

# CA MICS<sup>®</sup> Resource Management

## Release Notes

Release 12.9



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# Chapter 1: CA MICS Resource Management Enhancements

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The following enhancements have been added to CA MICS Resource Management.

This section contains the following topics:

- [CA MICS Accounting and Chargeback Option](#) (see page 8)
- [CA MICS Base Product Maintenance and Enhancements](#) (see page 9)
- [CA MICS Terminates Support For SAS Version 8](#) (see page 9)
- [CA MICS Now Recognizes SAS Version 9.4](#) (see page 10)
- [CA MICS Simplifies By Enabling Many New Shared Parameters](#) (see page 11)
- [Q&R Mainframe Server Upgrade and MICS Integration](#) (see page 12)
- [CA MICS Batch and Operations Analyzer](#) (see page 12)
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- [CA MICS Analyzer Option for DB2](#) (see page 18)
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- [CA MICS Analyzer Option for IMS](#) (see page 23)
- [CA MICS IMS Log Data Extractor](#) (see page 23)
- [CA MICS Tape Analyzer Option](#) (see page 24)
- [CA MICS Space Analyzer Option and CA MICS Space Collector Option](#) (see page 24)
- [CA MICS Analyzer Option for VM/CMS and CA MICS Data Transfer Option for VM/CMS](#) (see page 25)
- [CA MICS Tandem Option](#) (see page 26)
- [CA MICS Web Analyzer Option](#) (see page 26)

## CA MICS Accounting and Chargeback Option

Product changes: ACT7281, ACT7285, ACT7290

To continue to deliver problem free operation of CA MICS Accounting and Chargeback Option, some corrections have been made to prevent the problems from occurring in accounting jobs:

- When SAS 9.3 TS1M2 has been installed, the INVOICED and INVOICEL jobs no longer fail with a U0998 ABEND accompanied by a MICSLOG messages ACT01022E that indicate an allocation failure with error code 410.
- The MONTH199 step of the monthly update job (MONTHLY) does not fail because the ACTAUDN1 file has insufficient space. Also, If a Special Accounting Calendar is being used, the MONTHACT job does not fail on insufficient space for the data set in DDNAME ACTAUDN1.
- When working with the VCA DAA Resource Journal (ACTJDA) or the VCA VSAM (ICF) Resource Journal (ACTJVS) files, the following Computation Codes display the correct Comp Code Descriptions on the Algorithm Specification panel:

1801 - NON-VSAM 3330 DASD SPACE

1802 - NON-VSAM 3350 DASD SPACE

1803 - NON-VSAM 3380 DASD SPACE

1804 - NON-VSAM 3390 DASD SPACE

1811 - VSAM 3330 DASD SPACE

1812 - VSAM 3350 DASD SPACE

1813 - VSAM 3380 DASD SPACE

1814 - VSAM 3390 DASD SPACE

- The CA MICS Analyzer Option for IMS has added data element DL/I, Buffer, Open/Close CPU Time (ISUDBOTM) that contain the sum of:

ISUTMCBF - Control Region Buffer Handler Time

ISUTMCDL - Control Region DL/I Time

ISUTMDBF - Dependent Region Buffer Handler Time

ISUTMDDL - Dependent Region DL/I Time

ISUTMDOC - Database Open and Close Time

These data elements contain IMS Control Region and Dependent Region processing CPU times which are attributable to the application being executed.

A new Computation Code is introduced to support charging for this new data element:

Comp Code	Charging Element	Label
1010	ISUDBOTM	DL/I, BUFFER, OPEN/CLOSE CPU TIME

Note: If you are already charging for ISUTMCDL (1006) or ISUTMDDL (1007), do not select ISUDBOTM (1010) because these elements are included in ISUDBOTM. Also, if you are already charging for ISUCPUTM (1004) do not charge for ISUDBOTM since this new measurement is the subset of ISUCPUTM.

## CA MICS Base Product Maintenance and Enhancements

Product changes: BAS7744, BAS7749, BAS7752, BAS7761, BAS7765, BAS7767, BAS7773, BAS7774, BAS7775

We have delivered several product changes associated with cumulative maintenance updates that address issues and suggestions that were discovered since the last release and have resulted in individual product fixes. They include documentation changes, enhanced utilities, panel updates, and bug fixes.

All references to CA SORT have been removed in CA MICS because CA Technologies discontinued support for CA SORT as of January 1, 2012.

MADYNAM is improved to support data sets residing on an Extended Addressing Volume (EAV), SORTCYL parameter in sharedprefix.MICS.PARMS(JCLDFC) or prefix.MICS.PARMS(JCLDEF) permits primary quantity greater than 999 and permits a new optional secondary quantity.

The MULTWORK buffer reduction code is eliminated which calculated the number of buffer used for each work file.

## CA MICS Terminates Support For SAS Version 8

After the application of BAS7773, an attempt to execute any CA MICS SAS job under SAS version 8 will terminate with ABEND code U0440 and the following MICSLOG message:

```
BAS00106E SAS RELEASE 8.02.02M0 IS NOT SUPPORTED
```

```
BAS00106E BY CA MICS r12.8 @ BAS7745.
```

## CA MICS Now Recognizes SAS Version 9.4

The following changes have been made to facilitate migration of your CA MICS complex to SAS release 9.4:

- Two changes have been made to the "SAS Global Parameters for ISPF Applications" panel in MWF (5;0;3):
  - The SAS version field is no longer required and has been removed.
  - The default value for SAS Entry name has been changed to SAS.
- Three SAS system options have been added to the CA MICS configuration members.
  - New SAS system option VARINITCHK=NONOTE has been added to suppress the SAS note:  
Note: Variable xxxxxxxx is uninitialized.
  - The existing SAS system option CARDIMAGE has been added to avoid syntax errors under SAS 9.4 where the default has been changed to NOCARDIMAGE.  
The CARDIMAGE option allows tokens to be split across lines, and maintains compatibility with existing CA MICS SAS statements.
  - New SAS system option EXTENDOBSCOUNTER=NO has been added to enable earlier SAS releases to read files that are created in SAS 9.4.
- All documentation that is related to SAS 9.4 support has been updated.

## CA MICS Simplifies By Enabling Many New Shared Parameters

In addition to the SAS 9.4 support, we have simplified the SAS migration process. We achieved this simplification by generating all SAS data set names into one PROCLIB member, MICSSDS, instead of into every MICS JCL procedure. This process also minimizes the number of members to be generated. The member MICSSDS is then included into the procedures with the INCLUDE JCL statement. Also, PROCLIB JCL member MICSSDD is included, which can contain more generated SAS DD statements in the future.

SAS data set and load module names are now defined at the complex level in sharedprefix.MICS.PARMS(JCLDEFC) only. Their definition at the unit level in prefix.MICS.PARMS(JCLDEF) is no longer supported. Remove any existing definition in the JCLDEF, that is obsolete.

Note: All MICS JCL procedures are regenerated to implement the INCLUDE facility.

CA MICS has supported many shared parameters that are cascaded to the unit before r12.9. Many more parameters are added that are eligible for cascading. This can greatly reduce the amount of coding in the JCLDEF members. For the new list of complex only and unit only keywords, see the *CA MICS Planning, Installation, Operation, and Maintenance Guide* (PIOM) section 2.3.1.6.7 or section 2.3.3.2.1.8, "JCLGEN Parameter Sharing".

ISPF data set names are now defined at the complex level in sharedprefix.MICS.PARMS(JCLDEFC) only. Their definition at the unit level in prefix.MICS.PARMS(JCLDEF) is no longer supported. Remove any existing definition in JCLDEF, it is obsolete. They are:

```
ISPLLIBn  ISPMLIBn      ISPPLIBn
ISPSLIBn  ISPTLIBn
```

Where 'n' is '1' or '2'. If left in prefix.MICS.PARMS(JCLDEF), they are ignored in unit JCLGENs and information message BAS10002I is issued in MICSLOG.

Replace redundant tape-related keywords with the corresponding TAPEPARM statement parameters. They are:

```
EXPDT      NULLSER      NULLUNIT
SYSTEMMODEL TAPEUNIT      VOLCOUNT
```

If left unchanged in sharedprefix.MICS.PARMS(JCLDEFC) or prefix.MICS.PARMS(JCLDEF), their values are still being used in JCLGENs, but information message BAS10141I is issued in MICSLOG. For details about the TAPEPARM parameters, see the PIOM section 2.3.1.6.4 or section 2.3.3.2.1.5.

Some keywords are obsolete and no longer valid in JCLDEFC or JCLDEF definition members. They are:

```
CVOLUNIT  CVOLSER  DENSITY
IDRC      PASSWORDPERFORM
```

TMS           VCATNAMEVCATOWNER  
VCATPASSWORD   VCATSER           VCATUNIT

If left in sharedprefix.MICS.PARMS(JCLDEFC) or prefix.MICS.PARMS(JCLDEF), they are ignored in all JCLGENs and information message BAS10004I is issued in MICSLOG.

Some defaults for the number of entries to be created in GDGs changed as follows:

- For the Accounting and Chargeback audit files, which are defined with with the keyword ACCTDPARM GDG=n (also ACCTDGDG), from 12 to 3.
- For the weekly history files, which are defined with the keyword HISTWPARAM GDG=n (also HISTWGDG), from 7 to 3.

For the monthly history files, which are defined with the keyword HISTMPARM GDG=n (also HISTMGDG), from 5 to 3.

## Q&R Mainframe Server Upgrade and MICF Integration

CA MICS Q&R continues to deliver new features and function in various segments of its architecture to simplify its administration. These mainframe feature enhancements include:

- Move Query to Production

Two significant updates are made for this feature:

- The name of the target mainframe data set, where the query is stored, has been standardized to sharedprefix.MICS.MQR.PUTPDS for each CA MICS complex.
  - The QRPUTPDS template has been modified to invoke the new MQRPUTQY program. The MQRPUTQY program saves the query to the mainframe target data set.
- The JES job name and JES job number are displayed in Query Status window
  - The Q&R Mainframe Server log can be downloaded for viewing using Q&R Distributed Server Administration.
  - Several MICF enhancements including support for the new default data set sharedprefix.MICS.MQR.PUTPDS
  - All Q&R Query execution-time messages are directed to MICSLOG which were previously displayed in the SASLOG.

## CA MICS Batch and Operations Analyzer

Product change: SMF6955, SMF6960

## z/OS Version 2 Release 1 Support

This support includes the following enhancements:

- **New Instruction Count Data Information**

New instruction count related data information data elements are added to the step-level and job-level files. This information represents instruction counts for address spaces that are executed either on a standard CP or an offload processor. The data is collected when Hardware Instruction Services (HIS) has enabled the appropriate counter set.

- **New Data Element Nominal CPU Rate Adjustment Factor**

Data element Nominal CPU Rate Adjustment Factor (PGMADJNM) is added. This new CPU time to service unit conversion factor is available to calculate the service units per CPU second for a system running ideal operating conditions.

- **New JES Job Correlator Data Element**

Data element JES Job Correlator (JOB CORR), a JES system attribute that is used to identify uniquely a job, is added to the step-level and job-level files.

- **JOBCLASS Updated**

JOBCLASS is now derived from the following 8-byte character fields in the SMF type 30 Address Space record and the SMF type 26 purge record:

- SMF type 30 (subtype 1, 2, 3, 5) - SMF30CL8
- SMF type 26 - SMF26WJC

As a result, the JOBCLASS data element is increased to a length of 8 bytes in SMF component files.

Note: JOBCLASS can contain 'STC' for started tasks and 'TSU' for TSO sessions because started tasks and TSO logon sessions are now pre-defined job classes that are provided by JES2. Previously JOBCLASS was blank for started tasks and TSO sessions.

- **New BATSPL Information Added**

Job statement accounting information is added to the SMF type 6 records for IP Printway. This allows accountability for printer resources for 'late' SYSOUT and 'lone' writer records which are not associated with any other SMF record types.

A new TCPIP Port Number data element contains the port number to which SMTP listens.

The new data elements contain counts of sheets that are processed by the Addressable Printing Subsystem for PSF.

- **Updates to EVENT Data Element in the OPSOPI File**

The new SMF logstream related data elements that contain information about compression and zEnterprise Data Compression Express (zEDC) storage are added for EVENT=LOG STREAM n.

The new data elements indicating whether AUTHSETSMF and SMF30COUNT options are set in SYS1.PARMLIB(SMFPRMxx).

The new nominal CPU adjustment rate is added for EVENT=CAPACITY CHANGE.

The new data elements provide information when PARMLIB concatenation is dynamically changed are added for EVENT=SETLOAD xx,IEASYM.

The new data elements provide information about the activation of functions pertaining to the console environment and the tracking facility are added for EVENT=SET CON.

- **Updates to CONDESC Data Element in the OPSCON**

The length of CPUID is increased from one to two in Detail Description (CONDESC) for EVENT=CPU IPL:

CPUMODEL=nnnn, CPUID=nn

The length of LOWEST PAGE is increased to accommodate a value greater than 2 GB in Detail Description (CONDESC) for EVENT=STORAGE 3990.

LOWEST PAGE= nnnnnnnn, PAGES=nnnn

A new EVENT=PFID CONFIG, is added to report when Peripheral Component Interconnect Express (PCIe) function identifiers are reconfigured. The Detail Description (CONDESC) format is:

PCIe FUNCTION ID=nn, RECONFIGURED

## Detail to Tape Support for BATWDA File

The Batch Workload Device Activity (BATWDA) file at the detail level can be a high volume file. This file can now optionally be created on tape by coding TAPEWDA statement in prefix.MICS.PARMS(SMFOPS).

See the DETAIL Tape Processing Overview in section 7.3.1.20 of the CA MICS Batch and Operations Analyzer Guide for more information.

## CA MICS Analyzer Option for CICS

Product changes: CIC6742, CIC6768, CIC6770, CIC6771, CIC6787

## ASG-TMON CICS TS Release 3.4 Support

We support the most recent and generally available release of ASG-TMON CICS Transaction Server Release 3.4 (support for IBM CICS TS 5.1).

Beginning with IBM CICS TS 4.1, IBM enabled CICS transaction TCBs to execute on both general purpose (CP) and specialty (zIIP/zAAP) processors. The ASG TMON support, however, did not provide raw data metrics to allow the separation of CP and specialty processor CPU times.

When running CICS TS releases 4.1 or 4.2, the CPU time-related data elements that are most frequently used for CICS transaction-related CPU time analysis and chargeback, include:

- A mixture of CPU time that is used on CP
- zIIP, zAAP, or both processors if you have any specialty (zIIP, zAAP or both) processors that are configured with the z/OS LPARs running CICS.

The CA MICS files that are affected are:

CICCSU - CICS User Activity File  
CICCAU - CICS Application Unit Activity File

Data elements that can have a mixture of CP and Specialty Processor CPU times are:

fffCPUTM - Task CPU Time  
fffTCBTM - TCB CPU Time

Where fff is CAU and CSU

With ASG TMON release 3.4, support for IBM CICS TS 5.1, TMON now provides raw data metrics that allow CPU time that is used by CICS transactions to be separated into two components:

CPU Time that is used on CP processors.  
CPU Time that is used on Specialty (zIIP/zAAP) processors.

In addition, TMON release 3.4 provides raw data metrics that allow the time that is used on CP processors to be separated into two components:

CP CPU time that had to run on the CP processor.  
CP CPU time that ran on CPs, but was z\*\*P eligible.

To collect this mix of CP and z\*\*P CPU times, change the default setting of the SPECIALTY PROCESSOR CPU control from "N" to "Y". For more information see, the *ASG-TMON for CICS TS for z/OS Reference Guide Version 3.4*.

When the default setting of the SPECIALTY PROCESSOR CPU control are not changed, CA MICS places zeros in all of the z\*\*P related CPU times. Also the following data elements contain total CPU times reflecting a mix of CP and z\*\*P CPU times:

fffCPUTM - Task CPU Time

fffTCBTM - TCB CPU Time

fffXCSTM - Task CPU Time Without zIIP/zAAP Eligible

fffXTSTM - TCB CPU Time Without zIIP/zAAP Eligible

Where fff is CAU and CSU

When changing the default setting for the SPECIALTY PROCESSOR CPU control to "Y", TMON collects z\*\*P related CPU times, and CA MICS does the following actions:

- Any CPU time that executed on specialty processors is removed from the fffCPUTM and fffTCBTM data elements. These elements are then moved into the new fffNZZTM data element for transactions that executed in CICS TS regions running release 5.1 or higher.

**Important! After upgrading to CA MICS Analyzer Option for CICS r12.9, use the new data element fffNZZTM for performance analysis, capacity planning, and chargeback. This upgrade is mandatory for product change CIC6770.**

fffNZZTM - Normalized zIIP/zAAP CPU Time

This data element the following values:

- For CICS TS release 3.x or 4.x, contains missing values.
- For CICS TS release 5.1 with SPECIALTY PROCESSOR CPU="N", contains zero.
- For CICS TS release 5.1 with SPECIALTY PROCESSOR CPU="Y", contains the CPU time that was formerly reported in the ffCPUTM and fffTCBTM data elements. ,

We recommend setting this data element now, so you do not miss using CPU time after converting to 5.1.

If you use CA MICS Accounting and Chargeback, apply the co-requisite product change ACT7280. CICS accounting is performed using data in the CICCSU file.

After applying ACT7280, begin using the new computation code (1516) to charge for CPU time that is used on specialty (zIIP or zAAP) processors:

```
1516 -CICS NORMALIZED zIIP/zAAP CPU TIME    (CSUNZZTM)
```

That takes care of the CPU time that is used on specialty processors.

The CPU time that is used on CP processors is accounted for by the computation code you currently use to charge CPU time, either CSUCPUTM (1504) or CSUTCBTM (1508). Alternatively, if you want to charge a different rate for CP processor CPU time that could have executed on z\*\*P processors, you can make use of the additional computation codes that are provided with ACT7280. Instead of using comp code 1504 or 1508, you would use:

1515 -CICS zIIP/zAAP ELIG CPU TIME ON CP (CSUZZCTM)

- and either -

1517 -CICS TASK CPU TIME W/O zIIP/zAAP ELIG (CSUXCSTM)

(if you had previously charged for CSUCPUTM-1504)

- or -

1518 -CICS TCB CPU TIME W/O zIIP/zAAP ELIG (CSUXTSTM)

(if you had previously charged for CSUTCBTM-1508)

We recommend that you use all of these new computation codes even if you select to run TMON with the default SPECIALTY PROCESSOR CPU="N". With this default setting, all CPU times appears in the non-z\*\*P related data elements, and are charged at CP processor rates. Your accounting algorithm, however, will be ready to handle the shift in data element content when in the future, you change the setting to SPECIALTY PROCESSOR CPU="Y"

## Other Miscellaneous Updates

- A new option to force an ABEND of the DAY040 or INCR040 step when the first unsupported record is read by CA MICS.
- A MICSLOG message CIC06020E is issued during the DAILY job step DAY040 or incremental update job step INCR040 when data comes from regions running with unsupported ASG TMON release.
- When CICS Transaction Gateway (CTG) SMF type 111 records are date-range deleted during DAY040 or INCR040 processing, unneeded MICSLOG messages CIC06108I and CIC06120I are not displayed.
- The Storage Statistics data elements are populated from SMF type 110 subtype 29 from CTS 4.2. They will continue to be processed from other subtypes from earlier CTS release.

## CA MICS Analyzer Option for DB2

Product changes: DB26828, DB26835, DB26845, DB26850

## DB2 DAILY Job Performance Improvements

The performance improvements that are made to the DB2 DAILY processing can substantially reduce the elapsed time that is used in the package/transaction sort/merge process that adds observations to the DB2DPP file.

This performance improvement is noticeable when DB2 SMF data contains more than one DB2 SMF type 101 subtype 1 package record for a SMF 101 subtype 0 transaction record. Previously, these records were written to work files that were subsequently sorted and merged. This product change expands the number of internal package arrays and saves multiple package records in storage, eliminating the need to write the records to work files hence eliminating the need for subsequent sort and merge.

## Support for IBM APAR PM62797 SMF 100/5 Records

IBM has introduced a new SMF type 100 subtype 5 records which aggregate the QWAC and QWAX transaction level accounting statistics and produces an interval record. Statistics include CPU times on CP and specialty engines and various wait times and counts. The new DB2 Aggregated Accounting Stats (DB2DAS) file enables users to report easily on transaction statistics with system level statistics for the same interval. In addition, this file provides the user the ability to analyze transaction-based performance and usage information without processing high volume transaction level data.

## Support for IBM APAR PM35886 - Version 10.1

Three new data elements provide information that can help determine if significant queuing delays are occurring in the DB2 system. These elements complement the existing information in the DB2 System Activity (DBSDSY) file. New data elements are:

DSYNQAVS - Sum of Avg Inactive Connection Qd Time

DSYNQMN - Min Time Inactive Connections Queued

DSYNQMX - Max Time Inactive Connections Queued

## Enhanced Support for DB2 Analytics Accelerator

A DB2 region can access multiple Netezza appliances resulting in a separate data section in the record with the metrics from each appliance. The original support for IDAA, product change DB26816, only supported the first Netezza data section in the SMF type 100 subtype 1 record. The original DB2DSD file IDAA data elements are being obsoleted and information about Netezza appliances is provided with a new DB2 System IDAA Activity (DB2DSI) file.

The IDAA/NOIDAA keyword that is used on the OPTION statement on `sharedprefix.MICS.GENLIB(DB2GENIN)` controls the activation or deactivation of this file.

IDAA-related metrics that are read from the SMF 101 transaction records which populate the DB2DSU and DB2DSP files are not affected by this change.

## Support for IBM DB2 Version 11.1

The following enhancements are provided with this support of DB2 Version 11.1:

- The release validation module is updated to recognize and accept SMF records that are generated by DB2 Version 11.1.
- Many data elements have been added to many CA MICS DB2 database files that provide information ranging from system and database activity to buffer pools and storage usage.

## CA MICS Hardware and SCP Analyzer

Product changes: RMF6970, RMF7005, RMF7008, RMF7010

The changes being delivered are focused on several key deliveries. The most significant enhancement is support for the z/OS 2.1 enhancements. We have several product changes that are associated with cumulative maintenance updates. These address issues and suggestions that have resulted in individual product fixes.

## Support for IBM APAR OA39562 Support

IBM APAR OA39562 which provides support for Cryptographic Express4S PKCS11 Coprocessor. RMF collects and reports on performance measurements for operations that are executed on Cryptographic Express4S cards that are configured in PKCS11 coprocessor mode.

A new file Crypto PKCS11 Coprocessor Activity (HARCRK) derived from SMF type 70 subtype 2 records is added to CA MICS Hardware and SCP Analyzer. This file provides statistics on operations that are executed on all PKCS11 coprocessors on an IBM zEC12 CPC. Measurements include operation counts, execution times, per second rates, and utilization percentages for secure public-key operations that are executed by symmetric or asymmetric cryptographic functions.

## Support for IBM APAR OA40376 Support

IBM APAR OA40376 provides RMF record added metrics that are related to global mirror collisions on IBM System Storage DS8000 series and metrics pertaining to zSeries High Performance Ficon (zHPF). New data elements are added that provide you information about zHPF pre-fetch requests and hits and global mirror collisions. The data elements are added to the following CA MICS files:

HARCCU - Cache Control Unit Activity File

HARCVA - Cache Volume Activity File

## z/OS 2.1 Enhancements

In addition to support for z/OS Version 2.1, following updates are included:

### Physical CPU Adjustment Factor Derivation Update

With z/OS Version 2 Release 1, the SMF type 70 subtype 1 CPU Activity record is extended with a new physical CPU adjustment factor based on the Model Capacity Rating (SMF70CPA\_actual). This value, together with the new scaling factor (SMF70CPA\_scaling\_factor) field replaces the existing physical CPU adjustment factor (SMF70CPA) that was based on the alternate CPU capability.

Support for this enhancement is provided as an update to the derivation of the Physical CPU Adjustment Factor (IPUSUSEC) data element in the Individual Processor Activity (HARIPU) file:

- For systems executing at z/OS Version 2 Release 1, IPUSUSEC is computed using the following formula:

$$\text{IPUSUSEC} = \frac{16000000 * \text{SMF70CPA\_scaling\_factor}}{\text{SMF70CPA\_actual}}$$

- For earlier systems, IPUSUSEC is still equal to 16000000 divided by the value input from field SMF70CPA.

IPUSUSEC is used to convert CPU times into service units, and as a consequence of this update, the following data elements are also affected:

File: HARCPU - CPU Activity File

Data	Data
Element	Element
Name	Label
-----	-----
CPUAVMSU	Avg Number of Consumed MSUs
CPUMNMSU	Minimum Number of Consumed MSUs
CPUMXMSU	Maximum Number of Consumed MSUs
CPUSUSEC	Physical CPU Adjustment Factor
CPUTOMSU	Actual Number of Consumed MSUs

File: HARLPC - PR/SM LPAR Config/Activity File

Data	Data
Element	Element
Name	Label
-----	-----

LPCAVMSU Avg Number of Consumed MSUs  
LPCMNMMSU Minimum Number of Consumed MSUs  
LPCMXMSU Maximum Number of Consumed MSUs  
LPCTOMSU Actual Number of Consumed MSUs

New 10 Gigabits/Second Ethernet Channel Port Support

The ESS Adapter Type (ELSTYPE) data element in the ESS Link Statistics (HARELS) file can now contain the value 'Ether 10Gb' in support of Ethernet Adapter Links running at 10 Gigabits per second.

## CA MICS Analyzer Option for IMS

Product change: IMS6638, IMS6643, IMS6645

The CPU times for general purpose CP processor values are corrected for fffCPUTM and related data elements. See corresponding account code changes in *CA MICS Accounting & Chargeback Option*.

## IMS Version 13.1 and Mainview 5.1 Support

For customers that are using IMS Version 13.1 log data, we have updated the code to accept IMS log data for regions running under IMS Version 13.1.

For customers that are using BMC Mainview for IMS Offline as a data source, we have updated our support for its Version 5.1.

## CA MICS IMS Log Data Extractor

Product change: LDE6640

## IMS Version 13.1 and Mainview 5.1 Support

For customers that are using IMS Version 13.1 log data and BMC Mainview for IMS Version 5.1, we have updated the LDE code to accept IMS log data that is generated by systems running under IMS Version 13.1.

## CA MICS Tape Analyzer Option

Product changes: TAP7110

For TS7700 Virtualization Engine, support is provided for Versions v3.1. New data elements are added to the following files in support of new data metrics that are introduced with TS7700 v3.0 and v3.1:

HVTGRC - Hydra Hnode Grid Activity File

HVTHCA - Hydra Cluster Summary File

HVTHHA - Hydra Hnode Activity File

HVTHHC - Hydra Hnode Cache Activity File

HVTHPG - Hydra Hnode Cache Pref Grp Statistics File

HVTVDA - Hydra Vnode Device Activity File

## CA MICS Space Analyzer Option and CA MICS Space Collector Option

Product changes: VCC6691, VCA6691

We have added a new data element, Device Is PPRC Mirrored Flag (VOAPRDPX) to Volume Activity (VCAVOA) file that can be interrogated to determine if a device is mirrored using Peer-to-Peer Remote Copy (PPRC).

In addition data elements Device uses Dual Copy Flag (DAADUALC and VOADUALC) are populated which identify if the dual copy device feature is enabled.

## CA MICS Analyzer Option for VM/CMS and CA MICS Data Transfer Option for VM/CMS

Product changes: VMC6671, VMC6679, VMC6685, VMT6675

These cumulative maintenance updates address issues and suggestions that were discovered during the past year, including changes to ensure that inflated values for data element Time VMDBK in Dispatch List in CPU Wait (VXUNDLWT) are reporting correct values. In addition, several data elements that also showed inflated values because the raw metrics contained accumulated values in the successive interval records are corrected.

Miscellaneous issues with MICE inquiries are corrected:

- Eliminated Unnecessary Inquiry Processing Steps
- Added a Message Indicating a Cause of Missing Inquiry Results
- Corrected Return Code 8 When Files Empty or Missing
- Corrected Return Code 8 in MICE Reporting Jobstreams
- Ensured Message VMC00099I is Written by All VMX Inquiries

### z/VM 6.3 Support and Enhancements

z/VM 6.3 Toleration Support

The VM release validation module is updated to properly identify MONITOR data that is generated by VM systems running z/VM Version 6 Release 3. Data element VM System Release Level (VMLEVEL) is set to 'z/VM V6 R3.0' when z/VM Version 6 Release 3 monitor data is processed.

IBM APAR VM65041 High Performance FICON for System z (zHPF) Support

The support for this APAR is included with z/VM 6.3. zHPF consists of extensions to FICON architecture to reduce elapsed times, improve I/O rates and bandwidth of small block I/O requests.

Support for this new architecture is provided as updates to the following files:

VMXCPM - Channel Path Measurement Activity

VMXXDV - Device Activity File

VMXSCF - System Configuration File

VMXSGP - System Global Data File

New FICON and zHPF activity information is also added in the Channel Path Activity (VMXLPA) report.

## CA MICS Tandem Option

Product change: TDM6305

We have delivered the following updates:

Eliminated the Warning Message When J06 Data Encountered

The DAY076 processing step is updated so that the following MICSLOG message is no longer displayed when J06 series legacy MEASURE data from an Itanium processor is processed:

TDM00070W UNKNOWN MEASURE VERSION: J06 , PROCESSING WILL CONTINUE.

TDM00070W MEASURE VERSION ENCOUNTERED IN DATA: J06

TDM00070W LATEST MEASURE VERSION KNOWN TO MICS: H06

Updated the List of Tandem Disk Device Subtypes

The CA MICS list of known Tandem disk devices is updated to accommodate new technology.

## CA MICS Web Analyzer Option

Product change: WEB6252

A problem is corrected which occurred after application of product change WEB6250 and if the new Web User Data (WEBWUD) file is not active. The DAY052 step ends with ABEND code U0999 and the following message in the SAS log:

ERROR 455-185: DATA SET WAS NOT SPECIFIED ON THE DATA STATEMENT.

# Chapter 2: CA MICS Q&R

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Various components of CA MICS Q&R have been enhanced as a part of this release and are highlighted here:

- CA MICS Q&R Query includes many enhancements including job name and job number of the most recently run query in the Query Status window grid row. Also available is an event column that is a text interpretation of the traffic light icon.
- Publish output to Q&R Web Reporting panel has been improved to allow removal of output (RMWSpare) job after RMWSLoad has completed.
- CA MICS Q&R Distributed Server Administration has been enhanced to display a new Job Status window, provide more return codes to accurately reflect the severity of error, viewing of active mainframe server logs from the distributed server, and so on.

Along with these new features, the out of the box reporting experience has been enhanced with the addition of new reports to the CA MICS Query library.

This section contains the following topics:

[Q&R Query Improvements](#) (see page 28)

[Q&R System Info Improvements](#) (see page 29)

[CA MICS Q&R New and Updated 'Out of the Box' Reports](#) (see page 30)

[CA MICS Q&R Administration](#) (see page 32)

## Q&R Query Improvements

Q&R Query has been enhanced in the following areas:

- Query Toolbar
  - Updated to remove obsolete items and reorganize the remaining items logically by function. A new toolbar button has been added for the new Move Query to Production feature.
- Query Status Window
  - Redesigned and improved with many new features and functions including:
    - New toolbar
    - Right click context menu
    - Custom date filters
    - Double-click support to access output
    - Multiline select for delete
    - Hover-over text description for Status Column
  - Now automatically updates the date filter which reflects the current date without closing and reopening the Q&R Query Status Window. The date is checked and automatically updated whenever a query is executed or the refresh button is clicked.
  - Grid rows now contain three more columns. An event column that is a text interpretation of the traffic light icon and columns for JES Job Name and Number. The JES Job Name and Number columns are located on the right-hand side of the grid so they are unobtrusive during normal operation, but available when needed for diagnostic purposes.
- Output Retrieval
  - Now provides right-click context menu support for accessing panel features directly from the output retrieval tree.
  - Now allows double-click to invoke charting directly from the output retrieval tree.
- Query Log (New)
  - Users can now activate a Q&R Query logging feature. Once invoked, the log output that is generated while executing Q&R Query functions allows CA support to investigate configuration, charting, and communications issues.  
Note: This feature should only be enabled at the direction of CA Support.
- Q&R Charting Stacked by Key Performance Enhancements
  - Stacked by Key chart processing performance was improved by using more efficient methods to process data. Improvement varies depending on the overall CSV size and number of charts that are produced.

- Q&R Query Move Query To Production Feature (New)
  - Q&R Query now has a new and improved method for moving. QRQ queries to the mainframe for inclusion in a MICF Job Stream. The user interface now provides a new toolbar button to display a panel that provides the following options:
    - The MICS Complex name where you want to store the query. This value defaults to the complex used to execute the query in Adhoc mode. Change the complex only when the production version executes in a different complex.
    - A two character field that allows you to create the mainframe data set with a user-defined suffix.
    - The target mainframe data set name, where the query is stored, is standardized to sharedprefix.MICS.MQR.PUTPDS. This name is displayed on the panel and is included in the MICSLOG that is generated when the utility is executed.
    - An information button, that when hovered over displays information about how to complete the process on the mainframe through MICF.
    - An option to replace the member if it exists.
  - Once the Move to Production request is submitted, the status can be viewed on the Query Status panel. A MICSLOG is available when the process completes and can be viewed through the Query Status window.

## Q&R System Info Improvements

The following improvements have been made to the Q&R System Info Utility:

- New System Security Tab

The new tab includes information about the currently logged in user. This tab also provides answers to the following security and process-related questions that are often the root cause of Q&R Administration Utility failures during execution:

  - Is the User in Admin Group?
  - Is the Application “Run as Admin”?
  - Is the Process Elevated?
  - What is Process Integrity Level
- Machine Name added to information supplied on Windows Information tab

## CA MICS Q&R New and Updated 'Out of the Box' Reports

The CA MICS Query Library has been enhanced to include seven new reports for IMS and VCA components. The Query library includes over 50 Q&R Workstation sample queries that process and report on data from the DB2, CICS, IDMS, IMS, MQS, RMF, SMF, TAPE, VCA, VM, and WEB components. The queries are designed to provide out-of-the-box value for CA MICS users. The queries generate graphics to show resource utilization, workload activity, processor configuration, and metrics that are important to monitor at modern data centers.

The following queries have been updated in CA MICS 12.9.

- RMF Component:
  - RMFWCE - CPU MF Workload Characterization IPU Level.QRQ
  - RMFWCL - CPU MF Workload Characterization LPAR Level.QRQ
  - RMFWCT - CPU MF Workload Characterization CPUTYPE Level.QRQ
  - RMFZIS - Daily zIIP Engine Use and Demand by Service Class.QRQ

The following queries have been added for the CA MICS Space Analyzer (VCA) Option:

VCACIS – Top 20 CI Splits by DS Type

- CSV Extract 1: Top 20 CI Splits by DS Type
  - The VCACIS query produces a daily Pareto style chart showing the top 20 VSAM data sets with the largest number of control interval splits in descending order, left to right. The query is useful to identify VSAM data sets that might need REORG maintenance to eliminate the control interval splits. By default, the query shows the top 20 VSAM data sets. The query can be easily modified to show a different number of data sets.

VCAT2C – VCA Daily top 20 STORCLAS Space Used

- CSV Extract 1: Top 20 Storage Classes Ranked by Space Used
  - The VCAT2C query generates a daily Pareto style chart identifying the top 20 Storage Classes that are based on DASD space that is allocated in the descending order from left to right. This query is useful to help you identify the largest users of DASD space that is based on your storage class definitions.

VCAVOL – Volume Capacity and Use

- CSV Extract 1: VOLSER Volume Capacity vs Space Allocated
  - The VCAVOL query generates a chart showing the capacity and space that is allocated for DASD volumes you specify using query filtering criteria. This query is useful for studying the allocation patterns of specific volume subsets.

The following queries have been added for the CA MICS Analyzer Option for IMS:

#### IMSDAT – IMS Top 10 IMS Workloads

- CSV Extract 1: DAILY - Top Ten IMS Workloads
  - The IMSDAT IMS Daily Top 10 Workloads analysis by Region query generates a chart for each SYSID and IMS Region combination. This query is useful for analyzing workload-related transaction performance characteristics. The query uses the DAYS timespan IMS Application Unit Activity (IMSIAU) file as input and reports on yesterday's top ten user-defined IMS Application Unit IDs (IMSAPU). The IMSAPU data element provides a means to categorize IMS transactions as belonging to specific groups or workloads. The IMSIAU file uses IMSAPU as a summarization key. The query selects the top nn (default is top 10) IMSAPUs for each IMS region. The top ten are selected based on the highest number of IMS transactions. The top ten IMSAPUs are graphically charted using two separate output views.

#### IMSDTR – IMS Daily Tran Count and Response Pct

- CSV Extract 1: DAILY - IMS Region Transaction Response Time Analysis
  - The IMSDTR query generates daily charts showing overall transaction counts and response time metrics for individual IMS regions. The query is useful to visualize the overall IMS transaction performance at the IM region level.

#### IMSDTT – IMS Daily Top 10 Transactions

- CSV Extract 1: Daily Top Ten IMS Transactions by Volume with Average Response Time
  - The IMSDTT query generates a Pareto style chart for each SYSID and IMS region combination. The query is useful to for analyzing transaction volume and performance characteristics. The query uses the DAYS timespan IMS User Activity file as input, and reports on yesterday's top ten transactions for each IMS region.

## CA MICS Q&R Administration

Q&R Distributed Server Administration has been enhanced with new features:

- A new Job Status window was added to provide visibility of jobs that started by the Q&R Distributed Server. Job status retention defaults to 60 days and can be changed on the Q&R Distributed Server Configuration panel.
- Logs of active Q&R Mainframe Servers can be viewed either from the Active Q&R Mainframe Servers window or through the Menu Bar option View/Mainframe Server Logs. This feature allows Q&R administrators who do not have direct mainframe access view the mainframe server log directly from Q&R Distributed Server Administration.
- Utility log options Append/Overwrite and Append Timestamp have been removed. The utilities now always process using overwrite and append timestamp options. When Multi-run jobs are exported, instructions are generated to overwrite on the first run and append subsequent logs (just like 12.8). With Q&R 12.9, the base log file is overwritten on every run. Thus you can click the Log button to return the log generated by the most recent run. In addition, a time stamped version of the log is always created. To access the time-stamped version of this log or to view the results of prior executions, click the file folder icon in the log file section of the utility panel.
- Utility jobs that are exported to a batch file are now timestamped correctly in US and non-US windows environments.
- Q&R Publish Output to Q&R Web Reporting User Interface panel has been updated to:
  - Allow Remove Output (RMWSPare) jobs to invoke automatically after RMWSLoad completes.
  - Reverse the order of height and width on the image properties tab. The screen now displays dimensions in the expected order (Width x Height).
- Administration Utilities (RMWSLoad, RMWSPare, MQRMeta)
  - Q&R Publish Output to Q&R Web Reporting Utility (RMWSLoad), Q&R Build/Refresh Meta Database (MQRMeta) and Q&R Remove Output (RMWSPare) now provide more return code processing to provide return codes that more accurately reflects the severity of errors that are encountered during processing. The return code is printed in the log and displayed in the Q&R Distributed Server Administration Utilities completion window. This feature is also available for exit code processing in batch.