IBM CICS Performance Analyzer for z/OS V1.4: New CICS statistics analysis capabilities and support for CICS Transaction Server for z/OS V3.1

Overview

CICS® Performance Analyzer (CICS PA) for z/OS® V1.4, a powerful off-line reporting tool, produces a wide range of reports and extracts that help tune and manage your CICS systems, as well as plan capacity for future use.

CICS PA can help:

- Improve CICS system resource usage
- Evaluate the effects of CICS system tuning efforts
- Improve transaction response times
- Analyze CICS application performance
- Enable faster resolution of online problems
- Provide ongoing system management and measurement reports
- Increase the productivity of system and application programmers
- Provide awareness of usage trends, assisting in future growth estimates

The CICS PA reports analyze all facets of your CICS systems, including:

- Transaction response time, CICS system and transaction resource usage
- Cross-system performance analysis, including CICS and DB2® systems
- External subsystems, including DB2 and IMS™ Database Control (DBCTL)
- MVS™ Workload Manager (WLM)
- DB2 reports using DB2 accounting data (System Management Facility [SMF] 101 records)
- WebSphere® MQ reports using WebSphere MQ accounting data (SMF 116 records)
- MVS Logger reports using the System Logger data (SMF 88 records)

Additional reporting functions

- An easy-to-use and enhanced interactive system productivity facility (ISPF) dialog to build, maintain, and submit report requests
- Powerful report formatting, record selection, and sorting capabilities that enable you to tailor the report content, format, and order of the information in your reports
- A history database capability that presents both short- and long-term history data for performance problem determination, trend analysis, and capacity planning
- An online reporting facility for CICS statistics data either directly from an unloaded SMF data set or from a CICS PA historical database (HDB)
- Comprehensive and customizable extract capabilities that enable you to analyze CICS system performance from either your PC workstation, or from DB2

Key prerequisites

CICS PA for z/OS V1.4 runs with:

- CICS TS for z/OS V3.1 (5655-M15)
- CICS TS for z/OS V2.2 and V2.3 (5697-E93)
- CICS TS for OS/390® V1.3 (5655-147)

At a glance

CICS PA for z/OS V1.4 can help optimize system and application performance by:

- Providing comprehensive performance reporting for your CICS systems
- Helping tune, manage, and plan CICS systems effectively

New in V1.4:

- Supports CICS statistics
- Supports CICS Transaction Server (CICS TS) for z/OS V3.1
- Enhances performance summary report
- Enhances historical database (HDB)
- Shares system definitions

For ordering, contact:
Your IBM representative, an IBM Business Partner, or the Americas Call Centers at 800-IBM-CALL
Reference: SE001

Planned availability date

March 18, 2005

This announcement is provided for your information only. For additional information, contact your IBM representative, call 800-IBM-4YOU, or visit the IBM home page at: http://www.ibm.com.
CICS PA analyzes the System Management Facilities (SMF) records created by the CICS Monitoring Facility (CMF), CICS Statistics, CICS Server Statistics, 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 detail all transactions processed, with the information presented in the format and order that you want.
- Transaction activity reports can be tailored to produce a detailed analysis and comprehensive overview of transaction performance.
- CICS system and resource usage reports from the CICS statistics data show the performance and utilization of your CICS system and their resources, including reports for the CICS temporary storage, coupling facility data table, and named counter data sharing servers.
- Resource usage reports show the performance and utilization of your CICS system resources by your CICS transactions, including:
  - Transactions and programs
  - Files
  - Temporary storage
  - Transient data
  - Journals and log streams
  - Virtual storage
  - Terminals
  - Basic Mapping Support (BMS) maps
  - Secure Sockets Layer (SSL)
  - CICS Web support
  - Program channel usage
  - Channel container usage
  - Java™ Virtual Machine (JVM) support
- Cross-system work reports combine the CMF data from all of your CICS systems to evaluate the performance of Multi-Region Operation (MRO) and Advanced Program-to-Program Communication (APPC) transactions.
- Transaction resource usage reports show, at a transaction-level, the individual file and temporary storage queue resources accessed by a transaction.
- Workload activity reports 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 (SMF 116 records) to provide a detailed performance analysis of the CICS transactions that access an WebSphere MQ external subsystem.
- Performance wait analysis report deliver 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 report allows you to export transaction performance data to DB2 or your PC workstation for further analysis and graphical representation.
- Exception reports list and summarize CICS Exception Events that impact the performance of your CICS systems.

**Historical database**

The CICS PA HDB provides a flexible and easy-to-use facility for collecting and managing historical performance data for your CICS system. 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 statistics-type HDB, which allows the collection of CICS statistics and CICS server statistics data.
- A powerful and flexible definition facility for the historical data repositories.
- Comprehensive reporting facilities.
- A facility to optionally load performance and statistics history data into DB2 for further analysis and reporting using DB2 reporting tools such as, Query Management Facility (QMF™).
- A facility to optionally extract performance and statistics history data into comma-separated-variable (CSV) format data sets. This will allow the user to analyze both performance and statistics data off-host using a PC spreadsheet or database tool. This facility can also be used to extract performance data that can be imported by products such as Tivoli® Decision Support Accounting Workstation for z/OS for accounting and chargeback purposes.
- 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 request the information that you want, in the order that you want it.

**Interactive System Productivity Facility (ISPF) user interface**

- Offers 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 a basis for the formatting 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 online reporting facility for CICS statistics data either directly from an unloaded SMF data set or from a CICS PA historical database (HDB)
• Provides an upgrade capability for quick migration to new releases of CICS TS
• Is CUA®-compliant

**What's new in CICS PA V1.4?**

**CICS statistics support:** CICS PA now provides comprehensive reporting and analysis of CICS statistics and CICS server statistics data. This major new function includes:

• An online statistics reporting facility using the CICS PA ISPF dialog to provide comprehensive analysis and reporting capabilities of CICS statistics data either directly from an unloaded SMF data set or from a CICS PA HDB. This reporting facility includes the following features:
  - Tabular reporting, sorting by field (column)
  - Forms to design personalized reports
  - Hyper-links to jump directly to related reports
  - Print facility, either to a data set or to SYSPUT

• V1.4 now offers the ability to collect CICS statistics data into a CICS PA HDB. Facilities are provided to either export data to a DB2 table or to extract data into CSV format data sets. Historical statistics data can also be reported using the online statistics reporting facility.

• V1.4 supports CICS statistics data from CICS Transaction Server for z/OS V2.2, or later.

**CICS Transaction Server for z/OS V3.1 support:** This support includes a significant number of enhancements in order to report on the new performance and statistics data recorded by CICS TS V3.1, including:

• 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 wait analysis report
  - Additional performance summary report and extract sort by keywords
  - Additional performance listX report sort by and limit keywords
  - Performance totals report
  - 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.
• Support is provided for the new and enhanced CICS statistics data, including data for the new URIMAP, PIPELINE, and WEBSERVICE resources.

• These enhancements provide CICS PA customers with the ability to analyze their new CICS TS 3.1 performance and statistics data to easily assess the performance of their applications that exploit the new functionality provided in CICS Transaction Server V3.1.

**Performance summary report enhancements:** The CICS PA performance summary report has been significantly enhanced in this release to provide the following new functions:

• An optional sub-total level can now be specified. Sub-totals at each sort key break in the report can be excluded if not required.

• An optional grand-total line can be printed at the end of the report, summarizing the report data for each field.

• The maximum number of sort keys has been increased from three to eight.

• Each sort-key field can have its own sorting sequence, either ascending or descending, which can be mixed. Therefore, each key subfield is sorted within its parent-key field sorting sequence.

• Numeric field ordering (for example, order the report by response time). The report is sequenced by default in sort key order (for example, transaction ID). Now the report can be sequenced in ascending or descending numerical field order (for example, response time). The transactions with the highest response time are printed at the top of the report, quickly pinpointing potential performance problems.

• The maximum sort key-field length has been increased from 8 to 255 characters to support long fields.

• Time-stamped fields can optionally be reported as date and time.

**HDB enhancements**

The CICS PA HDB is enhanced to provide the following new functions:

• A new type of HDB called the Statistics HDB allows the collection of CICS Statistics and CICS Server Statistics data. Statistics HDBs are reported using the online statistics reporting facility.

• A facility to optionally extract performance and statistics history data into CSV format data sets suitable for off-host reporting via a spreadsheet or PC reporting tool.

• HDB Load requests are now audited in the HDB Register to prevent duplicate container data sets being generated. Audit information can be viewed from the HDB function in the CICS PA ISPF dialog. Expired audit records are removed from the Register via the HDB Housekeeping process.

**Shared system definitions**

• Shared system definitions provide the ability for all CICS PA users to share their CICS system and related subsystem definitions. Based on CICS PA 1.3 personal system definitions, shared system definitions are saved in the HDB register and are available to all users of the HDB register. Take-up (auto-discovery) of shared system definitions can either be from personal system definitions or from an SMF file, and at report run-time. Users can specify whether to use personal or shared definitions when submitting their report sets for execution.
A new automated SMF file selection facility provides time-based SMF file for reporting purpose, removing the requirement to explicitly specify SMF file data set names in the personal system definitions. Shared-system definitions provides two new SMF file types:

- Cyclic — GDG data set definitions for multiple generations of periodic SMF data, for example, daily, weekly, or monthly SMF files.
- Daily — Daily SMF files, built from the SMF dump process, containing SMF for a particular period of time during the current day. Expired daily SMF files are removed from the HDB register during the HDB process.

CICS PA report-set submission will use these definitions to generate the required SMF file data set DD statements for the requested reporting time interval.

Other enhancements

- The Record Selection Extract has been enhanced to support all the CICS SMF 110 record types, as well as DB2 SMF 101 records, WebSphere MQ SMF 116 records, and System Logger SMF 88 records.
- Report Sets have been enhanced to provide the ability to specify one or more HDB Load requests in a Report Set.
- The CICS PA ISPF dialog has been enhanced to provide the FIND command for selected member lists; including: Report Sets, Report Forms, Sample Report Forms, Object Lists, and HDB.
- The CICS PA batch reporter for the performance list, listX, and summary reports have been enhanced to provide the ability to optionally increase the precision for numerical fields from the standard four decimal places to six (micro-seconds). In addition, storage fields can also be optionally converted from the standard bytes to kilobytes (KB) or megabytes (MB).
- The Cross-System work report has been enhanced to provide a post sort unit-of-work selection criteria that can be applied to any record within the unit-of-work.

Accessibility by people with disabilities

The following features support use by people with disabilities:

- Operation by keyboard alone
- Tested with screen readers and screen magnifiers for use by people with visual impairment
- Optional font enlargement and high contrast display settings
- Audio alerts are optional for people with hearing difficulties

You can perform most tasks required to set up, and run CICS Performance Analyzer using a 3270 emulator logged onto TSO.

IBM Personal Communications (V5.0.1 for Microsoft® Windows™ 95, Windows 98, Windows NT™, and Windows 2000; V4.3 for OS/2®) provides 3270 emulation with accessibility features for people with disabilities. You can use this product to provide the accessibility features you need for accessing your CICS system.

Users with limited vision who work with screen reader software might find the following require particular attention:

- The Performance Graph Reports
  - These reports are composed of character output. Screen readers can report all of these to you but they are unlikely to convey the overall impression of the graph.
  - All the data used to produce Performance Graph Reports is available from CMF performance class data. You might find it more helpful to work with, for example, the Performance Summary reports or the Performance Export Extract.
- Pop-up windows
  - CICS PA uses the ISPF function that produces pop-up windows for some tasks. The pop-up and its frame are just the text that overlays the underlying information of the displayed panel. The frame of such a pop-up is not usually recognized as such by screen reader software, so you may need to gain some familiarity with reading such panels before information becomes meaningful.

A version of the product documentation, which is more suitable for use with screen reader software, can be made available on request.

Section 508 of the U.S. Rehabilitation Act

CICS PA for z/OS V1.4 is capable as of March 18, 2005, 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.

Value Unit-based pricing

Value Unit pricing for eligible IBM ® Server® zSeries® IPLA programs enables a lower cost of incremental growth and enterprise aggregation. Each zSeries IPLA product with Value Unit pricing has a single price per Value Unit and a conversion matrix, called Value Unit Exhibit, for converting from some designated measurement to Value Units. Most commonly Millions of Service Units (MSUs) is the measurement designated by IBM to be converted to Value Units. Some other measurements are engines or messages. Since MSUs are the most common measurement, that measurement will be used for the remainder of this description.

Value Unit pricing offers price benefits for customers. For each zSeries IPLA program with Value Unit pricing, the quantity of that program needed to satisfy applicable IBM terms and conditions is referred to as the “required license capacity.” Each of the various Value Unit Exhibits stipulate that the larger your required license capacity, the fewer Value Units per MSU you will need. Value Unit Exhibits are uniquely identified by a three-digit code and referred to using the nomenclature VUExxx, where xxx is the three-digit code.

Subsequent acquisitions of Value Unit priced programs offers additional price benefits for customers. The quantity of each zSeries IPLA program that you have acquired is referred to as “entitled license capacity.” If you wish to grow your entitled license capacity for a zSeries IPLA program, the calculation to determine additional needed Value Units is based upon the number of Value Units already acquired.

For each zSeries IPLA program with Value Unit Pricing, you should:

- Determine the required license capacity, in MSUs
• Aggregate the MSUs across the enterprise
• Convert the total MSUs to Value Units, using the applicable Value Unit Exhibit
• Multiply the price per Value Unit by the total number of Value Units to determine the total cost

To simplify conversion from the designated measurement to VUs or vice-versa, use the Value Unit Converter Tool. For additional information or to obtain a copy of the Value Unit Converter Tool, visit the Value Unit Converter Tool Web site

http://ibm.com/zseries/swprice/vuctool

Note that Value Units of a given product cannot be exchanged, interchanged, or aggregated with Value Units of another product.

To determine the required license capacity for the zSeries IPLA program you selected, refer to the Terms and conditions section.

**IPLA and Subscription and Support considerations**

IPLA licenses can be transferred from one machine to another within, but not limited to, an enterprise. The customer may aggregate the capacity for all the processors the product is operated on to achieve a more economic price. This will result in a single Proof of Entitlement. It is the customer’s responsibility to manage the distribution of Value Units within the limits of the entitlement of the product license.

Subscription and Support must cover the same capacity as the product license entitlement. Subscription and Support will be available in the country in which the agreement is made.

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**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 on demand 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 V1.4 is a CICS system and application performance reporting and analysis solution built to address the needs of everyone involved in CICS performance analysis, CICS system 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 easily helps find new ways to improve CICS system performance, lower maintenance costs, and strategically plan IT investments.

CICS PA can help:

- Reduce time and effort required to analyze performance data, perform tuning, and capacity planning analysis
- Take a proactive approach to CICS performance problem analysis and capacity planning 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 preventative tuning action in a timely manner
- Increase availability of resources
- Provide awareness of usage trends, assisting in future growth estimates
- Identify potential to improve application design and review application performance before these applications go in 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 z/OS 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 setup or customization
  - Familiar CICS terms and concepts
  - Comes with over 120 supplied reports to help you get started quickly
  - Provides a comprehensive ISPF dialog to manage and tailor reports
- Powerful and flexible analysis capabilities
  - Statistics reports to help improve system and resource usage
  - Detailed and summary reports on all aspects of CICS system activity and resource usage
  - Ability to tailor your 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 performance problem analysis and capacity planning
- Full support for all the new performance data introduced in CICS TS for z/OS V3.1

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 business on demand world.

**Business Partner information**

If you are a Direct Reseller - System Reseller acquiring products from IBM, you may link directly to Business Partner information for this announcement. A PartnerWorld ID and password are required (use IBM ID).

BP Attachment for Announcement Letter 205-040


**Trademarks**

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Offering Information

Product information is available via the Offering Information Web site

http://www.ibm.com/common/ssi

Publications

The following publication is shipped with the product:

<table>
<thead>
<tr>
<th>Title</th>
<th>Order number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program Directory: CICS® Performance Analyzer V1R4</td>
<td>GI10-2570</td>
</tr>
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</table>

The following publications are available softcopy in .pdf format to download from the Internet.

<table>
<thead>
<tr>
<th>Title</th>
<th>Order number</th>
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<tbody>
<tr>
<td>CICS Performance Analyzer — User’s Guide</td>
<td>SC34-6307</td>
</tr>
<tr>
<td>CICS Performance Analyzer — Report Reference</td>
<td>SC34-6308</td>
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<tr>
<td>The IBM Publications Center Portal</td>
<td></td>
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<tr>
<td><a href="http://www.ibm.com/shop/publications/order">http://www.ibm.com/shop/publications/order</a></td>
<td></td>
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<tr>
<td>IBM Tools: CICS Performance Analyzer</td>
<td>SG24-6063</td>
</tr>
<tr>
<td>Release 3</td>
<td></td>
</tr>
</tbody>
</table>

Order from


Technical information

Specified operating environment

Hardware requirements: CICS PA V1.4 runs on any S/390® or IBM zSeries® machine on which the applicable operating and software will run.

Software requirements: CICS PA V1.4 requires System Modification Program/Extended (SMP/E) of the supported z/OS® or OS/390® system (5655-G44) for installation and maintenance. It operates with the following CICS configurations:

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

The following products are also required:

- IBM ISPF V5.2 (5694-A01), or later
- Data Facility Sort (DFSORT™) V1.13 (5740-SM1) or later, or an equivalent sort product

Compatibility: The ability to analyze CICS SMF 110 data from CICS/ESA® V4.1. CICS Transaction Server for OS/390 V1.1 and V1.2 will be removed in the next release of CICS PA for z/OS.

User group requirements: This announcement satisfies or partially satisfies requirements from one or more of the worldwide user group communities. Groups include COMMON, COMMON Europe, Guide Share Europe (GSE), InterAction (Australia/New Zealand), Japan Guide Share (JGS), and SHARE Inc.

Requirement number Description
MR0122012821 Allow PA to process CICS Statistics records
MR102703532 Allowing Sorting and Selection on Response Times Avg, Max, Min, Dev
MR0122012821 Needs Extract function that will include all CMF classes
MR0525046213 Add ORIGIN to Summary Report Forms in CICS PA
MR0607045020 CICS PA needs to specify RECFM=VBS on the DCB for SMFINnnn
MR052504451 Provide TRANGROUP Summary without Detail (alternative solution is now available)

Planning information

Packaging

The product package contains:

- The run-time component of the product on 3480 1/2-inch tape cartridge via Customized Offerings
- Program Directory (GI10-2570)
- License Information (GC34-5973)
- IBM International Program License Agreement (IPLA) Booklet (Z125-3301)
- Proof of Entitlement (PoE)

Note: CICS PA V1.4 is not supplied on magnetic tape 9-track 6250 bpi or on 4-mm DAT cartridge.
Security, auditability, and control

IBM CICS PA for z/OS V1.4 uses the security and auditability features of the supported underlying operating systems. The customer is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communication facilities.

Ordering information

CICS Performance Analyzer for z/OS V1.4 is an IPLA product with a single charge — based on Value Units. The product has an associated orderable Software Subscription and Support, required in order to provide the same level of support as is delivered with standard IBM S/390 ICA offerings, including voice defect support, together with code updates. It has a single annual charge which, if ordering, must be purchased in the same quantity as CICS PA.

CICS Performance Analyzer for z/OS V1.4 replaces CICS Performance Analyzer for z/OS V1.3, which will no longer be available after the general availability of CICS Performance Analyzer for z/OS V1.4.

The programs in this announcement all have Value Unit-Based pricing.

<table>
<thead>
<tr>
<th>Program number</th>
<th>Program name</th>
<th>Value Unit Exhibit</th>
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<tbody>
<tr>
<td>5655-F38</td>
<td>CICS Performance Analyzer for z/OS</td>
<td>VUE007</td>
</tr>
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</table>

For each zSeries IPLA program with Value Unit pricing, the quantity of that program needed to satisfy applicable IBM terms and conditions is referred to as the "required license capacity." Your required license capacity is based upon the following factors:

- The zSeries IPLA program you select
- The applicable Value Unit Exhibit
- The applicable terms
- Whether your current mainframes are full-capacity or sub-capacity

Value Unit exhibit VUE007

<table>
<thead>
<tr>
<th>Value Unit exhibit VUE007</th>
<th>MSUs minimum</th>
<th>MSUs maximum</th>
<th>Value Units/MSU</th>
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<tbody>
<tr>
<td>Base</td>
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<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Tier A</td>
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<td>45</td>
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<tr>
<td>Tier B</td>
<td>46</td>
<td>175</td>
<td>0.36</td>
</tr>
<tr>
<td>Tier C</td>
<td>176</td>
<td>315</td>
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<tr>
<td>Tier D</td>
<td>316</td>
<td>+</td>
<td>0.2</td>
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Value Units for mainframes without MSU ratings:

<table>
<thead>
<tr>
<th>Hardware</th>
<th>Value Units/machine</th>
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<tbody>
<tr>
<td>MP3000 H30</td>
<td>6</td>
</tr>
<tr>
<td>MP3000 H50</td>
<td>8</td>
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<tr>
<td>MP3000 H70</td>
<td>12</td>
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<tr>
<td>ESL Models</td>
<td>2</td>
</tr>
</tbody>
</table>

Ordering example: The total number of Value Units is calculated according to the following example.

If your required license capacity is 1,500 MSUs for your selected zSeries IPLA product, the applicable Value Units would be:

Translation from MSUs to Value Units

<table>
<thead>
<tr>
<th>MSUs</th>
<th>Value Units/MSU</th>
<th>Value Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base</td>
<td>3</td>
<td>3.00</td>
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<tr>
<td>Tier A</td>
<td>42</td>
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<tr>
<td>Tier B</td>
<td>130</td>
<td>46.80</td>
</tr>
<tr>
<td>Tier C</td>
<td>140</td>
<td>37.80</td>
</tr>
<tr>
<td>Tier D</td>
<td>1,185</td>
<td>237.00</td>
</tr>
</tbody>
</table>

Total: 1,500 = 343.50

When calculating the total number of Value Units, the sum is to be rounded up to the next integer.

Ordering z/OS through the Internet

ShopzSeries provides an easy way to plan and order your z/OS ServerPac or CBPDO. It will analyze your current installation, determine the correct product migration, and present your new configuration based on z/OS. Additional products can also be added to your order (including determination of whether all product requisites are satisfied). ShopzSeries is available in the U.S. and several countries in Europe. In countries where ShopzSeries is not available yet, contact your IBM representative (or IBM Business Partner) to handle your order via the traditional IBM ordering process. For more details and availability, visit the ShopzSeries Web site at http://www14.software.ibm.com/webapp/ShopzSeries/ShopzSeries.jsp

Basic license

On/Off Capacity on Demand: CICS Performance Analyzer for z/OS V1.4 is eligible for On/Off Capacity on Demand (On/Off CoD) with a Temporary Use Charge calculated based on MSUs-per day usage.

Program name: CICS Performance Analyzer for z/OS V1.4
Program PID: 5655-F38

Entitlement identifier | Description | License option/pricing metric
-----------------------|-------------|-----------------------------|
S00VJDG                | CICS Performance Analyzer for z/OS V1.4 | Basic OTC, Per MSU-day TUC

Value Unit pricing: To order, specify the program product number and the appropriate license or charge option. Also, specify the desired distribution medium. To suppress shipment of media, select the license-only option in CFSW.

Program name: IBM CICS Performance Analyzer for z/OS
Program PID: 5655-F38

Entitlement identifier | Description | License option/pricing metric
-----------------------|-------------|-----------------------------|
S00VJDG                | CICS PA     | Basic OTC, Value Units      

Orderable supply ID: Language Distribution medium

S00VHXL                | English     | 3480 tape
Subscription and Support PID: 5655-G43

Entitlement identifier | Description | License option/ pricing metric
--- | --- | ---
S00VH52 | CICS PA S&S | Value units

Orderable supply ID: Language | Distribution medium
--- | ---
S00VHK6 | English | Paper

Subscription and Support: To receive voice technical support via telephone during normal business hours and future releases and versions at no additional charge, Subscription and Support must be ordered. The capacity of Subscription and Support (Value Units) must be the same as the capacity ordered for the product licenses.

To order, specify the Subscription and Support program number (PID) referenced above and the appropriate license or charge option.

IBM is also providing Subscription and Support for these products via a separately purchased offering under the terms of the IBM International Agreement for Acquisition of Support (IAAS). This offering:

- Includes and extends the support services provided in the base support to include technical support via telephone during normal business hours.
- Entitles customers to future releases and versions at no additional charge. Note that the customer is not entitled to new products.

When Subscription and Support is ordered, the charges will renew automatically annually unless cancelled by the customer.

Customized Offerings

Product media is shipped only via Customized Offerings (for example, CBPDO, ServerPac, SystemPac®). Non-customized items (CDs, diskettes, source media, media kits) will continue to be shipped via the stand-alone product.

Terms and conditions

Licensing: IBM International Program License Agreement. Proofs of Entitlement (PoEs) are required for all authorized use.

These products are licensed under the IPLA, the associated Agreement for Acquisition of Support, and the Addendum for Support Z125-6435 which provides for support with ongoing access to releases and versions of the program. These programs have a one-time license charge for use of the program and an ongoing recurring charge for the enhanced support that includes telephone assistance (voice support for defects during normal business hours) as well as access to updates, releases, and versions of the program as long as support is in effect. S/390 and zSeries IBM Operational Support Services — Support Line is an option for those customers who desire added services.

Limited warranty applies: Yes

Money-back guarantee: If for any reason you are dissatisfied with the program, return it within 30 days from the invoice date, to the party (either IBM or its reseller) from whom you acquired it, for a refund. This applies only to your first acquisition of the program.

Copy and use on home/portable computer: No

Volume orders (IVO): No

Passport Advantage® applies: No

Software Maintenance applies: No

For Operating System software, the revised IBM Operational Support Services — SoftwareXcel offering will provide support for those operating systems and associated products that are not available with the newly announced Software Maintenance offering. This will ensure total support coverage for your enterprise needs, including IBM and selected non-IBM products. For complete lists of products supported under both the current and revised SoftwareXcel offering, visit http://www.ibm.com/services/sl/products

For additional information on the revised IBM Operational Support Services, refer to Services Announcement 601-023, dated July 10, 2001.

iSeries™ Software Maintenance applies: No

Variable charges apply: No

Educational allowance available: Yes, 15% education allowance applies to qualified education institution customers.

Sub-capacity terms and conditions

For each zSeries IPLA program with Value Unit pricing, the quantity of that program needed to satisfy applicable IBM terms and conditions is referred to as the “required license capacity.” Your required license capacity is based upon the following factors:

- The zSeries IPLA program you select
- The applicable Value Unit Exhibit
- The applicable terms
- Whether your current mainframes are full-capacity or sub-capacity

For more information on the Value Unit Exhibit for the zSeries IPLA program you selected, refer to the Ordering information section.

<table>
<thead>
<tr>
<th>Program number</th>
<th>Program name</th>
<th>Terms</th>
<th>Parent(s), if applicable</th>
</tr>
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<tbody>
<tr>
<td>5655-F38</td>
<td>CICS Performance Analyzer for z/OS V1.4</td>
<td>Reference-based</td>
<td>5655-147 5697-E93 5655-M15</td>
</tr>
</tbody>
</table>

Full-capacity mainframes: In cases where full-capacity is applicable, the following terms apply:

Reference-based: The required license capacity of a zSeries IPLA program with these terms equals the license capacity of the applicable monthly license charge (MLC) program. This MLC program is called the “parent” program.

Sub-capacity mainframes: In cases where sub-capacity is applicable, the following terms apply:
Reference-based: The required license capacity of a zSeries IPLA program with these terms equals the license capacity of the applicable monthly license charge (MLC) program. This MLC program is called the “parent” program.

For more information on mainframe MSU rated capacities, refer to The System/370 Machine Exhibit (Z125-3901) or visit the “Mainframes” section of the zSeries Exhibits Web site

http://ibm.com/zseries/library/swpriceinfo/

For more information on sub-capacity zSeries IPLA terms and conditions, refer to Software Announcement 204-184, dated August 10, 2004.

Additional Information for Products with Reference-Based Terms zSeries IPLA sub-capacity programs with reference-based terms adds value to the parent program across the environment, regardless of where in environment the zSeries IPLA program executes. An environment is defined as either a single/stand-alone machine or a qualified Parallel Sysplex®. Customers may have one or more different environments across their enterprise. To determine the required license capacity for each zSeries IPLA program with referenced-based terms, each environment should be assessed separately.

When a zSeries IPLA sub-capacity program with reference-based terms is used in a qualified Parallel Sysplex environment the required license capacity of the zSeries IPLA program must equal with the license capacity of the parent program across the Parallel Sysplex. Qualified Parallel Sysplex refers to one of the following:

1. That meets the criteria defined in Hardware Announcement 198-001, dated January 13, 1998
2. Where MLC pricing is aggregated across the Sysplex

Sub-capacity eligibility: To be eligible for sub-capacity charging on select zSeries IPLA programs, you must first implement and comply with all terms of either sub-capacity Workload License Charges (WLC) or sub-capacity Entry Workload License Charges (EWLC). To implement sub-capacity WLC or EWLC, a machine must be zSeries (or equivalent). On that machine:

• All instances of the OS/390 operating system must be migrated to the z/OS (or z/OS.e) operating systems
• Any licenses for the OS/390 operating system must be discontinued
• All instances of the z/OS operating (or z/OS.e) systems must be running in z/Architecture™ (64-bit) mode

For that machine, you must create and submit a Sub-Capacity Report to IBM each month. Sub-Capacity Reports must be generated using the Sub-Capacity Reporting Tool (SCRT). For additional information or to obtain a copy of SCRT, visit the zSeries Software Pricing Web site

http://ibm.com/zseries/swprice

You must comply with all of the terms of the WLC or EWLC offering, whichever is applicable.

• The complete terms and conditions of sub-capacity WLC are defined in the IBM Customer Agreement — Attachment for zSeries Workload License Charges (Z125-6516).
• The complete terms and conditions for sub-capacity EWLC are defined in the IBM Customer Agreement — Attachment for z800 and z890 Software License Charges (Z125-6587).

Additionally, you must sign and comply with the terms and conditions specified in the amendment to the IPLA contract — “Amendment for zSeries Platform Programs Sub-Capacity Pricing (Z125-6929-02 or higher).” Once the amendment is signed, the terms in the amendment replace any and all previous zSeries IPLA sub-capacity terms and conditions.

On/Off Capacity on Demand

To be eligible for On/Off Capacity on Demand pricing, customers must be enabled for temporary capacity on the corresponding hardware, and the required contract — Z125-6611, Attachment for Customer Initiated Upgrade and IBM @servew® On/Off Capacity on Demand — Software — must be signed prior to use.

Prices

The existing prices of CICS Performance Analyzer for z/OS are unaffected by this announcement. For price information, refer to previous announcements, or contact your IBM representative.

Information on charges is available at

http://www.ibmlink.ibm.com/

Select “United States” and then click on “IBMLink 2000.”

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