IBM DB2 and IMS offer enhanced database, administration, and performance management tools

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At a glance

Enhanced DB2® and IMS™ tools deliver:

- Database administration

    - IBM® InfoSphere™ Guardium Data Encryption for DB2 and IMS Databases V1.2.0 (5655-P03)
    - IBM DB2 Administration Toolkit for z/OS® the SAP Edition V2.2.0 (5697-L30)
- Utilities management

    - IBM DB2 Automation Toolkit for z/OS the SAP Edition V2.1.0 (5655-W74)
- Performance management

    - IBM DB2 Performance Toolkit for z/OS the SAP Edition V2.2.0 (5697-M32)

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

Overview

IBM InfoSphere Guardium Data Encryption for DB2 and IMS Databases V1.2.0 (5655-P03) provides proven technologies to encrypt DB2 and IMS databases.

IBM DB2 for z/OS Toolkits for SAP ERP Applications delivers the capability to manage your SAP ERP environment. Three toolkits extend the value of DB2 Tools to clients with SAP ERP applications:

- IBM DB2 Administration Toolkit for z/OS the SAP Edition V2.2.0 (5697-L30)
- IBM DB2 Automation Toolkit for z/OS the SAP Edition V2.1.0 (5655-W74)
- IBM DB2 Performance Toolkit for z/OS the SAP Edition V2.2.0 (5697-M32)

Key prerequisites

Refer to the Hardware requirements and Software requirements sections for key prerequisites.

Planned availability date

- February 18, 2011, IBM DB2 Administration Toolkit for z/OS the SAP Edition V2.2.0 (5697-L30), IBM DB2 Automation Toolkit for z/OS the SAP Edition V2.1.0 (5655-W74), and IBM DB2 Performance Toolkit for z/OS the SAP Edition V2.2.0 (5697-M32)
- February 25, 2011, IBM InfoSphere Guardium Data Encryption for DB2 and IMS Databases V1.2.0 (5655-P03)

Description

The **IBM InfoSphere Guardium Data Encryption for DB2 and IMS Databases V1.2 (5655-P03)** tool is part of the InfoSphere Guardium portfolio, providing you with data encryption for both IBM DB2 Database for z/OS and IBM Information Management System (IMS) databases. This enables you to better protect your sensitive and private data for DB2 and IMS.

The need for data encryption has moved to the forefront of technology concerns with the increased demand for data privacy and security. The InfoSphere Guardium Data Encryption for DB2 and IMS Databases product addresses this need. The product delivers the capability to leverage the System z® Crypto Hardware to efficiently secure sensitive and private data at the DB2 row level and the IMS segment level.

InfoSphere Guardium Data Encryption for DB2 and IMS Databases offers:

- DB2 edit routines and IMS exit routines that invoke the z/OS Integrated Cryptographic Service Facility (ICSF), which exploits the crypto hardware for data encryption and decryption
- Sample implementation jobs
- An ISPF front end to build implementation jobs
- The capability to specify unique encryption keys

InfoSphere Guardium Data Encryption for DB2 and IMS Databases V1.2:

- Is a single tool for both your DB2 and IMS databases.
- Helps you secure data privacy by encrypting and decrypting data.
- Uses the Triple Data Encryption Algorithm (TDEA), which is also known as the Triple Data Encryption Standard (Triple DES); the ANSI Data Encryption Algorithm (DEA), which is also known as the Data Encryption Standard (DES); and the Advanced Encryption Standard (AES) algorithms.
- Enables you to leverage the power of storage area networks (SANs) while helping you comply with privacy and security regulations that are in place or that are being enacted worldwide.
- Adheres to the existing z/OS security model.
- Provides an ISPF front end that allows you to create and customize encryption, external compression, and exit drivers.
- Provides exit drivers to permit the execution of compression and encryption at the same exit point to help avoid negating any existing compression capability. The compression exit routine invokes System z Crypto Hardware and features that assist high performance and low overhead.
- Allows fast implementation, after an encryption key label has been defined by the security analyst, through the use of standard DB2 and IMS exit routines invoked during database reload.
- Requires no changes to your applications.
- Rolls up maintenance against the previous release of the product to the new release.

IBM DB2 Administration Toolkit for z/OS the SAP Edition V2.2 (5697-L30) consists of two database administration tools:

- IBM DB2 Administration Tool for z/OS, V10.1
- IBM DB2 Object Comparison Tool for z/OS, V10.1

These tools working together form a function-rich object management solution. All the functions of DB2 Administration Tool and DB2 Object Comparison Tool are licensed for use with your SAP ERP solution systems running on DB2 for z/OS.

- DB2 Administration Tool reduces the complexity of managing and executing SAP ERP database changes, which enables your DBA to make faster and more accurate decisions and provides important features for administration of SAP ERP solution systems. Of particular importance to SAP, DB2 Administration Tool allows:
  - Easy and fast navigation of a DB2 catalog, allowing you to issue DB2 commands, execute utilities, and examine schema structures
  - Changes of all ZPARMS and guides you through how to use the "online ZPARM" feature of DB2
- DB2 Object Comparison Tool support for SAP ERP solutions promotes database object integrity when objects are transported from test to production. Of particular importance to SAP ERP:
  - It provides quality assurance by comparing objects in SAP ERP solution databases. It helps you to identify potential risks or long running changes.
  - It alerts your DBA of user-defined objects, usually indexes, that will be affected by applying the change.

IBM DB2 Automation Toolkit for z/OS the SAP Edition V2.1.0 (5655-W74)
is a utilities management tool that advances the goal of enterprise autonomic computing and offers enhancements to ERP environments. DB2 Automation Tool provides an easy-to-use interface to DB2 Utilities Suite, which offers a full set of utilities that handle a wide variety of tasks that help improve productivity, performance, and availability. All the functions of DB2 Automation Tool for z/OS, V3.1 are licensed for use with your SAP systems running on DB2 for z/OS.

- DB2 Automation Tool supports SAP ERP solution environments by automating the execution of copy, reorg, and other utilities to provide better management of system resources.
- You may define exception criteria for the execution of utilities against an object or group of objects.
- From an autonomic standpoint, once profiles are set up, objects are dynamically added/deleted from processing, thus saving time in manual procedures and reducing JCL errors.
- LOAD balancing is supported in a variety of ways to give your users more control over system resources.
- An exit is provided that you may use to make smarter decisions when a utility needs to be executed.
- A variety of statistical sources are available to allow you to select the one that best applies to your situation; for example, Real Time Statistics (RTS). You have two choices in how Real Time Statistics are checked. You can have Automation Tool do it directly or you can have Automation Tool use the DSNACCOR stored procedure.
- An object counter is displayed on the screen; for example, 50 of 12,000. This feature helps your DBA by providing an automatic object counter. This is important because SAP ERP solution environments typically have large numbers of objects to be displayed.

IBM DB2 Performance Toolkit for z/OS the SAP Edition V2.2.0 (5697-M32)
consists of two tools in the performance management category:

- Tivoli® OMEGAMON® XE for DB2 Performance Expert on z/OS
- DB2 Query Monitor for z/OS

All the functions of Tivoli OMEGAMON XE for DB2 Performance Expert on z/OS, V5.1 and DB2 Query Monitor for z/OS, V2.3 are licensed for use with your SAP ERP solution systems running on DB2 for z/OS.

- Tivoli OMEGAMON XE for DB2 Performance Expert on z/OS gives you a single, comprehensive tool to help assess the efficiency and optimize performance of your DB2 for z/OS environment. It combines the sophisticated reporting, monitoring, and buffer pool analysis features of Tivoli OMEGAMON XE for DB2 Performance Monitor and DB2 Buffer Pool Analyzer. It also adds expert database analysis functions to help you maximize performance and enhance productivity.
  - Provides end-to-end response time measurement capability (from SAP application through network to DB2 server) surfacing DB2 for z/OS SQL metrics
  - Support for IBM DB2 for z/OS, V10.1 (5635-DB2) and IBM DB2 for z/OS Value Unit Edition, V10.1 (5697-P31)
  - Optimizes your DBA's time by providing timely and relevant statistics in support of making better decisions and recommending actions to tune performance
  - Optimizes system resources by providing query parallelism support and flexibility on how performance data is stored and monitored
- DB2 Query Monitor enables you to customize and tune your SQL workload to improve performance. It also identifies resource-intensive SQL that may need to be tuned. In an SAP ERP solution environment, it is of particular importance that DB2 Query Monitor:
  - Provides reports on all SQL statements, not just the first occurrence
  - Identifies objects accessed for each SQL statement executed
  - Provides statement-level alerts for SQL statements that exceed specified performance thresholds
  - Captures comprehensive statistics for SQL statements that trigger alerts
  - Captures host variables for statements
  - Allows viewing of alerts and performance data from multiple subsystems on multiple LPARs

Accessibility by people with disabilities

A US 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

Section 508 of the US Rehabilitation Act

The products in this announcement are capable as of their general availability, when used in accordance with IBM's associated documentation, of satisfying the applicable requirements of Section 508 of the Rehabilitation Act, provided that any assistive technology used with the product properly interoperates with it.

Value Unit-based pricing

Value Unit pricing for eligible IBM 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.

Program number

Program number	VRM	Program name
5655-P03	1.2.0	IBM InfoSphere Guardium Data Encryption for DB2 and IMS Databases
5697-L30	2.2.0	IBM DB2 Administration Toolkit for z/OS the SAP Edition
5655-W74	2.1.0	IBM DB2 Automation Toolkit for z/OS the SAP Edition
5697-M32	2.2.0	IBM DB2 Performance Toolkit for z/OS the SAP Edition

Product identification number

Program PID number	Subscription and Support PID number
5655-P03	5655-P04
5697-L30	5697-N30
5655-W74	5697-N31
5697-M32	5697-N32

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=211-025

Publications

The IBM Publications Center portal is at

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

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

One copy of each of the following publications is supplied automatically with the
material.

Title	Order number
InfoSphere Guardium Data Encryption for DB2 and IMS Databases V1.2 (5655-P03)	
License Information	GC18-9548
Program Directory	GI10-8682
Intl Prg Lic Agmt (IPLA-Warranted)	Z125-3301
Acquisition of Support (IAASM)	Z125-6011
DB2 Administration Toolkit for z/OS the SAP Edition V2.2 (5697-L30)	
License Information	GC19-1177
Program Directory	GI10-8760
Intl Prg Lic Agmt (IPLA-Warranted)	Z125-3301
Acquisition of Support (IAASM)	Z125-6011
DB2 Automation Toolkit for z/OS the SAP Edition V2.1 (5655-W74)	
License Information	GC19-3245
Program Directory	GI10-8873
Intl Prg Lic Agmt (IPLA-Warranted)	Z125-3301
Acquisition of Support (IAASM)	Z125-6011
DB2 Performance Expert Toolkit for z/OS the SAP Edition V2.2 (5697-M32)	
License Information	GC18-9965
Program Directory	GI10-8718
Intl Prg Lic Agmt (IPLA-Warranted)	Z125-3301
Acquisition of Support (IAASM)	Z125-6011
Quick Start Guide for the end-to-end SQL monitoring function	GH12-6952
Language Packs DVD	LCD7-2597
Data files for Tivoli OMEGAMON XE for DB2 Performance Expert and Performance Monitor on z/OS DVD	LCD7-2600
Activation Kit for End-to-End SQL monitoring DVD	LCD7-2599
Optim^{TM} Performance Manager V4.1 for LUW, Server AIX+Solaris DVD	LCD7-2601

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Optim Performance Manager V4.1 for LUW, Server      LCD7-2602
WIN DVD
Optim Performance Manager V4.1 for LUW, Server      LCD7-2603
Linux® DVD
Optim Performance Manager Ext. Insight V4.1 LUW,    LCD7-2604
Client SW DVD
Optim Performance Manager Ext. Edition V4.1 Plugin  LCD7-2605
for Tivoli Enterprise Portal DVD
DB2 Enterprise Server Edition V9.5 for Win 64 bit   LCD7-2958
DVD Mst
DB2 Enterprise Server Edition V9.5 for 64 bit       LCD7-2959
AIX® DVD Mst
DB2 Enterprise Server Edition V9.5 for Solaris      LCD7-2961
on UltraSPARC DVD Mst
DB2 Enterprise Server Edition V9.5 for Linux on     LCD7-2963
AMD64 and Intel® EM64T systems (x64) DVD Mst
DB2 Enterprise Server Edition V9.5 for Linux on     LCD7-2964
System z DVD Mst
DB2 Enterprise Server Edition V9.5 for Linux on     LCD7-2965
POWER DVD Mst
Data Server Client V9.5 for Windows® 32 bit DVD Mst  LCD4-8337
Data Server Client V9.5 for Windows 64 bit DVD Mst  LCD4-8338
Data Server Client V9.5 for Linux on 32-bit AMD and LCD4-8339
Intel systems (x86) DVD Mst
Data Server Client V9.5 for Linux on AMD64 and      LCD4-8340
Intel EM64T systems (x64) DVD Mst
DB2 Enterprise Server Edition V9.5 for Win 32 bit   LCD7-2957
DB2 Enterprise Server Edition V9.5 Restr.Use        LCD7-2966
Activation
Tiv OMEGAMON XE and ITMS Upgrade Guide              SC23-9745
Tivoli OM XE Language Packs for z/OS                LCD7-3583
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The publications for products in this announcement cannot be ordered in hardcopy. All the publications in this announcement are available at

http://www.ibm.com/software/data/db2imstools

Publications are available in PDF and BookManager® formats on the next release of the software product libraries, z/OS and Software Products DVD Collection (SK3T-4271), which requires a DVD drive in DVD-9 (single-sided, dual-layer) format.

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Title                                               Order number

InfoSphere Guardium Data Encryption for DB2 and IMS
Databases V1.2 (5655-P03)
User's Guide                                        SC19-3219

DB2 Administration Toolkit for z/OS the SAP Edition
V2.2 (5697-L30)
DB2 Administration Tool for z/OS, V10.1 User's Guide SC19-3033
DB2 Object Comparison Tool for z/OS, V10.1 User's   SC19-3037
Guide

DB2 Automation Toolkit for z/OS the SAP Edition  V2.1
(5655-W74)
DB2 Automation Tool for z/OS, V3.1 User's Guide     SC19-2456

DB2 Performance Toolkit for z/OS the SAP Edition
V2.2 (5697-M32)
DB2 Buffer Pool Analyzer for z/OS User's Guide      SH12-6932
DB2 Buffer Pool Analyzer for z/OS Configuration Guide SH12-6933
Configuration and Customization Guide               GH12-6928
Messages                                            GH12-6923
Monitoring Performance from ISPF                    SH12-6926
Monitoring Performance from the OMEGAMON Classic    SH12-6924
Interface
Monitoring Performance from Performance Expert Client SH12-6925
Report Command Reference                            SH12-6922
Report Reference                                    SH12-6921
Reporting User's Guide                              SH12-6927
Quick Start Guide for the end-to-end monitoring     GH12-6952
```

```
                       function
Optim Performance Manager Installation Guide V4.1.0.1   GH12-2934
Program Directory                                       GI19-0046
DB2 Query Monitor for z/OS, V2.3 User's Guide           SC18-9202
```

The following material is available at

http://www.ibm.com/software/data/db2imstools

- Overview brochure: IBM DB2 and IMS Tools Overview (IMD11760-USEN)

Specification sheets, user's guides, and white papers are also available on CD. This CD-ROM can be ordered from the IBM Publications Center Portal at

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

The publications listed below can be downloaded from the following website

http://www.ibm.com/software/tivoli/library

```
Title                                                Order number

IBM Tivoli OMEGAMON XE Monitoring Agents on z/OS     GI11-8918
Quick Start Guide
IBM Tivoli OMEGAMON XE and IBM Tivoli Management     SC23-9745
Services on z/OS:  Upgrade guide
```

Technical information

Specified operating environment

Hardware requirements

The products in this announcement will operate on any System z hardware configuration that supports the required version of DB2 and IMS.

Additionally, InfoSphere Guardium Data Encryption for DB2 and IMS Databases V1.2 has the following requirements:

- InfoSphere Guardium Data Encryption for DB2 and IMS Databases is supported on any processor capable of operating DB2 V8, or later, and IMS V10, or later.
- To support the z10™ processor encryption technology, Crypto Express3 with CP Assist for Cryptographic Function (CPACF protected key) hardware is required and must be installed.
  - Crypto Express:
    -- On the z9™ EC and the z10, the Crypto Express2 feature (#0863) is required.
    -- On the z9 BC, the Crypto Express2 feature (#0863) or the Crypto Express2-1P (#0870) is required.
    -- At least one of the cryptographic engines must be configured as a coprocessor to provide secure key capability.
    -- Installation of either Crypto Express2 feature requires that the CP Assist for Cryptographic Functions (CPACF) DES/TDES Enablement feature (#3863) is installed.
  - On z890 and z990 systems, either a PCIXCC (#0868) or a Crypto Express2 (#0863) provides secure key support. Installation of either of these features requires that the CP Assist for Cryptographic Functions (CPACF) DES/TDES Enablement feature (#3863) is installed.
  - The Cryptographic Coprocessor Feature (CCF) provides secure key support on z800, z900, and earlier machines (G3, G4, G5, G6, Multiprise® 2000, Multiprise 3000). The CCF hardware modules:
    -- Must be enabled with configuration data, a feature that is ordered separately.

-- Require a processor power-on-reset (POR) to complete data loading into the cryptographic modules. Because this hardware does not support the clear key APIs, the use of clear keys by InfoSphere Guardium Data Encryption for DB2 and IMS Databases is not supported on the CCF-based machines.

-- The PCICC feature (#0861) is an optional secure key device on the z800 and z900 systems.

- Additional hardware requirements for clear key data encryption include:

  – A z890 or z990, or later, server.

  – z10 CP Assist for Cryptographic Functions (CPACF) DES/TDES Enablement (#3863)

  – A secure key device for initializing and using the CKDS.

    -- On a z890/z990 system, a PCIXCC or the CEX2 is required.

    -- On a z9 BC system, either a CEX2 or a CEX2-1P is required with at least one engine configured as a coprocessor.

    -- On a z9 EC or a z10 system, a CEX2 is required with at least one engine configured as a coprocessor.

For further configuration information, consult the following publications:

- zEnterprise System Processor Resource/Systems Manager™ Planning Guide
- System z10® System Processor Resource/Systems Manager Planning Guide
- System z10 Support Element Operations Guide

Software requirements

The products in this announcement require:

  z/OS V1.10 (5694-A01), or later

Mandatory installation and operational requirements

InfoSphere Guardium Data Encryption for DB2 and IMS Databases V1.2

InfoSphere Guardium Data Encryption for DB2 and IMS Databases requires that the Integrated Cryptographic Service Facility (ICSF), an element of z/OS, is active and the ICSF version must support the cryptographic device on the specific platform. ICSF runs on processors that support the Integrated Cryptographic Coprocessor Feature.

- Before use of the hardware encryption can occur, the hardware modules must be loaded with at least host DES Master Keys.
- ICSF is required to be active for the I/O requests to be passed to the hardware cryptographic modules.

Note: InfoSphere Guardium Data Encryption for DB2 and IMS Databases will fail if ICSF is not active or the DES Master Keys are not loaded into the crypto modules.

InfoSphere Guardium Data Encryption for DB2 and IMS Databases is designed to operate with all supported DB2 and IMS versions:

- DB2 UDB for z/OS, V8.1 (5625-DB2)
- DB2 UDB for z/OS Value Unit Edition V8.1 (5697-N29)
- DB2 for z/OS, V9.1 (5635-DB2)
- DB2 for z/OS Value Unit Edition V9.1 (5697-P12)
- DB2 for z/OS, V10.1 (5605-DB2)
- DB2 for z/OS Value Unit Edition V10.1 (5697-P31)
- IMS V10.1 (5635-A01)
- IMS V11.1 (5635-A02)
- IMS V12.1 (5635-A03)

DB2 Toolkits for z/OS for SAP ERP Solutions

The DB2 Toolkits for z/OS for SAP ERP solutions are designed to operate with supported DB2 versions:

- DB2 UDB for z/OS, V8.1 (5625-DB2)
- DB2 UDB for z/OS Value Unit Edition V8.1 (5697-N29)
- DB2 for z/OS, V9.1 (5635-DB2)
- DB2 for z/OS Value Unit Edition V9.1 (5697-P12)
- DB2 for z/OS, V10.1 (5605-DB2)
- DB2 for z/OS Value Unit Edition V10.1 (5697-P31)

The DB2 Performance Toolkit for z/OS the SAP Edition has an additional mandatory operational requirement for:

- Tivoli Monitoring V6.2.1 (5698-A79) fixpack 3 (6.2.1-TIV-ITM-FP0003)
- DFSMS™ (which is included in z/OS)

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.

Limitations

For additional information, refer to the Usage restrictions section, or to the License Information document that is available on the IBM Software License Agreement website

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

Planning information

Packaging

The programs in this announcement are distributed with the following content:

- Basic machine-readable material
- Program Directory
- IBM International Program License Agreement (IPLA)

Security, auditability, and control

The announced programs use the security and auditability features of the host operating system software. 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
InfoSphere Guardium Data Encryption for DB2 and IMS Databases V1.2	5655-P03	Value Unit
DB2 Administration Toolkit for z/OS the SAP Edition V2.2	5697-L30	Value Unit
DB2 Automation Toolkit for z/OS the SAP Edition V2.1	5655-W74	Value Unit
DB2 Performance Toolkit for z/OS the SAP Edition V2.2	5697-M32	Value Unit

The following programs have Value Unit-Based pricing.

Program number	Program name	Value Unit exhibit
5655-P03	InfoSphere Guardium Data Encryption for DB2 and IMS Databases V1.2	VUE007
5697-L30	DB2 Administration Toolkit for z/OS the SAP Edition V2.2	VUE007
5655-W74	DB2 Automation Toolkit for z/OS the SAP Edition V2.1	VUE007
5697-M32	DB2 Performance Toolkit for z/OS the SAP Edition V2.2	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 U.S. and several countries in Europe. In countries where ShopzSeries is not available yet, contact your IBM representative (or IBM Business Partner) to handle your order via the traditional IBM ordering process. For more details and availability, visit the ShopzSeries website at

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

Basic license

On/Off CoD

The products in this announcement are eligible for On/Off Capacity on Demand (CoD) with a temporary use charge calculated based on MSUs per-day usage.

```
Translation from MSUs to Value Units (VUE007)

            MSUs        Value Units/MSU
   Base      1-3            1.00
   Tier A    4-45            .45
   Tier B    46-175          .36
   Tier C    176-315         .27
   Tier D    316+            .20
```

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: InfoSphere Guardium Data Encryption for DB2 and IMS
              Databases, V1.2
Program PID: 5655-P03
```

```
Entitlement                                License Option /
Identifier    Description                  Pricing Metric

S012897       IS Guardium Data Encryption  Basic OTC, Value Units
                                           Basic OTC, Per MSU-day
                                           TUC


Orderable Supply ID    Language        Distribution medium

S016638                US English      3590 Tape Cartridge
```

```
Program name: DB2 Administration Toolkit for z/OS the SAP Edition,
              V2.2
Program PID: 5697-L30

Entitlement                                License Option /
Identifier    Description                  Pricing Metric

S013T7K       DB2 Admin Toolkit SAP ED V2  Basic OTC, Value Units
                                           Basic OTC, Per MSU-day
                                           TUC


Orderable Supply ID    Language        Distribution medium

S0168RD                US English      3590 Tape Cartridge
```

```
Program name: DB2 Automation Toolkit for z/OS the SAP Edition,
              V2.1
Program PID: 5655-W74

Entitlement                                License Option /
Identifier    Description                  Pricing Metric

S016N5R       DB2 Automation Toolkit V2    Basic OTC, Value Units
                                           Basic OTC, Per MSU-day
                                           TUC


Orderable Supply ID    Language        Distribution medium

S016NK6                US English      3590 Tape Cartridge
```

```
Program name: DB2 Performance Toolkit for z/OS the SAP Edition,
              V2.2
Program PID: 5697-M32

Entitlement                                License Option /
Identifier    Description                  Pricing Metric

S012M3P       DB2 Perf Toolkit SAP Ed V2   Basic OTC, Value Units
                                           Basic OTC, Per MSU-day
                                           TUC

S016N5S       OMEG XE for DB2 PE Feature   Basic OTC, Value Units
                                           Basic OTC, Per MSU-day
                                           TUC
```

Two orderable supplies are included with this product.

```
Orderable Supply ID    Language        Distribution medium

S0168RH                US English      3590 Tape Cartridge
S0168RJ                US English      3590 Tape Cartridge
```

```
Subscription and Support PID: 5655-P04

Entitlement
Identifier        Description              License Options/Pricing Metrics

S01289B           IS Guardium Data         Basic ASC, per Value Unit SW S&S
                  Encrypt S&S              No charge, decline SW S&S
                                           Per MSU SW S&S registration


Orderable Supply ID     Language          Distribution medium

S012896                 English           Hardcopy publication



Subscription and Support PID: 5697-N30

Entitlement
Identifier        Description              License Options/Pricing Metrics

S011VVR           DB2 Admin Toolkit        Basic ASC, per Value Unit SW S&S
                  SAP Ed S&S               No charge, decline SW S&S
                                           Per MSU SW S&S registration


Orderable Supply ID     Language          Distribution medium

S011VVS                 English           Hardcopy publication



Subscription and Support PID: 5697-N31

Entitlement
Identifier        Description              License Options/Pricing Metrics

S011VVX           DB2 Auto Toolkit         Basic ASC, per Value Unit SW S&S
                  SAP Ed S&S               No charge, decline SW S&S
                                           Per MSU SW S&S registration



Orderable Supply ID     Language          Distribution medium

S011VVZ                 English           Hardcopy publication



Subscription and Support PID: 5697-N32

Entitlement
Identifier        Description              License Options/Pricing Metrics

S011VW6           DB2 Perform$^{TM}$        Basic ASC, per Value Unit SW S&S
                  Toolkit SAP S&S          No Charge, decline SW S&S
                                           Per MSU SW S&S Registration


Orderable Supply ID     Language          Distribution medium

S011VW7                 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 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.

License Information form numbers

Program name	Program number	License Information
InfoSphere Guardium Data Encryption for DB2 and IMS Databases V1.2	5655-P03	GC18-9548
DB2 Administration Toolkit for z/OS the SAP Edition V2.2	5697-L30	GC19-1177
DB2 Automation Toolkit for z/OS the SAP Edition V2.1	5655-W74	GC19-3245
DB2 Performance Toolkit for z/OS the SAP Edition V2.2	5697-M32	GC18-9965

The programs' 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

Usage restrictions

Yes. For additional information, refer to the License Information document that is available on the IBM Software License Agreement website

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

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.

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

5655-P03 InfoSphere Guardium    Full
         Data Encryption for    machine-
         DB2 and IMS            based
         Databases V1.2

5697-L30 DB2 Administration     Full
         Toolkit for z/OS the   machine-
         SAP Edition V2.2       based

5655-W74 DB2 Automation Toolkit Full
         for z/OS the SAP       machine-
         Edition V2.1           based

5697-M32 DB2 Performance        Full
         Toolkit for z/OS the   machine-
         SAP Edition V2.2       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 (and z/OS.e) 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 System/370^{TM}, System/390®, and System z Machine Exhibit* (Z125-3901), or visit the Mainframes section of the System z Exhibits website

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

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

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 the license capacity of the parent program across the Parallel Sysplex. Qualified Parallel Sysplex refers to a sysplex:

- That meets the criteria defined in U.S. Hardware Announcement 198-001, dated January 13, 1998
- 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 (or z/OS.e) operating systems
- Any licenses for the OS/390 operating system must be discontinued
- All instances of the z/OS operating (or z/OS.e) systems must be running in z/Architecture® (64-bit) mode

For that machine, you must create and submit a Sub-Capacity Report to IBM each month. Sub-Capacity Reports must be generated using the Sub-Capacity Reporting Tool (SCRT). For additional information or to obtain a copy of SCRT, visit the 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 eServer^{TM} 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 eServer zSeries® 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

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

For additional information and current prices, contact your local IBM representative.

```
Translation from MSUs to Value Units (VUE007)

                MSUs        Value Units/MSU
    Base        1-3              1.00
    Tier A      4-45              .45
    Tier B      46-175            .36
    Tier C      176-315           .27
    Tier D      316+              .20
```

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: InfoSphere Guardium Data Encryption for DB2 and IMS
              Databases, V1.2
Program PID: 5655-P03

Entitlement                              License Option /
Identifier    Description                Pricing Metric

S012897       IS Guardium Data Encryption   Basic OTC, Value Units
                                            Basic OTC, Per MSU-day
                                            TUC


Program name: DB2 Administration Toolkit for z/OS the SAP Edition,
              V2.2
Program PID: 5697-L30

Entitlement                              License Option /
Identifier    Description                Pricing Metric

S013T7K       DB2 Admin Toolkit SAP ED V2   Basic OTC, Value Units
                                            Basic OTC, Per MSU-day
                                            TUC


Program name: DB2 Automation Toolkit for z/OS the SAP Edition,
              V2.1
Program PID: 5655-W74

Entitlement                              License Option /
Identifier    Description                Pricing Metric

S016N5R       DB2 Automation Toolkit V2     Basic OTC, Value Units
                                            Basic OTC, Per MSU-day
                                            TUC
```

```
Program name: DB2 Performance Toolkit for z/OS the SAP Edition,
              V2.2
Program PID: 5697-M32


Entitlement                                    License Option /
Identifier    Description                      Pricing Metric

S012M3P       DB2 Perf Toolkit SAP Ed V2       Basic OTC, Value Units
                                               Basic OTC, Per MSU-day
                                               TUC


S016N5S       OMEG XE for DB2 PE Feature       Basic OTC, Value Units
                                               Basic OTC, Per MSU-day
                                               TUC




Subscription and Support PID: 5655-P04


Entitlement
Identifier        Description          License Options/Pricing Metrics

S01289B           IS Guardium Data     Basic ASC, per Value Unit SW S&S
                  Encrypt S&S          No charge, decline SW S&S
                                       Per MSU SW S&S registration


Subscription and Support PID: 5697-N30


Entitlement
Identifier        Description          License Options/Pricing Metrics

S011VVR           DB2 Admin Toolkit    Basic ASC, per Value Unit SW S&S
                  SAP Ed S&S           No charge, decline SW S&S
                                       Per MSU SW S&S registration




Subscription and Support PID: 5697-N31


Entitlement
Identifier        Description          License Options/Pricing Metrics

S011VVX           DB2 Auto Toolkit     Basic ASC, per Value Unit SW S&S
                  SAP Ed S&S           No charge, decline SW S&S
                                       Per MSU SW S&S registration




Subscription and Support PID: 5697-N32


Entitlement
Identifier        Description          License Options/Pricing Metrics

S011VW6           DB2 Perform          Basic ASC, per Value Unit SW S&S
                  Toolkit SAP S&S      No Charge, decline SW S&S
                                       Per MSU SW S&S Registration
```

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.

Information on charges is available at

   http://www.ibm.com/support

Choose the option entitled Purchase/upgrade tools.

IBM Global Financing

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   http://www-03.ibm.com/financing/us/index.html

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Order now

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

```
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Fax:        800-2IBM-FAX (242-6329)
For IBM representative: callserv@ca.ibm.com
For IBM Business Partner: pwswna@us.ibm.com
Mail:       IBM Teleweb Customer Support
            ibm.com® Sales Execution Center, Americas North
            3500 Steeles Ave. East, Tower 3/4
            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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