Learn the Latest Problem Solving Solutions for z/OS and Storage Subsystems with OMEGAMON

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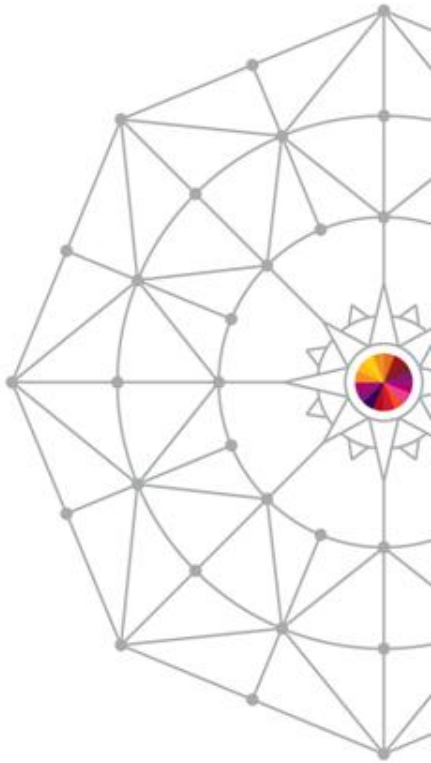

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SHARE in Pittsburgh 2014

Agenda

- OMEGAMON XE on zOS v5.3 overview
- OMEGAMON XE for Storage on zOS v5.3 overview
- OMEGAMON XE on zOS v5.3 details
- OMEGAMON XE on zOS v5.3 problem solving
- Summary

Performance Management Suite

IBM Tivoli Performance Management Suite for z/OS V5.3 and the IBM Tivoli OMEGAMON z/OS Management Suite V5.3 can help provide cost savings and greater effectiveness while helping you meet your Service Level Agreements by:

- Delivering new Enhanced 3270 User Interface (Enhanced 3270UI) history capability, increased integration, and enhanced install, configuration, and customization capabilities.
- Offering the ability to quickly identify problem situations.
- Isolating and addressing problems quickly.
- Improving resource utilization to maximize investment.
- Improving personnel interaction for better synergy and efficiency.
- Reducing outages or delays.
- Customizing the enhanced user interface based on the scope and control of your day-to-day job.
- Expanding solution throughout IBM z/OS platform.

OMEGAMON XE on z/OS v5.3

z/OS Availability and Performance management Tool

- Overall z/OS Sysplex, LPAR and workload management capabilities providing Availability, Performance, and Workload views to **maximize efficiency and effectiveness**
- ***Greater problem determination*** **f**or zOS Subject Matter Experts can use the Near-Term-History displays in Enhanced 3270 UI using RMF Monitor III collection to glance back to see the start of performance problems for recent issues.
- ***Reduced time-to-resolution*** of problems with new improved Enhanced 3270 User Interface workspaces including embedded data from CICS and z/OS for applications monitoring
- ***Increased ability to deliver service to your user base*** with new zAware information workplaces and alerts through Enhanced 3270UI and IBM Tivoli Enterprise Portal (TEP).

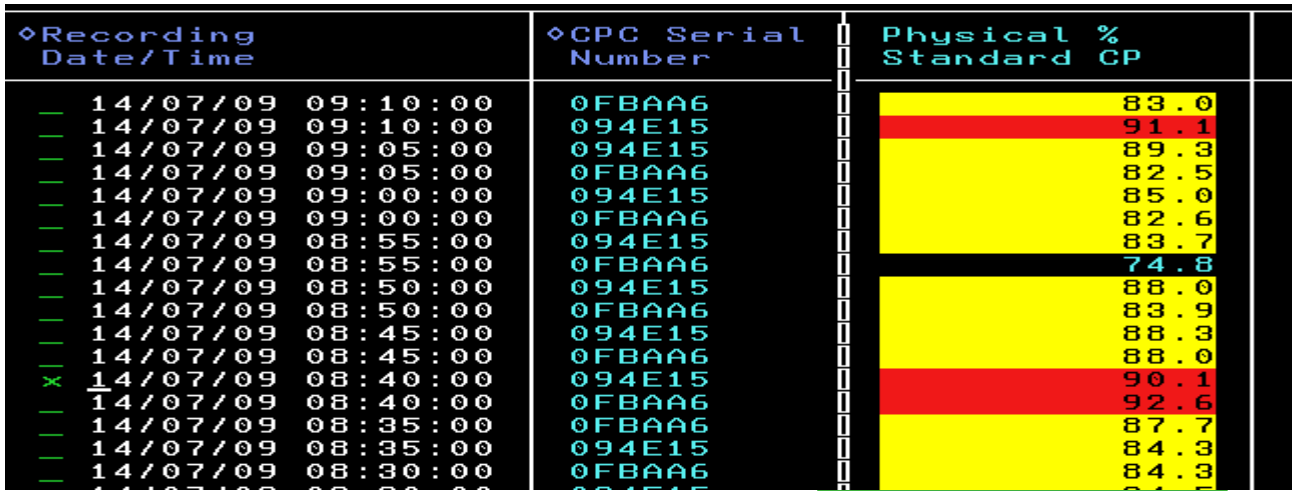
OMEGAMON XE on zOS v5.3
increased problem determination capability

- Near-Term-History for critical zOS attribute groups from RMF Monitor III presented directly in the Enhanced 3270 User Interface
- Summary and detail workspaces support historical problem determination and trending analysis for the following objects:
  - Address Space CPU Usage and Delays
  - zOS Common Storage Usage
  - CPC LPAR Summary and Details
  - WLM Service Classes:
    - Performance Index
    - Resource Usage History
  - Device Resource History
  - Device Job Summary
  - Real Storage Usage History
  - Storage Details

OMEGAMON XE on zOS v5.3
increased problem determination capability

- Understand information related to when the problem began with Enhanced 3270 User Interface Near-Term-History

  - Easily see when a CPC CPU busy is very high and select for details



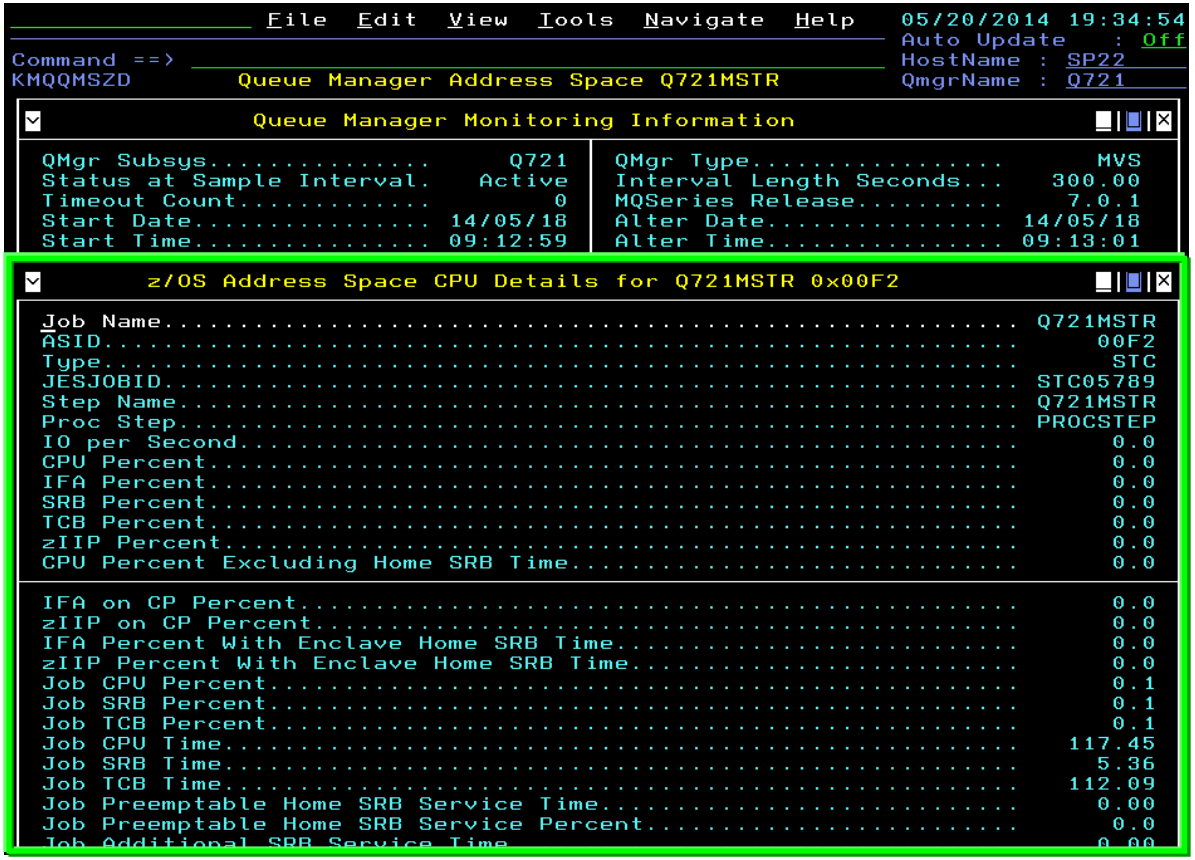
◊Recording Date/Time	◊CPC Serial Number	Physical % Standard CP
14/07/09 09:10:00	0FBAA6	83.0
14/07/09 09:10:00	094E15	91.1
14/07/09 09:05:00	094E15	89.3
14/07/09 09:05:00	0FBAA6	82.5
14/07/09 09:00:00	094E15	85.0
14/07/09 09:00:00	0FBAA6	82.6
14/07/09 08:55:00	094E15	83.7
14/07/09 08:55:00	0FBAA6	74.8
14/07/09 08:50:00	094E15	88.0
14/07/09 08:50:00	0FBAA6	83.9
14/07/09 08:45:00	094E15	88.3
14/07/09 08:45:00	0FBAA6	88.0
14/07/09 08:40:00	094E15	90.1
14/07/09 08:40:00	0FBAA6	92.6
14/07/09 08:35:00	0FBAA6	87.7
14/07/09 08:35:00	094E15	84.3
14/07/09 08:30:00	0FBAA6	84.3

ΔJob ∇Name	◊ASID	Service Class	ΔSMF ID ∇	ΔVelocity ∇Percentage	∇Total Delay _Percentage	ΔTotal Using ∇Percentage	ΔTotal CPU ∇Wait Percentage
HWSZ1	0041	DISCRBAT	Z1	0	85	0	0
CICS3A1A	01A6	CI2V60	Z1	69	37	83	37
ISSBJBP1	003D	DISCRBAT	Z1	8	36	3	36
CICSCA1A	01A3	CI2V60	Z1	49	35	33	35
ZFSV15B1	0043	DISCRBAT	Z1	34	34	18	34
DFHSM	0201	SYSSTC	Z1	83	29	100	12
ZFSV1521	0042	DISCRBAT	Z1	67	26	55	26
CSQ1MSTR	016A	STCI2V40	Z1	70	20	41	19
ZFS	0022	SYSSTC	Z1	83	16	66	11
U0200026	0323	DISCOMVS	Z1	13	14	2	14
DBX1DIST	016E	DDF	Z1	61	14	22	14

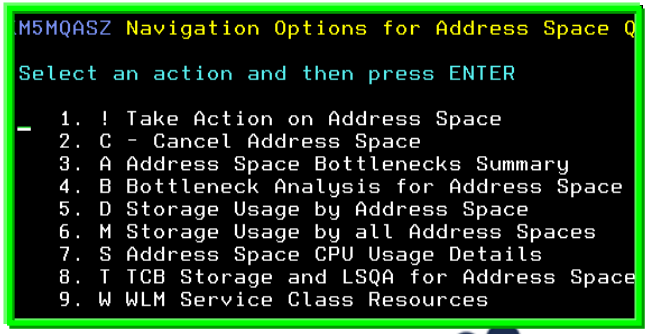
Effortlessly explore data around when a CPU busy occurred

OMEGAMON XE on zOS v5.3
reduced time-to-resolution of problems

- Directly access z/OS address space monitoring data in Enhanced 3270 User Interface workspaces for both MQ MSTR and CHIN



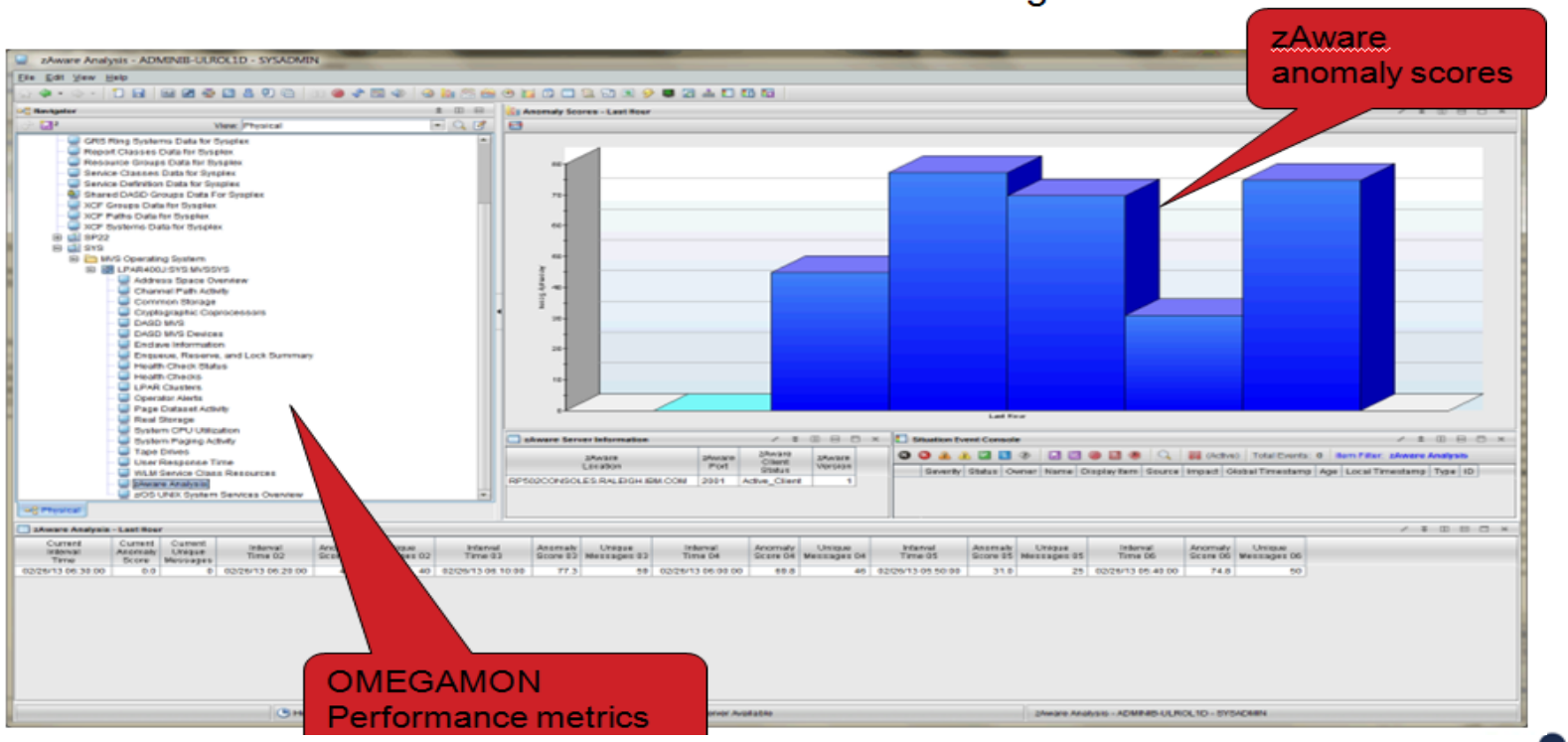
- Zoom from MQ Current Queue Manager Status to this workspace with z/OS CPU monitoring data
- Zoom on Job Name for direct access to the following z/OS options:



Put the zAware power to work finding anomalies on your zOS LPARs to prevent an outage !

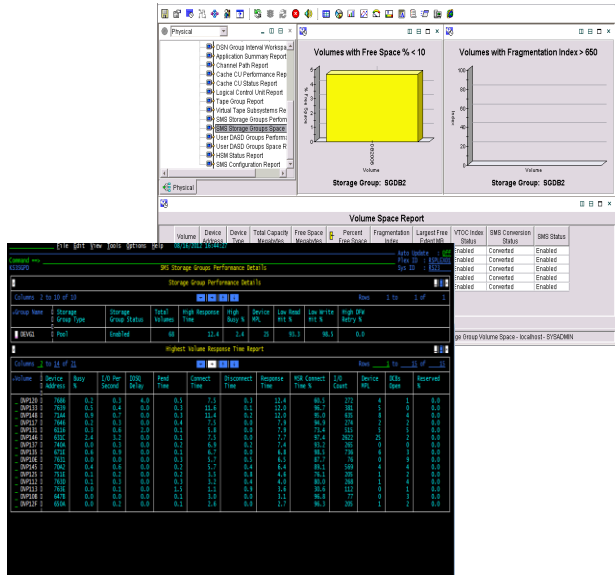
Situation Detecting IMS Log Failure now seen quickly !

- The new OMEGAMON warning situation for zAware, based on anomaly scores, has triggered indicating something highly unusual is happening on my LPAR.
- Launch from TEP to the zAware UI next where IMS Log Failure is seen



OMEGAMON XE for Storage on z/OS v5.3

- **Real-time and historical mainframe STORAGE monitoring**
- **Powerful alerting and "Take Action" capability**
- **Daily Storage management capability and functions**
- **New Enhanced 3270 user interface**
- **A wide breadth of mainframe storage info:**
  - Space and Performance management (storage groups all the way down to data set groups, define your own for reporting)
  - Tape / VTS
  - Channels (FICON), Control Units, CACHE
  - DFSMShsm (View , administer your active HSM queues, control Datasets, etc.)
  - DFSMShsm / DFSMSdss / ICKDSF / IDCAMS online toolkit
  - Batch JCL creation from toolkit – any JCL
  - SMS constructs
  - DASD & Tape drive physical device support



- **Dynamic Workspace Linking to:**
  - Advanced DFSMShsm Reporter
  - IBM Tivoli Advanced DFSMShsm Audit
  - IBM Tivoli Advanced Catalog Mgt
  - IBM Tivoli Advanced Backup Recovery
  - IBM Tivoli Advanced Allocation Manager
  - IBM Tivoli Tape Optmizer (ITTO)
  - IBM Tivoli Automated Tape Allocation Manager
- **DFSMSrmm reporting and toolkit**

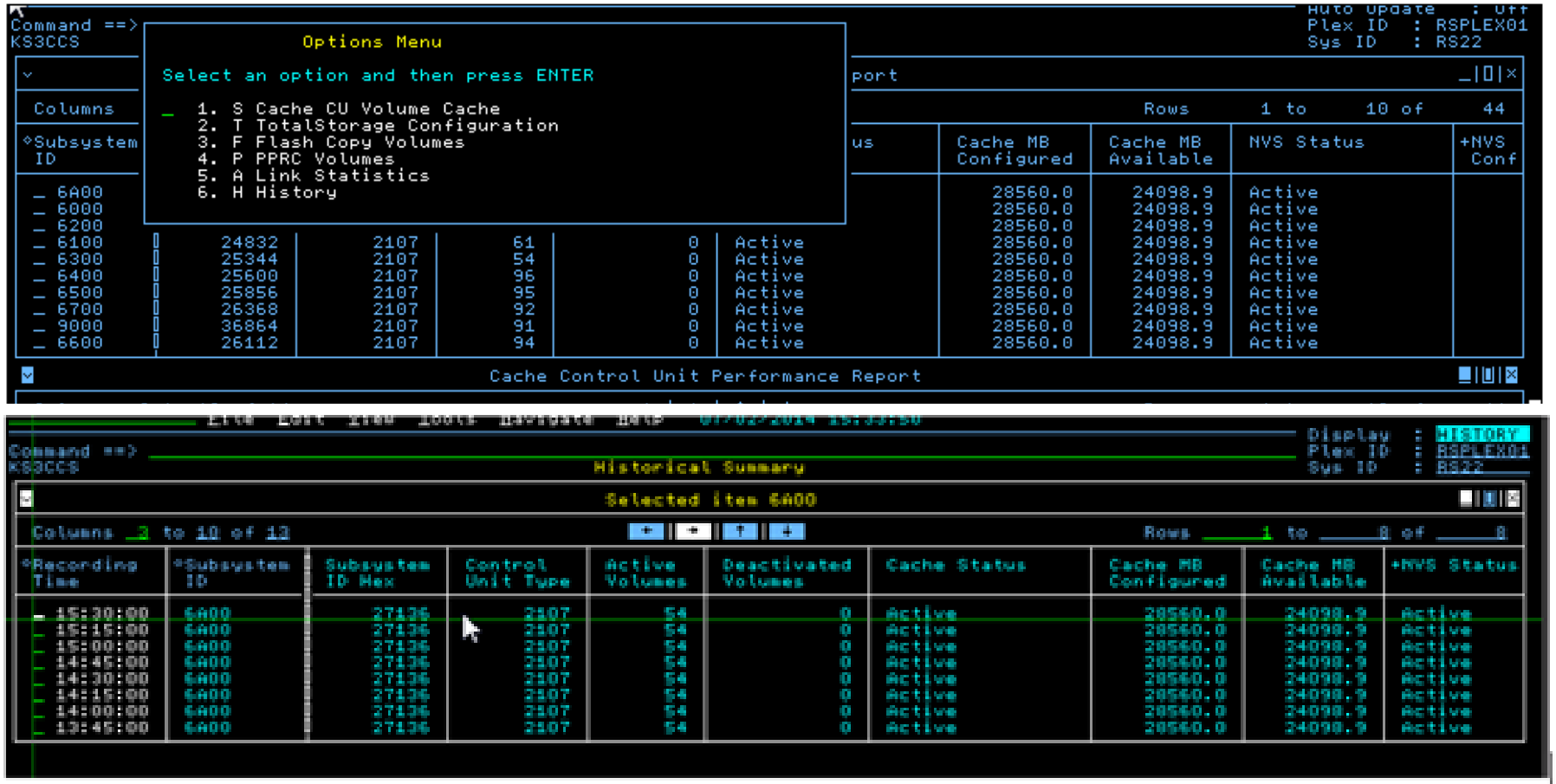
OMEGAMON XE for Storage on z/OS v5.3

Cornerstone for every z/OS Storage management Tool box!

- Overall z/OS Storage management capabilities provide Availability, Performance, Workload views, and Toolkit functions to **maximize efficiency and effectiveness** for daily z/OS Storage Management functions
- **Reduce resource consumption,** operations Managers will appreciate New Minimal Monitoring Configuration and reduction in Cache and LSpace Collector performance – **20% improvement in CPU collection of data**
- **Improve trend analysis and planning -** New Dataset Attribute Group Extraction (DAGX) allows analysis of dataset attribute groups using spreadsheet or other analytics tools outside of Tivoli Data Warehouse for Storage Administrators
- **Increased problem determination capability** with new E3270UI Embedded Data support makes it easier for Storage Admins to combine displays of related information from OM CICS and OM MQ for better cross storage information analysis
- **Reduced Time to Resolution** with new Near-Term-History displays in E3270UI simplifying trending analysis

OMEGAMON XE for Storage on z/OS v5.3

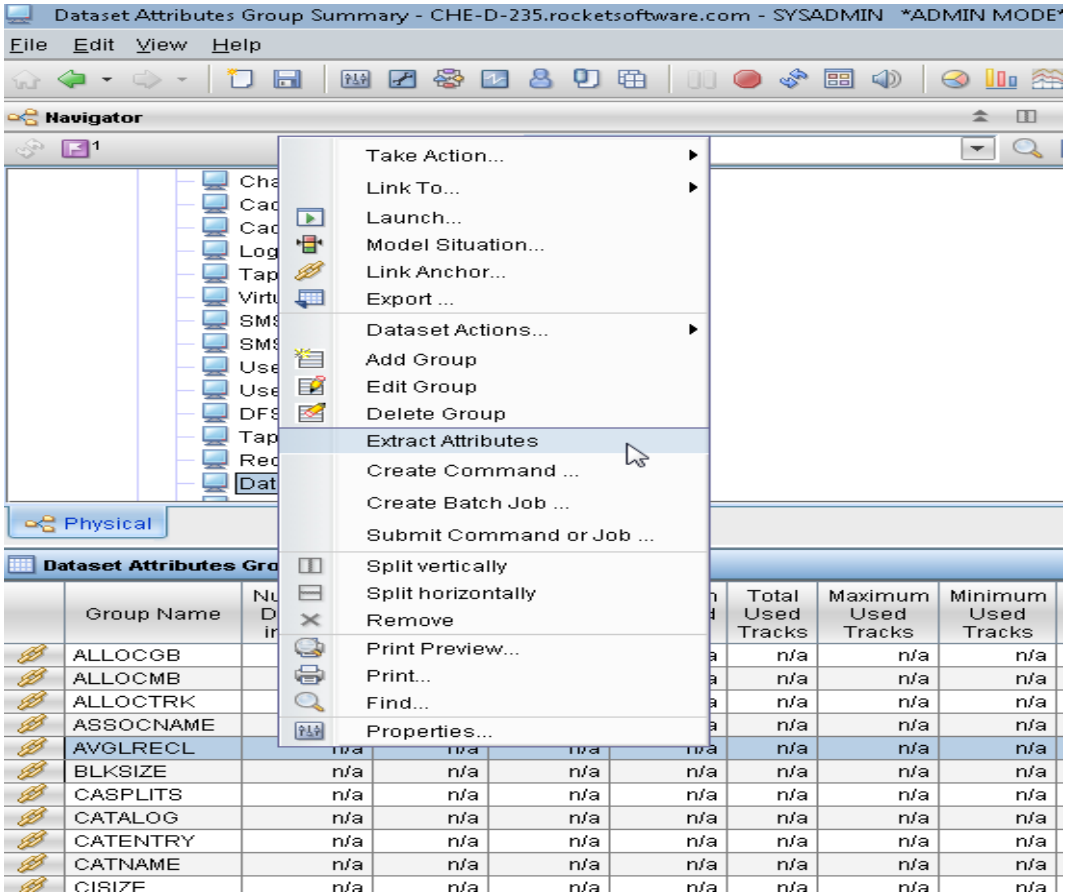
Near–Term-History in Enhanced 3270 User Interface



Reduced Time to Resolution with new Near-Term-History displays in E3270UI simplifying trending analysis

OMEGAMON XE for Storage on z/OS v5.3

Data Set Attribute Group Extractor (DAGX)



- **Improve trend analysis and planning -** New Dataset Attribute Group Extraction (DAGX) allows analysis of dataset attribute groups using spreadsheet or other analytics tools outside of Tivoli Data Warehouse for Storage Administrators
- Easy to use – Pull down and panel driven
- Output can be exported to a delimited file where it can be manipulated by Excel or any other program you wish to use

OMEGAMON XE for Storage on z/OS v5.3

New flexibility in collection and reduced resource consumption

- Ability to turn off the collection of performance data:
  - Disable the collection of volume performance information
  - Disable the collection of cache performance information

- Reduction in resource utilization for volume space data:
  - Collection of volume space data optimized to eliminate the collection of redundant data
  - Estimated reduction of 15% of TEMS CPU utilization
    - Depends on number of logical volume (more volumes, bigger the reduction)
    - Depends on dataset activity across logical volumes
    - Requires z/OS 1.13 or above
- Cache data collection:
  - Rewrite of cache collector optimized for performance and elimination of redundant data
  - Estimated reduction of 5% of TEMS CPU utilization depending upon the number of SSIDs

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- OMEGAMON XE on zOS v5.3 v5.3 problem solving
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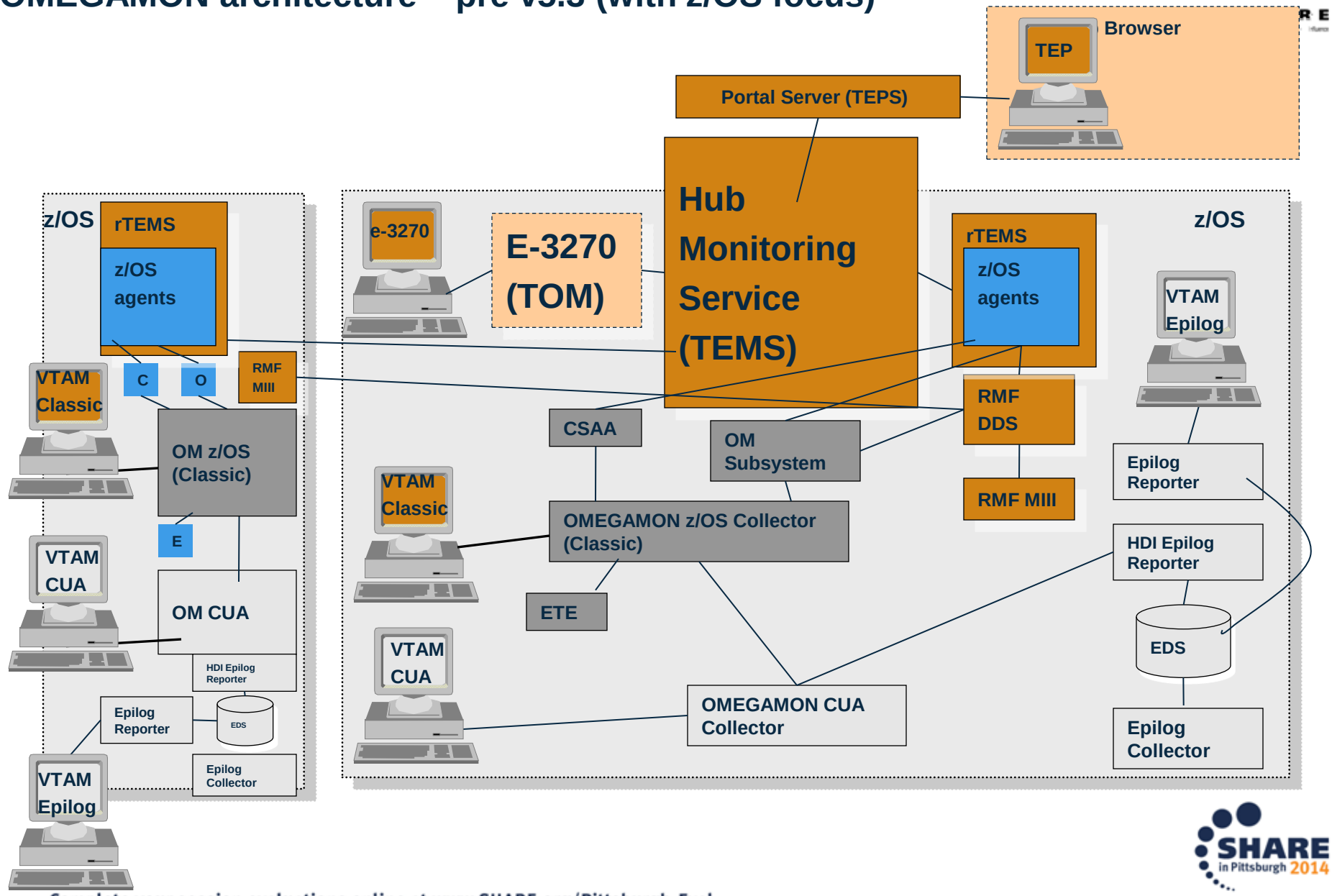
OMEGAMON Product Architecture changes

- The v511/v530 OMEGAMON XE on z/OS provides:
  - Enhanced 3270 User Interface (e-3270UI) and the Tivoli Enterprise Portal (TEP) to view enterprise wide performance information.
  - Also the powerful OMEGAMON Classic interface for single LPAR
  - Two other LPAR specific monitors, the OMEGAMON II Common User Interface facility and the Epilog zOS historical presentation
  - V 530 - Statement of Direction – Future: Epilog zOS component will be retired along with CUA's and OMEGAVIEW

OMEGAMON architecture – pre v5.3 (with z/OS focus)

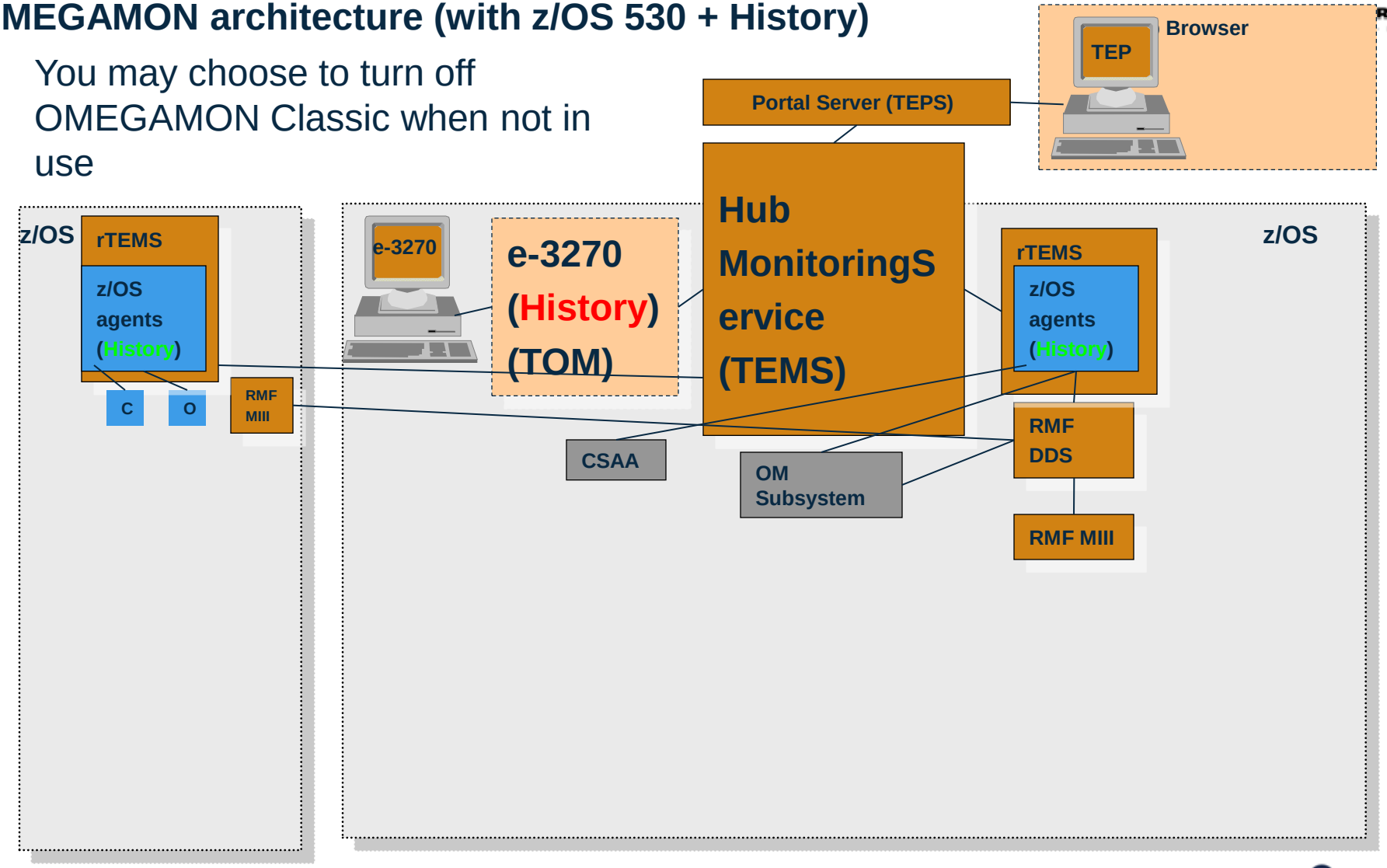


OMEGAMON Product v 530 changes:

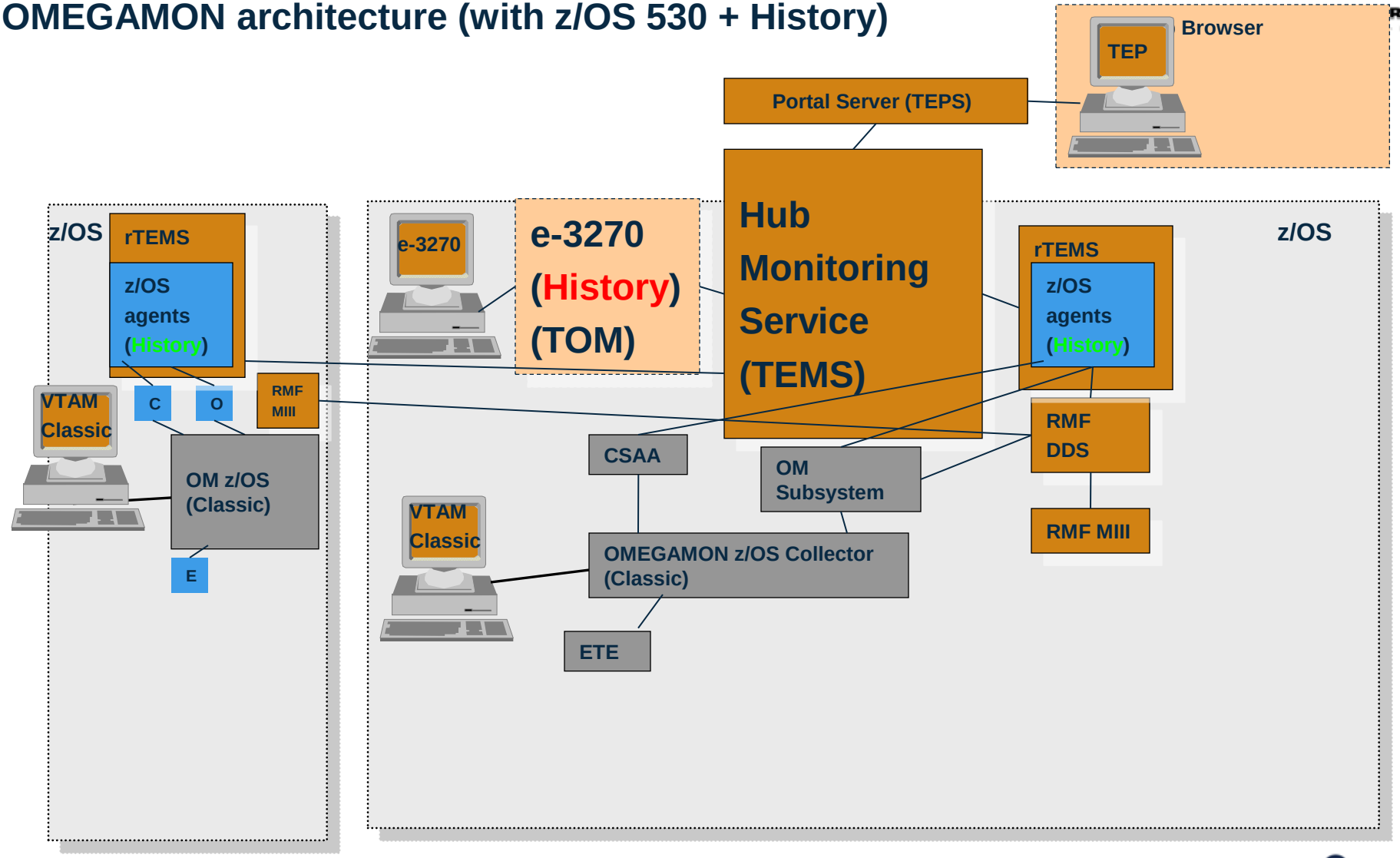
- Use of RMF Monitor III DDS based history support in the OMEGAMON XE on z/OS v530 agents and new workspaces in the Enhanced 3270 User Interface.
- No need for the OMEGAMON CUA, Epliog zOS and maybe Classic environments.
- Eliminates 4 or 5 started tasks per LPAR while retaining all the real time and historical performance information.

OMEGAMON architecture (with z/OS 530 + History)

You may choose to turn off OMEGAMON Classic when not in use



OMEGAMON architecture (with z/OS 530 + History)

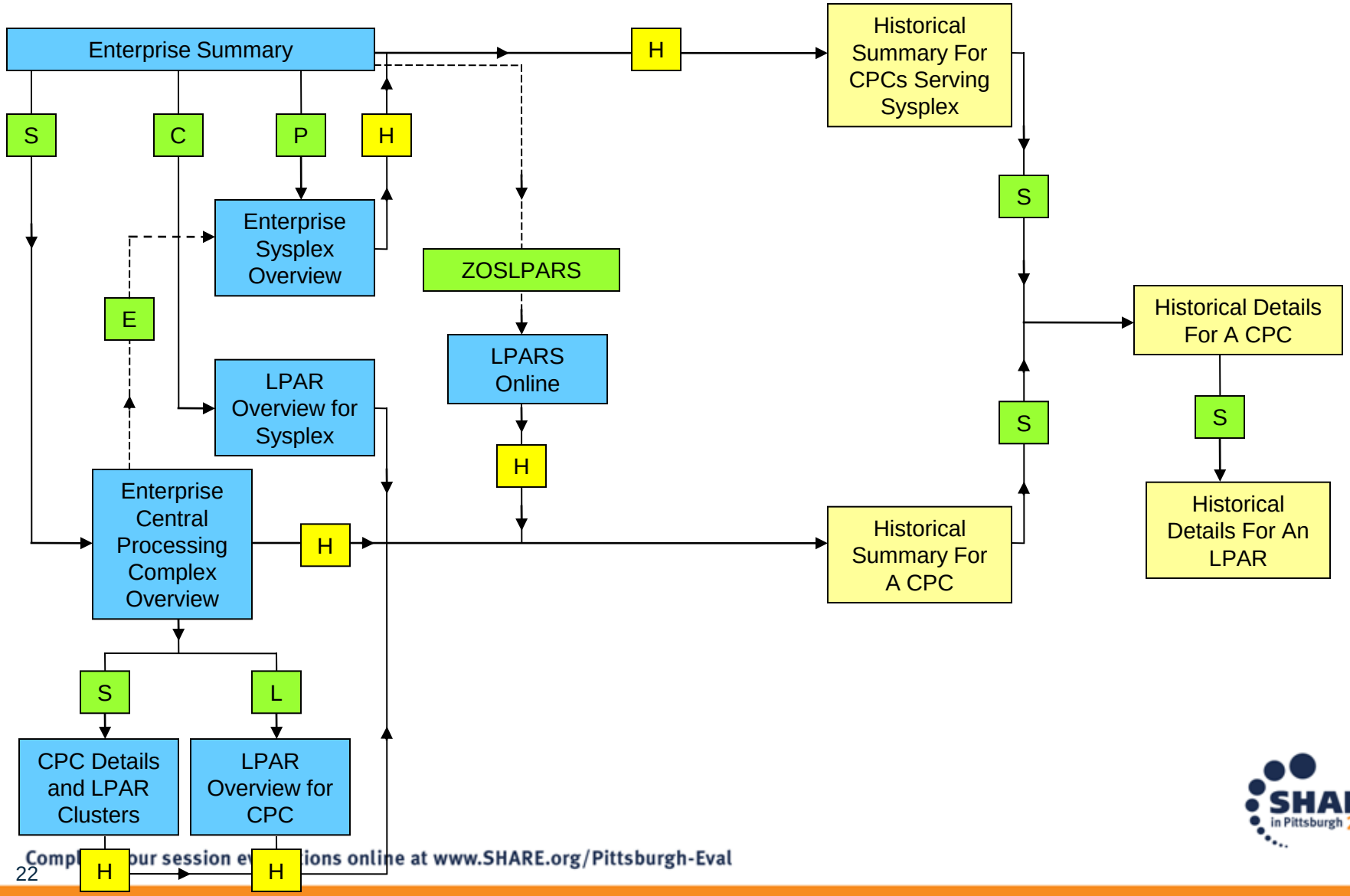


Near-Term History – OM XE zOS v5.3

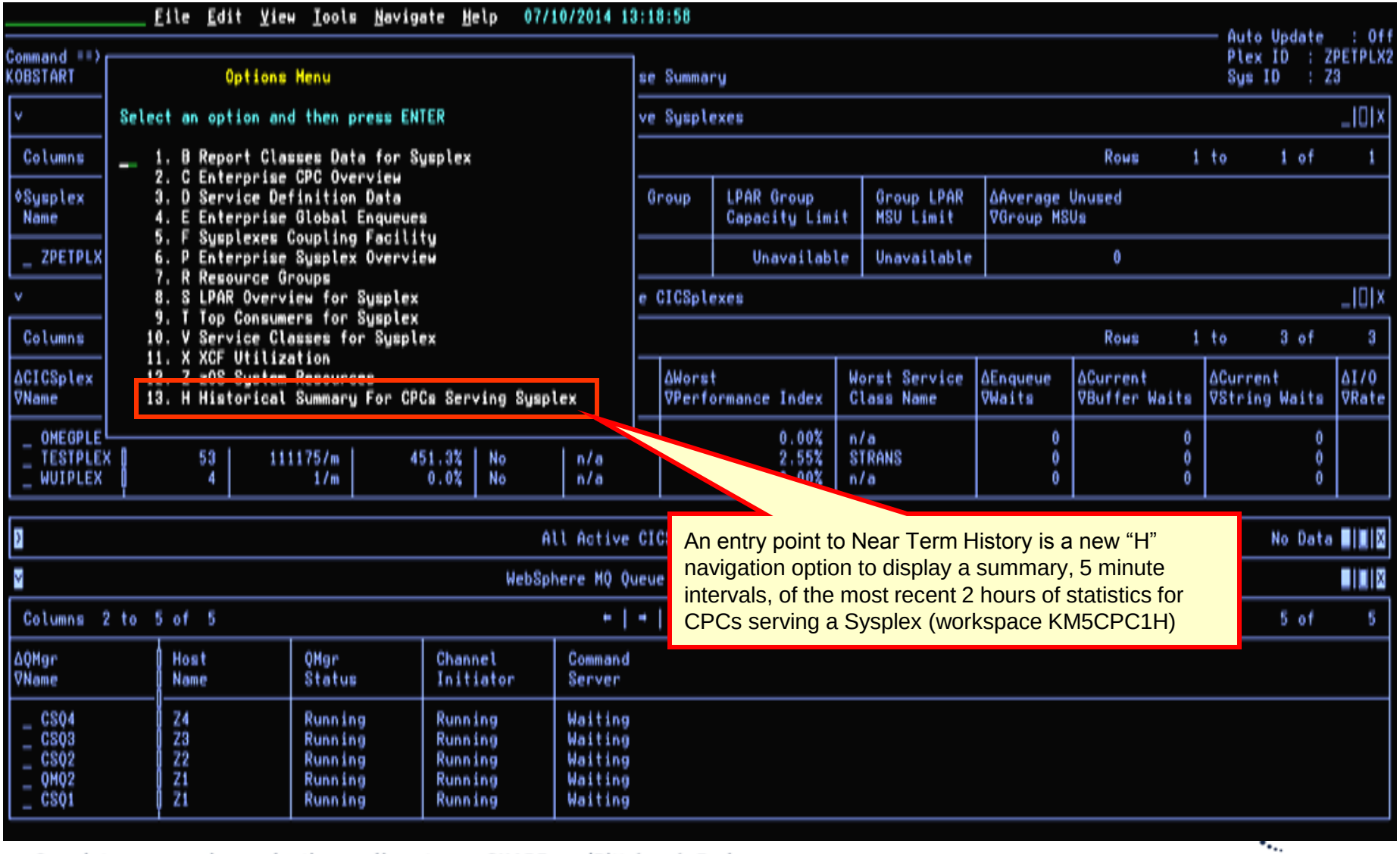
- SUMMARY workspaces are provided for:
  - Central Processing Complex (CPC).
  - Workload Manager Service Class Periods.
  - DASD Devices.
- SNAPSHOT workspaces are provided for:
  - CPC LPARs and LPAR Details
  - Service Class Period Address Space CPU consumption.
  - Real Storage and Common Storage for an Address Space.
  - Execution and Delays for Address Spaces across the Sysplex, System, Sysplex Service Class and System Service Class.
  - Memory Objects and 1 Megabyte Page statistics by System and Address Space.
  - Address spaces using a DASD device.

NEAR TERM HISTORY for CPCS AND LPARS

NTH For CPCs and LPARs e3270UI- Navigation



NTH For CPCs and LPARs – Enterprise Summary (KOBSTART)



An entry point to Near Term History is a new “H” navigation option to display a summary, 5 minute intervals, of the most recent 2 hours of statistics for CPCs serving a Sysplex (workspace KM5CPC1H)

NTH For CPCs and LPARs– Historical Summary For CPCs Serving Sysplex (KM5CPC1H)

File Edit View Tools Navigate Help 07/10/2014 13:43:55

Command ==>
KM5CPC1H

Historical Summary For CPCs Serving Sysplex

Display : HISTORY
Plex ID : ZPETPLX2
SMF ID :

Sysplex ZPETPLX2

Columns 3 to 10 of 10 Rows 1 to 48 of 48

◊Recording Date/Time	◊CPC Serial Number	Physical % Standard CP	Physical % zAAP	Physical % zIIP	Physical % IFL	Physical % ICF	Effective MSU Capacity	Capacity Indicator	+Adj Rea
14/07/10 13:40:00	0FBAA6	61.2	No zAAPs Online	54.4	2.5	100.0	6477	100	No
14/07/10 13:40:00	094E15	82.1	No zAAPs Online	96.1	5.6	100.0	5001	100	No
14/07/10 13:35:00	094E15	80.6	No zAAPs Online	93.1	6.0	100.0	5001	100	No
14/07/10 13:35:00	0FBAA6	59.2	No zAAPs Online	53.6	2.4	100.0	6477	100	No
14/07/10 13:30:00	0FBAA6	68.6	No zAAPs Online	55.8	2.6	100.0	6477	100	No
14/07/10 13:30:00	094E15	75.1	No zAAPs Online	93.3	5.4	100.0	5001	100	No
14/07/10 13:25:00	094E15	82.8	No zAAPs Online	98.5	5.6	100.0	5001	100	No
14/07/10 13:25:00	0FBAA6	73.7	No zAAPs Online	57.1	2.6	100.0	6477	100	No
14/07/10 13:20:00	094E15	88.5	No zAAPs Online	100.0	6.1	100.0	5001	100	No
14/07/10 13:20:00	0FBAA6	62.2	No zAAPs Online	33.0	2.5	100.0	6477	100	No
14/07/10 13:15:00	0FBAA6	60.3	No zAAPs Online	36.3	2.6	100.0	6477	100	No
14/07/10 13:15:00	094E15	89.5	No zAAPs Online	100.0	6.3	100.0	5001	100	No
14/07/10 13:10:00	094E15	92.0	No zAAPs Online	100.0	5.7	100.0	5001	100	No
14/07/10 13:10:00	0FBAA6	61.8	No zAAPs Online	36.9	2.7	100.0	6477	100	No
14/07/10 13:05:00	094E15	92.4	No zAAPs Online	100.0	5.7	100.0	5001	100	No
14/07/10 13:05:00	0FBAA6	65.0	No zAAPs Online	37.7	2.9	100.0	6477	100	No
14/07/10 13:00:00	094E15	94.1	No zAAPs Online	100.0	5.8	100.0	5001	100	No
14/07/10 13:00:00	0FBAA6	66.7	No zAAPs Online	37.0	2.7	100.0	6477	100	No
14/07/10 12:55:00	094E15	96.4	No zAAPs Online	100.0	6.5	100.0	5001	100	No
14/07/10 12:55:00	0FBAA6	67.6	No zAAPs Online	37.4	2.8	100.0	6477	100	No
14/07/10 12:50:00	0FBAA6	68.3	No zAAPs Online	35.5	2.8	100.0	6477	100	No
14/07/10 12:50:00	094E15	96.2	No zAAPs Online	100.0	6.6	100.0	5001	100	No
14/07/10 12:45:00	094E15	96.3	No zAAPs Online	100.0	7.3	100.0	5001	100	No
14/07/10 12:45:00	0FBAA6	65.2	No zAAPs Online	34.7	2.6	100.0	6477	100	No
14/07/10 12:40:00	094E15	93.5	No zAAPs Online	99.7	5.9	100.0	5001	100	No
14/07/10 12:40:00	0FBAA6	62.8	No zAAPs Online	35.5	2.7	100.0	6477	100	No
14/07/10 12:35:00	0FBAA6	73.2	No zAAPs Online	32.1	2.6	100.0	6477	100	No
14/07/10 12:35:00	094E15	96.7	No zAAPs Online	100.0	6.4	100.0	5001	100	No
14/07/10 12:30:00	094E15	95.0	No zAAPs Online	100.0	5.6	100.0	5001	100	No
14/07/10 12:30:00	0FBAA6	72.8	No zAAPs Online	29.5	2.6	100.0	6477	100	No
14/07/10 12:25:00	094E15	96.3	No zAAPs Online	100.0	5.9	100.0	5001	100	No
14/07/10 12:25:00	0FBAA6	75.8	No zAAPs Online	30.9	2.6	100.0	6477	100	No
14/07/10 12:20:00	094E15	92.5	No zAAPs Online	97.9	6.0	100.0	5001	100	No
14/07/10 12:20:00	0FBAA6	63.1	No zAAPs Online	3					
14/07/10 12:15:00	094E15	87.5	No zAAPs Online	9					
14/07/10 12:15:00	0FBAA6	56.7	No zAAPs Online	3					
14/07/10 12:10:00	0FBAA6	64.4	No zAAPs Online	3					
14/07/10 12:10:00	094E15	94.2	No zAAPs Online	9					
14/07/10 12:05:00	094E15	92.8	No zAAPs Online	9					
14/07/10 12:05:00	0FBAA6	67.1	No zAAPs Online	3					
14/07/10 12:00:00	094E15	92.0	No zAAPs Online	9					
14/07/10 12:00:00	0FBAA6	67.0	No zAAPs Online	3					
14/07/10 11:55:00	0FBAA6	58.5	No zAAPs Online	3					
14/07/10 11:55:00	094E15	90.4	No zAAPs Online	9					
14/07/10 11:50:00	094E15	89.4	No zAAPs Online	99.3	6.3	100.0	5001	100	No
14/07/10 11:50:00	0FBAA6	60.9	No zAAPs Online	31.4	2.6	100.0	6396	100	No
14/07/10 11:45:00	0FBAA6	62.5	No zAAPs Online	30.2	2.5	100.0	6396	100	No
14/07/10 11:45:00	094E15	92.1	No zAAPs Online	99.9	7.1	100.0	5001	100	No

10 July 11:43 to 10 July 13:43 HISTORY

KM5CPC1H displays total physical standard and specialty processor utilization for each CPC that a Sysplex member is active on (in this example 0FBAA6 and 094E15). Effective MSU capacity and cycle steering related information is also displayed.

NTH For CPCs -LPARs– Hist Summary For A CPC (KM5CPC2H)

File Edit View Tools Navigate Help 07/11/2014 11:24:36

Command ==>
KM5CPC2H

Historical Summary For A CPC

Display : HISTORY
Plex ID : ZPETPLX2
CPC : 0FBAA6

CPC 0FBAA6

Columns 3 to 9 of 9 Rows 1 to 24 of 24

◊Recording Date/Time	ΔPhysical % ∇Standard CP	ΔPhysical % ∇zAAP	ΔPhysical % ∇zIIP	ΔPhysical % ∇IFL	ΔPhysical % ∇ICF	Effective MSU Capacity	Capacity Indicator	Adjustment Reason
14/07/11 11:20:00	71.4	No zAAPs Online	49.6	2.5	100.0	6477	100	None
14/07/11 11:15:00	66.0	No zAAPs Online	33.6	2.6	100.0	6477	100	None
14/07/11 11:10:00	60.7	No zAAPs Online	33.9	2.6	100.0	6477	100	None
14/07/11 11:05:00	64.0	No zAAPs Online	35.3	2.7	100.0	6477	100	None
14/07/11 11:00:00	60.8	No zAAPs Online	33.7	2.6	100.0	6477	100	None
14/07/11 10:55:00	60.6	No zAAPs Online	34.5	2.6	100.0	6477	100	None
14/07/11 10:50:00	68.7	No zAAPs Online	35.7	2.6	100.0	6477	100	None
14/07/11 10:45:00	62.4	No zAAPs Online	34.9	2.5	100.0	6477	100	None
14/07/11 10:40:00	61.6	No zAAPs Online	37.0	2.6	100.0	6477	100	None
14/07/11 10:35:00	66.0	No zAAPs Online	56.5	2.6	100.0	6477	100	None
14/07/11 10:30:00	60.8	No zAAPs Online	42.3	2.5	100.0	6477	100	None
14/07/11 10:25:00	71.0	No zAAPs Online	41.3	2.6	100.0	6477	100	None
14/07/11 10:20:00	83.4	No zAAPs Online	56.0	2.5	100.0	6477	100	None
14/07/11 10:15:00	87.5	No zAAPs Online	58.1	2.6	100.0	6477	100	None
14/07/11 10:10:00	89.0	No zAAPs Online	59.5	2.7	100.0	6477	100	None
14/07/11 10:05:00	86.3	No zAAPs Online	52.1	2.7	100.0	6477	100	None
14/07/11 10:00:00	95.1	No zAAPs Online	34.7	3.5	100.0	6477	100	None
14/07/11 09:55:00	95.9	No zAAPs Online	34.9	2.8	100.0	6477	100	None
14/07/11 09:50:00	97.9	No zAAPs Online	36.0					
14/07/11 09:45:00	95.9	No zAAPs Online	37.1					
14/07/11 09:40:00	92.9	No zAAPs Online	38.0					
14/07/11 09:35:00	89.1	No zAAPs Online	42.4					
14/07/11 09:30:00	97.9	No zAAPs Online	54.6	2.6	100.0	6477	100	None
14/07/11 09:25:00	98.8	No zAAPs Online	56.2	2.6	100.0	6477	100	None

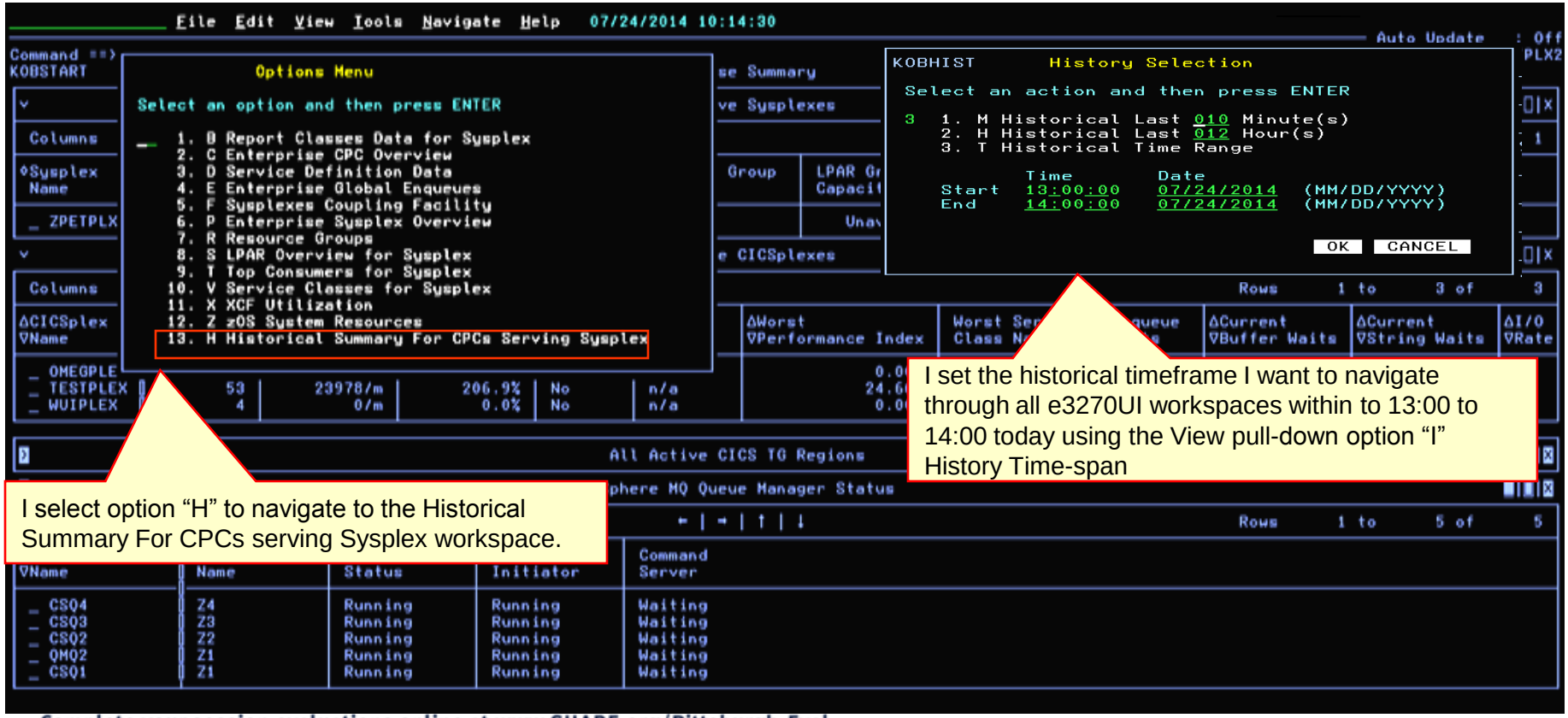
KM5CPC2H displays the identical statistics to KM5CPC1H except that it is for a specific CPC.

Scenario :

Near-Term History: CPC and LPAR

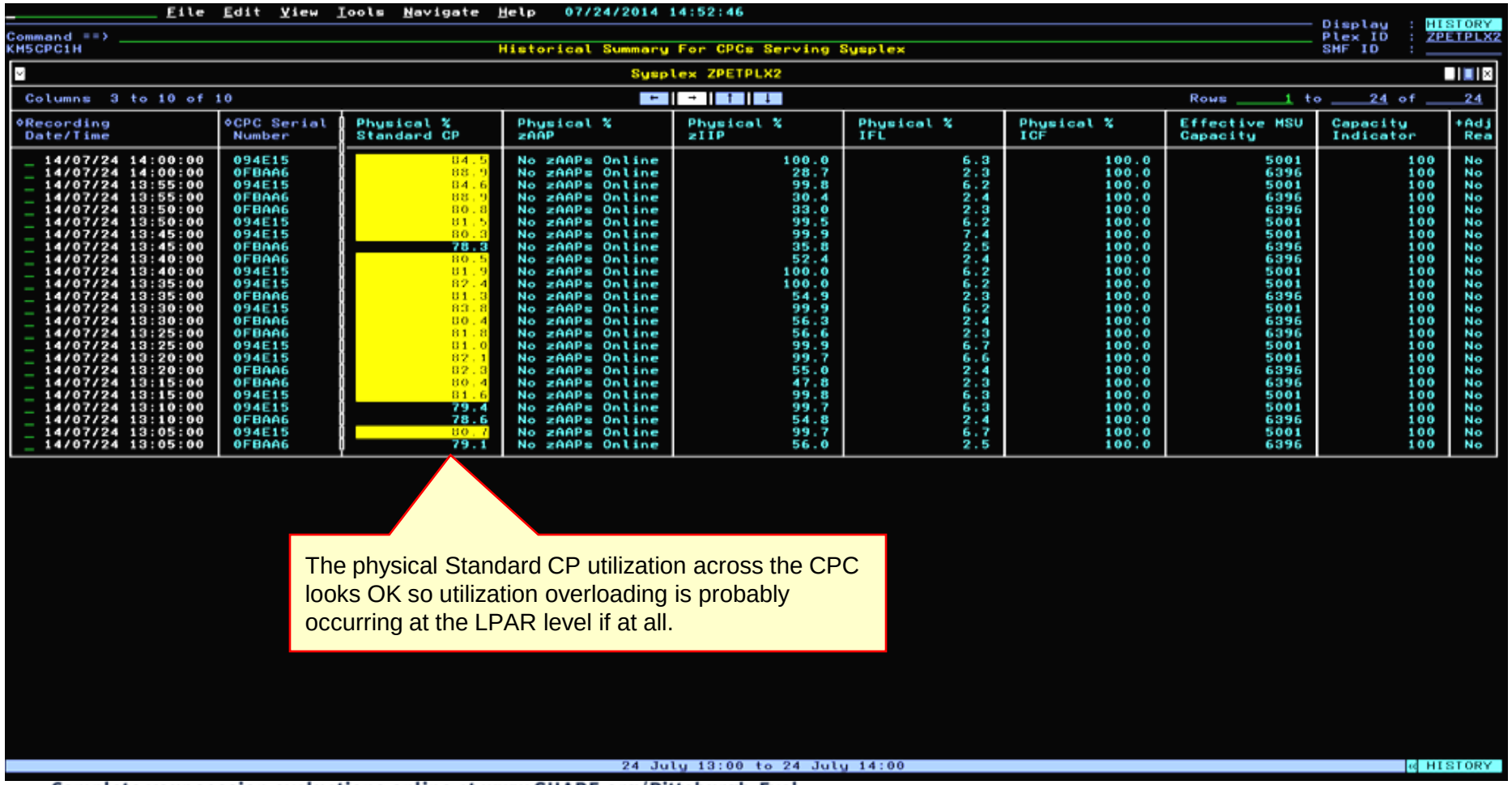
Near Term History: CPC and LPAR

- As a systems programmer I received a call from operations that application users reported a variety of response time problems and batch delays earlier today on the ZPETPLX2 Sysplex LPAR Z2 in the 1:00pm to 2:00pm timeframe. This report is fairly general so I decide to investigate starting at the CPC level where LPAR Z2 is running by selecting option “H” from KOBSTART.



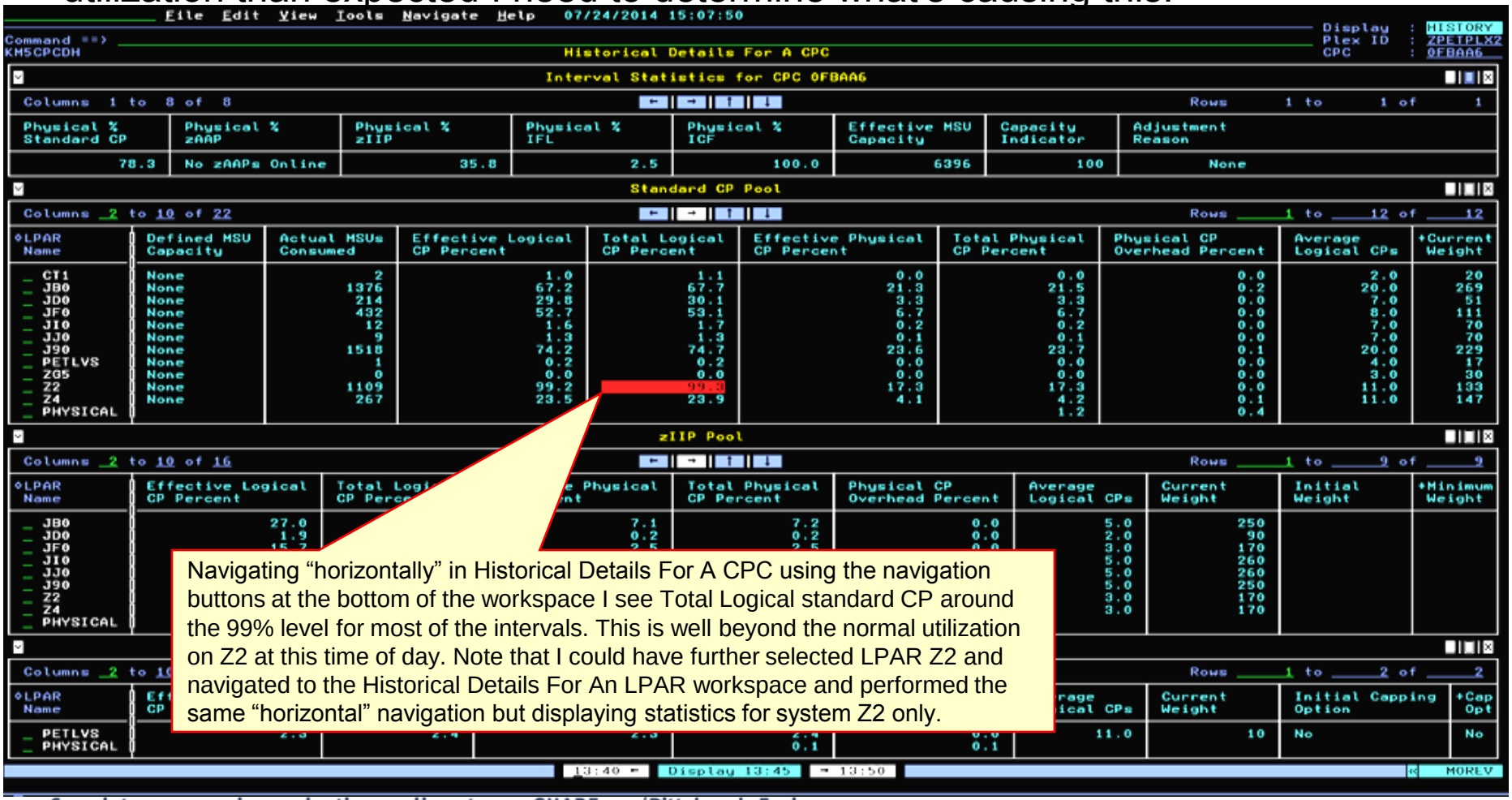
Near Term History: CPC and LPAR

- I know that system Z2 runs on the CPC 0FBAA6 and select the 5 minute interval ending at 13:05 for that CPC in the Recording Date/Time column, using the default navigation to navigate to the Historical Details For A CPC workspace.



Near Term History: CPC and LPAR

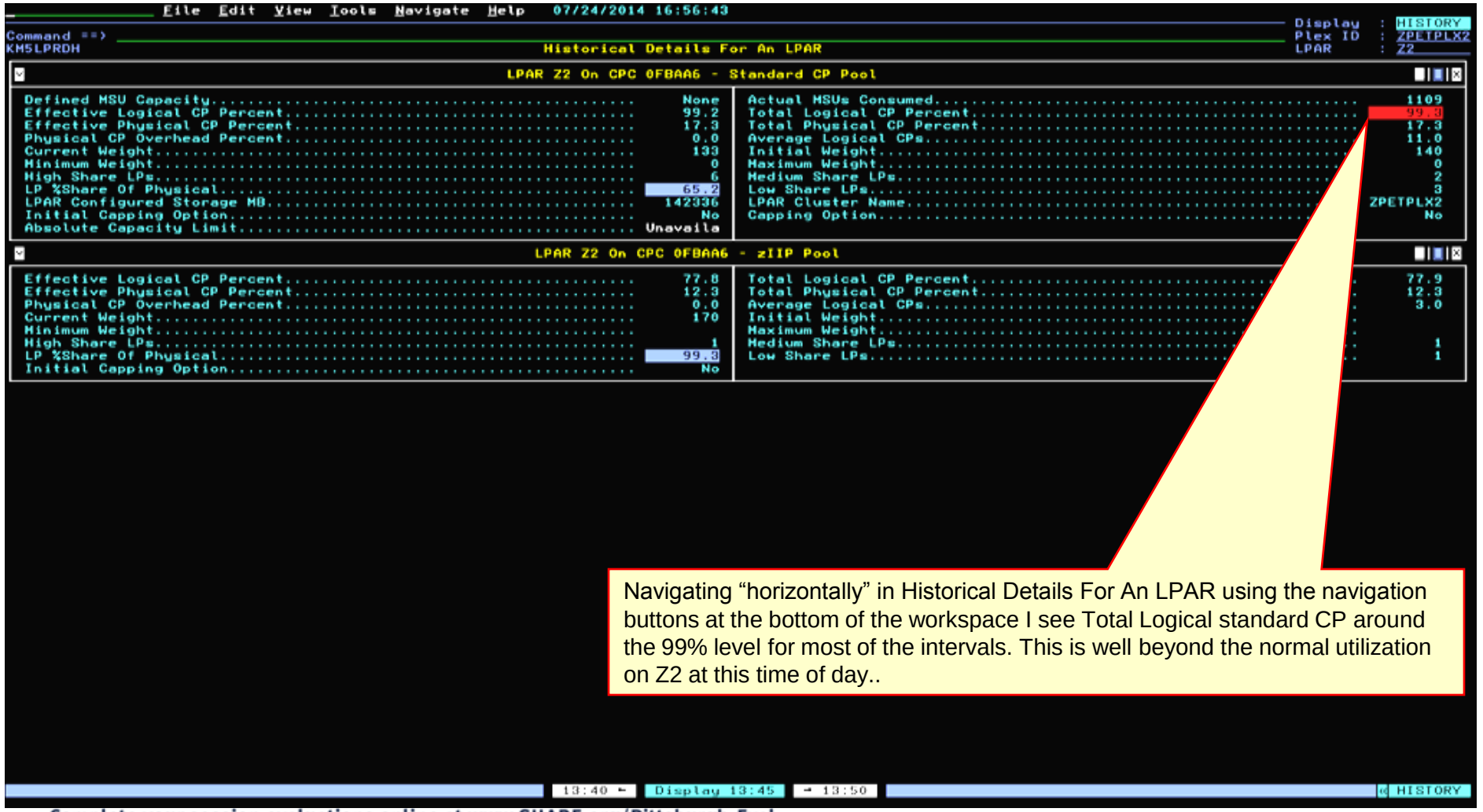
- After navigating through the 13:00 to 14:00 interval in Historical Details For A CPC it is apparent that system Z2 is running at much higher standard CP utilization than expected I need to determine what's causing this.



Navigating "horizontally" in Historical Details For A CPC using the navigation buttons at the bottom of the workspace I see Total Logical standard CP around the 99% level for most of the intervals. This is well beyond the normal utilization on Z2 at this time of day. Note that I could have further selected LPAR Z2 and navigated to the Historical Details For An LPAR workspace and performed the same "horizontal" navigation but displaying statistics for system Z2 only.

Near Term History: CPC and LPAR

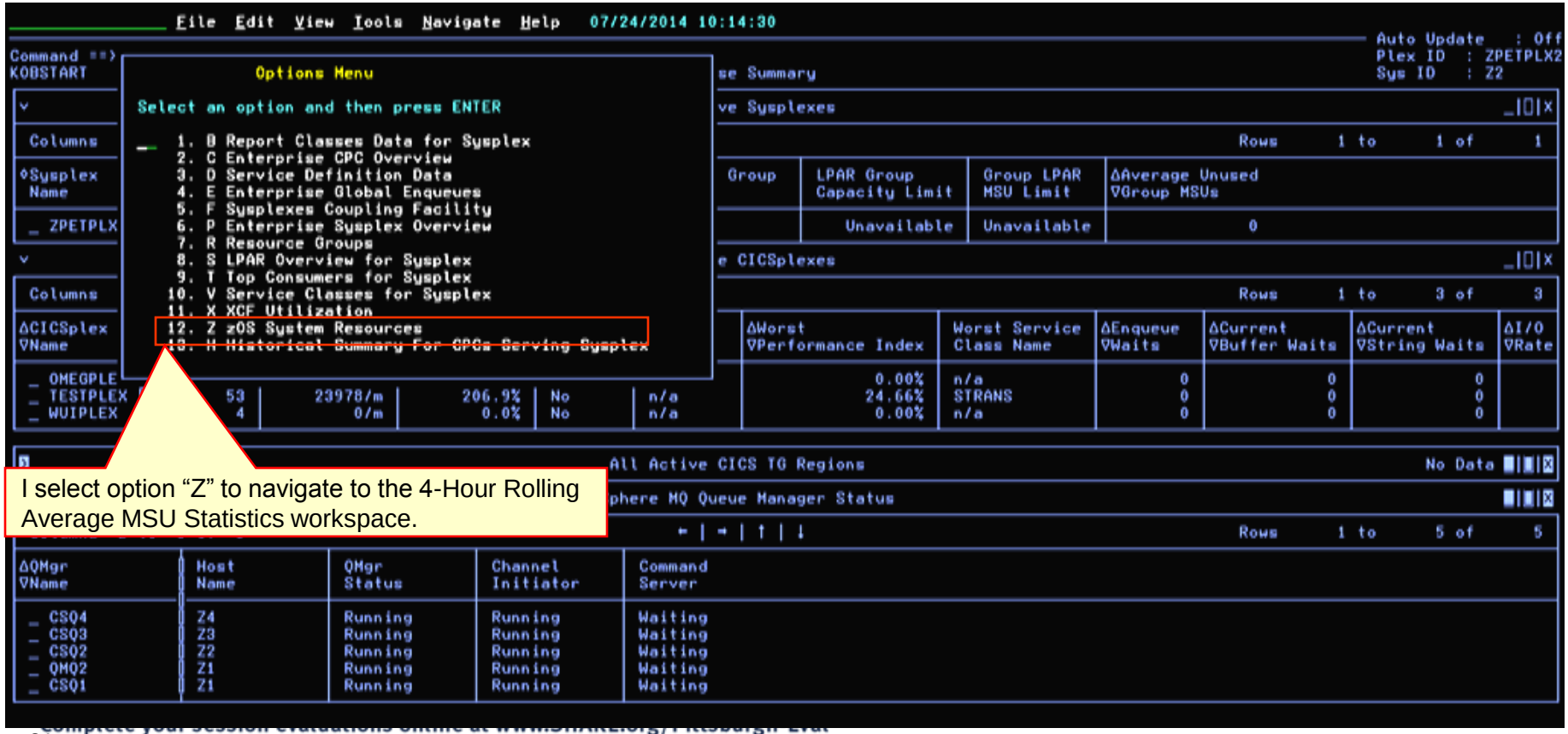
- I might also have further navigated to Historical Details For An LPAR to isolate the statistics to just system Z2 and only for the processor pool types configured to it.



Navigating “horizontally” in Historical Details For An LPAR using the navigation buttons at the bottom of the workspace I see Total Logical standard CP around the 99% level for most of the intervals. This is well beyond the normal utilization on Z2 at this time of day..

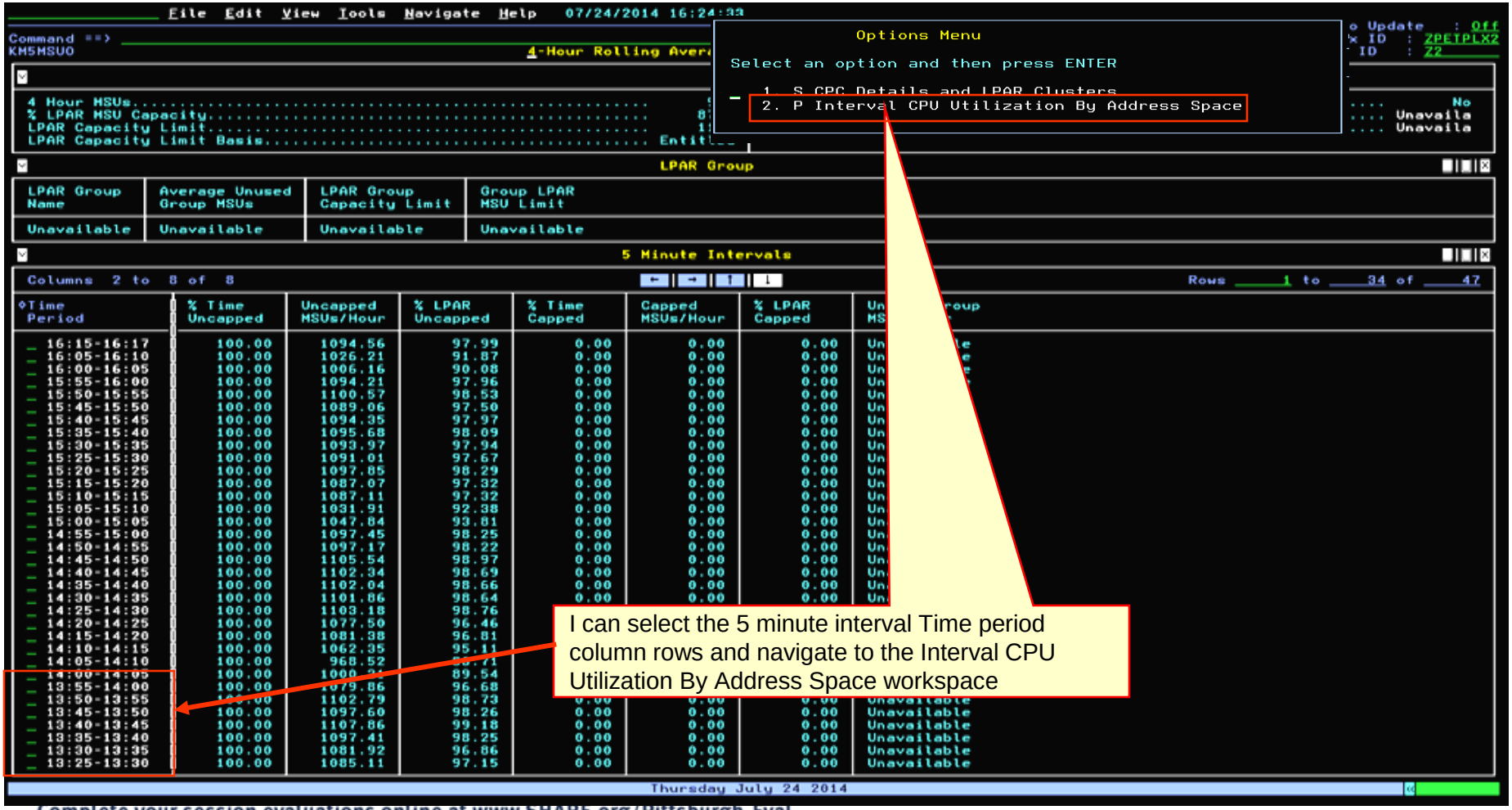
Near Term History: CPC and LPAR

- I want to find out if there are any heavy CPU consuming address spaces on system Z2 during the 13:00 to 14:00 time-frame. Since this time-frame falls inside the last 4 hours I can take advantage of the fact that the 4-Hour Rolling Average MSU Statistics workspace has been enhanced to show address space CPU consumption in each of the 5-minute intervals over the 4-hour period. I back out to KOBSTART and select option “Z” from the Options menu.



Near Term History: CPC and LPAR

- To display CPU utilization for all address spaces during a 5-minute 4-Hour Rolling Average time period I use the “P” navigation character to navigate to the Interval CPU Utilization By Address Space workspace for the 13:00 to 14:00 time-frame.



Near Term History: CPC and LPAR

- In all periods during the time-frame I see address space FLASHSCM consuming over 500% standard CP. This started task is used for stress testing purpose during designated off-peak hours. I inform the owner so that the task will not be started during peak-period in future.

File Edit View Tools Navigate Help 07/24/2014 16:42:58

Command ==>
KM5ASP1H*

Interval CPU Utilization By Address Space

Auto Update : Off
Plex ID : M5530LGH
SMF ID : SYS

Actual Reporting Timeframe For Requested Period 13:30-13:35

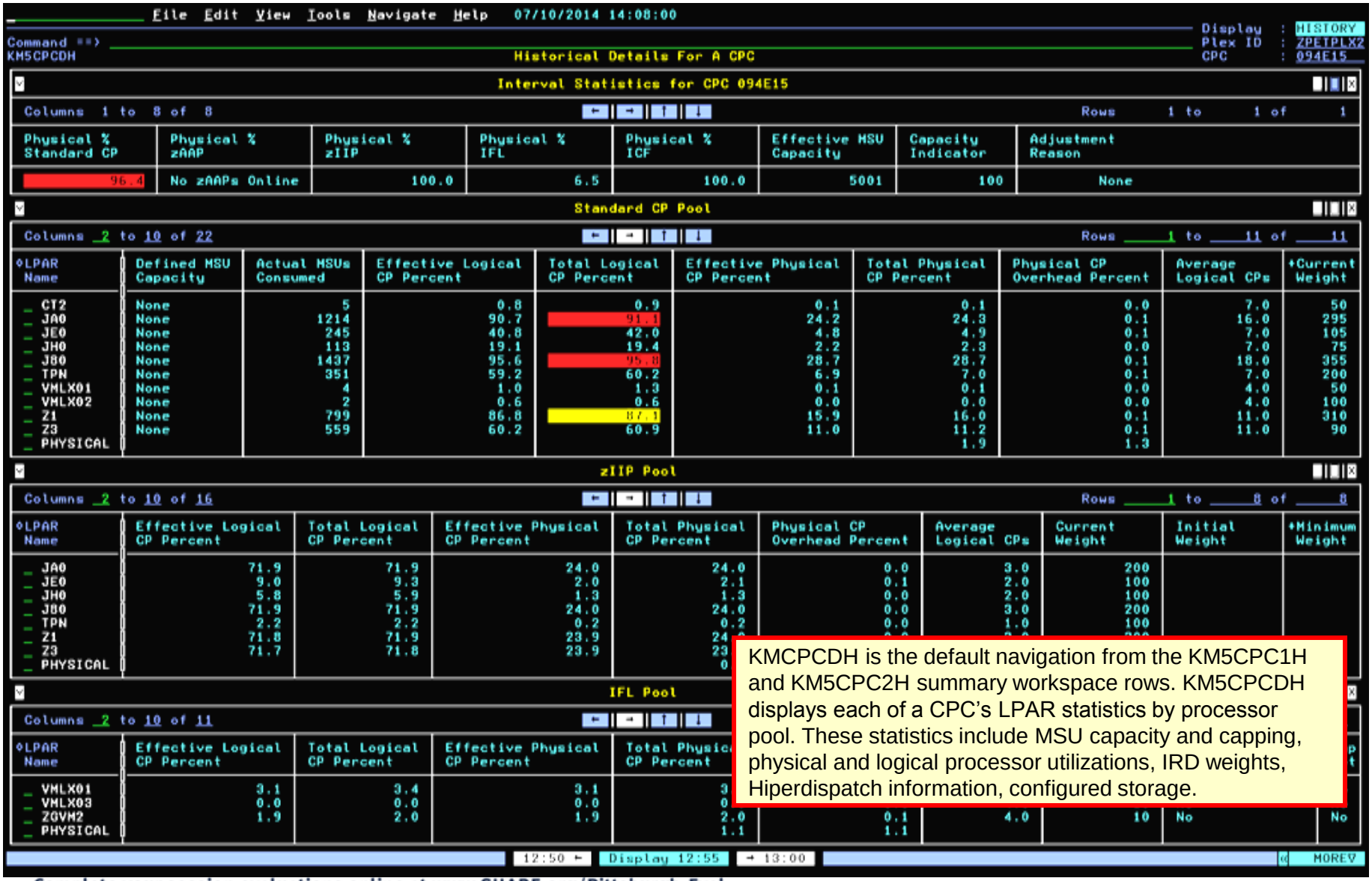
Report Interval Start Time..... 13:30:00 | Report Interval End Time..... 13:35:00

CPU Utilization

Columns 2 to 9 of 18 | Rows 1 to 44 of 96

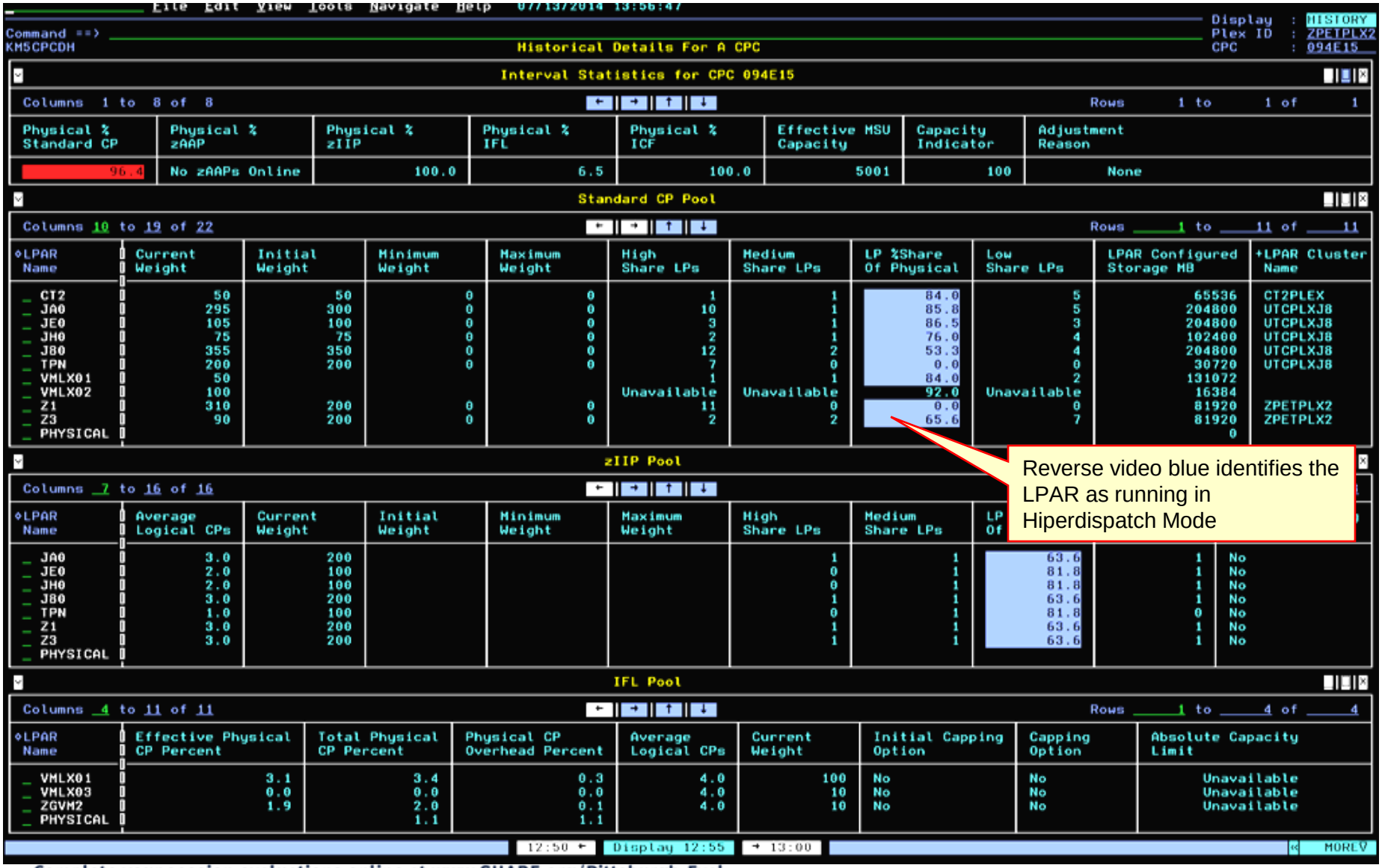
◊Job Name	Service Class	Service Class Period	ΔCPU ∇Percent	GCP Percent Including Enclave Home SRB Time	IFA Percent Including Enclave Home SRB Time	zIIP Percent Including Enclave Home SRB Time	IFA on CP Percent	♦zIIP on C Percent
FLASHSCM	DISCRBAT	1	525.6	525.6	0.0	0.0	0.0	0.0
CICS3A2A	CI2V60	1	167.7	167.7	0.0	0.0	0.0	0.0
MQQ2S12S	STCI2V30	1	124.4	119.6	0.0	4.8	0.0	1.5
CSQ2MSTR	STCI2V40	1	21.3	21.3	0.0	0.0	0.0	0.0
CONNRPT	DISCRSTC	1	20.2	20.2	0.0	0.0	0.0	0.0
DBX2DBM1	STCI2V50	1	19.6	8.2	0.0	11.3	0.0	0.0
DBX2DIST	DDF	1	14.9	14.9	0.0	0.0	0.0	0.0
CICS6A2A	CI2V60	1	13.2	13.2	0.0	0.0	0.0	0.0
DBXGWLM7	STCI2V50	1	10.0	10.0	0.0	0.0	0.0	0.0
TCPIP	SYSSTC	1	9.2	9.2	0.0	0.0	0.0	0.0
Z252D2	SYSSTC	1	6.2	4.5	0.0	1.6	0.0	0.0
CSQ2BRK	STCI2V30	1	4.8	4.8	0.0	0.0	0.0	0.0
C2PACMON	DISCRSTC	1	4.0	4.0	0.0	0.0	0.0	0.0
CATALOG	SYSTEM	1	3.9	3.9	0.0	0.0	0.0	0.0
XCFAS	SYSTEM	1	3.8	3.8	0.0	0.0	0.0	0.0
DFHSM	SYSSTC	1	3.3	3.3	0.0	0.0	0.0	0.0
CICS6T2A	CI2V60	1	3.3	3.3	0.0	0.0	0.0	0.0
DBX2MSTR	STCI2V50	1	2.8	2.8	0.0	0.0	0.0	0.0
WSWS2	DISCOMVS	1	2.5	2.5	0.0	0.0	0.0	0.0
MQQ2S12	STCI2V30	1	2.5	2.2	0.0	0.2	0.0	0.0
RASP	SYSTEM	1	2.2	2.2	0.0	0.0	0.0	0.0
WLM	SYSTEM	1	2.0	2.0	0.0	0.0	0.0	0.0
GRS	SYSTEM	1	2.0	2.0	0.0	0.0	0.0	0.0
Z251CS	SYSSTC	1	1.5	1.5	0.0	0.0	0.0	0.0
WST5S12	STCI2V50	1	1.5	0.3	0.0	1.1	0.0	0.0
CYTAPRZ2	DISCRSTC	1	1.3	1.3	0.0	0.0	0.0	0.0
WSC2S12	STCI2V50	1	1.2	0.1	0.0	1.1	0.0	0.0
TPNSG671	STCI2V70	1	1.2	1.2	0.0	0.0	0.0	0.0
Z2R3MO	SYSRTC	1	1.1	1.1	0.0	0.0	0.0	0.0
BCD1BTOM	STC	2	0.4	0.4	0.0	0.0	0.0	0.0
SBAGTOB	STC	2	0.4	0.4	0.0	0.0	0.0	0.0
I5D0TOM0	STC	2	0.4	0.4	0.0	0.0	0.0	0.0
CVTZTOMG	STC	2	0.4	0.4	0.0	0.0	0.0	0.0
C5D1622T	STC	2	0.4	0.4	0.0	0.0	0.0	0.0
DBSTOM52	STC	2	0.4	0.4	0.0	0.0	0.0	0.0
M5D0JYG	STC	2	0.4	0.4	0.0	0.0	0.0	0.0

NTH For CPCs -LPARs – Historical Details For A CPC (KM5CPCDH)



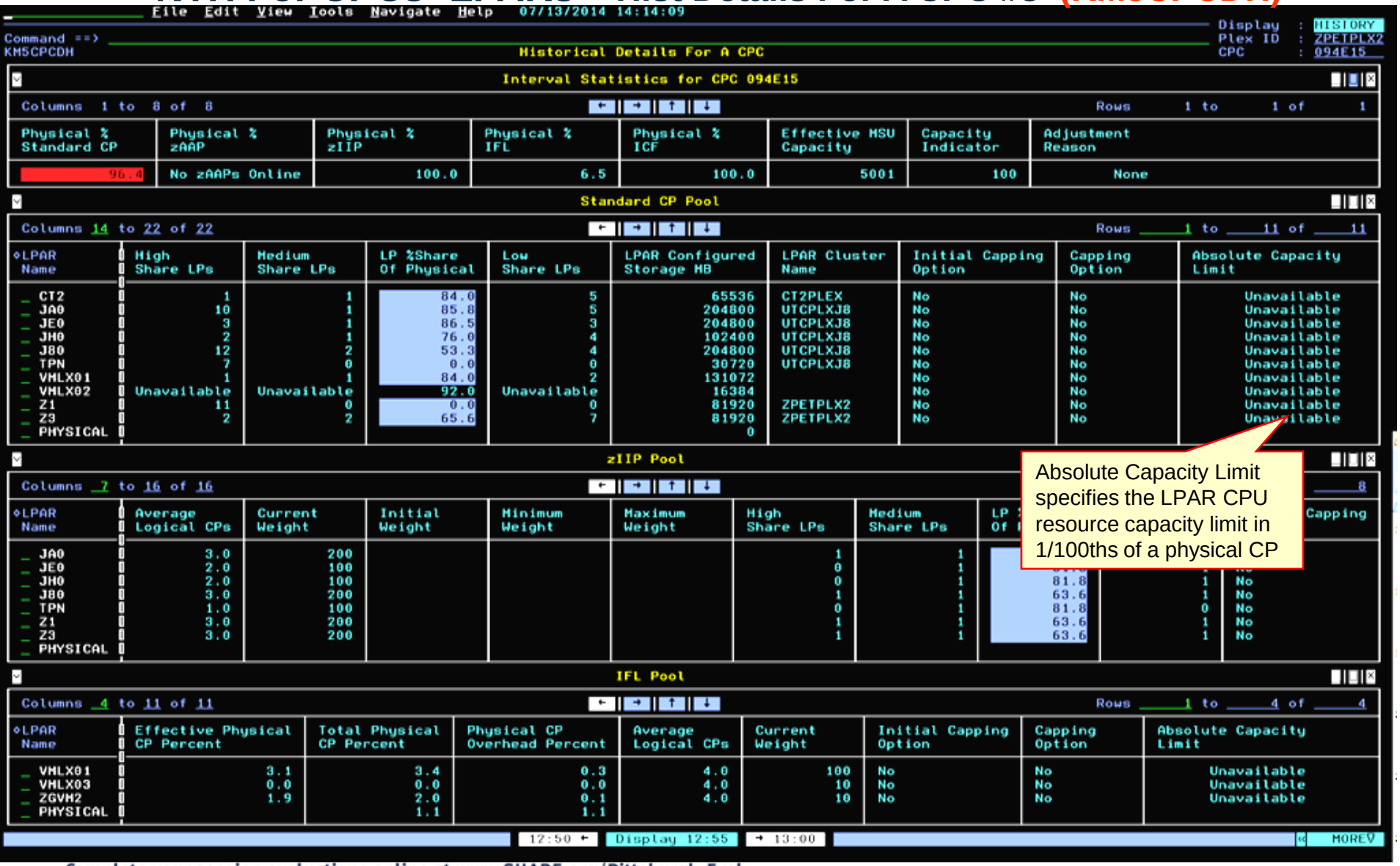
KMCPCDH is the default navigation from the KM5CPC1H and KM5CPC2H summary workspace rows. KM5CPCDH displays each of a CPC's LPAR statistics by processor pool. These statistics include MSU capacity and capping, physical and logical processor utilizations, IRD weights, Hiperdispatch information, configured storage.

NTH For CPCs and LPARs – Historical Details For A CPC #2 (KM5CPCDH)



Reverse video blue identifies the LPAR as running in Hiperdispatch Mode

NTH For CPCs -LPARs – Hist Details For A CPC #3 (KM5CPCDH)



File Edit View Tools Navigate Help 07/13/2014 14:14:09

Command ==> KM5CPCDH

Historical Details For A CPC

Display : HISTORY
Plex ID : ZPETPLX2
CPC : 094E15

Interval Statistics for CPC 094E15

Columns 1 to 8 of 8 — Rows 1 to 1 of 1

Physical % Standard CP	Physical % zAAP	Physical % zIIP	Physical % IFL	Physical % ICF	Effective MSU Capacity	Capacity Indicator	Adjustment Reason
96.4	No zAAPs Online	100.0	6.5	100.0	5001	100	None

Standard CP Pool

Columns 14 to 22 of 22 — Rows 1 to 11 of 11

LPAR Name	High Share LPs	Medium Share LPs	LP %Share Of Physical	Low Share LPs	LPAR Configured Storage MB	LPAR Cluster Name	Initial Capping Option	Capping Option	Absolute Capacity Limit
CT2	1	1	84.0	5	65536	CT2PLEX	No	No	Unavailable
JA0	10	1	85.8	5	204800	UTCPLXJ8	No	No	Unavailable
JE0	3	1	86.5	3	204800	UTCPLXJ8	No	No	Unavailable
JH0	2	1	76.0	4	102400	UTCPLXJ8	No	No	Unavailable
J80	12	2	53.3	4	204800	UTCPLXJ8	No	No	Unavailable
TPN	7	0	0.0	0	30720	UTCPLXJ8	No	No	Unavailable
VMLX01	1	1	84.0	2	131072		No	No	Unavailable
VMLX02	Unavailable	Unavailable	92.0	Unavailable	16384		No	No	Unavailable
Z1	11	0	0.0	0	81920	ZPETPLX2	No	No	Unavailable
Z3	2	2	65.6	7	81920	ZPETPLX2	No	No	Unavailable
PHYSICAL					0				

zIIP Pool

Columns 7 to 16 of 16

LPAR Name	Average Logical CPs	Current Weight	Initial Weight	Minimum Weight	Maximum Weight	High Share LPs	Medium Share LPs	LP % Of		Capping
JA0	3.0	200				1	1			
JE0	2.0	100				0	1			
JH0	2.0	100				0	1	81.8	1	No
J80	3.0	200				1	1	63.6	1	No
TPN	1.0	100				0	1	81.8	0	No
Z1	3.0	200				1	1	63.6	1	No
Z3	3.0	200				1	1	63.6	1	No
PHYSICAL										

IFL Pool

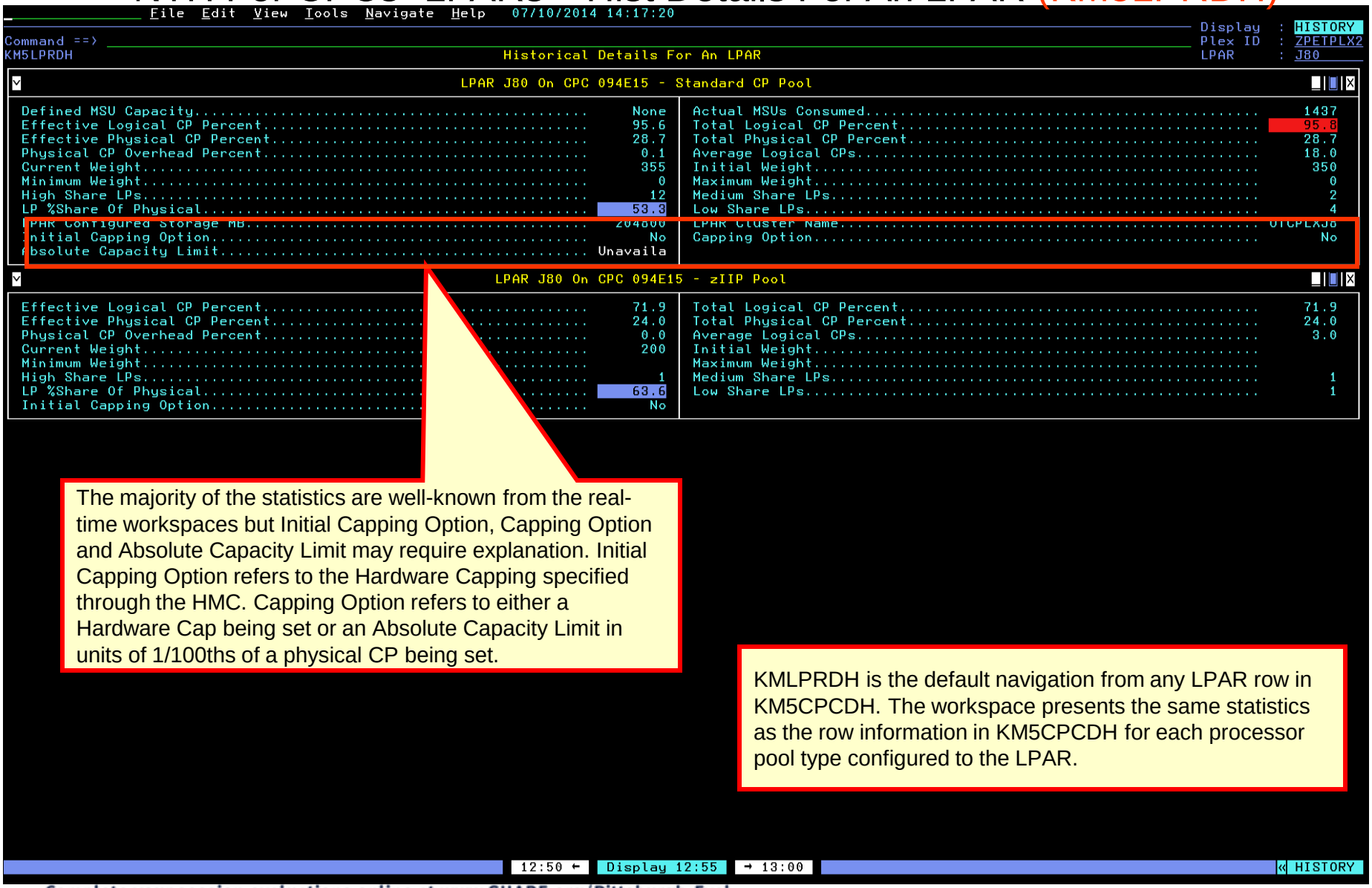
Columns 4 to 11 of 11 — Rows 1 to 4 of 4

LPAR Name	Effective Physical CP Percent	Total Physical CP Percent	Physical CP Overhead Percent	Average Logical CPs	Current Weight	Initial Capping Option	Capping Option	Absolute Capacity Limit
VMLX01	3.1	3.4	0.3	4.0	100	No	No	Unavailable
VMLX03	0.0	0.0	0.0	4.0	10	No	No	Unavailable
ZGVM2	1.9	2.0	0.1	4.0	10	No	No	Unavailable
PHYSICAL		1.1	1.1					

12:50 ← Display 12:55 → 13:00 MOREV

Absolute Capacity Limit specifies the LPAR CPU resource capacity limit in 1/100ths of a physical CP

NTH For CPCs -LPARs – Hist Details For An LPAR (KM5LPRDH)

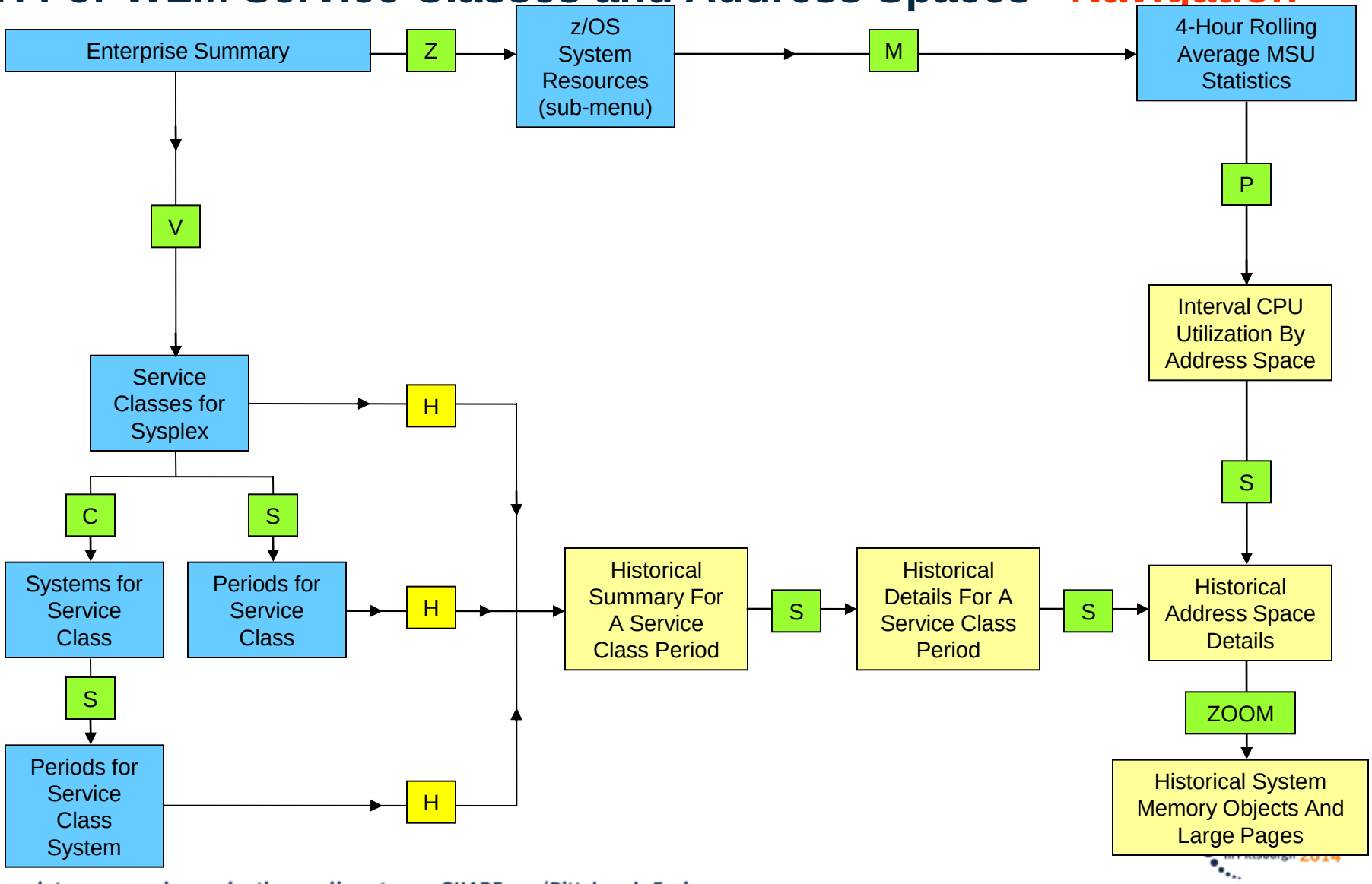


The majority of the statistics are well-known from the real-time workspaces but Initial Capping Option, Capping Option and Absolute Capacity Limit may require explanation. Initial Capping Option refers to the Hardware Capping specified through the HMC. Capping Option refers to either a Hardware Cap being set or an Absolute Capacity Limit in units of 1/100ths of a physical CP being set.

KMLPRDH is the default navigation from any LPAR row in KM5CPCDH. The workspace presents the same statistics as the row information in KM5CPCDH for each processor pool type configured to the LPAR.

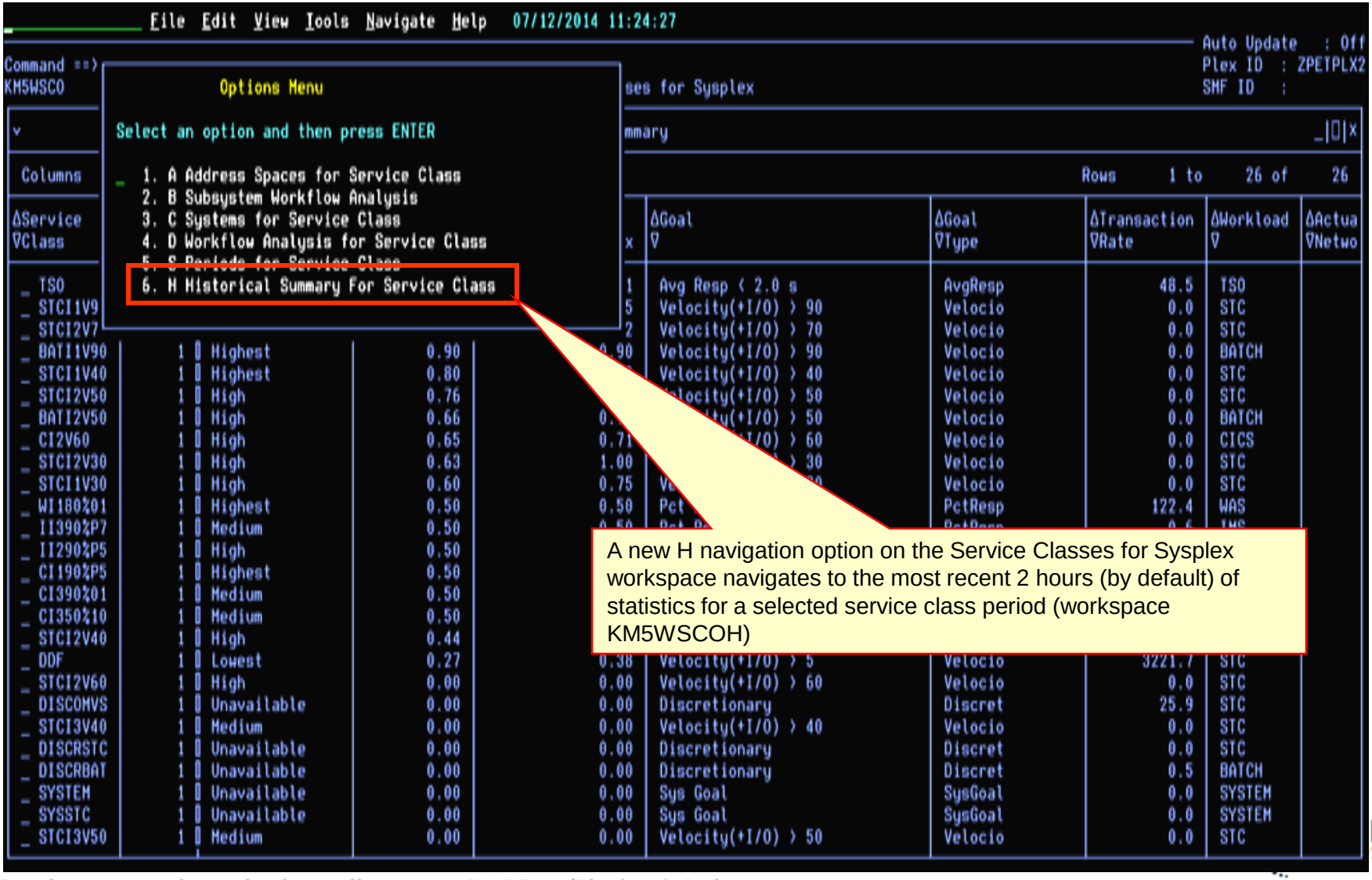
NEAR TERM HISTORY for WLM SERVICE CLASSES AND ADDRESS SPACES

NTH For WLM Service Classes and Address Spaces - Navigation



Near Term History For WLM Service Classes and Address Spaces

Service Classes for Sysplex (KM5WSCO)



A new H navigation option on the Service Classes for Sysplex workspace navigates to the most recent 2 hours (by default) of statistics for a selected service class period (workspace KM5WSCOH)

Near Term History For WLM Service Classes and Address Spaces

Historical Summary For A Service Class Period (KM5WSCOH)

File Edit View Tools Navigate Help 07/13/2014 11:31:14

Command ==>
KM5WSCOH

Historical Summary For A Service Class Period

Display : HISTORY
Plex ID : ZPETPLX2
SMF ID :

Service Class TSO Period 1 (Goal = Avg Resp < 2.0 s)

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

Goal Importance	Duration	Service Class Description	Workload Name	Resource Group
High	Unavailable	TSO workload	TSO	

Historical Summary

Columns 3 to 8 of 8 Rows 1 to 39 of 432

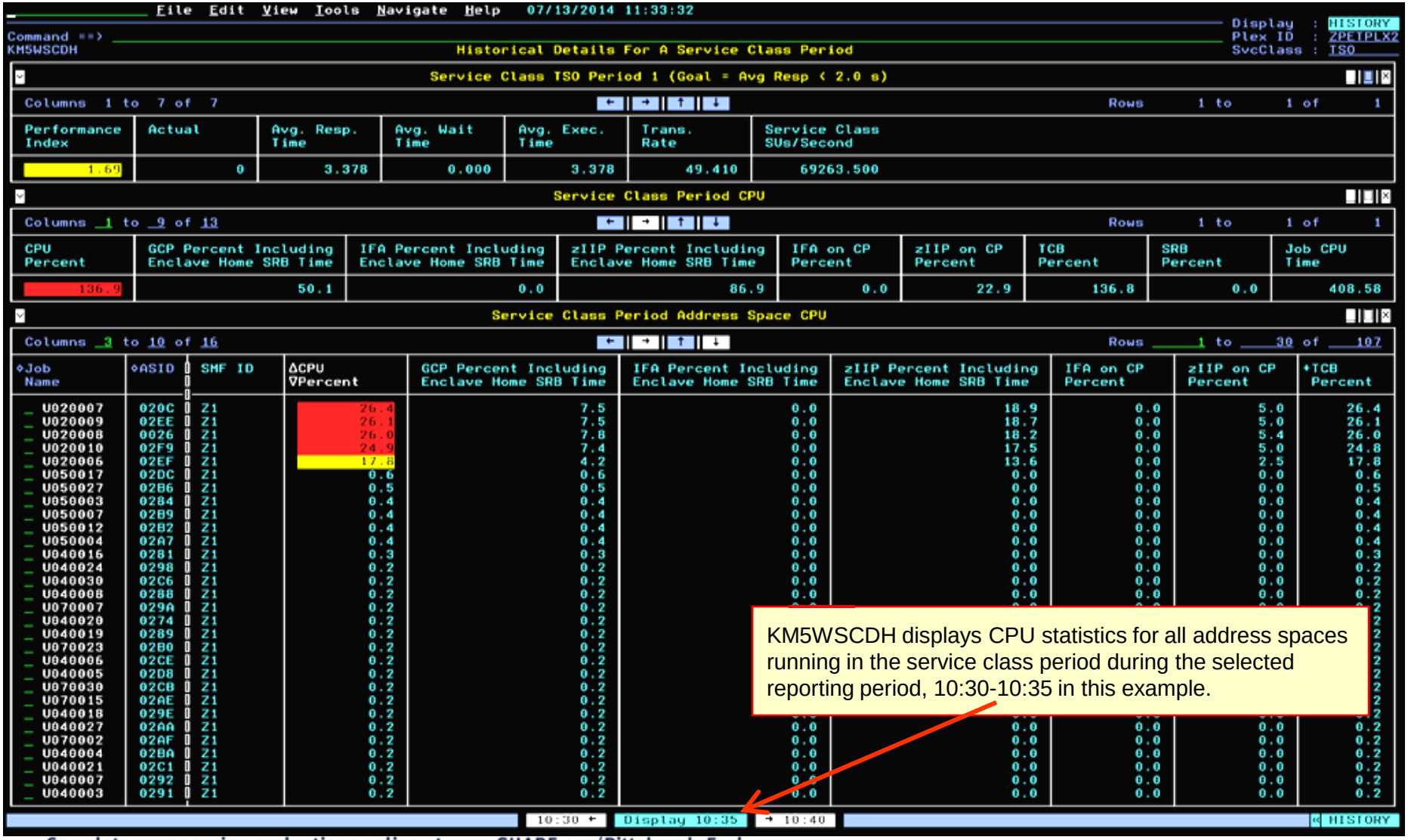
Recording Date/Time	Performance Index	Actual	Avg. Resp. Time	Avg. Wait Time	Avg. Exec. Time	Trans. Rate	Service Class SUs/Second
14/07/13 11:30:00	1.89	0	3.781	0.000	3.781	46.040	66906.940
14/07/13 11:25:00	1.85	0	3.698	0.000	3.698	45.950	61208.370
14/07/13 11:20:00	1.67	0	3.347	0.000	3.347	48.700	59869.650
14/07/13 11:15:00	1.78	0	3.554	0.000	3.554	49.270	64062.560
14/07/13 11:10:00	1.67	0	3.347	0.000	3.347	48.050	67584.250
14/07/13 11:05:00	1.74	0	3.486	0.000	3.486	47.910	60542.820
14/07/13 11:00:00	1.84	0	3.689	0.000	3.689	47.360	63307.360
14/07/13 10:55:00	1.72	0	3.445	0.000	3.445	47.670	63746.980
14/07/13 10:50:00	1.89	0	3.771	0.000	3.771	47.960	69751.810
14/07/13 10:45:00	1.77	0	3.548	0.000	3.548	46.010	60411.730
14/07/13 10:40:00	1.81	0	3.614	0.000	3.614	46.110	64733.700
14/07/13 10:35:00	1.69	0	3.378	0.000	3.378	49.410	69263.500
14/07/13 10:30:00	1.69	0	3.389	0.000	3.389	49.250	65020.480
14/07/13 10:25:00	1.79	0	3.571	0.000	3.571	48.400	60026.450
14/07/13 10:20:00	1.71	0	3.428	0.000	3.428	46.940	70631.190
14/07/13 10:15:00	1.81	0	3.618	0.000	3.618	48.250	65534.930
14/07/13 10:10:00	1.72	0	3.439	0.000	3.439	48.200	57659.200
14/07/13 10:05:00	1.78	0	3.551	0.000	3.551	48.870	70651.190
14/07/13 10:00:00	1.85	0	3.705	0.000	3.705	47.010	63997.170
14/07/13 09:55:00	1.77	0	3.533	0.000	3.533	46.440	62800.640
14/07/13 09:50:00	1.67	0	3.344	0.000	3.344	48.330	67213.250
14/07/13 09:45:00	1.69	0	3.379	0.000	3.379	49.050	58874.240
14/07/13 09:40:00	1.81	0	3.630	0.000	3.630	47.170	65208.110
14/07/13 09:35:00	1.79	0	3.582	0.000	3.582	46.800	65534.240
14/07/13 09:30:00	1.83	0	3.668	0.000			
14/07/13 09:25:00	1.74	0	3.473	0.000			
14/07/13 09:20:00	1.79	0	3.577	0.000			
14/07/13 09:15:00	1.90	0	3.808	0.000			
14/07/13 09:10:00	1.77	0	3.532	0.000			
14/07/13 09:05:00	1.64	0	3.289	0.000			
14/07/13 09:00:00	1.70	0	3.393	0.000			
14/07/13 08:55:00	1.83	0	3.667	0.000			
14/07/13 08:50:00	1.82	0	3.638	0.000			
14/07/13 08:45:00	1.82	0	3.648	0.000			
14/07/13 08:40:00	1.72	0	3.448	0.000			
14/07/13 08:35:00	1.69	0	3.385	0.000	3.385	48.020	63054.130
14/07/13 08:30:00	2.00	0	4.004	0.000	4.004	46.010	68549.060
14/07/13 08:25:00	1.78	0	3.564	0.000	3.564	45.880	65335.140
14/07/13 08:20:00	1.72	0	3.447	0.000	3.447	48.780	71055.810

11 July 23:31 to 13 July 11:31 HISTORY

KM5WSCOH displays the service class period performance index, performance against goal, response time components, transaction rate and service unit consumption.

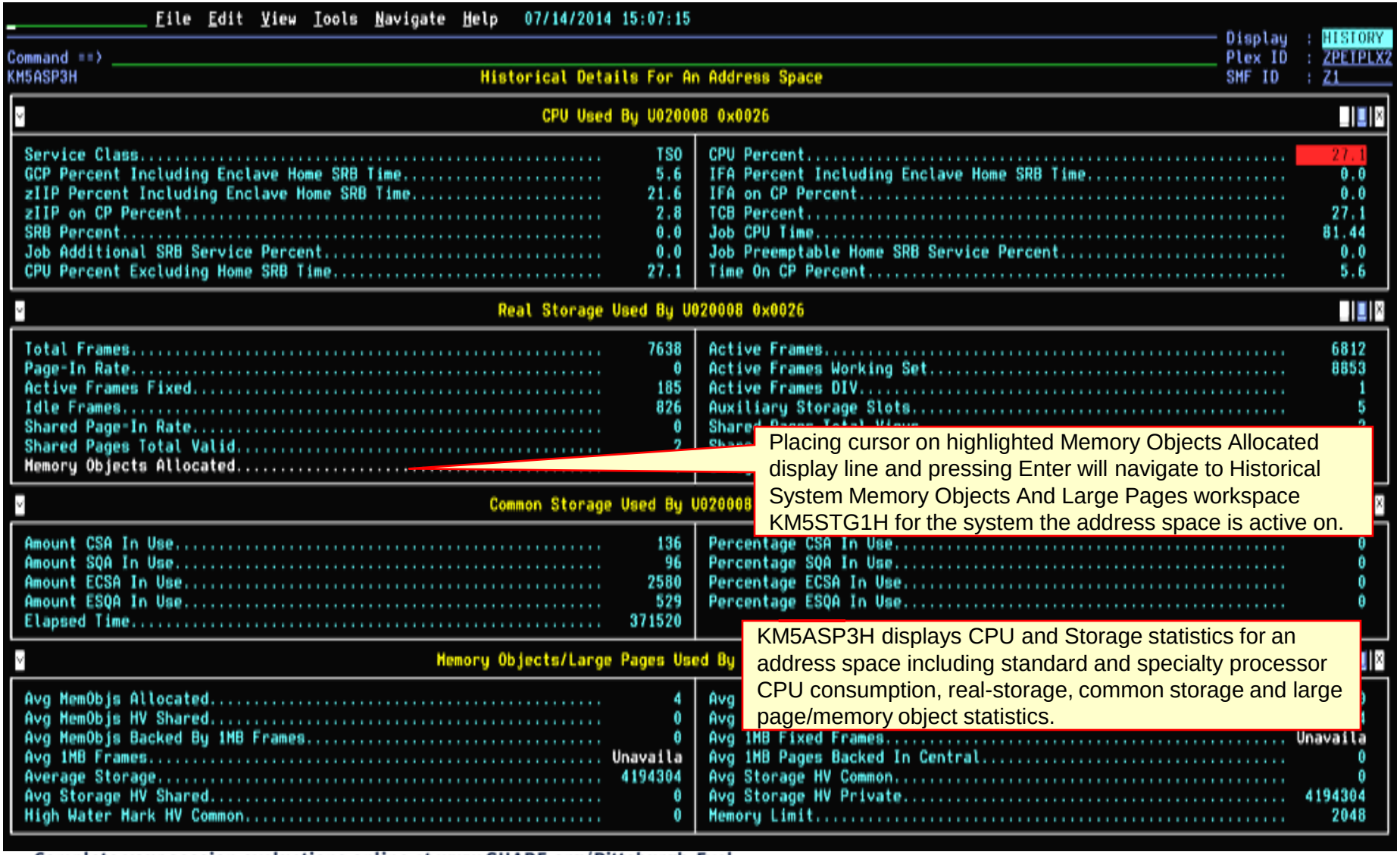
Near Term History For WLM Service Classes and Address Spaces

Historical Details For A Service Class Period (KM5WSCDH)



Near Term History For WLM Service Classes and Address Spaces

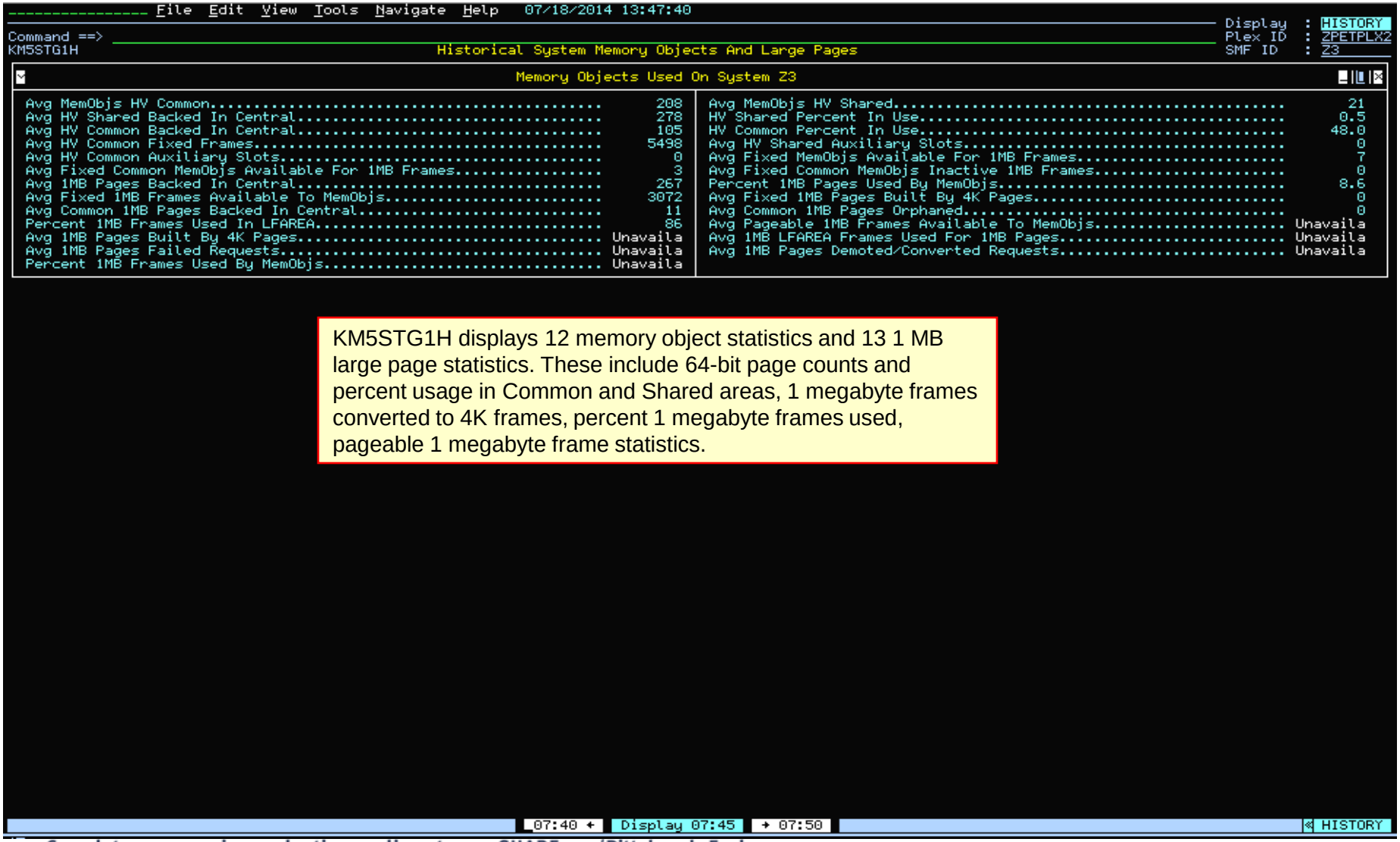
Historical Details For An Address Space(KM5ASP3H)



Placing cursor on highlighted Memory Objects Allocated display line and pressing Enter will navigate to Historical System Memory Objects And Large Pages workspace KM5STG1H for the system the address space is active on.

KM5ASP3H displays CPU and Storage statistics for an address space including standard and specialty processor CPU consumption, real-storage, common storage and large page/memory object statistics.

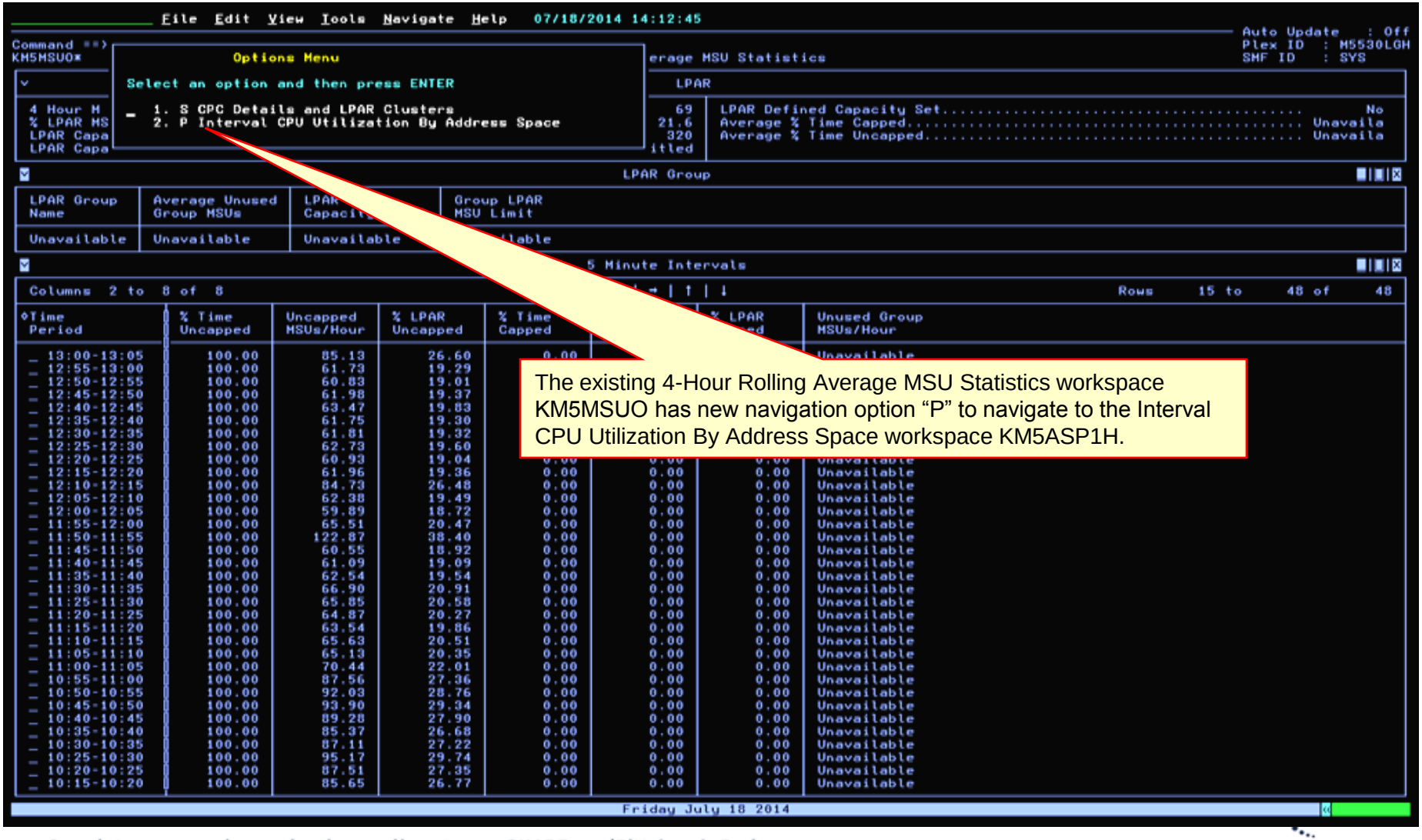
Near Term History For WLM Service Classes and Address Spaces
Historical System Memory Objects And Large Pages(KM5STG1H)



KM5STG1H displays 12 memory object statistics and 13 1 MB large page statistics. These include 64-bit page counts and percent usage in Common and Shared areas, 1 megabyte frames converted to 4K frames, percent 1 megabyte frames used, pageable 1 megabyte frame statistics.

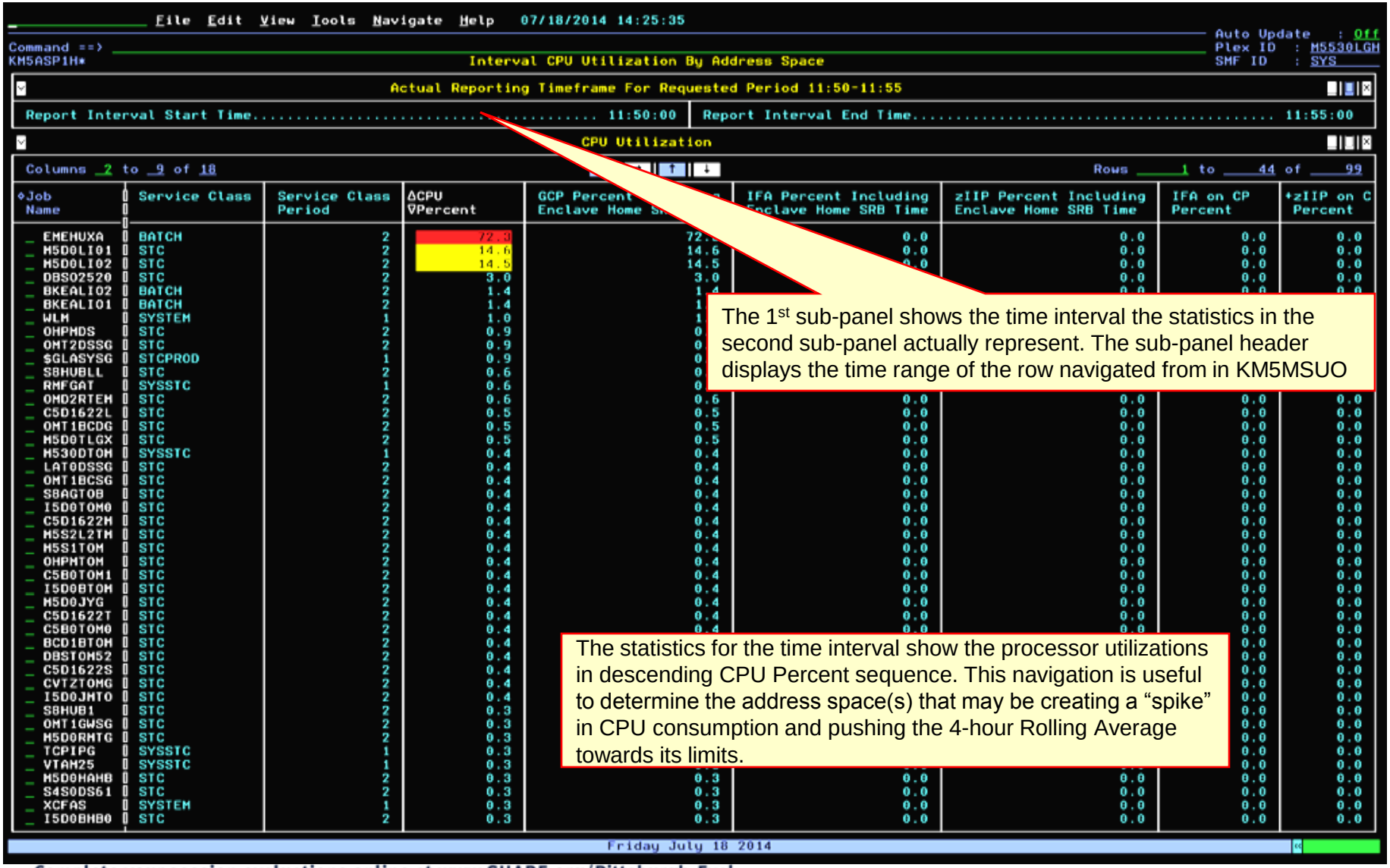
Near Term History For WLM Service Classes and Address Spaces

Interval CPU Utilization By Address Space (KM5ASP1H)



The existing 4-Hour Rolling Average MSU Statistics workspace KM5MSUO has new navigation option “P” to navigate to the Interval CPU Utilization By Address Space workspace KM5ASP1H.

Near Term History For WLM Service Classes and Address Spaces
Interval CPU Utilization By Address Space (KM5ASP1H)

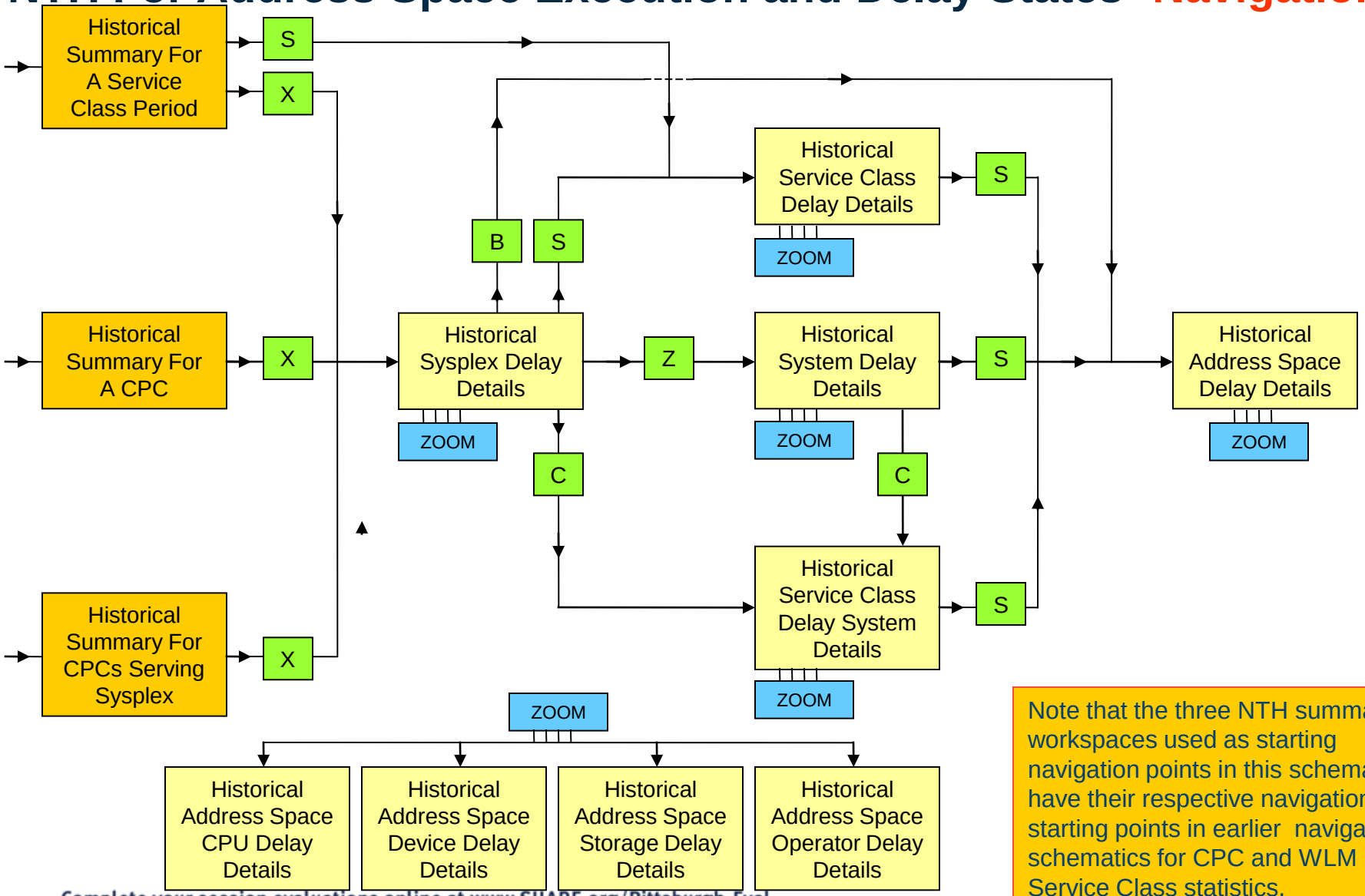


Job Name	Service Class	Service Class Period	CPU Percent	GCP Percent Enclave Home S...	IFA Percent Including Enclave Home SRB Time	zIIP Percent Including Enclave Home SRB Time	IFA on CP Percent	zIIP on C Percent
EMEHUXA	BATCH	2	72.3	72.3	0.0	0.0	0.0	0.0
M5D0LI01	STC	2	14.6	14.6	0.0	0.0	0.0	0.0
M5D0LI02	STC	2	14.5	14.5	0.0	0.0	0.0	0.0
DBSO2520	STC	2	3.0	3.0		0.0	0.0	0.0
BKEALI02	BATCH	2	1.4	1.4		0.0	0.0	0.0
BKEALI01	BATCH	2	1.4	1.4				
WLM	SYSTEM	1	1.0	1.0				
OHPMDS	STC	2	0.9	0.9				
OMT2DSSG	STC	2	0.9	0.9				
$GLASYSG	STCPROD	1	0.9	0.9				
S8HUBLL	STC	2	0.6	0.6				
RMFGAT	SYSSTC	1	0.6	0.6				
OMD2RTEM	STC	2	0.6	0.6	0.0	0.0	0.0	0.0
C5D1622L	STC	2	0.5	0.5	0.0	0.0	0.0	0.0
OMT1BCDG	STC	2	0.5	0.5	0.0	0.0	0.0	0.0
M5D0TLGX	STC	2	0.5	0.5	0.0	0.0	0.0	0.0
M530DTOM	SYSSTC	1	0.4	0.4	0.0	0.0	0.0	0.0
LAT0DSSG	STC	2	0.4	0.4	0.0	0.0	0.0	0.0
OMT1BCSG	STC	2	0.4	0.4	0.0	0.0	0.0	0.0
S8AGTOB	STC	2	0.4	0.4	0.0	0.0	0.0	0.0
I5D0TOM0	STC	2	0.4	0.4	0.0	0.0	0.0	0.0
C5D1622M	STC	2	0.4	0.4	0.0	0.0	0.0	0.0
M5S2L2TM	STC	2	0.4	0.4	0.0	0.0	0.0	0.0
M5S1TOM	STC	2	0.4	0.4	0.0	0.0	0.0	0.0
OHPMTOM	STC	2	0.4	0.4	0.0	0.0	0.0	0.0
C5B0TOM1	STC	2	0.4	0.4	0.0	0.0	0.0	0.0
I5D0BTOM	STC	2	0.4	0.4	0.0	0.0	0.0	0.0
M5D0JYG	STC	2	0.4	0.4	0.0	0.0	0.0	0.0
C5D1622T	STC	2	0.4	0.4	0.0	0.0	0.0	0.0
C5B0TOM0	STC	2	0.4	0.4	0.0	0.0	0.0	0.0
BCD1BTOM	STC	2	0.4	0.4			0.0	0.0
DBSTOM52	STC	2	0.4	0.4			0.0	0.0
C5D1622S	STC	2	0.4	0.4			0.0	0.0
CVTZTOMG	STC	2	0.4	0.4			0.0	0.0
I5D0JMTO	STC	2	0.4	0.4			0.0	0.0
S8HUB1	STC	2	0.3	0.3			0.0	0.0
OMT1GWSG	STC	2	0.3	0.3			0.0	0.0
M5D0RMTG	STC	2	0.3	0.3			0.0	0.0
TCPIPG	SYSSTC	1	0.3	0.3			0.0	0.0
VTAM25	SYSSTC	1	0.3	0.3			0.0	0.0
M5D0HAHB	STC	2	0.3	0.3	0.0	0.0	0.0	0.0
S4S0DS61	STC	2	0.3	0.3	0.0	0.0	0.0	0.0
XCFAS	SYSTEM	1	0.3	0.3	0.0	0.0	0.0	0.0
I5D0BHB0	STC	2	0.3	0.3	0.0	0.0	0.0	0.0

The 1st sub-panel shows the time interval the statistics in the second sub-panel actually represent. The sub-panel header displays the time range of the row navigated from in KM5MSUO

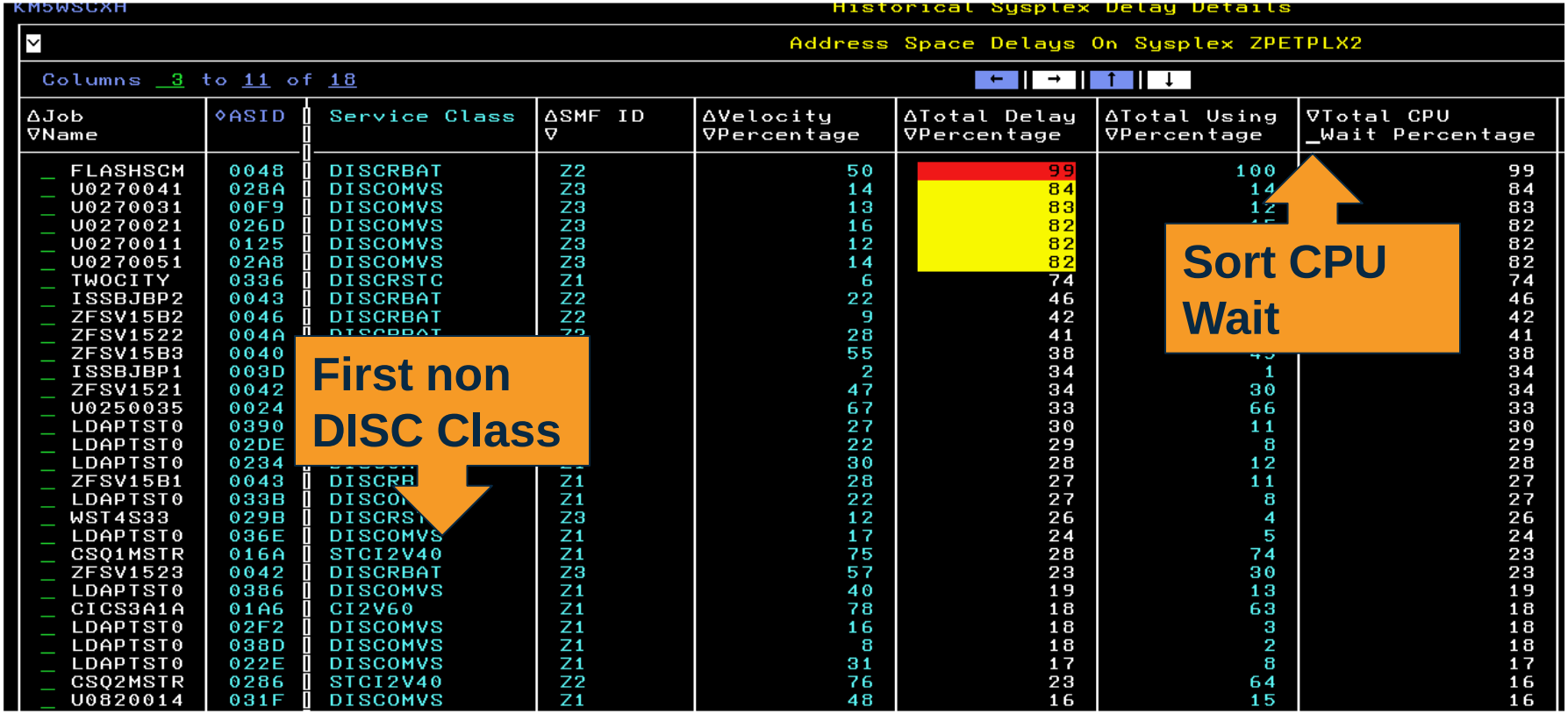
The statistics for the time interval show the processor utilizations in descending CPU Percent sequence. This navigation is useful to determine the address space(s) that may be creating a “spike” in CPU consumption and pushing the 4-hour Rolling Average towards its limits.

NTH For Address Space Execution and Delay States- Navigation



Note that the three NTH summary workspaces used as starting navigation points in this schematic have their respective navigation starting points in earlier navigation schematics for CPC and WLM Service Class statistics.

Problem Solving – CPU delays on LPAR ?



ΔJob ∇Name	◊ASID	Service Class	ΔSMF ID ∇	ΔVelocity ∇Percentage	ΔTotal Delay ∇Percentage	ΔTotal Using ∇Percentage	∇Total CPU _Wait Percentage
FLASHSCM	0048	DISCRBAT	Z2	50	99	100	99
U0270041	028A	DISCOMVS	Z3	14	84	14	84
U0270031	00F9	DISCOMVS	Z3	13	83	12	83
U0270021	026D	DISCOMVS	Z3	16	82	[illegible]	82
U0270011	0125	DISCOMVS	Z3	12	82	[illegible]	82
U0270051	02A8	DISCOMVS	Z3	14	82	[illegible]	82
TWOCITY	0336	DISCRSTC	Z1	6	74	[illegible]	74
ISSBJBP2	0043	DISCRBAT	Z2	22	46	[illegible]	46
ZFSV15B2	0046	DISCRBAT	Z2	9	42	[illegible]	42
ZFSV1522	004A	DISCRBAT	Z3	28	41	[illegible]	41
ZFSV15B3	0040	[illegible]	[illegible]	55	38	[illegible]	38
ISSBJBP1	003D	[illegible]	[illegible]	2	34	1	34
ZFSV1521	0042	[illegible]	[illegible]	47	34	30	34
U0250035	0024	[illegible]	[illegible]	67	33	66	33
LDAPTST0	0390	[illegible]	[illegible]	27	30	11	30
LDAPTST0	02DE	[illegible]	[illegible]	22	29	8	29
LDAPTST0	0234	[illegible]	[illegible]	30	28	12	28
ZFSV15B1	0043	DISCRB[illegible]	Z1	28	27	11	27
LDAPTST0	033B	DISCO[illegible]	Z1	22	27	8	27
WST4S33	029B	DISCRST[illegible]	Z3	12	26	4	26
LDAPTST0	036E	DISCOMVS	Z1	17	24	5	24
CSQ1MSTR	016A	STCI2V40	Z1	75	28	74	23
ZFSV1523	0042	DISCRBAT	Z3	57	23	30	23
LDAPTST0	0386	DISCOMVS	Z1	40	19	13	19
CICS3A1A	01A6	CI2V60	Z1	78	18	63	18
LDAPTST0	02F2	DISCOMVS	Z1	16	18	3	18
LDAPTST0	038D	DISCOMVS	Z1	8	18	2	18
LDAPTST0	022E	DISCOMVS	Z1	31	17	8	17
CSQ2MSTR	0286	STCI2V40	Z2	76	23	64	16
U0820014	031F	DISCOMVS	Z1	48	16	15	16

Near Term History For Address Space Execution and Delay States

Historical Sysplex Delay Details (KM5WSCXH)

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Command ==>
KM5WSCXH

Historical Sysplex Delay Details

Display : HISTORY
Plex ID : ZPETPLX2
SMF ID :

Address Space Delays On Sysplex ZPETPLX2

Columns 3 to 11 of 18 Rows 1 to 48 of 772

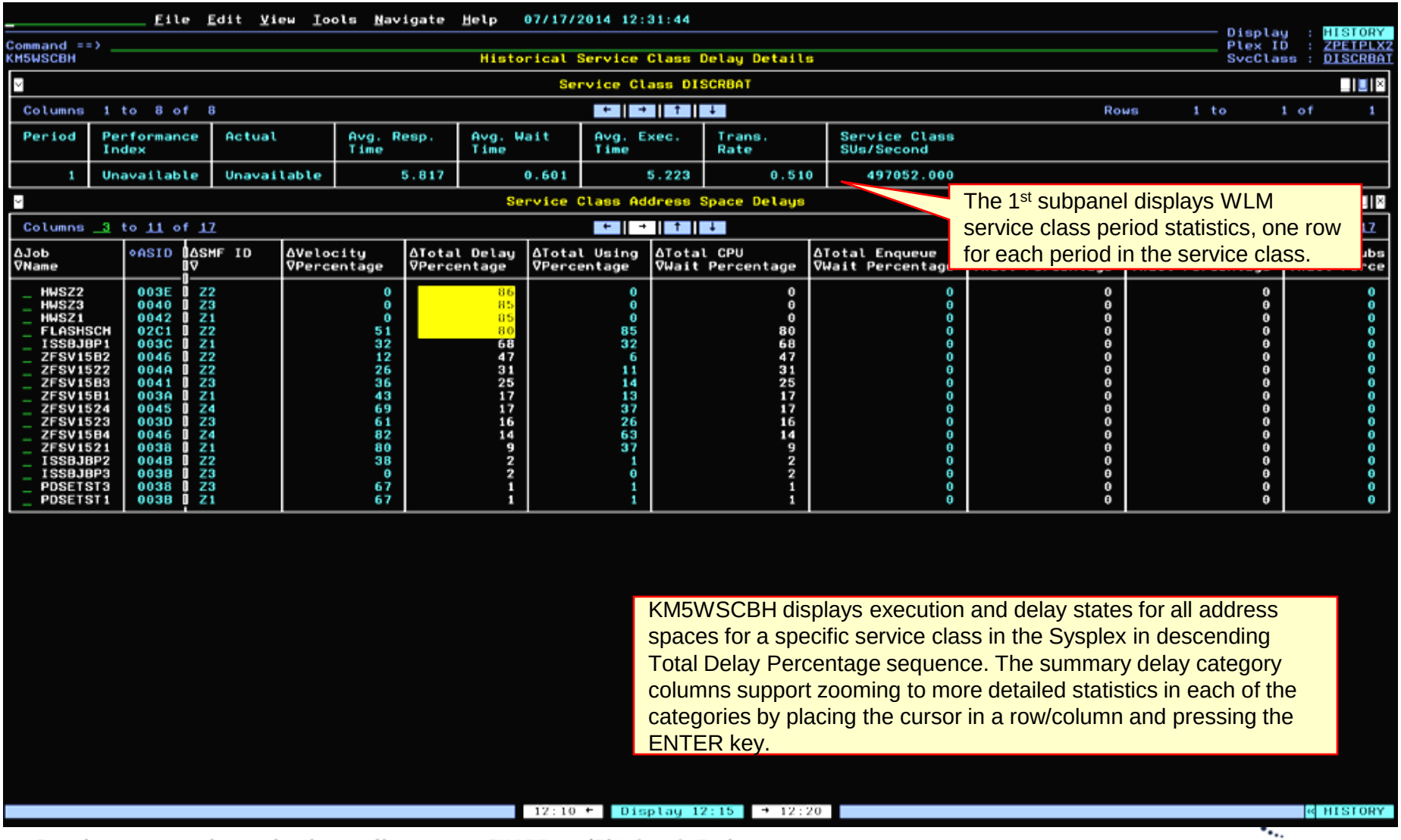
ΔJob ∇Name	◦ASID	Service Class	ΔSMF ID ∇	ΔVelocity ∇Percentage	ΔTotal Delay ∇Percentage	ΔTotal Using ∇Percentage	ΔTotal CPU ∇Wait Percentage	ΔTotal Enqueue ∇Wait Percentage	ΔTotal Device ∇Wait Percentage	ΔTotal Storag ∇Wait Percent
LHART	026F	TSO	Z1	0	100	0	0	0	0	0
DFHSM	0204	SYSSTC	Z2	47	100	96	3	0	14	0
HWSZ2	003E	DISCRBAT	Z2	0	85	0	0	0	0	0
HWSZ1	0042	DISCRBAT	Z1	0	84	0	0	0	0	0
HWSZ3	0040	DISCRBAT	Z3	0	83	0	0	0	0	0
FLASHSCM	02C1	DISCRBAT	Z2	51	78	81	78	0	0	0
ISSBJBP1	003C	DISCRBAT	Z1	31	68	30	68	0	0	0
CSQ1MSTR	0176	STCI2V40	Z1	69	46	83	37	0	15	0
ZFSV15B2	0046	DISCRBAT	Z2	13	40	6	40	0	0	0
ZFSV1522	004A	DISCRBAT	Z2	22	31	9	31	0	0	0
CONNRPT	011C	DISCRSTC	Z2	37	31	18	31	0	0	0
DFHSM	01DE	SYSSTC	Z1	84	25	100	9	0	19	0
CICS3A1A	0192	CI2V60	Z1	77	23	75	23	0	0	0
ZFSV15B1	003A	DISCRBAT	Z1	40	19	13	19	0	0	0
CSQ2MSTR	0270	STCI2V40	Z2	79	18	67	12	0	8	0
ZFSV15B4	0046	DISCRBAT	Z4	72	18	45	18	0	0	0
ZFS	0039	SYSSTC	Z4	85	17	79	7	0	10	0
ZFSV1524	0045	DISCRBAT	Z4	72	16	41	16	0	0	0
ZFSV1521	0038	DISCRBAT	Z1	49	15	15	15	0	0	0
ZFSV15B3	0041	DISCRBAT	Z3	47	14	12	13	0	0	0
U0200055	0285	DISCOMVS	Z1	7	9	1	9	0	0	0
U0200039	0273	DISCOMVS	Z1	18	9	2	9	0	0	0
U0200045	02B0	DISCOMVS	Z1	21	9	2	9	0	0	0
XCFAS	0006	SYSTEM	Z4	76	9	26	9	0	0	0
U0820014	0280	DISCOMVS	Z1	69	9	20	9	0	0	0
U0200018	02BA	DISCOMVS	Z1	19	9	2	9	0	0	0
CONNRPT	0116	DISCRSTC	Z3	77	8	26	8	0	0	0
CICS2A1A	0193	CI2V60	Z1	72	8	22	8	0	0	0
WSWS2	0158	DISCOMVS	Z3	51	8	9	8	0	0	0
WST4S13	0148	DISCRSTC	Z3	23	8	2	8	0	0	0
CONNRPT	0114	DISCRSTC	Z1	80	8	33	8	0	0	0
DBX1DIST	0175	DDF	Z1	58	8	12	8	0	0	0
WSWS2	0044	DISCOMVS	Z2	16	7	1	7	0	0	0
OMVS	0012	SYSSTC	Z4	77						0
CICS2T1A	0191	CI2V60	Z1	64						0
CSQ1CHIN	01A4	STCI2V40	Z1	70						0
CSQ3MSTR	0288	STCI2V40	Z3	84						0
U0200057	0269	DISCOMVS	Z1	35						0
WST4S33	0277	DISCRSTC	Z3	30						0
U0200035	02A0	DISCOMVS	Z1	17						0
ZFSV1523	003D	DISCRBAT	Z3	82						0
DBX2DBM1	0186	STCI2V50	Z2	90						0
CICS3A2A	019A	CI2V60	Z2	91						0
U0200011	029F	DISCOMVS	Z1	21						0
U0200041	024D	DISCOMVS	Z1	17						0
U020007	02B3	TSO	Z1	83						0
U020009	0251	TSO	Z1	82	4	17	4	0	0	0
C2PACMON	00DA	DISCRSTC	Z2	58	4	6	4	0	0	0

12:00 ← Display 12:05 → Nothing Later « HISTORY

KM5WSCXH displays execution and delay states for all address spaces across the Sysplex in descending Total Delay Percentage sequence. The summary delay category columns support zooming to more detailed statistics in each of the categories by placing the cursor in a row/column and pressing the ENTER key.

Near Term History For Address Space Execution and Delay States

Historical Service Class Delay Details (KM5WSCBH)

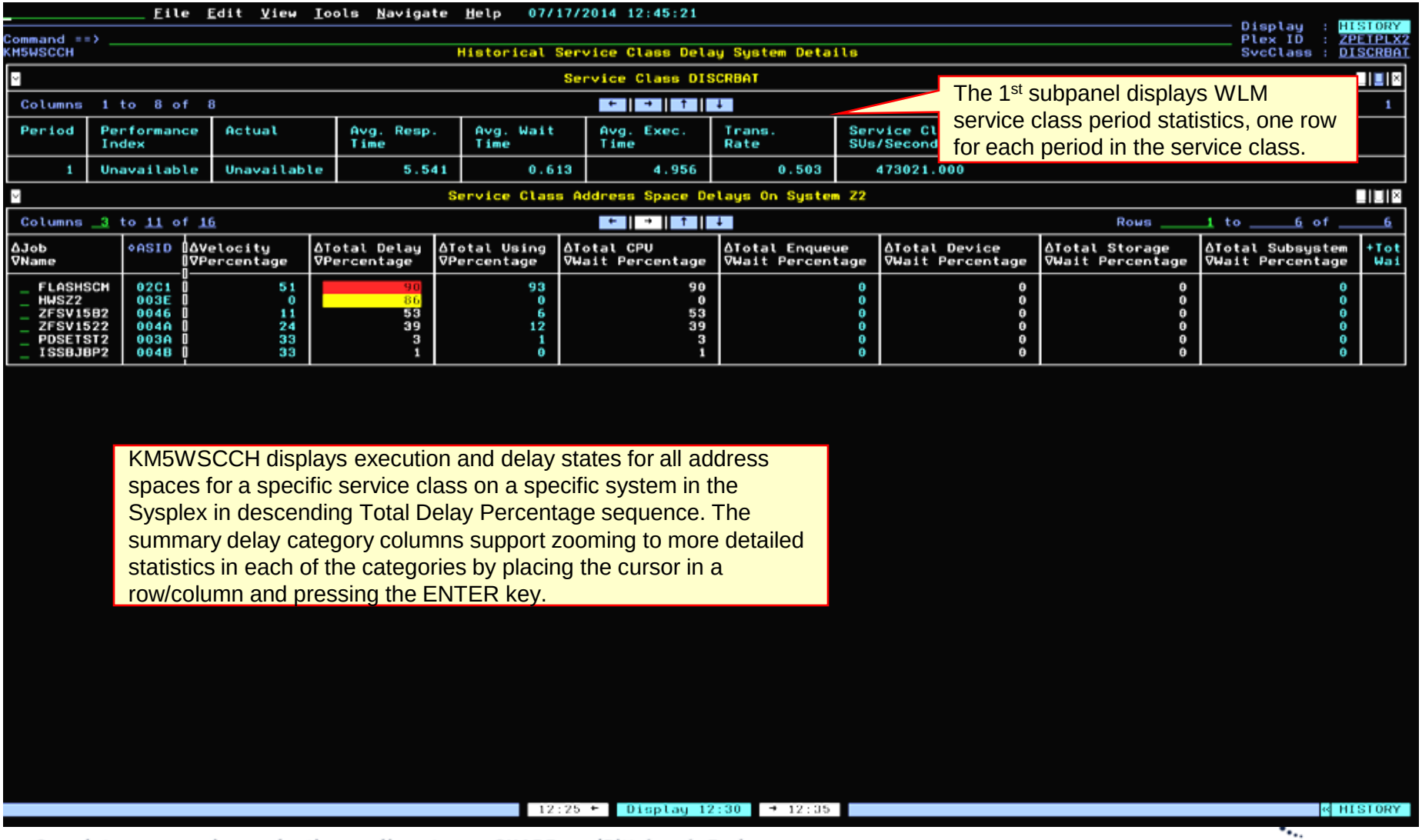


The 1st subpanel displays WLM service class period statistics, one row for each period in the service class.

KM5WSCBH displays execution and delay states for all address spaces for a specific service class in the Sysplex in descending Total Delay Percentage sequence. The summary delay category columns support zooming to more detailed statistics in each of the categories by placing the cursor in a row/column and pressing the ENTER key.

Near Term History For Address Space Execution and Delay States

Historical Service Class Delay System Details (KM5WSCCH)

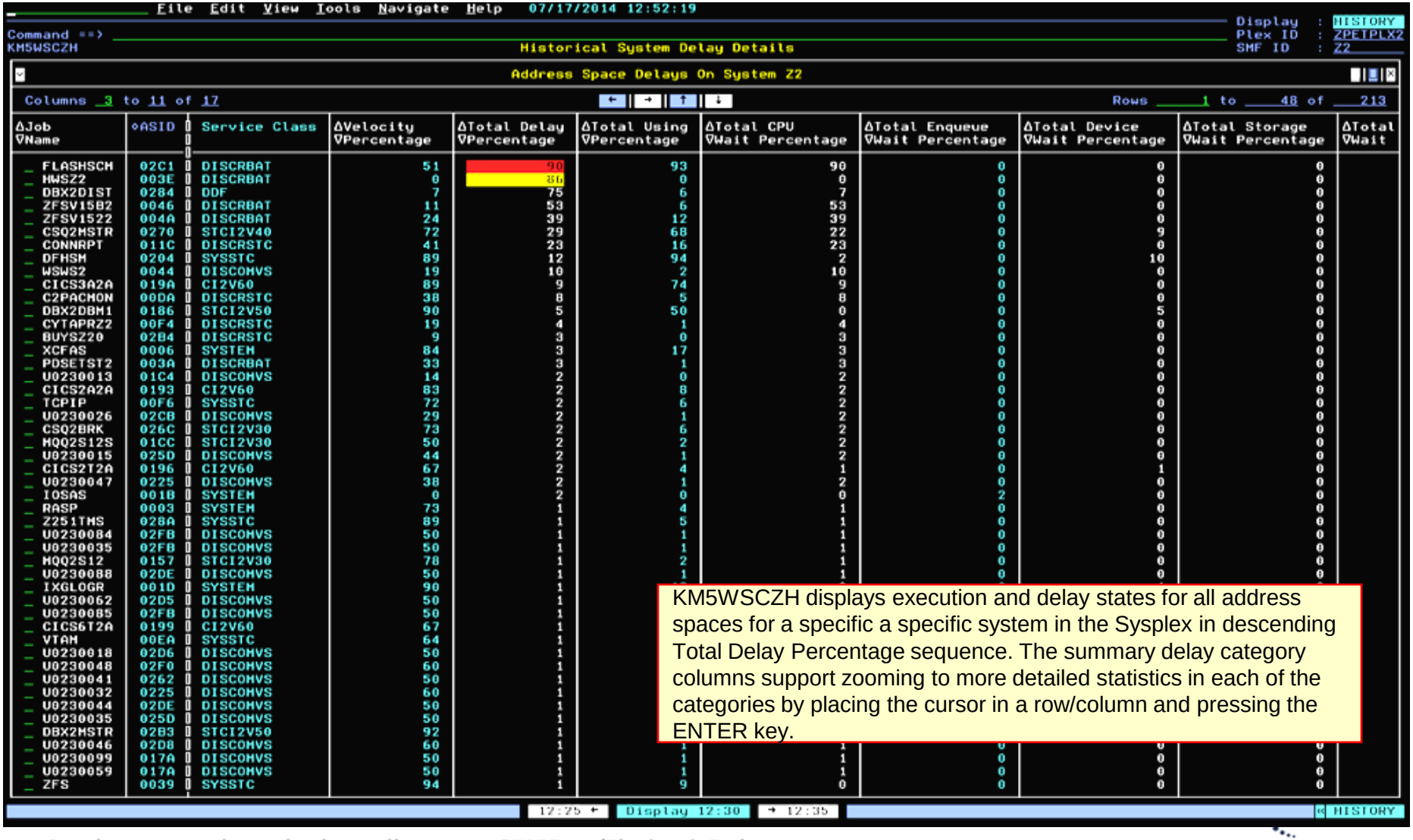


The 1st subpanel displays WLM service class period statistics, one row for each period in the service class.

KM5WSCCH displays execution and delay states for all address spaces for a specific service class on a specific system in the Sysplex in descending Total Delay Percentage sequence. The summary delay category columns support zooming to more detailed statistics in each of the categories by placing the cursor in a row/column and pressing the ENTER key.

NTH For Address Space Execution and Delay States

Historical System Delay Details (KM5WSCZH)



File Edit View Tools Navigate Help 07/17/2014 12:52:19

Command ==>
KM5WSCZH

Historical System Delay Details

Display : HISTORY
Plex ID : ZPETPLX2
SMF ID : Z2

Address Space Delays On System Z2

Columns 3 to 11 of 17 Rows 1 to 48 of 213

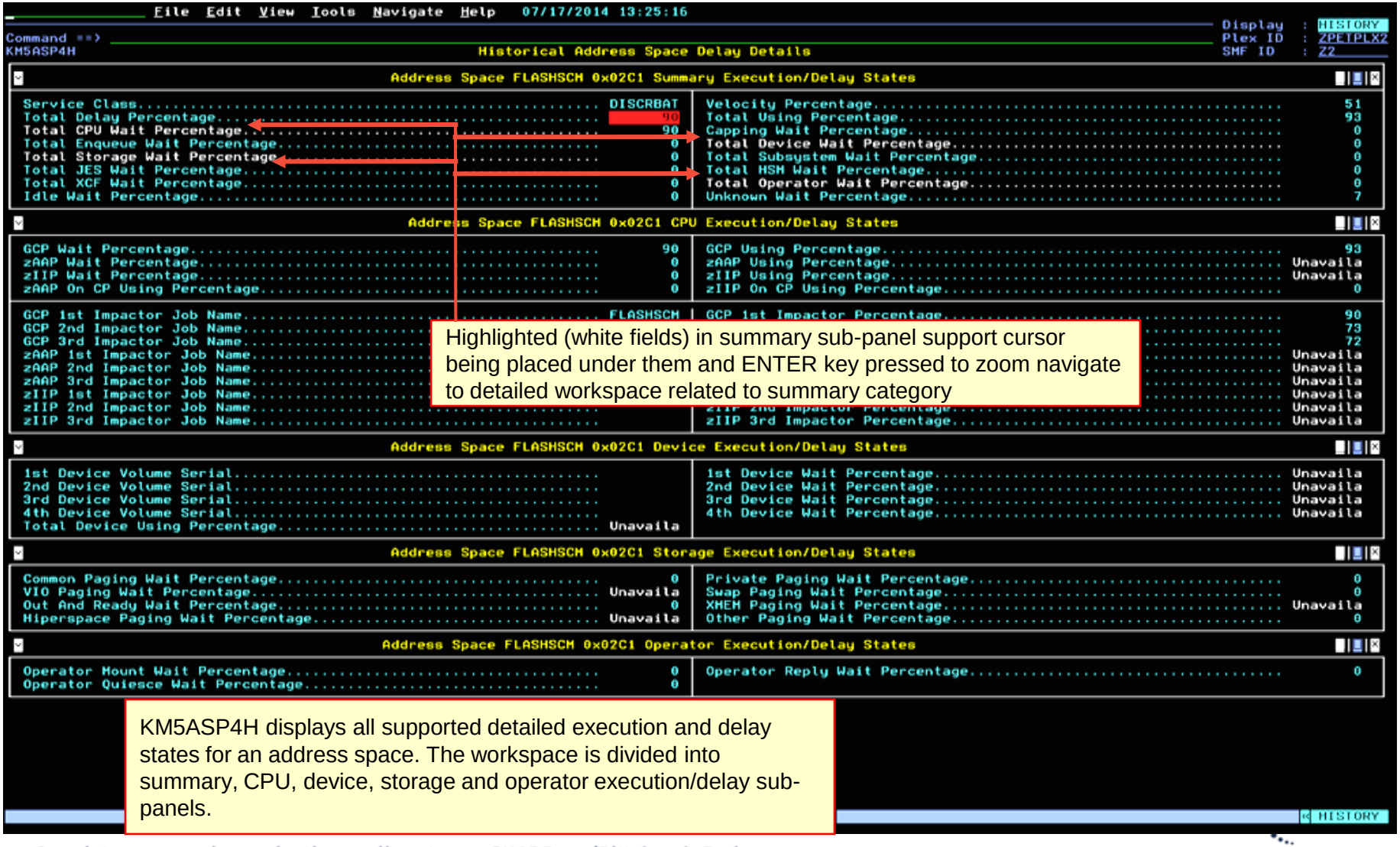
ΔJob ∇Name	◦ASID	Service Class	ΔVelocity ∇Percentage	ΔTotal Delay ∇Percentage	ΔTotal Using ∇Percentage	ΔTotal CPU ∇Wait Percentage	ΔTotal Enqueue ∇Wait Percentage	ΔTotal Device ∇Wait Percentage	ΔTotal Storage ∇Wait Percentage	ΔTotal ∇Wait
FLASHSCH	02C1	DISCRBAT	51	90	93	90	0	0	0	
HWSZ2	003E	DISCRBAT	0	86	0	0	0	0	0	
DBX2DIST	0284	DDF	7	75	6	7	0	0	0	
ZFSV15B2	0046	DISCRBAT	11	53	6	53	0	0	0	
ZFSV1522	004A	DISCRBAT	24	39	12	39	0	0	0	
CSQ2MSTR	0270	STCI2V40	72	29	68	22	0	9	0	
CONNRPT	011C	DISCRSTC	41	23	16	23	0	0	0	
DFHSM	0204	SYSSTC	89	12	94	2	0	10	0	
WSWS2	0044	DISCONVS	19	10	2	10	0	0	0	
CICS3A2A	019A	CI2V60	89	9	74	9	0	0	0	
C2PACHON	00DA	DISCRSTC	38	8	5	8	0	0	0	
DBX2DBM1	0186	STCI2V50	90	5	50	0	0	5	0	
CYTAPRZ2	00F4	DISCRSTC	19	4	1	4	0	0	0	
BUYSZ20	02B4	DISCRSTC	9	3	0	3	0	0	0	
XCFAS	0006	SYSTEM	84	3	17	3	0	0	0	
PDSETST2	003A	DISCRBAT	33	3	1	3	0	0	0	
U0230013	01C4	DISCONVS	14	2	0	2	0	0	0	
CICS2A2A	0193	CI2V60	83	2	8	2	0	0	0	
TCPIP	00F6	SYSSTC	72	2	6	2	0	0	0	
U0230026	02CB	DISCONVS	29	2	1	2	0	0	0	
CSQ2BRK	026C	STCI2V30	73	2	6	2	0	0	0	
MQQ2S12S	01CC	STCI2V30	50	2	2	2	0	0	0	
U0230015	025D	DISCONVS	44	2	1	2	0	0	0	
CICS2T2A	0196	CI2V60	67	2	4	1	0	1	0	
U0230047	0225	DISCONVS	38	2	1	2	0	0	0	
IOSAS	001B	SYSTEM	0	2	0	0	2	0	0	
RASP	0003	SYSTEM	73	1	4	1	0	0	0	
Z251TMS	028A	SYSSTC	89	1	5	1	0	0	0	
U0230084	02FB	DISCONVS	50	1	1	1	0	0	0	
U0230035	02FB	DISCONVS	50	1	1	1	0	0	0	
MQQ2S12	0157	STCI2V30	78	1	2	1	0	0	0	
U0230088	02DE	DISCONVS	50	1	1	1	0	0	0	
IXGLOGR	001D	SYSTEM	90	1						
U0230062	02D5	DISCONVS	50	1						
U0230085	02FB	DISCONVS	50	1						
CICS6T2A	0199	CI2V60	67	1						
VTAM	00EA	SYSSTC	64	1						
U0230018	02D6	DISCONVS	50	1						
U0230048	02F0	DISCONVS	60	1						
U0230041	0262	DISCONVS	50	1						
U0230032	0225	DISCONVS	60	1						
U0230044	02DE	DISCONVS	50	1						
U0230035	025D	DISCONVS	50	1						
DBX2MSTR	02B3	STCI2V50	92	1						
U0230046	02D8	DISCONVS	60	1	1	1	0	0	0	
U0230099	017A	DISCONVS	50	1	1	1	0	0	0	
U0230059	017A	DISCONVS	50	1	1	1	0	0	0	
ZFS	0039	SYSSTC	94	1	9	0	0	0	0	

12:25 ← Display 12:30 → 12:35 HISTORY

KM5WSCZH displays execution and delay states for all address spaces for a specific a specific system in the Sysplex in descending Total Delay Percentage sequence. The summary delay category columns support zooming to more detailed statistics in each of the categories by placing the cursor in a row/column and pressing the ENTER key.

Near Term History For Address Space Execution and Delay States

Historical Address Space Delay Details (KM5ASP4H)



Highlighted (white fields) in summary sub-panel support cursor being placed under them and ENTER key pressed to zoom navigate to detailed workspace related to summary category

KM5ASP4H displays all supported detailed execution and delay states for an address space. The workspace is divided into summary, CPU, device, storage and operator execution/delay sub-panels.

Near Term History For Address Space Execution and Delay States

Historical Address Space CPU Delay Details (KM5DLY1H)

File Edit View Tools Navigate Help 07/18/2014 11:06:01

Command ==>
KM5DLY1H

Historical Address Space CPU Delay Details

Display : HISTORY
Plex ID : ZPLEXLX2
SMF ID : Z2

Address Space FLASHSCM 0x02C1 CPU Execution/Delay States

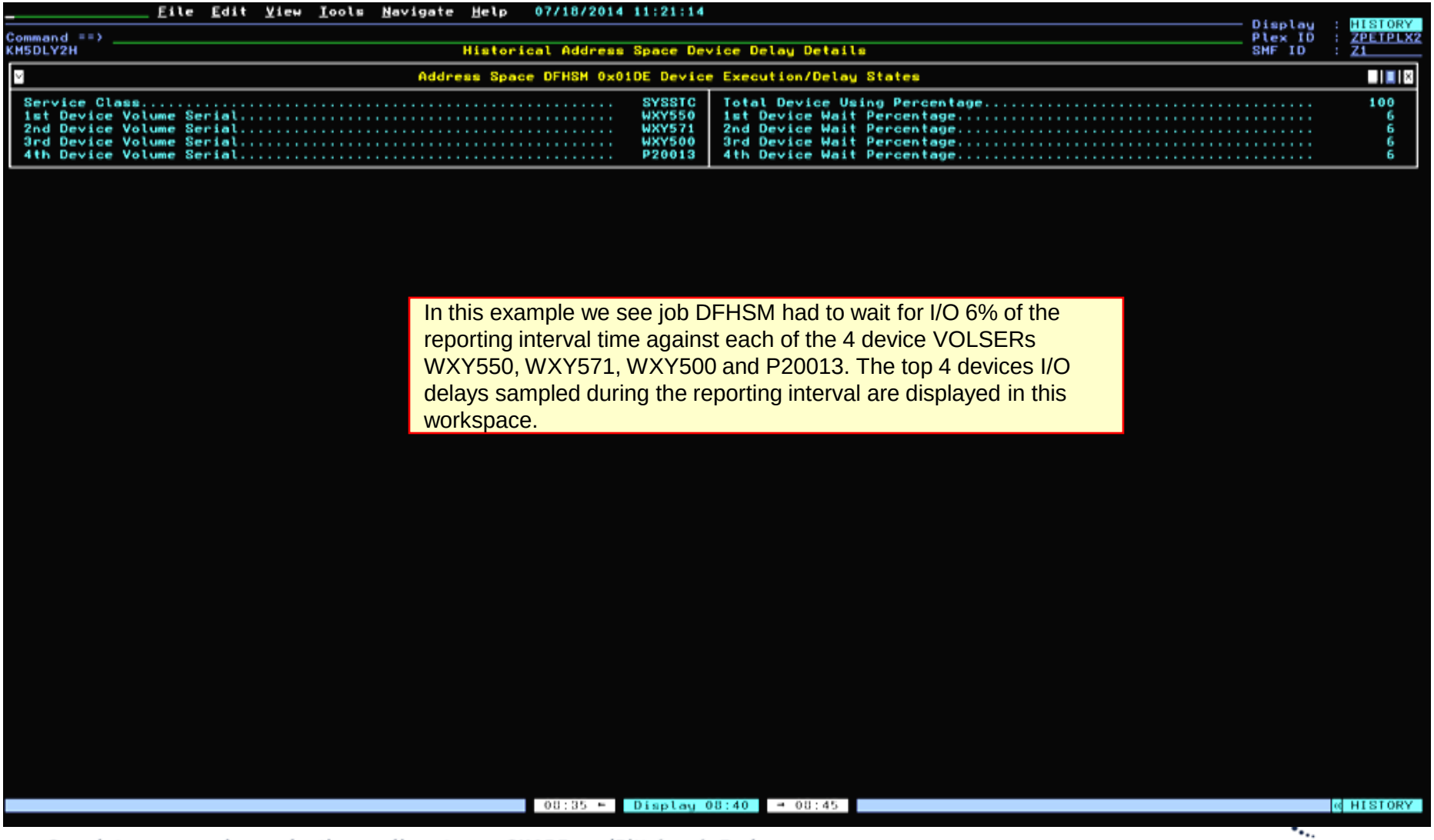
GCP Wait Percentage	90	GCP Using Percentage	98
zAAP Wait Percentage	0	zAAP Using Percentage	Unavaila
zIIP Wait Percentage	0	zIIP Using Percentage	Unavaila
zAAP On CP Using Percentage	0	zIIP On CP Using Percentage	0
Service Class	DISCRBAT		
GCP 1st Impactor Job Name	FLASHSCM	GCP 1st Impactor Percentage	90
GCP 2nd Impactor Job Name	CONNRPT	GCP 2nd Impactor Percentage	31
GCP 3rd Impactor Job Name	*ENCLAVE	GCP 3rd Impactor Percentage	17
zAAP 1st Impactor Job Name		zAAP 1st Impactor Percentage	Unavaila
zAAP 2nd Impactor Job Name		zAAP 2nd Impactor Percentage	Unavaila
zAAP 3rd Impactor Job Name		zAAP 3rd Impactor Percentage	Unavaila
zIIP 1st Impactor Job Name		zIIP 1st Impactor Percentage	Unavaila
zIIP 2nd Impactor Job Name		zIIP 2nd Impactor Percentage	Unavaila
zIIP 3rd Impactor Job Name		zIIP 3rd Impactor Percentage	Unavaila

08:35 ← Display 08:40 → 08:45 « HISTORY

In this example we see job FLASHSCM being impacted 90% of the time by itself (self-contention), 31% of the time by job CONNRPT and 17% of the time by enclave work. Note that these top three impact percentages add up to 138% while the GCP Wait Percentage is 90%. This is a characteristic of multi-tasking jobs being impacted in multiple TCBs/SRBs simultaneously and RMF sampling each of them. The GCP Wait Percentage reflects the percentage of time at least 1 TCB/SRB was in CPU contention. The identical considerations apply to the zIIP and zAAP statistics.

Near Term History For Address Space Execution and Delay States

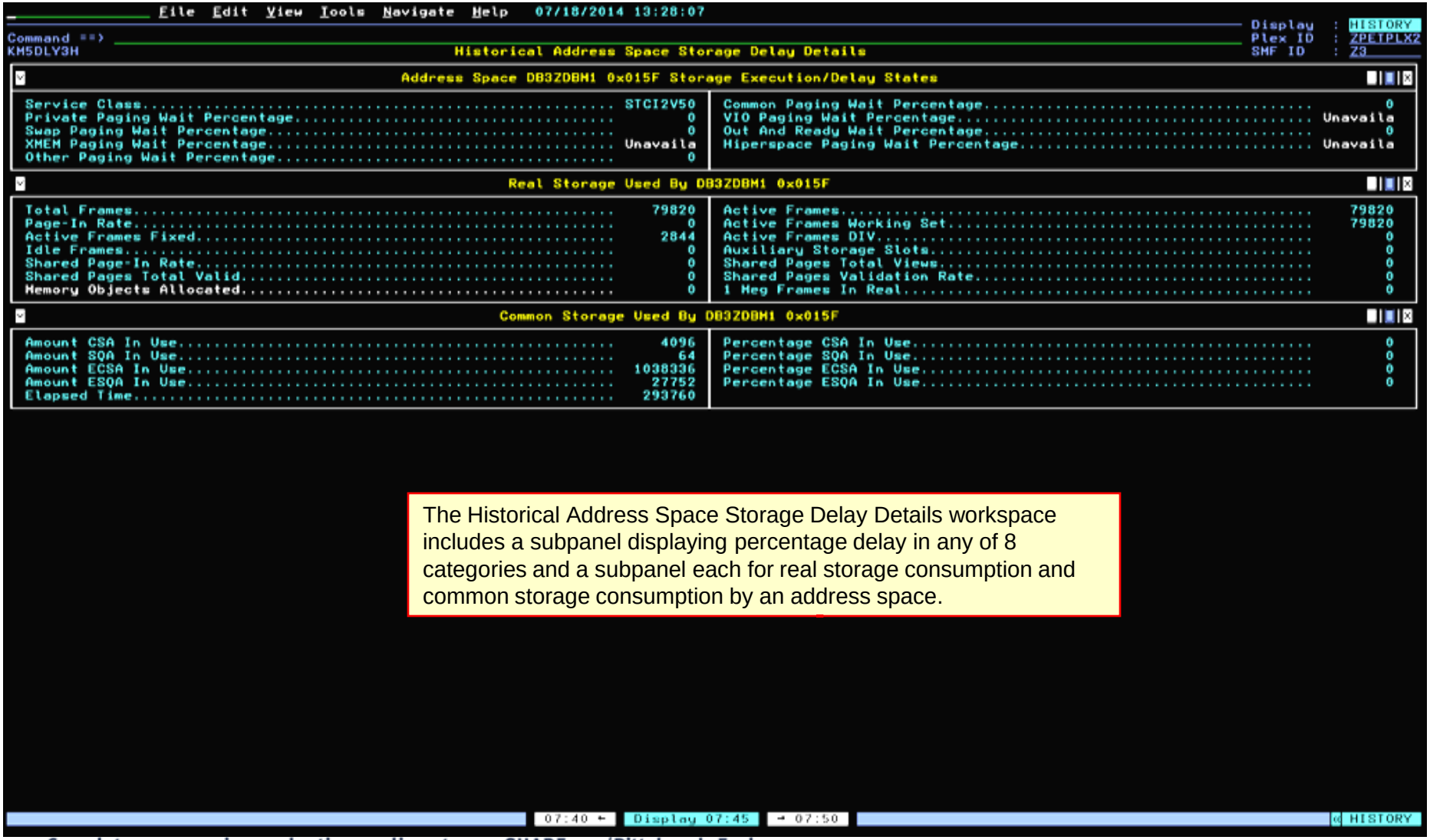
Historical Address Space Device Delay Details (KM5DLY2H)



In this example we see job DFHSM had to wait for I/O 6% of the reporting interval time against each of the 4 device VOLSERs WXY550, WXY571, WXY500 and P20013. The top 4 devices I/O delays sampled during the reporting interval are displayed in this workspace.

Near Term History For Address Space Execution and Delay States

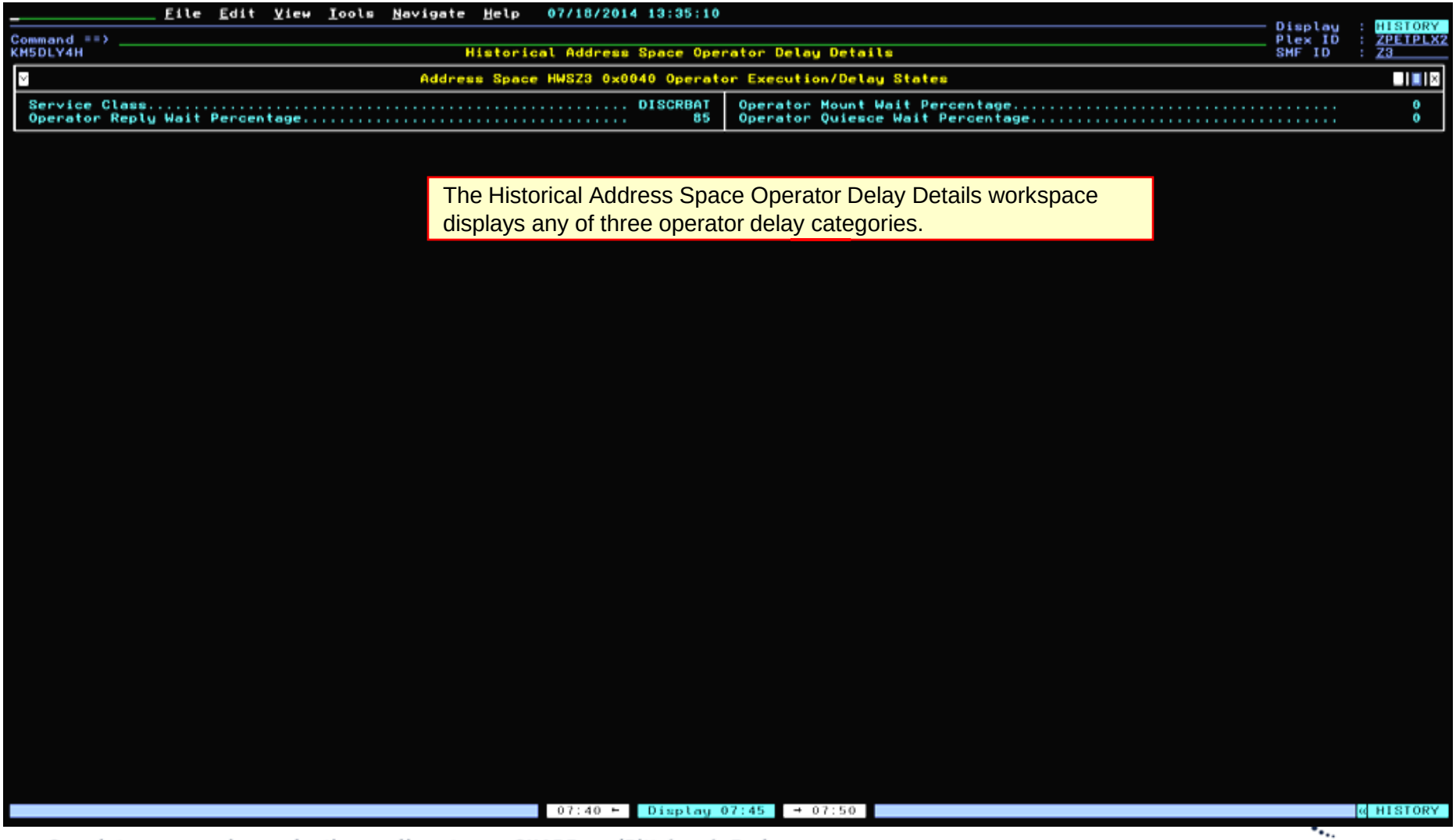
Historical Address Space Storage Delay Details (KM5DLY3H)



The Historical Address Space Storage Delay Details workspace includes a subpanel displaying percentage delay in any of 8 categories and a subpanel each for real storage consumption and common storage consumption by an address space.

Near Term History For Address Space Execution and Delay States

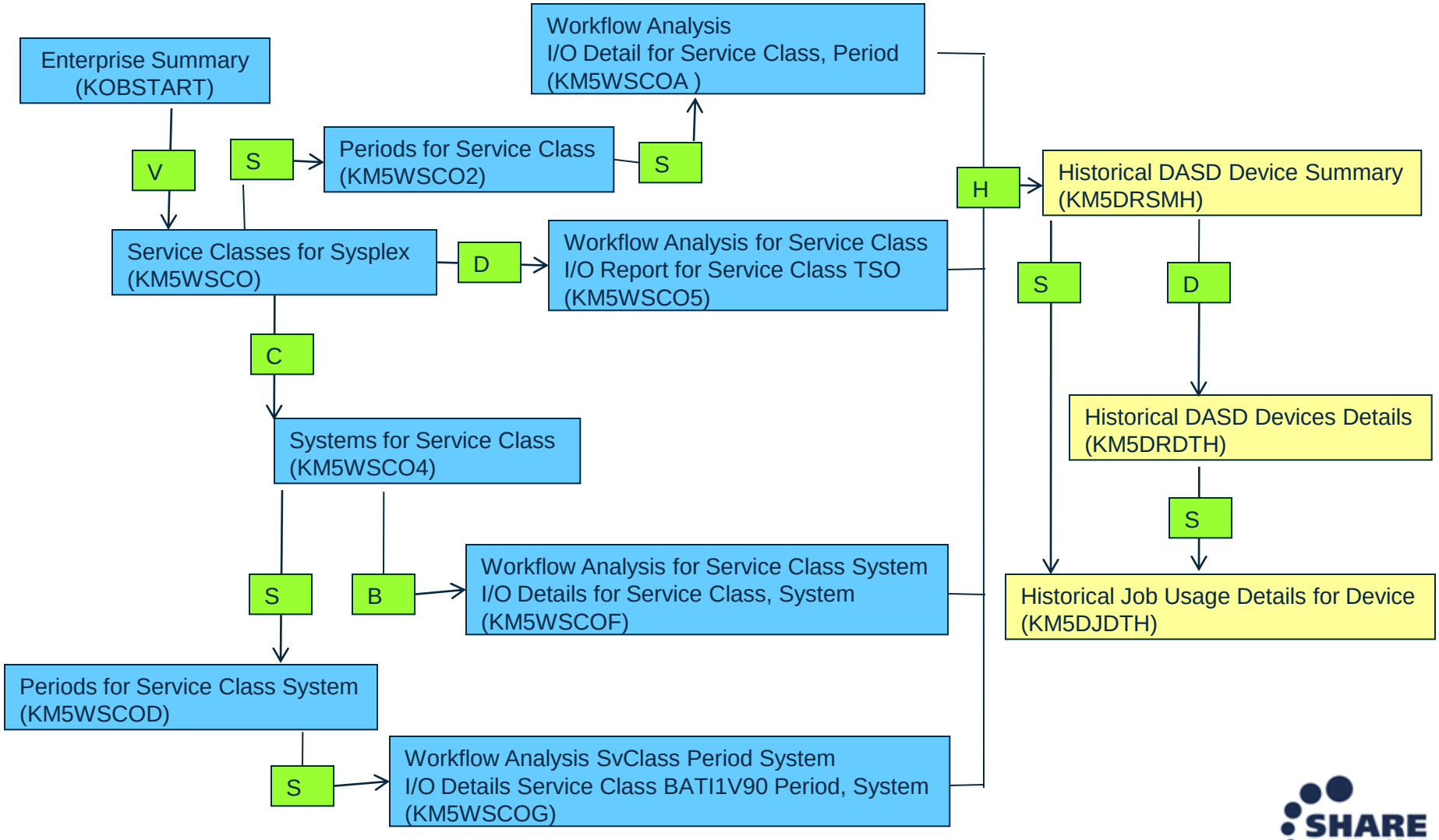
Historical Address Space Operator Delay Details (KM5DLY4H)



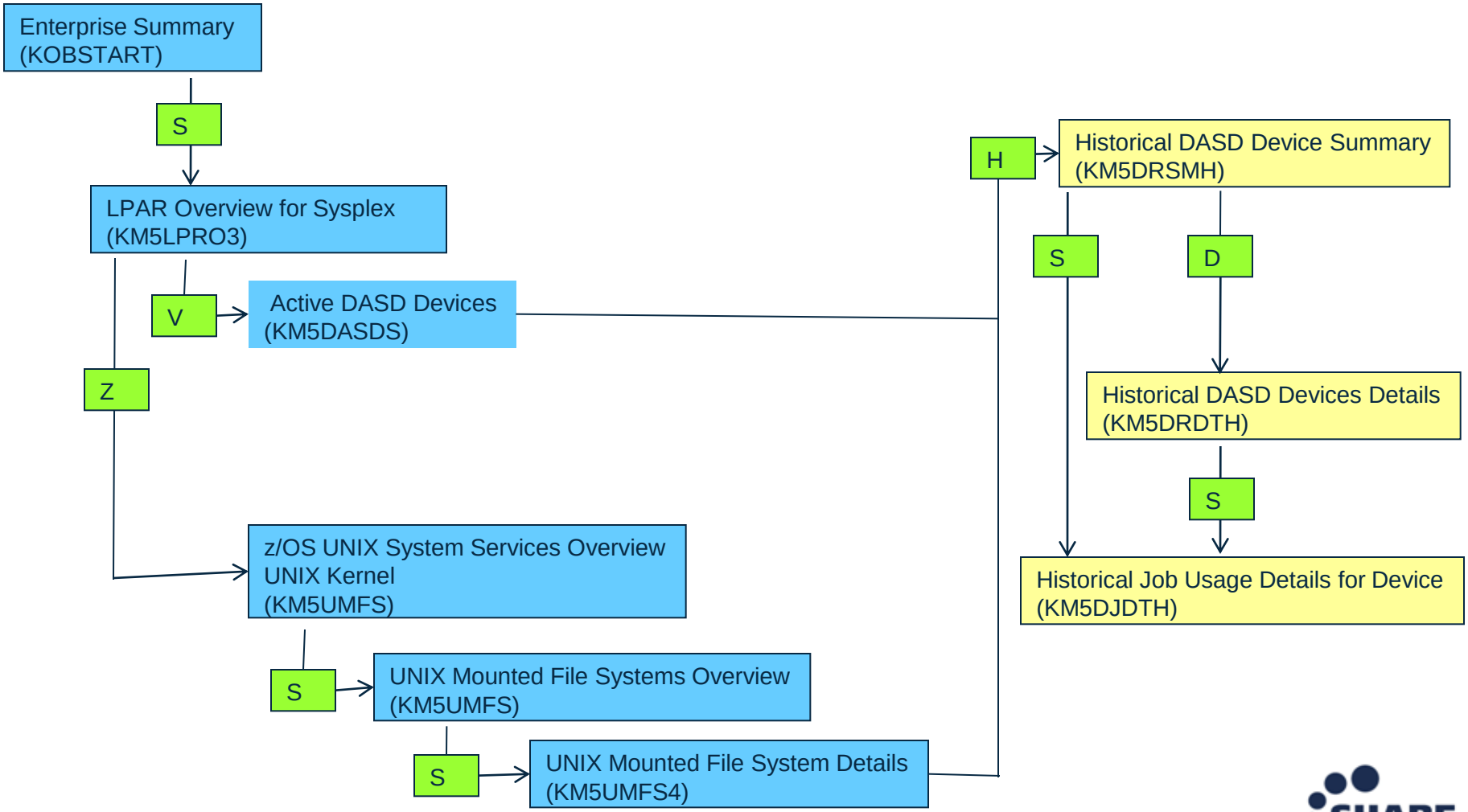
The Historical Address Space Operator Delay Details workspace displays any of three operator delay categories.

Near-term history: DASD Delay

NTH for DASD Device – Navigation (WLM)



NTH for DASD Device – Navigation (DASD & USS)



Embedded Data for CICS and MQ

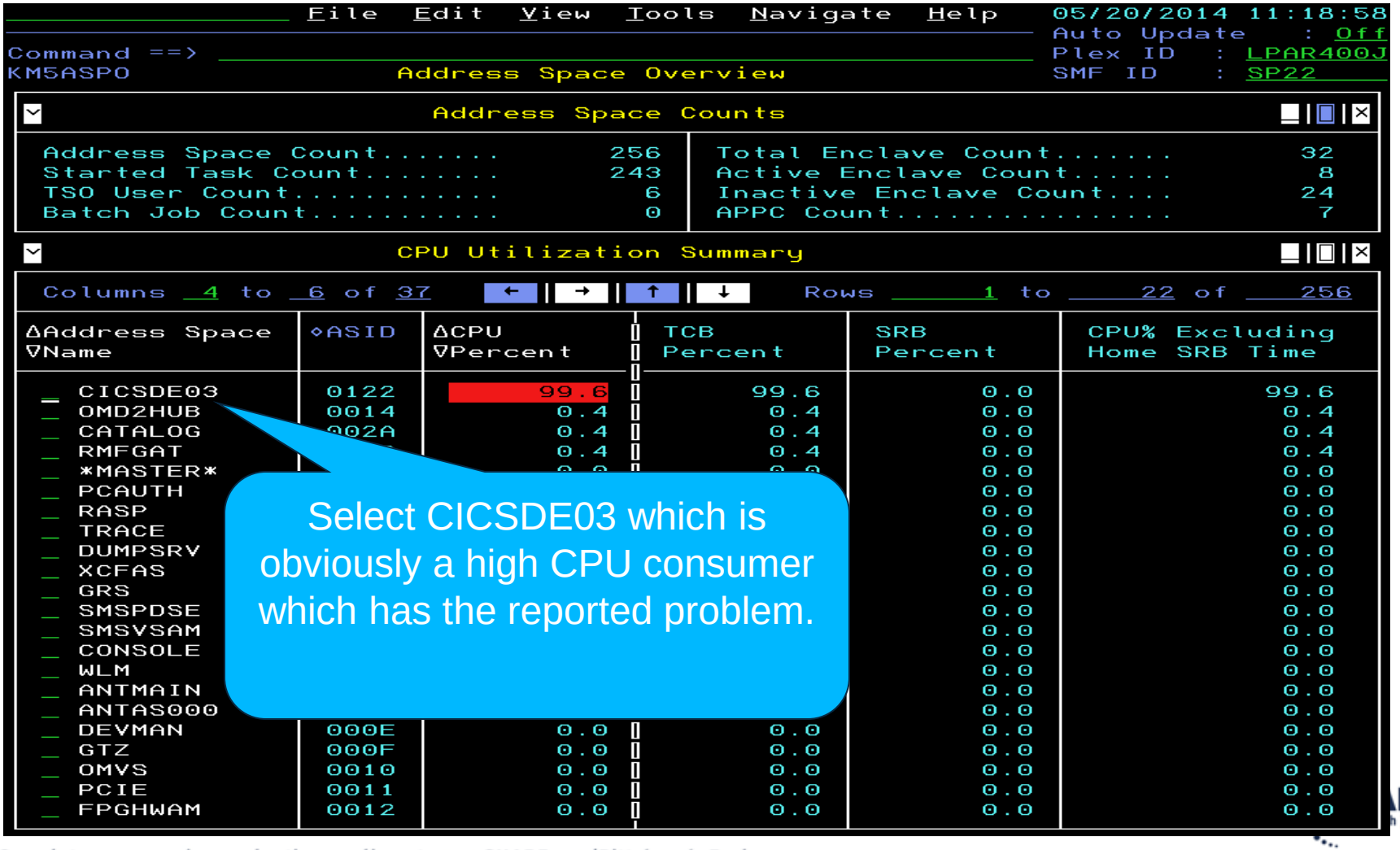
- Embedded Data workspaces for CICS:
  - z/OS CPU Usage Details → CICS Region Overview
  - CICS Region Overview → z/OS CPU Usage Details
- Embedded Data Workspaces for MQ:
  - MQ Application Details → z/OS CPU Usage Details
  - MQ GSQ CF Details → z/OS CF Details
  - MQ Queue Mgr → z/OS CPU Usage Details

Embedded Data: CICS Rogue Task – Excessive CPU

- Operations Help Desk. Calls about z/OS systems issues come to me as a SME. My phone rings.
- SYMPTOMS – one of our applications teams reports that response times in a CICS region, CICSDE03, on LPAR SP22 are lengthening considerably and most tasks as not completing as they should. The Help Desk has seen this sort of behavior before and it often means that a CICS task has gone rogue, consuming so much CPU that no other work is being done in the region.
- Working on this assumption, we engage an Enhanced 3270UI session to see the summary list of address spaces on SP22, looking to see if CICSDE03 is consuming more CPU than would usually be expected.

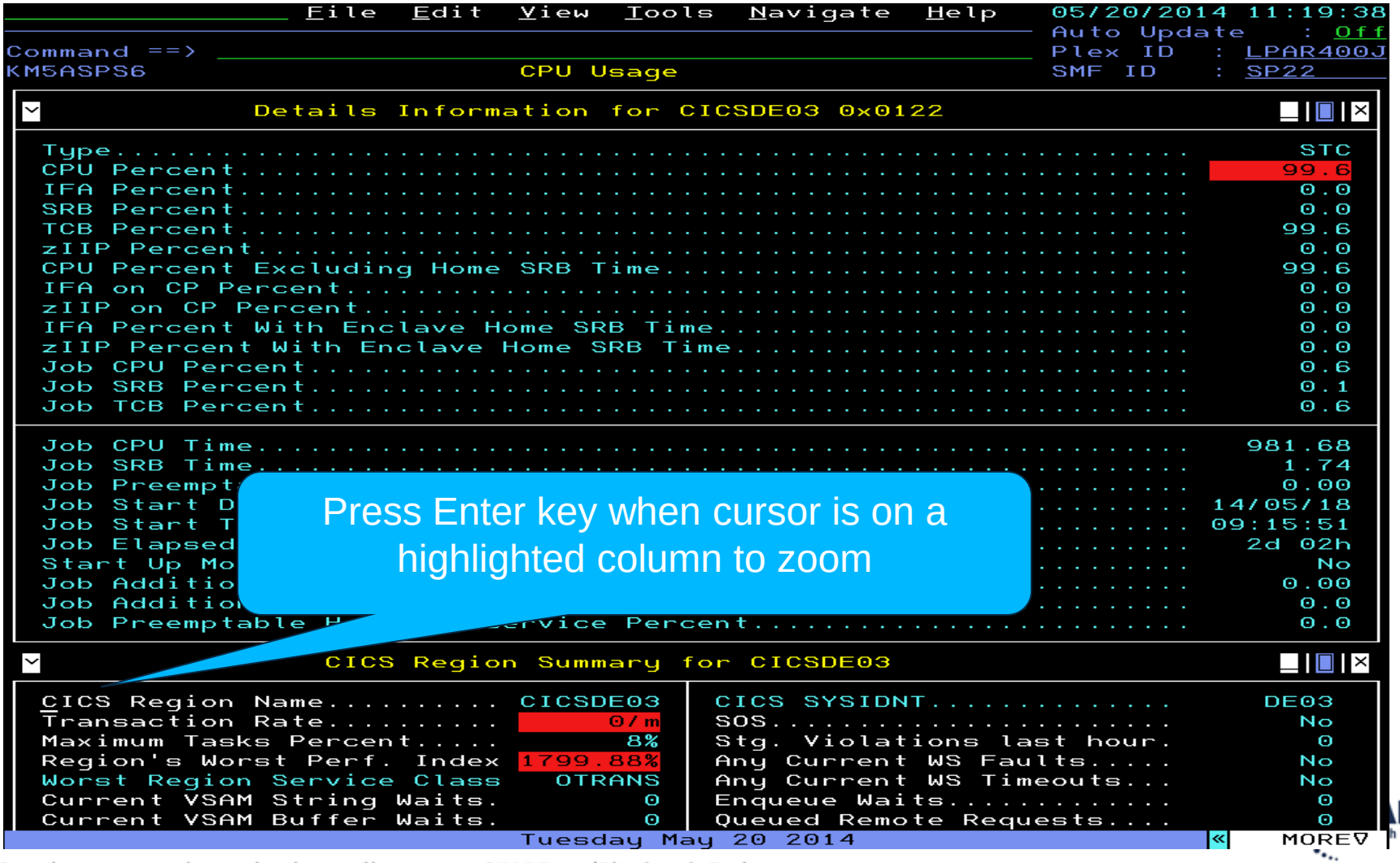
Embedded Data: CICS Rogue Task – Excessive CPU

- KM5ASPO Address Space Overview



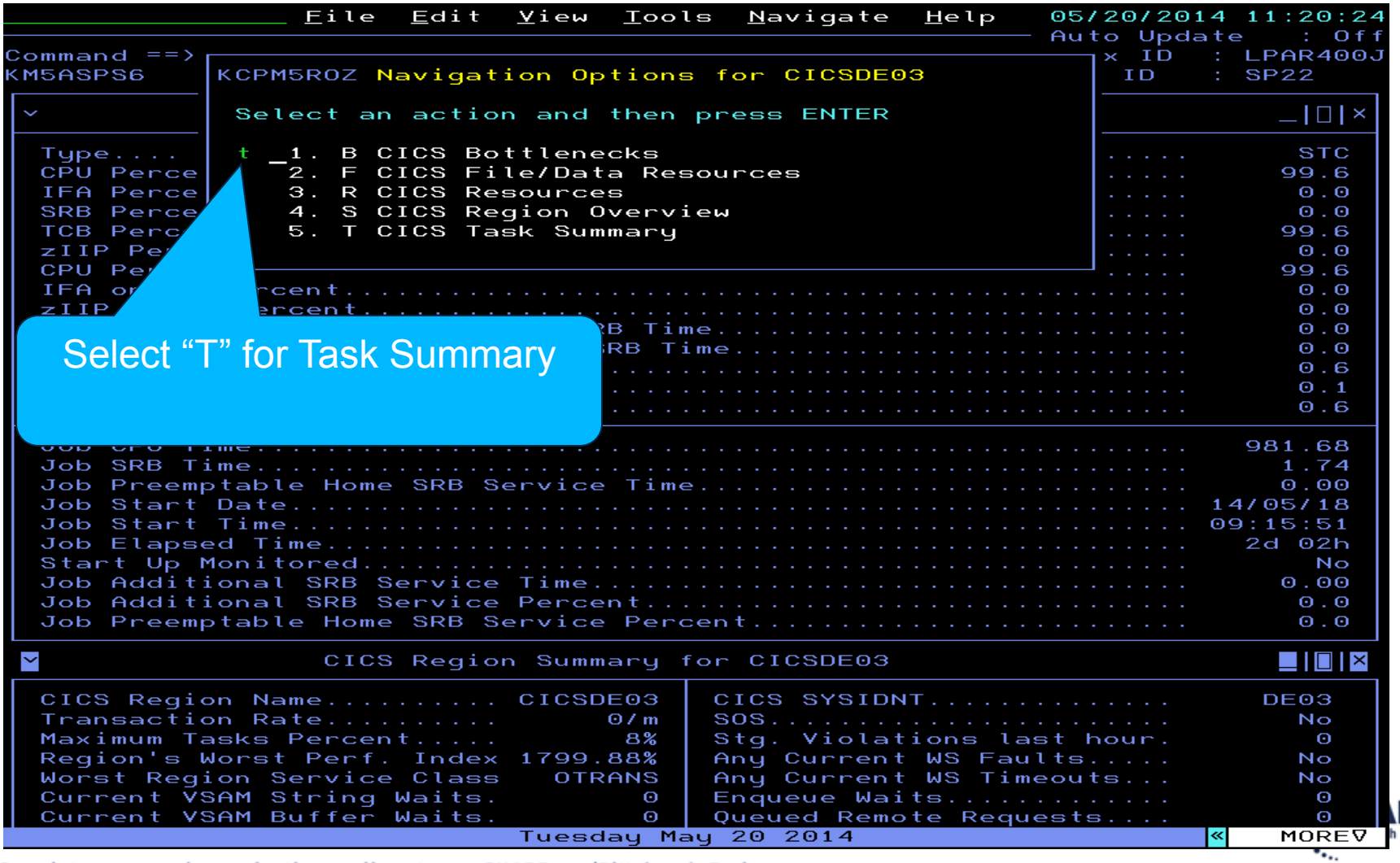
Embedded Data: CICS Rogue Task – Excessive CPU

- KM5ASPS6 CPU Usage Details



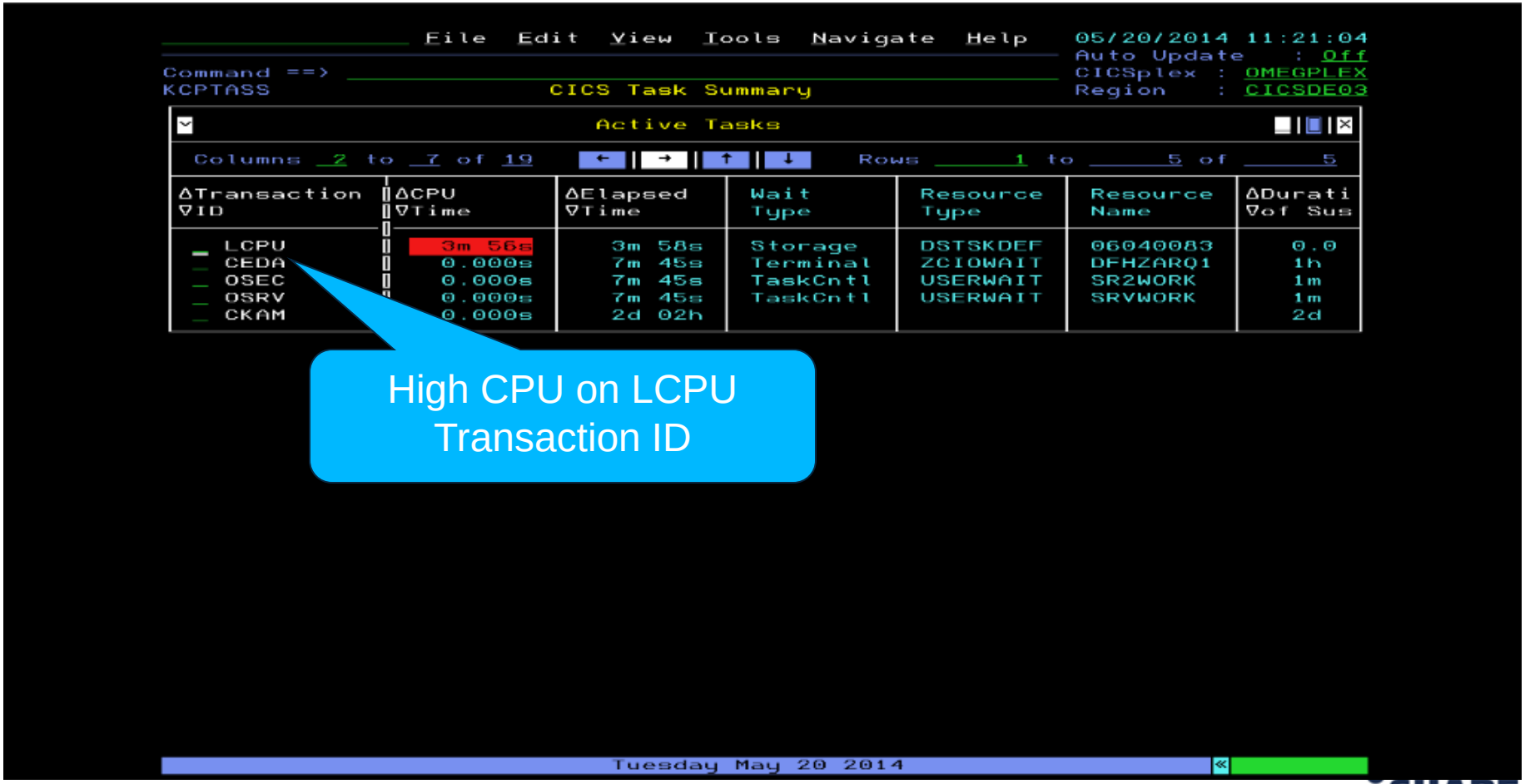
Embedded Data: CICS Rogue Task – Excessive CPU

- KCPM5ROZ Navigation Options for CICSDE03



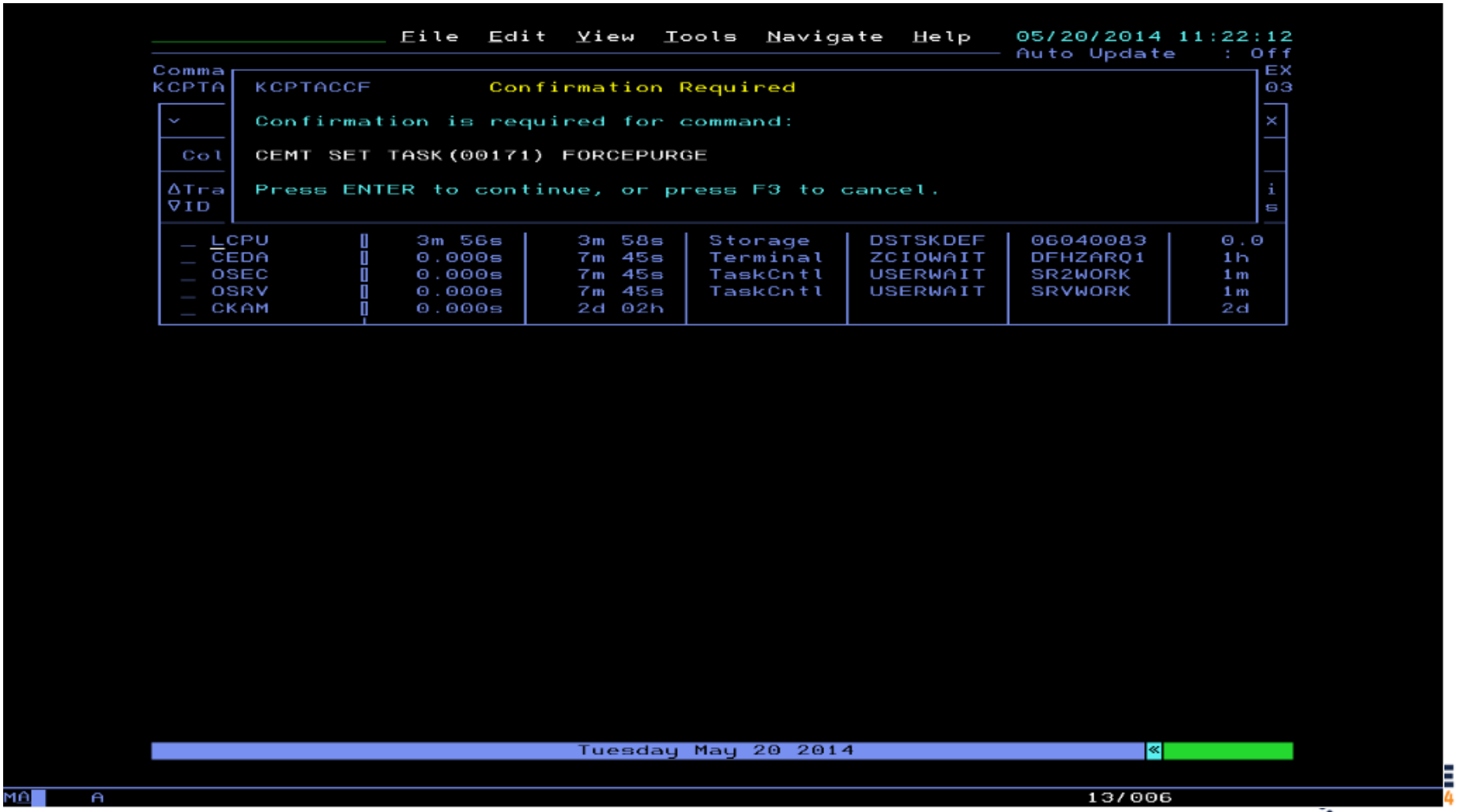
Embedded Data: CICS Rogue Task – Excessive CPU

- KCPTASS CICS Task Summary



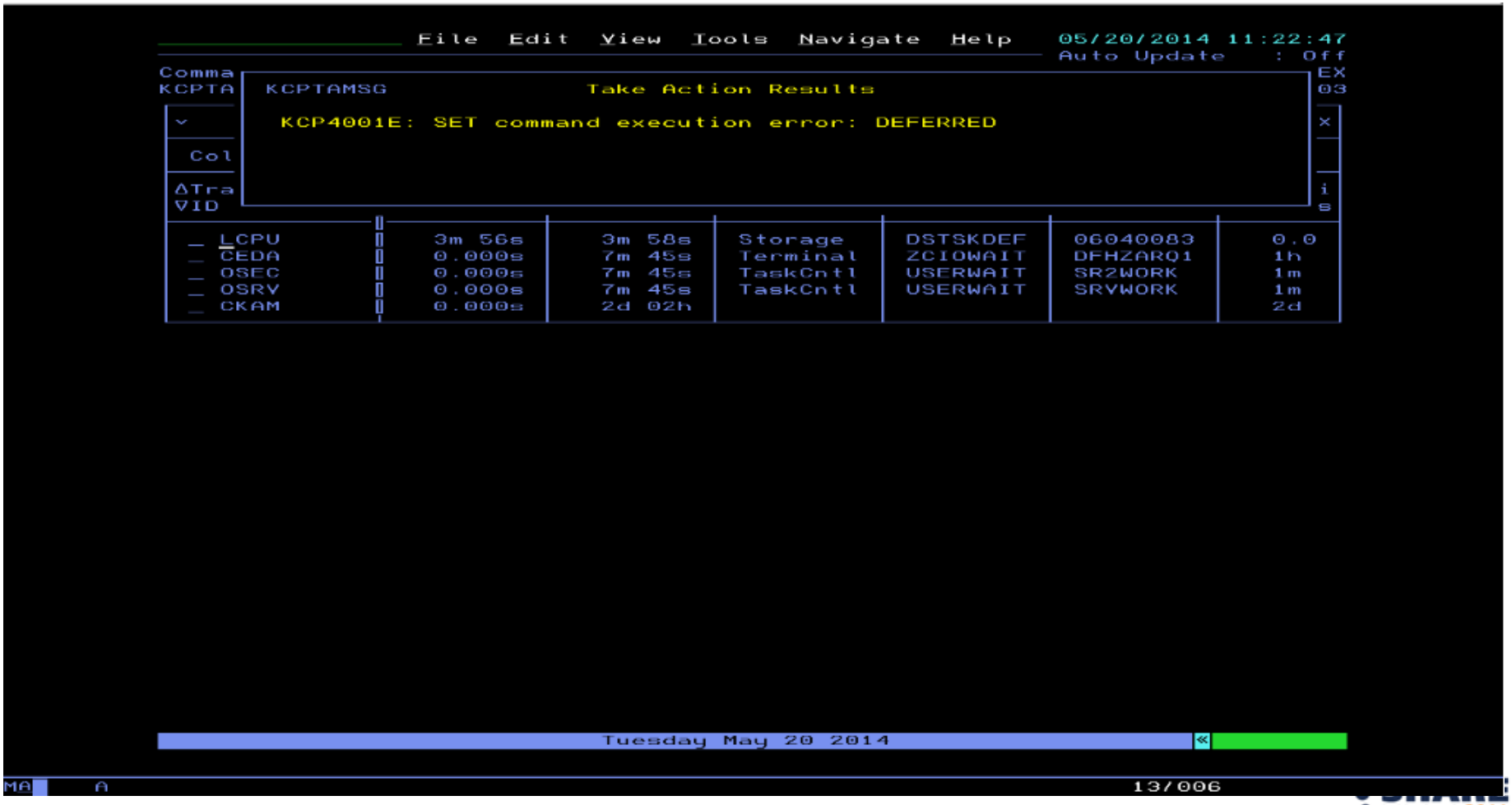
Embedded Data: CICS Rogue Task – Excessive CPU

- FORCEPURGE the rogue task using excessive CPU



Embedded Data: CICS Rogue Task – Excessive CPU

- Take Action Result

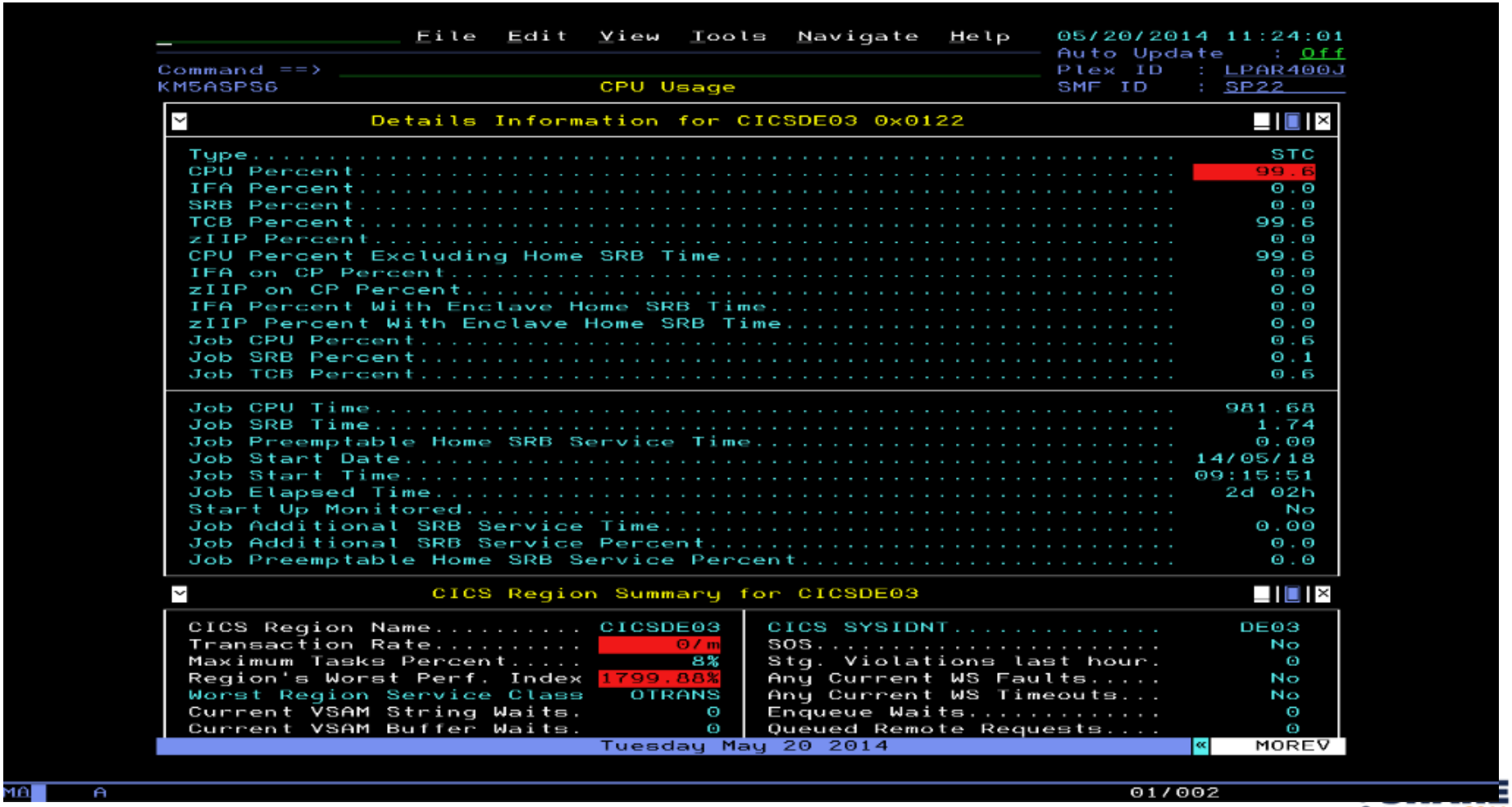


Embedded Data: CICS Rogue Task – Excessive CPU

- Back at Task Summary rogue task no longer running

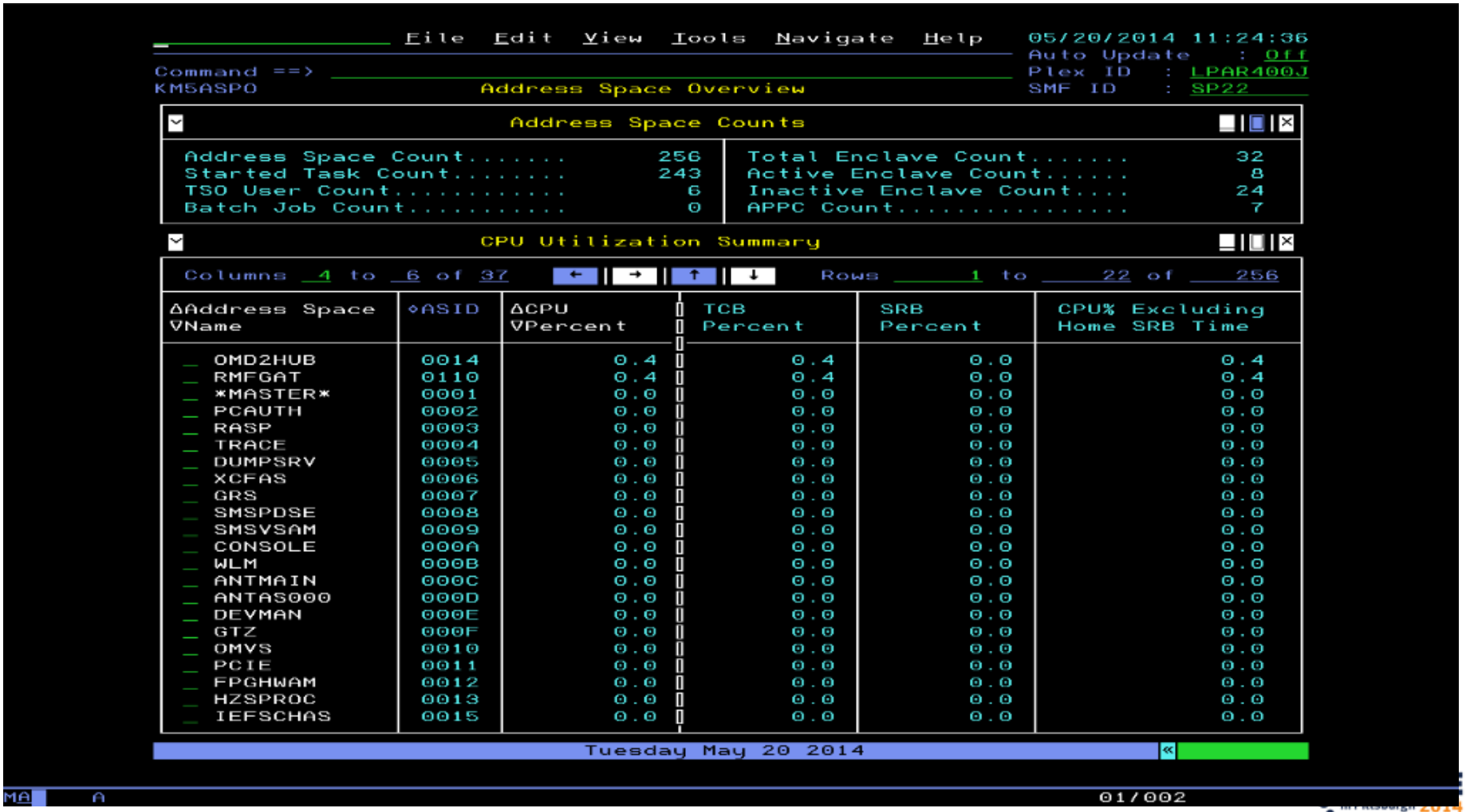
Embedded Data: CICS Rogue Task – Excessive CPU

- Back at KM5ASPS6 CPU Usage Details

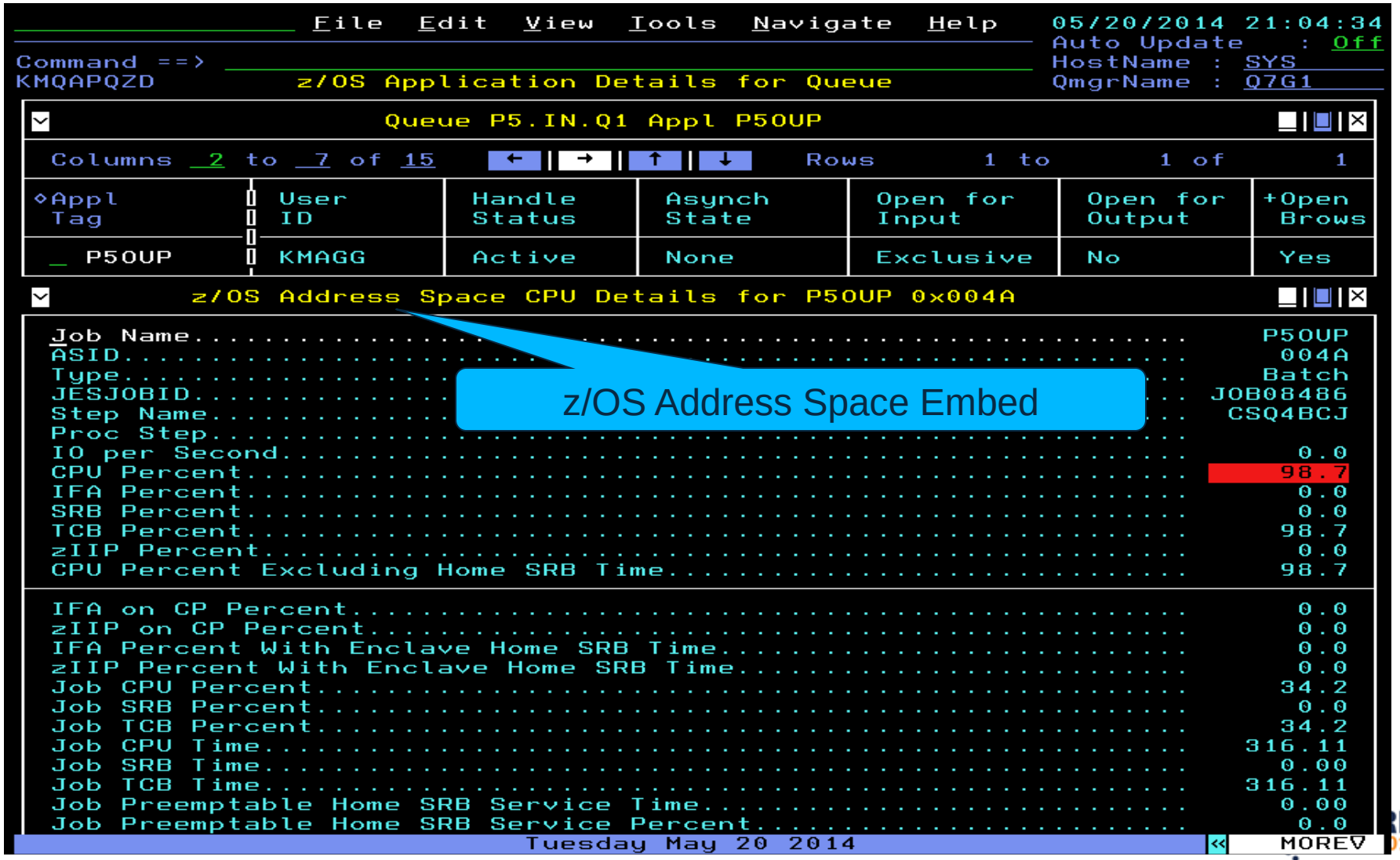


Embedded Data: CICS Rogue Task – Excessive CPU

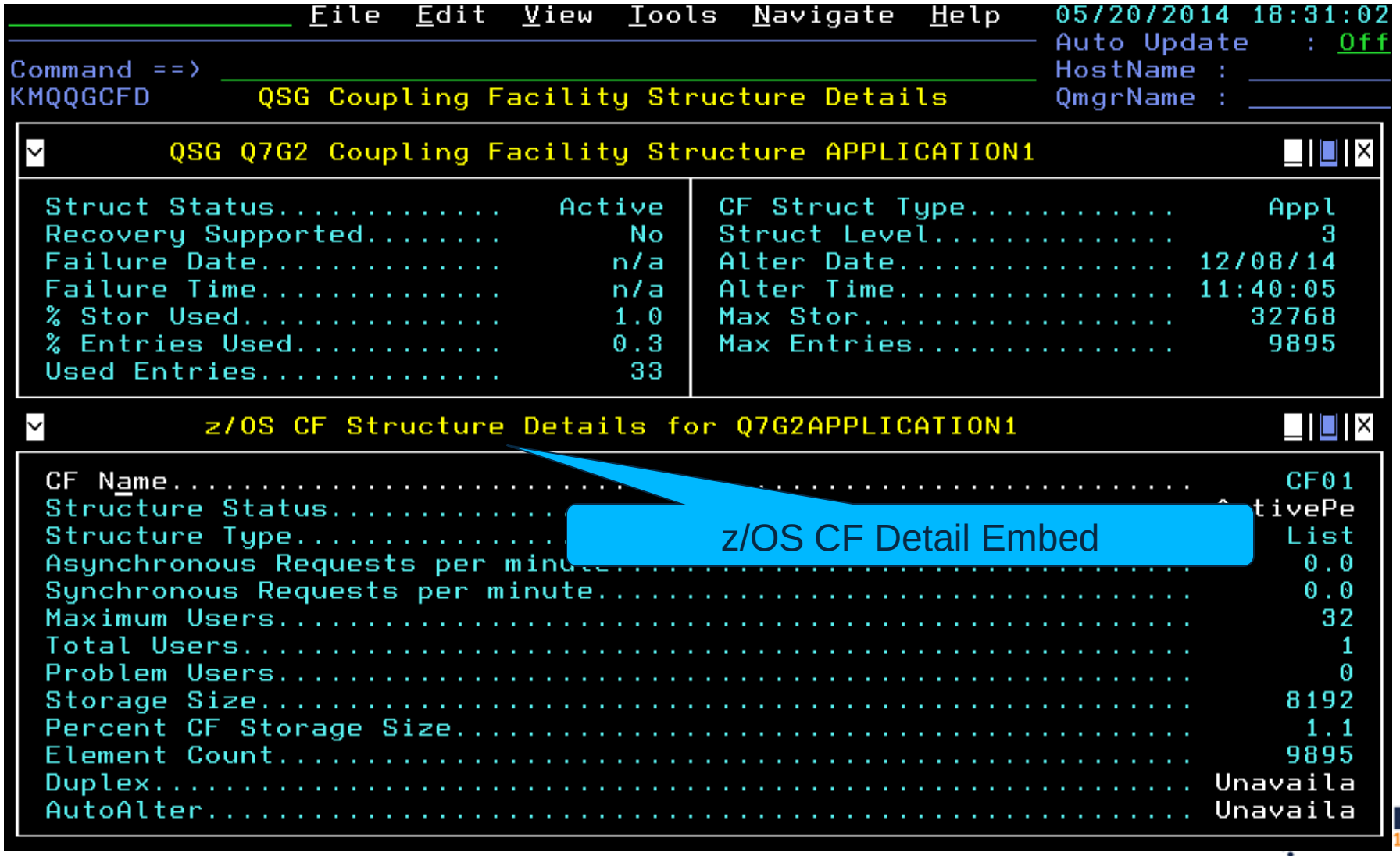
- Back at KM5ASPO Address Space Overview



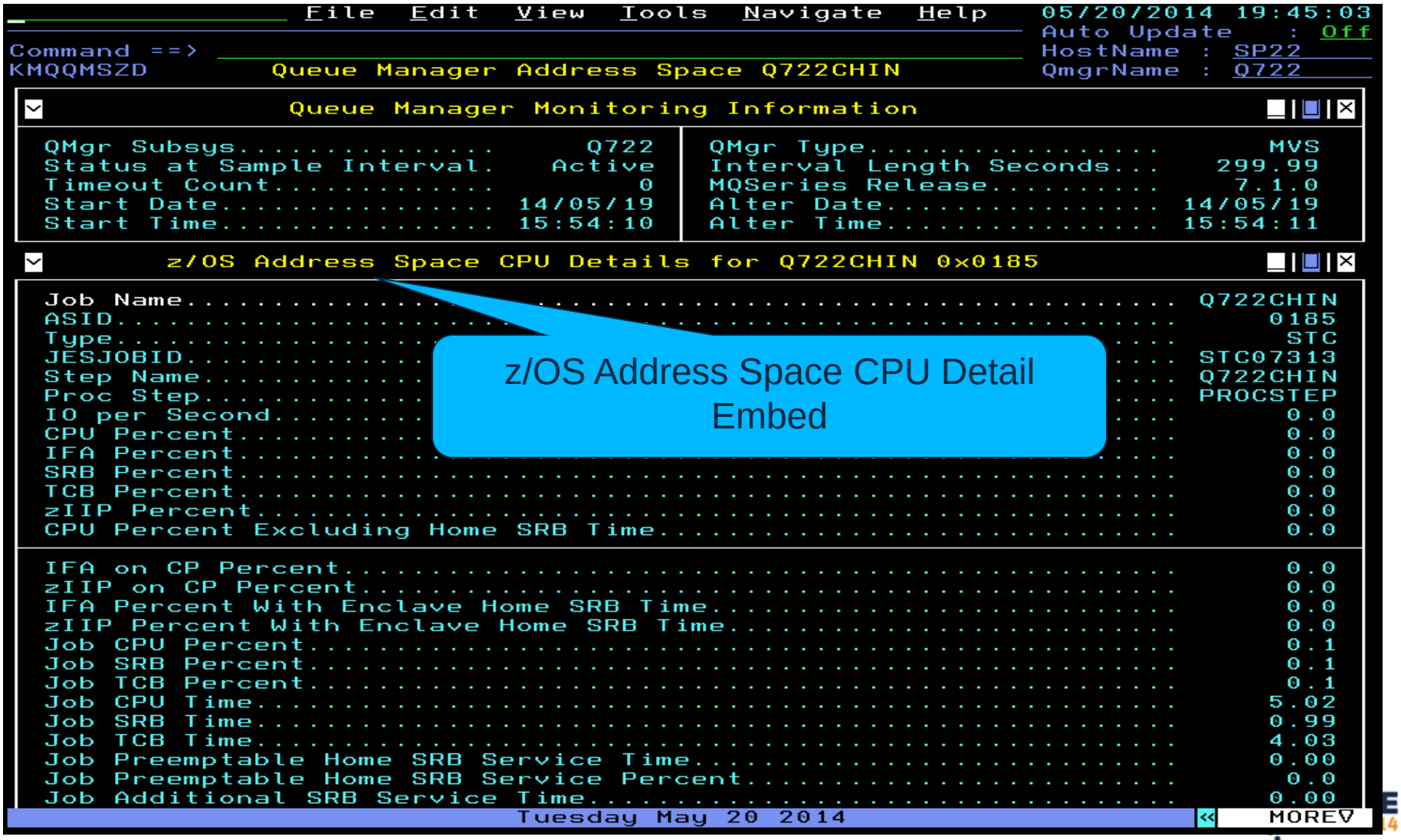
Embed for KMQAPQZD – MQ Application Details for Queue



Embed for KMQQGCFD – MQ QSG CF Structure Details



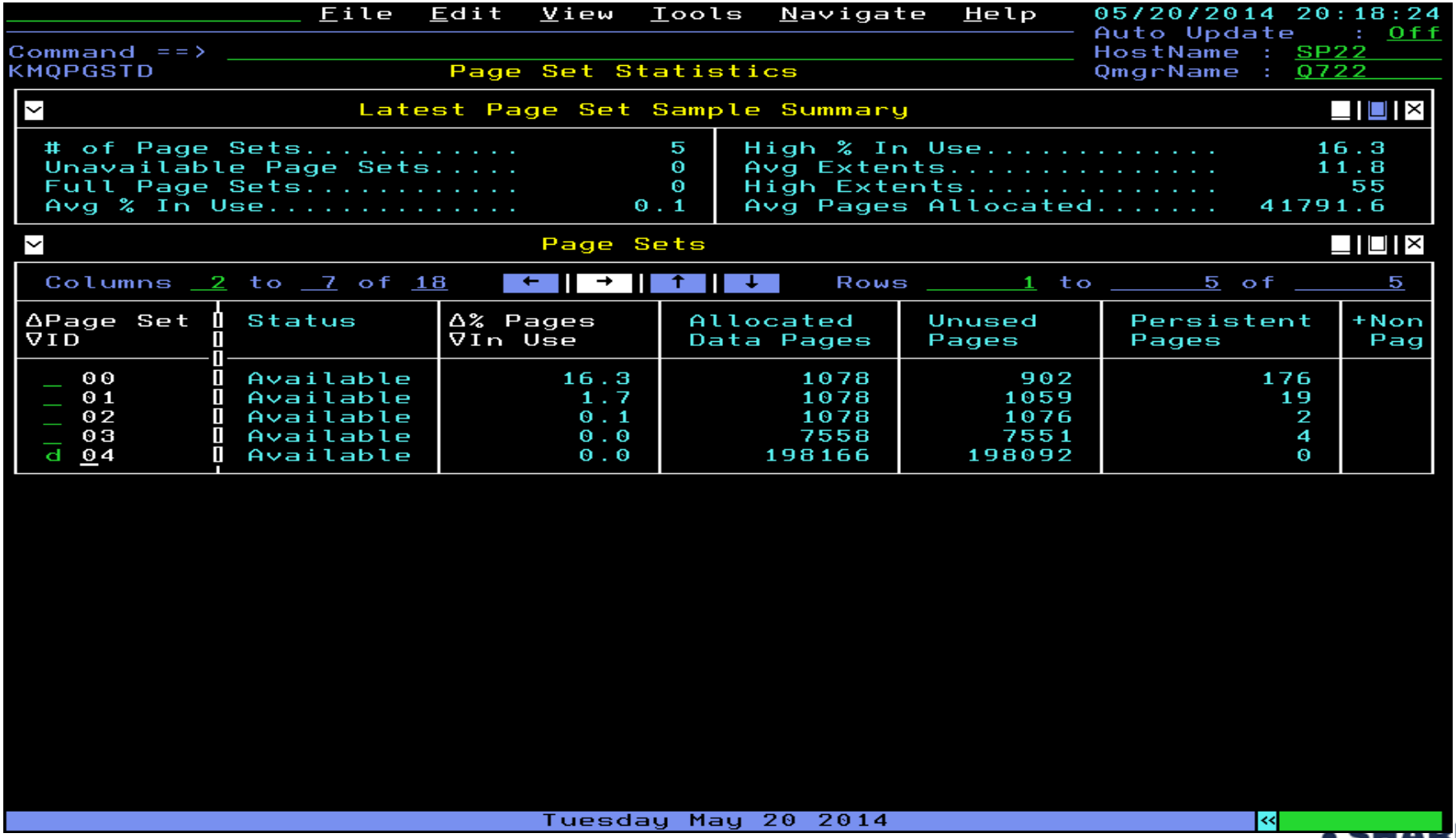
Embed for KMQQMSZD – MQ Queue Mgr Address Space Monitoring



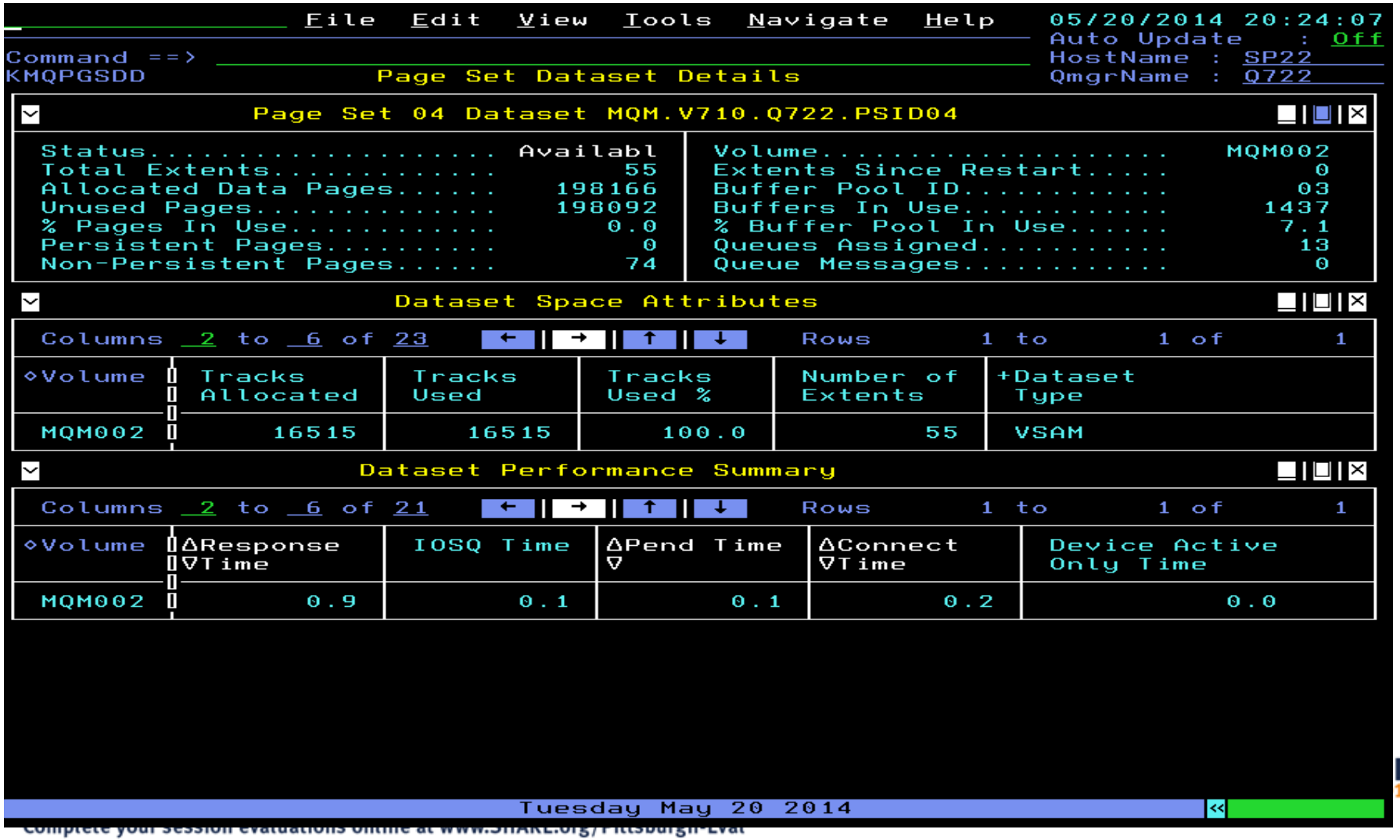
Enhanced 3270 UI Embedded Data

MQ Page Set -> XE Storage

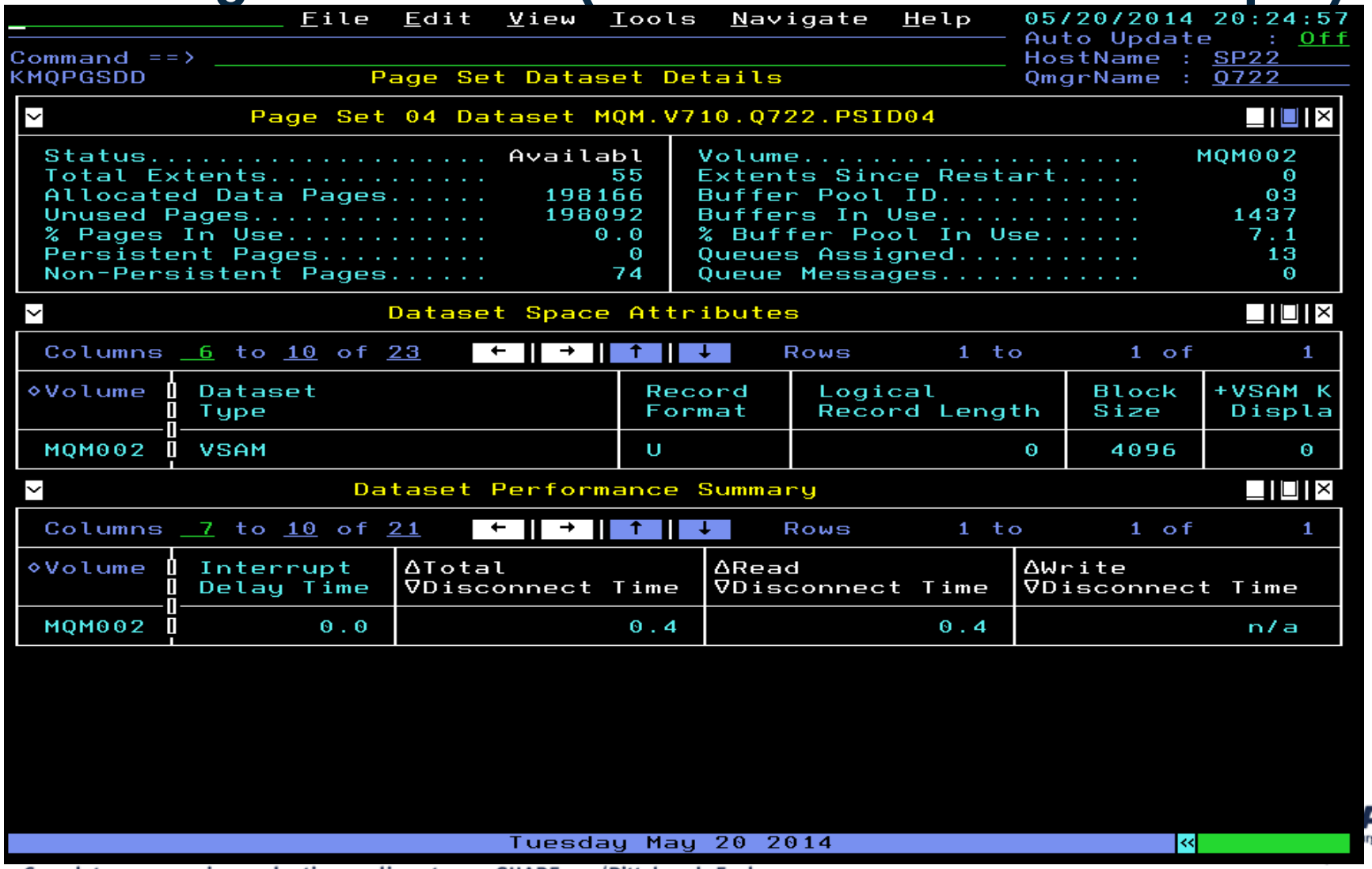
MQ Page Set Statistics – Option “d”



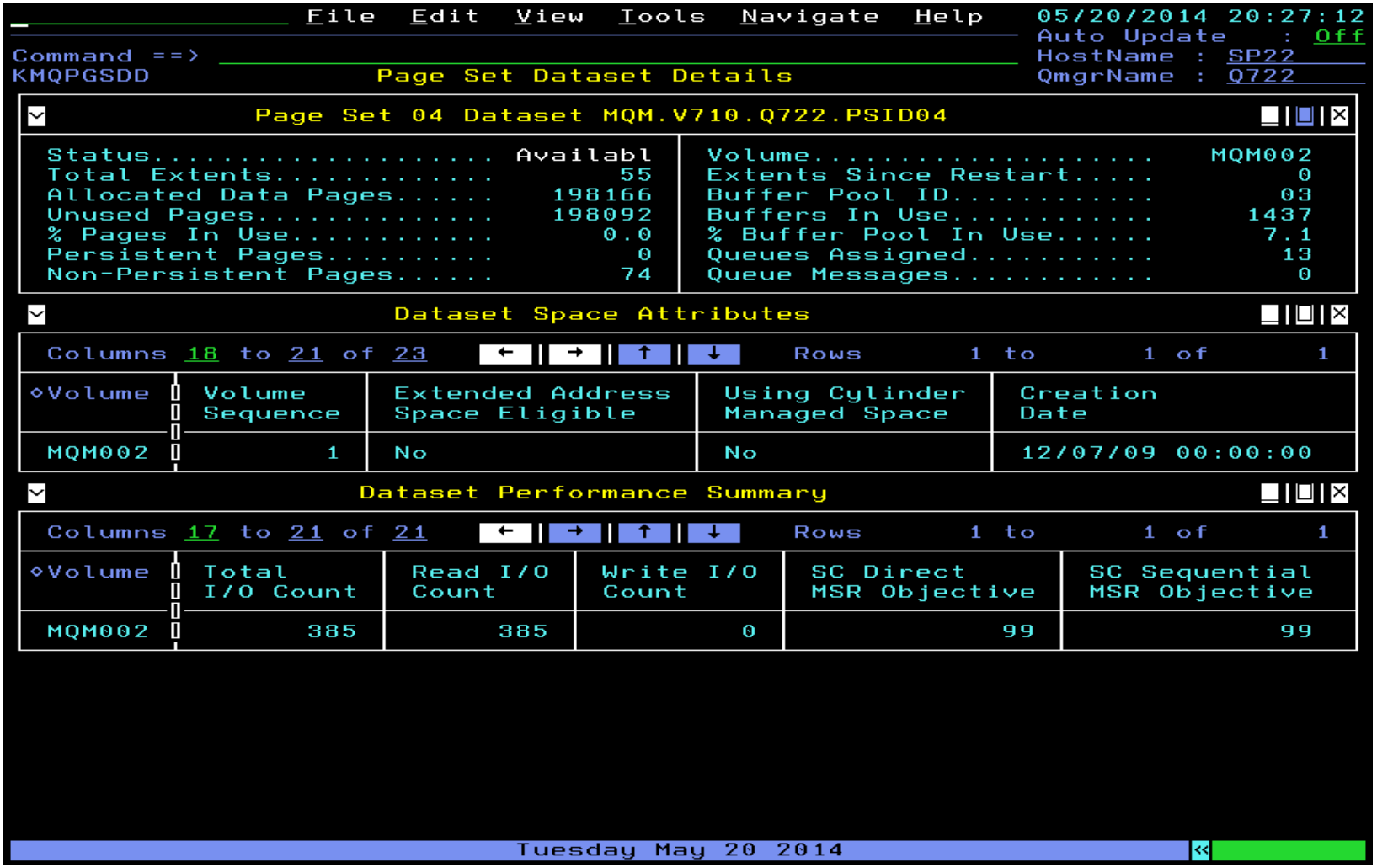
Page Set Dataset Details has Storage Space and Performance Data



Scroll right see data (one row -volume -multiple)



Scrolling right one more time…



OMEGAMON XE STORAGE NTH:

NTH is available for the following attribute groups

OMEGAMON XE STORAGE NTH:

File Edit View Tools Navigate Help 07/30/2014 17:57:16

Command ==>
KS3SSGP

SMS Storage Groups Performance

Auto Update : Off
Plex ID : RSPLEX01
Sys ID : RS22

SMS Storage Group Performance Report

Columns 2 to 8 of 10 — Rows 1 to 10 of 259

Group Name	Storage Group Type	Storage Group Status	Total Volumes	High Response Time	High Busy %	Device MPL	Low Read Hit %
ABPG1	Pool	Enabled	2	0.2	0.0	0	n/a
ARYSESG	Pool	Enabled	8	0.2	0.0	0	n/a
ARYSG05	Pool	Enabled	8	0.3	0.0	0	70.3
ARYSG06	Pool	Enabled	16	2.2	0.0	0	73.1
ARYSG07	Pool	Enabled	8	1.1	4.4	68	99.7
ARYSG08	Pool	Enabled	16	12.3	0.3	2	98.1
ARYSG09	Pool	Enabled	8	0.3	0.0	0	73.6
ARYSG10	Copy Pool Backup	Enabled	24	0.3	0.0	0	72.0
ARYSG11	Pool	Enabled	8	0.3	0.0	0	98.6
ARYSG12	Copy Pool Backup	Enabled	24	0.3	0.0	0	69.6

Highest Volume Response Time Report

Command ==>
KS3SSGP

Historical Summary

Display : HISTORY
Plex ID : RSPLEX01
Sys ID : RS22

Selected item ARYSG08

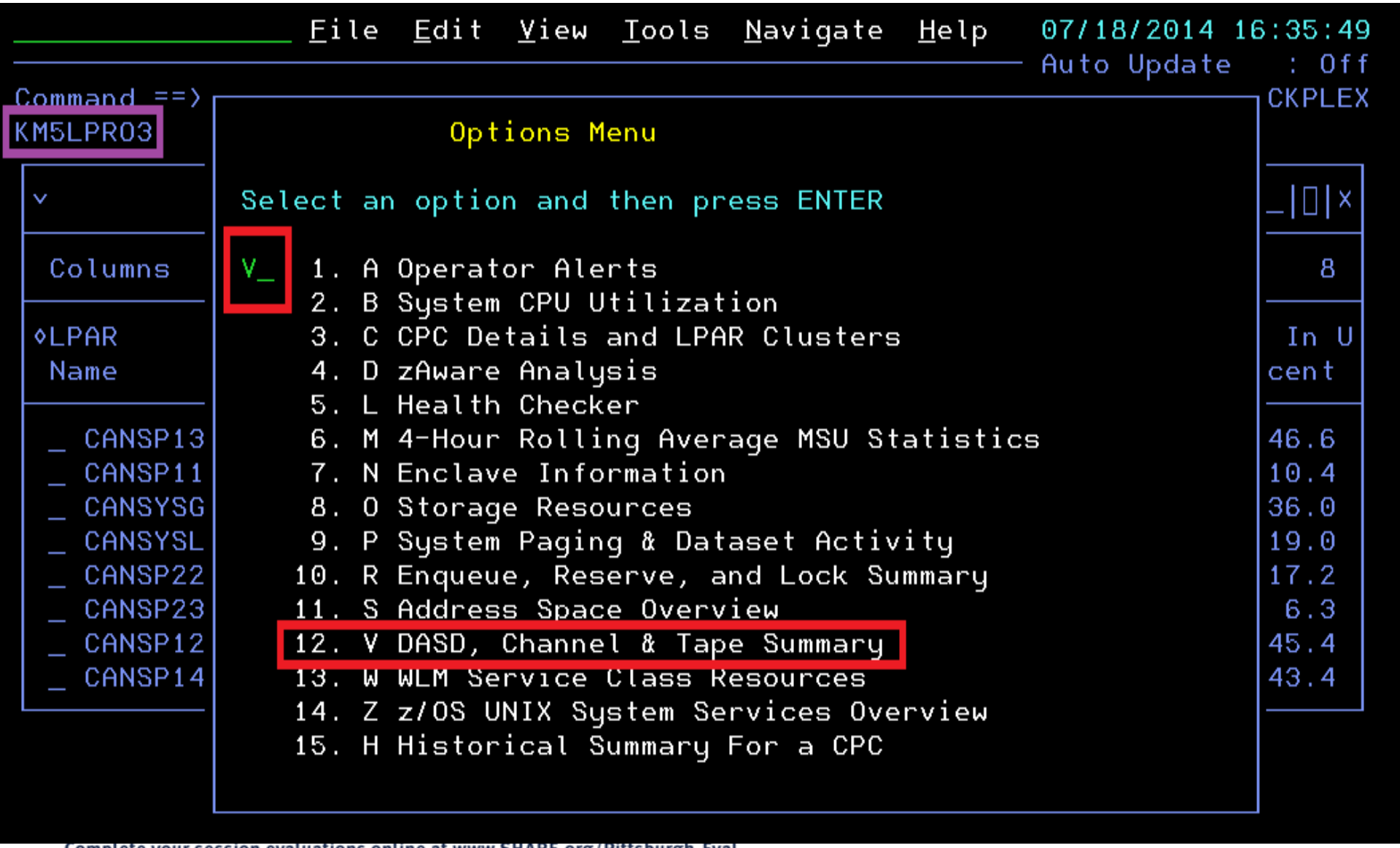
Columns 3 to 8 of 11 — Rows 1 to 20 of 20

Recording Time	Group Name	Storage Group Type	Storage Group Status	Total Volumes	High Response Time	High Busy %	Device MPL
17:45:26	ARYSG08	Pool	Enabled	16	0.3	0.0	0
17:30:36	ARYSG08	Pool	Enabled	16	0.2	0.0	0
17:15:23	ARYSG08	Pool	Enabled	16	0.3	0.0	0
17:00:23	ARYSG08	Pool	Enabled	16	0.2	0.0	0
16:45:22	ARYSG08	Pool	Enabled	16	0.2	0.0	0
16:30:22	ARYSG08	Pool	Enabled	16	0.3	0.0	0
16:15:20	ARYSG08	Pool	Enabled	16	0.2	0.0	0
16:01:27	ARYSG08	Pool	Enabled	16	0.6	0.0	0
15:45:23	ARYSG08	Pool	Enabled	16	0.3	0.0	0
15:30:22	ARYSG08	Pool	Enabled	16	0.2	0.0	0
15:15:21	ARYSG08	Pool	Enabled	16	0.2	0.0	0
15:00:23	ARYSG08	Pool	Enabled	16	0.3	0.0	0
14:45:22	ARYSG08	Pool	Enabled	16	0.3	0.0	0
14:30:41	ARYSG08	Pool	Enabled	16	0.2	0.0	0
14:15:22	ARYSG08	Pool	Enabled	16	0.2	0.0	0
14:00:22	ARYSG08	Pool	Enabled	16	0.2	0.0	0
13:45:22	ARYSG08	Pool	Enabled	16	0.3	0.0	0
13:30:22	ARYSG08	Pool	Enabled	16	0.2	0.0	0
13:15:23	ARYSG08	Pool	Enabled	16	0.2	0.0	0
13:00:26	ARYSG08	Pool	Enabled	16	0.2	0.0	0

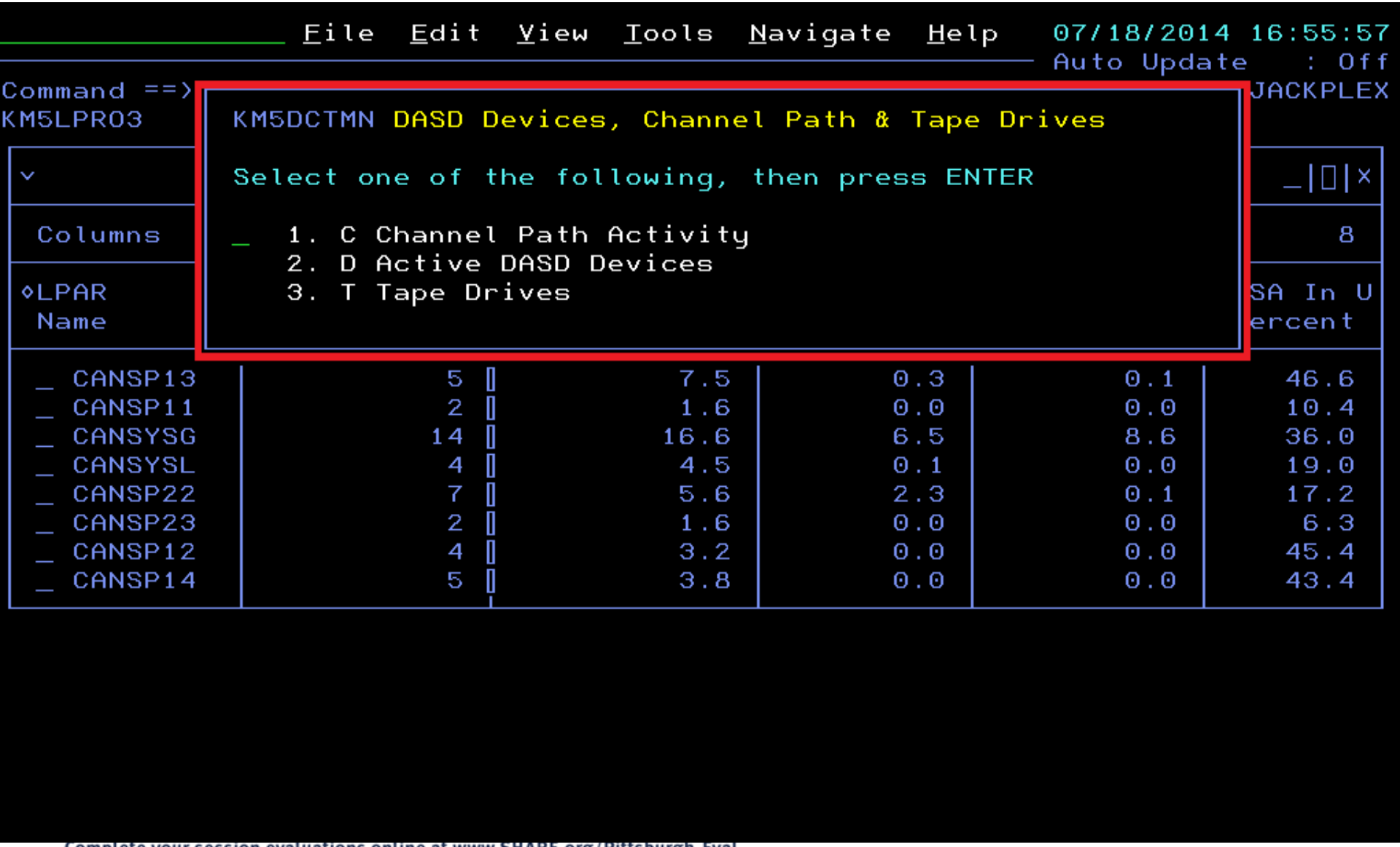
Other Enhancements:

- Added two OMEGAMON Enhanced 3270UI workspaces
  - Channel Path Activity
  - Tape Drive
- SDA status workspace
- History Configuration from the TOM
- MSU collection TEP changes

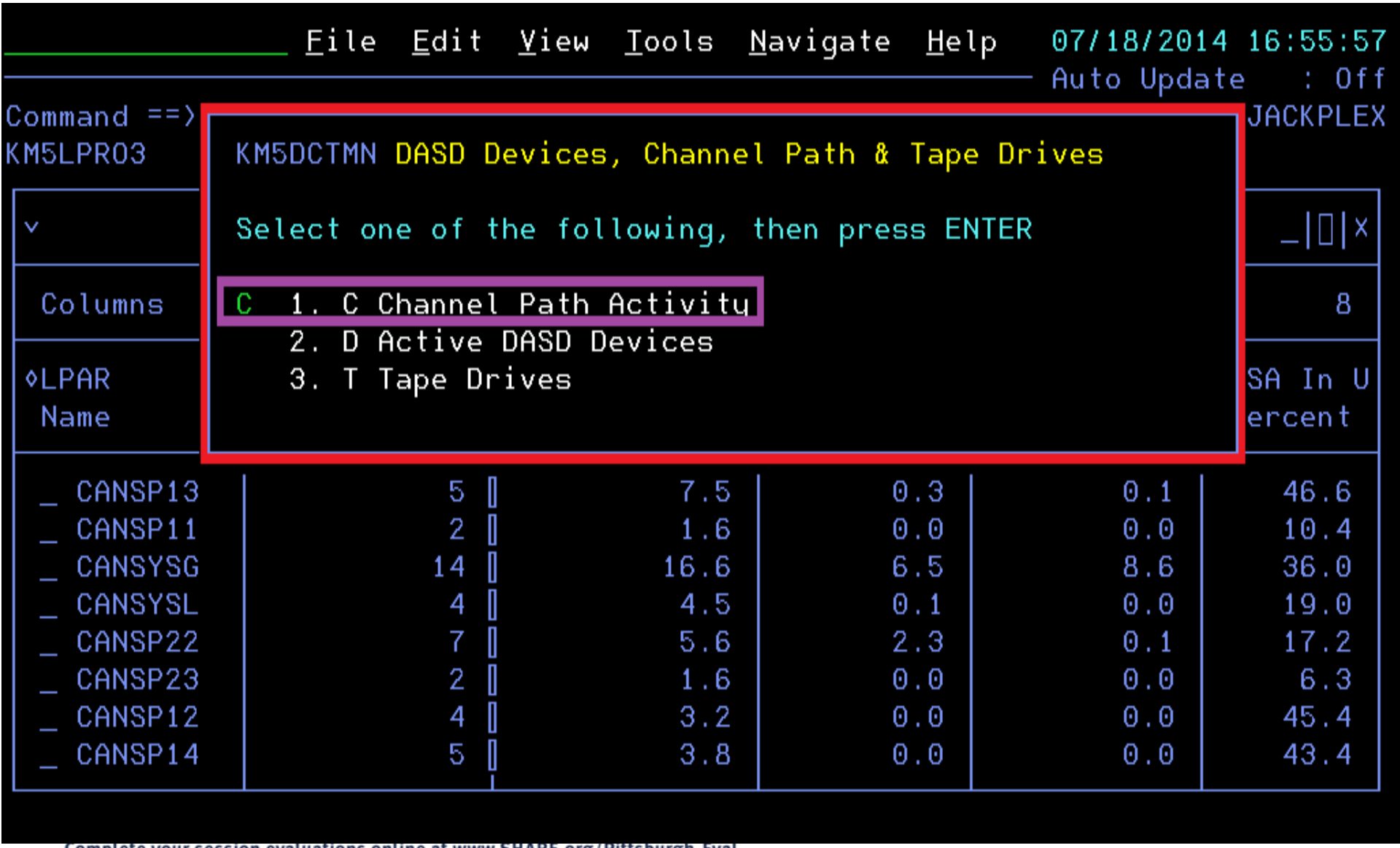
DASD, CHANNEL & TAPE SUMMARY MENU



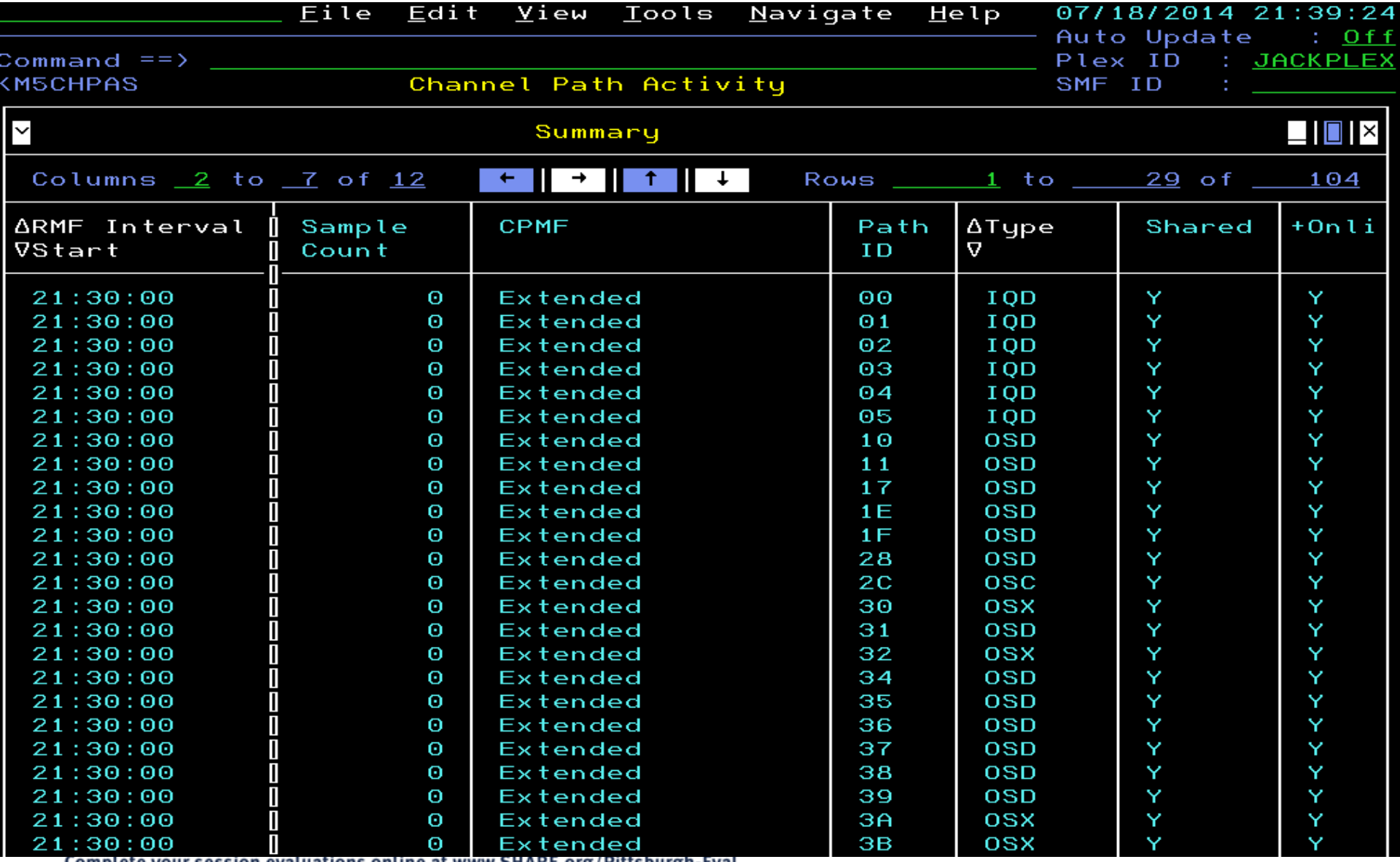
MENU PANEL – (KM5DCTMN)



MENU PANEL – (KM5DCTMN)



CHANNEL PATH ACTIVITY – (KM5CHPAS)



ΔRMF Interval ∇Start	Sample Count	CPMF	Path ID	ΔType ∇	Shared	+Onli
21:30:00	0	Extended	00	IQD	Y	Y
21:30:00	0	Extended	01	IQD	Y	Y
21:30:00	0	Extended	02	IQD	Y	Y
21:30:00	0	Extended	03	IQD	Y	Y
21:30:00	0	Extended	04	IQD	Y	Y
21:30:00	0	Extended	05	IQD	Y	Y
21:30:00	0	Extended	10	OSD	Y	Y
21:30:00	0	Extended	11	OSD	Y	Y
21:30:00	0	Extended	17	OSD	Y	Y
21:30:00	0	Extended	1E	OSD	Y	Y
21:30:00	0	Extended	1F	OSD	Y	Y
21:30:00	0	Extended	28	OSD	Y	Y
21:30:00	0	Extended	2C	OSC	Y	Y
21:30:00	0	Extended	30	OSX	Y	Y
21:30:00	0	Extended	31	OSD	Y	Y
21:30:00	0	Extended	32	OSX	Y	Y
21:30:00	0	Extended	34	OSD	Y	Y
21:30:00	0	Extended	35	OSD	Y	Y
21:30:00	0	Extended	36	OSD	Y	Y
21:30:00	0	Extended	37	OSD	Y	Y
21:30:00	0	Extended	38	OSD	Y	Y
21:30:00	0	Extended	39	OSD	Y	Y
21:30:00	0	Extended	3A	OSX	Y	Y
21:30:00	0	Extended	3B	OSX	Y	Y

CHANNEL PATH ACTIVITY – (KM5CHPAS)

File Edit View Tools Navigate Help 07/19/2014 10:01:07
Auto Update : Off
Command ==> Plex ID : JACKPLEX
KM5CHPAS Channel Path Activity SMF ID :

Summary

Columns 4 to 8 of 12 Rows 1 to 29 of 104

ΔRMF Interval ∇Start	Path ID	ΔType ∇	Shared	Online	ΔLPAR ∇Percent
21:30:00	00	IQD	Y	Y	0.0
21:30:00	01	IQD	Y	Y	0.0
21:30:00	02	IQD	Y	Y	0.0
21:30:00	03	IQD	Y	Y	0.0
21:30:00	04	IQD	Y	Y	0.0
21:30:00	05	IQD	Y	Y	0.0
21:30:00	10	OSD	Y	Y	0.0
21:30:00	11	OSD	Y	Y	0.0
21:30:00	17	OSD	Y	Y	0.0
21:30:00	1E	OSD	Y	Y	0.0
21:30:00	1F	OSD	Y	Y	0.0
21:30:00	28	OSD	Y	Y	0.0
21:30:00	2C	OSC	Y	Y	0.0
21:30:00	30	OSX	Y	Y	0.0
21:30:00	31	OSD	Y	Y	0.0
21:30:00	32	OSX	Y	Y	0.0
21:30:00	34	OSD	Y	Y	0.0
21:30:00	35	OSD	Y	Y	0.0
21:30:00	36	OSD	Y	Y	0.0
21:30:00	37	OSD	Y	Y	0.0

CHANNEL PATH ACTIVITY – (KM5CHPAS)

File Edit View Tools Navigate Help 07/19/2014 10:03:38

Auto Update : Off

Command ==> Plex ID : JACKPLEX

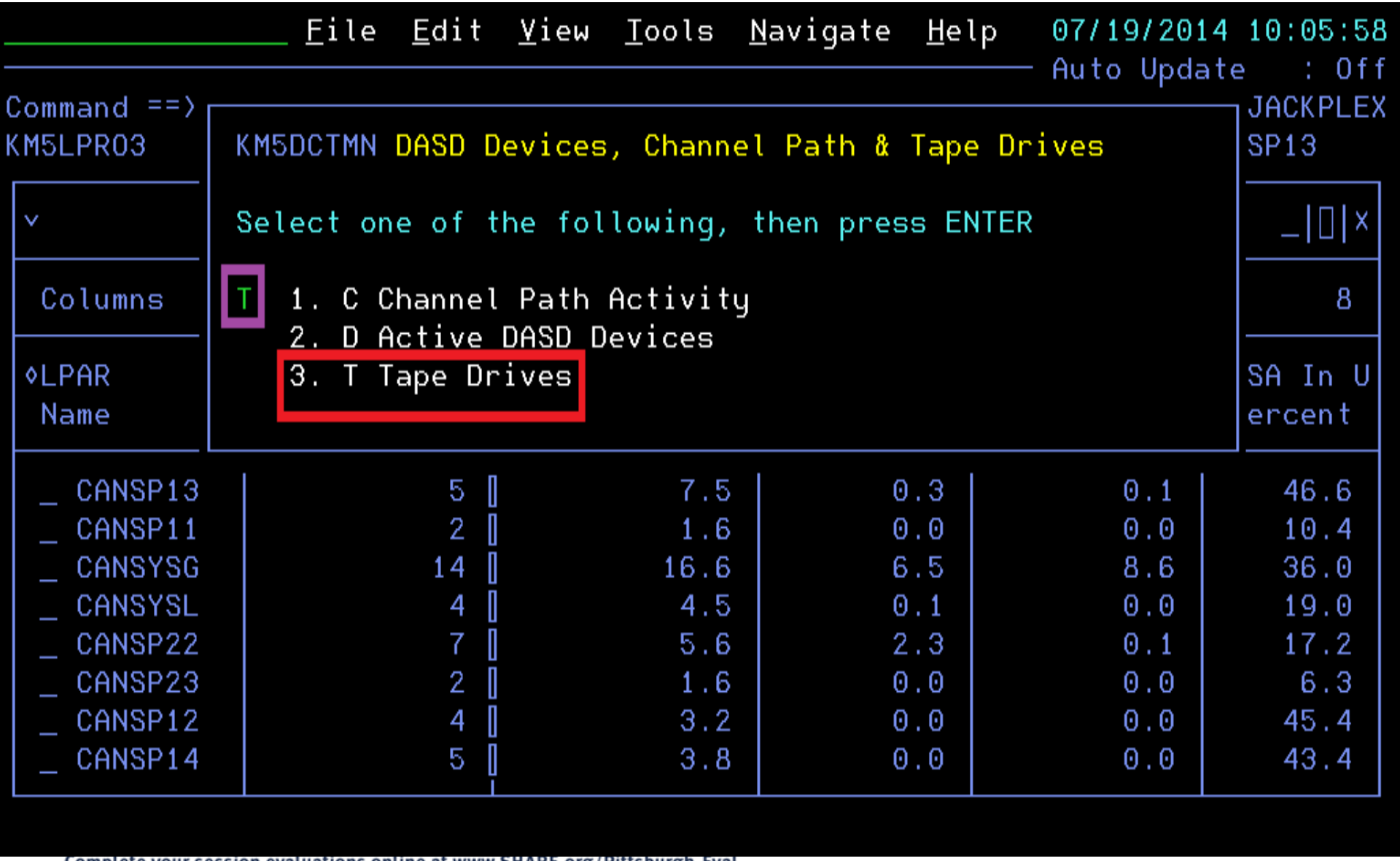
KM5CHPAS Channel Path Activity SMF ID :

Summary

Columns 9 to 12 of 12 ← | → | ↑ | ↓ Rows 1 to 29 of 104

ΔRMF Interval ∇Start	ΔComplex ∇Percent	DCM Enabled	Cluster Name	Configured
21:30:00	0.0	No	N/A	
21:30:00	0.0	No	N/A	
21:30:00	0.0	No	N/A	
21:30:00	0.0	No	N/A	
21:30:00	0.0	No	N/A	
21:30:00	0.0	No	N/A	
21:30:00	0.0	No	N/A	
21:30:00	0.0	No	N/A	
21:30:00	0.0	No	N/A	
21:30:00	0.0	No	N/A	
21:30:00	0.0	No	N/A	
21:30:00	0.0	No	N/A	
21:30:00	0.0	No	N/A	
21:30:00	0.0	No	N/A	
21:30:00	0.0	No	N/A	
21:30:00	0.0	No	N/A	
21:30:00	0.0	No	N/A	
21:30:00	0.0	No	N/A	
21:30:00	0.0	No	N/A	
21:30:00	0.0	No	N/A	
21:30:00	0.0	No	N/A	

TAPE DRIVES


File Edit View Tools Navigate Help
07/19/2014 10:05:58
Auto Update : Off
Command ==>
KM5LPR03
JACKPLEX
SP13
KM5DCTMN DASD Devices, Channel Path & Tape Drives
Select one of the following, then press ENTER
T 1. C Channel Path Activity
2. D Active DASD Devices
3. T Tape Drives
Columns
8
◊LPAR Name
SA In U
ercent
_ CANSP13 5 7.5 0.3 0.1 46.6
_ CANSP11 2 1.6 0.0 0.0 10.4
_ CANSYSG 14 16.6 6.5 8.6 36.0
_ CANSYSL 4 4.5 0.1 0.0 19.0
_ CANSP22 7 5.6 2.3 0.1 17.2
_ CANSP23 2 1.6 0.0 0.0 6.3
_ CANSP12 4 3.2 0.0 0.0 45.4
_ CANSP14 5 3.8 0.0 0.0 43.4

TAPE DRIVES – (KM5TPDRS)

TAPE DRIVES – (KM5TPDRS)

File Edit View Tools Navigate Help 07/19/2014 10:20:07
Auto Update : Off
Command ==> Plex ID : JACKPLEX
KM5TPDRS Tape Drives SMF ID : SP13

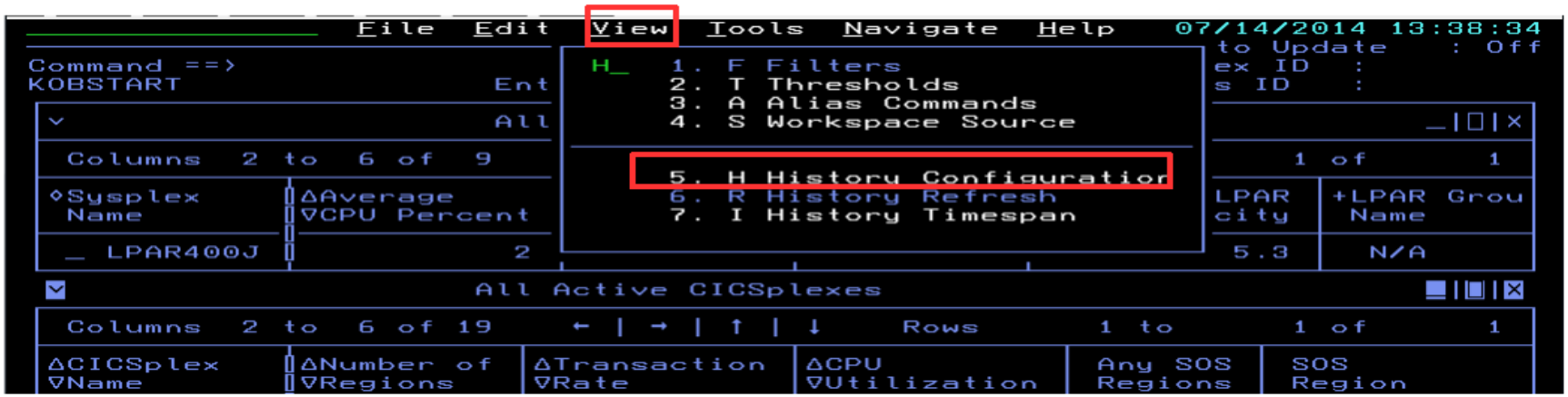
Summary

Columns 5 to 8 of 8 Rows 1 to 29 of 34

ΔAddress ∇	ΔI/O Count ∇	Permanent Errors	Temporary Errors	Tape Mount Wait Time
00000A00	271	0	0	0
00000A01	159	0	0	0
00000A02	21603	0	0	0
00000A03	684	0	0	0
00000A04	1147	0	0	0
00000A05	544	0	0	0
00000A06	1796	0	0	0
00000A07	5594	0	0	0
00003A50	81	0	0	0
00003A51	93	0	0	0
00003A58	125	0	0	0
00003A59	65	0	0	0
00003A80	0	0	0	0
00003A81	0	0	0	0
00003A82	0	0	0	0
00003A83	0	0	0	0
00003A84	12379	0	0	0
00003A85	588	0	0	0
00003D60	0	0	0	0
00003D61	0	0	0	0
00003D62	0	0	0	0
00003D63	0	0	0	0
00003D64	0	0	0	0

Enhanced 3270UI Historical Data Collection Configuration

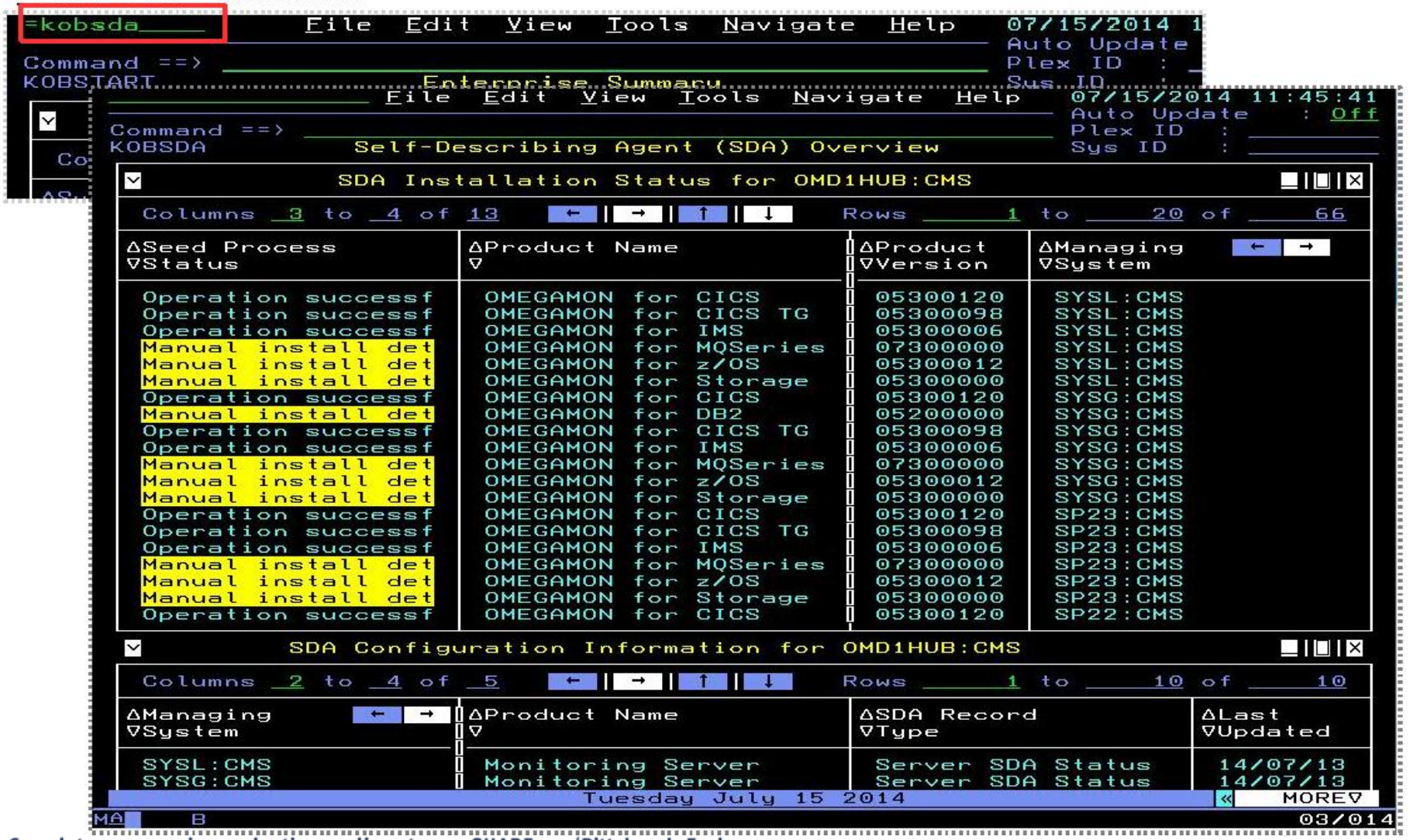
- **Action Bar: View, H to invoke the Historical collection configuration dialogs**



- **…to navigate to the KOBHISTL workspace and launch product specific historical collection configuration**

Enhanced 3270UI – Self Describing Agent (SDA) Info

- =KOBSDA command

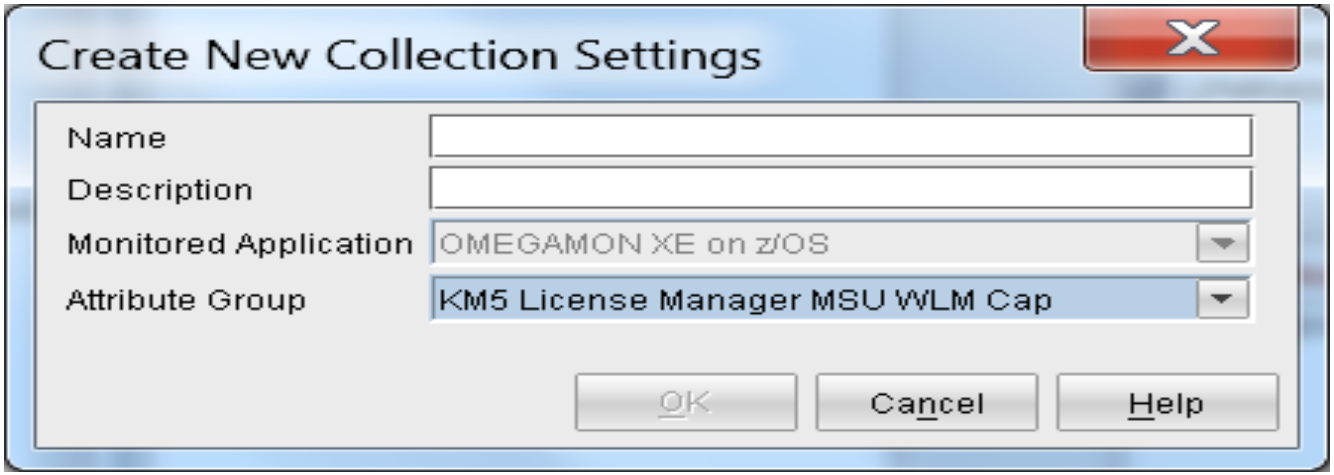


License Manager MSU WLM Cap

- History collection now available
- Row Count Attribute added

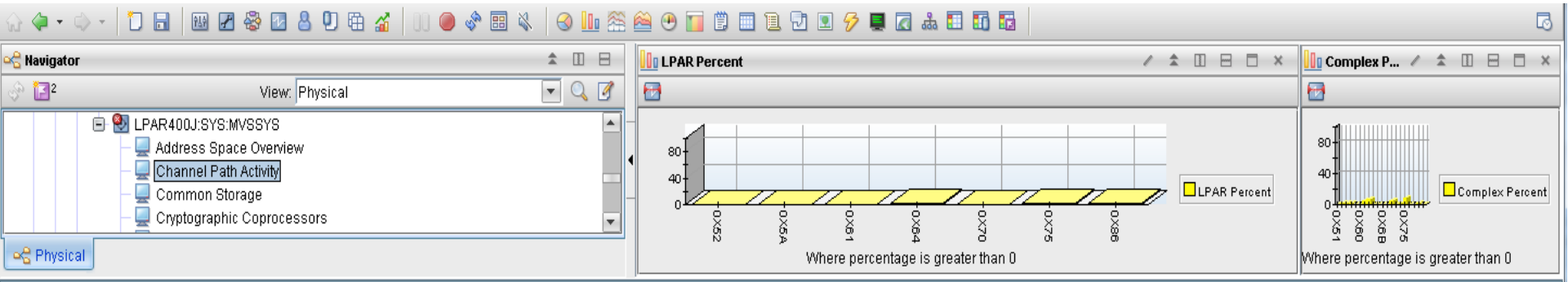
The Row Count allows queries or situations to select specific data rows for processing.

(example showing attribute group to select for history collection)



License Manager MSU WLM Cap

(Query for License Manager MSU WLM Cap table selected for lower half of Channel Path Activity report)



Channel Path Activity

Row Count	Managed System	% LPAR Capped	% LPAR MSU Capacity	% LPAR Uncapped	% Time Capped	% Time Uncapped	4 Hour MSUs	Average % Time Capped	Average % Time Uncapped	Average Unused Group MSUs	Capped MSUs/Hour	Group LPAR MSU Limit	LPAR Capacity Limit	LPAR Capacity Limit Basis	LPAR Defined Capacity Set	LPAR Capaci
1	LPAR400J:SYS:MVSSYS	0.00	13.4	8.37	0.00	100.00	43	Unavailable	Unavailable	Unavailable	0.00	Unavailable	320	Entitled	No	Unav
2	LPAR400J:SYS:MVSSYS	0.00	13.4	10.24	0.00	100.00	43	Unavailable	Unavailable	Unavailable	0.00	Unavailable	320	Entitled	No	Unav
3	LPAR400J:SYS:MVSSYS	0.00	13.4	9.53	0.00	100.00	43	Unavailable	Unavailable	Unavailable	0.00	Unavailable	320	Entitled	No	Unav
4	LPAR400J:SYS:MVSSYS	0.00	13.4	9.63	0.00	100.00	43	Unavailable	Unavailable	Unavailable	0.00	Unavailable	320	Entitled	No	Unav
5	LPAR400J:SYS:MVSSYS	0.00	13.4	9.16	0.00	100.00	43	Unavailable	Unavailable	Unavailable	0.00	Unavailable	320	Entitled	No	Unav
6	LPAR400J:SYS:MVSSYS	0.00	13.4	9.25	0.00	100.00	43	Unavailable	Unavailable	Unavailable	0.00	Unavailable	320	Entitled	No	Unav
7	LPAR400J:SYS:MVSSYS	0.00	13.4	9.30	0.00	100.00	43	Unavailable	Unavailable	Unavailable	0.00	Unavailable	320	Entitled	No	Unav
8	LPAR400J:SYS:MVSSYS	0.00	13.4	9.33	0.00	100.00	43	Unavailable	Unavailable	Unavailable	0.00	Unavailable	320	Entitled	No	Unav
9	LPAR400J:SYS:MVSSYS	0.00	13.4	9.59	0.00	100.00	43	Unavailable	Unavailable	Unavailable	0.00	Unavailable	320	Entitled	No	Unav
10	LPAR400J:SYS:MVSSYS	0.00	13.4	9.49	0.00	100.00	43	Unavailable	Unavailable	Unavailable	0.00	Unavailable	320	Entitled	No	Unav
11	LPAR400J:SYS:MVSSYS	0.00	13.4	9.27	0.00	100.00	43	Unavailable	Unavailable	Unavailable	0.00	Unavailable	320	Entitled	No	Unav
12	LPAR400J:SYS:MVSSYS	0.00	13.4	9.70	0.00	100.00	43	Unavailable	Unavailable	Unavailable	0.00	Unavailable	320	Entitled	No	Unav
13	LPAR400J:SYS:MVSSYS	0.00	13.4	11.08	0.00	100.00	43	Unavailable	Unavailable	Unavailable	0.00	Unavailable	320	Entitled	No	Unav
14	LPAR400J:SYS:MVSSYS	0.00	13.4	9.54	0.00	100.00	43	Unavailable	Unavailable	Unavailable	0.00	Unavailable	320	Entitled	No	Unav
15	LPAR400J:SYS:MVSSYS	0.00	13.4	9.10	0.00	100.00	43	Unavailable	Unavailable	Unavailable	0.00	Unavailable	320	Entitled	No	Unav
16	LPAR400J:SYS:MVSSYS	0.00	13.4	9.37	0.00	100.00	43	Unavailable	Unavailable	Unavailable	0.00	Unavailable	320	Entitled	No	Unav
17	LPAR400J:SYS:MVSSYS	0.00	13.4	25.33	0.00	100.00	43	Unavailable	Unavailable	Unavailable	0.00	Unavailable	320	Entitled	No	Unav
18	LPAR400J:SYS:MVSSYS	0.00	13.4	33.10	0.00	100.00	43	Unavailable	Unavailable	Unavailable	0.00	Unavailable	320	Entitled	No	Unav
19	LPAR400J:SYS:MVSSYS	0.00	13.4	33.42	0.00	100.00	43	Unavailable	Unavailable	Unavailable	0.00	Unavailable	320	Entitled	No	Unav

IBM System z Service Management critical for moving to Mobile, Big Data and Cloud

IBM continues to improve z/OS environment to support new technologies

- IBM SmartCloud Analytics – Log Analysis z/OS Insight Packs 1.1.0.1
- IBM Service Management Suite for z/OS V1.2
- IBM Tivoli OMEGAMON Performance Management Suite for z/OS V5.3.0
- IBM Tivoli OMEGAMON XE on z/OS 5.3.0, IBM Tivoli OMEGAMON Dashboard Edition on z/OS 5.3.0, IBM Tivoli OMEGAMON XE for Messaging for z/OS 7.3.0, IBM Tivoli OMEGAMON XE for CICS on z/OS 5.3.0, IBM Tivoli OMEGAMON XE for Storage on z/OS 5.3.0
- IBM Tivoli System Automation for z/OS V3.5
- IBM Automation Control for z/OS V1.1.1
- IBM Tivoli NetView for z/OS V6.2.1
- IBM Tivoli NetView Monitoring for GDPS V6.2.1
- IBM Tivoli Workload Scheduler for z/OS V9.2

Learn More: http://www-01.ibm.com/software/os/systemz/itsm/

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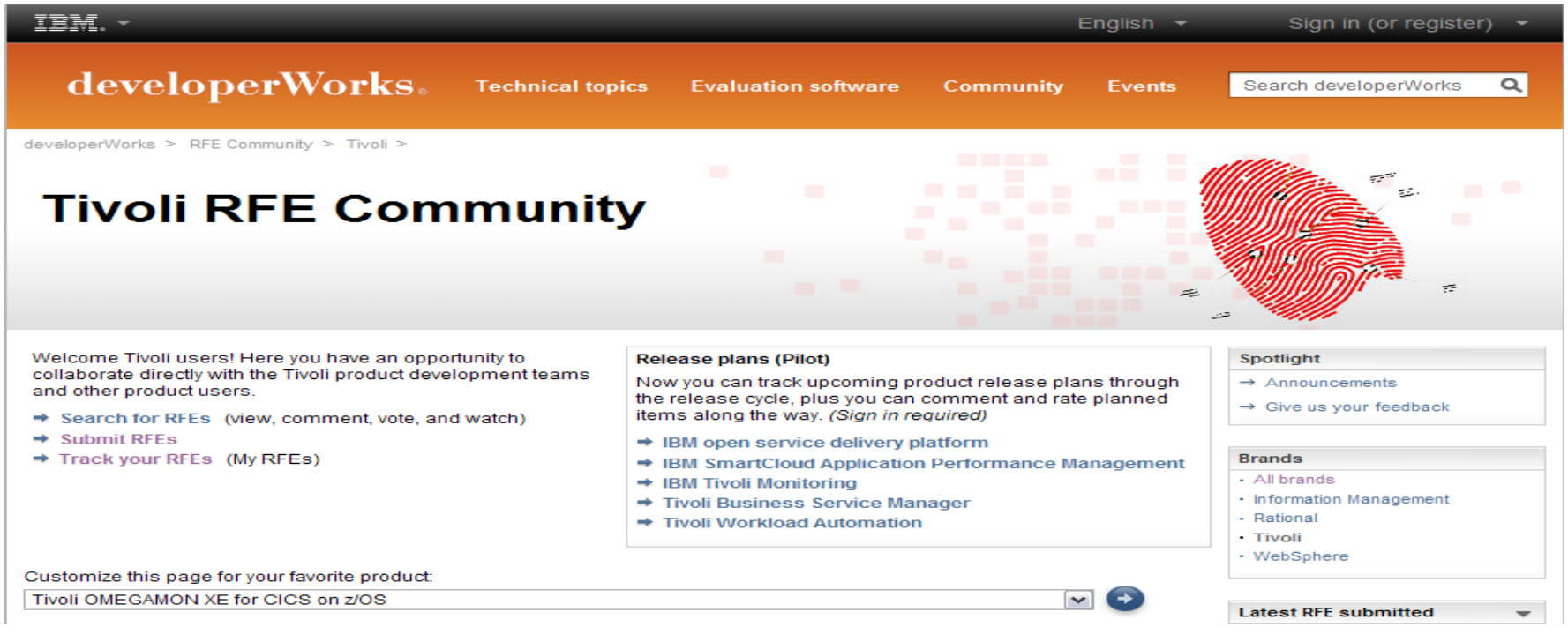
And, Mainframe Insights:
https://www-304.ibm.com/connections/blogs/systemz/?lang=en_us

Twitter: @ServMgmtConnect @systemz #mainframe #servicemgmt

Tivoli RFE Community



Tivoli RFE Community

http://www.ibm.com/developerworks/rfe/?BRAND_ID=90

Summary

- OMEGAMON XE on zOS v5.3 overview
- OMEGAMON XE for Storage on zOS v5.3 overview
- OMEGAMON XE on zOS v5.3 details
- OMEGAMON XE on zOS v5.3 problem solving
- Summary

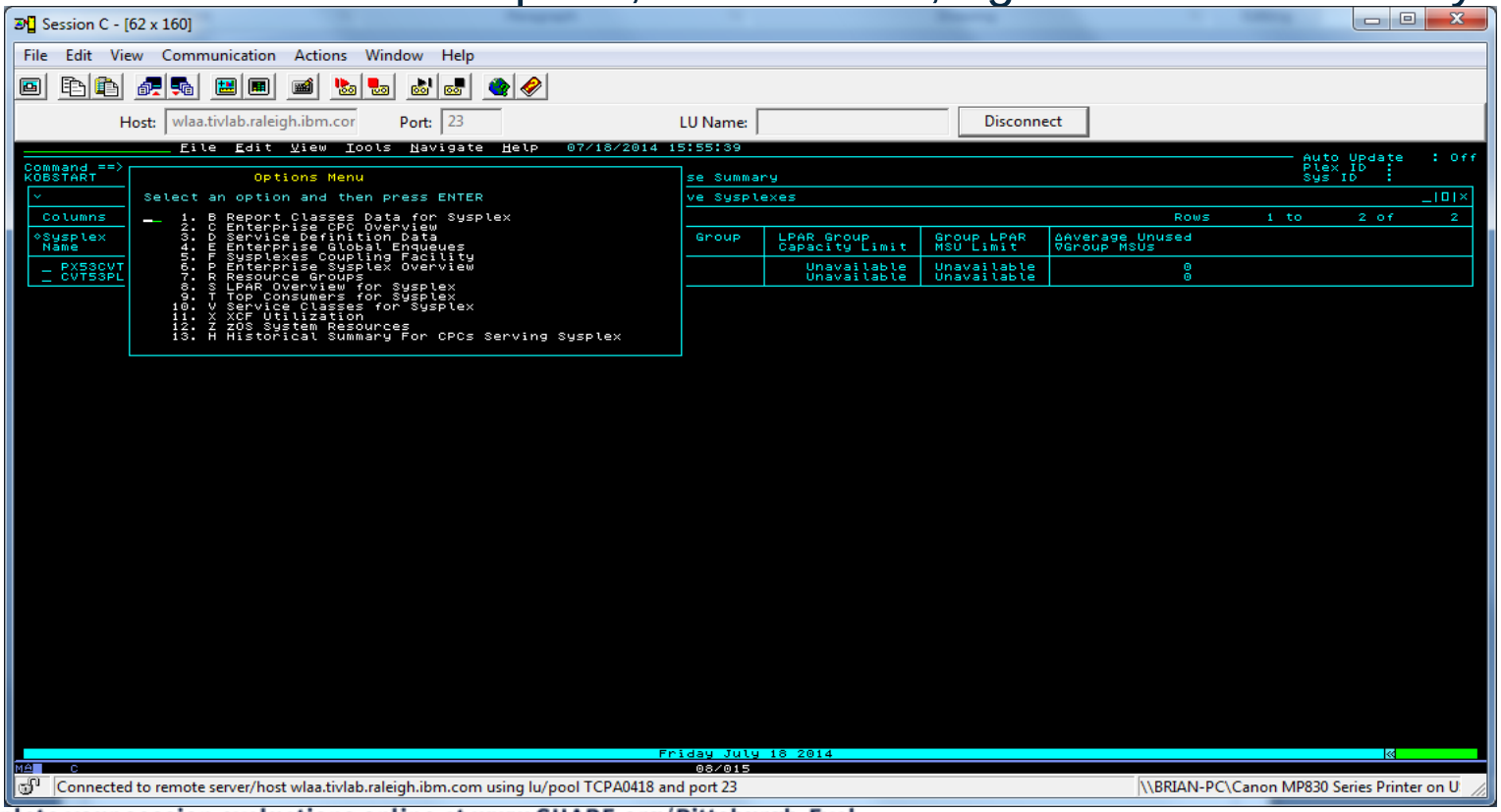
Backup:

Additional materials

- NTH XE zOS DASD Scenario
- Parmgen First Time User (FTU)
- IBM System z Service Management

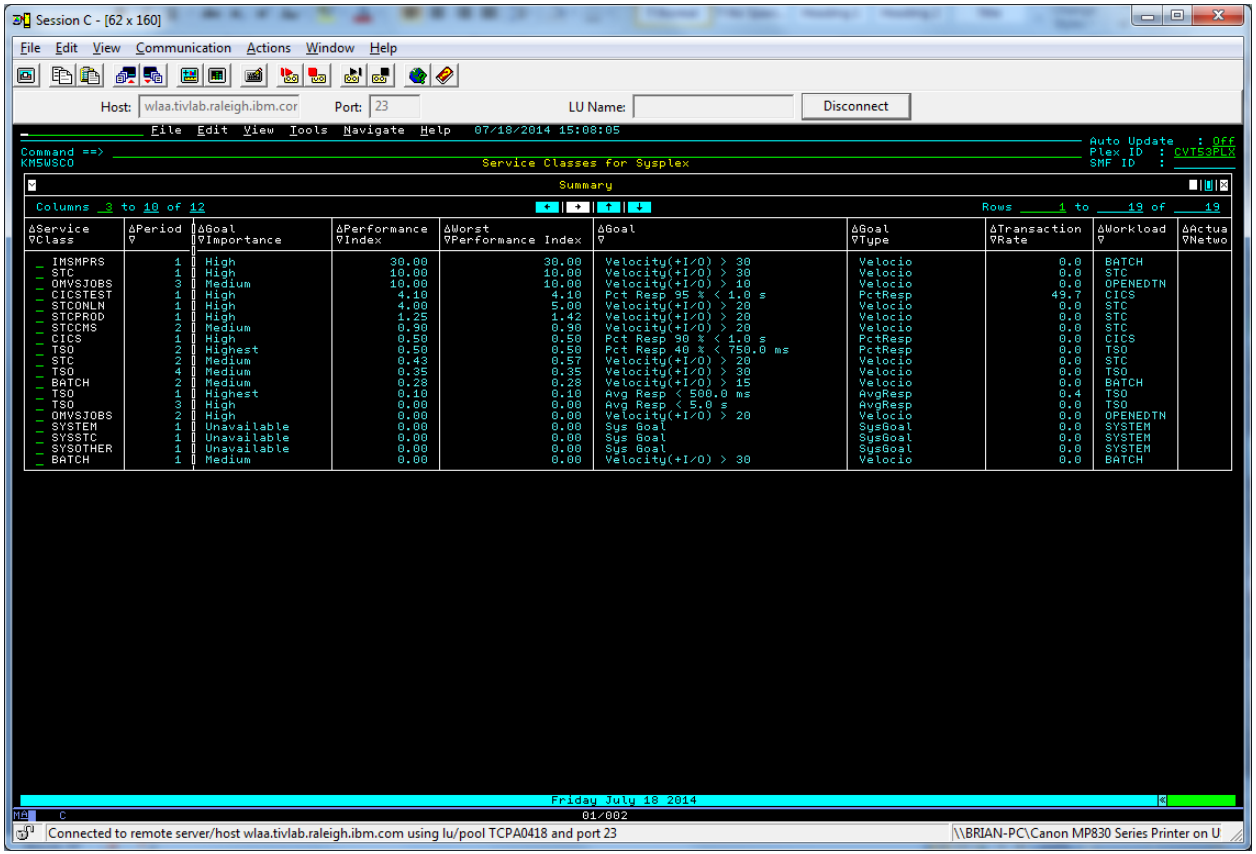
Near Term History: DASD Scenario

- I work in Operations support and on 07/18/14 at about 3pm I receive a call that a users batch jobs BKEALIO1 and BKEALIO2 in the CVT53PLX sysplex are being delayed.
- From the initial workspace, KOBSTART, I go to the menu for sysplex



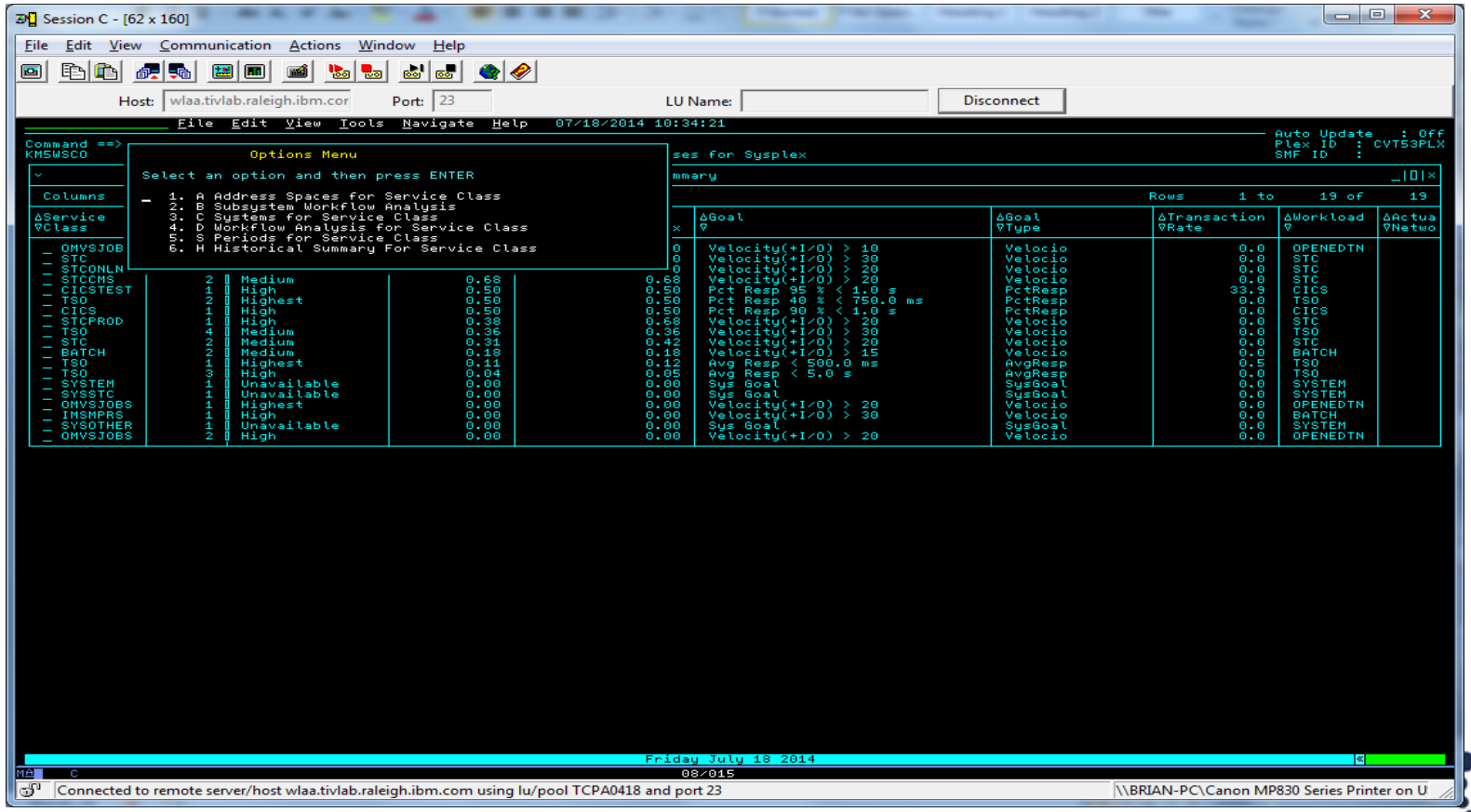
Near Term History: DASD Scenario

- I select the “V” option to see service classes right now



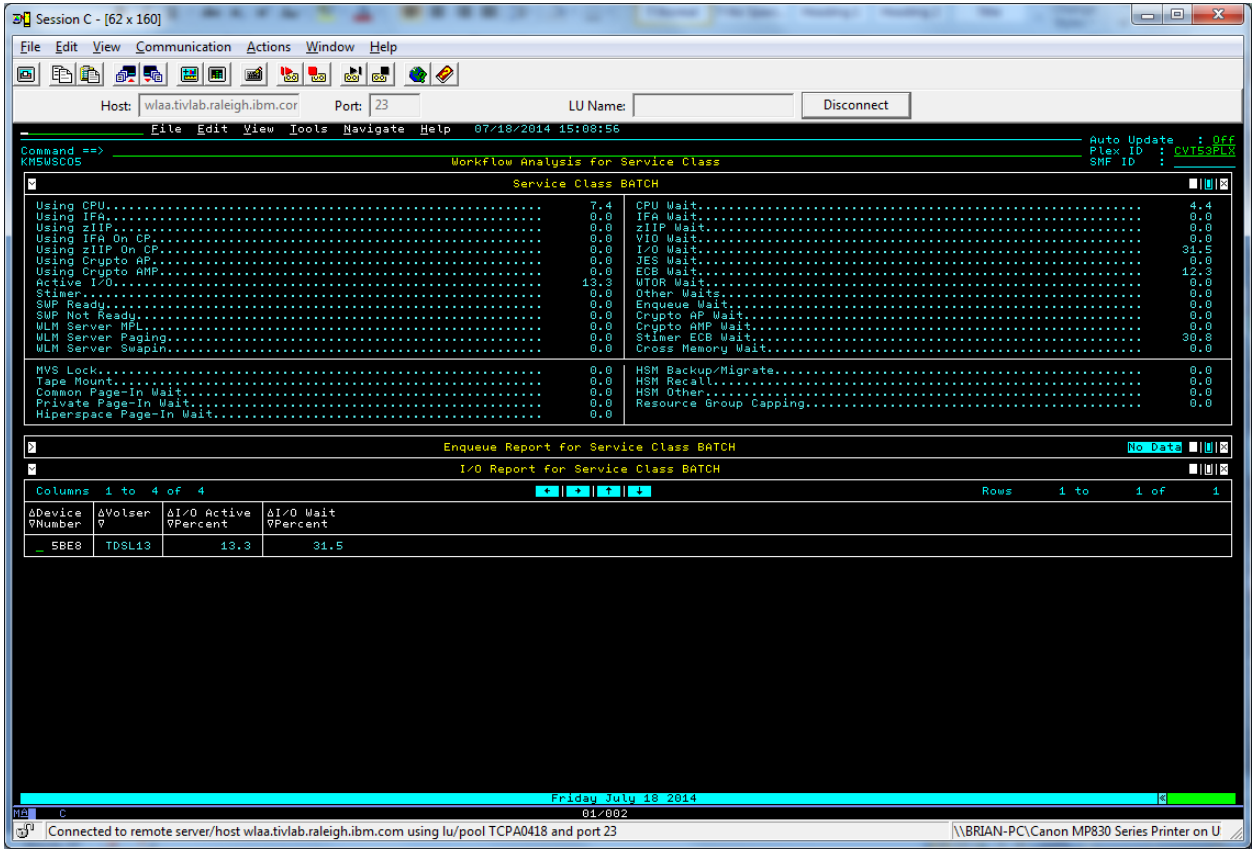
Near Term History: DASD Scenario

- Looking at Service Classes for Sysplex I see nothing suspicious for batch class but decide to look further at batch period 2 for Workflow Analysis, option “D”



Near Term History: DASD Scenario

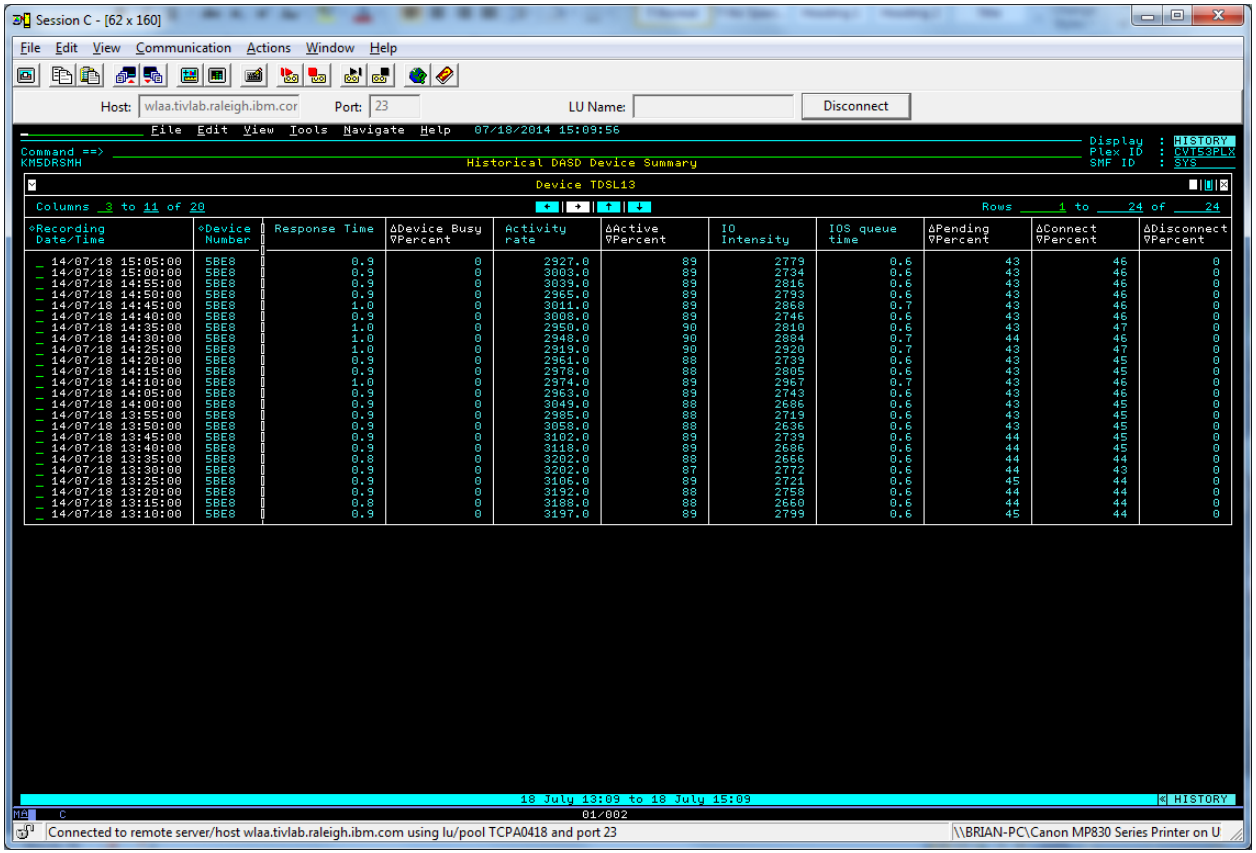
- Workflow Analysis shows that the service class is seeing I/O activity for device TDSL13



- Lets look at history for this device. Select “H” for history

Near Term History: DASD Scenario

- Activity rate and Active Percent are quite high over the last 2 hours.

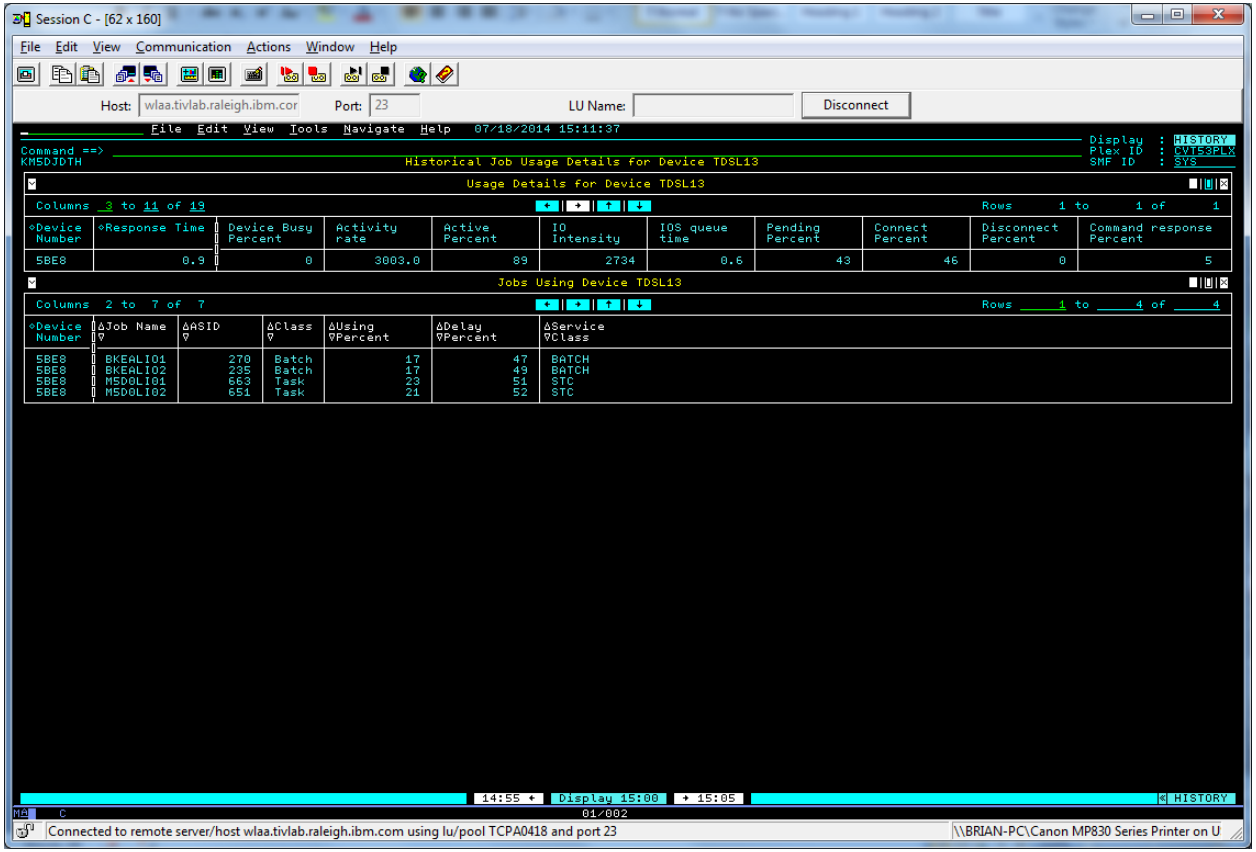


Recording Date/Time	Device Number	Response Time	Device Busy Percent	Activity rate	Active Percent	IO Intensity	IOS queue time	Pending Percent	Connect Percent	Disconnect Percent
14/07/18 15:05:00	5BE8	0.9	0	2927.0	89	2779	0.6	43	46	0
14/07/18 15:00:00	5BE8	0.9	0	3003.0	89	2734	0.6	43	46	0
14/07/18 14:55:00	5BE8	0.9	0	3039.0	89	2816	0.6	43	46	0
14/07/18 14:50:00	5BE8	0.9	0	2965.0	89	2793	0.6	43	46	0
14/07/18 14:45:00	5BE8	1.0	0	3011.0	89	2868	0.7	43	46	0
14/07/18 14:40:00	5BE8	0.9	0	3008.0	89	2746	0.6	43	46	0
14/07/18 14:35:00	5BE8	1.0	0	2950.0	90	2810	0.6	43	47	0
14/07/18 14:30:00	5BE8	1.0	0	2948.0	90	2884	0.7	44	46	0
14/07/18 14:25:00	5BE8	1.0	0	2919.0	90	2920	0.7	43	47	0
14/07/18 14:20:00	5BE8	0.9	0	2961.0	88	2739	0.6	43	45	0
14/07/18 14:15:00	5BE8	0.9	0	2978.0	88	2805	0.6	43	45	0
14/07/18 14:10:00	5BE8	1.0	0	2974.0	89	2967	0.7	43	46	0
14/07/18 14:05:00	5BE8	0.9	0	2963.0	89	2743	0.6	43	46	0
14/07/18 14:00:00	5BE8	0.9	0	3049.0	88	2686	0.6	43	45	0
14/07/18 13:55:00	5BE8	0.9	0	2985.0	88	2719	0.6	43	45	0
14/07/18 13:50:00	5BE8	0.9	0	3058.0	88	2636	0.6	43	45	0
14/07/18 13:45:00	5BE8	0.9	0	3102.0	89	2739	0.6	44	45	0
14/07/18 13:40:00	5BE8	0.9	0	3118.0	89	2686	0.6	44	45	0
14/07/18 13:35:00	5BE8	0.8	0	3202.0	88	2666	0.6	44	44	0
14/07/18 13:30:00	5BE8	0.9	0	3202.0	87	2772	0.6	44	43	0
14/07/18 13:25:00	5BE8	0.9	0	3106.0	89	2721	0.6	45	44	0
14/07/18 13:20:00	5BE8	0.9	0	3192.0	88	2758	0.6	44	44	0
14/07/18 13:15:00	5BE8	0.8	0	3188.0	88	2660	0.6	44	44	0
14/07/18 13:10:00	5BE8	0.9	0	3197.0	89	2799	0.6	45	44	0

- What jobs are using device? Select "S" for jobs on any row.

Near Term History: DASD Scenario

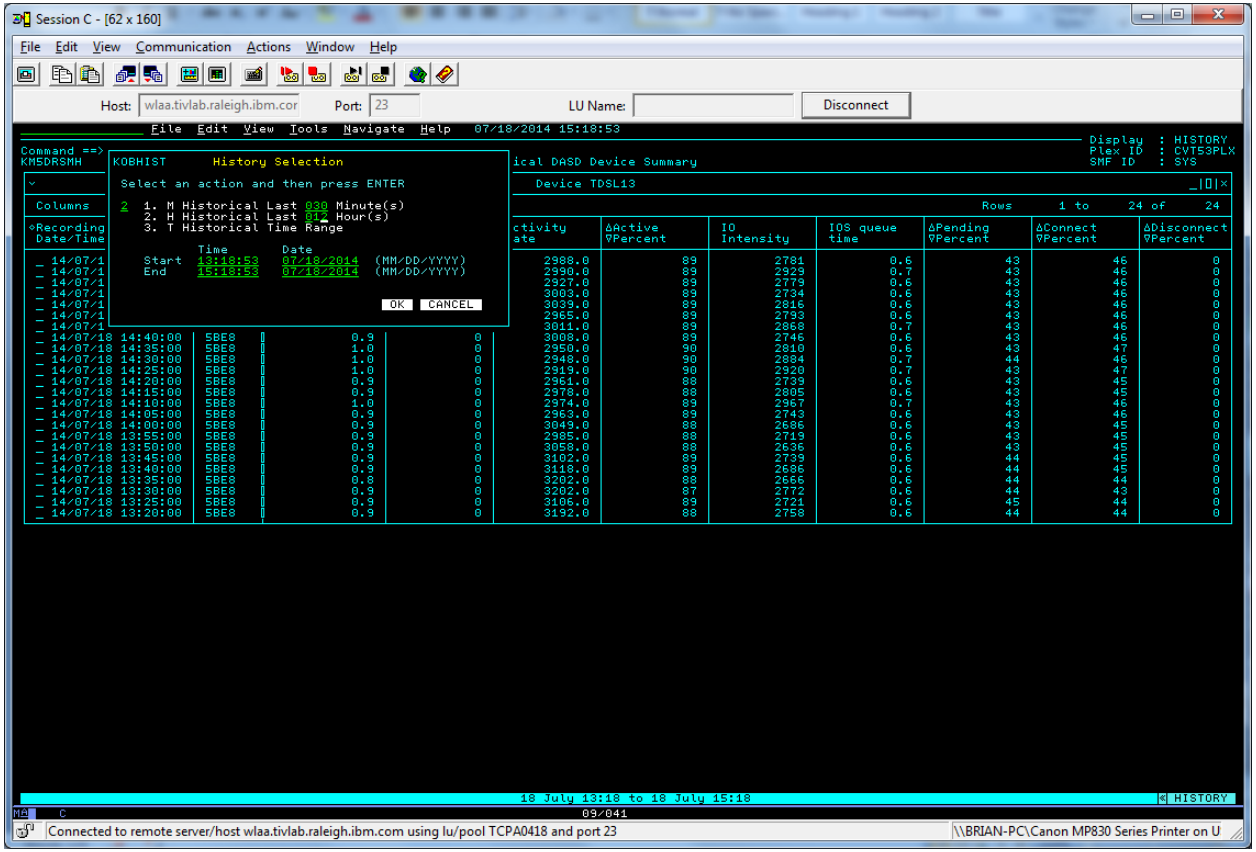
- Indeed the batch jobs I was called about are delayed for the device. We also see that there are two started tasks contending for use of the device.



- When did this start?

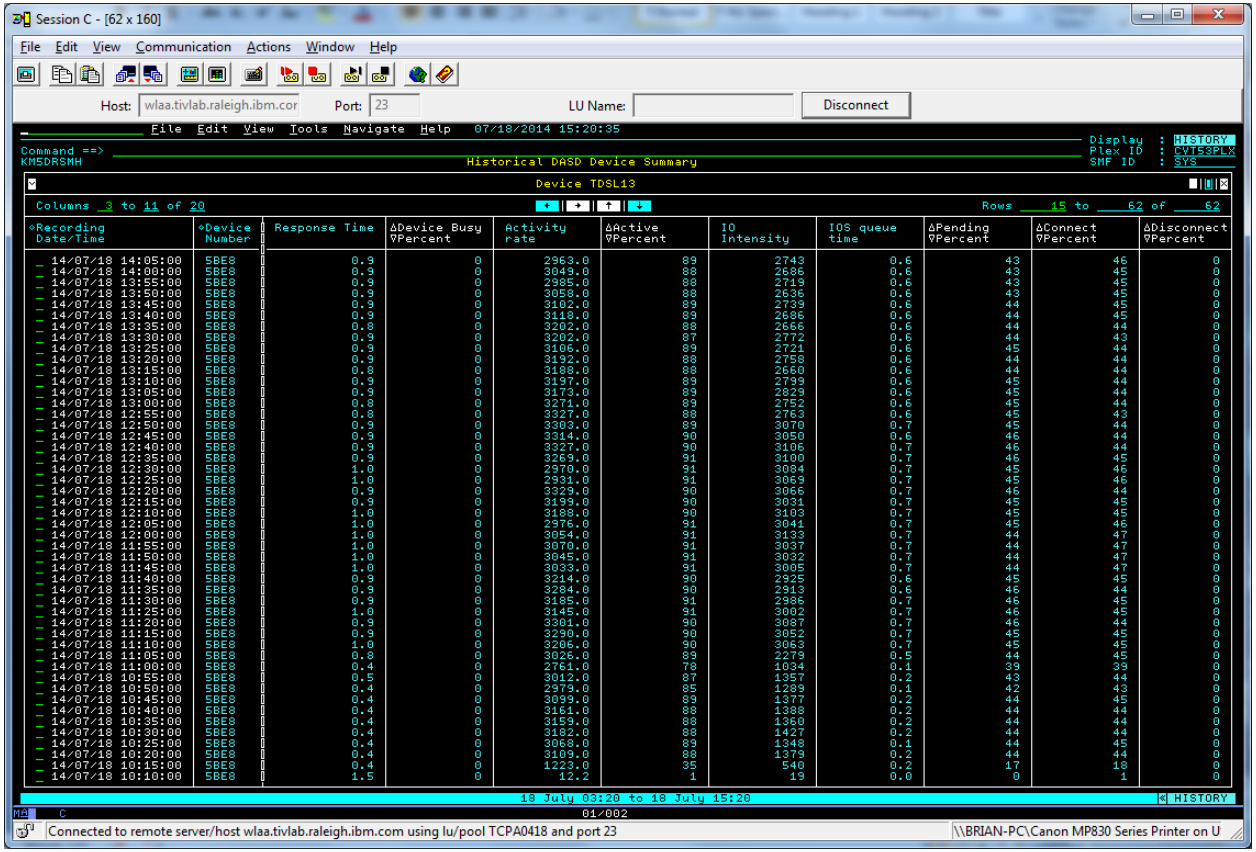
Near Term History: DASD Scenario

- I use history time configuration (View -> History Timespan) to look at the last 12 hours



Near Term History: DASD Scenario

- We scroll to the bottom of the range to see that activity for the device started at about 10:10am

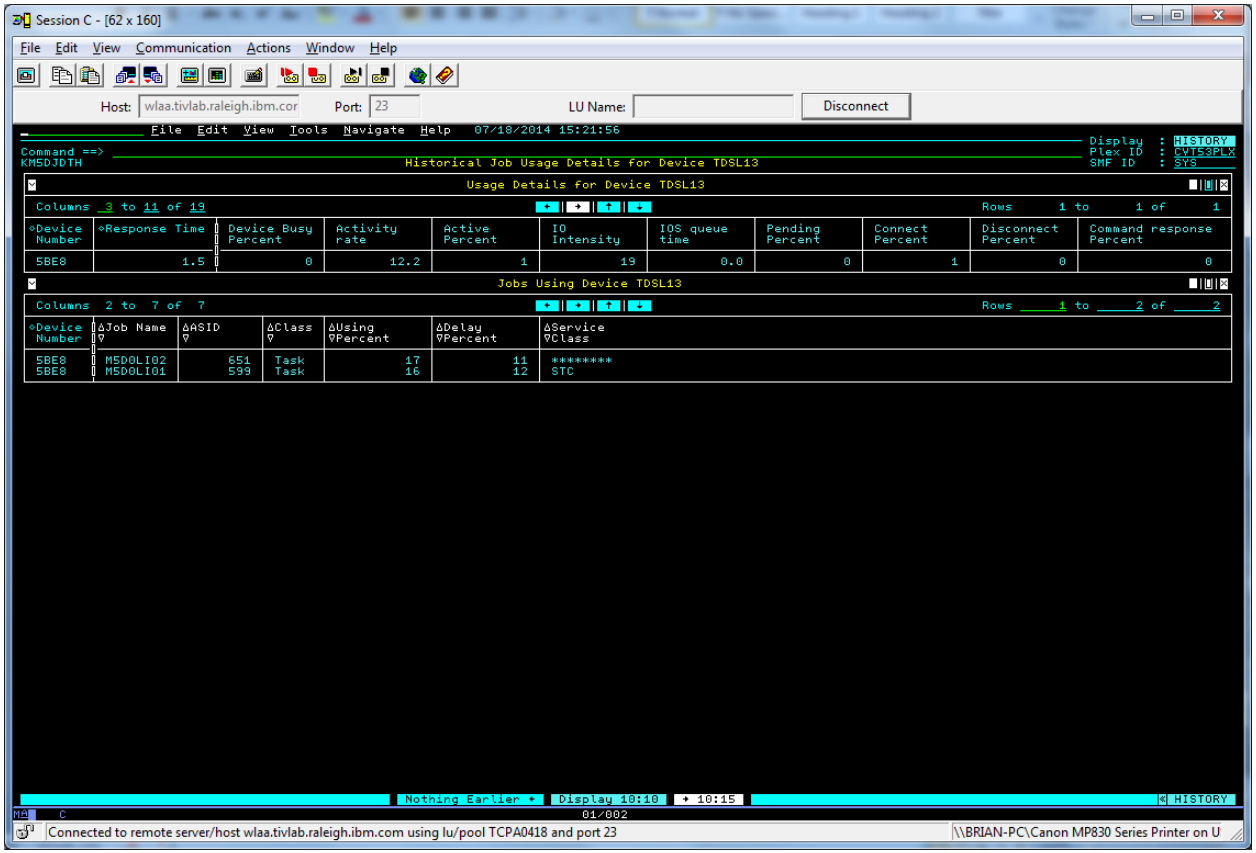


Recording Date/Time	Device Number	Response Time	Device Busy %Percent	Activity rate	Active %Percent	IO Intensity	IOS queue time	Pending %Percent	Connect %Percent	Disconnect %Percent
14/07/18 14:05:00	5BE8	0.9	0	2963.0	89	2743	0.6	43	46	0
14/07/18 14:00:00	5BE8	0.9	0	3049.0	88	2686	0.6	43	45	0
14/07/18 13:55:00	5BE8	0.9	0	2985.0	88	2719	0.6	43	45	0
14/07/18 13:50:00	5BE8	0.9	0	3058.0	88	2636	0.6	43	45	0
14/07/18 13:45:00	5BE8	0.9	0	3102.0	89	2739	0.6	44	45	0
14/07/18 13:40:00	5BE8	0.9	0	3118.0	89	2686	0.6	44	45	0
14/07/18 13:35:00	5BE8	0.8	0	3202.0	88	2666	0.6	44	44	0
14/07/18 13:30:00	5BE8	0.9	0	3202.0	87	2772	0.6	44	43	0
14/07/18 13:25:00	5BE8	0.9	0	3106.0	89	2721	0.6	45	44	0
14/07/18 13:20:00	5BE8	0.9	0	3192.0	88	2758	0.6	44	44	0
14/07/18 13:15:00	5BE8	0.8	0	3188.0	88	2660	0.6	44	44	0
14/07/18 13:10:00	5BE8	0.9	0	3197.0	89	2799	0.6	45	44	0
14/07/18 13:05:00	5BE8	0.9	0	3173.0	89	2829	0.6	45	44	0
14/07/18 13:00:00	5BE8	0.8	0	3271.0	89	2752	0.6	45	44	0
14/07/18 12:55:00	5BE8	0.8	0	3327.0	88	2763	0.6	45	43	0
14/07/18 12:50:00	5BE8	0.9	0	3303.0	89	3070	0.7	45	44	0
14/07/18 12:45:00	5BE8	0.9	0	3314.0	90	3050	0.6	46	44	0
14/07/18 12:40:00	5BE8	0.9	0	3327.0	90	3106	0.7	46	44	0
14/07/18 12:35:00	5BE8	0.9	0	3269.0	91	3100	0.7	46	45	0
14/07/18 12:30:00	5BE8	1.0	0	2970.0	91	3084	0.7	45	46	0
14/07/18 12:25:00	5BE8	1.0	0	2931.0	91	3069	0.7	45	46	0
14/07/18 12:20:00	5BE8	0.9	0	3329.0	90	3066	0.7	46	44	0
14/07/18 12:15:00	5BE8	0.9	0	3199.0	90	3031	0.7	45	45	0
14/07/18 12:10:00	5BE8	1.0	0	3188.0	90	3103	0.7	45	45	0
14/07/18 12:05:00	5BE8	1.0	0	2976.0	91	3041	0.7	45	46	0
14/07/18 12:00:00	5BE8	1.0	0	3054.0	91	3133	0.7	44	47	0
14/07/18 11:55:00	5BE8	1.0	0	3070.0	91	3037	0.7	44	47	0
14/07/18 11:50:00	5BE8	1.0	0	3045.0	91	3032	0.7	44	47	0
14/07/18 11:45:00	5BE8	1.0	0	3033.0	91	3005	0.7	44	47	0
14/07/18 11:40:00	5BE8	0.9	0	3214.0	90	2925	0.6	45	45	0
14/07/18 11:35:00	5BE8	0.9	0	3284.0	90	2913	0.6	46	44	0
14/07/18 11:30:00	5BE8	0.9	0	3185.0	91	2986	0.7	46	45	0
14/07/18 11:25:00	5BE8	1.0	0	3145.0	91	3002	0.7	46	45	0
14/07/18 11:20:00	5BE8	0.9	0	3301.0	90	3087	0.7	45	44	0
14/07/18 11:15:00	5BE8	0.9	0	3290.0	90	3052	0.7	45	45	0
14/07/18 11:10:00	5BE8	1.0	0	3206.0	90	3063	0.7	45	45	0
14/07/18 11:05:00	5BE8	0.8	0	3026.0	89	2279	0.5	44	45	0
14/07/18 11:00:00	5BE8	0.4	0	2761.0	78	1034	0.1	39	39	0
14/07/18 10:55:00	5BE8	0.5	0	3012.0	87	1357	0.2	43	44	0
14/07/18 10:50:00	5BE8	0.4	0	2979.0	85	1289	0.1	42	43	0
14/07/18 10:45:00	5BE8	0.4	0	3099.0	89	1377	0.2	44	45	0
14/07/18 10:40:00	5BE8	0.4	0	3161.0	88	1388	0.2	44	44	0
14/07/18 10:35:00	5BE8	0.4	0	3159.0	88	1360	0.2	44	44	0
14/07/18 10:30:00	5BE8	0.4	0	3182.0	88	1427	0.2	44	44	0
14/07/18 10:25:00	5BE8	0.4	0	3068.0	89	1348	0.1	44	45	0
14/07/18 10:20:00	5BE8	0.4	0	3109.0	88	1379	0.2	44	44	0
14/07/18 10:15:00	5BE8	0.4	0	1223.0	35	540	0.2	17	18	0
14/07/18 10:10:00	5BE8	1.5	0	12.2	1	19	0.0	0	1	0

- Lets look at what jobs were using the device then.

Near Term History: DASD Scenario

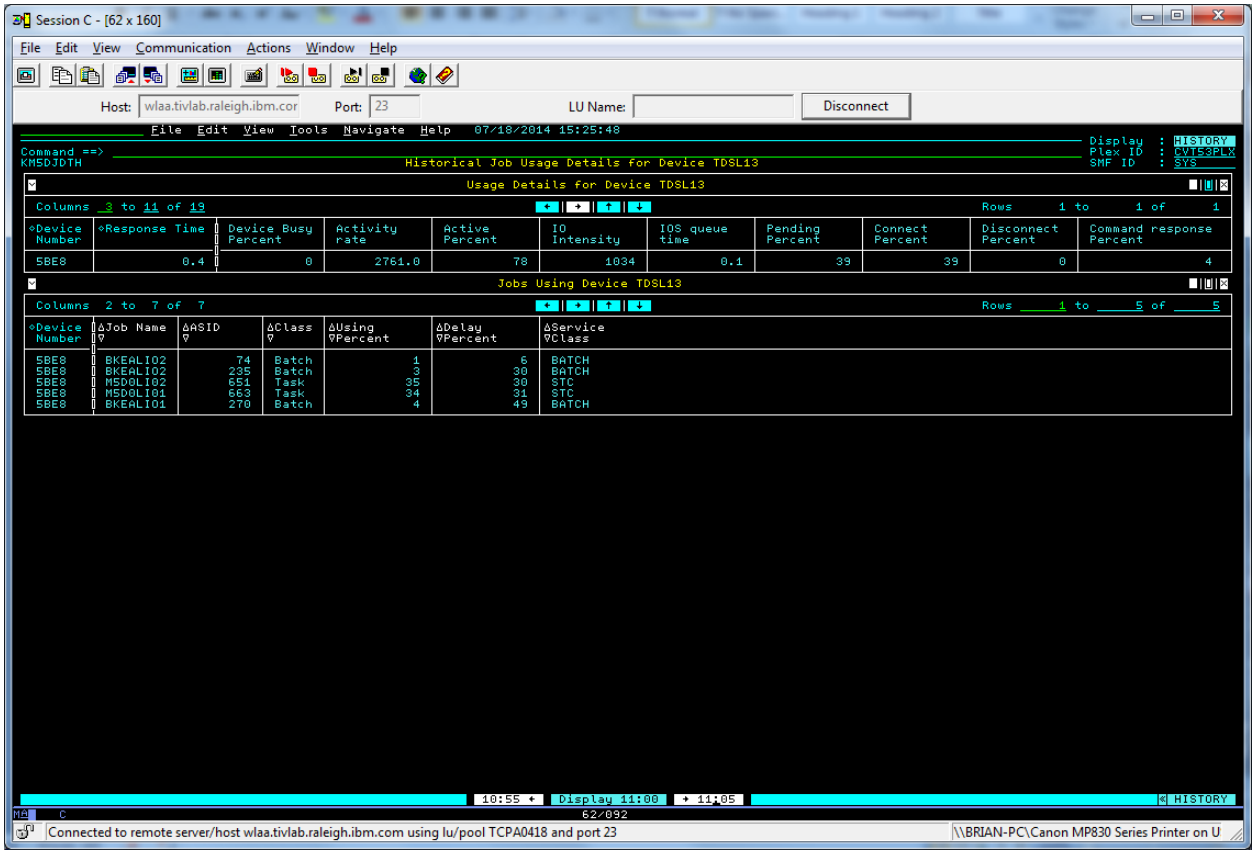
- So the two started tasks are using the device already.



- Lets move forward in time to see how things progress... (use the forward arrow at screen bottom)

Near Term History: DASD Scenario

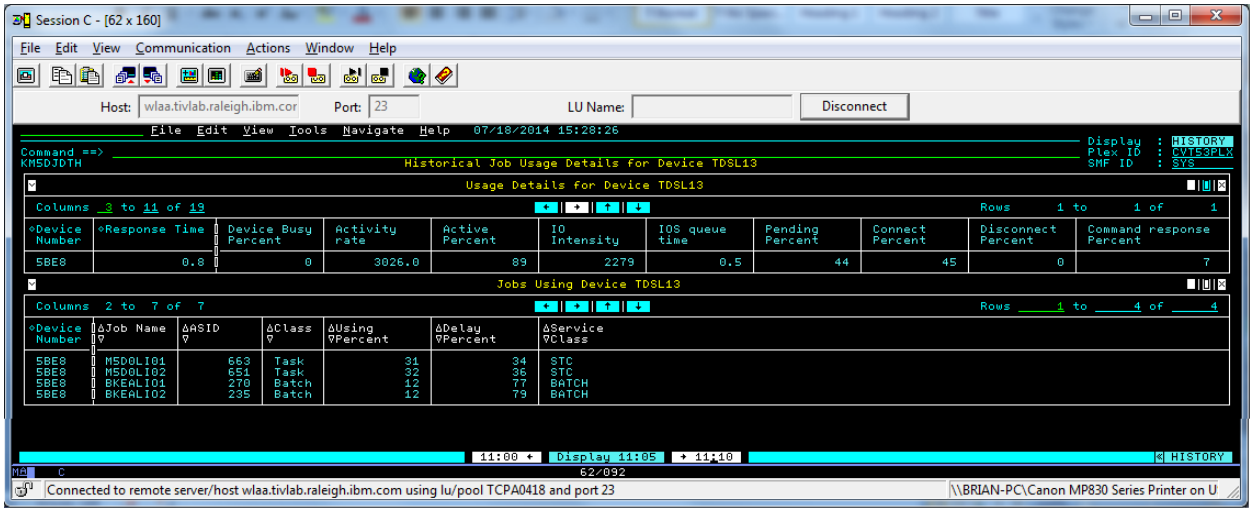
- Around 11am we see the batch jobs starting to use the device as well.



- Another interval forward shows

Near Term History: DASD Scenario

- Now we see that by 11:05 our two batch jobs are being significantly delayed for device use by the started tasks.



- We can now tell our batch job user that his jobs are contending for I/O access with two started tasks. The owners of these jobs and tasks should perhaps run at different times or segregate their files so they are not on the same volume.

Welcome JOBGEN/PARMGEN Integration Screen
New PARMGEN Quick Configuration Mode

```
        Welcome to the z/OS Installation and Configuration Tools for
          IBM Tivoli Management Services (TMS) dependent products

Option ===> _

1. Checklist: System preparation checklists
   Tip: Read/Print Checklists prior to installation and configuration.

2. SMP/E-install z/OS products with Install Job Generator (JOBGEN)

Configure z/OS products with Parameter Generator Workflow (PARMGEN)

Select either option 3 or 4.

3. Quick Configuration: Streamlined configuration options.

4. Standard Configuration: Detailed/Custom configuration options.

5. About joining the community: Service Management Connect (SMC)

Maintenance Level: HKCI310 PTF UA73689 (APAR OA45024 3Q14B Interim Feature)
```

More streamlined welcome panel:
Type new 3 option for the new
streamlined quick configuration and press Enter.

PARMGEN Quick Configuration Mode

for all users, whether you are a new first-time-user (FTU) in PARMGEN or whether you are an experienced subject matter expert!

```
---------- PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU --------
Option ===> _
                          Quick Configuration Mode

GBL_USER_JCL:    TDITNT.COMMON.PARMGEN.JCL
RTE_PLIB_HILEV:  TDITN.FTU
RTE_NAME:        LPAR1

Note: Perform steps 1 through 5 in sequence, repeating steps as necessary.
      Enter n (1-5) to perform tasks.
      Enter ns (1s-5s) for detailed job/task status.

                     Description                      Job/Label  Status      Date
    -------------------------------------------- --------- --------- ---------

1.   Set up PARMGEN work environment for an RTE.    KCIJPCFG
2.   Customize PARMGEN configuration profiles.      LPAR1
3.   Create the RTE members and jobs.               $PARSE    Enter 3 for details
4.   Submit batch jobs to complete PARMGEN setup.   SUBMIT    Enter 4 for details
5.   Perform post configuration steps.              POSTCFG
R    Reset RTE, Status and Date fields. (Optional) New RTE

Press F1=Help for more information.  Type U or UTIL to access utility menu.
```

Quick Configuration Mode: Just 4 streamlined steps

REGARDLESS of "QUICKNEW", "QUICKCLONE", "QUICKCONVERT" mode

Subscribe to PARMGEN FTU APAR OA45024 IF

URL: http://www.ibm.com/support/docview.wss?uid=swg21417935

Master PARMGEN Technote

Enablement Support : (updated *Date Last Updated: 20140715)*

A. Download the latest GA ★ PARMGEN PTFs and let ' s get started!

APAR#	FMID / PTF#	Interim Feature (IF) Release Date
OA43859	HKCI310/UA72225	*GA* February 28, 2014 (1Q14A) ★
OA44620 NEW!	HKCI310/UA73688 NEW!	*ETA GA TBD* (3Q14A) NEW!
OA45024 NEW!	HKCI310/UA73689 NEW!	*ETA GA TBD* (3Q14B) NEW!

Details :

- NEW! *Section: What's New in 1Q14A? ★ *GA*<--- *** Required reading ***(updated Date Last Updated: 20140301)*

PARMGEN 1Q14A Whats New (HKCI310 PTF UA72225 APAR OA43859) Interim Feature D20140217.zip

- updated *Section: What Will Be in 3Q14A/3Q14B? <--- (updated Date Last Updated: 20140715)*

PARMGEN 3Q14B Whats New (HKCI310 PTF UA73689 APAR OA45024) Interim Feature D20140715.zip

Check out the SMC System z community blog

Check out regular updates on PARMGEN, enhanced 3270UI TOM, latest OMXE features, best practices, notification on available beta/EAP programs!

URL:https://www.ibm.com/developerworks/servicemanagement/

Check out the System z blog on PARMGEN FTU

Good news for PARMGEN First-Time-Users (FTU) and PARMGEN SMEs - deploy OMEGAMON management suites even faster using PARMGEN Quick Configuration mode!

Cecile_Day | *July 19* | *Visits (838)* | 2 *Like*

What's New in PARMGEN?

Upcoming PARMGEN APAR OA45024 brings significant improvements to the PARMGEN Workflow interface. The new PARMGEN APAR OA45024 delivers the following enhancements for **all users**, whether you are a **new first-time-user** in PARMGEN or whether you are an **experienced subject matter expert**.

The new PARMGEN enhancements will be generally available with the recently announced **IBM OMEGAMON Performance Management Suite for z/OS V5.3** and **IBM Service Management Suite for z/OS V1.2** solutions.

Here's a preview of what's new in PARMGEN:

1. Follow through a **simple, easy-to-navigate documentation** that has an even more **task-oriented organization** in our new **IBM® Knowledge Center**. **Value ->** The new IBM Knowledge Center provides the flexibility for customers to dynamically create a **collection of their favorite product deployment topics** (Planning, Installing, Upgrading, Configuring, Scenarios and How-tos).
2. Quickly build new runtime environments (RTEs) from several **IBM-provided best-practice out-of-the-box models**. **Value ->** The **new $MDL* predefined RTE models** save significant time in setting parameter values for the different product and LPAR RTE configurations.
3. Quickly deploy SMP/E maintenance cross-LPAR RTEs **via one job**. **Value ->** The **new PARMGEN "*LOADALL*" cross-RTE command** provides the flexibility to deploy maintenance quicker across all your LPAR RTEs, or if you prefer, selectively deploy to a subset of your monitored environments, via a **new composite *KCIJ@LOD* job.**
4. Quickly convert your existing ICAT RTEs to PARMGEN mode and upgrade the products faster, with streamlined **PARMGEN deployment jobs**.
5. The new PARMGEN support also provides:
   - **simple, tailored labels** to make it easier to see which of the **few 12 task-oriented, function-centric composite jobs** are required for submission to complete the RTE set-up.
   - a set of **handy and concise, tailored post configuration README files** that are **catered** to your product

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