

IBM Watson Machine Learning for z/OS 2.3 and IBM Db2 AI for z/OS 1.4 enhancements boost functionality, performance, usability, and simplify deployment

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At a glance

IBM Watson[®] Machine Learning for z/OS[®] (IBM[®] WMLz) 2.3 is an enterprise machine learning platform that enables organizations to build, deploy, and operationalize machine learning models on IBM z/OS. The latest release of IBM WMLz is designed to significantly improve online scoring service performance for various types of machine learning models, especially for deep learning models in Open Neural Network Exchange (ONNX) format. IBM WMLz 2.3 also includes enhancements for integration with IBM Cloud Pak[®] for Data, installation, configuration simplification, and usability of IBM WMLz base services, and an IBM WMLz model integrated development environment (IDE).

IBM Db2[®] AI for z/OS (Db2ZAI) 1.4, a separately licensed product, uses machine learning to improve the operational performance of Db2 for z/OS systems. It is built on the services that are provided by IBM WMLz to help optimize performance. Db2ZAI 1.4 includes the following enhancements:

- Enterprise readiness, including simplified migration and high-availability support
- System Assessment graph drill-down, which provides correlation from System Assessment exceptions to potential candidate SQL
- Enhanced Distributed Connection Control visualization for historical trend analysis and improved profile management
- SQL Optimization dashboard, which provides a progress report that demonstrates the value provided by Db2ZAI SQL optimization

Overview

IBM WMLz 2.3

IBM WMLz 2.3 improves online scoring service performance for various types of machine learning models, especially for deep learning models in the ONNX format. In this release, the IBM WMLz ONNX scoring engine is upgraded with more optimization for z/OS. In addition, the upgraded ONNX scoring engine runs in IBM z/OS Container Extension (zCX), enabling the deep learning inferencing workload with IBM WMLz 2.3 to be zIIP eligible.

The IBM WMLz 2.3 Online Scoring Community Edition function is a lightweight version of IBM WMLz. Packaged as an s390 Docker image, it provides a no-charge option for clients to try out the streamlined up-and-running IBM WMLz inferencing in-transaction approach.

The IBM WMLz 2.3 Online Scoring Community Edition will be available for download from the [IBM Watson Machine Learning for z/OS](#) web page on June 11, 2021.

IBM WMLz 2.3 introduces a model IDE running on Red Hat^(R) OpenShift^(R) Container Platform (OCP). This enables the model IDE to utilize the included core services and underlying machine learning infrastructure and resources. The model IDE user interface uses the same framework as that of IBM Cloud Pak for Data. The UI unifies the application experience for data scientists and system administrators for managing system environments, services, users, data, machine learning assets, and deployment spaces.

IBM WMLz 2.3 has a new look and feel for its model IDE and base services. With this release, the WMLz UIs start to adopt the standards and principles of IBM Carbon, an open source design system for products and digital experiences. This is designed to provide a consistent and simplified experience that can help reduce the time required to learn interfaces and get up and running faster.

IBM WMLz 2.3 introduces several features that are designed to simplify IBM WMLz installation and configuration, including the following:

- Node.js, which is embedded and shipped as part of IBM WMLz
- Db2 anomaly detection service, which is merged into the IBM WMLz base service function modification identifier (FMID)
- Configuration tool usability enhancements

Db2 AI for z/OS 1.4

IBM continues to infuse AI into Db2 for z/OS with Db2 AI for z/OS 1.4. This release of Db2 for z/OS is designed to operate smarter and more efficiently, which can help to improve Db2 application performance.

Additional key features to further improve Db2 performance and resilience in Db2 AI for z/OS 1.4 include the following:

- Enterprise security readiness:
 - Designed to help simplify user management for Db2 AI for z/OS through the use of default Db2 Resource Access Control Facility (RACF^(R)) methods, which can help clients improve their security and audit requirements for user management
 - Supports multifactor authentication
- Sysplex Support and simplified migration for Db2 AI for z/OS:
 - Enhanced high-availability support for business-critical and large workloads designed to help eliminate single point of failure
 - Designed to simplify the migration process for clients upgrading to a newer Db2ZAI release
- SQL Optimization for accurate and faster database queries:
 - Designed to improve the automated SQL regression detection and resolution feature, enabling regressions to be detected and resolved more quickly, and in some cases in real-time, even before the query has completed execution
 - Expands sort optimization to OLTP queries, which can result in savings of CPU resources
 - Improved sort optimization when combined with the IBM z15TM hardware sort assist for SQL, whereby learning can improve exploitation of the z15 sort feature
 - Improved UI to help simplify the benefits that Db2ZAI is providing for SQL optimization by highlighting *progress*, *benefits*, and *actions*:
 - *Progress* indicates the amount of progress that Db2ZAI has made in learning about static SQL packages and dynamic SQLs.
 - *Benefits* indicates the savings that have been provided by Db2ZAI for the SQLs through which progress has been made.

- *Actions* indicates the recommended actions for the user to take that help accelerate Db2ZAI's progress.
- Db2ZAI SQL optimization UI supports limiting the scope of the view to the most important CPU-consuming packages or SQL, and also limited by user-specified time windows.
- Db2 System Health Assessment:
 - Correlates data from System Assessment and SQL Optimization by identifying SQL statements that might be contributing to System Assessment exceptions. New drill-down capability from System Assessment graph is designed to assist clients in determining the cause of system-level anomalies and help speed resolution.
 - This function delivers the use case for row identifier (RID) exceptions wherein the graphs directly highlight SQL statements involved in system-level RID exceptions.
 - The correlation to SQL execution data can help identify SQL statements that were executing during the exception.
 - Enables clients to map data collected from SQL performance monitors that is stored in Db2 tables to more accurately correlate System Assessment exceptions to SQL activity
 - Provides enhanced visual interpretation of exception thresholds used for the assessment for each work period for user consumption
 - Provides an option to hide and unhide the exceptions reported by System Assessment, improving clients' capability to manage exception lists
- Distributed Connection Control:
 - Extends protection for Db2 for z/OS subsystems to control access from dynamic IP addresses in addition to the existing static IP address protection. Clients can set and monitor threshold by dynamic IP addresses.
 - Designed to improve visualization for statistics graphs that yield data that is more meaningful and easier to use. This enables DBAs to gain insight into how remote applications are impacting Db2, and to identify which applications are running less optimally, to prevent potential outages.

Key requirements

IBM WMLz 2.3 requires an IBM z15, IBM z14^(R), IBM z14 Model ZR1, IBM z13^(R), IBM z13s^(R), or IBM zEnterprise^(R) EC12 server running IBM z/OS 2.3, or later.

Optimal results can be obtained by allocating 4 or more zIIP processors, 1 general-purpose processor, and 100 GB or more of memory with 100 GB storage to the LPAR in which IBM WMLz 2.3 components operate.

Optionally, you can install and configure IBM WMLz model IDE on Linux^(R) or Linux x86 for model deployment capabilities. For more details, see the model IDE system deployment options on the [Planning WML for z/OS IDE installation](#) web page, which will be live on June 11, 2021.

See the [Software requirements](#) section for more details.

Planned availability date

June 11, 2021

Accessibility by people with disabilities

Accessibility Compliance Reports (previously known as a VPAT) containing details on accessibility compliance to standards, including the Worldwide Consortium Web

Value Unit-based pricing

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

For each IBM 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, see the [IBM Z Software Pricing](#) website.

Note that Value Units of a given program cannot be exchanged, interchanged, or aggregated with Value Units of another program.

To determine the required license capacity for the IBM Z IPLA program you selected, see the Terms and conditions section.

Program number

Program number	VRM	Program name
5698-WML	2.3.0	IBM Watson Machine Learning for z/OS
5698-CGN	1.4.0	IBM Db2 AI for z/OS
Program number	Subscription and Support PID number	
5698-WML	5698-MLS	
5698-CGN	5698-CGS	

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 ID and password are required (use IBMid).

[BP Attachment for Announcement Letter 221-124](#)

Publications

Technical documentation for Watson Machine Learning for z/OS 2.3 and Db2 AI for z/OS 1.4 can be found in [IBM Documentation](#).

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 the lab-based software services team and the business consulting, project management, and infrastructure expertise of the IBM Global Services team. Also, IBM extends the reach of IBM Software Services through IBM Business Partners to provide an extensive portfolio of capabilities. IBM provides 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

Software requirements

IBM WMLz 2.3 offers three different deployment options, as follows:

IBM WMLz (on z/OS only)

Mandatory *installation* requirement for z/OS:

- z/OS 2.3 or 2.4

Mandatory *operational* requirements for model management, deployment, and scoring services on z/OS:

- IBM Open Data Analytics for z/OS V1.1 (delivered with IBM WMLz 2.3)
- IBM z/OS (either of the following, required for the embedded Node.js):
 - z/OS 2.3 (plus PTFs UI61308, UI61375, and UI61747)
 - z/OS 2.4 (plus PTFs UI64830, UI64837, UI64839, UI64940, and UI65567)
- IBM 64-bit SDK for z/OS, Java™ Technology Edition, V8 SR6 (5655-DGH), or later:
 - Ensure that JAVA_HOME is set as your installation directory.
- z/OS Integrated Cryptographic Service Facility (ICSF):
 - Ensure that the ICSF component is properly configured and started.
- IBM Db2 11 for z/OS (5615-DB2^(R) or 5697-P43), or later
- z/OS OpenSSH

- IBM CICS^(R) Transaction Server for z/OS 5.4.0 or 5.3.0 with APAR PI63005 applied:
 - Only if you plan to install and run the machine learning scoring service in a CICS region
- IBM z/OS Container Extensions 2.4 with PTF [OA59111](#) applied:
 - Only if you want to configure your scoring service to support ONNX models.
 - See the [Requirements for zCX](#) web page for details.

IBM WMLz (z/OS components with model IDE on Linux on Z)

Mandatory *installation* requirements for systems z/OS and Linux on Z:

- z/OS 2.3 or 2.4
- Linux on Z: Red Hat OCP 4.5 or 4.6

Mandatory *operational* requirements for systems z/OS and Linux on Z:

- z/OS:
 - IBM Open Data Analytics for z/OS 1.1 (delivered with IBM WMLz 2.3)
 - IBM z/OS (either of the following, required for the embedded Node.js):
 - z/OS 2.3 (plus PTFs UI61308, UI61375, and UI61747)
 - z/OS 2.4 (plus PTFs UI64830 UI64837, UI64839, UI64940, and UI65567)
 - IBM 64-bit SDK for z/OS, Java Technology Edition, V8 SR6 (5655-DGH), or later:
 - Ensure that JAVA_HOME is set as your installation directory.
 - z/OS ICSF:
 - Ensure that the ICSF component is properly configured and started.
 - IBM Db2 11 for z/OS (5615-DB2 or 5697-P34), or later
 - z/OS OpenSSH
- Linux on Z: Red Hat OCP 4.5 or 4.6

IBM WMLz (z/OS components with model IDE on Linux x86)

Mandatory *installation* requirements for systems z/OS and Linux x86:

- z/OS 2.3 or 2.4
- Linux x86: Red Hat OCP 4.5 or 4.6

Mandatory *operational* requirements for systems z/OS and Linux x86:

- z/OS :
 - IBM Open Data Analytics for z/OS V1.1 (delivered with IBM WMLz 2.3)
 - IBM z/OS (either of the following, required for the embedded Node.js):
 - z/OS 2.3 (plus PTFs UI61308, UI61375, and UI61747)
 - z/OS 2.4 (plus PTFs UI64830 UI64837, UI64839, UI64940, and UI65567)
 - IBM 64-bit SDK for z/OS, Java Technology Edition, V8 SR6 (5655-DGH), or later:
 - Ensure that JAVA_HOME is set as your installation directory.
 - z/OS Integrated Cryptographic Service Facility (ICSF):
 - Ensure that the ICSF component is properly configured and started.
 - IBM Db2 11 for z/OS (5615-DB2 or 5697-P34), or later
 - z/OS OpenSSH
 - IBM CICS Transaction Server for z/OS 5.4.0 or 5.3.0 with APAR PI63005 applied:

- Only if you plan to install and run the machine learning scoring service in a CICS region
- IBM z/OS Container Extensions 2.4 with PTF [OA59111](#) applied:
 - Only if you plan to configure your scoring service to support ONNX models.
 - See the [Requirements for zCX](#) web page for details.
- Linux x86 : Red Hat OCP 4.5 or 4.6

Db2 AI for z/OS, V1.4

Mandatory *installation* requirements:

- z/OS 2.3 (5650-ZOS), or later, including Product Registration Services

Mandatory *operational* requirements:

- Db2 AI for z/OS 1.4 (5698-CGN), APAR PH35963 for Db2ZAI UI:
 - Delivered with Db2 AI for z/OS, the following are also required:
 - IBM WMLz FMID HAQN230 (with embedded Node.js 14)
 - IBM Open Data Analytics FMID HSPK120
- IBM 64-bit SDK for z/OS, Java Technology Edition, V8 SR6 (5655-DGH), or later
- Db2 12 for z/OS (5650-DB2 or 5770-AF3), function level 500 activated, plus APARs PH15742, PH16111, and PH35964

IBM Support

[IBM Support](#) is your gateway to technical support tools and resources that are designed to help you save time and simplify support. IBM Support can help you find answers to questions, download fixes, troubleshoot, submit and track problem cases, and build skills. Learn and stay informed about the transformation of IBM Support, including new tools, new processes, and new capabilities, by going to the [IBM Support Insider](#).

User Group requirements

This announcement satisfies or partially satisfies the following requirements from clients or from one or more of the worldwide user group communities:

- **DB2AI4ZOS-I-6:** Visualization of historical connection data
- **DB2AI4ZOS-I-7:** Simplified profile management

Planning information

Packaging

Packaging information

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

- Basic machine-readable material (FMID content described below)
- Program directories
- IBM International Program License Agreement (IPLA) documents
- IBM Agreement for Acquisition of Software Maintenance (IAASM)

5698-WML, IBM WMLz 2.3

The IBM WMLz feature contains FMIDs packaged for installation into the z/OS SREL (Z038), as follows:

- HAQN230 (IBM WMLz base), *required*

- HSPK120 (Open Data Analytics - Spark), *required*
- HANA110 (Open Data Analytics - Anaconda), *optional*
- HMDS120 (Open Data Analytics - Mainframe Data Services)
 - *Required* only for Db2 anomaly detection function in IBM WMLz 2.3

5698-CGN, Db2 AI for z/OS, 1.4

The Db2 AI for z/OS-Db2 feature contains Db2ZAI, which is packaged for installation into the DB2 SREL (P115), as follows:

- HCOY120 (Db2 AI for z/OS), *required*

The Db2 AI for z/OS-z/OS feature contains IBM WMLz and Open Data Analytics FMIDs, which are packaged for installation into the z/OS SREL (Z038), as follows:

- HAQN230 (IBM WMLz base), *required*
- HSPK120 (Open Data Analytics - Spark), *required*
- HANA110 (Open Data Analytics - Anaconda), *optional*
- HMDS120 (Open Data Analytics - Mainframe Data Services), *optional*

You must order both the *Db2 AI for z/OS-Db2* feature and the *Db2 AI for z/OS-z/OS* feature to obtain the three required FMIDs that comprise Db2 AI for z/OS 1.4.

Ordering information

Consult your IBM representative.

Charge metric

The charge metrics for these licensed products can be found in the following License Information documents:

Program identifier	License Information document title	License Information document number
5698-WML	IBM Watson Machine Learning for z/OS	L-HLIU-BYHGHN
5698-CGN	IBM Db2 AI for z/OS	L-JFIE-BYH2NK

Select your language of choice and scroll down to the Charge Metrics section. Follow-on releases, if any, may have updated terms. See the [License Information documents](#) website for more information.

Basic license

Translation from MSUs to Value Units

	MSUs	Value Units/MSU
Base	1-3	1.00
Tier A	4-45	0.45
Tier B	46-175	0.36
Tier C	176-315	0.27
Tier D	316 or greater	0.20

To order, specify the program ID number and the appropriate license or charge option. To suppress shipment of media, select the license-only option in CFSW.

Program name: IBM Watson Machine Learning for z/OS, 2.3

Program ID: 5698-WML

Entitlement identifier	Description	License option/Pricing metric
S018DS0	Watson Machine Learning for z/OS 2.3	Multi-Version Measurement No Charge Per Install
		Use-Based License one-Time Charge Per Install
Orderable supply ID	Description	Language
S018F2P	Watson Machine Learning for z/OS	English US

Program name: IBM Db2 AI for z/OS, 1.4

Program ID: 5698-CGN

Entitlement identifier	Description	License option/Pricing metric
S018CXV	IBM Db2 AI for z/OS 1.4	Multi-Version Measurement No Charge Value Units
		On Off Capacity on demand Temporary Use Charge MSU-DAY(s)
		Use-Based License One-Time Charge Value Units
Orderable supply ID	Description	Language
S018F2S	IBM Db2 AI for z/OS-Db2	English US
S018CHB	IBM Db2 AI for z/OS-z/OS	English US

You choose the delivery method when you order the software. IBM recommends internet delivery. However, if you still require physical media, you can choose DVD.

Subscription and Support Program ID: 5698-MLS

Entitlement identifier	Description	License option/Pricing metric
S0183FW	Machine Learning for z/OS S&S	Basic ASC, per Install SW S&S
		No charge, Decline SW S&S
		Multi-Version Measurement S&S No Charge
		SW Subscription and Support Monthly Support Charge Per Ins Qty 1
Orderable supply ID	Language	Distribution medium
S0183FX	English US	Paper

Subscription and Support Program ID: 5698-CGS

Entitlement identifier	Description	License option/Pricing metric
S018CXW	IBM Db2 AI for z/OS S&S	Decline Subscription and Support No Charge Value Units
		Multi-Version Measurement S&S No Charge Value Units
		SW Subscription and Support Annual Support Charge Value Units
		SW Subscription and Support Monthly Support Charge Value Units
		SW Subscription and Support Registration

Entitlement identifier	Description	License option/Pricing metric
		(minus Supply right) No Charge Per MSU
Orderable supply ID	Language	Distribution medium
S018CHF	English US	Paper

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 ID referenced above and the appropriate license or charge option.

IBM is also providing Subscription and Support for these programs with 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 by telephone.
- Entitles you to future releases and versions, at no additional charge. Note that you are not entitled to new programs.

When Subscription and Support is ordered, the charges will automatically renew annually unless canceled 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 IBM 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.

Customized Offerings

Product deliverables are shipped only through CBPDO and ServerPac. These customized offerings are offered for internet delivery. For more details on Internet delivery, go to the Help section on the [Shopz](#) website.

IBM recommends internet delivery. However, if you still require physical media, you can choose DVD.

Many products can be ordered in ServerPac the month following their availability in CBPDO. z/OS can be ordered through CBPDO and ServerPac on the planned availability date. 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.

Production of software product orders will begin on the planned availability date.

- CBPDO shipments will begin one week after the planned availability date.
- ServerPac shipments will begin four weeks after the planned availability date.

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^(R) 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.

This software license includes Software Subscription and Support (also referred to as Software Maintenance).

Software Maintenance

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

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

These programs are licensed under the IBM International 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 Z Operational Support Services - SoftwareXcel is an option if you desire added services.

License Information number

The following License Information documents apply to the offerings in this announcement:

Program identifier	License Information document title	License Information document number
5698-WML	Watson Machine Learning for z/OS 2.3	L-HLIU-BYHGHN
5698-CGN	Db2 AI for z/OS 1.4	L-JFIE-BYH2NK

Follow-on releases, if any, may have updated terms. See the [License Information documents](#) 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 on known program defects, defect corrections, restrictions, and bypasses at no additional charge. For further information, see the [IBM Support Guide](#).

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 two years from the planned 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 versions, releases, and updates (CD releases, Long Term Support Releases or fixes) 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 on the IBM Software Support Lifecycle Policy, see the [IBM Continuous Delivery 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 Support Guide](#).

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.

Yes. All distributed software licenses include Software Subscription and Support (also referred to as Software Maintenance) for a period of 12 months from the date of acquisition, providing a streamlined way to acquire IBM software and assure technical support coverage for all licenses. Extending coverage for a total of three years from date of acquisition may be elected.

While your Software Subscription and Support is in effect, IBM provides you assistance for your routine, short duration installation and usage (how-to) questions, and code-related questions. IBM provides assistance by telephone and, if available, electronic access, only to your information systems (IS) technical support personnel during the normal business hours (published prime shift hours) of your IBM support center. (This assistance is not available to your end users.) IBM provides Severity 1 assistance 24 hours a day, every day of the year. For additional details, go to the [IBM Support Handbooks](#) page.

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, or failures caused by products for which IBM is not responsible under this agreement.

IBM Operational Support Services - SoftwareXcel

Yes

Variable charges apply

No

Educational allowance available

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

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

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 an IBM Z IPLA program with these terms equals the MSU-rated capacity of the machines where the IBM Z IPLA program executes.

For more information on mainframe MSU-rated capacities, go to the [IBM Z software pricing resources](#) web page.

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 an 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 on mainframe MSU-rated capacities, see the *IBM z Systems^(R) Machines Exhibit*, Z125-3901, or see the Exhibits section on the [IBM Z software pricing resources](#) web page.

IBM Z IPLA sub-capacity programs with reference-based terms add 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^(R). 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 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 one of the following:

- Sub-capacity Workload License Charges (WLC)

- Sub-capacity Entry Workload License Charges (EWLC)
- Sub-capacity Advanced Workload License Charges (AWLC)
- Sub-capacity Advanced Entry Workload License Charges (AEWLC)

To implement sub-capacity WLC, EWLC, AWLC, or AEWLC, a machine must be an IBM Z (or equivalent). On that machine:

- All instances of the OS/390^(R) operating system must be migrated to the z/OS operating system.
- 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, go to the [IBM Z software pricing tools](#) web page.

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^(R) 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)*.

You must comply with all of the terms of the AWLC or AEWLC offering, whichever is applicable:

- The complete terms and conditions for AWLC are defined in the *IBM Customer Agreement - Attachment for IBM System z^(R) Advanced Workload License Charges (Z125-8538)*.
- The complete terms and conditions for AEWLC are defined in the *IBM Customer Agreement - Attachment for IBM System z Advanced Entry Workload License Charges (Z125-8755)*.

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

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 clients and IBM Business Partners can access [IBMLink](#) to view pricing information.

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.

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