CA MICS® Resource Management Release 14.2 – Sprint Review 2

Paul Reynolds
Senior Product Owner

Mike McInerney
Principal Software Engineer

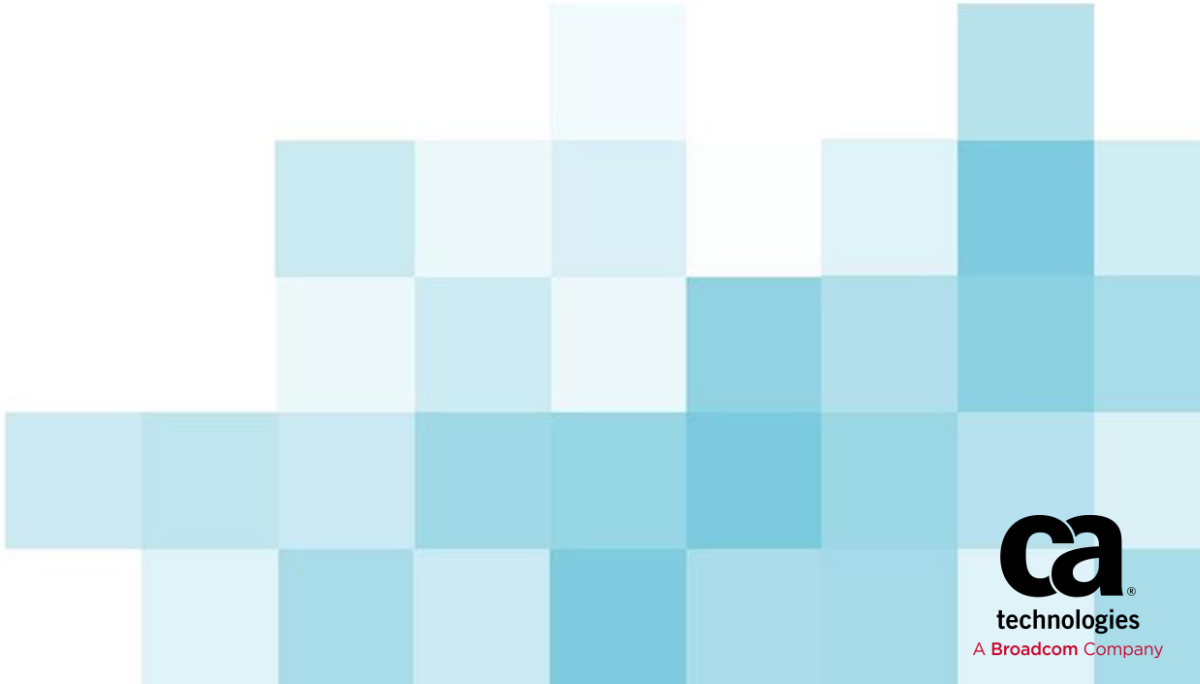
Darrell Faulkner
Principal Software Engineer

Jiri Kopecky
Senior Software Engineer

Jan Samohyl
Principal Software Engineer

Maddalena Tosoni
Advisor/Product Manager

June 27th 2019



ca technologies
A Broadcom Company

Agenda

1. STATE OF THE RELEASE - ENHANCEMENTS IN 14.2 (DELIVERED / IN PROGRESS / NEXT RELEASE)
2. SHOWCASE 14.2 ENHANCEMENTS – HIGHLIGHTS AND BUSINESS VALUE INFO
3. SHOWCASE DEMO - NEW ENHANCED WEB REPORTING UI FOR SAS ODS COLOR GRAPHICS/CHARTING
4. UPDATES
5. Q&A

© 2019 CA. ALL RIGHTS RESERVED.
ca technologies
A Broadcom Company

State of the Release
- Enhancements in Release 14.2
(Delivered / In Progress / Next Release)

Progress towards Release 14.2

IDM6617 - ADD DATA ELEMENT JESJOBNO - JES JOB NUMBER
(Published as SO01158)
Showcased

IMS6706 - Toleration Support for BMC Mainview for IMS v5.3
(Published as SO01618)

RMF7098 - Exploitation Support for the New z14 (HIS) Hardware Instrumentation Counters
(Published as SO04091)
Showcased

RMF7101 - Improved SMF Type 113 Record Processing, Diagnostics, and Maintenance
(Published as SO04598)
Showcased

VMC6755 – z/VM 7.1 Toleration Support
(Published as SO05685)

SMF7010 - Add metrics for Job Steps executed and Support for IBM APAR OA53355 for Address Spaces that make use of USER Common Key Storage
(Published as SO06318)
Showcased

TAP7147 – TS7700 release 4.1.2 & 4.2 Support, and New Compression Metrics
(Published as SO06854)
Showcased

MQS6686 - Support for MQ v9.1
(Published as SO06941)

RMF7097 and RMF7108 - Support for new or enhanced entities introduced with z/OS 2.3
(Published as SO06614 and SO06894)
Showcased

VMC6751 - Support for 3390-A EAV DASD Volumes and Maintenance
(Published as SO06057)

DB26909 – New MICF SAS ODS Graphics Inquiries
(Published as SO07222)

RMF7080 - New SAS ODS Inquiries for the RMF z13 & z14 CPCs & Correct display issues for existing RMF ODS Inquiries on the Web UI
(Published as SO07307)
Showcase

DELIVERED	IN PROGRESS	NEXT RELEASE

© 2019 CA. ALL RIGHTS RESERVED.
ca technologies
A Broadcom Company

Progress towards Release 14.2

Support for new SAS maintenance release TS1M5 – 11 PTF's or Components need supporting
(All 11 PTF's Published – BASE is a HYPER)

SNT6740 & ACT7307 - IBM Sterling Connect: Direct Support (formerly (NDM) Network Data Mover)
(Published as SO07565 and SO07561)
~~Showcased~~

CIC6840 - Support for CTS 5.5 and TMON 4.2 & maintenance
(Published as SO07713)
~~Showcased~~

VCC6740, VCA6760 - z/OS 2.3 Support for VCC & VCA Pervasive Encryption fields + some minor additions & maintenance
(Published as SO08735 and SO08734)
Showcase

RMF7111 - z/OS 2.3 Subchannel SET ID Updates
(Published as SO08944)
Showcase

RMF7115 - z/OS 2.3 Subchannel Workload Manager Updates
(Published as SO08945)
Showcase

MQS6688 - Enhanced Support for MQ v8.0 & v9.0
Add data elements for the following:
- Channel Initiator Statistics and Accounting
- Page Set Statistics (Published as SO08943)
Showcase

IDM6618 - Add CICS UOWID and NETNAME for transaction activity that originated in CICS and called IDMS
(Published as SO08942)
~~Showcased~~

VCA6746 – Inquiry Updates and Corrections to VCAOX1 – VCAOX3
(Published as SO08946)

RMF7125 - SCM CF Enhancements and z/OS 2.3 related to SCM CF
(Dev Finalizing)

IMS6715 - Enhanced Support for IMS 14.1 ODBM Accounting Records
(In Dev)

WEB6260 - Support for Websphere Liberty SMF 120:
Subtype 11 – z/OS req logging info on HTTP requests
Subtype 12 – z/OS Java Batch Job SMF Logging Activity
(In Dev/On Hold awaiting Customer Data)

DELIVERED | IN PROGRESS | NEXT RELEASE

© 2019 CA. ALL RIGHTS RESERVED.
ca technologies
A Broadcom Company

Showcase Enhancements
- Highlights and Business Value Info

Showcase 1
MQS6688 - Enhanced Support for IBM Websphere MQ v8 & v9

Support is added for the SMF 116 subtype 10 Channel Initiator Accounting record. This record, added with IBM WebSphere v8, provides the ability to monitor channel utilization, peak throughput, and data transfer rates.

---------- System Identifier=1X01 Queue Manager Name=QIX1 End Time Stamp=06FEB19:16:52:37.79 ----------

Connection Name	Remote QMGR/APP Name	Channel Active Time	Number of Batches	Number of Full Batches	Transmission Buffers Sent	Transmission Buffers Received	Bytes Sent Count	Bytes Received Count	Avg Net Time	Max Net Time
171.186.5.5	QIX2	0:05:51.27	10	0	34	22	6728	1096	0.001251	0.005617
171.186.5.5	QIX3	0:05:51.27	10	0	23	22	6412	1096	0.000644	0.002119
171.186.5.5	QIX2	0:05:51.27	10	0	22	34	1096	6568	0.000000	0.000000
171.186.5.4	QTZB	0:02:51.97	10	0	16	27	928	6524	0.000000	0.000000
171.186.5.5	QIX3	0:00:00.00	0	0	1	1	36	268	0.000000	0.000000
171.186.5.5	QIX3	0:00:00.00	0	0	1	1	36	268	0.000000	0.000000
171.186.5.5	QIX3	0:00:00.00	0	0	1	1	36	268	0.000000	0.000000
171.186.5.5	QIX2	0:04:59.89	1	0	13	11	1300	548	0.000640	0.000806
171.186.5.5	QIX2	0:04:59.89	1	0	13	11	1496	548	0.009958	0.091242
171.186.5.4	QTZB	0:05:51.27	10	0	79	68	7740	2144	0.000407	0.001378
		0:36:16.84	52	0	203	198				

© 2019 CA. ALL RIGHTS RESERVED.
ca technologies
A Broadcom Company

Showcase 1
MQS6688 - Enhanced Support for IBM Websphere MQ v8 & v9 contd.

Support is added for the SMF 115 subtype 231 Channel Initiator Statistics record. This record, added with IBM WebSphere v8, provides performance information about the channel performance and CPU usage between queue managers.

--- System Identifier=CA31 Queue Manager Name=S31Q CHINIT Task Type=ADP End Time Stamp=04JAN19:15:48:26.67 ----

Task Segment	CHINIT Task Type	Task Request Count	Channel Busy Elapsed Time	Channel Busy CPU Time	Pct Channel Busy	Avg CPU Time per Request	Avg Elapsed Time per Request	Recording Interval Time
0	ADP	3313	1.831498	0.268026	10.2084%	0.000081	0.000553	0:29:54.11
1	ADP	103	1.046026	0.013122	5.83032%	0.000127	0.010156	0:29:54.11
2	ADP	32	0.470474	0.004265	2.62232%	0.000133	0.014702	0:29:54.11
3	ADP	2	0.042432	0.000361	.236509%	0.000181	0.021216	0:29:54.11
4	ADP	0	0.000002	0.000002	.000010%	0.000000	0.000000	0:29:54.11
5	ADP	0	0.000000	0.000000	.000000%	0.000000	0.000000	0:29:54.11
6	ADP	0	0.000000	0.000000	.000000%	0.000000	0.000000	0:29:54.11
7	ADP	0	0.000000	0.000000	.000000%	0.000000	0.000000	0:29:54.11
		-------	---------	---------				
		3450	3.390432	0.285776				

© 2019 CA. ALL RIGHTS RESERVED.

Showcase 1
MQS6688 - Enhanced Support for IBM Websphere MQ v8 & v9 contd.

Support is added for the SMF 115 subtype 201 Pageset I/O Statistics record. This record, introduced in IBM WebSphere v9, provides page set configuration and utilization metrics useful for monitoring performance and capacity.

---------- System Identifier=CA11 Queue Manager Name=MQA1 End Time Stamp=04JAN19:07:54:20.19 ----------

Page Set ID	Buffer Pool Number	Total Pages	Current Unused Pages	Pct Free Pages	Total Page Set I/O Requests	Pages Written in Checkpoint	Pages Not Written in Checkpoint	Avg Pages per I/O
0	0	1078	1022	94.81 %	5	54	1	11.00
1	0	1078	1022	94.81 %	2	8	1	4.50
2	1	20517	20502	99.93 %	3	5	1	2.33
3	2	1078	1075	99.72 %	2	2	1	1.50
		23751	23621		12	69	4	

© 2019 CA. ALL RIGHTS RESERVED.
ca technologies
A Broadcom Company

Showcase 2
RMF7111 - Device Subchannel Set ID Updates

- Beginning with z/OS V1R7 IBM introduced multiple subchannel sets
  - Why? Parallel Access Volume (PAV) alias device definitions
    - With PAV a single DASD often uses up 4 subchannels (DEVNUMs)
- Multiple subchannel sets defined within a logical channel subsystem (LCSS)
- With the zEC12, IBM added an additional subchannel set 2
- The z13 and z14 support four subchannel sets– 0, 1, 2, and 3
- Relieves constraint on number of devices accessible by an LPAR
  - Subchannel Set 0 – 63.75K device definitions (256 subchannels reserved)
  - Subchannel Sets 1 -3 provide 64K additional device definitions each

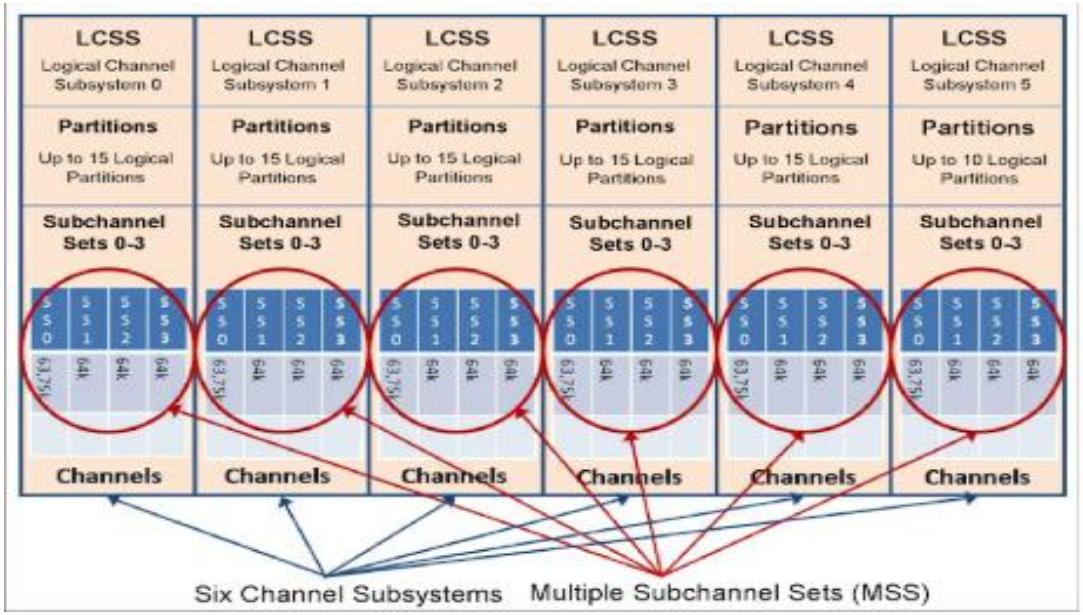


Figure from IBM Redbook - z13 Configuration Setup (SG24-8260-00)

© 2019 CA. ALL RIGHTS RESERVED.
ca technologies
A Broadcom Company

Showcase 2
RMF7111 - Device Subchannel Set ID Updates

- IBM instrumentation of Subchannel Set ID in SMF records was … tardy
- With z/OS 2.1, IBM added to 74-1 Device Activity record:
  - Former 2 byte reserved field:

180	B4	1		Reserved.
181	B5 SMF74SCS	1	binary	Subchannel set ID.

- In response, MICS Product Change RMF7010 (r12.9 level set, 2014) added the following data element to the HARDVA – Device Activity File:

  DVASCSID – Device Subchannel Set ID

  Problem: The field location (181 bytes into the 74-1 Device Activity Section)

  Logic in MICS 74-1 read-up routine pauses after reading a few bytes into this section.
  The device number (DEVNUM) has been read, and some flag fields with device status.
  If the device was OFFLINE, or was reconfigured during the interval, the remainder of device activity metrics are not read-up.

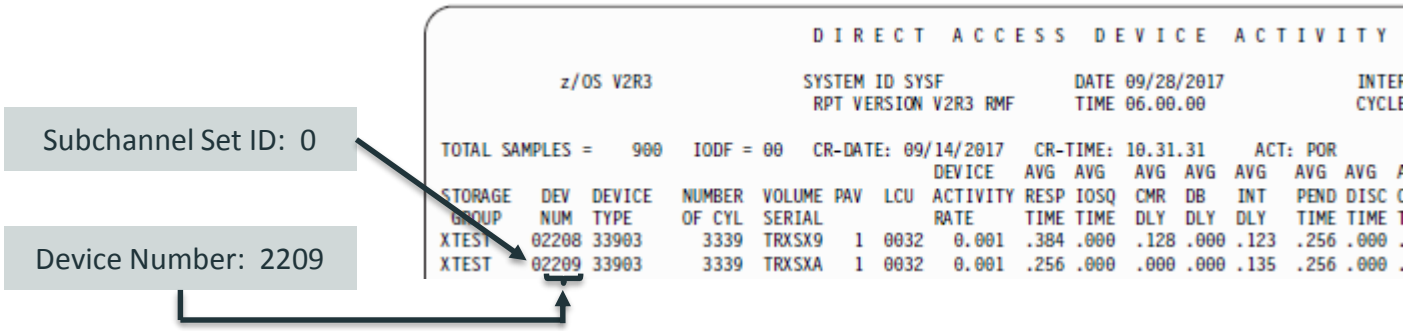
  Therefore, DVASCSID has a missing value (.) for offline or reconfigured devices.

- With RMF7010, DVASCSID was simply a retained data element. The importance of Subchannel Set ID was not recognized.

© 2019 CA. ALL RIGHTS RESERVED.
ca technologies
A Broadcom Company

Showcase 2
RMF7111 - Device Subchannel Set ID Updates

- With z/OS 2.3, IBM provided Subchannel Set ID in many SMF records:
  - SMF Type 74 Subtype 5 Cache Subsystem Device Activity
    MICS HARCVA – Cache Volume Activity File
    MICS HARRRA – RAID Rank Activity File
  - SMF Type 74 subtype 8 – Enterprise Disk System Statistics
    MICS HARELS – ESS Link Statistics File
    MICS HARXPS – ESS Extent Pool Statistics File
    MICS HARERS – ESS Rank Statistics File
  - SMF type 75 subtype 1 – Page Data Set Activity
    MICS SCPPSD – Page Data Set Activity File
  - SMF type 79 subtype 6 – Reserve Data
    MICS HARRSV – Hardware Reserve Activity File
- IBM Post Processor Reports Updated:



© 2019 CA. ALL RIGHTS RESERVED.
ca technologies
A Broadcom Company

Showcase 2
RMF7111 - Device Subchannel Set ID Updates

- RMF7111 Updates:
  - Introduces new RMF Component Common Data Element:
    SCSID – Device Subchannel Set ID
  - Replaces DVASCSID in HARDVA file (retrofits existing HARDVA file cycles)
  - Added to HARCVA, HARELS, HARERS, HARXPS, HARRRA, HARRSV, SCPPDS files
  - Fixes HARDVA "missing value" issue for OFFLINE/reconfiged devices
    - SCSID always read-up (supersedes RMF7104 PTF)
  - Files with DEVNUM (Device Number) as summarization key:
    - HARDVA – Device Activity and HARCVA – Cache Volume Activity
    - SCSID is added as an additional summarization key
      - This prevents same DEVNUM from being summarized together in DAYS and higher timespan HARDVA observations
      - (HARCVA already separated due to CUDEVNUM in sum keys)
        Base and alias device addresses on a single control unit must be unique
  - MICF RMF Post Processor inquiry reports updated
    - Where DEVNUM was historically printed with 4 HEX characters…
    - Now 5 HEX characters, where 1st character is the SCSID value

© 2019 CA. ALL RIGHTS RESERVED.
ca technologies
A Broadcom Company

Showcase 2
RMF7111 - Device Subchannel Set ID Updates

- RMF7111 Product Change Text **Appendix B**
  - For sites that do use SCSID 1, 2, or 3 …
  - … and use same DEVNUM across multiple SCSIDs
  - Instructions are provided to determine space impact on DAYS HARDVA file
  - Utility job is provided: RMF7111X

    RMF7111X analyzes a DETAIL HARDVA file cycle and reports:
    - Percent increase in each DAYS HARDVA file cycle observation count
    - Number of DAYS HARDVA file cycles

  Appendix B explains how to use the MWF Space Utilization utility to determine the number of cylinders of space used by each DAYS HARDVA file cycle

  With the information from RMF7111X and the Space Utilization report, a formula is provided that computes how many additional cylinders you will use in your DAYS timespan after RMF7111 is applied.

  ```
  Tot extra CYLs = Percent * avg HARDVA CYLs * HARDVA DAYS cycles
  ```

- Proactively determine if you need to allocate more space to DAYS timespan to prevent a B37 “out-of-space” ABEND sometime in the future!

© 2019 CA. ALL RIGHTS RESERVED.
ca technologies
A Broadcom Company

Showcase 3
RMF7115 - z/OS 2.3 Workload Manager Updates

- WLM CategoryA and CategoryB Support, APAR OA48466
- WLM zIIP Containment and Memory Capping, APAR OA50760
- Updates to MICF RMFLPM - Workload Manager Goal Mode Report

© 2019 CA. ALL RIGHTS RESERVED.
ca technologies
A Broadcom Company

Showcase 3
RMF7115 - z/OS 2.3 Workload Manager Updates

- WLM CategoryA and CategoryB Support, APAR OA48466

  With IBM APAR OA48466, IBM delivered RMF support to provide metrics that captured utilization of three different workload categories:

  - Mobile Workloads
  - CategoryA Workloads (for future use)
  - CategoryB Workloads (for future use)

  MICS support for metrics providing utilization of workloads originating from mobile devices was provided by MICS product change RMF7072, delivered with MICS Release 14.1.

  With z/OS 2.3, IBM has updated the IBM post processor Workload Activity report to include information about CategoryA and CategoryB utilization.

© 2019 CA. ALL RIGHTS RESERVED.
ca technologies
A Broadcom Company

Showcase 3
RMF7115 - z/OS 2.3 Workload Manager Updates

- WLM zIIP Containment and Memory Capping, APAR OA50760
  With IBM APAR OA50760, IBM delivered RMF support for two new Workload Manager features:

  - Honor Priority by Service Class

```
                                W O R K L O A D   A C T I V I T Y                                    PAGE    9
z/OS V2R3              SYSPLEX PLEXC1              DATE 12/09/2018          INTERVAL 15.00.054   MODE = GOAL
                    CONVERTED TO z/OS V2R3 RMF     TIME 23.59.00

                                POLICY ACTIVATION DATE/TIME 11/03/2018 11.38.20

POLICY=PLEXT1     WORKLOAD=DATABASE   SERVICE CLASS=DATABPRD     RESOURCE GROUP=*NONE      PERIOD=1 IMPORTANCE=2
                                      CRITICAL     =NONE         HONOR PRIORITY=NO

-TRANSACTIONS--  TRANS-TIME HHH.MM.SS.FFFFFF  TRANS-APPL%-----CP-IIPCP/AAPCP-IIP/AAP  ---ENCLAVES---
AVG        3.00  ACTUAL             3.733446  TOTAL         0.04        0.00    1.91  AVG ENC   0.00
```


© 2019 CA. ALL RIGHTS RESERVED.
ca technologies
A Broadcom Company

Showcase 3
RMF7115 - z/OS 2.3 Workload Manager Updates

- Resource Group Memory Capping

```
                                    W O R K L O A D   A C T I V I T Y
                                                                                                    PAGE   9
     z/OS V2R3             SYSPLEX UTCPLXHD           DATE 09/28/2017          INTERVAL 14.59.999   MODE = GOAL
                           RPT VERSION V2R3 RMF       TIME 10.59.33

                                      POLICY ACTIVATION DATE/TIME 09/14/2017 10.54.07
                                                  - SERVICE POLICY PAGE -

SERVICE DEFINITION: SYSTES2                                                -SERVICE DEFINITION COEFFICIENTS-   -NORM FACTORS-
  INSTALL DATE: 10/17/2015 14.25.59  INSTALLED BY: SETUP                       IOC     CPU     SRB     MSO       AAP     IIP
  POLICY: STANDARD  Standard policy
  DISCRETIONARY GOAL MANAGEMENT: YES                                           5.0    10.0    10.0  0.0001    1.0000  1.0000
  DYNAMIC ALIAS MANAGEMENT: YES
  I/O PRIORITY MANAGEMENT:  YES

SYSTEMS
  ---ID---  OPT  SU/SEC  CAP% --TIME--  INTERVAL       ---ID---  OPT  SU/SEC  CAP% --TIME--  INTERVAL
  SYSD       00  79602.0  100 10.59.33  00.14.59       SYSE       00  79602.0  100 10.59.33  00.14.59

RESOURCE GROUPS
  --NAME--   ----------DESCRIPTION-----------   -SYSTEM-   ---CPU CONSUMPTION---   --------CPU CAPACITY---------   ----MEMORY----
                                                            #CPS    MSU  SU/SEC      MIN    MAX    DEFINED AS      USAGE  LIMIT
  BATCHVEL   Velocity and resptime batch work               0.63     71     50K       0   1000K   SU/SEC                   20G
                                              SYSD          0.01      1     472                                      132M
                                              SYSE          0.62     70      49K                                     190M
             ------SERVICE CLASSES   HOTBAT                 0.00      0      69
                                     PRDBAT                 0.62     70      49K
                                     TSTBAT                 0.01      1     783

  REGTSO     Non-priority TSO work                          0.23     27      19K*         3.33    NUMBER OF CPs            4G
                                              SYSE          0.23     27      19K                                     764M
             ------SERVICE CLASSES   HOTTSO                 0.23     27      19K

  TRGCLOUD   Tenant Resource Group for Cloud                 0.87    101      71K          500    MSU
                                              SYSD          0.29     34      24K                                    1340K
                                              SYSE          0.58     67      47K                                    6208K
             -------REPORT CLASSES   CLOUD001               0.36     42      29K
                                     CLOUD002               0.51     59      42K
```


© 2019 CA. ALL RIGHTS RESERVED.

ca technologies
A Broadcom Company

Showcase 3
RMF7115 - z/OS 2.3 Workload Manager Updates

- Updates to MICF RMFLPM - Workload Manager Goal Mode Report

  With z/OS 2.3, IBM updated the layout and content of the IBM Post Processor Workload Activity report.

  Updates are made to the following report sections, which can be individually selected using the "Extended Options" panel of the RMFLPM inquiry:

  - Policy Summary (POLICY)
  - Workload Group (WGROUP)
  - Service Class (SCLASS)
  - Service Class Period (SCPER)
  - Report Class (RCLASS)
  - Report Class Period (RCPER)

© 2019 CA. ALL RIGHTS RESERVED.
ca technologies
A Broadcom Company

```
                                W O R K L O A D   A C T I V I T Y
                                                                                                  PAGE    1
    z/OS V2R2              SYSPLEX SVPLEX3             DATE 09/28/2016           INTERVAL 15.00.003    MODE = GOAL
                           RPT VERSION V2R2 RMF        TIME 17.00.00

                                    POLICY ACTIVATION DATE/TIME 09/14/2016 11.08.09

------------------------------------------------------------------------------------------------------------------ SERVICE CLASS(ES)

  REPORT BY: POLICY=BASEPOL    WORKLOAD=STC_WLD    SERVICE CLASS=STCLOW     RESOURCE GROUP=*NONE
                                                   CRITICAL     =NONE
                                                   DESCRIPTION  =Low priority for STC workloads

 -TRANSACTIONS-  TRANS-TIME HHH.MM.SS.TTT   -DASD I/O-   ---SERVICE---   SERVICE TIME  ---APPL %---   --PROMOTED--   ---STORAGE---
 AVG      153.37 ACTUAL           3.02.885  SSCHRT  56.9  IOC      3964   CPU  805.697  CP      92.24  BLK     1.489  AVG      1195.43
 MPL      152.35 EXECUTION        3.02.391  RESP    15.1  CPU     15184K  SRB   13.850  AAPCP    0.00  ENQ     0.046  TOTAL   182122.4
 ENDED       599 QUEUED                494  CONN     1.3  MSO         0   RCT    9.995  IIPCP    0.00  CRM     5.593  SHARED    230.59
 END/S      0.67 R/S AFFIN               0  DISC     0.3  SRB    261005   IIT    0.576                LCK     0.000
 #SWAPS     3391 INELIGIBLE              0  Q+PEND   4.9  TOT     15449K  HST    0.000  AAP      0.00  SUP     0.000  -PAGE-IN RATES-
 EXCTD         0 CONVERSION          5.188  IOSQ     9.0  /SEC    17202  AAP    0.000  IIP      0.00                 SINGLE      0.0
                 STD DEV           3.27.429                              IIP    0.000                                BLOCK       0.0
 AVG ENC    0.00                                                ABSRPTN   113                                      SHARED      0.0
 REM ENC    0.00                                                TRX SERV  112                                      HSP         0.0
 MS ENC     0.00

TRANSACTION APPL% :   TOTAL :   CP  92.24   AAP/IIP ON CP   0.00   AAP/IIP   0.00
                    MOBILE :   CP   0.00   AAP/IIP ON CP   0.00   AAP/IIP   0.00
```

```
                                W O R K L O A D   A C T I V I T Y
                                                                                                  PAGE    1
    z/OS V2R3              SYSPLEX SVPLEX3             DATE 09/28/2017           INTERVAL 15.00.024    MODE = GOAL
                           RPT VERSION V2R3 RMF        TIME 07.45.00

                                    POLICY ACTIVATION DATE/TIME 09/14/2017 09.00.11

------------------------------------------------------------------------------------------------------------------ SERVICE CLASS(ES)

 POLICY=BASEPOL    WORKLOAD=STC_WLD    SERVICE CLASS=STCLOW     RESOURCE GROUP=*NONE
                                       CRITICAL     =NONE
                                       DESCRIPTION  =Low priority for STC workloads

 -TRANSACTIONS-  TRANS-TIME HHH.MM.SS.FFFFFF   TRANS-APPL%-----CP-IIPCP/AAPCP-IIP/AAP   ---ENCLAVES---
 AVG       47.81 ACTUAL          11.04.438476  TOTAL         33.18        0.00    0.00  AVG ENC    0.00
 MPL       47.81 EXECUTION       11.04.119152  MOBILE         0.00        0.00    0.00  REM ENC    0.00
 ENDED        58 QUEUED                319323  CATEGORYA      0.00        0.00    0.00  MS ENC     0.00
 END/S      0.06 R/S AFFIN                  0  CATEGORYB      0.00        0.00    0.00
 #SWAPS     1021 INELIGIBLE                 0
 EXCTD         0 CONVERSION          451972

 ---SERVICE----   SERVICE TIME  ---APPL %---   --PROMOTED--   -DASD I/O--   ---STORAGE----   -PAGE-IN RATES
 IOC        23295   CPU  297.914  CP      33.19  BLK     0.000  SSCHRT   20.9  AVG    15986.53  SINGLE      0.0
 CPU        18693K  SRB    0.674  IIPCP    0.00  ENQ     0.000  RESP      0.3  TOTAL  764260.0  BLOCK       0.0
 MSO            0   RCT    0.109  IIP      0.00  CRM     0.000  CONN      0.2  SHARED     0.00  SHARED      0.0
 SRB        42318   IIT    0.038  AAPCP    0.00  LCK   2017546  DISC      0.0                   HSP         0.0
 TOT        18758K  HST    0.000  AAP       N/A  SUP     0.000  Q+PEND    0.0
 /SEC       20842   IIP    0.000                                 IOSQ      0.1
 ABSRPTN      436   AAP      N/A
 TRX SERV     436
```


© 2019 CA. ALL RIGHTS RESERVED.

ca technologies
A Broadcom Company

Showcase 4
VCA6760, VCC6740 - Support for Pervasive Encryption

A flag is added to VCA files indicating that the dataset is encrypted:
VCADAA - Data Set Allocation File
VCA_VS - VSAM Data Set Allocation File
VCAVOA - Volume Allocation File
HSBBAC - Backup Data File
HSMMIG - Migrated Data File

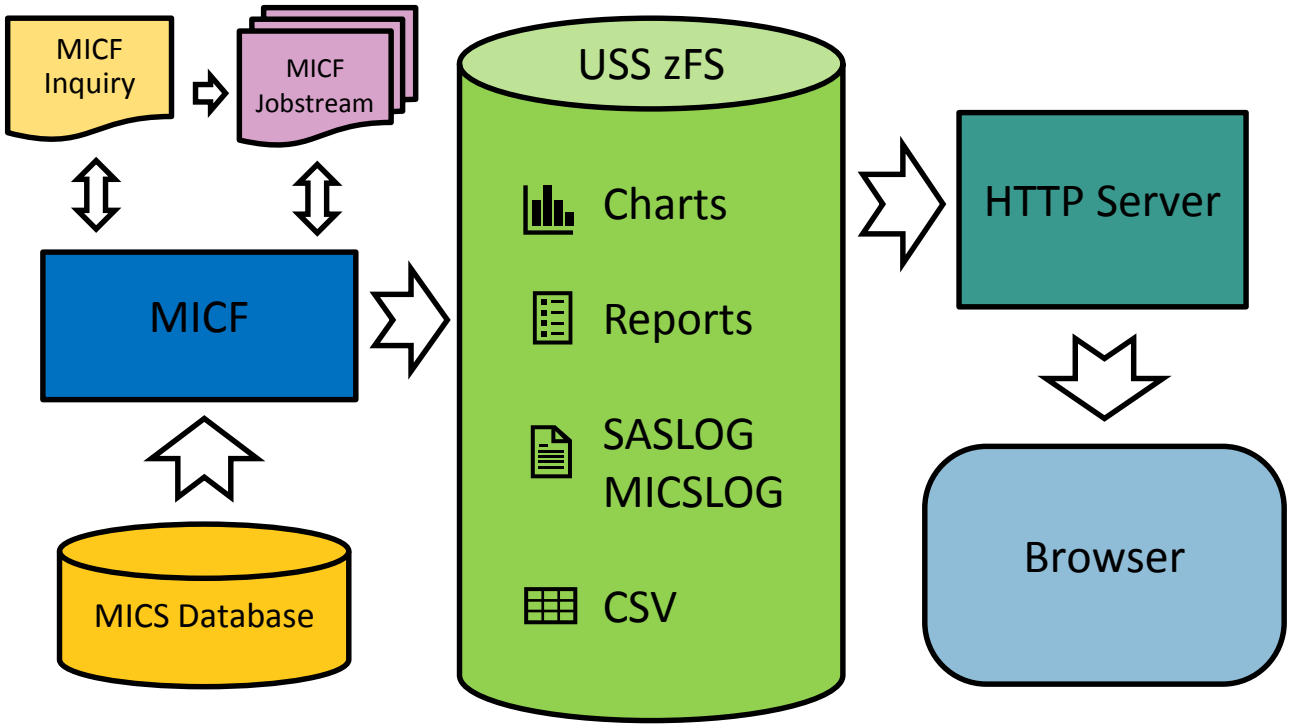
The information is coming from MICS Space Collector. It also reads key label for SMS datasets.

© 2019 CA. ALL RIGHTS RESERVED.
ca technologies
A Broadcom Company

Showcase Demo

- New Enhanced Web Reporting UI for SAS ODS Color Graphics/Charting

Showcase 5
New Enhanced Web Reporting UI for SAS ODS Color Graphics/Charting



© 2019 CA. ALL RIGHTS RESERVED.
ca technologies
A Broadcom Company

Showcase 5
New WEB UI and Color Graphics/Charting

Current Catalog of ODS Inquiries by Component are as follows:

Available with 7 MICS Components: VMC, IDMS, DB2, MQS, VCA, CICS, RMF

VMC

VMCOD1 - VM System Daily Top 10 CPU Users

VMCOX1 - VM CPC Daily Physical Channel Utilization

IDMS

IDMOD1 - IDMS Daily Top Ten Programs Executed

IDMOD2 - IDMS Daily Transaction Type Analysis

DB2

DB2OD0 - DB2 Daily Thread Count by Connection Type

DB2OD1 - DB2 Daily Buffer Pool Hit Percent on Type

DB2OD2 - DB2 Daily Top Ten Plans by Thread Count(DSP)

DB2OD3 - DB2 Daily Top Ten Plans by Thread Count(DSU)

© 2019 CA. ALL RIGHTS RESERVED.

ca technologies
A Broadcom Company

Showcase 5
New WEB UI and Color Graphics/Charting

Current Catalog of ODS Inquiries by Component are as follows:

MQS

MQSOD1 - MQ Daily Buffer Pool Analysis
MQSOD2 - MQ Daily Coupling Facility Structure Use
MQSOD3 - MQ Daily DB2 Shared Queue Analysis
MQSOD4 - MQ Daily Manager Analysis
MQSOD5 - MQ Daily Log Manager Analysis
MQSOD6 - MQ Daily Message Manager Analysis
MQSOD7 - MQ Top 10 Daily Queues
MQSOD8 - MQ Daily Task Suspend Call Analysis

VCA

VCAOX1 - Top 20 CI Splits by DS Type
VCAOX2 - Daily top 20 STORCLAS Space Used
VCAOX3 - Volume Capacity and Use

© 2019 CA. ALL RIGHTS RESERVED.
ca technologies
A Broadcom Company

Showcase 5
New WEB UI and Color Graphics/Charting

Current Catalog of ODS Inquiries by Component are as follows:

CICS

Performance

- CICOD0 - Daily CICS Trans Count and Response Pct
- CICOD2 - Daily CICS Top 10 Transactions
- CICOM0 - Monthly CICS Tran Count and Response Pct
- CICOM2 - Monthly CICS Top 10 Transactions

Workload

- CICOD1 - Daily CICS Top 10 Workloads
- CICOM1 - Monthly CICS Top 10 Workloads

© 2019 CA. ALL RIGHTS RESERVED.
ca technologies
A Broadcom Company

Showcase 5
New WEB UI and Color Graphics/Charting

Current Catalog of ODS Inquiries by Component are as follows:

RMF

RMF Mainframe CPC Configuration

- RMFOD0 - CPC LPAR Engine Configuration
- RMFOD2 - CPC LPAR Storage Allocation
- RMFOD3 - CPC LPAR Relative Weight by Engine Pool

RMF Mainframe CPC Engine Utilization

- RMFODD - CPC and LPAR Daily Shared CP Engine Dispatch by Hour
- RMFODE - CPC Shared Engine Pools Percent Dispatch High Hours
- RMFODF - CPC and LPAR Daily Shared ICF Engine Dispatch by Hour
- RMFODG - CPC and LPAR Daily Shared IFL Engine Dispatch by Hour
- RMFODI - CPC and LPAR Daily Shared zIIP Engine Dispatch by Hour

© 2019 CA. ALL RIGHTS RESERVED.
ca technologies
A Broadcom Company

Showcase 5
New WEB UI and Color Graphics/Charting

Current Catalog of ODS Inquiries by Component are as follows:

RMF contd.

RMF Mainframe CPC Memory Use and Paging

- RMFODJ - z/OS Central Storage Daily Frame Use by SYSID
- RMFODK - z/OS System Daily Paging Analysis

RMF Mainframe CPC Specialty Engine Focus

- RMFODN - Daily zIIP Engine Use and Demand by CPC and SYSID
- RMFODO - Daily zIIP Engine Use and Demand by Service Class

RMF Mainframe MSU Utilization and LPAR Capping

- RMFOD4 - Daily z/OS LPAR MSU Use Cap and 4 Hour Avg
- RMFOD5 - Daily LPAR MSU Use and Capacity Limits
- RMFOD6 - Daily CPC MSU Use with Stacked LPARs
- RMFOM0 - Monthly LPAR MSU Use and Capacity Limits

© 2019 CA. ALL RIGHTS RESERVED.
ca technologies
A Broadcom Company

Showcase 5
New WEB UI and Color Graphics/Charting

Current Catalog of ODS Inquiries by Component are as follows:

RMF contd.

WLM Service Class and Report Class Analysis

- RMFODP - z/OS Report Class Analysis by SYSPLEX, CPCID, and SYSID
- RMFODQ - z/OS Daily Top 10 Service Classes by SYSPLEX
- RMFODR - z/OS Service Class Analysis by SYSPLEX, CPCID, and SYSID

Hardware Instrumentation Services CPU Measurement Facility

- RMFODA - CPU MF Workload Characterization IPU Level
- RMFODB - CPU MF Workload Characterization LPAR Level
- RMFODC - CPU MF Workload Characterization CPUTYPE Level
- RMFOD7 - CPU MF Cryptographic Coprocessor Activity IPU Level
- RMFOD8 - CPU MF Cryptographic Coprocessor Activity LPAR Level
- RMFOD9 - CPU MF Cryptographic Coprocessor Activity CPUTYPE Level

© 2019 CA. ALL RIGHTS RESERVED.
ca technologies
A Broadcom Company

Showcase 5
New WEB UI and Color Graphics/Charting

Resources for the New WEB UI and SAS ODS Graph Output

SAS ODS Graph Output – Docops Section/Help

- https://docops.ca.com/ca-mics-resource-management/14-1/en/using/mics-information-center-facility-micf/using-micf/micf-tutorial/sas-ods-graphical-output

WEB UI

- MICS Academy on Docops– 5 Training/Walk-through videos (approx. 7 mins each)
  - Videos 1-3 cover pre-install, installation and configuration
  - Videos 4/5 cover setup/execution of inquiries and operating Web UI and view output
  - https://docops.ca.com/ca-mics-resource-management/14-1/en/additional-resources/ca-mics-academy/enhanced-web-publishing-videos-free

© 2019 CA. ALL RIGHTS RESERVED.
ca technologies
A Broadcom Company

Showcase 5
New WEB UI and Color Graphics/Charting

Requirements for the New WEB UI and ODS

- BAS7825 (MICS 14.1 Release PTF)
  - BAS7832 – fixes and enhancements (MICS 14.2 Release PTF)

- z/OS IBM HTTP server

- SAS 9.4 – Only BASE SAS required (SAS/GRAPH not required)

- Available space in a zFS directory

- https://docops.ca.com/ca-mics-resource-management/14-1/en/using/mics-information-center-facility-micf/micf-reference/micf-administration/tasks-performed-during-installation/production-reporting/micf-web-publishing

© 2019 CA. ALL RIGHTS RESERVED.
ca technologies
A Broadcom Company

Updates

- MICS 14.2 Release GA will be GA by end of June

- Design Thinking Workshop – 2.5 Days - August 20th – 22nd

- Roadmap for MICS 14.3
    - Preliminary Planning Stages
    - z/OS 2.4 and zNEXT Machine are high priorities
    - z/OSMF exploration

Q&A

Paul Reynolds
Senior Product Owner
Paul.Reynolds@broadcom.com