IBM CICS Performance Analyzer for z/OS V1.3 — New reports add more powerful analysis capabilities

Overview
CICS® Performance Analyzer (CICS PA) for z/OS produces a wide range of reports and extracts on the performance of CICS Transaction Server (CICS TS) that help to tune and manage the performance of CICS systems, as well as plan capacity for future use. Since the general availability in August 2003 of CICS PA for z/OS V1.3, a range of enhancements, implemented in response to customer requirements, has been delivered via the service channel:

- Peak percentile is provided in the summary report forms.
- Support is added for wide reports.
- Performance summary data extract comes with timestamp fields formatted to include both date and time.
- Performance summary and historical database (HDB) summary reporting can exclude totals if required.
- System logger report has a new option to enable sort-by-time interval.
- Cross-system report includes a post sort filtering capability.
- DB2® long and short summary reports now provide performance data totals by DB2 subsystem ID.

In addition, a range of enhancements was shipped concurrently with the general availability of CICS TS for z/OS V2.3. These report on the new or altered functions of that release, include performance of Java™ applications and use of CorbaServer and SOAP for CICS.

Support is also added for DB2 V8.

Key prerequisites
CICS PA for z/OS V1.3 runs with:

- CICS TS for OS/390® V1.3 (5655-147)
- CICS TS for z/OS V2.2 and V2.3 (5697-E93)

Availability: The new function described is available through the service channel.

At a glance
To address customer requirements, important functional enhancements in CICS PA for z/OS V1.3 are delivered via the service channel:

- Enhanced summary report forms
- Improved summary data extract
- A new option in the system logger report
- Improved DB2 reports

In addition, extensions in support of its new functions were provided concurrently with the general availability of CICS TS for z/OS V2.3.

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CICS PA analyzes the System Management Facilities (SMF) records created by the CICS Monitoring Facility (CMF) and related subsystems (including DB2 and WebSphere® MQ) to produce a wide range of reports and extracts that will help tune and manage your CICS systems. CICS PA also provides z/OS system logger reports using the system logger data (SMF 88 records).

CICS PA provides reports for all facets of your CICS systems, including:

- Transaction reports detailing all transactions processed, with the information presented in the format and order that you want
- Transaction activity reports that can be tailored to produce a detailed analysis and comprehensive overview of transaction performance
- Resource usage reports that show the performance and utilization of your CICS system resources, including:
  - Transactions and programs
  - Files
  - Temporary storage
  - Transient data
  - Journals and logstreams
  - Virtual storage
  - Terminals
  - Basic Mapping Support (BMS) maps
  - Secure Sockets Layer (SSL) and CICS Web support
  - Java Virtual Machine (JVM) support
- Cross-system work reports that combine the CMF data from all your CICS systems to evaluate the performance of Multi-Region Operation (MRO) and Advanced Program-to-Program Communication (APPC) transactions
- Transaction resource usage reports showing, at a transaction level, the individual file and temporary storage queue resources accessed by a transaction
- Workload activity reports that show, at a glance, if the MVS™ Workload Management (WLM) goals that you have set for your CICS transactions are being met
- WebSphere MQ Reports use the WebSphere MQ Accounting data (SMF 116 records) to provide a detailed performance analysis of the CICS transactions that access an WebSphere MQ external subsystem
- Performance wait analysis report which delivers transaction activity by wait 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
- A comprehensive extract capability that allows you to export transaction performance data to DB2 or your PC workstation for further analysis and graphical representation
- External subsystem reports that show the performance and utilization of DB2, WebSphere MQ, and IMS™ Data Base Control (DBCTL) Subsystems
- Transaction group reports that combine the performance data of all transactions in your Transaction Groups to produce a consolidated report
- CICS Business Transaction Services (BTS) Reports that evaluate your BTS application performance
- Graphs that show transaction response time and transaction processing rate at a glance
- Exception reports that list and summarize CICS Exception Events that impact the performance of your CICS systems.

Historical database: The CICS PA historical database (HDB) provides a flexible and easy-to-use facility for collecting and managing historical performance data for your CICS systems. The CICS PA 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
- A powerful and flexible definition facility for the 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 HDBs from the CICS PA ISPF dialog

Easy-to-read and use reports: The report formatting capability of CICS PA allows you to tailor the format and content of your reports to meet your individual requirements. It is a powerful record selection and sorting capability that lets you to request the information that you want, in the order you want it.

The Interactive System Productivity Facility (ISPF) user interface

- Provides a menu-driven dialog that helps you create, maintain and submit reports and extract requests
- Uses your customized CICS, DB2, WebSphere MQ, and MVS Logger system definitions as the basis of your report requests
- Supports, via batch commands, the request of reports and extracts for the experienced user
- Provides an easy-to-use form-based editor which enables you to design your own reports, extracts, and historical databases
- Offers instant access to detailed CMF field descriptions directly from the CICS Performance Guide
- Provides an upgrade capability for quick migration to new releases of CICS TS
- Is CUA®-compliant

New functional enhancements delivered via the service channel

A number of PTFs have been released since general availability of CICS PA V1.3. These PTFs deliver important functional enhancements, implemented in response to customer requirements, and to improve ease of use. Except where otherwise indicated, they were made available between December 2003 and February 2004. These enhancements are as follows.

Peak percentile and wide report support (PTF UQ87277 for APAR PQ85980, available April 30, 2004): Summary report forms have been enhanced to enable the user to specify a peak percentile as a statistical function, complementing the existing functions of average, total, minimum, maximum, and standard deviation. A new
sample response time distribution report form is also provided to demonstrate the use of peak percentiles. This new statistical function can be used on any of the performance data time or numeric fields.

Report forms can now specify a page width setting. This allows the user to specify a report beyond the current fixed 132-character page width limit. Wide reports are available for all report types that support the use of report forms including performance list, listX, summary, cross-system, and HDB.

Performance summary data extract (PTF UQ80393 for APAR PQ77980): The performance summary extract now provides timestamp fields formatted to include the time as well as the date, thereby allowing improved interpretation of the performance data imported into spreadsheets for further analysis.

Option to exclude totals (PTF UQ80393 for APAR PQ77980): The performance summary and HDB summary reporting are enhanced to provide the user with the ability to exclude totals from these reports, making the reports easier to read and analyze.

System logger report (PTF UQ80393 for APAR PQ77980): A new system logger list report option to enable sort by time interval is now available. This makes the list report easier to read by presenting the system logger data in a more logical structure.

Cross-system report post sort filtering (PTF UQ84136 for APAR PQ81177): The cross-system report is enhanced to include a post sort filtering capability.

DB2 long and short summary reports (PTF UQ84148 for APAR PQ83231): The DB2 long and short summary reports have been enhanced to provide performance data totals by DB2 subsystem ID (SSID).

CICS TS for z/OS V2.3 support (PTF UQ83949 for APAR PQ79013): This PTF includes a significant number of enhancements in order to report on the new performance data recorded by CICS TS V2.3.

This support was delivered concurrently with the general availability of CICS TS V2.3 and includes:

- Support for the new CICS Monitoring Facility (CMF) performance class data fields by the:
  - Performance list, listX, and summary reports and extracts
  - Performance record selection criteria
- All the CICS PA reports and extracts have been revised to support the new performance data, including:
  - Performance totals report
  - Performance wait analysis report
  - Additional summary report and extract by keywords
  - Additional performance listX report by and limit keywords
  - Cross-system work extract default record format
  - Performance data extract default record format
- Additional sample report forms are also provided in support of the new performance data.

These enhancements provide CICS PA customers with the ability to analyze their new CICS TS V2.3 performance data and to easily assess performance of their new Java applications, SOAP for CICS usage, application usage of CorbaServer and TCP/IP, etc.

This PTF also includes DB2 V8 support by the CICS PA DB2 reports.

Accessibility by people with disabilities

CICS PA V1.3 has a range of accessibility features.

Section 508 of the U.S. Rehabilitation Act

CICS PA for z/OS V1.3 is capable, when used in accordance with IBM associated documentation, of satisfying the applicable requirements of Section 508 of the Rehabilitation Act, provided that any assistive technology used with the product properly interoperates with it.

Product positioning

In an increasingly complex and competitive business environment, managers, system programmers, application developers and performance specialists come under pressure to operate their systems at peak level. Adoption of e-business strategies leads to more complex CICS business-critical applications, increasing the risk of missing Service Level commitments. CICS customers need tools to help them avoid outages and reduce downtime, while keeping systems-management costs down. They need the ability to report on their CICS systems and applications, assessing the impact of changes, to anticipate and solve trends leading to poor CICS performance, and to take action rapidly when problems occur in order to minimize any downtime or performance degradation. They need to plan carefully for growth to reduce the total MIPS cost and meet Service Level commitments.

CICS PA for z/OS V1.3 is a CICS system and application performance reporting and analysis solution built to address the needs of everyone involved in CICS performance analysis and CICS systems tuning and planning capacity for future use, including those who build, manage, and deploy complex mainframe CICS applications.

CICS PA provides the level of detail and flexibility that helps easily find new ways to improve CICS system performance, lower maintenance costs, and strategically plan IT investments.

CICS PA can help:

- Reduce cost associated with time and effort required to analyze performance data, perform tuning and capacity planning analysis
- Take a proactive approach to CICS systems tuning with:
  - Summary reports which are easy to review on a daily basis to identify where specific in-depth analysis is needed
  - Detailed analysis to help take preventive tuning action in a timely manner
- Provide detailed performance bottleneck analysis
- Uncover trends leading to poor CICS performance or even outages before they have any effect on the system performance
• Enable capacity planning for optimal performance
• Identify potential to improve application design and review application performance before these applications go into production

CICS PA complements your online monitoring tools, as it can help to respond quickly to online performance issues by drilling down deeply into CICS performance data to identify the cause of the problem. CICS PA also complements the enterprise-wide historical performance capabilities of IBM Tivoli Decision Support for OS/390 with the additional deep and detailed CICS-related performance data, which can be used for focused CICS performance problem determination, bottleneck analysis, tuning and capacity planning.

In summary, CICS PA delivers the following benefits:

• Ease of installation, set up, and use
  - Requires no additional set-up or customization, as CICS PA uses your existing SMF data
  - Familiar CICS terms and concepts
  - Comes with over 100 pre-supplied reports to help you get started quickly
  - Provides a comprehensive ISPF dialogue to manage and tailor reports

• Powerful and flexible analysis capabilities
  - Detailed and summary reports on all aspects of CICS system activity and resource usage
  - Ability to tailor reports easily to display data in the order and format needed
  - Extensive online help to enable easy CICS PA operation and maintenance

• Comprehensive data coverage and a variety of reports on all aspects of CICS performance, also covers CICS-related DB2, IMS, MVS Logger and WebSphere MQ performance data

• Customizable extracts capability
  - Export for importing into PC tools and DB2
  - Record selection for filtering large SMF files to improve speed of processing

• Historical database for trend analysis

• Full support for all the new performance data introduced in CICS TS for z/OS V2.2 and V2.3

CICS PA is a part of the zSeries® Enterprise tools portfolio supporting the CICS environment, which can help you maintain a high level of performance and availability of CICS, and help speed up the overall end-to-end development effort for new applications. This is an integrated suite of tools to help you easily control your critical CICS applications and systems availability and performance, as well as extend your applications into the e-business on demand™ world.

### Reference information

For information on CICS PA for OS/390 V1.2, refer to Software Announcement 202-044, dated February 26, 2002.

For information on CICS PA for OS/390 V1.1, refer to Software Announcement 201-143, dated May 8, 2001.

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### Publications

**CICS PA documentation and Redbook information**

- CICS Performance Analyzer for z/OS V1.3 — User’s Guide (SC34-6307)
- CICS Performance Analyzer for z/OS V1.3 — Report Reference (SC34-6308)
- CICS Performance Analyzer for z/OS V1.3 — Program Directory (GI10-2570)
- Redbook: CICS Performance Analyzer Release 3 (SG24-6063)

Where applicable, the books have been updated for the new function. These books are available in PDF format for download. However, the Program Directory is delivered in hardcopy with the product.

In addition, the system logger Redbook and the supporting Redpaper discuss and show the use of CICS PA. These are:

- Systems Programmer’s Guide to z/OS System Logger (SG24-6898)
- Performance Considerations and Measurements for CICS and System Logger (REDP-3768)