CICS Performance Analyzer for z/OS

What's New in CICS PA Version 1 Release 3

e business software

CICS Tools | IBM UK Laboratories, Hursley Park

► Introduce yourself and the topic
► CICS Performance Analyzer for OS/390 Version 1 Release 3 was announced on the 5th August, 2003 and is generally available on 29th August, 2003.
► It supports CICS Transaction Server for z/OS Version 2 (all releases), CICS Transaction Server for OS/390 Version 1 (all three releases) and CICS for MVS/ESA Version 4.1.
► Purpose of today's session is to introduce you to What's New in CICS PA Version 1 Release 3 of the product. This session will highlight some of the major new enhancements in this release, such as Historical Data support and WebSphere MQ support, as well as other functional enhancements to CICS PA.

Preface

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Presentation Overview

- CICS PA Release 3 Highlights
- CICS PA Overview
- CICS PA Release 3 content ...
  - ► Historical Performance Data Repository
  - ► WebSphere MQ (SMF 116) Reporting
  - ► New and Enhanced CICS Monitoring Facility (CMF) Reports
  - ► ISPF Dialog Enhancements
  - ► Other Functional Enhancements
- Summary
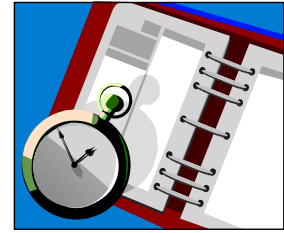
► Overview of the presentation..... the presentation begins with a highlights foil on the CICS PA Release 3 content items along with a brief overview of the CICS PA product itself. This is then followed by the main content of the presentation where we will go through, in a little more detail, each of the functional enhancements in CICS PA Release 3. Then we'll finish the presentation with a summary foil on the CICS PA product.

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CICS PA Release 3 Highlights

- **Historical Performance Database Repository**
  - ► Short and Long term historical performance data
  - ► Comprehensive reporting facilities
- **WebSphere MQ (SMF 116) Reporting**
- **New and Enhanced CICS Monitoring Facility (CMF) Reports**
  - ► Enhanced CMF Resource Class Reports ...
    - Temporary Storage Queue List and Summary reports
  - ► Performance Wait (Bottleneck) Analysis
- **ISPF Dialog Enhancements ...**
  - ► Report Set menu restructured for easier report selection
  - ► More flexible and easier-to-use Report Set JCL generation
- **Other Functional Enhancements ...**
  - ► Report Forms enhanced to allow specification of Selection Criteria

- ► This visual highlights the enhancements in CICS PA Release 3, each of which will be covered in a little more detail as we go through the presentation.
- ► The major enhancements in CICS PA Release 3 include:-
  - ► Historical Performance Database Repository
  - ► WebSphere MQ (SMF 116) Reporting
  - ► New and Enhanced CICS Monitoring Facility (CMF) Reports
  - ► ISPF Dialog Enhancements
  - ► Other Functional Enhancements.

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CICS PA Release 3 Highlights - Notes

CICS Performance Analyzer for z/OS Release 3 provides a number of significant enhancements including:-

Historical Database (HDB) support

WebSphere MQ support

New and Enhanced CICS Monitoring Facility (CMF) Reports:-

New Transaction Resource Usage Reports to include Temporary Storage Queue usage

New Performance Wait (Bottleneck) Analysis Report.

ISPF Dialog Enhancements:-

Report Set menu restructured for easier report selection

More flexible and easier-to-use Report Set JCL generation

Report Forms enhanced to allow the specification of Selection Criteria

Additional Report Form samples.

Other Functional enhancements include:-

Performance List eXtended report now supports most CMF fields as sort criteria

Improved Performance Summary report presentation - additional sort fields supported

Enhanced Workload Activity Summary report - Sub-totaling by WLM phase (BTE and EXE)

► This is a notes page for the audience.

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CICS PA Overview

Cross-System

Record Selection

ISPF

SMF Input (disk or tape)

Historical Data

CICS PA Extracts

Record Selection

Cross-System

CICS PA Analysis Programs

Export

Job Submission

CICS PA ISPF Dialog

Historical Database Inventory

Report and Extract Requests

Report and Extract Formats

Record Selection Criteria

HDB Register

CICS PA Reports

Report Sets

Report Forms

Object Lists
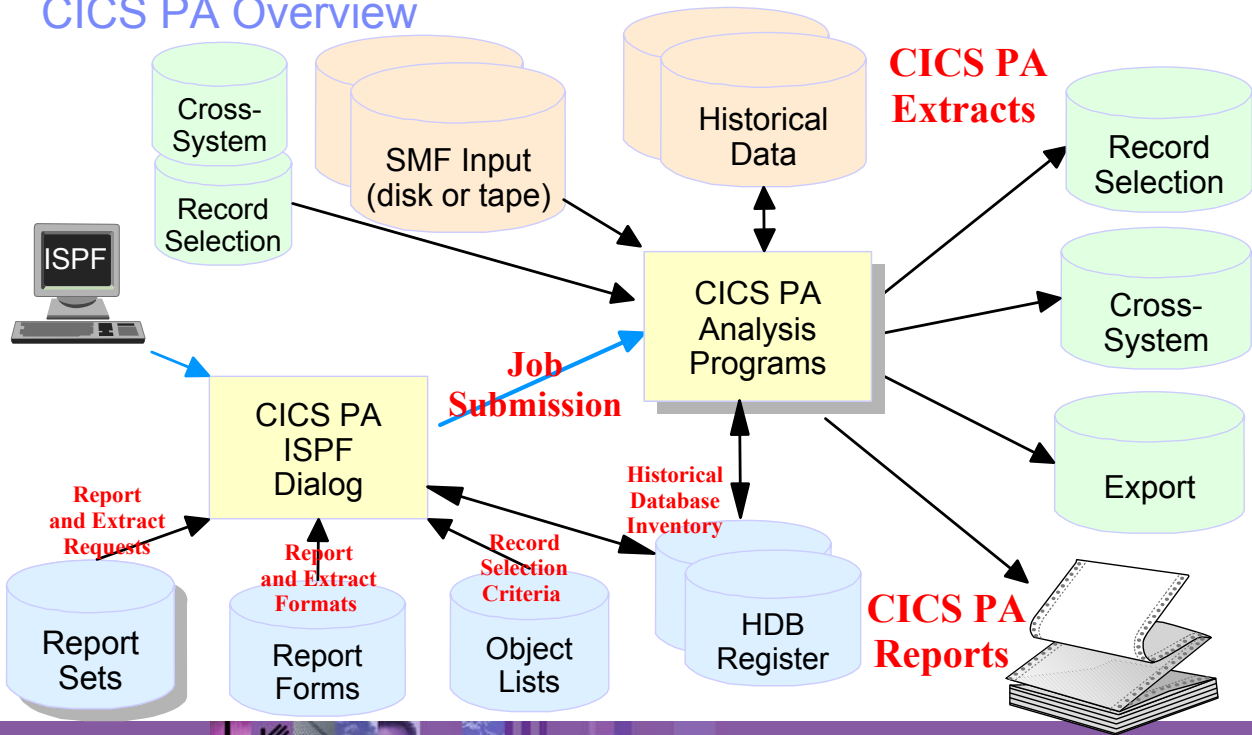
▸ This visual shows the main components of CICS PA; including the TSO Interactive System Productivity Facility (ISPF) dialog, it's related data sets and the CICS PA batch analysis, reporting programs and data sets.

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CICS PA Overview - Notes

The CICS PA analysis programs use the performance and accounting data written to MVS System Management Facility (SMF) data sets. This includes the data collected by the CICS Monitoring Facility (CMF) and written as SMF type 110 records, DB2 Accounting data written as SMF type 101 records, WebSphere MQ Accounting data written as SMF type 116 records, and the MVS System Logger data written as SMF type 88 records.

You can produce all the CICS PA reports and extracts by simply defining your CICS Systems (APPLIDs), MVS Images, DB2 Subsystems, WebSphere MQ Queue Managers, and MVS System Logger along with their associated unloaded SMF data sets.

Other CICS PA data sets include:-

1. Report Sets define your report and data extract requests.
2. Report Forms enable you to tailor your reports and extracts to include the information that you want to see.
3. Object Lists enable you to group objects for reporting purposes, e.g. Analyze the resource usage of a particular group of transactions or users.
4. HDB Register is the inventory of all information associated with the CICS PA Historical Database Manager.

▸ This is a notes page for the audience.

CICS PA Overview - Main Menu ...

```
   File  Options  Help
 V1R3M0        CICS Performance Analyzer 1.3 - Primary Option Menu
 Option ===> _____

 0  CICS PA Profile     Customize your CICS PA dialog profile
 1  System Definitions  Specify CICS Systems, SMF files and Groups
 2  Report Sets         Request and submit reports and extracts
 3  Report Forms        Define Report Forms
 4  Object Lists        Define Object Lists
 5  Historical Database Collect and process Historical Data
 X  Exit                Terminate CICS PA




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```

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► This is the CICS PA Main Menu screen. It can be invoked by entering:-
►
► ex 'CICSPA13.SCPAEXEC(CPAOREXX)' 'CICSPA13 E'
►
► into the ISPF Command Shell panel (option 6) command line.
►
► It can also be defined as a standard selection on ISPF dialogs, examples of how to set this up are documented in the CICS PA
  User's Guide manual.

CICS PA Overview - Main Menu - Notes

The CICS PA Interactive System Productivity Facility (ISPF) dialog allows you to request and submit your report and data extract requests easily. For the more experienced user, a batch command interface is also available to request the reports and extracts.

Follow the dialog to meet your reporting and analysis requirements:-

1. Customize your CICS PA dialog profile (optional). CICS PA will use default settings and prompt you to allocate data sets (with default allocation attributes) when required.

2. Define your CICS Systems (APPLIDs), MVS Images, DB2 Subsystems, MQ Subsystems, MVS System Logger and their associated unloaded SMF data sets.

3. Report Sets define your report and data extract requests. Here you request and tailor the required reports and extracts, then submit them for batch processing.

4. Report Forms enable you to tailor your reports and extracts to include the information that you want to see. You simply edit the report or extract format and content to meet your specific requirements. Comprehensive online help is available for every CMF field, so you never need to reference a manual.

5. Object Lists enable you to group objects for reporting purposes, e.g. Analyze the resource usage of a particular group of transactions or users.

6. Historical Database enables you to collect and manage historical performance data for your CICS systems.

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CICS PA Release 3 - Historical Database (HDB)

- Flexible and easy-to-use facility for collecting and managing historical performance data for your CICS systems
- The CICS PA history database function provides ...
  - ▶ Short term history data detailing individual transaction performance for use in performance problem analysis
  - ▶ Long term history data summarized over time can be used for trend analysis and capacity planning
  - ▶ Powerful and flexible definition facility for historical data repositories based on Report Forms
  - ▶ Comprehensive reporting facilities
  - ▶ Optionally load history data into DB2 for further analysis and reporting
  - ▶ Definition and management of the historical databases (HDBs) from the CICS PA ISPF dialog
  - ▶ Trending and capacity planning

▶ The CICS PA Historical Database (HDB) provides a flexible and easy-to-use facility for managing historical performance data for your CICS systems. The CICS PA History Database (HDB) function provides:-
  ▶ Short term history data detailing individual transaction performance for use in performance problem analysis
  ▶ Long term history data summarized over time can be used for trend analysis and capacity planning
  ▶ Powerful and flexible definition facility for historical data repositories
  ▶ Comprehensive reporting facilities
  ▶ A facility to optionally load history data into DB2 for further analysis and reporting using DB2 reporting tools such as Query Management Facility (QMF)
  ▶ Definition and management of the historical databases (HDBs) from the CICS PA ISPF dialog
  ▶ Trending and Capacity Planning capabilities.

CICS PA Release 3 - Historical Database (HDB) ...

```
   File  Options  Help
                      Historical Database Menu
 Option ===>  _____

 1  Templates       Design HDB Templates
 2  Define          Define a new HDB
 3  Load            Load data into the HDBs
 4  Report          Submit HDB report requests
 5  Export          Export HDB data sets to DB2
 6  Maintenance     Maintain HDB definitions and data sets
 7  Housekeeping    Perform HDB housekeeping

 HDB Register . . . TEST.HDB.REGISTER                              +
```

- ▸ This visual shows the CICS PA Historical Database Menu. It contains the functions to manage the Historical Database environment and provides access to the seven major functions of HDB processing.
- ▸ The HDB Register dataset is the inventory of all information associated with the CICS PA Historical Database Manager. The HDB register contains the following information:-
  - ▸ HDB definitions
  - ▸ Dataset definitions for HDB repositories
  - ▸ HDB Templates.
- ▸ You can define as many Registers as required; however, only one Register can be used at a time and each Register acts independently. Information cannot be shared between Registers.

CICS PA Historical Database (HDB) - HDB Template ...

- HDB Templates define the type and format of the data in the Historical Databases (HDBs)
- Similar to Report Forms, they provide HDBs with ...
  - ▶ Flexibility ...
    - − you decide what and how much information is recorded in the HDB
  - ▶ Ease of use ...
    - − the editor provides a simple way of tailoring the template
  - ▶ Transparency ...
    - − you can see at a glance what information is recorded in the HDB
- Each Template contains the following definition information about the HDB ...
  - ▶ Type of HDB - List or Summary
  - ▶ Field names and associated attributes
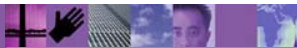
▶ HDB Templates allow you to define the type and format of the data in the Historical Databases (HDBs). HDB templates are very similar to Report Forms in that they provide HDBs with:-
  - ▶ Flexibility - in that you decide what and how much information is recorded in the HDB
  - ▶ Ease of use - the editor provides a familiar and simple way of tailoring the template. You simply edit the template format and content to meet your specific reporting or analysis requirements. Selection Criteria can also be specified in order to apply filtering that is applicable to the data being collected by the HDB Template.
  - ▶ Transparency - you can see at a glance what information is being recorded in the HDB.
▶ Just as in Report Forms; comprehensive online help is available for every CMF field, so that you never need to reference a manual.

CICS PA Historical Database (HDB) - HDB Template ...

```
 File  Edit  Confirm  Upgrade  Options  Help
                  Summary Template - HDBTEST1        Row 1 of 222 More: >
Command ===>                                          Scroll ===> CSR

Description . . . Summary HDB Template         Version (VRM): 620

Selection Criteria:
_   Performance                  Time Interval . . 00:01:00  (hh:mm:ss)

    Field
/   Name +    K  Description
_   START     A  Task start time
_   STOP      A  Task stop time
_   APPLID    A  CICS Generic APPLID
_   TRAN      A  Transaction identifier
_   TASKCNT      Total Task count
_   RESPONSE     Transaction response time
_   DISPATCH     Dispatch time
_   CPU          CPU time
_   SUSPEND      Suspend time
_   DISPWAIT     Redispatch wait time
_   FCWAIT       File I/O wait time
_   FCAMCT       File access-method requests
_   IRWAIT       MRO link wait time
_   SC24UHWM     UDSA HWM below 16MB
_   SC31UHWM     EUDSA HWM above 16MB
_   EOD       --------------- End of HDB -----------------
_   TERM      A  Terminal ID
_   APPLTRAN  A  Application naming Tran ID
_   APPLPROG  A  Application naming Tran ID
```

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▸ This visual shows an example of editing a Summary type HDB Template.

CICS PA Historical Database (HDB) - Define an HDB ...

```
  File  Options  Help
                        New HDB Definition
Command ===> _____

Specify new HDB definition options then press EXIT to save.

Name . . . . . . . HDBDAILY  System _____  +  Image _____
Description  . .  _____

HDB Format:                      Selection Criteria:
 Template . . . SUMTEST1  +        _  Performance

Data Retention Period:
 Years . . ____  Months . . ____  Weeks . . 1__  Days . . ____  Hours . . ____

Data Set Allocation Settings:
DSN Prefix . . . . . . CBAKER_____
Management class . . . _____   (Blank for default management class)
 Storage class  . . . . _____   (Blank for default storage class)
  Volume serial . . . . _____    (Blank for system default volume)
  Device type . . . . . _____   (Generic unit or device address)
Data class . . . . . . _____   (Blank for default data class)
 Space Units . . . . . CYLS____   (TRKS or CYLS)
 Primary quantity . . 5_____   (In above units)
 Secondary quantity   _____   (In above units)
```

▶ This visual shows an example of defining a new CICS PA Historical Database (HDB). Information to be provided about an HDB includes:-
   ▶ HDB Name, System (optional), description
   ▶ the HDB Format (or Template)
   ▶ Selection Criteria (optional)
   ▶ HDB data retention information (to be used by the CICS PA Maintenance and Housekeeping functions)
   ▶ HDB dataset storage space allocation and attributes.

CICS PA Historical Database (HDB) ...

- Load ...
  - ► Creates the JCL that builds the HDBs
    - – Recap Report from the HDB Load process
- Report ...
  - ► Generates the Report JCL for HDBs
- Export ...
  - ► Creates the DDL to define the DB2 Table
  - ► Generates the JCL to load a HDB into a DB2 Table
- Maintenance ...
  - ► Maintenance functions that can be performed against HDBs ...
    - – Display the HDB definition and its associated data sets
- Housekeeping ...
  - ► Housekeeping functions that can be performed against HDBs ...
    - – Submit HDB Housekeeping JCL ...
      - • Delete an entire HDB or individual datasets in the HDB
    - – Repair HDB Register using VERIFY command

► This visual shows the various functions for HDB processing, including:-
  - ► Load - Load data from SMF data sets into the HDB
  - ► Report - Produce reports from the HDBs
  - ► Export - Export data from HDB data sets to a DB2 table
  - ► Maintenence - Maintain HDB definitions and data sets
  - ► Housekeeping - Perform housekeeping - delete expired data sets.

CICS PA Historical Database (HDB) - Reporting ...

```
  File   Options   Help
| File  Options  Help                                                     |
|                    Run SUMMARY HDB Report - HDBDAILY                     |
| Command ===>                                                            |
|                                                                         |
| Specify Report request options then press Enter to continue submit.     |
|                                                                         |
| Reporting Options:                        ----- Report Interval ------  |
|  Report Form  . . TRTODSUM  +                 YYYY/MM/DD  HH:MM:SS.TH    |
|                                           From _____  _____  |
|                                           To   _____  _____  |
|                                                                         |
| Time Interval  . . 00:05:00   (hh:mm:ss)                                |
|                                                                         |
| Enter "/" to select option                                              |
| /   Edit JCL before submit                                              |
|                                                                         |
| HDB contains data from 1999/02/04 11:10 to 1999/02/04 11:10.            |
|                                                                         |
| _____|
```

► This visual shows an example of a request to generate the Report JCL for HDBs. Options that can be specified include the Report Form, Report Interval date/time selection and the Summary time interval.

CICS PA Historical Database (HDB) - Reporting ...

```
V1R3M0                                    CICS Performance Analyzer
                                          Historical Database Summary

HDBR0001 Printed at 15:37:23  7/22/2003    Data from 11:10:00 02/04/1999 to 08:10:00 02/16/1999                Page      1
```

Stop Interval	Tran	Tasks	Avg Response Time	Avg Response Time	Avg Dispatch Time	Avg User CPU Time	Avg Suspend Time	Avg DispWait Time	Avg FC Wait Time	Avg FCAMRq	Avg IR Wait Time	Avg SC24UHWM	Avg SC31UHWM
1999-02-04-11.10	AADD	3	.0537	.0537	.0492	.0049	.0045	.0044	.0000	1	.0000	1002	0
1999-02-04-11.10	ABRW	5	.1210	.1210	.0178	.0042	.1032	.0026	.0000	0	.1006	1020	0
1999-02-04-11.10	AINQ	1	.0018	.0018	.0017	.0016	.0001	.0000	.0000	0	.0000	928	0
1999-02-04-11.10	AMNU	1	.1724	.1724	.1720	.0091	.0004	.0004	.0000	0	.0000	512	0
1999-02-04-11.10	AUPD	3	.0491	.0491	.0265	.0079	.0226	.0056	.0000	0	.0024	992	0
1999-02-04-11.10	CATA	7	.0324	.0324	.0179	.0069	.0145	.0002	.0000	0	.0000	0	0
1999-02-04-11.10	CBAM	1	51.3803	51.3803	.0607	.0229	51.3196	.0003	.0000	0	.0000	0	0
1999-02-04-11.10	CEMT	21	10.3531	10.3531	.0282	.0089	10.3250	.0158	.0000	0	.0000	0	0
1999-02-04-11.10	CESN	14	.0228	.0228	.0215	.0080	.0014	.0013	.0000	0	.0000	0	0
1999-02-04-11.10	CGRP	2	.5862	.5862	.0571	.0076	.5291	.4134	.0000	0	.0000	0	0
1999-02-04-11.10	CLQ2	2	2.0731	2.0731	.0628	.0068	2.0103	.0820	.0000	0	1.9054	0	0
1999-02-04-11.10	CLR2	2	.0604	.0604	.0030	.0020	.0574	.0000	.0000	0	.0135	0	0
1999-02-04-11.10	CPLT	2	18.3106	18.3106	.3495	.0372	17.9611	.0176	.0000	0	.0000	0	0
1999-02-04-11.10	CQRY	11	5.5908	5.5908	.0078	.0016	5.5830	.0006	.0000	0	.0000	0	0
1999-02-04-11.10	CRSQ	2	.0731	.0731	.0416	.0039	.0315	.0313	.0000	0	.0000	0	0
1999-02-04-11.10	CSAC	7	.3676	.3676	.0022	.0012	.3654	.0001	.0000	0	.0000	0	0
1999-02-04-11.10	CSFU	2	2.7193	2.7193	2.2322	.1714	.4871	.0232	.0000	0	.0000	0	0
1999-02-04-11.10	CSMI	6	.0983	.0983	.0774	.0078	.0209	.0006	.0009	5	.0153	16	0
1999-02-04-11.10	CSSY	18	2.5720	2.5720	1.3231	.3193	1.2489	.2908	.1534	268	.0000	0	179
1999-02-04-11.10	CSTE	2	.1338	.1338	.1250	.0125	.0088	.0086	.0000	0	.0000	0	0
1999-02-04-11.10	CWBA	1	.3753	.3753	.3691	.0146	.0062	.0059	.0000	0	.0000	0	38320
1999-02-04-11.10	CWBG	2	.0267	.0267	.0255	.0039	.0012	.0010	.0000	0	.0000	0	0
1999-02-04-11.10	CWXN	1	.1772	.1772	.1653	.0104	.0119	.0054	.0000	0	.0000	0	2064
1999-02-04-11.10	CXRE	2	.1275	.1275	.0265	.0049	.1010	.1008	.0000	0	.0000	0	0
1999-02-04-11.10	CZUX	5	.0152	.0152	.0104	.0051	.0048	.0006	.0000	0	.0000	0	32544
1999-02-04-11.10	CZXS	1	.0907	.0907	.0340	.0078	.0567	.0016	.0000	0	.0000	0	43712
1999-02-04-11.10	EXCI	45	.0044	.0044	.0042	.0015	.0003	.0001	.0000	3	.0000	528	124
1999-02-04-11.10		169	2.5475	2.5475	.1929	.0408	2.3546	.0415	.0164	29	.0263	215	1512

► This visual shows an example of the output for an HDB Performance Summary Report.

CICS PA Historical Database (HDB) - Exporting ...

```
 File   Options   Help
                              Export HDB data set
Command ===> _____

HDB Name  . . . : HDBDAILY
Data Set Name . : CBAKER.HDBDAILY.D03196.T144501.HDB

Select option
1  1. Create DDL to define table      2. Load data into table

Create Options                        Load Options
_   Create Database                   1  1. Resume
_   Create Storage Group                 2. Replace

DB2 Settings:
 DB2 Subsystem ID . . . ____
 DSNTIAD Plan Name  . . _____
 DB2 Load Library . . . _____
 DB2 Exit Library . . . _____
 DB2 RUNLIB Library . . _____
 Database . . . . . . . _____     Storage Group  . . _____
 VCAT Catalog name  . . _____     Volume . . . . . . _____

Include Clock Field Components        Summary Options
1  1. Time and Count                  _   Include Sums of Squares
   2. Time only
   3. Count only
```

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▸ This visual shows an example of Exporting an HDB into a DB2 Table for further analysis and reporting. The Export functions that CICS PA provides include:-
  ▸ an option to create the DDL to define the DB2 Table for an HDB
  ▸ generate (and submit) the JCL to load the HDB into a DB2 Table.

IBM

CICS PA Release 3 - MQ Reports ...

- **Provide a detailed performance analysis of the CICS transactions that access an WebSphere MQ Queue Manager**
  - ► WebSphere MQ Accounting data (SMF 116)
    - Class 1 (Subtype 0), Class 3 (Subtypes 1 and 2) records
      - Accounting data for each task, at thread and queue level
- **MQ Reports ...**
  - ► List ...
    - Class 1, Class 3, ...
  - ► Summary ...
    - Class 1, Class 3, ...
    - Summarized by ...
      - CICS Transaction ID and/or MQ queue name
- **Record Selection Extract**

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- ► The CICS PA MQ reports use the WebSphere MQ Accounting data (SMF 116 records) to provide a detailed performance analysis of the CICS transactions that access an MQ queue manager.
- ► The CICS PA MQ List reports provide a detailed trace of the WebSphere MQ accounting records, reporting the comprehensive performance data contained in the Class 1 and Class 3 records. The MQ Summary reports provide, summarized by either CICS Transaction ID and/or by MQ queue name, an analysis of the MQ system and queue resources used and the transactions they service.
  - ► Class 1 (Subtype 0) - Message manager accounting records, record how much CPU was spent processing WebSphere MQ API calls and the number of MQGET and MQPUT calls.
  - ► Class 3 (Subtypes 1 and 2) - Accounting data for each task, at thread and queue level.

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CICS PA Release 3 - MQ Reports - Notes ...

The new CICS PA MQ reports use the WebSphere MQ Accounting data (SMF 116 records) to provide a detailed performance analysis of the CICS transactions that access an MQ queue manager.

The CICS PA MQ List reports provide a detailed trace of the WebSphere MQ accounting records, reporting the comprehensive performance data contained in the Class 1 (Subtype 0) and Class 3 (Subtypes 1 and 2) records. The MQ Summary reports provide, summarized by either CICS Transaction ID or by MQ queue name, an analysis of the MQ system and queue resources used and the transactions they service.

To produce the CICS PA MQ Reports, you need to accumulate WebSphere MQ Accounting statistics (SMF 116 records). CICS PA Version 1 Release 3 supports the WebSphere MQ Accounting statistics data from MQSeries for OS/390 Version 5.2, IBM WebSphere MQ for z/OS Version 5.3, and IBM WebSphere MQ for z/OS Version 5.3.1.

The WebSphere MQ SupportPac "MP1B: MQSeries for OS/390 V5.2 - Interpreting accounting and statistics data" provides information on the use and interpretation of the accounting and statistics available in MQSeries for OS/390 Version 5.2 (and later) and also provides information about the layout of the SMF records and suggests ways of analysing the data.

► This is a notes page for the audience.

CICS PA Release 3 - MQ Reports - List ...

```
V1R3M0                                    CICS Performance Analyzer
                                          WebSphere MQ Class 1 List

MQ000001 Printed at 12:06:24  6/18/2003  Data from 10:45:00  1/10/2003                                    Page      1

APPLID   SSID Tran  Time        Task      CPU  -------------- GET Counts ------------- ------------- PUTx Counts -------------
                                                 <=99    <=999   <=9999  >=10000    <=99    <=999   <=9999  >=10000

CICSPTST CBA1 CKBP  10:45:00.11  13458  0.001069      0        1        0        0        0        1        0        0
CICSPTST CBA1 CKBP  10:45:00.11  13459  0.000999      0        1        0        0        0        1        0        0
CICSPRD2 CBP1 CKBP  10:45:00.11  37690  0.000518      1        0        0        0        0        0        0        0
CICSPTST CBA1 CKBP  10:45:00.37  13463  0.001086      0        1        0        0        0        1        0        0
CICSPTST CBA1 CKBP  10:45:00.38  13465  0.000978      0        1        0        0        0        1        0        0
CICSPTST CBA1 CKBP  10:45:00.38  13461  0.000909      0        1        0        0        0        1        0        0
CICSPTST CBA1 CKBP  10:45:00.38  13464  0.000824      0        1        0        0        0        1        0        0
CICSPTST CBA1 CKBP  10:45:00.38  13462  0.000875      0        1        0        0        0        1        0        0
CICSPTST CBA1 CKBP  10:45:00.42  13466  0.000940      0        1        0        0        0        1        0        0
CICSPTST CBA1 CKBP  10:45:00.42  13467  0.001077      0        1        0        0        0        1        0        0
CICSPTST CBA1 CKBP  10:45:00.47  13471  0.001014      0        1        0        0        0        1        0        0
CICSPRD2 CBP1 CKBP  10:45:00.50  37693  0.000492      1        0        0        0        0        0        0        0
CICSPTST CBA1 CKBP  10:45:00.50  13469  0.000863      0        1        0        0        0        1        0        0
CICSPTST CBA1 CKBP  10:45:00.50  13468  0.000877      0        1        0        0        0        1        0        0
CICSPTST CBA1 CKBP  10:45:00.50  13474  0.000914      0        1        0        0        0        1        0        0
CICSPTST CBA1 CKBP  10:45:00.50  13470  0.000996      0        1        0        0        0        1        0        0
CICSPTST CBA1 CKBP  10:45:00.51  13473  0.000899      0        1        0        0        0        1        0        0
CICSPTST CBA1 CKBP  10:45:00.51  13472  0.000934      0        1        0        0        0        1        0        0
CICSPRD2 CBP1 Q412  10:45:00.57  37694  0.001148      0        1        0        0        0        1        0        0
CICSPRD2 CBP1 Q431  10:45:00.60  37695  0.001271      0        1        0        0        0        0        0        1
CICSPRD2 CBP1 Q411  10:45:00.61  37696  0.000948      0        1        0        0        0        1        0        0
```

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▶ This visual shows an example of the CICS PA MQ Class 1 List Report.

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CICS PA Release 3 - MQ Reports - Summary ...

```
V1R3M0                              CICS Performance Analyzer
                                   WebSphere MQ Class 1 Summary

MQ000003 Printed at 12:06:25  6/18/2003  Data from 10:45:00 01/10/2003 to 11:00:59 01/10/2003              Page      1

------- Key --------      ----- Average -----  --------- Average GET Counts ---------   -------- Average PUTx Counts ---------
SSID  APPLID   TRAN   Count       CPU    Calls     <=99    <=999   <=9999  >=10000      <=99    <=999   <=9999  >=10000

CBA1  CICSPTST CKBP   45319  0.001099    2.0      0.0      1.0      0.0      0.0       0.0      1.0      0.0      0.0
CBP1  CICSPRD2 CKBP     123  0.000548    1.0      1.0      0.0      0.0      0.0       0.0      0.0      0.0      0.0
CBP1  CICSPRD2 Q451       8  0.138772  110.6      0.0      0.0      0.0     55.8      54.4      0.1      0.0      0.4
CBP1  CICSPRD2 Q401      79  0.001141    2.0      0.0      1.0      0.0      0.0       0.0      0.0      1.0      0.0
CBP1  CICSPRD2 Q411    1044  0.001012    2.0      0.0      1.0      0.0      0.0       0.0      1.0      0.0      0.0
CBP1  CICSPRD2 Q412    1187  0.001206    2.0      0.0      1.0      0.0      0.0       0.0      1.0      0.0      0.0
CBP1  CICSPRD2 Q413       4  0.000885    2.0      0.0      1.0      0.0      0.0       0.0      1.0      0.0      0.0
CBP1  CICSPRD2 Q428     284  0.001060    2.0      0.0      1.0      0.0      0.0       0.0      1.0      0.0      0.0
CBP1  CICSPRD2 Q430     818  0.000976    2.0      0.0      1.0      0.0      0.0       0.0      1.0      0.0      0.0
CBP1  CICSPRD2 Q431     635  0.001346    2.0      0.0      1.0      0.0      0.0       0.0      0.0      0.0      1.0
CBP1  CICSPRD2 Q444     327  0.001068    2.0      0.0      1.0      0.0      0.0       0.0      1.0      0.0      0.0
CBT1  CICSTST2 CKBP       4  0.001235    2.0      0.0      0.8      0.3      0.0       0.0      0.8      0.3      0.0
```

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▸ This visual shows an example of the CICS PA MQ Class 1 Summary Report.

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CICS PA Release 3 - CMF Report Enhancements ...

- **Enhanced CICS Monitoring Facility (CMF) Reports ...**
  - ► Resource Class data reporting
    - – Temporary Storage
      - ● List and Summary Reports
  - ► Performance Wait Analysis Report
    - – Provides a transaction activity summary by wait (suspend) time
    - – Summarizes, by transaction ID, the resources that cause a transaction to be suspended
      - ● Highlights the CICS system resource bottlenecks that may be causing bad response time
    - – Enables a more detailed analysis, focusing on the problem resources identified, to be more easily performed
  - ► Workload Activity Report
    - – Sub-totaling by WLM phase (BTE and EXE)

► This visual describes some of the other Report enhancements in CICS PA Release 3, including:-
  ► Resource Class data reporting
    ► New Resource Usage Reports have been provided an analysis Temporary Storage Queue resource usage by Transaction ID and Temporary Storage Queue resource usage.
  ► Performance Wait Analysis Report
    ► This new report provides a summary of the transaction activity by wait (suspend) time. This report summarizes, by transaction ID, the resources that cause a transaction to be suspended and highlights the CICS system resource bottlenecks that may be causing bad response time.
  ► Workload Activity Report
    ► This report has been enhanced to provide sub-totaling by Workload Manager (WLM) Begin-to-End (BTE) and EXEcution phase.
  ► The next series of visuals has more detail on each of these enhancements.

CICS PA Release 3 - Resource Usage Reports ...
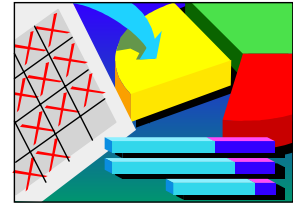
- **Transaction Resource Usage Reports ...**
  - ▶ Transaction Resource Usage List
    - – File and Temporary Storage Queue
  - ▶ Transaction File Usage Summary
  - ▶ Transaction Temporary Storage Usage Summary
  - ▶ File Usage Summary
    - – File Usage by Transaction ID
  - ▶ Temporary Storage Usage Summary
    - – Tsqueue Usage by Transaction ID
- **Transaction Resource Usage Reports ...**
  - ▶ CMF Resource Data and Performance Data - SMF 110 subtype 1
- **CMF Resource Class ...**
  - ▶ CICS TS for z/OS Version 2.2 with PTFs UQ68396 and UQ79266
  - ▶ CICS TS for OS/390 Version 1.3 with PTFs UQ70905 and UQ79397

- ▶ The CICS PA Transaction Resource Usage Reports provide a detailed analysis of the Resource Class records collected by the CICS Monitoring Facility (CMF). The reports include:-
  - ▶ Transaction Resource Usage List
  - ▶ Transaction File and Temporary Storage Queue Usage Summary
  - ▶ File and Temporary Storage Queue Usage Summary.
- ▶ The CICS PA Tranasction Resource Usage Reports provide an analysis of the File and Temporary Storage Queue resource usage by Transaction ID and also File and Temporary Storage Queue resource usage.
- ▶ The new CMF Resource Class was introduced and enhanced in CICS Transaction Server for z/OS Version 2.2 with PTFs UQ68396, UQ71829 and UQ79266 (for APARs PQ63143, PQ67561 and PQ76703) and in CICS Transaction Server for OS/390 Version 1.3 with PTF UQ70905 and UQ79397 (for APARs PQ63141 and PQ76698).

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CICS PA Release 3 - Resource Usage Reports - Notes ...

The CICS PA Transaction Resource Usage Reports provide a detailed analysis of the Resource Class records collected by the CICS Monitoring Facility (CMF). The reports include:-

➢ Transaction Resource Usage List
➢ Transaction File Usage Summary and Transaction Temporary Storage Usage Summary
➢ File Usage Summary and Temporary Storage Usage Summary

The Transaction Resource Usage List report provides a list of all Transaction resource class records in the sequence that they appear in the SMF file. It gives Transaction Information, detailing their individual File and Temporary Storage Queue usage.

The Transaction File Usage Summary report summarizes File usage by Transaction ID. For each Transaction ID, it gives Transaction information and File Control statistics followed by a breakdown of File usage for each File used.

The Transaction Temporary Storage Usage Summary report summarizes Temporary Storage Queue usage by Transaction ID. For each Transaction ID, it gives Transaction information and Temporary Storage statistics followed by a breakdown of Tsqname usage for each Temporary Storage Queue used.

The File Usage Summary report summarizes File activity. For each File, it gives a breakdown of File usage by Transaction ID.

The Temporary Storage Usage Summary report summarizes Tsqueue activity. For each Tsqueue, it gives a breakdown of Temporary Storage Queue usage by Transaction ID.

▶ This is a notes page for the audience.

CICS PA Release 3 - Resource Usage Reports - List ...

```
V1R3M0                                    CICS Performance Analyzer
                                        Transaction Resource Usage List

RESU0001 Printed at 15:18:36  6/19/2003   Data from 14:49:42  6/19/2003                                    Page     7

                              Request         Fcty  Conn                                      UOW R              Response
Tran Userid  SC TranType Term LUName   Type   Program T/Name Name    NETName          APPLID  Task Seq T Stop Time    Time
---- -------- -- -------- ---- -------- ------ ------- ------ ----    ---------------- ------- ---- --- - ----------- --------
AUPD CBAKER   TP U        TC28 IYCWTC28 AP:    DFHúAALL T/TC28        GBIBMIYA.IYCWTC28 IYK2Z1V1   91   1 T 15:13:39.474  .0072

                     ********************** FC Calls ********************* ******* I/O Waits ******** AccMeth
        File              Get      Put    Browse   Add    Delete   Total    File     RLS     CFDT   Requests
        --------          -------- -------- -------- -------- -------- -------- -------- -------- -------- --------
        FILEA     Elapse  .0001    .0047   .0000    .0000   .0000    .0048    .0032    .0000    .0000
                  Count   1        1       0        0       0        2        1        0        0        4

---- -------- -- -------- ---- -------- ------ ------- ------ ----    ---------------- -------    ---- --- - ----------- --------
CECI CBAKER   TO U        TC05 IYCWTC05 AP:    DFHECIP  T/TC05        GBIBMIYA.IYCWTC05 IYK2Z1V1   69   1 T 15:14:26.435 266.7346

                     ********************** FC Calls ********************* ******* I/O Waits ******** AccMeth
        File              Get      Put    Browse   Add    Delete   Total    File     RLS     CFDT   Requests
        --------          -------- -------- -------- -------- -------- -------- -------- -------- -------- --------
        FILEA     Elapse  .0000    .0000   .0001    .0000   .0000    .0002    .0000    .0000    .0000
                  Count   0        0       5        0       0        6        0        0        0        7

                     ************* TS Calls ************ *** I/O Waits ***        ********* TS Item ********
        TSQueue           Get    Put_Aux Put_Main Total     TS    Shr_TS             Get    Put_Aux Put_Main
        ----------------  -------- -------- -------- -------- -------- --------        -------- -------- --------
        TESTQ1    Elapse  .0000   .0000   .0017    .0017    .0000   .0000
                  Count   0       0       3        3        0       0       Length   0        0        360

        TESTQ2    Elapse  .0000   .0000   .0000    .0000    .0000   .0000
                  Count   0       2       0        2        0       0       Length   0        120      0

        Total     Elapse  .0000   .0000   .0017    .0017    .0000   .0000
                  Count   0       2       3        5        0       0       Length   0        120      360
```

- ▸ This visual shows an example of the CICS PA Transaction Resource Usage List Report.
- ▸ The Transaction Resource Usage List report provides a list of all Transaction resource class records in the sequence that they appear in the SMF file. It gives Transaction Information, detailing their individual File and Temporary Storage Queue usage.

CICS PA Release 3 - Resource Usage Reports ...

```
  File  Systems  Options  Help
                RESTEST - Temporary Storage Summary Report
Command ===> _____

System Selection:                      Report Output:
 APPLID . .  _____  +                 DDname . . . . . . . . . . TSRU0001
 Image  . .  _____  +                 Print Lines per Page . .  ____  (1-255)
 Group  . .  _____  +

Temporary Storage Summary Reports Required:
 /  Transaction Temporary Storage Usage
 /  Temporary Storage Usage
    /  Break down by Transaction ID
    /  Include Transaction Totals

Report Format:
 Title  . .  _____
             _____


Selection Criteria:
 _  Performance
```

Showing
Defaults

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▸ This visual shows the Transaction Resource Usage Report panel showing the options available when requesting a Transaction Resource Usage Summary Report.

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CICS PA Release 3 - Resource Usage Reports - Notes ...

The Transaction Resource Usage Report panel shows the options available when requesting a Transaction Resource Usage Summary Report:-

- **CICS System Selection** identifies the CICS Systems (APPLIDs) that you want to report against.
- You can request a **Transaction Temporary Storage Usage Summary** report and/or a **Temporary Storage Usage Summary** report.
- The **Transaction Temporary Storage Usage Summary** report summarizes the transactions that use Temporary Storage Queues. The report consists of Transaction Identification and Temporary Storage statistics from the CMF Performance records. In addition, there is one sub-section for each Temporary Storage Queue that this transaction has used. For those transactions which access more than one temporary storage queue, resource sub-totals will also be included in the report.
- The **Temporary Storage Usage Summary** report summarizes Temporary Storage activity, breaking down individual Temporary Storage Queue usage by Transaction ID.
  - Select **Break down by Transaction ID** to include individual Transaction statistics.
  - Select **Include Transaction Totals** to include total Transaction statistics.
- Specify **Selection Criteria** to Include or Exclude:-
  - CMF Performance records based on (a) specified time intervals and/or (b) particular field values.
  - CMF Resource records based on (a) specified time intervals and/or (b) particular field values, including temporary storage queue name.

▸ This is a notes page for the audience.

Transaction Temporary Storage Usage Summary Report

```
V1R3M0                              CICS Performance Analyzer
                              Transaction Temporary Storage Usage Summary

TEMP0001 Printed at 16:55:16  7/15/2003   Data from 14:49:42  6/19/2003 to 15:16:15  6/19/2003    APPLID IYK2Z1V1      Page      1

                            ************** TS Calls ************* *** I/O Waits ***
Tran                 #Tasks          Get   Put_Aux Put_Main  Total      TS   Shr_TS
----                 -------        --------- -------- -------- -------- -------- --------
CECI                      2 Elapse Avg                                   .0000    .0000
                            Max                                          .0000    .0000
                            Count Avg       0        1        1        3        0        0
                            Max         0        2        3        5        0        0

                            ************** TS Calls *********** *** I/O Waits ***        ******** TS Item *********
      TSQueue        #Tasks          Get   Put_Aux Put_Main  Total      TS   Shr_TS              Get   Put_Aux Put_Main
---------------      -------        --------- -------- -------- -------- -------- --------       -------- -------- --------
     SHAR1                1 Elapse Avg  .0000    .0070    .0000    .0070    .0000    .0044
                            Max      .0000    .0070    .0000    .0070    .0000    .0044
                            Count Avg       0        2        0        2        0        3              0      600        0
                            Max         0        2        0        2        0        3 Length        0      600        0

     TESTQ1               2 Elapse Avg  .0000    .0000    .0008    .0009    .0000    .0000
                            Max      .0000    .0000    .0017    .0017    .0000    .0000
                            Count Avg       0        0        1        2        0        0              0        0      180
                            Max         0        0        3        3        0        0 Length        0        0      360

     TESTQ2               1 Elapse Avg  .0000    .0000    .0000    .0000    .0000    .0000
                            Max      .0000    .0000    .0000    .0000    .0000    .0000
                            Count Avg       0        2        0        2        0        0              0      120        0
                            Max         0        2        0        2        0        0 Length        0      120        0

     Total                4 Elapse Avg  .0000    .0018    .0004    .0022    .0000    .0011
                            Max      .0000    .0070    .0017    .0070    .0000    .0044
                            Count Avg       0        1        0        2        0        0              0      180       90
                            Max         0        2        3        3        0        3 Length        0      600      360
```

- This visual shows an example of the CICS PA Transaction Temporary Storage Usage Summary Report.
- The Transaction Temporary Storage Usage Summary report summarizes Temporary Storage Queue usage by Transaction ID. For each Transaction ID, it gives Transaction information and Temporary Storage statistics followed by a breakdown of Tsqueue usage for each Temporary Storage Queue used.

Resource Usage Reports - Temp Storage Usage Summary

```
V1R3M0                              CICS Performance Analyzer
                                  Temporary Storage Usage Summary

TEMP0001 Printed at 16:55:16  7/15/2003   Data from 14:49:42  6/19/2003 to 15:16:15  6/19/2003   APPLID IYK2Z1V1     Page      4


                                ************** TS Calls ************ *** I/O Waits ***        ******** TS Item *********
 TSQueue          Tran  #Tasks        Get   Put_Aux  Put_Main  Total      TS    Shr_TS            Get  Put_Aux  Put_Main
 ---------------- ---- -------      -------- -------- -------- -------- -------- --------      -------- -------- --------
 SHAR1            CEBR      1 Elapse Avg  .0035   .0000    .0000    .0035    .0000   .0000
                                    Max  .0035   .0000    .0000    .0035    .0000   .0000
                             Count  Avg     16       0        0       16        0       0             24228        0        0
                                    Max     16       0        0       16        0       0 Length     24228        0        0

                  CECI      1 Elapse Avg  .0000   .0070    .0000    .0070    .0000   .0044
                                    Max  .0000   .0070    .0000    .0070    .0000   .0044
                             Count  Avg      0       2        0        2        0       3                 0      600        0
                                    Max      0       2        0        2        0       3 Length         0      600        0

                  Totl      2 Elapse Avg  .0017   .0035    .0000    .0052    .0000   .0022
                                    Max  .0035   .0070    .0000    .0070    .0000   .0044
                             Count  Avg      8       1        0        9        0       1             12114      300        0
                                    Max     16       2        0       16        0       3 Length     24228      600        0

 ---------------- ---- -------      -------- -------- -------- -------- -------- --------      -------- -------- --------
 STATTC28CBAKER   STAT      1 Elapse Avg  .0000   .0000    .0000    .0000    .0000   .0000
                                    Max  .0000   .0000    .0000    .0000    .0000   .0000
                             Count  Avg      0       1        0        1        0       0                 0       69        0
                                    Max      0       1        0        1        0       0 Length         0       69        0
```

▸ This visual shows an example of the CICS PA Temporary Storage Usage Summary Report.
▸ The Temporary Storage Usage Summary report summarizes Tsqueue activity. For each Tsqueue, it gives a breakdown of Temporary Storage Queue usage by Transaction ID.

IBM

CICS PA Release 3 - Wait Analysis (Bottleneck) Report ...

- **Performance Wait Analysis (Bottleneck) Report**
  - ► Provides transaction activity by wait (suspend) time
  - ► Summarizes, by transaction ID (default), ...
    - the resources that cause a transaction to be suspended
    - highlights the CICS system resource bottlenecks that may be causing bad response time
  - ► Enables a more detailed analysis, focusing on the problem resources identified, to be more easily performed

- ► The Performance Wait Analysis Report provides a summary of the transaction activity by wait (suspend) time. This report summarizes, by transaction ID, the resources that cause a transaction to be suspended and highlights the CICS system resource bottlenecks that may be causing bad response time. This report enables a more detailed analysis, focusing on the problem resources identified, to be more easily performed.
- ► The Performance Wait Analysis Report Report is only supported for CMF performance class data from CICS Transaction Server for OS/390 Version 1.3 or later.

CICS PA Release 3 - Wait Analysis Report ...

```
V1R3M0                              CICS Performance Analyzer
                                    Wait Analysis Report

WAIT0001 Printed at 14:01:01  7/24/2003   Data from 19:26:39  7/14/2003 to 19:38:16  7/14/2003                    Page      1
--------------------------------------------------------------------------------------------------------------------------
Tran=CBM1
  Summary Data                                      -------- Time ---------   ------ Count ------   ------ Ratio ------
                                                       Total     Average        Total    Average
     # Tasks                                                                     3962
     Response Time                                   39174.1585    9.8875
     Dispatch Time                                    4860.6282    1.2268       347472      87.7    12.4% of Response
     CPU Time                                          179.7728    0.0454       347472      87.7     3.7% of Dispatch
     Suspend Wait Time                               34313.4642    8.6606       347472      87.7    87.6% of Response
     Dispatch Wait Time                              26770.4022    6.7568       343510      86.7    78.0% of Suspend
     Resource Manager Interface (RMI) elapsed time    4302.4135    1.0859       191768      48.4    11.0% of Response
     Resource Manager Interface (RMI) suspend time    2641.0973    0.6666        19211       4.8     7.7% of Suspend

  Suspend Detail                                    ------------------ Suspend Time ------------------  ----- Count -----
                                                       Total     Average   %age Graph                    Total  Average
     N/A      Other Wait Time                        21836.2138    5.5114   63.6% |************          332847    84.0
     MAXOTDLY MAXOPENTCBS wait time                   4094.5942    1.0335   11.9% |**                       639     0.2
     LU62WTT  LU6.2 wait time                         3035.7758    0.7662    8.8% |*                       5238     1.3
     DSPDELAY First dispatch wait time                2398.0299    0.6053    7.0% |*                       3962     1.0
     MXTDELAY > First dispatch MXT wait time           374.7682    0.0946    1.1% |                          87     0.0
     LMDELAY  Lock Manager (LM) wait time             2206.6980    0.5570    6.4% |*                       2621     0.7
     GVUPWAIT Give up control wait time                437.0868    0.1103    1.3% |                         277     0.1
     JCIOWTT  Journal I/O wait time                    305.0656    0.0770    0.9% |                        1888     0.5
--------------------------------------------------------------------------------------------------------------------------
Tran=CBPB
  Summary Data                                      -------- Time ---------   ------ Count ------   ------ Ratio ------
                                                       Total     Average        Total    Average
     # Tasks                                                                      13
     ....
```

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▶ This visual shows an example of the new Performance Wait Analysis Report.

CICS PA Release 3 - Workload Activity Report ...

```
V1R3M0                                  CICS Performance Analyzer
                                 Workload Manager Activity Summary by Service Class

WKLD0001 Printed at 16:43:42  6/18/2003 Data from 14:18:57 11/05/2002 to 15:04:59 11/05/2002                    Page   1920

Service                             -------------- Response Time --------------
Class      APPLID      Phase     #Tasks    Average    Std Dev    90% Peak    Maximum

CICSDFLT   SCSCPAA1    BTE          51       .0377      .1073      .1753      .5600
           SCSCPAA1    EXE        1533       .0316      .0781      .1316     1.1133
           SCSCPAA4    BTE          17     111.043    457.767    697.900    1887.44
           SCSCPAA4    EXE        8239       .0204      .0569      .0934     1.2754
           SCSCPJA7    EXE         810       .0035      .0043      .0090      .0297
           SCSCPLA1    BTE        8816       .3441    20.0989    26.1108    1887.18
           SCSCPLA2    BTE        6954       .4033    22.6318    29.4172    1887.33
           SCSCPTA1    BTE        6624       .0356      .0792      .1371     1.2963
           SCSCPTA2    BTE        4680       .0412      .0891      .1555     1.1289
CICSDFLT   *Total*     BTE       27142       .3005    19.8410    25.7367    1887.44
           *Total*     EXE       10582       .0207      .0587      .0960     1.2754
CICSWORK   SCSCPJA7    BTE          32     58.9871    333.661    486.741    1887.47
*  Grand Total   *     BTE       27174       .3696    22.8968    29.7233    1887.47
*  Grand Total   *     EXE       10582       .0207      .0587      .0960     1.2754
```

- **by MVS WLM Service Class and Report Class**
  - ► Applid, WLM Completion phase, Number of tasks, ...
  - ► Response time ...
    - – Average, Std Deviation, Peak percentile, Maximum, ...

► This visual shows an example of the enhanced CICS PA Workload Activity Summary Report.

CICS PA Release 3 - ISPF Dialog Enhancements ...

- **System Definitions - MQ Subsystem ...**
  - ► WebSphere MQ Accounting records (SMF 116 records)
- **Report Set menu restructured ...**
  - ► Allows easier selection of reports and extracts
  - ► More flexible and easier-to-use Report Set JCL generation
    - – JCL generation without Save'ing
    - – JCL generation for Report Set, Report Group, or Individual Report
- **Report Form Enhancements ...**
  - ► Allow the specification of Selection Criteria
  - ► More than 90 sample Report Forms
    - – Additional Report Form samples ...
      - • CICS RMI Analysis, Abend Analysis, DBCTL, SOAP for CICS, ...
      - • Worst File, Temporary Storage, Transient Data usage, ...

► CICS PA Release 3 also includes a number of enhancements to the TSO ISPF dialog. These enhancements include:-
  - ► Support for MQ Subsystems in CICS PA System Definitions.
  - ► Restructuring of the Report Set menu to allow easier selection of the reports and extracts. The Report Categories can be expanded (to show) or collapsed (to hide) the reports.
  - ► You can also now generate the JCL not only for an entire Report Set but for a Report Category or an individual Report.
  - ► In addition, the dialog will now allow you to submit your Report Set request without first having the save any changes.
  - ► Report Form enhancements include:-
    - ► Selection Criteria can now be included in the Report Form in order to apply filtering that is applicable to the resources being reported by the Report Form.
    - ► there are now some 90 sample Report Forms covering every aspect of transaction performance and resource usage.

CICS PA Release 3 - ISPF Dialog Enhancements ...

```
   File  Systems  Confirm  Options  Help
 EDIT                    Report Set - PERFRPTS                  Row 1 of 20
 Command ===>                                              Scroll ===> CSR

 Description . . .  CICS PA Report Set

 Enter "/" to select action.

                     ** Reports **                          Active
 ____                Options                                 No
    +    ____        Selection Criteria                      No
    -    RUN         Performance Reports                     Yes
         ____            List                                No
         ____            List Extended                       No
         ____            Summary                             Yes
         ____            Totals                               Yes
         RUN             Wait Analysis                       Yes
         ____            Cross-System Work                   No
         ____            Transaction Group                   No
         ____            BTS                                 No
         ____            Workload Activity                   No
    +    ____        Exception Reports                       No
    +    ____        Transaction Resource Usage Reports      No
    -    ____        Subsystem Reports                       No
         ____            DB2                                 No
         ____            WebSphere MQ                        No
    +    ____        System Reports                          No
    +    ____        Performance Graphs                      No
    +    ____        Extracts                                No
                     ** End of Reports **
```

Report Set Category or an individual Report

CICS Performance Analyzer | What's New in Release 3 | IBM UK Laboratories, Hursley Park

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▶ This visual shows an example of the restructured Report Set menu. The presentation of reports has changed to a tree structure. The Report Categories can be expanded (to show) or collapsed (to hide) the reports. You can also now generate the JCL not only for an entire Report Set but for a Report Set Category or an individual Report.

CICS PA Release 3 - Other Functional Enhancements ...

- **Performance List, List eXtended, and Summary reports**
  - ► Support all CICS Monitoring Facility (CMF) performance data fields
  - ► Listx report now supports most CMF fields as sort criteria
- **Improved Performance Summary report presentation**
  - ► Revised default sort field - Tran (Tran/Term)
  - ► Additional sort fields supported
- **Transaction Resource Usage List report**
  - ► File resource sub-totals
- **Enhanced Workload Activity Summary report**
  - ► Sub-totaling by WLM phase (BTE and EXE)

► This visual highlights some of the other functional enhancements in CICS PA Release 3. They include:-
  - ► Performance List, List eXtended and Summary reports now support all CICS Monitoring Facility (CMF) performance data fields.
  - ► Performance ListX report now supports most of the CMF data fields as sort criteria.
  - ► Performance Summary Report default sort criteria changed to just the Transaction ID (Tran ID/Term ID in Release 2).
  - ► Transaction Resource Usage List report has been enhanced to include File resource sub-totals in order to enable easier comparison with the performance class data.
  - ► Workload Activity Report has been enhanced to provide sub-totaling by Workload Manager (WLM) Begin-to-End (BTE) and EXEcution phase.

Summary

- **CICS Performance Analyzer for z/OS**
  - ► Comprehensive Performance Reporting for CICS
    - – Including DB2, WebSphere MQ, and MVS System Logger
  - ► Extensive Tabular Reports and Extract Data Sets
  - ► Historical Database
    - – Trending and Capacity Planning
  - ► ISPF Dialog to build, maintain, and submit reports and extracts
- **CICS PA Version 1.3 - Product information ...**
  - ► Program Product - 5655-F38
  - ► Releases Supported ...
    - – CICS Transaction Server for z/OS, Version 2
    - – CICS Transaction Server for OS/390, Version 1
  - ► More Information ....
  - http://www.ibm.com/cics/

CICS Tools

► So to summarize:-
  ► The CICS Performance Analyzer for z/OS provides a comprehensive Performance Reporting tool for CICS and related subsystems. It includes many reports and extracts, including DB2, WebSphere MQ, and the MVS System Logger.
  ► CICS PA Version 1 Release 3 was announced on the 5th August 2003 and is generally available on the 29th August 2003.
  ► CICS PA Version 1.3 supports CICS Transaction Server for z/OS Version 2, CICS Transaction Server for OS/390 Version 1, and CICS for MVS/ESA Version 4.1. For the DB2 Reports, CICS PA Version 1.3 supports DB2 Versions 5, 6, 7, and 8. For the WebSphere MQ Reports, CICS PA Version 1.3 supports MQSeries for OS/390 Version 5.2, IBM WebSphere MQ for z/OS Version 5.3, and IBM WebSphere MQ for z/OS Version 5.3.1.