



# IBM Problem Determination Tools help expedite your move to smarter development

## Table of contents

<a href="#">1 Overview</a>	<a href="#">12 Publications</a>
<a href="#">2 Key prerequisites</a>	<a href="#">13 Technical information</a>
<a href="#">2 Planned availability date</a>	<a href="#">16 Ordering information</a>
<a href="#">2 Description</a>	<a href="#">22 Terms and conditions</a>
<a href="#">9 Product positioning</a>	<a href="#">27 Prices</a>
<a href="#">11 Program number</a>	<a href="#">29 Order now</a>

## At a glance

IBM® Problem Determination Tools are enhanced in V12 to include:

- Enhancements to the existing GUI plug-ins, including improved integration with platforms like CICS Explorer® and IMS™ Explorer
- An initial Workload Simulator GUI plug-in
- Enhancements to Java™ support
- Support for the latest IBM products such as CICS® TS V4.2, IMS V12, and DB2® V10
- Functional, usability, and performance enhancements, including new commands and new options

For ordering, contact your IBM representative, an IBM Business Partner, or IBM Americas Call Centers at 800-IBM-CALL (Reference: LE001).

## Overview

Make the most out of your IBM System z® platform investment and expedite your move to smarter development with the IBM Problem Determination Tools. These tools deliver support across the application development lifecycle, whether you are building new or enhancing existing applications. They can help you modernize and transform existing System z applications whether your goal is to:

- Develop and deploy new workloads to leverage the unique performance, availability, security, and cost benefits of the System z platform
- Increase your responsiveness to business requirements by enhancing your mainframe platform
- Optimize management of your IT environment, reducing cost and complexity while supporting your efforts to improve governance and compliance

IBM Problem Determination Tools deliver cost-effective and highly functional application performance analysis, source code debugging, application abend analysis, and data management capabilities. This powerful family of tools helps to improve application delivery throughout the development lifecycle. You can use them in a variety of z/OS® environments, such as CICS, IMS, DB2, and UNIX™ System Services.

## Members of the family

- **IBM Application Performance Analyzer for z/OS V12.1 (5655-W71)** helps developers and systems personnel tune applications and resolve performance constraints.
- **IBM Debug Tool for z/OS V12.1 (5655-W70)** helps developers debug applications running in a variety of environments, such as batch, TSO, CICS, IMS, DB2, DB2 Stored Procedures, and UNIX System Services.
- **IBM Fault Analyzer for z/OS V12.1 (5655-W69)** assists developers in analyzing and fixing application and system failures. It offers developers information to help determine the cause of a failure and assist in resolving the problem.
- **IBM File Manager for z/OS V12.1 (5655-W68)** delivers comprehensive, user-friendly tools for working with z/OS, CICS, DB2, IMS, or WebSphere® MQ data. The developer can create, browse, copy, edit, print, and format or reformat data files in the most popular System z file formats.
- **IBM Workload Simulator for z/OS V1.1 (5655-I39)** can simulate a network of terminals and its associated messages. It is ideal for stress, performance, regression, function, and capacity planning tests.

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## Key prerequisites

For details, refer to the [Hardware requirements](#) and [Software requirements](#) sections.

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## Planned availability date

Application Performance Analyzer V12.1, Debug Tool V12.1, Fault Analyzer V12.1, and File Manager V12.1:

- May 11, 2012: English version
- June 8, 2012: Japanese and Korean versions

The Workload Simulator Plug-in V1.1 will be available for download, in English only, on May 11, 2012.

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## Description

### Application Performance Analyzer for z/OS V12.1

- Enhancements to sampling include:
  - Improved accuracy of CICS and DASD reports.
  - In CICS, the DB2+ data extractor intercepts only those DB2 calls involved in the selected transaction or from the selected terminal, including those in collateral DB2 stored procedures.
  - In CICS, the IMS+ data extractor intercepts DLI calls involved only in the selected transaction or from the selected terminal.
  - In IMS, the DB2+ data extractor intercepts DB2 calls involved only in the selected transaction, program, or user, including those in collateral DB2 stored procedures.
  - Reduced memory requirement.
  - New SMF Record exit captures SMF type 120 subtype 9 records for WebSphere activity, and type 101 records for DB2 accounting data.
  - New messages for abnormal termination of APA and Listener started tasks.
  - Support added for CICS TS 4.2, including running a single JVM, Java 6.0.1, and IMS 12.
- Enhancements to the ISPF observation list include:
  - Indicate when sample files are about to be auto-deleted.

- Support "+" and "-" commands on ReqNum heading to expand/collapse all observations in the list.
- Support use of "%" when filtering the observation list.
- Enhancements to the NEW command include:
  - New DDF thread selection criterion based on corrid, authid, or workstation.
  - New WAS data extractor for measuring activity processed by a selected WebSphere controller address space.
  - New WebSphere selection criterion based on request, application, or origin.
  - New WebSphere selection criterion to filter out image files and specific file extensions.
- Enhancements to reporting include:
  - Display formatted SQL in DB2 report detail windows.
  - Display SQL function for Remote SQL in DB2 reports.
  - Display IMS subsystem and tranocode, program, or user in S01 report and R02 detail window.
  - Add DB2 Class 3 Wait report.
  - Add option in S03 to combine duplicate modules.
  - Disable expansion of very large wait reports.
  - Support new COBOL SYSDEBUG interface.
  - Add WebSphere activity reports.
  - Expand recommendations in S09 report to include:
    - Assess whether VSAM shareoption 4 is appropriate.
    - Consider a VSAM reorg and increase in CI/CA freespace because excessive CI/CA splits were found.
    - Consider additional VSAM buffers because excessive EXCPs were found.
    - Consider additional processors because zAAP on CP or zIIP on CP exists.\*
    - Running a DB2 Explain when long-running SQL found.
- Enhancements to the listener started task to restrict TCP/IP stack monitoring to specific IP stacks based on a new configuration option.
- Enhancements to the GUI plug-in include:
  - Integration with z/OS Explorer credentials and connections.
  - Additional preferences to match those available in ISPF.
  - Support for mixed case password and password phrases.
  - Support for SSL.
  - Support for new logging level preferences of off and fatal.
  - Display warning/error message text along with the message number.
  - In the Observation List, separate the downloaded reports icon from the request number column into a new sortable column.
  - New Observation List column displays the number of days left to sample file deletion.
  - Sticky notes added in observations and individual reports.
  - Email a report.
  - Save/browse current view of report as HTML.
  - DB2 SQL extract (for input to DB2 or Visual Explain products).
  - Support for sample file import/export.
  - Produce PDF and XML reports on users' workstations.
  - Support for access to source stored in third-party repositories.

### **Debug Tool for z/OS V12.1**

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- Startup at subprogram boundary.

Delay debug mode is added, enabling Debug Tool to operate in a dormant state until a compile unit of interest to the user becomes active. Delay debug mode is valid for non-CICS programs written in Enterprise PL/I or Enterprise COBOL. When delay debug is on, Debug Tool delays starting the initialization for the debugging session until a compile unit matching the program naming pattern in the delay debug profile is found. That matched compile unit is started using the TEST runtime options in the delay debug profile.

- Dynamic debugging supports applications using XPLINK linkage.

You can now debug non-CICS C and C++ applications that use XPLINK linkage without having to insert compiled-in hooks. Additional benefits include smaller load modules, enhanced performance, and improved interaction between Java-based applications and COBOL, PL/I, and Assembler.

- User exits are consolidating into one.

The three Debug Tool Language Environment® user exits (EQADBCXT, EQADDCXT, and EQADICXT) are merged into a single one: EQAD3CXT. The existing user exit routines are still supported for upward compatibility and to help users transition to the consolidated user exit.

- Enhanced remote communication security.

This enhancement enables encrypted communication between Debug Tool and remote debug mode for better privacy and integrity. The enablement uses the Secure Sockets Level (SSL) protocol and digital certificates.

- DTCN enhancement prevents a non-owner from deleting a profile.

The 3270 BMS DTCN transaction checks to see if users are authorized to delete or modify other owners' profiles, and rejects unauthorized attempts.

- DTCN profile plug-in is integrated with CICS objects in the CICS Explorer.

This provides a new mechanism to create or manage a DTCN profile when you want to debug a transaction or program. With the mouse you can right-click on either a transaction in the Transactions view or a program in the Programs view in the CICS Explorer and choose one of the actions: Update Profile or Manage Profile.

- Code Coverage enhancement to monitor sessions.

The Coverage Utility increases the number of monitor sessions from 32 to 256.

- Set list by subscript for remote.

You can specify a SET LIST BY SUBSCRIPT command to control the display format when you view a COBOL array. You can change it to display as it is stored in memory. This enhancement is for remote debug mode only.

- Prevent duplicate entries in Monitor table.

Previously, Debug Tool allowed duplicate monitor commands to be entered. Now users can prevent duplicate monitor definitions. This enhancement potentially saves space in the monitor window and in the monitor commands list.

- Prevent display of local variables outside of a valid scope.

Debug Tool does not establish a Monitor command for Monitor Local List expression if one or more variables are not defined in the specified compile unit. This enhancement reduces unnecessary information in the monitor window.

- Reduced storage overhead and performance for automonitor.

Storage overhead is reduced, and performance of automonitor is improved when you debug a program with large structures.

- Handle PL/I generic ENDFILE conditions.

PL/I conditions associated with file handling can now use a wildcard instead of users having to specify a file reference. Specifically, the AT OCCURENCE file\_condition(file\_reference) and ON file\_condition(file\_reference) commands are enhanced for Enterprise PL/I programs to support a wildcard for the

file\_reference. The wildcard indicates that the breakpoint is honored for all files that raise the ENDFILE condition.

- EQAOPTS DYNDEBUG command.

The EQAOPTS DYNDEBUG command is added so that you can specify an initial default for the SET DYNDEBUG command.

- %CHAR built-in function.

The %CHAR Debug Tool built-in function is added to enable you to display the result of an expression in EBCDIC format.

- NONLESP option for EQANMDBG.

The NONLESP option is added to EQANMDBG to enable you to direct Debug Tool to use a different storage subpool for its storage in cases where the program being debugged does a FREEMAIN of subpool 1 (where Debug Tool places its data by default).

- COMPOPTS parameter for load module analyzer.

A new parameter, COMPOPTS, is now supported by the load module analyzer. COMPOPTS lists the compiler options that are known at runtime to be listed for each CSECT in the load module.

- EQAOPTS QUIET keyword.

The new EQAOPTS QUIET keyword for the SVCSCREEN,OFF command can be used to suppress the message "EQA2458I SVC Screening is disabled by EQAOPTS. Handling of non-LE events is not available. Debugging of non-LE programs will be restricted in this Debug Tool session."

- EQAOPTS STARTSTOPMSG command.

The new EQAOPTS STARTSTOPMSG command tells Debug Tool whether to issue a message when each Debug Tool session starts and stops.

- Customization of site default data set names for new users.

The Debug Tool Utilities enable you to customize the site default data set name for new users for the options Debug Tool User Exit Data Set and Delay Debug Profile.

- Customization of site default data set name in the Terminal Interface Manager.

The Terminal Interface Manager now allows you to customize the site default data set name for the option "LE options data set".

- LOADDEBUGDATA command enhancement.

The LOADDEBUGDATA command has been enhanced to support %CU and %PROGRAM substitution for the cu\_name operand.

- UNIX System Services multi-process support.

POSIX multi-process support is enhanced for remote debug mode.

### **Fault Analyzer for z/OS V12.1**

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- Improvements to Eclipse plug-in:

- Subsystem \$\$INDEX cache access
- RACF® passphrase support added

- Java enhancements:

- Java information displays instance variable data.
- Java information is displayed from SVC or SDUMP analysis.

- Usability enhancements:

- Point-and-shoot-enabled abend codes are added to Fault Entry list display.
- Improved options display from Fault Analyzer-supplied CICS transaction.
- Consistency changes are made to UFM data structure.

- Expand/collapse function is added to COBOL level 88 items.
- General enhancements:
  - Display of C variables is added when using DWARF files.
  - GenerateSavedReport option is added, enabling the creation and saving of a saved report in a fault entry.
  - IDIRLOAD DDname support is added, allowing for extended CSECT mapping.
  - Options specification is added to the environment variables \_IDI\_OPTS and \_IDI\_OPTSFILE.
  - 64-bit registers and machine instruction operands are shown with report event details.

### **File Manager for z/OS V12.1**

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- File Manager plug-in enhancements include:
  - Support for manipulating data stored in z/OS data sets and UNIX System Services files, WebSphere MQ queues, CICS files, Transient Data queues, Temporary Storage queues, and DB2 databases.
  - Template editor enhancements for field-mapping support and easier invocation from dialogs and wizards.
- File Manager Base is enhanced with:
  - Formatted KSDS key
  - Picture support for edit and find/change command
  - WebSphere MQ 7.1 toleration
- File Manager DB2 enhancements include:
  - The SQL SELECT Statement Advanced Prototyper now supports DB2 V10 syntax.
  - The Object List utility shows columns added in DB2 V10.
  - The SQL Reverse Engineering code works with DB2 V10 systems.
  - Support is added for TIMESTAMP(n) and TIMESTAMP(n) WITH TIME ZONE data types.
  - An installation option is added to disable the use of DB2 scrollable cursors by the FM/DB2 editor, and to set a maximum for the number of rows in editor sessions.
  - Documentation of error messages used by the DB2 component is improved.
- File Manager IMS is enhanced to support IMS V12.

### **Workload Simulator Plug-in for Eclipse**

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An initial Workload Simulator plug-in is available. This plug-in, when used with an Eclipse-based platform such as CICS Explorer, helps provide easier access through a GUI on the workstation to the host Workload Simulator for z/OS product. The GUI provides the ability to manage the test process and automatically generate Workload Simulator scripts and networks from VTAM® and CPI-C trace data.

### **IBM Explorer for z/OS**

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IBM CICS Explorer for z/OS V1.1.1 is restructured to separate the CICS-specific perspectives and capabilities from the connectivity infrastructure and z/OS platform views to create a new, reusable component known as IBM Explorer for z/OS V1.1 (z/OS Explorer).

The Problem Determination Tools V12 plug-ins use the z/OS Explorer component. The z/OS Explorer component is seamlessly integrated with CICS Explorer, providing full compatibility for existing CICS Transaction Server (CICS TS) and CICS Tools perspectives, and enhanced usability by the Problem Determination Tools. z/OS Explorer is also embedded in IMS Enterprise Suite Explorer for Development V2.1.2, helping to give users of the Problem Determination Tools plug-ins a consistent user experience.

z/OS Explorer includes these functions:

- Connections

A common connections framework provides a consistent visual and programming experience for managing connections between plug-ins and server components such as CICS TS regions, DB2 databases, and tool servers. When plug-ins use the connection framework, users are prompted only once per session for their ID and password, even when accessing multiple tools on the same LPAR. A new Connection Management view replaces the modal preferences panel. Its enhanced capabilities include filtering, intelligent automatic naming, connection status, as well as the ability to define, edit, and export/import connection definitions.

Logon details, previously referred to as credentials, can now be associated with multiple connections in a single operation. Connection definitions can now be centrally defined and remotely accessed by individual Eclipse-based platforms with the z/OS Explorer component embedded (like CICS Explorer or IMS Explorer) without the need for them to be manually configured or imported by each user.

Users of the Problem Determination Tools V11 plug-ins must migrate their connection definitions to benefit from the common connection framework and the shared connection definitions.

- Access to z/OS resources

z/OS Explorer includes a perspective, views, and APIs to list, create, edit, and control z/OS datasets, partitioned datasets, zFS files and paths and to submit jobs and view JES spool output. When used in conjunction with z/OS releases V1.9 to V1.12, these capabilities require the File Transfer Protocol (FTP) server provided by IBM Communications Server.

Clients with z/OS V1.13, and later, can connect z/OS Explorer to z/OS System Management Facility (z/OSMF) V1.13 using its RESTful interface to perform the following tasks:

- Submit jobs
- Obtain the status of a job
- List the spool files for a job
- Retrieve the contents of a job spool file
- Cancel a job
- Purge a job from the JES spool

z/OSMF integration extends the capabilities provided by the current FTP connection to display spool output for active jobs, such as CICS regions, faster retrieval of spool output, and enhanced manipulation of jobs. A FTP connection is still required to access z/OS datasets and zFS files.

- Installation and deployment

CICS Explorer and the Problem Determination Tools plug-ins are available in a form suitable for installation using IBM Installation Manager, to facilitate easy integration with products such as Rational® Developer for System z and the IMS Explorer. The Eclipse P2 software update system is still supported, the IBM update sites are restructured, and URLs are now pre-loaded.

Java Web Start (JWS) technology can now be used to deploy the CICS Explorer executable from a network connection. When used in conjunction with shared connection definitions, JWS allows centralized rollout to large numbers of desktops from a single control point.

In addition to the new generic capabilities introduced with the z/OS Explorer, CICS Explorer V1.1.1 includes the following enhancements:

- Copying and pasting resource data to a spreadsheet.  
You can use the copy and paste function to copy resource data and paste it into a spreadsheet, or save the data as a comma-separated variable (csv) file.
- Exporting a file or folder to a z/OS UNIX file system.  
You can export a file, or a project containing one or more files, to a z/OS UNIX file system.
- Creating a new z/OS UNIX file.  
You can create a new file in a directory in your z/OS UNIX file system using the z/OS Explorer z/OS perspective
- Creating a new data set.  
You can create a new data set using the z/OS Explorer z/OS perspective. You can create a Partitioned Data Set (PDS), Partitioned Data Set Extended (PDSE or Library data set), or a Sequential data set.
- Support for CICS VSE.  
CICS Explorer now enables you to connect to a CICS VSE system.
- Create a new resource from an existing definition.  
With CICS Explorer you can create the attributes of an existing resource, and either create a new resource with the same attributes or a new version of the existing resource.
- See the contents resource definition group.  
With CICS Explorer you can display the resource definitions that are contained in a resource definition group.
- Support for multiple selection job submission from the z/OS Data Sets view.  
You can now select multiple batch data sets in the z/OS Data Sets view and submit them all at the same time.
- Support for deleting or purging multiple files in the z/OS Explorer.  
You can now select multiple files in the z/OS Data Sets view, the Jobs view, or the z/OS UNIX Files view, and delete or purge them all at the same time.
- Create a Job Submission project and JCL files, in the Project Explorer view in the resource perspective, while working offline.  
You can now create and edit a JCL file in your local workspace from the Resource perspective. You do not need an active system connection to create or edit the file.

(\*) IBM authorizes customers to use IBM Specialty Engines (SEs) only to execute the processing of Eligible Workloads of specific Programs expressly authorized by IBM as specified in the "Authorized Use Table for IBM Machines" provided at

[http://www.ibm.com/systems/support/machine\\_warranties/machine\\_code/aut.html](http://www.ibm.com/systems/support/machine_warranties/machine_code/aut.html)  
("AUT")

No other workload processing is authorized for execution on a SE. IBM offers SEs at lower price than full authorization General Processors/Central Processors because customers are authorized to use SEs only to process certain types and/or amounts of workloads as specified by IBM in the AUT.

### **Section 508 of the US Rehabilitation Act**

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The products in this announcement are capable as of its general availability, when used in accordance with IBM 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

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Value Unit pricing for eligible IBM System z IBM International Program License Agreement (IPLA) programs enables a lower cost of incremental growth and enterprise aggregation. Each System z 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 you. For each System z 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 offer additional price benefits. The quantity of each System z IPLA program that you have acquired is referred to as **entitled license capacity**. If you wish to grow your entitled license capacity for a System z IPLA program, the calculation to determine additional needed Value Units is based upon the number of Value Units already acquired.

For each System z 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 Value Units 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 website

<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 System z IPLA program you selected, refer to the [Terms and conditions](#) section.

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## Product positioning

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Problem Determination Tools include Application Performance Analyzer for z/OS, Debug Tool for z/OS, Fault Analyzer for z/OS, File Manager for z/OS, and Workload Simulator. These tools help ease the burden of managing complex IT environments. By helping to improve application delivery throughout the application life cycle, IBM Problem Determination Tools deliver increased user productivity and IT effectiveness across source code debugging, application-abend analysis, data management, and application-performance management.

Application Performance Analyzer for z/OS helps programmers and systems personnel to identify constraints and to improve the performance of their applications. It is a nonintrusive performance analyzer that helps you with the design, development, and maintenance cycles. Its key function is to measure and report how resources are used by applications running in virtually any IBM z/OS address space.

- Delivers easy-to-use function that facilitates isolation of performance problems in applications
- Helps pinpoint performance bottlenecks affecting online transaction-response times
- Assists in reducing batch application turnaround time
- Supports CICS, C/C++, Assembler, COBOL, PL/I, DB2, IMS, and WebSphere MQ
- Increases application understanding during stress and regression testing

Debug Tool for z/OS is the IBM interactive source-level debugging tool for compiled applications. It is a program testing and analysis aid that helps you examine, monitor, and control the execution of application programs written in C, C++, COBOL, PL/I, or Assembler on a z/OS system. It provides debugging capability for applications running in a variety of environments, such as batch, TSO, CICS, IMS, DB2, DB2 Stored Procedures, and UNIX System Services. Debug Tool also includes features to help you identify old OS/VS and VS COBOL II source code and to upgrade the code to Enterprise COBOL.

- Delivers a single debugging tool for batch, TSO, CICS, DB2, DB2 stored procedures, and IMS applications written in COBOL, PL/I, C/C++, and Assembler
- Includes tools to quickly identify and convert OS/VS COBOL code to ANSI 85 standard
- Supplies tools to help you determine how thoroughly your code has been tested

Fault Analyzer for z/OS assists in analyzing and fixing application and system failures. It offers the information required to help determine the cause of failure and provides assistance in how to resolve the problem. Integrated support for Java and WebSphere Application Server for z/OS gives Fault Analyzer expanded application coverage and related business value beyond traditional applications. You can use one tool to assist in composite application-abend analysis.

- Delivers a detailed report about program failures to help you resolve them quickly
- Includes a fault history file that lets you track and manage application failures and fault reports
- Lets you control which users can access history files by allowing you to store application failure information in separate files
- Offers a view of storage contents, trace tables, and terminal screen images at the time of failure to help speed corrective action
- Lets you customize message descriptions to be used in application failure reports
- Helps maximize flexibility through support for CICS, DB2, IMS, Enterprise PL/I, Enterprise COBOL, and WebSphere Application Server for z/OS systems

File Manager for z/OS offers comprehensive, user-friendly tools for working with z/OS data sets, or DB2, or IMS data. You can also access CICS resources under control of a CICS transaction. Create, browse, copy, edit, print, and format or reformat data files in the most popular z/OS file formats. Manipulate data using COBOL and PL/I record layouts interactively or in batch.

- Supports development and production through extensive editing, browsing, and batch and interactive utility capabilities
- Finds, copies, edits, prints, compares, and displays data quickly and easily
- Defines data-set records efficiently by using COBOL and PL/I copybooks stored in partitioned data sets or library-management systems
- Enhances usability by letting you customize which fields to display, copy, or print

Workload Simulator for z/OS and OS/390® lets you simulate terminals and the associated messages. You can alter message loads during a run. Workload Simulator can be used to generate large volumes of messages to evaluate the reliability and to approximate performance characteristics of a network under expected operating conditions.

- Delivers native support of multiple client applications that run on top of TCP/IP

- Includes System Network Architecture (SNA) logical units that can be simulated while executing as an IBM VTAM application program
- Includes Workload Simulator Test Manager that helps you develop and manage test cases, the automation of test runs, and the analysis of results
- Includes flexible script-generating utilities, extensive run-time utilities, and powerful post-test analysis utilities

These problem determination tools not only support traditional applications, but include tight integration amongst the problem determination tools themselves and other related tool sets, and an ongoing emphasis on supporting and exploiting the latest subsystem levels. These capabilities, in addition to the problem determination tools ongoing commitment to deliver additional customer-requested functions, make the problem determination tools a set of products which are second to none.

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## Program number

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Program number	VRM	Program name
5655-w71	V12.1	IBM Application Performance Analyzer for z/OS
5697-N38	V1.1	IBM Application Performance Analyzer Subscription and Support
5655-w70	V12.1	IBM Debug Tool for z/OS
5655-J19	V3.1	IBM Debug Tool Subscription and Support
5655-w69	V12.1	IBM Fault Analyzer for z/OS
5697-G59	V1.1	IBM Fault Analyzer Subscription and Support
5655-w68	V12.1	IBM File Manager for z/OS
5697-G60	V1.1	IBM File Manager Subscription and Support

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## Product identification number

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Program PID Number	Subscription and Support PID Number
5655-w71	5697-N38
5655-w70	5655-J19
5655-w69	5697-G59
5655-w68	5697-G60

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## Education support

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For information on web-based training, classroom-based training, on-site workshops and other educational resources available for the problem determination tools, refer to the IBM Education Assistant website

<http://publib.boulder.ibm.com/infocenter/ieduasst/stgv1r0/index.jsp>

## Business Partner information

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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).

<https://www.ibm.com/partnerworld/mem/sla.jsp?num=212-119>

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## Offering Information

Product information is available via the Offering Information website

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

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## Publications

For Application Performance Analyzer for z/OS V12.1 (5655-W71), the *Program Directory* (GI11-9490) and *Agreements and License Information* (SCD7-5605) are supplied automatically with the basic machine-readable material. No other hardcopy publications are shipped with the product.

The following optional publications will be available after product availability:

- Application Performance Analyzer for z/OS Messages Guide (SC14-7544)
- Application Performance Analyzer for z/OS Customization Guide (SC14-7546)
- Application Performance Analyzer for z/OS User's Guide (SC14-7545)

For Debug Tool for z/OS V12.1 (5655-W70), the *Debug Tool Program Directory* (GI10-8929), *CCCA Program Directory* (GI10-5080) and *Agreements and License Information* (SCD7-5802) are supplied automatically with the basic machine-readable material. For the Japanese version, the *CCCA Japanese Program Directory* (GI10-6976) is also supplied automatically with the other three publications and the basic machine-readable material. No other hardcopy publications are shipped with the product.

The following optional publications will be available after product availability:

- Debug Tool for z/OS User's Guide (SC19-3713)
- Debug Tool for z/OS API User's Guide and Reference (SC19-3712)
- Debug Tool for z/OS Coverage Utility User's Guide and Messages (SC19-3714)
- Debug Tool for z/OS Reference and Messages (GC19-3709)
- Debug Tool for z/OS Reference Summary (GC19-3711)
- Debug Tool for z/OS Customization Guide (GC19-3708)
- CCCA User's Guide (SC26-9400)
- IBM Problem Determination Tools for z/OS Common Component Customization Guide and User Guide (SC19-3690)

For Fault Analyzer for z/OS V12.1 (5655-W69), the *Program Directory* (GI10-8917) and *Agreements and License Information* (SCD7-5803) are supplied automatically with the basic machine-readable material. No other hardcopy publications are shipped with the product.

The following optional publications will be available after product availability:

- Fault Analyzer for z/OS User's Guide and Reference (SC19-3671)
- IBM Problem Determination Tools for z/OS Common Component Customization Guide and User Guide (SC19-3690)

For File Manager for z/OS V12.1 (5655-W68), the *Program Directory* (GI10-8918) and *Agreements and License Information* (SCD7-5804) are supplied automatically with the basic machine-readable material. No other hardcopy publications are shipped with the product.

The following optional publications will be available after product availability:

- File Manager for z/OS Customization Guide (SC19-3673)
- File Manager for z/OS User's Guide and Reference (SC19-3674)
- File Manager for z/OS User's Guide and Reference for DB2 Data (SC19-3675)
- File Manager for z/OS User's Guide and Reference for IMS Data (SC19-3676)
- File Manager for z/OS User's Guide and Reference for CICS (SC19-3677)
- IBM Problem Determination Tools for z/OS Common Component Customization Guide and User Guide (SC19-3690)

The IBM Publications Center

<http://www.ibm.com/shop/publications/order>

The Publications Center is a worldwide central repository for IBM product publications and marketing material with a catalog of 70,000 items. Extensive search facilities are provided. Payment options for orders are via credit card (in the US) or customer number for 20 countries. A large number of publications are available online in various file formats, and they can all be downloaded by all countries, free of charge.

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## Technical information

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### Specified operating environment

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#### **Hardware requirements**

Application Performance Analyzer for z/OS, Debug Tool for z/OS, Fault Analyzer for z/OS, and File Manager for z/OS run on any hardware configuration supported by the following specified licensed programs.

The following minimum hardware levels are required to run any of the optional Problem Determination Tools plug-ins:

- CPU: Intel™ Pentium™ 4 or equivalent
- RAM: At least 768 MB in addition to the operating system requirements
- Hard disk: At least 500 MB available space

#### **Software requirements**

Problem Determination Tools (Application Performance Analyzer for z/OS V12.1, Debug Tool for z/OS V12.1, Fault Analyzer for z/OS V12.1, and File Manager for z/OS V12.1) run under the control of, or in conjunction with, the following programs. For more information on the following programs that may require program temporary fixes (PTFs), refer to the program directory and Preventative Service Planning (PSP) bucket for the respective problem determination tool.

#### **Required software**

IBM z/OS V1.11, or later (5694-A01)

#### **Optional software**

Depending on the functions used, one or more of the following programs may be required:

- AD/Cycle® C/370™ V1.2 (5688-216)

- C/C++ for MVS/ESA V3 (5655-121)
- C/C++ Element in z/OS V1.11, or later (5694-A01)
- CICS TS for z/OS V3.1 or V3.2 (5655-M15)
- CICS TS for z/OS V4.1 or V4.2 (5655-S97)
- DB2 for z/OS V9 (5635-DB2)
- DB2 for z/OS V10 (5605-DB2)
- Enterprise COBOL for z/OS V3.4 (5655-G53)
- Enterprise COBOL for z/OS V4.1, or later (5655-S71)
- Enterprise PL/I for z/OS V3.9 (5655-H31)
- Enterprise PL/I for z/OS V4.1, or later (5655-W67)
- High Level Assembler/MVS & VM & VSE V1.6 (5696-234)
- IBM 31-bit SDK for z/OS, Java 2 Technology Edition V5 with SR10, or later (5655-N98)
- IBM 31-bit SDK for z/OS, Java 2 Technology Edition V6 with SR6, or later (5655-R31)
- IMS V10 (5635-A01)
- IMS V11 (5635-A02)
- IMS V12 (5635-A03)
- Rational Developer for System z V8.0.3 (5724-T07)
- WebSphere Application Server for z/OS V6.1 (5655-N01)
- WebSphere Application Server for z/OS V7.0 (5655-N02)
- WebSphere Application Server for z/OS V8.0 (5655-W65)
- WebSphere MQ for z/OS V6 (5655-L82)
- WebSphere MQ for z/OS V7 (5655-R36)

The problem determination tools in this announcement are tested and supported for use only with the announced and currently supported levels of IBM software and hardware listed above. IBM knows of no reason the problem determination tools in this announcement will not work with certain earlier, unsupported IBM software products, specifically:

- z/OS V1.9 or V1.10 (5694-A01)
- C/C++ Element in OS/390 V2.10 (5647-A01)
- C/C++ Element in z/OS V1.9 or V1.10 (5694-A01)
- CICS TS for OS/390 V1.3 (5655-147)
- CICS TS for z/OS V2.2 or V2.3 (5697-E93)
- OS/VS COBOL V1.2.4 (5740-CB1), with limitations
  - Not supported by File Manager for z/OS
- VS COBOL II V1.3.1, V1.3.2, or V1.4 (5668-958, 5688-023), with limitations
  - Not supported by File Manager for z/OS
- COBOL for MVS™ and VM V1 (5688-197)
  - Not supported by File Manager for z/OS
- COBOL for OS/390 and VM V2.2 (5648-A25)
- Enterprise COBOL for z/OS V3.1 through V3.3 (5655-G53)
- DB2 UDB for z/OS and OS/390 V7 (5675-DB2)
- DB2 UDB for z/OS V8 (5625-DB2)
- High Level Assembler/MVS & VM & VSE, V1.5 (5696-234)
- IBM SDK for z/OS, Java 2 Technology Edition V1.4.2 with SR13, or later (5655-M30)
- IMS V8 (5655-C56)
- IMS V9 (5655-J38)

- OS PL/I V2.1, V2.2, or V2.3 (5668-909, 5668-910), with limitations
- PL/I for MVS and VM V1.1.1 (5688-235)
- VisualAge® PL/I for OS/390 V2 (5655-B22)
- Enterprise PL/I for z/OS V3.1 through V3.8 (5655-H31)
- WebSphere Application Server for z/OS V6.0.1 (5655-N01)

IBM will undertake to fix problems found running the problem determination tools in this announcement with the above mentioned earlier, unsupported product levels. IBM must be able to reproduce the problem using a supported level of the same product. If the problem can be reproduced and fixed, the fix will be developed and tested using supported levels of IBM software. If a fix is made available, it is likely to work on the unsupported product level, however, IBM can not guarantee that the fix will work with the unsupported product.

### **Required software for the optional Problem Determination Tools plug-ins**

The following software is required to run any of the optional V12 Problem Determination Tools plug-ins:

- One of the following levels of the Microsoft™ Windows™ operating system:
  - Microsoft Windows XP 32-bit
  - Microsoft Windows Vista 32-bit
  - Microsoft Windows 7 32-bit
  - Microsoft Windows Server 2003 32-bit
  - Microsoft Windows Server 2008 32-bit
- One of the following Eclipse-based platforms:
  - IBM CICS Explorer (for Windows) V1.1.1, or later
  - IBM IMS Enterprise Suite Explorer (for Windows) V2.1.2, or later
- If using the IBM Application Performance Analyzer plug-in: IBM Application Performance Analyzer for z/OS V12.1, or later
- If using the IBM Debug Tool plug-in: IBM Debug Tool for z/OS V12.1, or later
- If using the IBM Fault Analyzer plug-in: IBM Fault Analyzer for z/OS V12.1, or later
- If using the IBM File Manager plug-in: IBM File Manager for z/OS V12.1, or later
- If using the IBM Workload Simulator plug-in: IBM Workload Simulator for z/OS and OS/390 V1.1, or later

The program's specifications and specified operating environment information may be found in documentation accompanying the program, if available, such as a README file, or other information published by IBM, such as an announcement letter. Documentation and other program content may be supplied only in the English language.

## **Planning information**

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### ***Packaging***

The Application Performance Analyzer for z/OS V12.1 (5655-W71) package includes:

- Basic machine-readable material on the customer-selected distribution medium
- Program Directory (GI11-9490)
- Agreements and License Information (SCD7-5605)

The Debug Tool for z/OS V12.1 (5655-W70) package includes:

- Basic machine-readable material on the customer-selected distribution medium
- Debug Tool Program Directory (GI10-8929)

- CCCA Program Directory (GI10-5080)
- The Japanese version also includes the CCCA Japanese Program Directory (GI10-6976)
- Agreements and License Information (SCD7-5802)

The Fault Analyzer for z/OS V12.1 (5655-W69) package includes:

- Basic machine-readable material on the customer-selected distribution medium
- Program Directory (GI10-8917)
- Agreements and License Information (SCD7-5803)

The File Manager for z/OS V12.1 (5655-W68) package includes:

- Basic machine-readable material on the customer-selected distribution medium
- Program Directory (GI10-8918)
- Agreements and License Information (SCD7-5804)

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## Software Services

IBM Software Services has the breadth, depth, and reach to manage your services needs. You can leverage the deep technical skills of our lab-based, software services team and the business consulting, project management, and infrastructure expertise of our IBM Global Services team. Also, we extend our IBM Software Services reach through IBM Business Partners to provide an extensive portfolio of capabilities. Together, we provide the global reach, intellectual capital, industry insight, and technology leadership to support a wide range of critical business needs.

To learn more about IBM Software Services or to contact a Software Services sales specialist, visit

<http://www.ibm.com/software/sw-services/>

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## Ordering information

### *Charge metric*

Program name	Program number	Charge metric
Application Performance Analyzer for z/OS V12	5655-W71	Value Units
Application Performance Analyzer for z/OS Subscription & Support	5697-N38	Value Units
Debug Tool for z/OS V12	5655-W70	Value Units
Debug Tool for z/OS Subscription & Support	5655-J19	Value Units
Fault Analyzer for z/OS V12	5655-W69	Value Units
Fault Analyzer for z/OS Subscription & Support	5697-G59	Value Units
File Manager for z/OS V12	5655-W68	Value Units
File Manager for z/OS Subscription & Support	5697-G60	Value Units



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

Program number	Program name	Value Unit Exhibit
5655-w71	Application Performance Analyzer for z/OS v12	VUE001
5697-N38	Application Performance Analyzer for z/OS Subscription & Support	VUE001
5655-w70	Debug Tool for z/OS v12	VUE007
5655-J19	Debug Tool for z/OS Subscription & Support	VUE007
5655-w69	Fault Analyzer for z/OS v12	VUE007
5697-G59	Fault Analyzer for z/OS Subscription & Support	VUE007
5655-w68	File Manager for z/OS v12	VUE007
5697-G60	File Manager for z/OS Subscription & Support	VUE007

For each System z 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 System z 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 VUE001

Level	Minimum	Maximum	Value Units/MSU
Base	1	3	5.25
Tier A	4	45	0.83
Tier B	46	175	0.35
Tier C	176	315	0.26
Tier D	316	+	0.20

Value Units for mainframes without MSU ratings:

Hardware	Value Units/machine
MP3000 H30	21
MP3000 H50	22
MP3000 H70	26
ESL models	9

### VUE001 Ordering example

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

If your required license capacity is 1,000 MSUs for your selected System z IPLA product, the applicable Value Units would be:

#### Translation from MSUs to Value Units

	MSUS	*	Value Units/MSU	=	Value Units
Base	3	*	5.25	=	15.75
Tier A	42	*	.83	=	34.86
Tier B	130	*	.35	=	45.50
Tier C	140	*	.26	=	36.40
Tier D	685	*	.20	=	137.00
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Total	1,000				269.51

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

#### Value Unit exhibit VUE007

	MSUS minimum	MSUS maximum	Value Units/MSU
Base	1	3	1
Tier A	4	45	0.45
Tier B	46	175	0.36
Tier C	176	315	0.27
Tier D	316	+	0.2

Value Units for mainframes without MSU ratings:

Hardware	Value Units/machine
MP3000 H30	6
MP3000 H50	8
MP3000 H70	12
ESL models	2

#### VUE007 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 System z IPLA product, the applicable Value Units would be:

#### Translation from MSUs to Value Units

	MSUS	*	Value Units/MSU	=	Value Units
Base	3	*	1.00	=	3.00
Tier A	42	*	.45	=	18.90
Tier B	130	*	.36	=	46.80
Tier C	140	*	.27	=	37.80
Tier D	1,185	*	.20	=	237.00
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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 US 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 website at

<http://www14.software.ibm.com/webapp/ShopzSeries/ShopzSeries.jsp>

The products in this announcement have one charge unit - Value Units.

## Basic license

### On/Off Capacity on Demand

Application Performance Analyzer for z/OS V12.1, Debug Tool for z/OS V12.1, Fault Analyzer for z/OS V12.1, and File Manager for z/OS V12.1 are eligible for On/Off Capacity on Demand (On/Off CoD) with a Temporary Use Charge calculated based on MSUs-per day usage.

Program Name Application Performance Analyzer for z/OS V12.1  
Program PID 5655-w71

Entitlement identifier	Description	License option / Pricing metric
S0170J9	Application Performance Analyzer V12.1	Basic OTC, Per MSU-day TUC

Program name Debug Tool for z/OS V12.1  
Program PID 5655-w70

Entitlement identifier	Description	License option / Pricing metric
S0170J8	Debug Tool V12.1	Basic OTC, Per MSU-day TUC

Program name Fault Analyzer for z/OS V12.1  
Program PID 5655-w69

Entitlement identifier	Description	License option / Pricing metric
S0170J7	Fault Analyzer V12.1	Basic OTC, Per MSU-day TUC

Program Name File Manager for z/OS V12.1  
Program PID 5655-w68

Entitlement identifier	Description	License option / Pricing metric
S0170J6	File Manager V12.1	Basic OTC, Per MSU-day TUC

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 Application Performance Analyzer for z/OS V12.1  
Program PID 5655-w71

Entitlement identifier	Description	License option / Pricing metric
S0170J9	Application Performance Analyzer V12.1	Basic OTC, Per Value Unit

Orderable supply ID:	Language	Distribution medium
S0170J3	English	3590 Tape
S0170J4	Japanese	3590 Tape
S0170J5	Korean	3590 Tape

Note: Additional media type selections are offered during Custom Build Offering ordering.

Subscription and Support PID 5697-N38

Entitlement identifier	Description	License option / Pricing metric
S011W5F	Application Performance Analyzer S&S	Basic ASC, per Value Unit SW S&S No Charge, decline SW S&S Per MSU SW S&S Registration

Orderable supply ID:	Language	Distribution medium
S011W5H	English	Hardcopy publication
S011W5G	Japanese	Hardcopy publication
S01331K	Korean	Hardcopy publication

Program name Debug Tool for z/OS V12.1  
Program PID 5655-w70

Entitlement identifier	Description	License option / Pricing metric
S0170J8	Debug Tool V12.1	Basic OTC, Per Value Unit

Orderable supply ID:	Language	Distribution medium
S0170J0	English	3590 Tape
S0170J1	Japanese	3590 Tape
S0170HZ	Korean	3590 Tape

Note: Additional media type selections are offered during Custom Build Offering ordering.

Subscription and Support PID 5655-J19

Entitlement identifier	Description	License option / Pricing metric
S00X82R	Debug Tool S&S	Basic ASC, per Value Unit SW S&S No Charge, decline SW S&S Per MSU SW S&S Registration

Orderable supply ID:	Language	Distribution medium
S00X82S	English	Hardcopy publication
S00X82T	Japanese	Hardcopy publication
S01331F	Korean	Hardcopy publication

Program name Fault Analyzer for z/OS V12.1  
Program PID 5655-w69

Entitlement identifier	Description	License option / Pricing metric
S0170J7	Fault Analyzer V12.1	Basic OTC, Per Value Unit

Orderable supply ID:	Language	Distribution medium
S0170HT	English	3590 Tape
S0170HV	Japanese	3590 Tape
S0170HW	Korean	3590 Tape

Note: Additional media type selections are offered during Custom Build Offering ordering.

Subscription and Support PID 5697-G59

Entitlement identifier	License option / Pricing metric
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identifier	Description	Pricing metric
S00V7ZL	Fault Analyzer S&S	Basic ASC, per Value Unit SW S&S No Charge, decline SW S&S Per MSU SW S&S Registration
Orderable supply ID:	Language	Distribution medium
S00TZD4	English	Hardcopy publication
S00VP6X	Japanese	Hardcopy publication
S01331H	Korean	Hardcopy publication

Program name File Manager for z/OS V12.1  
Program PID 5655-W68

Entitlement identifier	Description	License option / Pricing metric
S0170J6	File Manager V12.1	Basic OTC, Per Value Unit
Orderable supply ID:	Language	Distribution medium
S0170HP	English	3590 Tape
S0170HN	Japanese	3590 Tape
S0170HR	Korean	3590 Tape

Note: Additional media type selections are offered during Custom Build Offering ordering.

Subscription and Support PID 5697-G60

Entitlement identifier	Description	License option / Pricing metric
S00V7ZM	File Manager S&S	Basic ASC, per Value Unit SW S&S No Charge, decline SW S&S Per MSU SW S&S Registration
Orderable supply ID:	Language	Distribution medium
S00TZD5	English	Hardcopy publication
S00VLRJ	Japanese	Hardcopy publication
S01331J	Korean	Hardcopy publication

## Subscription and Support

To receive voice technical support via telephone 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 Software Maintenance. This offering:

- Includes and extends the support services provided in the base support to include technical support via telephone.
- Entitles you to future releases and versions, at no additional charge. Note that you are not entitled to new products.

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

The combined effect of the IPLA license and the Agreement for Acquisition of Software Maintenance gives you rights and support services comparable to those under the traditional ICA S/390® and System z license or its equivalent. To ensure that you continue to enjoy the level of support you are used to in the ICA business model, you must order **both** the license for the program **and** the support for the selected programs at the same Value Unit quantities.

### ***Single version charging***

To elect single version charging, you must notify and identify to IBM the prior program and replacement program, and the machine the programs are operating on.

### **Customized Offerings**

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Product deliverables are shipped only via CBPDO, ServerPac, SystemPac®.

CBPDO and ServerPac are offered for Internet delivery in countries where ShopzSeries product ordering is available. Internet delivery reduces software delivery time and allows you to install software without the need to handle tapes. For more details on Internet delivery, refer to the ShopzSeries help information at

<http://www.software.ibm.com/ShopzSeries>

You choose the delivery method when you order the software. IBM recommends Internet delivery. In addition to Internet and DVD, the supported tape delivery options for CBPDO, ServerPac, and SystemPac, include:

- 3590
- 3592

Most products can be ordered in ServerPac and SystemPac the month following their availability on CBPDO. z/OS can be ordered via all three offerings at general availability. Production of software product orders will begin on the planned general availability date.

- CBPDO shipments will begin one week after general availability.
- ServerPac shipments will begin two weeks after general availability
- SystemPac shipments will begin four weeks after general availability due to additional customization, and data input verification.

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## **Terms and conditions**

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The information provided in this announcement letter is for reference and convenience purposes only. The terms and conditions that govern any transaction with IBM are contained in the applicable contract documents such as the IBM International Program License Agreement, IBM International Passport Advantage® Agreement, and the IBM Agreement for Acquisition of Software Maintenance.

### ***Licensing***

IBM International Program License Agreement including the License Information document and Proof of Entitlement (PoE) govern your use of the program. PoEs are required for all authorized use.

### ***Agreement for Acquisition of Software Maintenance***

The following agreement applies for Software Subscription and Support (Software Maintenance) and does not require customer signatures:

- IBM Agreement for Acquisition of Software Maintenance (Z125-6011)

These programs are licensed under the IBM Program License Agreement (IPLA) and the associated Agreement for Acquisition of Software Maintenance, which provide 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 annual renewable 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.

IBM System z Operational Support Services - SoftwareXcel is an option if you desire added services.

### ***License Information form number***

Following are the License Information documents for the Problem Determination Tools:

- Application Performance Analyzer for z/OS V12 (5655-W71) - GI11-9491
- Debug Tool for z/OS V12 (5655-W70) - GI10-8928
- Fault Analyzer for z/OS V12 (5655-W69) - GC19-3669
- File Manager for z/OS V12 (5655-W68) - GC19-3672

The program's License Information will be available for review on the IBM Software License Agreement Web site

<http://www.ibm.com/software/sla/sladb.nsf>

### ***Limited warranty applies***

Yes

### ***Limited warranty***

IBM warrants that when the program is used in the specified operating environment, it will conform to its specifications. The warranty applies only to the unmodified portion of the program. IBM does not warrant uninterrupted or error-free operation of the program or that IBM will correct all program defects. You are responsible for the results obtained from the use of the program.

IBM provides you with access to IBM databases containing information on known program defects, defect corrections, restrictions, and bypasses at no additional charge. For further information, consult the IBM Software Support Handbook found at

<http://www.ibm.com/support/handbook>

IBM will maintain this information for at least one year after the original licensee acquires the program (warranty period).

### ***Program support***

Enhanced support, called Subscription and Support, includes telephone assistance, as well as access to updates, releases, and versions of the program as long as support is in effect. You will be notified of discontinuance of support with 12 months' notice.

### ***Money-back guarantee***

If for any reason you are dissatisfied with the program and you are the original licensee, you may obtain a refund of the amount you paid for it, if within 30 days of your invoice date you return the program and its PoE to the party from whom you obtained it. If you downloaded the program, you may contact the party from whom you acquired it for instructions on how to obtain the refund.

For clarification, note that for programs acquired under any of IBM's On/Off Capacity on Demand (On/Off CoD) software offerings, this term does not apply since these offerings apply to programs already acquired and in use by you.

**Other terms**

**Volume orders (IVO)**

No

**Passport Advantage applies**

No

**Software Subscription and Support 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 Software Subscription and Support (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 offering, visit

<http://www.ibm.com/services/sl/products>

**IBM Operational Support Services - SoftwareXcel**

Yes

**System i Software Maintenance applies**

No

**Variable charges apply**

No

**Educational allowance available**

Yes. A 15% education allowance applies to qualified education institution customers.

**Products eligible for single version charging**

Replaced program number	Replaced program name	Replacement program number	Replacement program name
5734-CB4	COBOL Interactive Debug	5655-w70	IBM Debug Tool for z/OS V12
5658-995	Inspect for C/370 and PL/I V1	5655-w70	IBM Debug Tool for z/OS V12
5688-194	CODE/370 V1	5655-w70	IBM Debug Tool for z/OS V12
5688-194	IBM Debug Tool for z/OS and OS/390 V1	5655-w70	IBM Debug Tool for z/OS V12
5655-H32	IBM Debug Tool for z/OS and OS/390 V3	5655-w70	IBM Debug Tool for z/OS V12
5655-L24	IBM Debug Tool for z/OS V4	5655-w70	IBM Debug Tool for z/OS V12



5655-M18	IBM Debug Tool for z/OS V5	for	5655-w70	IBM Debug Tool for z/OS V12
5655-P14	IBM Debug Tool for z/OS V6	for	5655-w70	IBM Debug Tool for z/OS V12
5655-R44	IBM Debug Tool for z/OS V7	for	5655-w70	IBM Debug Tool for z/OS V12
5655-S17	IBM Debug Tool for z/OS V8	for	5655-w70	IBM Debug Tool for z/OS V12
5655-103	IBM DITTO/ESA for MVS		5655-w68	IBM File Manager for z/OS V12
5665-370	MVS/DITTO V1		5655-w68	IBM File Manager for z/OS V12
5695-100	MVS/DITTO V2		5655-w68	IBM File Manager for z/OS V12
5798-ARD	OS/DITTO		5655-w68	IBM File Manager for z/OS V12
5798-CDA	OS/DITTO Extensions		5655-w68	IBM File Manager for z/OS V12

Note: Only certain function in DITTO is replaced by File Manager. This should not imply that all of the function in other programs is replaced completely by their replacement programs.

### **Sub-capacity terms and conditions**

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For each System z 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 System z 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 System z IPLA program you selected, refer to the [Ordering information](#) section.

Program number	Program name	Terms	Parent, if applicable
5655-w71	Application Performance Analyzer for z/OS V12	Execution-based	
5655-w70	Debug Tool for z/OS V12	Execution-based	
5655-w69	Fault Analyzer for z/OS V12	Execution-based	
5655-w68	File Manager for z/OS V12	Execution-based	

### **Full-capacity mainframes**

In cases where full capacity is applicable, the following terms apply.

Execution based, z/OS based, full machine based: The required capacity of a System z IPLA program with these terms equals the MSU-rated capacity of the machines where the System z IPLA program executes.

For more information on mainframe MSU-rated capacities, visit

<http://www-1.ibm.com/servers/eserver/zseries/library/swpriceinfo/>

Reference based: The required license capacity of a System z 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.

Execution based: The required capacity of a System z IPLA sub-capacity program with these terms equals the capacity of the LPARs where the System z IPLA program executes.

z/OS based: The required license capacity of a System z IPLA program with these terms equals the license capacity of z/OS on the machines where the System z IPLA program executes.

Reference based: The required license capacity of a System z 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.

Full machine based: The required license capacity of a System z IPLA program with full machine based terms equals the MSU-rated capacity of the machines where the System z IPLA program executes.

For more information on mainframe MSU-rated capacities, refer to *The IBM System z Machines Exhibit, Z125-3901*.

Or visit the Mainframes section of the System z Exhibits website

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

For additional information for products with reference-based terms, System z IPLA sub-capacity programs with reference-based terms adds value to the parent program across the environment, regardless of where in the environment the System z IPLA program executes.

An environment is defined as either a single or stand-alone machine or a qualified Parallel Sysplex®. You may have one or more different environments across the enterprise. To determine the required license capacity for each System z IPLA program with referenced-based terms, each environment should be assessed separately.

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

- Where MLC pricing is aggregated across the sysplex

### **Sub-capacity eligibility**

To be eligible for sub-capacity charging on select System z 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 System z (or equivalent). On that machine:

- All instances of the OS/390 operating system must be migrated to the z/OS operating systems.
- Any licenses for the OS/390 operating system must be discontinued.
- All instances of the z/OS operating 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 System z Software Pricing website

<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 System z Workload License Charges (Z125-6516).
- The complete terms and conditions for sub-capacity EWLC are defined in the IBM Customer Agreement - Attachment for IBM System z 890 and 800 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 IBM System z9® and System z Programs Sub-Capacity Pricing* (Z125-6929).

Once the amendment is signed, the terms in the amendment replace any and all previous System z IPLA sub-capacity terms and conditions.

### **Sub-capacity utilization determination**

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Sub-capacity utilization is determined based on the product's own execution as reported to IBM in accordance with the requirements for reporting sub-capacity utilization for products.

### **On/Off Capacity on Demand (CoD)**

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To be eligible for On/Off CoD pricing, you must be enabled for temporary capacity on the corresponding hardware, and the required contract, Attachment for IBM System z On/Off Capacity on Demand (Z125-7883) must be signed prior to use.

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## **Statement of good security practices**

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IT system security involves protecting systems and information through prevention, detection, and response to improper access from within and outside your enterprise. Improper access can result in information being altered destroyed or misappropriated or can result in misuse of your systems to attack others. Without a comprehensive approach to security, no IT system or product should be considered completely secure and no single product or security measure can be completely effective in preventing improper access. IBM systems and products are designed to be part of a comprehensive security approach, which will necessarily involve additional operational procedures, and may require other systems, products, or services to be most effective. IBM does not warrant that systems and products are immune from the malicious or illegal conduct of any party.

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## **Prices**

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Information on charges is available at

<http://www.ibm.com/support>

Choose the option entitled Purchase / upgrade tools.

Program Name Application Performance Analyzer for z/OS V12.1  
Program PID 5655-W71

Entitlement identifier	Description	License option / Pricing metric
S0170J9	Application Performance Analyzer V12.1	Basic OTC, Per Value Unit Basic OTC, Per MSU-day TUC

Program name Debug Tool for z/OS V12.1  
Program PID 5655-W70

Entitlement identifier	Description	License option / Pricing metric
S0170J8	Debug Tool V12.1	Basic OTC, Per Value Unit Basic OTC, Per MSU-day TUC

Program name Fault Analyzer for z/OS V12.1  
Program PID 5655-W69

Entitlement identifier	Description	License option / Pricing metric
S0170J7	Fault Analyzer V12.1	Basic OTC, Per Value Unit Basic OTC, Per MSU-day TUC

Program name File Manager for z/OS V12.1  
Program PID 5655-W68

Entitlement identifier	Description	License option / Pricing metric
S0170J6	File Manager V12.1	Basic OTC, Per Value Unit Basic OTC, Per MSU-day TUC

The pricing for the following products has not changed.

Description	Program number
Application Performance Analyzer for z/OS Subscription & Support	5697-N38
Debug Tool for z/OS Subscription & Support	5655-J19
Fault Analyzer for z/OS Subscription & Support	5697-G59
File Manager for z/OS Subscription & Support	5697-G60

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