IBM Tivoli Advanced Reporting for DFSMSHsm V2.3

At a glance

IBM® Tivoli® Advanced Reporting for DFSMSHsm™ V2.3 helps users monitor DFSMSHsm and maintain a healthy, efficient DFSMSHsm environment. To help manage the DFSMSHsm environment, it delivers:

- Daily reporting, filtering, masking, and analysis tools
- An interactive correction facility
- What-if capability so you can see the effects of changes before committing them

Overview

IBM Tivoli Advanced Reporting for DFSMSHsm V2.3 is a powerful reporting tool that helps gather critical information from the DFSMS™ hierarchical storage manager (DFSMShsm) environment. It provides:

- An interactive display with customizable reporting capabilities
- Daily reporting, filtering, masking, and analysis to help you manage your DFSMSHsm environment
- Real time and historical trending data that helps you optimize your environment
- Insight to help you reduce the cost of operating your DFSMSHsm environment
- Internal DFSMSHsm information that assists the storage administrator to know what HSM is using and doing
- A way to keep a predefined number of logx and logy days available for better data analysis and reporting
- Easier product installation and customization by auto-discovery of system data sets
- Cross-system communication to other defined DFSMSHsm environments for central use and reporting
- The administrator the ability to issue HSM commands within the product
- High-level storage and DFSMSHsm Health Reporting
- Reports on all HSM setsys and queue status

IBM Tivoli Advanced Reporting for DFSMSHsm V2.3 is part of IBM’s System z® storage management solution, a tightly integrated cluster of products which provides the key capabilities you need to manage all key aspects of your System z storage environment. The IBM Tivoli storage management solution for z/OS® helps storage administrators better manage the performance and availability of the storage environment. In addition, the solution helps meet service-level agreements (SLAs) as well as internal and external regulatory requirements, and helps reduce
operational risks in the storage infrastructure by detecting potential problems before they occur.

The Tivoli storage management solution for z/OS offers a robust portfolio of software, enabling you to automate tasks such as storage administration, storage allocation, Integrated Catalog Facility (ICF) catalog management, IBM Data Facility Storage Management Subsystem hierarchical storage management (DFSMShsm), tape device sharing, tape data stacking, and even full-blown disaster recovery. In addition, these capabilities are accessible from a single, easy-to-use graphical user interface (GUI), utilizing the Tivoli Enterprise Portal (TEP).

### Key prerequisites

Refer to the Technical information section.

### Planned availability date

April 30, 2010

### Description

Helping ensure the availability of the data sets that are managed by DFSMShsm requires daily analysis of its functions. To help maximize productivity, DFSMShsm administrators need pertinent information about DFSMShsm functions in a straightforward, interactive format. IBM Tivoli Advanced Reporting for DFSMShsm V2.3 is a powerful reporting tool that helps gather critical information from the DFSMShsm environment and creates an interactive display with customizable reporting capabilities, and provides at-a-glance graphical views of status through the Tivoli Enterprise Portal.

New in V2.3:

- Integration with the Tivoli Enterprise Portal (TEP) to help you create customized scenarios and alerts from a single GUI

### Reporting

IBM Tivoli Advanced Reporting for DFSMShsm provides reporting on:

- DFSMShsm automatic and on demand tasks
- Historical data within the control data set (CDS)
- Real-time information from CDS and Log files, with user-controlled comparison and analysis periods
- Completion status of the DFSMShsm automatic scheduled functions

In V2.3, users can:

- Get 12 new reports
- Report on and analyze data from many systems at once as well as individually
- Include more information on both DFSMShsm and primary storage. New reports include but are not limited to:
  - SMS/HSM mounted volumes
  - HSM migration reports
  - HSM backup reports
  - Storage group summary primary
  - DASD scan
Problem data set reports
- Get improved real-time filtering, which helps administrators quickly and efficiently click through data to find the key elements

Filtering and masking
IBM Tivoli Advanced Reporting for DFSMShsm V2.3 can be used to filter and mask data. It can:
- Filter and mask customized reports
- Filter specific data in the DFSMShsm environment
- Mask data set names in filters using DFSMS automatic class selection
- Automatic Class Selection (ACS) masking and wild card operations, such as LIKE and UNLIKE

Data display and analysis
IBM Tivoli Advanced Reporting for DFSMShsm V2.3 helps users analyze DFSMShsm information so they can identify problem areas and assess the impact of potential changes. IBM Tivoli Advanced Reporting for DFSMShsm V2.3:
- Helps validate ACS routine logic and manage class assignments
- Exports data and automatically creates charts and graphs to help with visual trending, space analysis, and resource utilization
- Helps users collect log x and log y data over multiple days for in-depth analysis and review of work performed

Error correction
IBM Tivoli Advanced Reporting for DFSMShsm V2.3 can issue DFSMShsm, IDCAMS, and other commands to help correct error conditions in the DFSMShsm environment. IBM Tivoli Advanced Reporting for DFSMShsm V2.3:
- Assists with issuing DFSMShsm corrective commands toward one or all of the data elements matching specified criteria
- Provides the capability to perform "what if" analysis before a change is made
- Can improve messages and user help to make it easier to interpret status and take appropriate corrective action

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


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 VUExx, 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 Web site [http://ibm.com/zseries/swprice/vuctool](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

<table>
<thead>
<tr>
<th>Program number</th>
<th>VRM</th>
<th>Program name</th>
</tr>
</thead>
<tbody>
<tr>
<td>5698-B14</td>
<td>2.3</td>
<td>IBM Tivoli Advanced Reporting for DFSMShsm</td>
</tr>
</tbody>
</table>

### Product identification number

<table>
<thead>
<tr>
<th>Program PID number</th>
<th>Subscription and Support PID number</th>
</tr>
</thead>
<tbody>
<tr>
<td>5698-B14</td>
<td>5698-S98</td>
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</tbody>
</table>

### Education support

Comprehensive education for IBM Tivoli products is offered through Worldwide Tivoli Education Delivery Services. A wide range of training options are available, including classes led by instructors, learning on demand, on-site training, and blended learning solutions.


### Offering Information

Product information is available via the Offering Information Web site [http://www.ibm.com/common/ssi](http://www.ibm.com/common/ssi)
Publications

The following hardcopy publications are shipped with the basic machine-readable material.

<table>
<thead>
<tr>
<th>Title</th>
<th>Order number</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBM Tivoli Advanced Reporting for DFSMShsm V2.3: Program Directory</td>
<td>GI11-8942</td>
</tr>
<tr>
<td>IBM Tivoli Advanced Reporting for DFSMShsm V2.3: Memo to Users</td>
<td>GI11-8943</td>
</tr>
</tbody>
</table>

The publications listed below can be downloaded from the following Web site after the planned availability date.


<table>
<thead>
<tr>
<th>Title</th>
<th>Order number</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBM Tivoli Advanced Reporting for DFSMShsm V2.3: User's Guide</td>
<td>SC27-2350</td>
</tr>
<tr>
<td>IBM Tivoli Advanced Reporting for DFSMShsm V2.3: Monitoring Agent User's Guide</td>
<td>SC27-2352</td>
</tr>
<tr>
<td>IBM Tivoli Advanced Reporting for DFSMShsm V2.3: Monitoring Agent Planning and Configuration Guide</td>
<td>SC27-2351</td>
</tr>
</tbody>
</table>

The IBM Publications Center

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

The Publications Center is a worldwide central repository for IBM product publications and marketing material with a catalog of 70,000 items. Extensive search facilities are provided. Payment options for orders are via credit card (in the 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

Any machine capable of running z/OS V1.9, or later.

Software requirements

IBM z/OS V1.9, or later running DFSMSshm.

To run the Tivoli Enterprise Monitoring Agent and its TEP interface, the following software is required:

- IBM Tivoli Monitoring Services on z/OS, V6.2 or Tivoli Monitoring V6.2
- One of the following operating systems for the TEP interface:
  - Microsoft® Windows®
  - Linux®
  - UNIX®

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**

Required access:

- At least one authorized program facility (APF) authorized load library.
- DFSMShsm and security access is required to issue DFSMShsm commands.
- Access to read the DFSMShsm control data set is required.

**Planning information**

**Packaging**

Advanced Reporting for DFSMShsm V2.3 is distributed with:

- International Program License Agreement (Z125-3301)
- License Information document (GI11-8944)
- 3480 tape
- Publications (refer to the Publications section)

**Security, auditability, and control**

Advanced Reporting for DFSMShsm V2.3 uses the security and auditability features of the 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.

**Global Technology Services**

Contact your IBM representative for the list of selected services available in your country, either as standard or customized offerings for the efficient installation, implementation, or integration of this product.

**IBM Enhanced Value-Based Pricing**

**Enhanced Value-Based Pricing terminology definitions**

**Engine**

An engine is also referred to as a central processor (CP) or processor. Engines for traditional workloads are called General Purpose CPs. Engines for Linux workloads are called Integrated Facility for Linux (IFL) engines or Linux-only engines. Engines for Coupling Facility workloads are called ICF engines.

**IBM Integrated Facility for Linux (IFL)**

This optional facility enables additional processing capacity exclusively for Linux workload, with no effect on the model designation of a System z or OS/390® server. Consequently, executing Linux workload on the IBM IFL will not, in most cases, result in any increased IBM software charges for z/OS, OS/390, VM, VSE, or TPF operating systems and applications. There is, as indicated, a charge associated with the IFL, and there may also be a charge for applications which run on the IFL.

The IFL may be dedicated to a single Linux-mode logical partition or it may be shared by multiple Linux-mode logical partitions. Installations should note that the Linux workspace enabled by this facility will not support any of the traditional S/390® operating systems (OS/390, TPF, VSE, or VM). Only Linux applications or Linux operating in conjunction with the Virtual Image Facility, an environment
that operates within a logical partition or in native S/390 mode and provides the capability to create multiple Linux images, are supported by IBM S/390 IFL.

**Millions of Service Units (MSUS)**

MSU is defined as millions of CPU service units per hour; the measure of capacity used to describe the computing power of the hardware processors on which S/390 or System z software runs. Processor MSU values are determined by the hardware vendor, IBM, or Software Compatible Vendors (SCVs).

For more detailed information about System z software pricing, visit

http://www-03.ibm.com/systems/z/resources/swprice/

**Standby or backup systems**

For programs running or resident on backup machines, IBM defines three types of situations: cold, warm and hot. In cold and warm situations, a separate entitlement for the copy on the backup machine is normally not required and typically no additional charge applies. In a hot backup situation, the customer needs to acquire other license or entitlements sufficient for that server. All programs running in backup mode must be solely under the customer's control, even if running at another enterprise's location.

As a practice, the following are definitions and allowable actions concerning the copy of the program used for backup purposes.

Cold: A copy of the program may reside, for backup purposes, on a machine as long as the program is not started. There is no additional charge for this copy.

Warm: A copy of the program may reside for backup purposes on a machine and is started, but is idling, and is not doing any work of any kind. There is no additional charge for this copy.

Hot: A copy of the program may reside for backup purposes on a machine, is started, and is doing work. The customer must acquire a license or entitlements for this copy and there will generally be an additional charge.

Doing work includes, for example, production, development, program maintenance, and testing. It also could include other activities such as mirroring of transactions, updating of files, synchronization of programs, data or other resources (for example, active linking with another machine, program, database or other resource, and so on), or any activity or configurations that would allow an active hot switch or other synchronized switch over between programs, databases, or other resources to occur.

In the case of a program or system configuration that is designed to support a high availability environment by using various techniques (for example, duplexing, mirroring of files, or transactions, maintaining a heartbeat, active linking with another machine, program, database, or other resource), the program is considered to be doing work in the hot situation and a license or entitlement must be purchased.

**Value units**

A Value Unit is a pricing charge metric for program license entitlements, which is based upon the quantity of a specific designated measurement used for a given program. Each program has a designated measurement. The most commonly used designated measurements are processor cores and MSUs. However, for select programs, there are other designated measurements such as servers, users, client devices, and messages. The number of Value Unit entitlements required for your specific implementation of the given program must be obtained from a conversion table associated with the program. You must obtain a PoE for the appropriate number of Value Unit entitlements for your implementation. The Value Unit entitlements of a given program cannot be exchanged, inter-changed, or aggregated with Value Unit entitlements of another program. Whenever the
designated measurement is a processor core, not all processors require the same number of Value Unit entitlements.

**Pricing example**

The following pricing example applies to Tivoli Advanced Reporting for DFSMShsm V2.3.

System z server = one 1,500 MSU System z server

The product in this example employs Value Unit slope Value Unit Exhibit 007 (VUE007). The scales below are used to calculate the equivalent number of Value Units for a specified number of MSUs.

In the example below, if the customer has installed 1,500 MSUs, the applicable number of Value Units is:

<table>
<thead>
<tr>
<th>MSUs</th>
<th>Value Units/MSU</th>
<th>Value Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base</td>
<td>3</td>
<td>1.00</td>
</tr>
<tr>
<td>Tier A</td>
<td>42</td>
<td>.45</td>
</tr>
<tr>
<td>Tier B</td>
<td>130</td>
<td>.36</td>
</tr>
<tr>
<td>Tier C</td>
<td>140</td>
<td>.27</td>
</tr>
<tr>
<td>Tier D</td>
<td>1,185</td>
<td>.20</td>
</tr>
<tr>
<td>Total</td>
<td>1,500</td>
<td></td>
</tr>
</tbody>
</table>

When calculating the total number of Value Units, the sum is rounded up to the next integer. In this example, the customer needs to license 344 Value Units.

Value Units for non MSU-based System z processors:

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

Value Units for IBM 9672 processors are based upon the full capacity of these systems. This is applicable to all System z systems measured on MSU capacity. Information on MSU capacities can be found in the IBM System z Machines Exhibit, Z125-3901.

**Ordering information**

Consult your IBM representative.

The program in this announcement has Value Unit-Based pricing.

<table>
<thead>
<tr>
<th>Program number</th>
<th>Program name</th>
<th>Value Unit exhibit</th>
</tr>
</thead>
<tbody>
<tr>
<td>5698-B14</td>
<td>IBM Tivoli Advanced Reporting for DFSMShsm V2.3</td>
<td>VUE007</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th></th>
<th>MSUs minimum</th>
<th>MSUs maximum</th>
<th>Value Units/MSU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base</td>
<td>1</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Tier A</td>
<td>4</td>
<td>45</td>
<td>0.45</td>
</tr>
<tr>
<td>Tier B</td>
<td>46</td>
<td>175</td>
<td>0.36</td>
</tr>
<tr>
<td>Tier C</td>
<td>176</td>
<td>315</td>
<td>0.27</td>
</tr>
<tr>
<td>Tier D</td>
<td>316+</td>
<td></td>
<td>0.2</td>
</tr>
</tbody>
</table>

Value Units for mainframes without MSU ratings:

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

**Ordering z/OS through the Internet**

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


**Current licensees**

Current licensees, with support in effect, will automatically be shipped the update.

**New licenses**

Orders for new licenses will be accepted now.

Shipment will begin on the planned availability date.

**Basic license**

**Ordering information for 5698-xxx MSU-based System z offerings:**

Translation from MSUs to Value Units

<table>
<thead>
<tr>
<th>MSUs</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Base</td>
<td>1-3</td>
</tr>
<tr>
<td>Tier A</td>
<td>4-45</td>
</tr>
<tr>
<td>Tier B</td>
<td>46-175</td>
</tr>
<tr>
<td>Tier C</td>
<td>176-315</td>
</tr>
<tr>
<td>Tier D</td>
<td>316+</td>
</tr>
</tbody>
</table>

When running on the z/OS platform, IBM Tivoli Management Services on z/OS, V6.2, or later may be a corequisite to IBM Tivoli Advanced Reporting for DFSMShsm V2.3 if you want to use the Tivoli Enterprise Monitoring Agent (TEMA) for IBM Tivoli Advanced Reporting for DFSMShsm V2.3 and do not already have IBM Tivoli Monitoring V6.2, or later in your enterprise. To obtain a limited use, no charge license for IBM Tivoli Management Services on z/OS, V6.2, you must place a separate order for program number 5698-A79 and agree to the terms of the IBM license for that program.
To order, specify the program product number and the appropriate license or charge option. Also, specify the desired distribution medium. To suppress shipment of media, select the license-only option in CFSW.

**Program name:** IBM Tivoli Advanced Reporting for DFSMShsm V2.3  
**Program PID:** 5698-B14

<table>
<thead>
<tr>
<th>Entitlement identifier</th>
<th>Description</th>
<th>License option/ Pricing metric</th>
</tr>
</thead>
<tbody>
<tr>
<td>S014J5K</td>
<td>IBM Tivoli Advanced Reporting Basic OTC, per Value Unit for DFSMShsm</td>
<td>Basic OTC, per MSU-day TUC</td>
</tr>
</tbody>
</table>

**Orderable supply ID** Language Distribution medium

| S014J66               | English | 3480 tape |

**Subscription and Support PID:** 5698-S98

<table>
<thead>
<tr>
<th>Entitlement identifier</th>
<th>Description</th>
<th>License option/ Pricing metric</th>
</tr>
</thead>
<tbody>
<tr>
<td>S013W98</td>
<td>IBM Tivoli Advanced Reporting for DFSMShsm Basic MSC, per Value Unit SW S&amp;S</td>
<td>No charge, decline SW S&amp;S Per MSU SW S&amp;S registration</td>
</tr>
</tbody>
</table>

**Orderable supply ID** Language Distribution medium

| S013W99               | English | Hardcopy publication |

**Subscription and Support**

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

To order, specify the Subscription and Support program product number and the appropriate license or charge option.

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

- Includes and extends the support services provided in the base support to include technical support via telephone during normal business hours.
- 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.

**Customized Offerings**

Product deliverables are shipped only via Customized Offerings (for example, CBPDO, ServerPac, SystemPac®).

CBPDO and ServerPac are offered for Internet delivery, where ShopzSeries product ordering is available. Internet delivery of ServerPac may help improve automation and software delivery time. For more details on Internet delivery, refer to the ShopzSeries help information at

http://www.software.ibm.com/ShopzSeries
Media type for this software product is chosen during the Customized Offerings ordering process. Based on your customer environment, it is recommended that the highest possible density tape media is selected. Currently offered media types are:

- CBPDOs - 3480, 3480 Compressed, 3490E, 3590, 3592*
- ServerPacs - 3480, 3480 Compressed, 3490E, 3590, 3592*
- SystemPacs - 3480, 3480 Compressed, 3490E, 3590, 3592*

*3592 is highest density media. Selecting 3592 will ship the fewest number of media.

Once a product becomes generally available, it will be included in the next ServerPac and SystemPac monthly update.

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 inclusion in ServerPac.
- SystemPac shipments will begin four weeks after inclusion in SystemPac 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)

This program is 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. This program has 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

GI11-8944. The program’s License Information will be available for review on the IBM Software License Agreement Web site

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
Support for the program product will be available for a minimum of three years from the general availability date with a fee-based option to extend support for up to two additional years. 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.

Authorization for use on home/portable computer
You may not copy and use this program on another computer without paying additional license fees.

Other terms

Volume orders (IVO)
No

IBM International Passport Advantage Agreement

Passport Advantage applies
No

Usage restriction
Yes. Usage is limited to the quantity of Value Units licensed.
For additional information, refer to the License Information document that is available on the IBM Software License Agreement Web site


**Software Subscription and Support (Software Maintenance)**

**Software Subscription and Support (Software Maintenance) applies**

No. For operating system software, the revised IBM Operational Support Services - SoftwareXcel offering will provide support for those operating systems and associated products that are not available with the 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

**System i Software Maintenance applies**

No

**Variable charges apply**

No

**Educational allowance available**

Yes. When ordering through the program number process, a 15% education allowance applies to qualified education institution customers.

Education Software Allowance Program applies when ordering through the program number process.

**ESAP available**

Yes, to qualified 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.

<table>
<thead>
<tr>
<th>Program number</th>
<th>Program name</th>
<th>Terms</th>
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</thead>
<tbody>
<tr>
<td>5698-B14</td>
<td>IBM Tivoli Advanced Reporting for DFSMS/hsm</td>
<td>z/OS based</td>
</tr>
</tbody>
</table>

**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


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 Web site

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

For more information on sub-capacity System z IPLA terms and conditions, refer to Software Announcement ZA04-0227, 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 with the license capacity of the parent program across the Parallel Sysplex. Qualified Parallel Sysplex refers to one:

- That meets the criteria defined in Hardware Announcement ZA98-0120, 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 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 Web site

http://ibm.com/zseries/swprice

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

- The complete terms and conditions of sub-capacity WLC are defined in the IBM Customer Agreement - Attachment for System z Workload License Charges (Z125-6516).
- The complete terms and conditions for sub-capacity EWLC are defined in the IBM Customer Agreement - Attachment for IBM System z 890 and 800 License Charges (Z125-6587).

Additionally, you must sign and comply with the terms and conditions specified in the amendment to the IPLA contract - Amendment for IBM System z9® and System z Programs Sub-Capacity Pricing (Z125-6929). Once the amendment is signed, the terms in the amendment replace any and all previous System z IPLA sub-capacity terms and conditions.

**Sub-capacity utilization determination**

Sub-capacity utilization is determined based on the utilization of an eligible operating system and machine (for example, z/OS running in z/Architecture (64 bit) mode on a System z ((or equivalent) server).

**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 Customer Initiated Upgrade and IBM eServer™ On/Off Capacity on Demand - Software (Z125-6611) must be signed prior to use.

**IBM Electronic Services**

IBM has transformed its delivery of hardware and software support services to help you achieve higher system availability. Electronic Services is a Web-enabled solution that offers an exclusive, no-additional-charge enhancement to the service and support available for IBM servers. These services are designed to provide the opportunity for greater system availability with faster problem resolution and preemptive monitoring. Electronic Services comprises two separate, but complementary, elements: Electronic Services news page and Electronic Services Agent.

The Electronic Services news page is a single Internet entry point that replaces the multiple entry points traditionally used to access IBM Internet services and support. The news page enables you to gain easier access to IBM resources for assistance in resolving technical problems.
The Electronic Service Agent™ is no-additional-charge software that resides on your server. It monitors events and transmits system inventory information to IBM on a periodic, client-defined timetable. The Electronic Service Agent automatically reports hardware problems to IBM. Early knowledge about potential problems enables IBM to deliver proactive service that may result in higher system availability and performance. In addition, information collected through the Service Agent is made available to IBM service support representatives when they help answer your questions or diagnose problems. Installation and use of IBM Electronic Service Agent for problem reporting enables IBM to provide better support and service for your IBM server.

To learn how Electronic Services can work for you, visit

   http://www.ibm.com/support/electronic

**Prices**

For all local charges, contact your IBM representative.

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