IBM CICS Interdependency Analyzer for z/OS , V3.2 supports CICS Transaction Server V4.2

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At a glance

CICS® Interdependency Analyzer for z/OS® (CICS IA®) V3.2 makes it even easier to build a deep understanding of the relationships and dependencies between CICS applications and the resources that they use, helping to control the cost of developing new and updating existing applications.

New functions in CICS IA V3.2 include:

- Support for CICS TS V4.2
- New and improved views and controls in the plug-in for CICS Explorer™
- Command Flow enhancements including multi-user support
- CICS Business Events support
- Dependency data lifecycle management
- Enhanced business application analysis
- CICS user exit detection and mapping
- Architectural enhancements

The new release also introduces a wide range of other technical and operational capabilities, including requirements raised by individual customers and user communities.

Overview

CICS Interdependency Analyzer for z/OS (CICS IA) is a productivity tool that automates discovery of run-time resource relationships within CICS applications, giving customers a comprehensive picture of how their CICS applications really work. It can be used by all who build, manage, and deploy complex mainframe CICS applications.

CICS IA V3.2 supports all new and updated resources in CICS Transaction Server for z/OS (CICS TS) V4.2, enabling its users to benefit immediately from the important enhancements in the latest version of CICS TS. For details refer to Software Announcement 211-080, dated April 5, 2011.

CICS IA V3.2 also delivers many new capabilities to enable customers to control the cost of developing, testing, and managing CICS applications and to comply with internal IT policies.

The powerful Command Flow capability, first introduced in CICS IA V3.1, can now be used by multiple users simultaneously, allowing both system programmers and application developers to collect their own individual data for analysis.

Dependency, Affinity, and Command Flow data collection can now be controlled from the IBM® CICS Explorer, further reducing the need to use green-screen interfaces when developing and managing CICS.

Loosely coupled dependencies between CICS resources and external applications - created when business events are generated - can now be identified, greatly simplifying change management of applications that can generate events.

CICS Explorer enhancements include a new Affinity view, which can simplify the task of removing affinities from CICS applications, enabling them to participate in workload management.

New data life-cycle management for CICS IA dependency data helps customers to compare the behavior of different versions of CICS applications, and manage space utilization more easily.

New options in the business application views enables customers to analyze which resources are used by each application. The options also allow them to view the transactions and programs actually used as well as the transactions and programs that define the application.

Also new in this release is the ability to detect the usage of CICS Task-related user exits (TRUEs), and map entry points to meaningful names. Mappings for a number of IBM-supplied TRUEs are provided, including IBM WebSphere® MQ, IBM CICS Transaction Gateway (CICS TG), Sockets, IBM DB2®, and customers can supply their own mappings for other vendor-provided and in-house TRUEs that they use with CICS.

A wide range of architectural enhancements are delivered in this release, providing performance, usability, and serviceability enhancements. The new release also introduces a wide range of other technical and operational capabilities, including requirements raised by individual customers and user communities.

CICS IA is a productivity tool that automates discovery of run-time resource relationships within CICS applications, giving customers a comprehensive picture of how their CICS applications really work. It can be used by all who build, manage, and deploy complex mainframe CICS applications.

For ordering, contact Your IBM representative or an IBM Business Partner. For more information contact the Americas Call Centers at 800-IBM-CALL (426-2255). Reference: LE001

Key prerequisites

CICS IA V3.2 runs on any S/390® or IBM eServer™ zSeries® machine on which the applicable operating system and software will run.

Planned availability date

September 2, 2011

Description

CICS IA V3.2 helps businesses meet the challenges of the current economic circumstances, increased regulation, and changing skill levels. At the same time,

it positions them to take advantage of opportunities for growth in challenging economic times.

The new version supports three distinct themes that relate directly to many CICS customers' business priorities and initiatives.

First, by exposing the hidden, run-time relationships between CICS applications and resources, including the new CICS TS V4 business events, it facilitates and speeds the development and deployment of enhanced and new applications that directly support key business initiatives.

Second, by enabling IT staff with a broader mix of skill levels to perform many CICS application development, testing, and maintenance tasks, Version 3.2 can help to control the costs involved in building and deploying CICS applications and lead to increased return on investment.

Third, by providing more insight into CICS application structure, it can reduce the risk of change-induced errors and so assist customer initiatives to comply with corporate or regulatory requirements.

Key enhancements

New and improved CICS Explorer views and controls

CICS Explorer - the new face of CICS - is the Eclipse-based tool for CICS, providing an intuitive, easy-to-use way of developing, operating, and managing CICS applications and systems. The stand-alone CICS IA Explorer that was first shipped with CICS IA V2.2 is replaced by a plug-in for the CICS Explorer, which not only enables its rich capability to be used within a common tool framework, but also allows it to be integrated with base CICS views and views provided by other CICS tools like CICS CM and CICS PA.

The CINT transaction, used to list all regions and users in a configuration, and to start, stop, and refresh affinity and dependency data collection, can now be accessed directly from the CICS IA plug-in . This new capability is implemented using RESTful APIs, in conjunction with an Atomservice that is defined in the CICS IA controlling region.

A new transaction, CINC, enabling Command Flow options to be set and data collection to be started and stopped, can also be accessed from the plug-in using the same Atomservice. The use of Atomservices (supported on CICS TS V4.1 and above) further reduces the need to use green screen interfaces when developing and managing CICS applications.

Transaction affinities exist when persistent state data is created in a CICS Application Owning Region (AOR), requiring that subsequent instances of the transaction must execute in the same AOR for the lifetime of the state data. New context menu options in the plug-in will populate a new Affinity view with information about the different types of affinities - ENQ/DEQ, Temporary Storage, and more. Previously, users needed to create or modify supplied queries.

The new options and view simplify the task of removing affinities from CICS applications, enabling them to participate more effectively in workload management schemes. New Application views display all resources used by application, all transactions or programs used by application, as well as the transactions and programs that define the application.

New scanner queries display a wide range of information collected by the load module scanner, including the linkage information for a program load module, the possible CICS commands used in a program, language type, and so on. New options in the Application view enable users to analyze which CICS, MQ, IBM Information Management System (IMS™), and DB2 resources are used by the defined application. The options also allow them to view the transactions and programs that define the application.

Command Flow enhancements

The Command Flow capability, first introduced in CICS IA V3.1, allows application developers to view key aspects of the flow of a CICS transaction in chronological order, including program linkages, CICS (and MQ, IMS, and DB2) command execution, and Task Control Block (TCB) modes and switches.

As described in earlier text, Command Flow can now be controlled directly by application developers using the CICS IA plug-in , reducing the need for system programmer interaction. Command Flow data can be initiated based on userid, transaction prefix, or terminal, and each user can now collect, load, and explore their own Command Flow collections. Users can select which regions to collect in and can edit, start, and stop their own individual Command Flow runs. User data can be added via an exit point, and execution flows across CICS can now be seen. The Command Flow views in the plug-in are updated to reflect these changes.

CICS business events dependency tracking

In CICS TS V4, when a business event is generated as a result of a CICS application 'doing something' to a resource, a "loosely-coupled" dependency is effectively created between the CICS resource and an external application, for example between a Temporary Storage (TS) queue and a WebSphere Business Events rule or a WebSphere Business Monitor dashboard layout. If the record structure for the TS queue needs to be changed, it may also be necessary to change the CICS business event specification that defines the event and the WebSphere Business Events or WebSphere Business Monitor objects that will consume it.

To help understand these dependencies, CICS IA V3.2 utilizes a new exit point that was introduced in CICS TS V4.2 to detect when events are generated. The enhanced Resources view in the CICS IA plug-in can now show which events, event capture specifications, and event bindings are associated with the resource and the command that caused them to be driven, making it much easier to identify and change both the applications that generate and consume the events. Detailed information for the event is also showed in the Properties view.

CICS Business Events specification aid

A new context menu option in the CICS IA plug-in will drive the CICS Event Wizard directly from a resource name, pre-populating the event capture specification with key fields, including resource type and resource name. The context menu only appears for resource types that are associated with events and is available on both the resources used view and the Command Flow Execution view.

Dependency data lifecycle management

New lifecycle management for CICS IA dependency data helps users to compare the resource usage for different versions of CICS applications, and manage space utilization more easily. Users can identify collections of Dependency data, in a similar manner to that provided by Command Flow, compare different versions, and purge data related to old versions from DB2.

CICS user exit detection and mapping

Also new in this release is the ability to detect the usage of CICS TRUEs, and map their entry points to meaningful names. Mappings for a number of IBM-supplied TRUEs are provided, including CICSPlex® System Manager (CICSPlex SM) M, Communications Server IP CICS Sockets, CICS Integrated Cryptographic Service Facility (ICSF), and WebSphere Application Server for z/OS optimized local adapter (WOLA).

The CICS IA plug-in will display this information in the Properties view for TRUE resource. This enables the user to quickly identify vendor exits that are used in their environment and enables them to understand the implications of upgrading their CICS TS environment.

CICS TS V4.2 and other sub-system support

The CICS IA collector exits now run on CICS TS V4.2 and support all new and updated resource usage by API/SPI for both Dependency and Command Flow collection, enabling its users to benefit immediately from the important enhancements in the latest version of CICS TS (Refer to Software Announcement 211-080, dated April 5, 2011.

The sample CICS TS upgrade queries provided by the CICS IA Explorer plug-in have been enhanced to include support for CICS TS 4.2. This helps speed the process of upgrading to the latest level of CICS TS by identifying programs that are most sensitive to CICS API changes.

New commands in WebSphere MQ V7.0 available in CICS TS V4 are now supported by the command flow and dependency collectors, and associated CICS IA plug-in views. This support is also available with CICS IA V3.1 with APAR PM15575 / PTF UK61230.

CICS IA V3.2 supports DB2 V10. This support is also available the following two APARs:

- **PM35518 (V2.2) UK67102/UK67103** and **PM35518 (V3.1) UK67104/ UK67105** provide concurrency support for DB2 V10
- **PM39169 for DB2 V10** provides concurrency for CICS IA run-time and utilities. The APAR is currently open.

Architectural enhancements

A wide range of architectural enhancements are delivered in this release, providing performance, usability, and serviceability enhancements.

Data capture consistency

In earlier releases, the CICS APIs detected by the scanner and the online components could be inconsistent. For example, some commands may be identified by one component and not another. CICS IA V3.2 aims to remove all such inconsistencies, by collecting the same CICS API/SPI calls in the Dependency and Command Flow Collectors and the batch Scanner. This work enables Scanner query comparisons in the CICS IA plug-in .

Dynamic calls

A new XPI provided in CICS TS V4.2 enables CICS IA to identify the actual program invoking the CICS, DB2, IMS, and WebSphere MQ commands.

Performance

Performance of CICS IA V3.2 is enhanced in two key areas. Firstly, data collection, is improved by reducing exit path length, the impact of ENQ/DEQ on shared storage - typically Global Work Area (GWA), and by enabling the exits to run in Threadsafe mode. Secondly, data query performance is enhanced using DB2 Stored Procedures to perform complex queries within the data base environment.

Common query engine

The query engine used by CICS IA V3.2 is also used by CICS PA V3.2, helping to reduce service costs, and providing opportunity for future cross-product queries.

Universal Database samples

While formal support is only available when using DB2 for z/OS to host CICS IA data, a sample will be provided to enable you to define a universal database (UDB) in a Windows NT™ environment. A sample to load the tables from the Comma Separated Values (CSV) files will also be provided. The existing CSV extract jobs

have been enhanced to include the ability to extract to CSV the Affinity data. The SQL for the stored procedures will also be provided for DB2 UDB.

Serviceability

CICS IA now makes use of the CICS TS trace facility in order to comply with internal IBM policies which aim, among other things, to minimize the need to recreate problems, ensure the required data is available for diagnosis, and provide information in the events that enables the correlation of data from multiple products.

Configuration enhancements

A number of minor configuration and set-up enhancements include the ability to share configuration data with other users, the separate installation jobs from DB2 load and report jobs, and the use of the CICS TS LIBRARY resource definition to define the CICS IA load libraries.

New and updated function delivered by APAR PTF since CICS IA V3.1

PK95283 (PTF UK51920, FITS MR0316092227) Dynamic COBOL Support (provides the capability to correctly record dynamic COBOL calls in the CICS dependency data and the Command Flow data).

PM00898 provides the Japanese national language support feature for CICS IA V3.1

PM15575 (PTF UK61230) Adds a number of CICS commands and WebSphere MQ commands for WebSphere MQ V7.0 to those already monitored by the Collector.

PM34054 CICS IA V3.1 Toleration of CICS TS V4.2

Customer and User group requirements satisfied in CICS IA V3.2

MR1015092316 Enhancements to the Command Flow feature

MR0304103349 CICS IA Command Flow Transaction plus Wild Card/APPL selection

MR0403094719 Allow customer data to be added to IA tables

MR0818051718 Utility to purge resources from the Dependency Database

MR0604065052 CICS IA - optional column for customer provided information

MR0316092227 CICS IA Report has some restrictions about dynamic COBOL calls

MR0223063443 Add UDB support for DB2 distributed platforms

MR1113093222 Add CICS IA Explorer connectivity and functionality to a DB2 UDB

Migration

Sample jobs are provided to assist the client to migrate data stored in a CICS IA V3.1 database to the new CICS IA V3.2 database.

Note: The CICS IA V3.2 plug-in will only connect to a CICS IA V3.2 database.

Accessibility by people with disabilities

A U.S. Section 508 Voluntary Product Accessibility Template (VPAT) containing details on accessibility compliance can be requested at

http://www.ibm.com/able/product_accessibility/index.html

The following features support use by people with disabilities:

- Operation by keyboard alone
- Optional font enlargement and high-contrast display settings
- Suitability for use by people with hearing impairment
- Capability to use with screen readers and magnifiers for those with visual impairment

Softcopy documentation for the product is provided in PDF format. This documentation supports optional font enlargement and high-contrast display settings, and may be operated by the keyboard alone.

Section 508 of the US Rehabilitation Act

CICS IA V3.2 is capable as of September 2, 2011, when used in accordance with associated 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

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.

Product positioning

An increasingly competitive economic environment is driving many businesses to transform their existing CICS applications using service-oriented architecture (SOA) and Web 2.0 strategies. The same pressures also force IT managers, CICS system programmers, and application developers to develop applications and operate systems at peak level while maintaining service-level commitments and meeting regulatory and corporate governance requirements.

Such businesses need tools to help avoid outages and reduce downtime, while controlling costs and complying with standards. CICS IA is the key tool for informing day-to-day IT service management, but the information provided can become truly indispensable at times of major change. For example, a system architect can use CICS IA to understand the disposition and dependencies of key applications before relocating them within a network. Within CICS, where distributed processing and workload balancing have been common for decades, relationships between transactions, programs, files, regions, databases, and WebSphere MQ queues can be complex and difficult to predict. CICS IA can gather and present both current and historical data for decision making.

CICS IA can provide data for the following critical business situations:

- A major business reengineering project, under which the entire system topology may change. To plan such a project, customers need to understand cross-application and cross-system dependencies.
- An SOA project to identify applications whose value can be extended by exposing them as web services.
- A project to ensure compliance with legal obligations. This may involve uncovering and documenting privileges conferred on users by applications for which documentation is lost.
- Mergers and acquisitions projects, in which inherited systems and applications need to be understood so that they can be integrated effectively.
- Service-provider activities. Effectively a special case of a merger/acquisition, this involves understanding the outsourced systems and applications before planning how best to support them.
- A project to optimize resource use using Enterprise Workload Manager™. CICS IA can help to analyze business applications to determine how best to split them to exploit workload balancing.

CICS IA provides comprehensive information about runtime resource relationships within customer's CICS systems. When documentation is lost or incomplete, or source code is unavailable, CICS IA automates the collection of runtime, cross-CICS resource interdependency data, including CICS calls to DB2, IMS, and WebSphere MQ. It provides a plug-in for the CICS Explorer to help customers navigate and explore your applications relationships, helping them plan daily operations or to inform reengineering projects.

Resource relationship analysis helps customers understand, modernize, and mine business rules out of their existing enterprise development application assets by providing knowledge derived through static analysis of a broad range of software artifacts and sub-systems, while CICS IA helps them to understand the structure

and inter-dependencies of CICS applications by looking in detail at the run-time execution flows of CICS programs and their dynamic relationships with the resources they use.

In addition to providing quality information for improved application reuse, CICS IA helps customers understand the value of their current CICS assets and analyze the potential for improved application design. CICS IA helps solve a number of problems associated with application maintenance and enhancement. For example, it helps them:

- Understand cross-system applications and dependencies
- Know the resource topology within a particular CICS region
- Enable easier CICS version-to-version upgrades, including migrations to CICS TS V4.1
- Support application transformation and CICS-based SOA implementations
- Run comparisons on discovered data
- Identify the resource flow; for example, following a transaction abend
- Decompose transactions to programs and highlight TCB switches, supporting threadsafe analysis
- Analyze resource relationships when planning for dynamic workload balancing with CICSPlex SM
- Understand the effect of opening and closing files
- Know the last time a particular resource was used
- Improve CICS application and data availability
- Comply with corporate standards and regulations

For a complete system inventory solution, CICS IA should be used with Rational® Asset Analyzer to provide application understanding and component details. Rational Asset Analyzer assists IT personnel with maintenance and extension of existing assets through impact analysis and application understanding. CICS IA helps modernize customer's existing enterprise assets and skills by providing knowledge about their static environments (finding and reusing application code and the connecting components), and their dynamic environments (understanding what code is executing in runtime environments). Customers can launch Rational Asset Analyzer with an on-screen button while working with the CICS IA plug-in for the CICS Explorer, making it easier to explore your solution environments.

CICS IA is a member of the CICS tools family and part of the System z Enterprise tools portfolio supporting the CICS environment. It can help improve collaboration between the various roles involved in making and tracking changes, enabling tighter and more transparent control over CICS administration, both of which are critical for smooth operation of CICS. It can also help speed up the overall end-to-end development effort for new applications.

For more details of the CICS tools family, visit

http://ibm.com/cics/tools/

This high functionality and flexibility, as well as commitment to support the latest release of CICS TS, make CICS IA an outstanding solution for CICS configuration management. CICS IA is competitively priced and can help improve the productivity of CICS developers and administrators. This productivity improvement is achievable due to high functionality and scope of CICS IA.

For a trial evaluation of CICS IA, contact your IBM representative or IBM Business Partner.

Integration with CICS Explorer

CICS Explorer provides an integration point for development, management, and operational capabilities delivered by the CICS runtime and add-on tools. Some

examples of integration are described in the following text. Customer suggestions for future integration are invited.

The stand-alone CICS IA Explorer that was shipped with CICS IA V2.2, is been replaced by a CICS IA plug-in for the CICS Explorer, which not only enables its rich capability to be used within a common tool framework, but also allows it to be integrated with base CICS views and views provided by other CICS tools such as CICS PA and CICS CM.

Customers with both CICS IA and CICS PA can link seamlessly and in context between CICS IA and CICS PA views. For example, an administrator can link from a CICS PA view showing TCB switches by transaction to a CICS IA view that shows the programs that are invoked as part of the transaction.

Program number

Program number	VRM	Program name
5655-U86	3.2.0	CICS Interdependency Analyzer for z/OS

Product identification number

Program PID number	Subscription and Support PID number
5655-U86	5655-G77

Offering Information

Product information is available via the Offering Information website

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

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).

https://www.ibm.com/partnerworld/mem/sla.jsp?num=211-266

Publications

The following publications are provided:

Title	Order number
CICS Interdependency Analyzer for z/OS V3.2 User's Guide and Reference	SC34-7211
CICS Interdependency Analyzer for z/OS V3.2 - Program Directory	GI13-0568
CICS Interdependency Analyzer for z/OS V3.2 - Data Sheet	GI13-0580

These publications are only provided in PDF softcopy format. They are in PDF format and are available for download, free of charge, from the IBM Publications Center:

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

If hardcopy is required, you may print the PDF document.

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 U.S.) 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.

Technical information

Specified operating environment

Hardware requirements

CICS IA V3.2 runs on any S/390 or IBM eServer zSeries machine on which the applicable operating system and software will run.

For CICS Explorer requirements, visit

http://www.ibm.com/software/htp/cics/explorer/requirements/

Software requirements

CICS IA V3.2 is designed to be used with CICS TS V4.2 (5655-S97), where it supports fully the new function of the latest version of CICS TS. CICS IA V3.2 can also be used with CICS TS V3 (5655-M15), CICS TS V2 (5697-E93), and CICS TS V1.3 (5655-147).

CICS IA V3.2 will run with any supported level of operating system with which the applicable CICS TS runs.

CICS IA V3.2 requires System Modification Program/Extended (SMP/E) of the supported z/OS or OS/390® system (5655-G44) for installation and maintenance.

CICS IA V3.2 requires access to DB2 Universal Database™ Server for z/OS, V8.1 (5625-DB2), or later.

CICS IA V3.2 requires access to DB2 Utilities Suite for z/OS, V8.1 (5655-K61), or later, or an equivalent vendor products that provides similar LOAD and UNLOAD utilities.

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

Packaging

CICS IA V3.2 is shipped via CBPDO or other customized offerings, on 3590 tape.

Also shipped are:

- International Program License Agreement (IPLA) booklet (Z125-3301)
- License Information booklet (GC34-7232)

CICS IA V3.2 is shipped via CBPDO or other customized offerings, on 3590 tape.

Also shipped are:

- International Program License Agreement (IPLA) booklet (Z125-3301)

- License Information booklet (GC34-7232)

Security, auditability, and control

CICS IA V3.2 uses the security and auditability features of the operating system under which it is running. The customer is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communication facilities.

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/

Ordering information

Charge metric

Program Name	PID Number	Charge Metric
IBM CICS Interdependency Analyzer for z/OS V3.2	5655-U86	Per Value Unit
IBM CICS Interdependency Analyzer for z/OS - Software Subscription and Support	5655-G77	Per Value Unit

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

Program number	Program name	Value Unit exhibit
5655-U86	CICS Interdependency Analyzer for z/OS V3.2	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 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

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
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

Basic license

On/Off CoD

CICS IA for z/OS, V3.2 is eligible for On/Off CoD with a temporary use charge, calculated based on MSUs per-day usage.

Program name CICS Interdependency Analyzer for z/OS V3.2
Program PID 5655-U86

Entitlement identifier	Description	License option/Pricing metric
S015H3M	CICS Interdependency Analyzer for z/OS, V3.2	Basic OTC, Per MSU-day TUC

Translation from MSUs to Value Units

	MSUs	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

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: CICS Interdependency Analyzer for z/OS V3.2
Program PID:  5655-U86

Entitlement
identifier       Description                    License option/Pricing metric

S015H3M          CICS Interdependency Analyzer  Basic OTC, Value Units
                  for z/OS V3.2

Orderable        Language                       Distribution medium
 supply ID

S0166G1          English                        3590 tape

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

Subscription and Support PID: 5655-G77

Entitlement
identifier   Description                        License option/Pricing metric

 S00W1N0     CICS Interdependency               Basic ASC, per Value Unit SW S&S
              Analyzer for z/OS                 No charge, decline SW S&S
             Subscription and Support           Per MSU SW S&S Registration

Orderable    Language                           Distribution medium
supply ID

 S00W1N1     English                            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 (IAASM). 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

Product deliverables are shipped only via CBPDO, ServerPac, and 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.

Terms and conditions

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 IBM Agreement for Acquisition of Software Maintenance (Z125-6011) agreement applies for Software Subscription and Support (Software Maintenance) and does not require customer signatures.

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

CICS Interdependency Analyzer for z/OS, V3.2

- License L-JRON-8FHG5X
- Form number GC34-7232-00

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

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.

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

Other support

SoftwareXcel

System i Software Maintenance applies

No

Variable charges apply

No

Educational allowance available

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

Sub-capacity terms and conditions

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-U86	CICS Interdependency Analyzer for z/OS V3.2	Reference-based	5655-147 5697-E93 5655-M15 5655-S97

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.

IBM Getting Started Sub-capacity Pricing for z/OS IPLA Software applies.

Sub-capacity utilization determination

Sub-capacity utilization is determined based on the utilization of a sub-capacity eligible reference product and machine.

On/Off Capacity on Demand (CoD)

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.

Prices

Information on charges is available at

http://www.ibm.com/support

Choose the option entitled Purchase/upgrade tools.

```
Program name: CICS Interdependency Analyzer for z/OS V3.2
Program PID:  5655-U86

Entitlement
identifier   Description                    License option/Pricing metric

 S015H3M     CICS Interdependency Analyzer  Basic OTC, Value Units
              for z/OS V3.2
 S015H3M     CICS Interdependency Analyzer  Basic OTC, per MSU-day TUC
              for z/OS V3.2
```

Subscription and Support PID: 5655-G77

Entitlement identifier	Description	License option/Pricing metric
S00W1N0	CICS Interdependency Analyzer for z/OS Subscription and Support	Basic ASC, Value Units SW S&S No charge, decline SW S&S Per MSU SW S&S Registration

IBM Global Financing

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Order now

To order, contact the Americas Call Centers or your local IBM representative, or your IBM Business Partner.

To identify your local IBM representative or IBM Business Partner, call 800-IBM-4YOU (426-4968).

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            Markham, Ontario
            Canada
            L3R 2Z1
Reference: LE001
```

The Americas Call Centers, our national direct marketing organization, can add your name to the mailing list for catalogs of IBM products.

Note: Shipments will begin after the planned availability date.

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