	Closed	Critical Memory Alert	\checkmark		0			0d / 0h : 15m : 0s	1		*IF ((*VALUE KM5_Storage_Shortage_Status.Storage_S.
MVS_XCFSystemPaths_Warn	Started	Cross System Coupling Facility Paths Warning	\checkmark		0			0d/0h:5m:0s	1		*IF (*VALUE XCF_Path.Retry_Percent *GT 80 *AND *VAL.
OS390_Allocated_CSA_Crit	Closed	Allocated CSA Critical Situation	\checkmark		0			0d/0h:15m:0s	1		*IF *VALUE Common_Storage.Area *EQ CSA *AND *VAL.
OS390_Allocated_CSA_Warn	Closed	Allocated CSA Warning Situation	\checkmark		0			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	\checkmark		0			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	\checkmark		0			0d / 0h : 15m : 0s	1		*IF *VALUE Common_Storage.Area *EQ ECSA *AND *VAL
OS390_GlobalEnqueueReserve_Crit	Closed	System Global Enqueue and Reserve Critical	\checkmark		0			0d / 0h : 15m : 0s	1		*IF *VALUE Enqueues.Maximum_Wait_Time *GT 60 *OR
OS390_GTF_Active_Warn	Closed	GTF Active Warning Situation	\checkmark		0			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	\checkmark		0			0d / 0h : 15m : 0s	1		*IF *VALUE Operator_Alerts.ASVT_Slot_Utilization *GE 90
OS390_Outstanding_WTORs_Crit	Closed	Outstanding Operator Replies Critical Situation	\checkmark		0			0d / 0h : 15m : 0s	1		*IF *VALUE Operator_Alerts.Outstanding_Operator_Repli
OS390_RMF_Not_Active_Crit	Closed	RMF Not Active Critical Situation	\checkmark		0			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	\checkmark		0			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			0			0d / 0h : 15m : 0s	1		*IF *VALUE Operator_Alerts.SYSLOG_Not_Recording *E
OS390_WTO_Buffers_Left_Warn	Closed	WTO Buffers Remaining Warning Situation			0			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			0			0d / 0h : 15m : 0s	1		*IF *VALUE USS_Kernel.Used_Processes *GE 90





ITM - TEP Situation Event Console



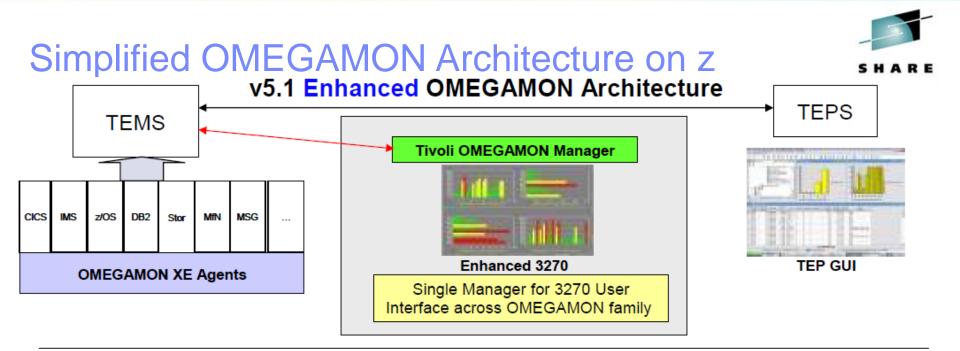


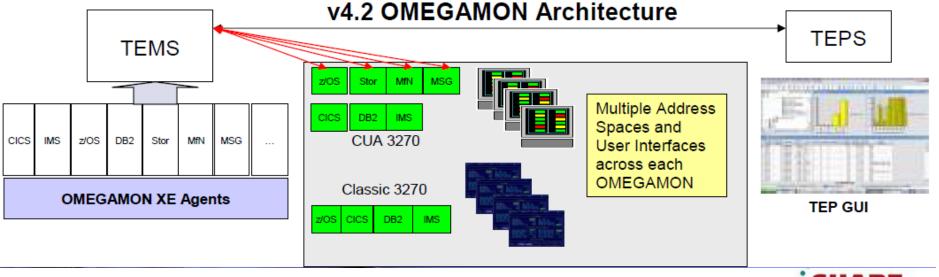


e3270ui - ITM Situation Event Console

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V		Situation Event S	tatus		
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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







zOS Systems -overview who is the LOOPING job?

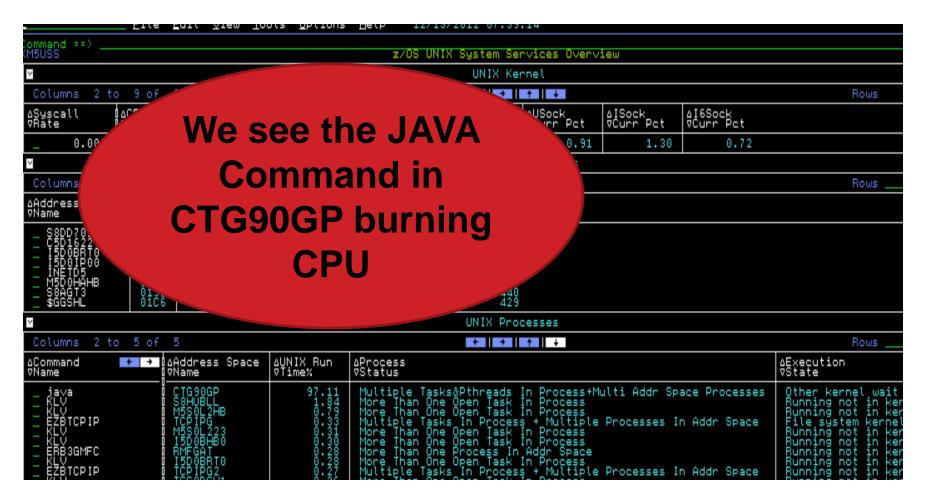






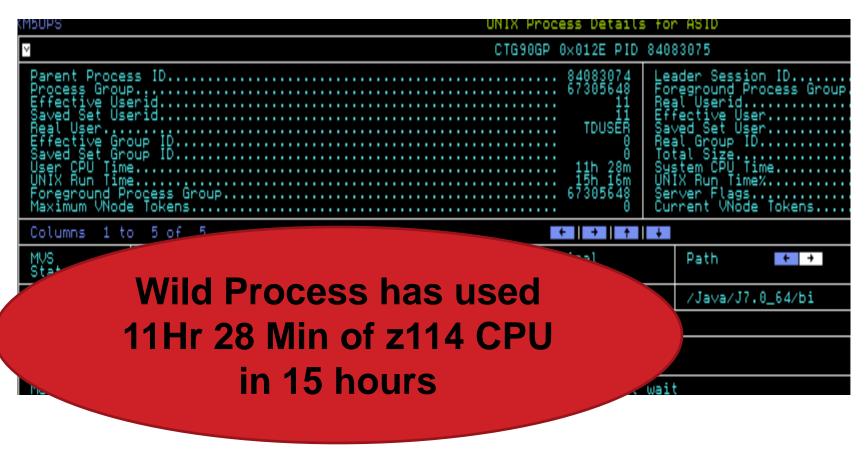


JAVA (of course ©)- CTG90GP Process





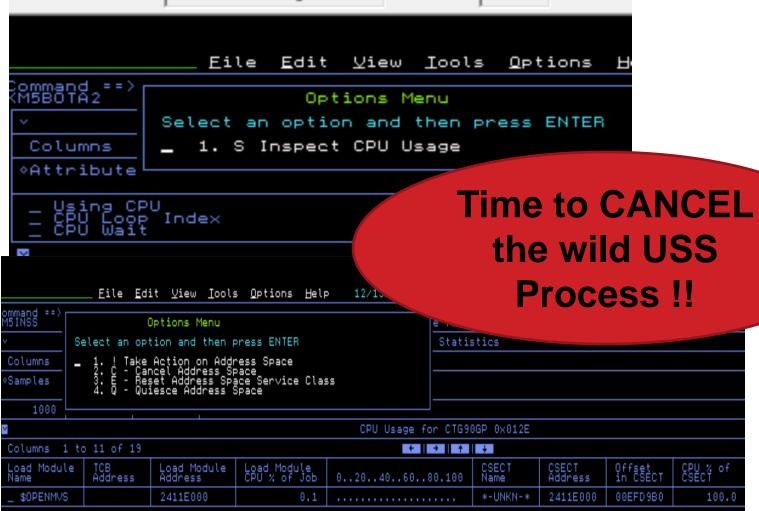
CTG90GP USS -JAVA use Details





Bottleneck Analysis and Inspect CTG90GP to get to looping code code









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

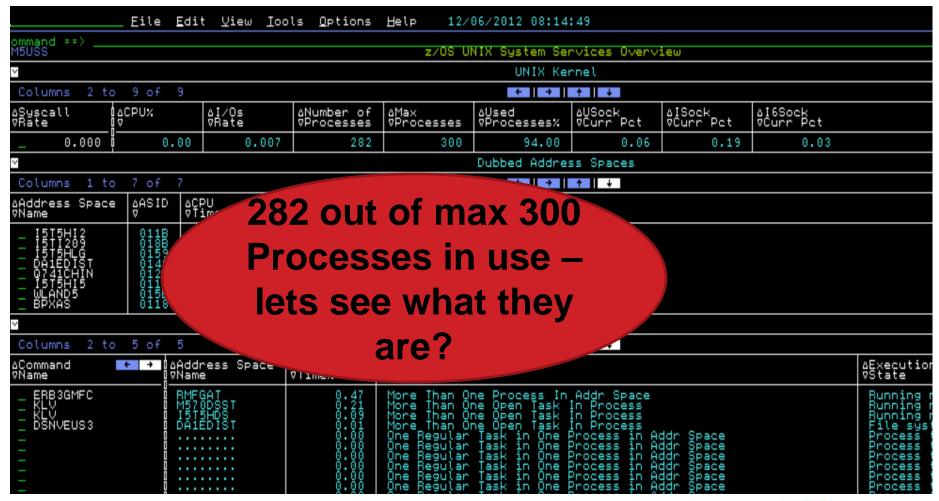


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SP14 - Unix System Service overview





User WLAND4 – what are they doing?

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KM5UPS -							UNIX	Proces	ss Details	tor	. HSID	
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Real User Effective Gro Saved Set Gro User CPU Time UNIX Run Time	rid	roup.							00004000000 D 000 Z 000 J W 000	FRESETSIN	l Userid ective U ved Set U l Group al Size. tem CPU X Run Ti	ion ID. Process Grou ser ser Time Time me% de Tokens
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MVS Status	Server Type		Serv Name	er				Jerm: Devi			Path	+ +
Normal	Unavai	lable										
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Process Status								Exe Sta	cution te			
One Regular 1	ask in	One Pr	ocess	in Addr	Space			Prod	cess termi	nate	d parent	not waiting







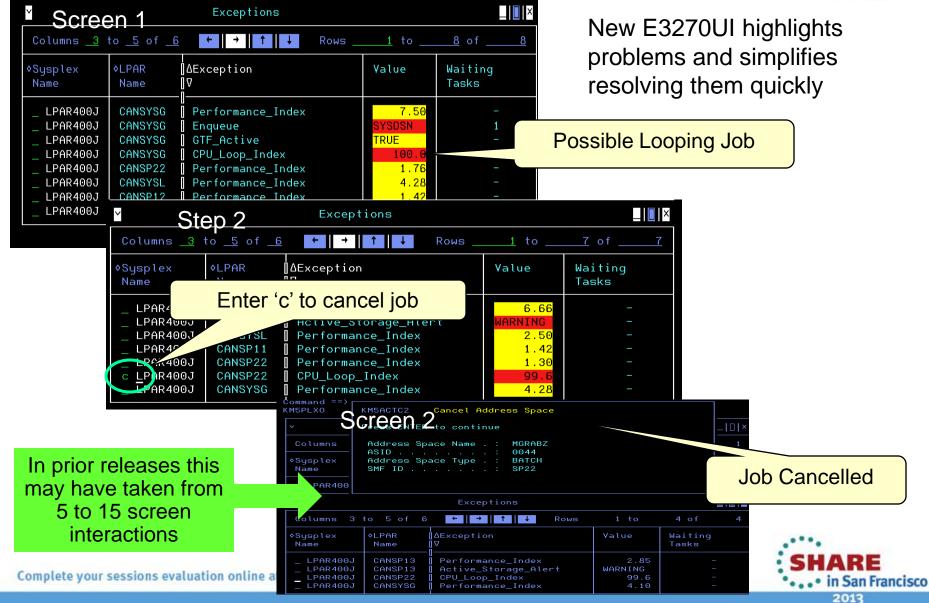
Contact the SME – WAND4

- 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

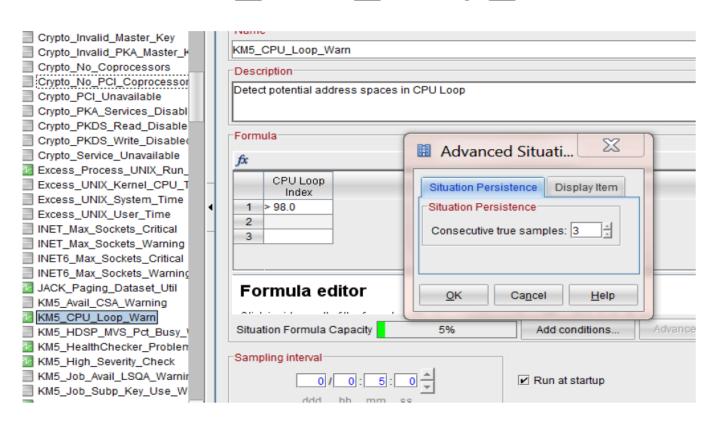






Maybe change PPS -CPU Loop Warning

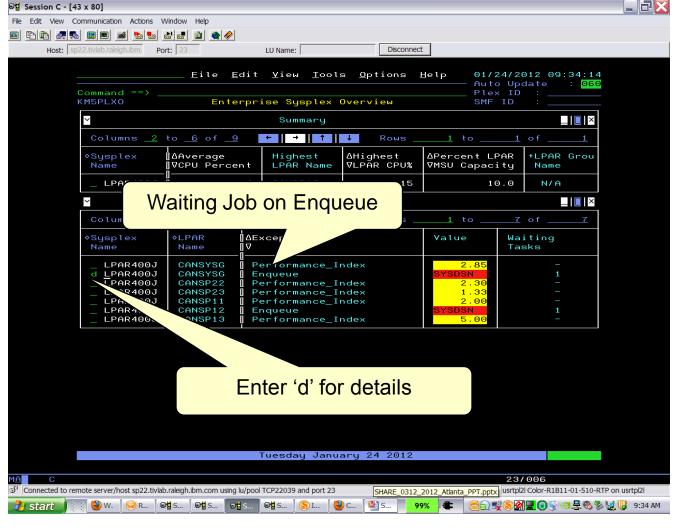
KM5_CPU_Loop_Warn





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

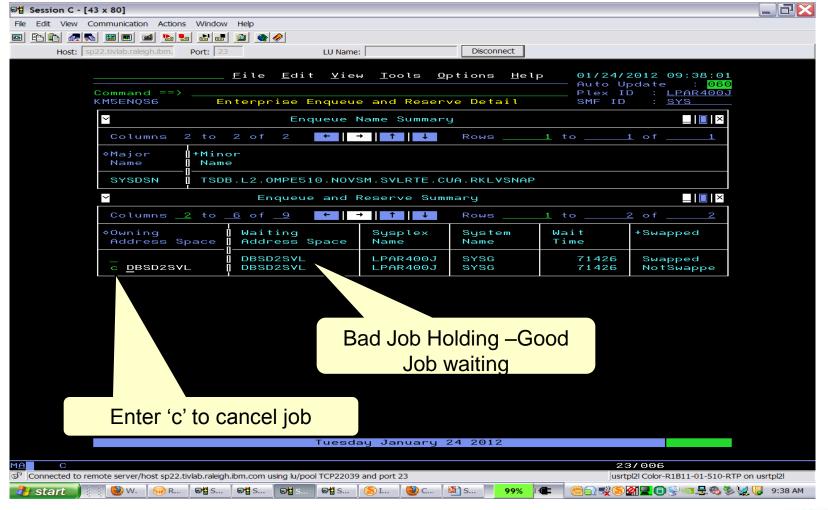






Example of quickly finding and fixing z/OS Problem – Job Held Dataset

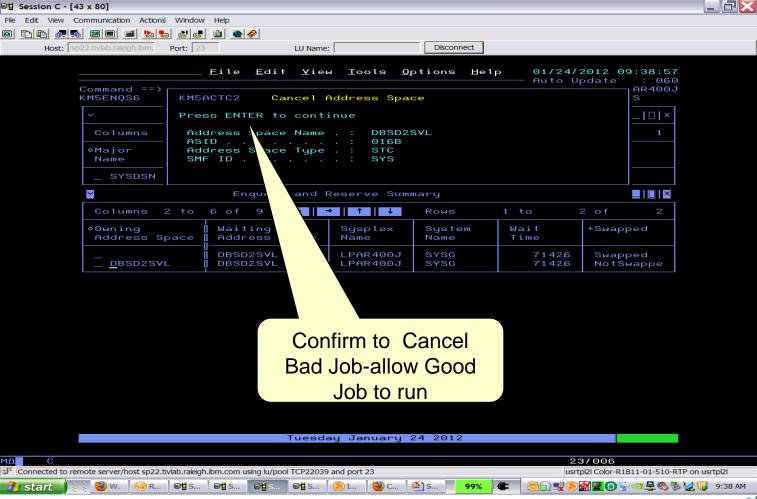






Example of quickly finding and fixing z/OS Problem – Job Held Dataset







Problem Solving Scenario OMEGAMON XE for CICS 5.1.0

MRO delay maybe effecting RT



Start with Service Level Analysis -





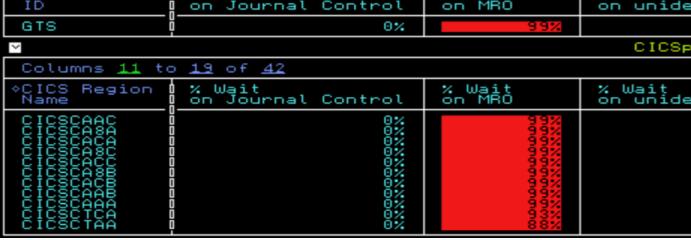




CICSCTCA and CICSCTAA Better RT



KCPPSLD ✓						ce Class Detail for Service Cla	
Columns <u>2</u> t	o 11 of 42			0.000		+ +	
⊹Transaction ID	I∆Average Į⊽Response	Time	Iransactions Total	∆Performance ⊽Index	Transaction Rate	Interval End Timestamp	% T Úsi
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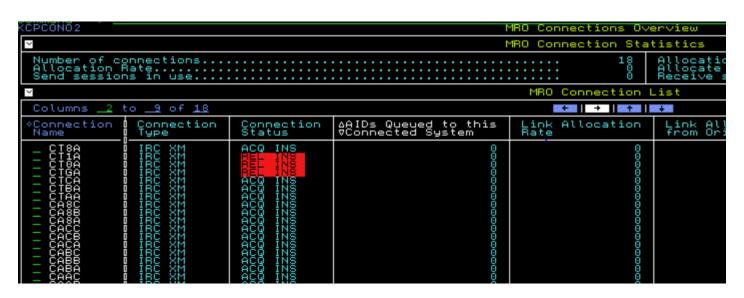




CICSCAAA to CICSCTCA



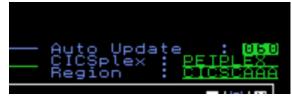
KCPRGNO/		CICS Region Overview										
\checkmark		CICSCAAA Overview										
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∆Transaction ⊽ID	Exceeds MAXR Threshold	∆Task ⊽Number	First Program ID	Terminal ID	User ID	Stat	us	PSB Name	Trace active	CICS Tra ID	nsaction	Program ID
OSRV OSEC GIS	0000 NN NN	00072 00073 41997 42049	KOCOME00 KOCOME00 GTS00000	n/a n/a 0881	CICSPS CICSPS CICSUSER	Acti Acti	ive ive	n/a n/a n/a	0 0 0 0 2 2 2 2 2	OMEG OMEG GTS		KOCSRVZZ KOCSR2ZZ GTS00000

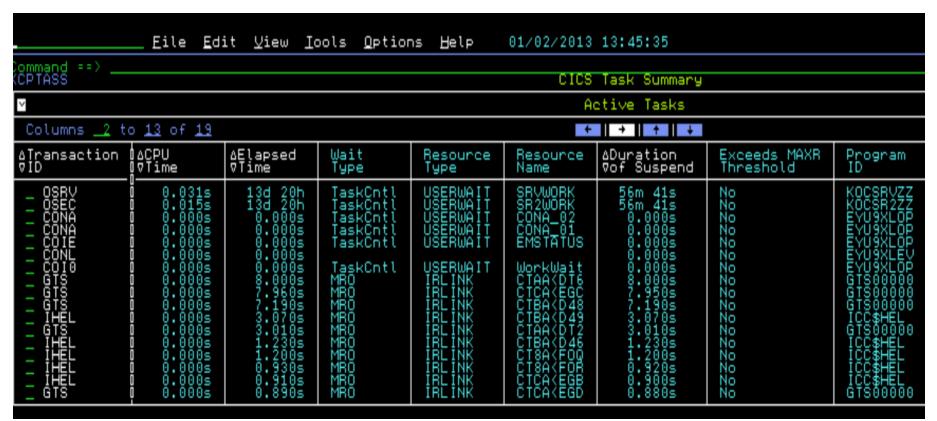




Compare Active Tasks - CICSCAAA



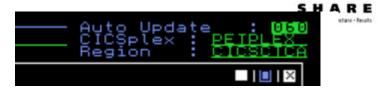


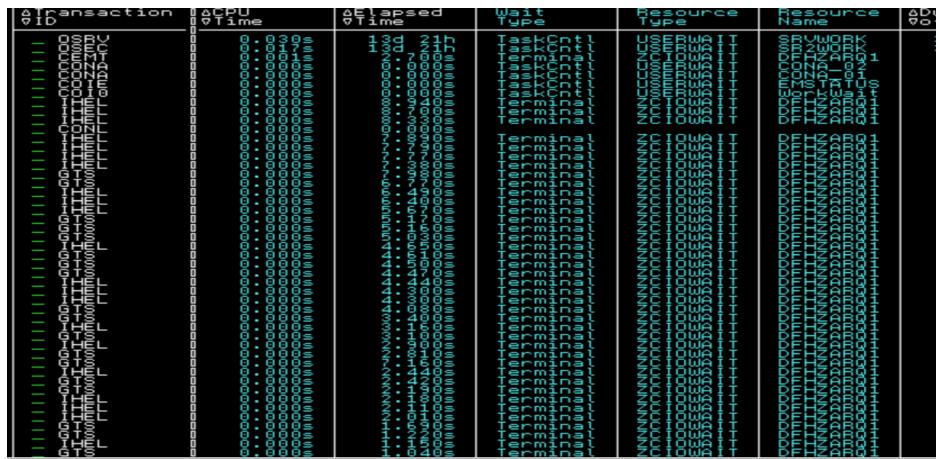




Active Tasks CICSCTCA- overtyped name









CICS Dispatcher view

Columns <u>2</u> to	11 of 20			← →	†		
∆CICS Region (⊽Name	Current Number of Tasks	Peak Number of Tasks	Current Attached TCBs	Current Used TCBs	Excess TCB Scans	TCB Scans with no Detach	TCB Scans with a Detach
ABBCABBCABCABCAAAAABCAAAAAAAAAAAAAAAAA	86666667577676761856666666 33033333333333366422222	5~5@~9~999999496@64+0@@@@ 44444464444444@9~222222	11111111111111111111111111111111111111	@\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	111111111111111111111111111111111111111	101100100010010111111111111111111111111	0H00N00H0H0M00000000000

CICSCAAC 36 active and CICSCTCA – 68 active







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



	Eile Ed	it ⊻iew I	ools <u>O</u> ption	ns Help	12/18/2012	11:37:58				
Command ==> _ KMQSTART					WebSphere 1	MQ Health Over	∿iew			
v					Queue	Manager Statu	IS			
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∆QMgr ← → ⊽Name	Host + → Name	∆QMgr ⊽Health	∆Queue ⊽Health	∆Channel ⊽Health	∆Current ⊽MQE∨ents	QMgr Status	Channel Initiator	Command Server	Conn #	DLQ Depth
_ CSQB _ MQB1	JB0 JB0	Warning Warning	Critical Critical	OK Critical	$\frac{2}{10}$	Running Running	Running Running	Waiting Waiting	129 81	0 233

Look MQB1 –
Queue Health
Critical – lets
check why





Looking at the QNAME - see the issue

(MUUUEHS				Wueue Hig	an peptin Sur	nmary		
Y				Queues	with High [)epth		
Columns 2 to 9 of 9				+	+ +			
∆Queue → Name	∆Current ⊽Depth	Input Opens	Output Opens	Get Status	Put Status	Trigger Control	% Full	High Depth Threshold %
_ BOOK.BUY.WS.PROD _ BOOK.BUY.REPLY.WS.J8	4999 623	0	30	Enabled Enabled	Enabled Enabled	Off Off	99.9 12.4	10.0 10.0

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



Queue details shows no applications OPEN for Input





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

Complete your sessions evaluation online at SHARE.org/SanFrance





Contact the correct MQ SME

Please start the application to start reading the queue.

Then the messages in the queue will get processed!





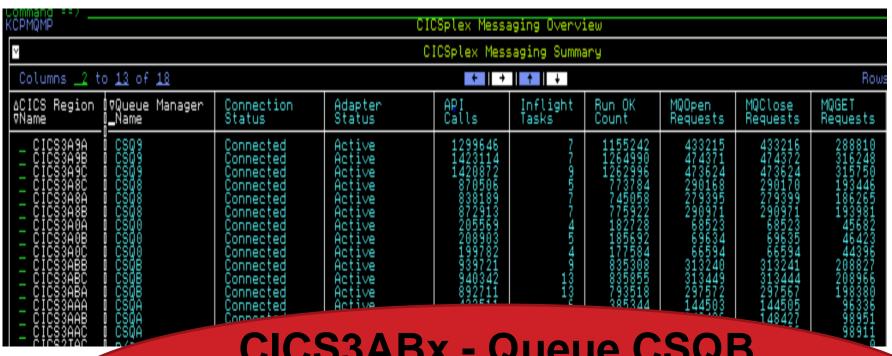
Problem Solving Scenario OMEGAMON XE for Messaging 7.1.0

OMEGAMON XE for CICS 5.1.0





CICS and MQ interaction



CICS3ABx - Queue CSQB MQOPEN, MQCLOSE, MQGET, activity







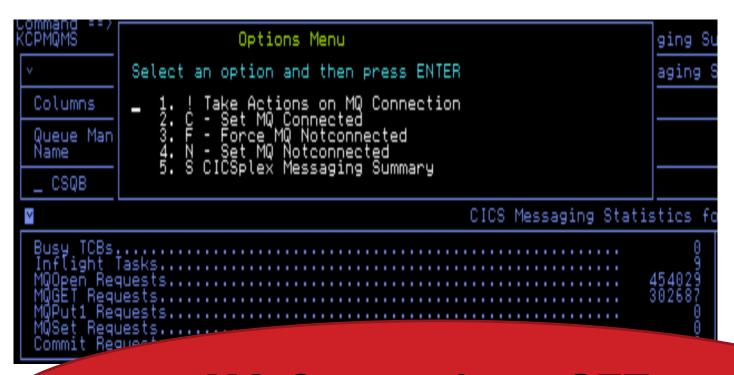
'	<u>_</u>	•	<u> </u>	
	CICS Messa	ing Status		
Columns 1 to 3 of 3	+ +		Rows 1 to	1 of
Queue Manager Name	Connection Status		Adapter Status	
_ CSQB	Connected		Active	
	CICS Messaging Statist	es for CSQB in CICS3W8B		
Busy TCBs Inflight Tasks. MQOpen Requests. MQGET Requests. MQPut1 Requests. MQSet Requests. Commit Requests.		6 Run OK Count		. 1152028 . 432012
4	Resource Signature Da	a for CSQB in CICS3W8B		
Define Time. Definition Source. Change Time. Change Userid. Install Userid. Install Time.		2:35 Define Date TMO Change Agent 2:59 Change Date ISER Change Agent Release ISPS Install Agent		. GRPList

CICS3W8B - Queue CSQB Statistics





From CICS we can TAKE ACTION



MQ Connection – SET, **FORCE Notconnected**





Now lets go over to MQ – See its view

mmano ==>	Hostname ; JBU
1QQMSTS Current Queue Manag	per Status QmgrName : CSQB
Queue Manager	Health
QMgr Name	Host Name. JB0 Connection Count. 161 Channel Initiator Status. Running Current MQEvents. 3
Queue Heat	th ■I
Queue Health	DLQ Depth
Channel Hea	elth
Channel Health OK Current Not Running 0 Current Connections 17 Active Connections 17	Indoubt Connections. 8 Server Connections. 8 X Max Channels. 8.5 X Max Active Channels. 8.5
Log Datase	ets III
Oldest Active UOW Log Dataset Name	MQS.JB0 MQS.JB0 MQS.JB0 MQS.JB0

Queue CSQB Critical Health





CSQB Queue list and # Input/Output Opens



CSQB Queue list by Queue Name – XMITQ – lets look





Drill down to a Queue – Channel Status

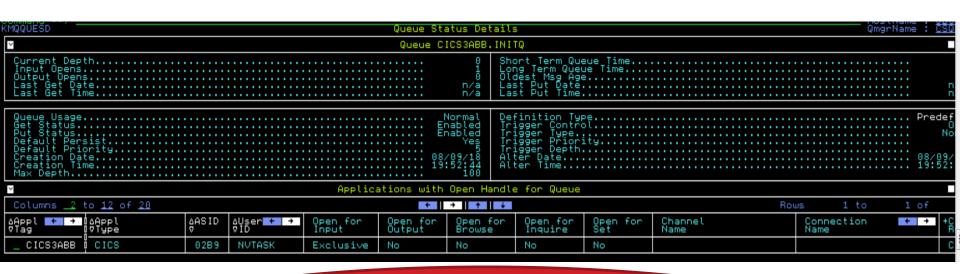


Queue CSQB XMIT Queue





Look at CICS3ABB Queue Details

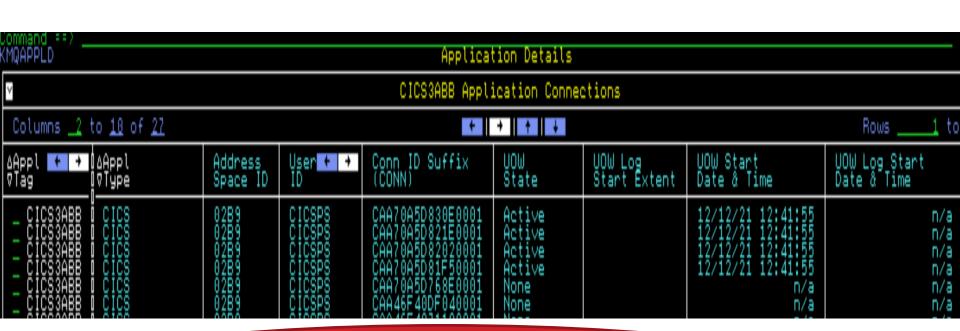


CICS3ABB - INITQ details





CICS3ABB – In flight work from MQ



CICS3ABB - MQ work





CSQB Events list – Channel Start/Stops



Recent Events in last Hour





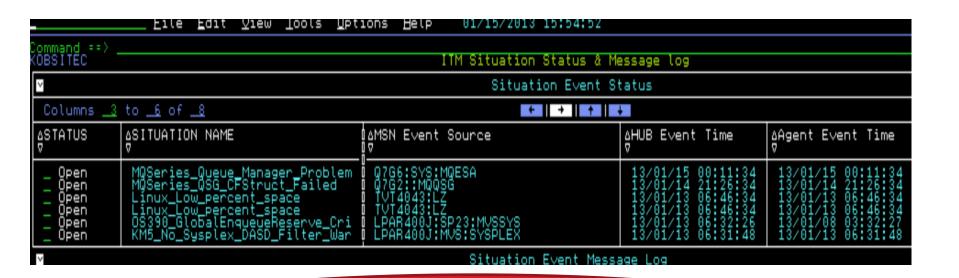
Problem Solving Scenario OMEGAMON XE for Messaging 7.1.0

CF Structure Issue





e3270ui MQ Situation popped

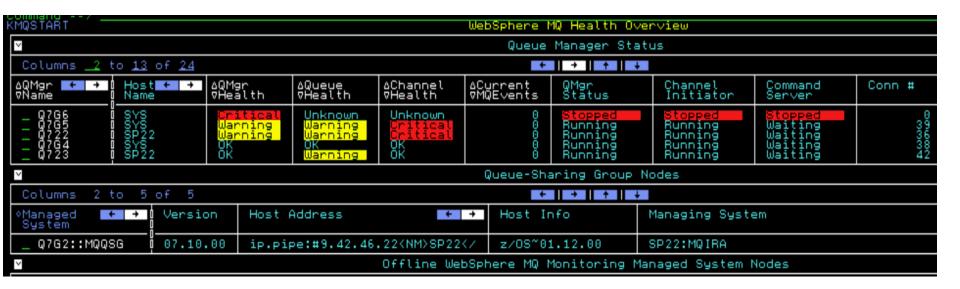


MQ QSG CFStruct Failed





MQ Queue Sharing Group



Q7G2 –lets look





Q7G2 - Inactive

i i i i i i i i i i i i i i i i i i i						WOED	oliai Tilà di	OOP
V					Queue-St	naring (Broup Queue	Manager Status
Columns	2 to	9 of 9				K	- + +	+
∆QSG ⊽Name	I∆QMgr I⊽Name	QMgr Status	DB2 Subsystem	DB2 Conn Status	# of DB2 Ser∨ers	DSG Name	Host Name	MQSeries Release
_ Q7G2 _ Q7G2	Q7G6 Q723	Inactive Active	DA1D DA1C	Inactive Active	0 4	DA1G	SP22	710 710





Drill Down – CF for Q7G2

Command ==> KMQQGCFS				Qui	eue-Sharing	Group Coupl	ing Facility Stru	ictures		
~					QSG Q7G1	Coupling F	acility Structure	:S		
Columns 2 to	12 of 1	12				+ →	1 + I +			Rou
∆CF Struct ⊽Name	CF Str Type	truct Struct Status		Struct Level	% Stor Used	% Entries Used	Failure Date & Time	Recovery Supported	Max Stor	Max Entries
APPLICATION1 CSQ_ADMIN CSQSYSAPPL MQ001	Appl Admin Appl Appl	Fa:	i∨e i∨e <mark>led</mark> i∨e	3000	1.0 1.0 0.0 1.0	0.0 0.0 0.0 0	n/a n/a 12/08/31 09:06: n/a	No No Yes No	32768 32768 0 32768	9895 20816 9895
~					ଭ୍ରତ ଭ୍ର	G2 CF Struc	ture Connections			
Columns 2 to	5 of	5				+ +	† ↓			Rou
∆CF Struct ⊽Name	QMgr Name	Conn Status	Fail Date	ure å Time	Host Name					
APPLICATION1 CSQSYSAPPL	Q723 Q723 Q723	Active	n/a 12/0	8/31 09:06:0	SP22					
MQ001	0 723	Active	n/a	0,01 03.00.0	SP22					
~					QSG	Q7G2 CF Str	ucture Backups			
Columns 2 to	8 of	8				+ +	† ↓			Rou
∆CF Struct ⊽Name	QMgr Name	Struct Status	Bac Dat		Backup Size	Backup Start R	BA BACKUB End RBA	Failure Date & Ti	me	
CSQSYSAPPL	Q7G6	Failed	12/	08/15 12:48:	90	0 0000001	16090 000000116	0D8 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

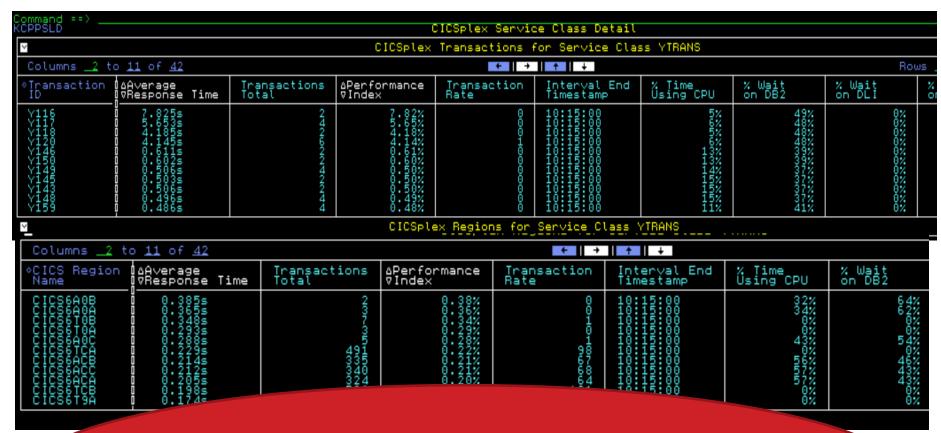
Look at YTRANS group





YTRANS Transactions – DB2 waits



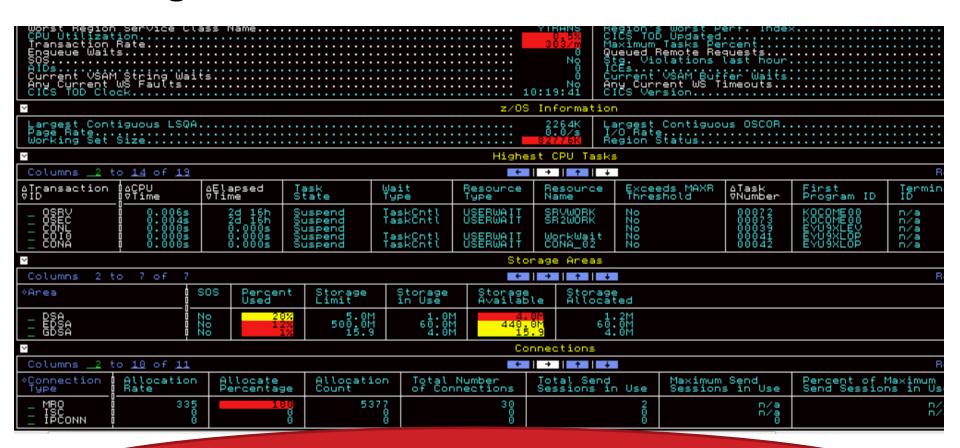


CICSxxxx – Drill down on one Region with DB2 wait%





One Region details for YTRANS

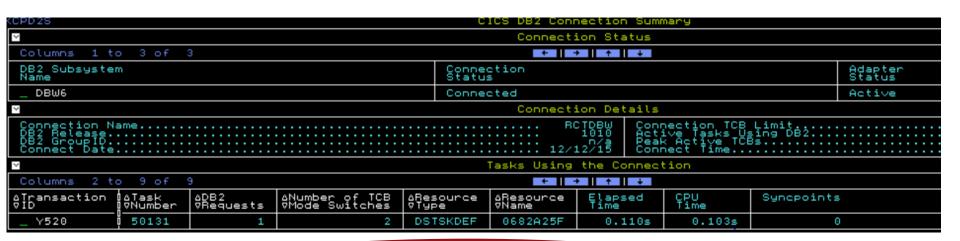


CICSxxxx – looking OK





DB2 Region connected to CICS Region



CICSxxxx – DBW6 region connected to this CICS







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





Problem Solving Scenario

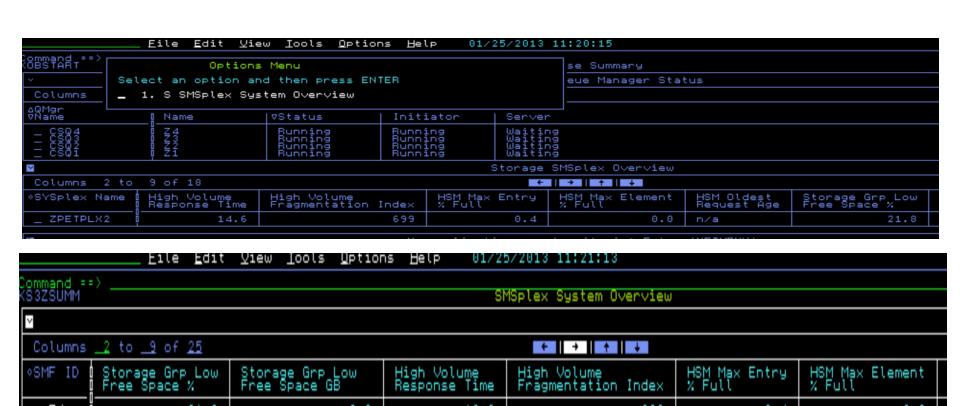
OMEGAMON XE for Storage 5.1.0

Storage Allocation and Performance issues





e3270ui – ZPETPLX2 SMS overview





Lets Look at Space and then Performance

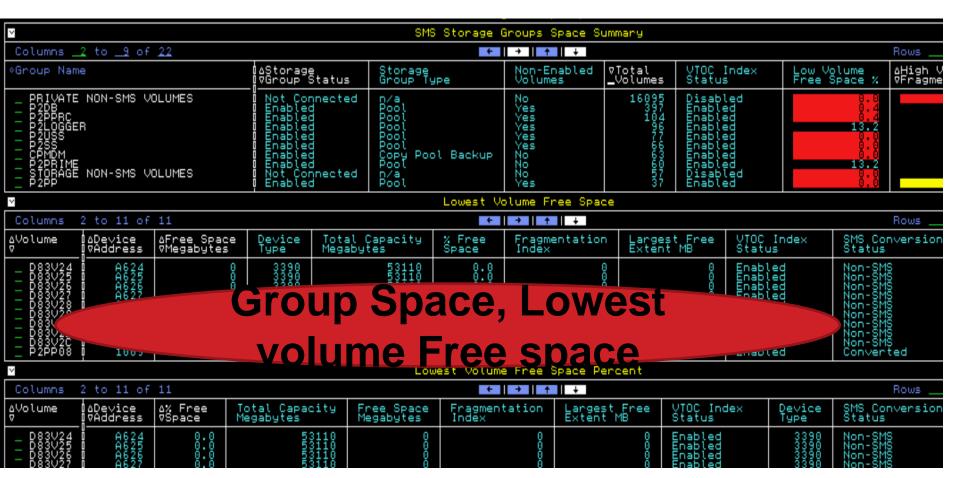








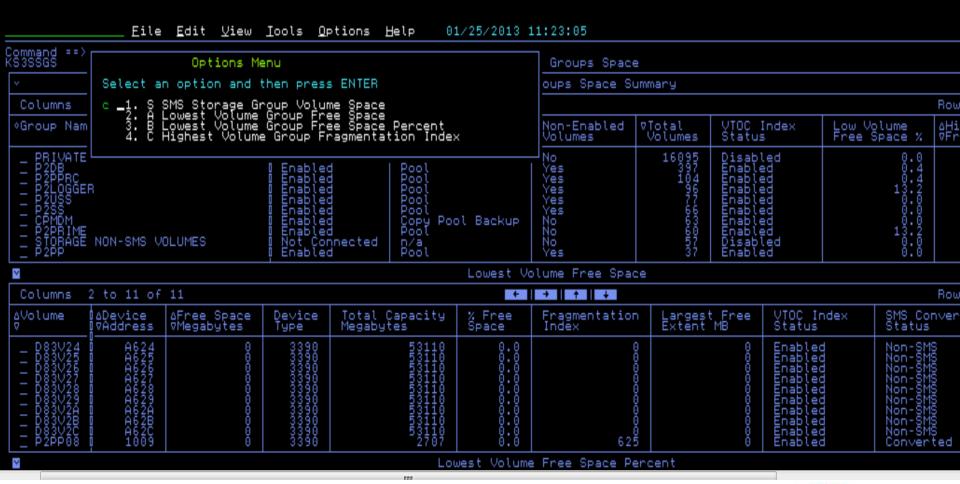
SMS Storage Groups Space Summary







Lets Pick Volume Space





Volume D83VE3 Space details

Command ==> — KS3DSD					Dev	/ice Space	e Detail	S					
Volume: D83	3VE3												
∨	-				Volum	ne Free Sp	ace Det	tails					
Columns 1 t	to 11 of 1	.1				+ +	† +					Rot	WS
Free Space Megabytes	% Free Space	Total Free Cylinders	Total Free Tracks	Free Extents	Large Exter	st Free it MB	Maximu Cylino	ım Free ders	Maximum Free Track:	Free DSCBs	Fre Ind	e VTOC ex Records	Fr 5 In
0	0.0	6	4	2 0 0					3 745		(9	
∨				Tr	hack-Ma	naged Fre	e Space	e Details	;				
Columns 1 t	to 9 of	9				+ +	†					Rot	WS
Track Manage Free Space	ed Inach % Fre	: Managed I se F	rack Managed ree Cylinders	Track Mar Free Trac	naged cks	Track Ma Free Ext	anaged tents	Track N Largest	Managed Free Exten	Track Ma t Free Cyl	naged inder	Maximum s	Trac Maxi
	0	0.0	0		4		2			9			
⊻				·	Jolume	Allocated	d Space	Details					
Columns 1 t	to 7 of	7				+ +	↑ ↓					Rou	WS.
Total Capaci Megabytes	ity Allo Mega	cated Space Bytes	VTOC Index Status	SMS Conv Status	version	Storag Group	Storage Group Name			Extended Address Volume		Cylinder Space	Manag
531	110	53110	OS VTOC	Non-SMS		PRIVA	TE NON-S	SMS VOLUM	1ES		No	No	
~						Volume 9	Status						
Columns 1 t	to 3 of	3				+ +	↑ ↓					Rot	WS
System ID	MVS Statu	IS SMS	Status										
Z1 Z2 Z3 Z4	Online Unknown Unknown Unknown	Not Not Not Not	Con Con Con Con										



Back and Look at Storage Performance



KS3SSGP					SMS S	torage Gro	oups Per	formance	1				
~					SMS Stor	rage Group	Perfor	mance Re	port				
Columns 2	2 to 10 of	10				+ -) †	+					Rows _
≎Group Name			Stor: Group	ge Type	∆Storage ⊽Group S		Total Volumes	∆High F ⊽Time	Response	High Busy %	Device MPL	Low Read Hit %	Low Hit
PRIVATE P2DB P2DBC P2DCGEF P2USS P2DBM	NON-SMS VO)LUMES)LUMES	n/a Pool Pool Pool Copy Pool Pool	Pool Back	Not Con Enabled Enabled Enabled Enabled Enabled Not Con Enabled	nected	57-467-63677 99997-666553 991 1		32907210111 111111	5011050447 2006040027	11001000000000000000000000000000000000	810260 #212 2407 2407 250798 5543 10798 9799	
~					Highest	Volume Re	esponse '	Time Rep	ort				
Columns	to <u>14</u> of	21				+	+ + •	+					Rows _
	∆Device VAddress	Busy %	∆I/O Per ⊽Second	∆IOSQ ⊽Delay	∆Pend ⊽Time	∆Connect ⊽Time		connect	∆Respons ⊽Time	e MSF Tin	R Connect ne %	I∕0 Count	Devic MPL
0111154639931C8T0 LPMSS18310311441 PXRYYMSPMSMMMCP CCGGGGGGAGAGAGAGAGAGA PPPPPPPPPPPPPPPPPPP	00040000000000000000000000000000000000	10060410040000000	07040404440000 0704400407000040	0000000000000000	21-000000000000000000000000000000000000	9 HHHHHHHHHH	٠ ١	0-000000000000000000000000000000000000	311111111111111111111111111111111111111	6990000	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	37-667-6883-6364887-9 7-3449914517-148868 8-7-22-7-288-44866 1-22-1-48-4466 1-24-44-4466 2-16-4-16-8-16-8-16-8-16-8-16-8-16-8-16-8	







S ==/					Dataset	Pent	ormance Summa	ary				
ume: P2CPL0												
					Dataset Pe	erform	ance Summary	Report				
umns <u>2</u> to <u>9</u>	of <u>20</u>					+	→ ↑ ↓					Ro
aset Name				∆Respon ⊽Time	nse ålosQ VTime		∆Pend ⊽Time	∆Connect ⊽Time	Device Only	e Active Time	∆Total ⊽Disconnec	t Ti
YS1.CFRM.CDS21			ğ	39	9.0	0.0	0.3	37.7		0.0		
				Datas	ets with N	1SR > :	Storage Class	s Objective				
OSN: SYS1.CF	RM.CDS21	Volume:	P2CPL0									
						Datas	et Performa	nce Detail	Report	t		
Columns _1 to	11 of 19						+ 1 -	1 1 1 +				
Tobname	ASID	∆Respons ⊽Time	e AIOSQ		∆Pend ⊽Time	6	Connect Time	Device Act	tive 2	ATotal Disconn	ect Time	
Jobname _ XCFAS	ASID 6	∆Respons ∀Time 36.	Ø71me	0.0	∆Pend ⊽Time 0	.3	Connect Time 35.4	Device Ac Only Time	0.0	aTotal 7Disconn	ect Time	
_ XCFAS Columns 1 Application	to 5 of !	771me 36.			0		7Time 35.4	Device Aconly Time → ↑ +		iTotal 7Disconn		
_ XCFAS Columns 1 Application	to 5 of ! Applicat	36.	7 ntrol	Appl Wait		Syst	7Time 35.4			aTotal 7Disconne		
_ XCFAS Columns 1 Application	to 5 of !	36.	7 ntrol	Appl Wait	0	Syst	7Time 35.4			aTotal 7Disconn		
_ XCFAS	to 5 of ! Application Type Unknown Started Unknown	36.	7		0	.3	35.4		0.0	aTotal 7Disconn		
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A SME drills down for Volume Space or Performance issues





Problem Solving Scenario

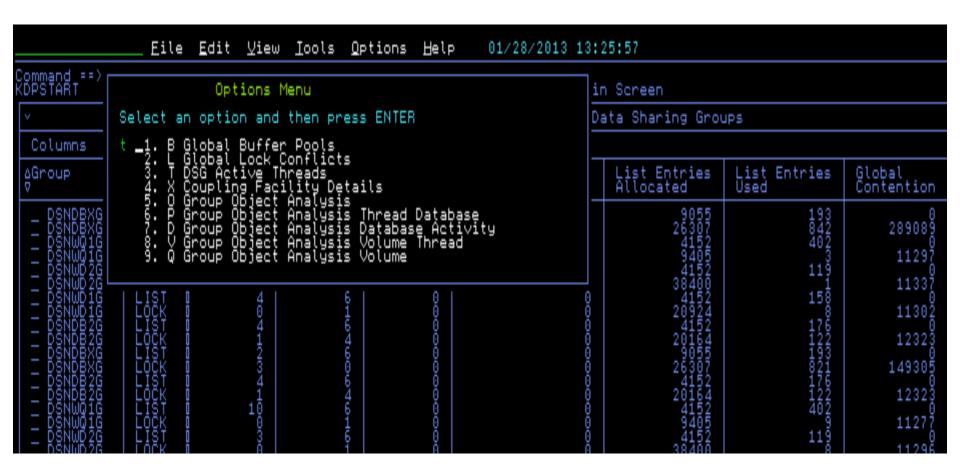
OMEGAMON XE for DB2PE 5.1.1

DB2 Plans running in a Sharing Group





Look at Active DB2 Data Sharing Groups







Plans running in the PLEX right now

0-1	- 10 -							
Columns <u>4</u> t ∆Plan ⊽Name	to <u>12</u> o₁ ♦MVS	+ <u>15</u> ♦DB2	∆Auth ID	∆Elapsed	∇CPU Time	Wait Time	Status	∆Type
			0 ♥ 0———————————————————————————————————	∇	_			∇
	©+©+©++©++4+++++++++++++++++++++++++++	$\begin{array}{c} \sigma_1 \sigma_2 \sigma_3 \sigma_4 \sigma_4 \sigma_4 \sigma_4 \sigma_4 \sigma_4 \sigma_4 \sigma_4 \sigma_4 \sigma_4$	AND	999 688 86 7 66667-697-1697-9 64747-96669807-8046967-9 97 1 7-9974-96698999 8997669647-7-15667-9 97 1 7-9974-96698999 8997669647-7-15667-9 97 1 7-9974-96698999 8997669667-694676999999999999999999999999	6/7/00000000000000000000000000000000000		C C QQT+TQQ QQT+TQQ QQT+TQQ QQT+TQQ QQT+TQQ QQT+TQQ QQT-TQQ QQT-TQQ QQT-TQQ QQT-TQQ QQT-TQQ QQT-TQQ QQT-TQQ QQT-TQQT QQT QQT	######################################





Group Thread Statustics

	Eile Edit	⊻iew <u>I</u> ools	<u>O</u> ptions	Help 01/28/	/2013 13:30:19)						
Command ==> KDPPTHDS DB2 Group Thread Statistics												
~												
Columns _	Columns _1 to 12 of 17											
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			





Problem Solving Scenario

OMEGAMON XE for Mainframe Networks 5.1.0

Drill down to TCP/IP details



Network Health for Applications Overview



OBSTART						Enter	opri:	se Summary				and the second s
								Splex Over	view			
Columns	_2 to _9 o	f <u>18</u>				+		→				
SYSplex	Name High Res	h Volume ponse Time	High Volume Fragmentation	Index	HSN % F	1 Max Entry Full	H:	SM Max Elei Full	ment	HSM (Reque	Oldest est Age	Storage Grp Free Space %
LPAR40	00J 0	6.4		1000	n/a	9	n.	/a		n/a		
						Network Hea			cation	ns		
	_3 to <u>14</u> o		1.T-1. G	-0				→ → →				-
ystem D	∆Job ⊽Name	14% Segs 170ut0forder	∆Tot Segs ⊽OutOfOrder	_Backlo) g	Backlog Rejected	8ke	t Backlog jected	4% Se ∀Reti	ans ans	∆Tot Seg ⊽Retrans	s Aldle VTime
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v Colu ≎SYSp _ LP			Option n option a Enterprise TCP Listen Applicatio Enterprise Enterprise	ind ti	hen							Se Su Splex SM Ma Ful
~										Netw		ealth for
Colu	mns 3	to 14 of	21									+ +
∆Syst ⊽ID	em ∆Jol ⊽Nai	b I	∆% Segs ⊽OutOfOrde	er 😜	Tot Out	Segs OfOrder	V	Conn ir Backlog]	Bac Rej	klog ected	∆Tot Bad ⊽Rejecte
_ §Y	S S8	AG1LL DD710M		0		0			L 0		0	



Select TCP Stack overview

	⊻iew .	∐ools <u>O</u> ption	s <u>H</u> elp	01/25/2013 1	5:34:47				
Command ==> Op	tions Me	nu	teners and Connections						
∨ Select an optio	on and ti	hen press ENI	mmary for S8	DD710M					
Columns _ 1. S ICP Li	stener Co	onnections IP Stack Perf							
Remote IP Addres					% Segs OutOfOrder	Tot Segs OutOfOrd	; Out der Buff	Bytes ered	In Bytes La Buffered Ac
11127.00.440.01.177777.544 11277.00.460.11.177777.544 11277.42.40.0.460.11.17777.544 11277.42.4460.11.17777.544 11277.42.4460.11.17777.544 11277.42.4460.11.17777.544 11277.42.4460.11.17777.544 11277.42.4460.11.1777.544 11277.42.4460.11.1777.544 11277.42.4460.11.1777.544	010066077777777777777777777777777777777	HHEED COLOSSE WAA AA		000000000000000000000000000000000000000			000000000000000000	000000000000000000	3 3 3
□				TCP Listeners	Summary for S	8DD710M			
Columns 3 to 13 of 23					+ + +				
∆Local ⊽IP Address	∆Local ⊽Port	∆Conn in ∆ ⊽Backlog ⊽	Backlog Rejected	∆Tot Backlog ⊽Rejected	∆Idle ⊽Time	∆% Acti∨e ⊽Conns	∆Active ⊽Conns	∆Accei ⊽Conn:	pted ∆Highest s ⊽Conns
- 0:0:0:0 - 127:0:0 - 0:0:0:0 - 0:0:0:0	51831 27797 27789 27788 27787	10 10 0 0	00000	1.9K 00 0	999999	100 100 0	1 1 0	5	0 0 0 0





TCP/IP Stack Overview

	Eil	e <u>E</u> dit <u>V</u> i	ew <u>l</u> ools <u>(</u>	Įptions <u>H</u> e	lp 01	./25/201	3 15:35	:27							
Command = KN3GICO	command ==>														
IP Layer Metrics															
Columns	_3 to <u>14</u> o	f <u>16</u>					← →	†						Ro	ows
≎System ID	♦TCPIP STC Name	∆Input ⊽Discard	% Input Discard	∆Output ⊽Discard	% Outp Discar	ut Ic	otal No oute	Data Recv	gram Rate	Datagra Xmit Ra	_		Tot Ser Datagra	nt To	ot In atagra
22111 11111000000 111110000000 111111000000	122 122 1211 1221 1221 12211 1	000000000000000000000000000000000000000	0000000000	0000000000		000000000	0000000000		1.1K0 146 3.3K5 5.2K0 6	1 2.	0 2 0K 00 52 7K 7K 20 6	75.44M 9.44M 15.42M 1.56M 1.56M 1.55 1.55 1.55 1.55 1.55	55.67 157.83 183 48.		
~						TOP) Layer	Metric	S						
Columns	_3 to <u>13</u> o	f <u>15</u>					+ +	† +						Ro	ows
⊹System ID	♦TCPIP STC Name	l∆Tot % ∏⊽Retrans	∆% Segs ⊽OutOfOrder	Total Ou Window R	utput Probes	∆Tot Se ⊽Retran	egs ∆To ns ⊽Re	t Drop trans	s ATo 70u	t Segs tOfOrder	∆Recei∨e ⊽Seg Rate	∆⊺ran ⊽Seg	smit Rate	Tot Red Segment	ts S
- SYS - SP12 - SYS - SP11 - SYSL	TCPIPG2 TCPIP12 TCPIPG TCPIP11 TCPIPL	3 11 0 0			1.8K 32 33	56. 168. 7	26 3K 3K 6K 9K	10.5 31.7 1.3 3.5	5 K K K K K	44.8K 622	1001 3.8K 115 3.3K		919 3.6K 121 2.6K	1.0 4.7 20.6 6.1 5.7)K PM PM IM IM PM
~						UDF) Layer	Metric	S						
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∆System ⊽ID	∆TCPIP ⊽STC Name	0∆% ∏⊽Discard	∆Datagram ⊽Error %	∆⊺ot % ⊽Discard	∆⊺ot Di ⊽Datagr	sc Al	ſot In E)atagram	rror S	∆Iot D ⊽Error	atagram %	∆Tot No ⊽Ports	∆⊺ot R ⊽Datag	Recy Grams	Datagra Recv Ra	am ∆ ate ⊽
_ SYSL _ SYS	TCPIPL ICPIPG2	100	0	10 <u>0</u>	391 19	.7K .9K	6	1.0K		4 0	330.7K 19.9K		1.4M 24		0





Problem Solving Scenario

OMEGAMON XE for IMS 5.1.0

Overview drill down

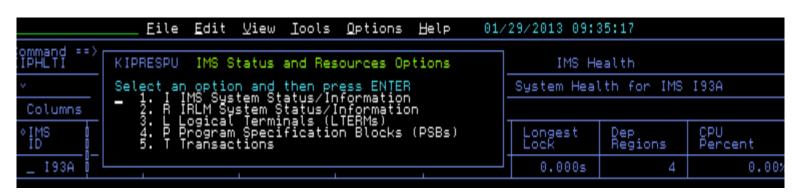


Monitored IMS Subsystems



~	∨ Monitored IMS Subsystems											
Columns	2 to 12 o	f 12				+ + +	 +				Rows	
∆IMS VID	I∆IMSplex I⊽Name	∆MUS ⊽ID	∆Sysplex ⊽Name	Monitor Status	ADS VGroup	∆SQ ⊽Group	System Type	IMS Version	IRLM Version	OI Job	RTA Status	
	IMSBC ICIC I91C	99999999	LP4400J LP44400J LP444000J LP444400J LP444400J LP444	Online Online Online Online Online Online	MB CO18 MB CO99 MB CO99 MENTER	DFSIBCG NONE DFSICCG NONE NONE DFSI91G NONE	I MS I MS I MS I MS I MS I MS I MS	1111 1111 1112 11111 11111 11111 11111 11111 11111 1111	V2.2-PI None3-PI V2.32 V2.22 V2.22 V2.22 V2.22	PL011P16 L31A00G0 I5D10100	Active NOOI NOOI NOOI NOOI Inactive Active	
>	WebSphere MQ Queue Manager Status											

KIPHLTI		IMS Health												
~	IMS System Health for IMS 193A													
Columns	Columns 2 to 11 of 11													
♦IMS ID	MVS ID	ENQ Rate	DEQ Rate	Tran Queue	Lock Waiters	Longest Lock	Dep Regions	CPU Percent	I/O Rate	Paging Rate				
_ I93A	SYS	0.00	0.00	0	0	0.000s	4	0.00%	0.00	0.00				





IMS Transactions in the Susbsystem





KIPTRNS					Transactions for IMS 193A						
~					All Transact	tions					
Columns 2 to	10 of 10				←						
∆Transaction ⊽Name	Status	⊽Queued _Input	Messages Enqueued	Messages Dequeued	Processing Status	Class	PSB Name	Program Type			
00000000000000000000000000000000000000		000000000000000000000000000000000000000	000000000000000000000000000000000000000	0000000000000000000000000000		HAHAHAHAHAHAHOOOOOOOOHAA	00000000000000000000000000000000000000				



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



