IBM Z APM Connect V5.5.0, formerly known as IBM OMEGAMON for Application Performance Management, improves visibility into IBM z/OS application components with support for transaction tracking, resource monitoring metrics, and events

Overview

IBM Z Application Performance Management Connect V5.5.0, formerly known as IBM OMEGAMON for Application Performance Management, builds on and enhances monitoring capabilities of the previous OMEGAMON offering, providing improved visibility into critical application components running on IBM z/OS:

- Support for IBM Application Performance Management and AppDynamics Application Performance Management software
- Dedicated agents to collect transaction timing information for key z/OS subsystems such as CICS, MQ, and DB2
- Integration with existing IBM OMEGAMON agents in order to make events and resource monitoring metrics gathered by the IBM OMEGAMON agents visible in the Application Performance Management (APM) software

Key prerequisites

See the Software requirements and Hardware requirements sections.

Planned availability date

December 8, 2017

See the Availability of national languages section for national language availability.

Description

IBM Z Application Performance Management Connect V5.5.0 enables your z/OS-based application components to be visible in multiple APM products. APM vendors and offerings supported in IBM Z Application Performance Management Connect V5.5.0 include:
1. IBM Cloud Application Performance Management 8.1.3, and higher
2. AppDynamics Application Performance Management V4.3, and higher

There are two main areas of functionality:

- Transaction tracking
- Resource monitoring metrics and events

**Transaction tracking**

IBM Z Application Performance Management Connect V5.5 supports transaction tracking integration with AppDynamics Application Performance Management.

The following transaction flowing are as follows:

- Transactions entering CICS Transaction Server for z/OS through http or SOAP distributed entry points.
- Transaction entering CICS Transaction Server for z/OS through IBM MQ for z/OS. The specific MQ protocols supported are dependent on AppDynamics APM support and can be found in the 'Message Oriented Middleware Support' table in the [Java™ Supported Environments AppDynamics documentation](https://www.ibm.com) website.
- Transactions flowing into DB2 or IMS™ DB from CICS Transaction Server for z/OS.

**Resource monitoring metrics and events**

IBM Z Application Performance Management Connect V5.5.0 provides resource monitoring integration by leveraging information collected by IBM OMEGAMON. A subset of the metrics gathered by IBM OMEGAMON is made available to the supported APM products.

Metrics available for each supported OMEGAMON agent:

- For **CICS Transaction Servers systems**, information is displayed per region on transaction rates; CPU utilizations; I/O rates; short on storage conditions; VTAM™ Access control method block status; enqueue wait counts; storage violation counts; attention identifier and interval control element counts; short-term and long-term processing bottlenecks; the health of dynamic storage areas in CICS; overall transaction response times; response times across CICS components; and the health of connections to DB2, IMS, and MQ systems.
- For **IMS systems**, information per subsystem is displayed about control and dependent region CPU utilizations; enqueue and dequeue rates; overall transaction rates; transaction queue counts; highest R0 rates, subsystem details with individual region statuses and region occupancy percentages; highest transaction response times; and CPU percentages by address space.
- For **DB2 systems**, information is displayed about CPU utilizations per LPAR and per DB2 subsystems; current thread counts; transactions per second; lock conflict counts; extended CSA sizes; real 4K frames in use; in-doubt units of recovery; paging and storage statistics; buffer pool statistics; thread utilizations including foreground, background and database access thread utilizations; DB2 storage statistics; and the health of connections to CICS and IMS systems.
- For **JVMs running on z/OS systems**, information is displayed about highest lock missed percentages; highest GCs per minute; highest percentage of time spent in garbage collection processing; highest average occupancy; highest number of threads blocked; general and integrated facility for application CPU percentages; lock utilizations; environmental data including collector id, job name, ASID, and process ID; garbage collection statistics including garbage collection mode, heap sizes, and maximum used percentages.
- For **z/OS systems**, information per LPAR is displayed about average CPU utilization percentages; resource monitor facility MVS™ CPU utilization percentages; real frames used percentages by category; common storage areas in use percentages; system paging rates; workload manager modes; address space counts; summary information about capped and uncapped million
service unit capacities, and million service unit details information per 5-minute intervals.

- For **MQ for z/OS**, information per MQ is displayed about queue types; queue names; transmission queue depths; depth full percentages; input and output opens; queues in use not being read; channel names, channel types; channels statuses; channels not running; channels in doubt; listeners not running; queue manager events; and critical MQ errors.

- For **z/OS Connect**, information is displayed per z/OS Connect Server about REST service names; request counts; and maximum response times. Information is also displayed for the slowest requests being serviced by a z/OS Connect Server in an interval. Including; request ids; event times; method names; service names; response times; remote addresses; query strings; and request and response lengths.

- For **CICS Transaction Gateway for z/OS**, information is displayed per gateway on region health; transaction rates; CICS flow rates; failure rates; average response times; CPU utilizations; a summary of the number of clients connected; maximum and average response times for connected clients; information about connected CICS Transaction Servers including number of connected servers; average response time per region; number of requests that have been executed, and the number of requests waiting; IPIC sessions in use; IPIC connection failures; IPIC lost connections; EXCI Pipes allocated; and EXCI Pipe allocation failures.

IBM Z Application Performance Management Connect V5.5.0 also provides support for OMEGAMON events to be made available in APM. These events will appear in the APM UI in relevant application dashboards that contain the z/OS middleware instances that crossed IBM provided, or customer defined thresholds.

**Important notes:**

- AppDynamics Application Performance Management integration only supports transaction tracking capability.
- IBM Cloud Application Performance Management only supports resource monitoring and events capability.

**Value Unit-based pricing**

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

For each z Systems 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, go to the IBM System z® Software Pricing website.

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 z Systems IPLA program you selected, see the Terms and conditions section.

Product positioning

IBM Z Application Performance Management Connect provides visibility of z/OS subsystems in both IBM Application Performance Management and AppDynamics Application Performance Management software. It should be positioned as making z/OS application components first class citizens, in the APM world. The product supports two of the leading APM software products, IBM Application Performance Management and AppDynamics Application Performance Management. For clients that have either of these products and are using the mainframe, then IBM Z Application Performance Management Connect can be of value and provide additional capability.

Statement of general direction

IBM intends to provide transaction tracking capability for IBM Application Performance Management and support for additional subsystems, including z/OS Connect and IMS™ Connect in a future update of IBM Z Application Performance Management Connect.

IBM’s statements regarding its plans, directions, and intent are subject to change or withdrawal without notice at IBM’s sole discretion. Information regarding potential future products is intended to outline our general product direction and it should not be relied on in making a purchasing decision. The information mentioned regarding potential future products is not a commitment, promise, or legal obligation to deliver any material, code, or functionality. Information about potential future products may not be incorporated into any contract. The development, release, and timing of any future features or functionality described for our products remain at our sole discretion.

Availability of national languages

Translation information, if available, can be found at the Translation Reports website.

Program number

<table>
<thead>
<tr>
<th>Program number</th>
<th>VRM</th>
<th>Program name</th>
</tr>
</thead>
<tbody>
<tr>
<td>5698-ABF</td>
<td>5.5.0</td>
<td>IBM Z Application Performance Management Connect</td>
</tr>
<tr>
<td>5698-ABG</td>
<td>1.1.0</td>
<td>IBM Z Application Performance Management Connect S&amp;S</td>
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</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-ABF</td>
<td>5698-ABG</td>
</tr>
</tbody>
</table>

Education support

IBM training provides education to support many IBM offerings. Descriptions of courses for IT professionals and managers can be found on IBM authorized training website.

Call IBM training at 800-IBM-TEACH (426-8322) for catalogs, schedules, and enrollments.

Offering Information

Product information is available on the IBM Offering Information website.

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(R) ID and password are required (use IBMid).

BP Attachment for Announcement Letter 217-399

Publications

The following publications are available for ordering. To order, use the Publications Center or contact your IBM representative.

IBM Z APM Connect V5.5.0 (5698-ABF)

<table>
<thead>
<tr>
<th>Title</th>
<th>Publication number</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBM Z Application Performance Management Connect Program Directory</td>
<td>GI13-4166</td>
</tr>
<tr>
<td>IBM Z Application Performance Management Connect License Information</td>
<td>GI13-4167</td>
</tr>
<tr>
<td>IBM Z Application Performance Management License Information CDROM</td>
<td>LC27-8732</td>
</tr>
</tbody>
</table>

IBM Z APM Connect V5.5.0 product documentation is published in IBM Knowledge Center, which can be viewed from a web browser with internet access and will be available on December 8, 2017.

Services

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, contact your Lab Services Sales or Delivery Leader.

Technical information

Specified operating environment

Hardware requirements
See the IBM developerWorks® website for the hardware requirements.

Software requirements
See the IBM developerWorks website for the software requirements.

Planning information

Packaging
The programs in this announcement are distributed with:

• International Program License Agreement (Z125-3301)
• License Information document
• Publications (see the Publications section)
• 3590 Tape

This program, when downloaded from a website, contains the applicable IBM license agreement and License Information, if appropriate, which will be presented for acceptance at the time of installation of the program. For future reference, the license and License Information will be stored in a directory such as LICENSE.TXT.

Direct customer support
For technical support or assistance, contact your IBM representative or go to the IBM Support Portal website.

Security, auditability, and control
The programs in this announcement use 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.

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

<table>
<thead>
<tr>
<th>Program number</th>
<th>Program name</th>
<th>Value Unit exhibit</th>
</tr>
</thead>
<tbody>
<tr>
<td>5698-ABF</td>
<td>IBM Z Application Performance Management Connect</td>
<td>VUE007</td>
</tr>
</tbody>
</table>

For each IBM 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 IBM 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>Tier</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>0.20</td>
</tr>
</tbody>
</table>

Ordering example

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

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

<table>
<thead>
<tr>
<th>Tier</th>
<th>MSUs</th>
<th>Multiplied by Value Units per MSU</th>
<th>Equal Value Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base</td>
<td>3</td>
<td>1.00</td>
<td>3.00</td>
</tr>
<tr>
<td>Tier A</td>
<td>42</td>
<td>.45</td>
<td>18.90</td>
</tr>
<tr>
<td>Tier B</td>
<td>130</td>
<td>.36</td>
<td>46.80</td>
</tr>
<tr>
<td>Tier C</td>
<td>140</td>
<td>.27</td>
<td>37.80</td>
</tr>
<tr>
<td>Tier D</td>
<td>1,185</td>
<td>.20</td>
<td>237.00</td>
</tr>
<tr>
<td>Total</td>
<td>1,500</td>
<td></td>
<td>343.50</td>
</tr>
</tbody>
</table>

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

Value Unit exhibit VUE020

<table>
<thead>
<tr>
<th>Level</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Value Units/MSU</th>
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<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>0.15</td>
</tr>
<tr>
<td>Tier B</td>
<td>46</td>
<td>175</td>
<td>0.08</td>
</tr>
<tr>
<td>Tier C</td>
<td>176</td>
<td>315</td>
<td>0.04</td>
</tr>
<tr>
<td>Tier D</td>
<td>316</td>
<td>+</td>
<td>0.03</td>
</tr>
</tbody>
</table>

Ordering z/OS through the internet

Shopz 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). Shopz is available in the US and several countries in Europe. In countries where Shopz 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 Shopz.

Charge metric

<table>
<thead>
<tr>
<th>Program name</th>
<th>Program number</th>
<th>Charge metric</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBM Z Application Performance Management Connect</td>
<td>5698-ABF</td>
<td>Value Unit</td>
</tr>
<tr>
<td>IBM Z Application Performance Management Connect Subscription and Support</td>
<td>5698-ABG</td>
<td>Value Unit</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>MSUs</th>
<th>Value Units/MSU</th>
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</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>

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 Z Application Performance Management Connect**

**Program PID: 5698-ABF**

<table>
<thead>
<tr>
<th>Entitlement identifier</th>
<th>Description</th>
<th>License option/Pricing metric</th>
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<tbody>
<tr>
<td>S018247</td>
<td>IBM Z APM Connect</td>
<td>Basic OTC, per MSU-day TUC</td>
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<tr>
<td></td>
<td></td>
<td>Basic OTC, per Value Unit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MultiVersion Measurement No Charge</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Orderable supply ID</th>
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</thead>
<tbody>
<tr>
<td>S018278</td>
<td>IBM Z APM Connect</td>
<td>English US</td>
<td>3590 Tape</td>
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</table>

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

<table>
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<tr>
<td>S01824B</td>
<td>IBM Z APM Connect S&amp;S</td>
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<td></td>
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<td>No charge, decline SW S&amp;S</td>
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<tr>
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<td></td>
<td>Per MSU SW S&amp;S registration</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MultiVersion Measurement S&amp;S No Charge</td>
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</table>

<table>
<thead>
<tr>
<th>Orderable supply ID</th>
<th>Description</th>
<th>Language</th>
<th>Distribution medium</th>
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<tbody>
<tr>
<td>S01827B</td>
<td>IBM Z APM Connect S&amp;S</td>
<td>English</td>
<td>Hardcopy publication</td>
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</tbody>
</table>

**Customized Offerings**

Product deliverables are shipped only through CBPDO and ServerPac. These customized offerings are offered for internet delivery in countries where Shopz 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, go to the Help section on the Shopz website.

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 include:

- 3590
- 3592
Most products can be ordered in ServerPac the month following their availability in CBPDO. z/OS can be ordered through CBPDO and ServerPac at general availability. Many products will also be orderable in a Product ServerPac without also having to order the z/OS operating system or subsystem.

Shopz and CFSW will determine the eligibility based on product requisite checking. For more details on the product ServerPac, go to the Help section on the Shopz website.

For additional information about the Product ServerPac option, see Software Announcement 212-272, dated July 31, 2012.

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 four weeks after general availability.

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

**License Information number**

<table>
<thead>
<tr>
<th>Description</th>
<th>Form number</th>
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<tr>
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<td>GI13-4167-01</td>
</tr>
</tbody>
</table>

See the License Information documents page on the IBM Software License Agreement website for more information.

**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 about known program defects, defect corrections, restrictions, and bypasses at no additional charge. For further information, see the IBM Software Support Handbook.

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

Program technical support

Technical support of a program product version or release will be available for a minimum of five years from the general availability date, as long as your Software Subscription and Support (also referred to as Software Maintenance) is in effect.

This technical support allows you to obtain assistance (by telephone or electronic means) from IBM for product-specific, task-oriented questions regarding the installation and operation of the program product. Software Subscription and Support (Software Maintenance) also provides you with access to updates (modifications or fixes), releases, and versions of the program. You will be notified, through an announcement letter, of discontinuance of support with 12 months' notice. If you require additional technical support from IBM, including an extension of support beyond the discontinuance date, contact your IBM representative or IBM Business Partner. This extension may be available for a fee.

For additional information about the IBM Software Support Lifecycle Policy, see the IBM Software Support Lifecycle Policy website.

Money-back guarantee

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

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

Volume orders (IVO)

No

Passport Advantage applies

No

Software Subscription and Support applies

Yes. During the Software Subscription and Support period, for the unmodified portion of a program, and to the extent problems can be recreated in the specified operating environment, IBM will provide the following:

- Defect correction information, a restriction, or a bypass.
• Program updates: Periodic releases of collections of code corrections, fixes, functional enhancements and new versions and releases to the program and documentation.

• Technical assistance: A reasonable amount of remote assistance by telephone or electronically to address suspected program defects. Technical assistance is available from the IBM support center in the organization’s geography.

Additional details regarding Technical Assistance, which includes IBM contact information, are provided in the IBM Software Support Handbook.

Software Subscription and Support does not include assistance for:

• The design and development of applications.

• Your use of programs in other than their specified operating environment.

• Failures caused by products for which IBM is not responsible under the IBM Agreement for Acquisition of Software Maintenance.

Software Subscription and Support is provided only if the program is within its support timeframe as specified in the Software Support Lifecycle policy for the program.

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, go to the Supported product list website.

**IBM Operational Support Services - SoftwareXcel**

Yes

**Variable charges apply**

Yes

**Educational allowance available**

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

**Multi-Version Measurement**

Multi-Version Measurement (MVM) replaces the previously announced Migration Grace Period time limit of six months and allows unlimited time for clients to run more than one eligible version of a software program. Clients may run multiple versions of a program simultaneously for an unlimited duration during a program version upgrade. Clients may also choose to run multiple versions of a program simultaneously for an unlimited duration in a production environment. MVM does not extend support dates for programs withdrawn from service.

For more information about MVM, including requirements for qualification, see the MVM web page. For a list of eligible programs, see the IPLA Execution-Based web page.

**Sub-capacity terms and conditions**

For each IBM 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 IBM 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 about the Value Unit Exhibit for the IBM Z IPLA program you selected, see the Ordering information section.

<table>
<thead>
<tr>
<th>Program number</th>
<th>Program name</th>
<th>Terms</th>
</tr>
</thead>
<tbody>
<tr>
<td>5698-ABF</td>
<td>IBM Z Application Performance Management Connect</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 IBM Z IPLA program with these terms equals the MSU-rated capacity of the machines where the IBM Z IPLA program executes.

IBM full-capacity ratings that can be found on the Mainframe Exhibits section of the IBM Z (z Systems Software Contracts) website.

Reference based: The required license capacity of a IBM 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 IBM Z IPLA sub-capacity program with these terms equals the capacity of the LPARs where the IBM Z IPLA program executes.

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

Reference based: The required license capacity of an IBM 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 an IBM Z IPLA program with full machine based terms equals the MSU-rated capacity of the machines where the IBM Z IPLA program executes.

For more information about mainframe MSU-rated capacities, see The IBM z Systems Machines Exhibit, Z125-3901, or see the Mainframe Exhibits section of the IBM Z (z Systems Software Contracts) website.

For additional information for products with reference-based terms, IBM 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 IBM 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 IBM Z IPLA program with referenced-based terms, each environment should be assessed separately.

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

- Where MLC pricing is aggregated across the sysplex.

**Sub-capacity eligibility**

To be eligible for sub-capacity charging on select IBM 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 IBM 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(R) (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, see the IBM Z (z Systems Software Pricing) website.

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 z Systems Workload License Charges (Z125-6516).
- The complete terms and conditions for sub-capacity EWLC are defined in the IBM Customer Agreement - Attachment for EWLC, TWLC, zELC, and z/OS.e 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 Amendment for IBM Z (z Systems Programs Sub-Capacity Pricing) (Z125-6929). After the amendment is signed, the terms in the amendment replace any and all previous IBM 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 IBM Z, or equivalent, server.

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

**On/Off 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 z Systems On/Off Capacity on Demand (Z125-7883) must be signed prior to use.

**Statement of good security practices**

IT system security involves protecting systems and information through intrusion prevention, detection, and response to improper access from within and outside your enterprise. Improper access can result in information being altered, destroyed, or misappropriated or can result in misuse of your systems to attack others. Without
a comprehensive approach to security, no IT system or product should be considered completely secure and no single product or security measure can be completely effective in preventing improper access. IBM systems and products are designed to be part of a regulatory compliant, comprehensive security approach, which will necessarily involve additional operational procedures, and may require other systems, products, or services to be most effective.

**Important:** IBM does not warrant that any systems, products, or services are immune from, or will make your enterprise immune from, the malicious or illegal conduct of any party.

### Prices

Registered external customers and IBM Business Partners can access IBMLink for charges. See Purchase/upgrade tools on the IBMlink website.

For software prices, select "Look up IBM System z software prices (ESWPrice)" under "Prices." Specify "Price type," "Search type," and "Search value," then click "Search."

**Note:** Enter program number in the "Search value."

You can also contact your local IBM representative or IBM Business Partner for the applicable charges.

**Variable charges:** The applicable processor-based one-time charge will be based on the group of the designated machine on which the program is licensed for use. If the program is designated to a processor in a group for which no charge is listed, the charge of the next higher group listed applies. For movement to a machine in a higher group, an upgrade charge equal to the difference in the then-current charges between the two groups will apply. For movement to a machine in a lower group, there will be no adjustment or refund of charges paid.

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