



IBM 31-bit SDK for z/OS, Java Technology Edition, Version 7 Release 1 delivers new platform support

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At a glance

31-bit SDK for z/OS® , Java™ Technology Edition, Version 7 Release 1:

- Delivers a comprehensive Java SDK at the SE 7 level for the IBM® z/OS platform
- Includes the enhancements to z/OS Java unique security and JZOS functionality
- Exploits new capabilities available with z/OS V2.1, IBM zEnterprise® EC12 (zEC12), and IBM zEnterprise BC12 (zBC12)
- Provides improved support for processing native data records and types directly from Java code
- Provides enhanced monitoring and diagnostics
- Contains the JZOS and z/OS unique security enhancements of previous z/OS Java SDK products

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

Overview

Java is a very popular, general-purpose, highly portable, object-oriented language widely used for application software and web-based applications. It is designed to have as few hardware and platform dependencies as possible, and is an ideal programming language useful in developing new and extending traditional web-based applications, and porting other applications to your IBM System z® platform. The 31-bit SDK for z/OS , Java Technology Edition is also useful in helping developers who want to take advantage of the Java application programming interfaces (APIs) for z/OS , write or run Java applications across multiple platforms, or use Java to access System z data.

The 31-bit SDK for z/OS , Java Technology Edition, Version 7 Release 1 is the latest version of this software development kit (SDK). It is designed to be compliant with the Java Standard Edition 7 (Java SE 7) APIs. With 31-bit SDK for z/OS , Java Technology Edition, Version 7 Release 1, you can:

- Test and deploy Java applications in a 31-bit environment
- Use the Java SE 7 APIs
- Continue the "write once, run anywhere" Java paradigm
- Leverage IBM System z Application Assist Processors (zAAPs) or IBM System z Integrated Information Processors (zIIPs), with the zAAP on zIIP capability, to run eligible Java work

- Leverage traditional System z benefits: scalability, reliability, availability, and serviceability
- Use valuable z/OS security and JZOS functionality
- Enable your Java applications to exploit the zEC12 instruction set
- Exploit new capabilities available with z/OS V2.1, zEC12, and zBC12
- Improve application throughput without changes to application code
- Improve support for processing native data records and types directly from Java code
- Utilize enhanced monitoring and diagnostics

Key prerequisites

Hardware: This product currently runs on the following System z servers:

- IBM zEnterprise EC12 (zEC12)
- IBM zEnterprise EC12-GA2
- IBM zEnterprise BC12 (zBC12)
- IBM zEnterprise 196 (z196)
- IBM zEnterprise 114 (z114)
- IBM System z10® (z10™ EC, z10 BC)¹
- IBM System z9® (z9® EC, z9 BC)¹
- IBM System z990, z890¹
- IBM System z900, z800¹

Software: This product requires z/OS V1.12 (5694-A01), or later. Specific functions may require specific software levels or features not included in the z/OS base.

¹ These products are withdrawn from marketing. Specific functions may require specific hardware levels or features.

Planned availability date

December 13, 2013, via the IBM System z Java website

<http://www.ibm.com/systems/z/os/zos/tools/java/>

January 17, 2014, via Shopz

<http://www.ibm.com/software/ShopzSeries>

Description

31-bit SDK for z/OS , Java Technology Edition, Version 7 Release 1 is a Java SDK that contains the IBM J9 virtual machine, V2.7. The program is a key building block for developing on-demand applications. 31-bit SDK for z/OS , Java Technology Edition, Version 7 Release 1 is designed to be compliant with the Java SE 7 application programming interfaces (APIs) and is designed to provide the stability, service, scalability, and integration you expect from a System z program.

31-bit SDK for z/OS , Java Technology Edition, Version 7 Release 1 is designed to provide:

- Support for Java application programming in a 31-bit application environment
- Java APIs at the SE 7 level
- Continuation of the "write once, run anywhere" Java paradigm

- JZOS support and enhancements
- Exploitation of zEC12 instructions
- Exploitation of new capabilities available with z/OS V2.1, zEC12, and zBC12, such as:
 - Java exploitation of Transactional Execution
 - Support of 2 GB pages
 - zEnterprise Data Compression (zEDC)
 - Shared Memory Communications over Remote Direct Memory Access (SMC-R)
- z/OS Java unique security functions
- XML support
- System Authorization Facility (SAF) and cryptography support
- Improve application throughput without changes to application code
- Improved support for processing native data records and types directly from Java code
- Use of your System z Application Assist Processors (zAAPs) available on System z servers to run eligible Java work
- Use of the zAAP on zIIP capability
- Additional reliability, availability, and serviceability (RAS) enhancements
- Enhanced monitoring and diagnostics

SDK Version 7 Release 1 contains the JZOS and z/OS unique security enhancements of previous z/OS Java SDK products.

New in SDK Version 7 Release 1

zEC12 exploitation

This release exploits zEDC Express® feature and Shared Memory Communications-Remote Direct Memory Access (SMC-R), which is utilized by the 10GbE RoCE Express feature.

- Hardware feature exploitation:
 - Instruction scheduler
 - Exploitation of Branch Pre-load for calls/returns
 - Exploitation of Traps instructions
 - Exploitation of Crypto Express4S (CEX4S) feature through the IBMPKCS11Impl security provider
- Other:
 - Java exploitation of Transactional Execution
 - Support of 2 GB pages
 - Support of 1 MB pageable large pages using Flash Express

Improved workload management facilities

This release offers improved integration of Java with core z/OS workload management facilities. It provides new Java APIs, exploiting the WLM SYSEVENT QRYCONT macro, which supports adaptive concurrent online and batch workloads in Java-based processing environments such as WebSphere® Compute Grid.

IBM MXBeans for virtualized environments

New extensions are available to provide information about virtualized environments that JVMs are running in, for increased ability to self-adapt.

Data Access Accelerator

Data Access Accelerator (DAA) is a high-performance data marshalling, conversion, and arithmetic library that handles a range of nonprimitive and primitive Java types. The library operates directly on raw byte arrays, which removes the requirement for intermediate processing, for improved performance of record processing and data binding. By working in concert with the Just-In-Time compiler, your application can use available hardware acceleration, while remaining platform-independent. Typical use-cases for this feature include:

- Accelerating inter-language communication
- Data marshalling operations
- Nonprimitive arithmetic; for example, packed decimal

Packed object support

Packed object support is provided as a technology preview. The Packed Object Support feature is an experimental enhancement to the IBM J9 Virtual Machine that allows greater control over the layout of objects in memory. This capability enables greater flexibility when dealing with non-Java memory structures; for example, serializing objects or when performing interlanguage communication between Java code and other languages or environments. The feature also enables the optimization of some patterns of Java objects to reduce overall size and improve the access efficiency.

Enhanced monitoring and diagnostics

- Enhancements to the JVM dump API: An improved API enables Java applications to control and capture dump diagnostics more easily. You can specify dump file names when triggering dumps at run time. You can also set and query JVM dump options using the API.
- Improvements to JVM dump information: New content has been added to the environment and thread sections in the javacore dump to aid first failure diagnosis. The ENVINFO section of a javadump includes information about the operating system hypervisor, if present. A new line also shows the ID of the operating system process that produced the javadump. The THREADS section of a javadump now provides per-thread CPU utilization.
- New trace messages: Improvements have been made to the diagnostics trace component. A set of new messages is now available to support problem diagnosis.
- Improved performance of SDK method trace: Increased application throughput when tracing enables a powerful SDK facility for investigating Java application flow.
- New JVMTI extensions for subscribing to tracepoints: Improved facility for integration of SDK trace with other software components.
- Improved JIT diagnostics: A new JIT dump allows more rapid investigation and first failure diagnosis of JIT problems.

For further information, visit

<http://pic.dhe.ibm.com/infocenter/java7sdk/v7r0/index.jsp>

Accessibility by people with disabilities

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

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

Section 508 of the US Rehabilitation Act

IBM 31-bit SDK for z/OS , Java Technology Edition, Version 7 Release 1 is capable as of December 10, 2013, when used in accordance with IBM's associated

documentation, of satisfying the applicable requirements of Section 508 of the Rehabilitation Act, provided that any assistive technology used with the product properly interoperates with it. A US Section 508 Voluntary Product Accessibility Template (VPAT) can be requested at

http://www-03.ibm.com/able/product_accessibility/index.html

Product positioning

Java can be used for developing traditional System z commercial applications and also Internet and intranet applications that use standard interfaces.

31-bit SDK for z/OS , Java Technology Edition, Version 7 Release 1 may benefit application developers who want to take advantage of the Java APIs for z/OS , write or run applications across multiple platforms, or use Java to access System z data.

IBM SDK, Java Technology Edition, Version 7 Release 1 is for users who want to utilize enhanced native record processing and hardware capabilities through Java SE 7 application programming interfaces (APIs). This release contains the latest virtual machine technology from IBM , and enables you to use Java SE 7 APIs to exploit the new zEC12 capabilities and improve monitoring and diagnostics.

System z administrators can provide the SDK for their application developers and users. Building on the existing z/OS Java product, it is intended that companies may continue their deployment of Java while leveraging the benefits of System z quality, scalability, and service, including exploitation of zEC12 instructions.

Reference information

For the most current information on IBM 31-bit SDK for z/OS , Java Technology Edition, Version 7 Release 1, visit the System z Java website

<http://www.ibm.com/systems/z/os/zos/tools/java/>

Program number

Program number	VRM	Program name
5655-w43	7.1.0	IBM 31-bit SDK for z/OS, Java Technology Edition, Version 7 Release 1
5655-I48	1.1.0	IBM SDK for z/OS Software Subscription and Support

Product identification number

Program PID number	Subscription and Support PID number
5655-w43	5655-I48

Offering Information

Product information is available via the Offering Information website

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

Business Partner information

If you are a Direct Reseller - System Reseller acquiring products from IBM , you may link directly to Business Partner information for this announcement. A PartnerWorld® ID and password are required (use IBM ID).

<https://www.ibm.com/partnerworld/mem/sla.jsp?num=213-497>

Publications

The Program Directory for IBM 31-bit SDK for z/OS , Java Technology Edition, Version 7 Release 1 (GI11-9828-01) is orderable from the IBM Publications Center at

<http://publibz.boulder.ibm.com/epubs/pdf/ajva1110.pdf>

For additional documentation, visit the Java System z website

<http://www.ibm.com/systems/z/os/zos/tools/java/>

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 US) 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

This product currently runs on the following IBM System z servers:

- zEC12
- zBC12
- z196
- z114
- z10 EC
- z10 BC¹
- z9 EC¹
- z9 BC¹
- z990¹
- z890¹
- z900¹
- z800¹

¹ These products are withdrawn from marketing. Specific functions may require specific hardware levels or features.

Software requirements

This product requires z/OS V1.12 (5694-A01), or later. Specific functions may require additional products not included in the z/OS base or in the optional features of z/OS .

The program's specifications and specified operating environment information may be found in documentation accompanying the program, if available, such as a readme file, or other information published by IBM, such as an announcement letter. Documentation and other program content may be supplied only in the English language.

Compatibility

IBM 31-bit SDK for z/OS, Java Technology Edition, Version 7 Release 1 (5655-W43) has similar functions to IBM 31-bit SDK for z/OS, Java Technology Edition, Version 7 Release 0 (5655-W43) with the following differences:

- The X11 libraries are now dynamically linked, instead of being statically linked. z/OS V1.10 Communications Server and later releases of z/OS include the X11 libraries. Java applications do not have to be changed. Dynamic linking will make the z/OS Java SE 7 product consistent with the linking already used on other IBM platform SDKs.
- Compressed references are enabled by default in IBM 31-bit SDK for z/OS, Java Technology Edition, Version 7 Release 1.
- Pageable large pages are the default when the Flash Express hardware is installed and available to the JVM.
- Default trace has changed. Level 2 trace points are now switched on after startup, and most level 1 trace points moved to the level 2 set.

For best performance for most clients, the default garbage collection policy remains GENCON, the new default in IBM 31-bit SDK for z/OS, Java Technology Edition, Version 6 Release 0 Modification 1. However, customers migrating directly from IBM SDK 31-bit SDK for z/OS, Java Technology Edition, Version 6 Release 0 Modification 0 or earlier will be moving to a product with a different garbage collection policy default (GENCON) and may still require additional garbage collection tuning for optimal performance. For additional information, see the IBM User Guide for IBM 31-bit SDK for z/OS, Java Technology Edition, Version 7 Release 1 that will be available at general availability at

<http://pic.dhe.ibm.com/infocenter/java7sdk/v7r0/index.jsp>

The following are independently orderable and serviced products that can coexist on the same z/OS system:

- 64-bit SDK for z/OS, Java Technology Edition, Version 7 Release 1 (5655-W44).
- 31-bit SDK for z/OS, Java Technology Edition, Version 7 Release 1 (5655-W43).
- 64-bit SDK for z/OS, Java Technology Edition, Version 7 Release 0 (5655-W44).
- 31-bit SDK for z/OS, Java Technology Edition, Version 7 Release 0 (5655-W43).
- 64-bit SDK for z/OS, Java Technology Edition, Version 6 Release 0 Modification 1 (5655-R32).
- 64-bit SDK for z/OS, Java Technology Edition, Version 6 Release 0 Modification 0 (5655-R32).
- 31-bit SDK for z/OS, Java Technology Edition, Version 6 Release 0 Modification 1 (5655-R31).
- 31-bit SDK for z/OS, Java Technology Edition, Version 6 Release 0 Modification 0 (5655-R31).
- 64-bit SDK for z/OS, Java 2 Technology Edition, Version 5 (5655-N99), withdrawn from marketing effective March 11, 2013. **Note:** Service was discontinued September 30, 2013.
- 31-bit SDK for z/OS, Java 2 Technology Edition V5 (5655-N98), withdrawn from marketing effective March 11, 2013. **Note:** Service was discontinued September 30, 2013.
- SDK for z/OS, Java 2 Technology Edition, Version 1 Release 4 (5655-I56), withdrawn from marketing effective September 29, 2008. **Note:** Service was discontinued September 30, 2011.

Most Java applications executed on IBM 31-bit SDK for z/OS , Java Technology Edition, Version 6 (5655-N99) are expected to run unchanged on 31-bit SDK for z/OS , Java Technology Edition, Version 7 Release 1, provided that they do not use deprecated Java SE 6 APIs. Additionally, in some cases, because of a small number of incompatibilities introduced between Java SE 6 and Java SE 7, some applications may have to change.

Limitations

Input Method Framework (IMF) is not supported.

IBM Electronic Support

The IBM Support Portal is your gateway to technical support. This includes IBM Electronic Support tools and resources, for software and hardware, to help save time and simplify support. The Electronic Support tools can help you find answers to questions, download fixes, troubleshoot, automate data collection, submit and track problems through the Service Request online tool, and build skills. All these tools are made available through your IBM support agreement, at no additional charge.

- Read about the Electronic Support portfolio of tools
<http://ibm.com/electronicssupport>
- Access the IBM Support Portal
<http://ibm.com/support>
- Access the online Service Request tool
<http://ibm.com/support/servicerequest>

Planning information

Packaging

You can download 31-bit SDK for z/OS , Java Technology Edition, Version 7 Release 1 from the System z Java website or order the program package. 31-bit SDK for z/OS , Java Technology Edition, Version 7 Release 1 is shipped with the following:

- Basic machine-readable material
- License Information

For additional documentation, visit

<http://www.ibm.com/systems/z/os/zos/tools/java/>

This program, when downloaded from a website, contains the applicable IBM license agreement and License Information, if appropriate, and 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.

Security, auditability, and control

31-bit SDK for z/OS , Java Technology Edition, Version 7 Release 1 uses the security and auditability features of the host z/OS operating system. For more information, refer to Software Announcement [213-292](#), dated July 23, 2013 . The customer is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communication facilities.

Software Services

IBM Software Services has the breadth, depth, and reach to manage your services needs. You can leverage the deep technical skills of our lab-based, software services team and the business consulting, project management, and infrastructure expertise

of our IBM Global Services team. Also, we extend our IBM Software Services reach through IBM Business Partners to provide an extensive portfolio of capabilities. Together, we provide the global reach, intellectual capital, industry insight, and technology leadership to support a wide range of critical business needs.

To learn more about IBM Software Services or to contact a Software Services sales specialist, visit

<http://www.ibm.com/software/sw-services/>

Ordering information

Ordering IBM 31-bit SDK for z/OS , Java Technology Edition through the Internet

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

<http://www.ibm.com/software/ShopzSeries>

This is a no-charge product.

Charge metric

Program name	Part number or PID number	Charge metric
IBM 31-bit SDK for z/OS, Java Technology Edition, Version 7 Release 1 Modification 0	5655-w43	No-charge unlimited installs
IBM SDK for z/OS Software Subscription and Support	5655-I48	No-charge Unlimited installs

For information on downloading the code from the System z Java website, visit

<http://www.ibm.com/systems/z/os/zos/tools/java/>

Processor Value Unit (PVU)

PVU is a unit of measure by which the program can be licensed. The number of PVU entitlements required is based on the processor technology (defined within the PVU table by processor value, brand, type, and model number at the website below) and the number of processors made available to the program. IBM continues to define a processor, for the purpose of PVU-based licensing, to be each processor core on a chip. A dual-core processor chip, for example, has two processor cores. The PVU table can be found at

http://www.ibm.com/software/lotus/passportadvantage/pvu_licensing_for_customers.html

Licensee can deploy the program using either full capacity licensing or virtualization capacity (sub-capacity) licensing according to the Passport Advantage® Sub-Capacity Licensing Terms (refer to the web page below). If using Full Capacity licensing, Licensee must obtain PVU entitlements sufficient to cover all activated

processor cores² in the physical hardware environment made available to or managed by the program, except for those servers from which the program has been permanently removed. If using Virtualization Capacity licensing, Licensee must obtain entitlements sufficient to cover all activated processor cores made available to or managed by the program, as defined according to the Virtualization Capacity License Counting Rules at

http://www.ibm.com/software/lotus/passportadvantage/Counting_Software_licenses_using_specific_virtualization_technologies.html

² An activated processor core is a processor core that is available for use in a physical or virtual server, regardless of whether the capacity of the processor core can be or is limited through virtualization technologies, operating system commands, BIOS settings, or similar restrictions.

Notes :

- Some programs may require licenses for the program and what is being managed. In that case, the following applies. In addition to the entitlements required for the program directly, licensee must obtain PVU entitlements for this program sufficient to cover the processor cores managed by the program.
- Some programs may be licensed on a managed basis only. In that case, the following applies. Instead of the entitlements required for the program directly, licensee must obtain PVU entitlements for this program sufficient to cover the processor cores managed by the program.
- A few programs on an exception basis may be licensed on a referenced basis. In that case, the following applies. Rather than obtaining entitlements for the activated processor cores available to the program, licensee must obtain PVU entitlements for this program sufficient to cover the environment made available to the referenced program as if the program itself were executing everywhere the referenced program was executing, independent of the basis on which the referenced program is licensed.

Basic license

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 31-bit SDK for z/OS, Java Technology Edition, Version 7 Release 1

Program PID 5655-W43

Entitlement Identifier	Description	License Option / Pricing Metric
S01640B	IBM 31-bit SDK for z/OS, Version 7 Release 1 Modification 0	Unlimited Installs Basic No Charge

Orderable supply ID:	Language	Distribution Medium
S017DN2	English	3590 Tape Cartridge

Subscription and Support PID 5655-I48

Entitlement Identifier	Description	License Option / Pricing Metric
S00X7JC	IBM SDK for z/OS Software Subscription and Support	Unlimited Installs SW Subscription and Support Registration, No charge

Orderable Supply ID:	Language	Distribution Medium
S00X7H8	English	Paper

Customized Offerings

Product deliverables are shipped only via CBPDO and ServerPac. These customized offerings are offered for Internet delivery in countries where ShopzSeries product ordering is available. Internet delivery reduces software delivery time and allows you to install software without the need to handle tapes. For more details on Internet delivery, refer to the Shopz help information at

<http://www.software.ibm.com/ShopzSeries>

You choose the delivery method when you order the software. IBM recommends Internet delivery. In addition to Internet and DVD, the supported tape delivery options include:

- 3590
- 3592

Most products can be ordered in ServerPac the month following their availability in CBPDO. z/OS can be ordered via 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, visit the Help section on the Shopz website at

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

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

- CBPDO shipments will begin one week after general availability.
- ServerPac shipments will begin two weeks after general availability.

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 System z Operational Support Services - SoftwareXcel is an option if you desire added services.

License Information form number

GA76-0438-01

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

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

Limited warranty applies

Yes

Limited warranty

IBM warrants that when the program is used in the specified operating environment, it will conform to its specifications. The warranty applies only to the unmodified portion of the program. IBM does not warrant uninterrupted or error-free operation of the program or that IBM will correct all program defects. You are responsible for the results obtained from the use of the program.

IBM provides you with access to IBM databases containing information on known program defects, defect corrections, restrictions, and bypasses at no additional charge. For further information, consult the IBM Software Support Handbook found at

<http://www.ibm.com/support/handbook>

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

Program support

Enhanced support, called Subscription and Support, includes telephone assistance, as well as access to updates, releases, and versions of the program as long as support is in effect. You will be notified of discontinuance of support with 12 months' notice.

Money-back guarantee

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

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

Volume orders (IVO)

No

Passport Advantage applies

No

Usage restrictions

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

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

Software Subscription and Support applies

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

This will ensure total support coverage for your enterprise needs, including IBM and selected non-IBM products. For complete lists of products supported under both the current and revised offering, visit

<http://www.ibm.com/services/si/products>

IBM Operational Support Services -- SoftwareXcel

Yes

System i® Software Maintenance applies

No

Variable charges apply

No

Educational allowance available

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

Statement of good security practices

IT system security involves protecting systems and information through 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 comprehensive security approach, which will necessarily involve additional operational procedures, and may require other systems, products, or services to be most effective. IBM does not warrant that systems and products are immune from the malicious or illegal conduct of any party.

IBM Electronic Services

Electronic Service Agent™ and the IBM Electronic Support web portal are dedicated to providing fast, exceptional support to IBM Systems customers. The IBM Electronic Service Agent tool is a no-additional-charge tool that proactively monitors and reports hardware events, such as system errors, performance issues, and inventory. The Electronic Service Agent tool can help you stay focused on your company's strategic business initiatives, save time, and spend less effort managing day-to-day IT maintenance issues. Servers enabled with this tool can be monitored remotely around the clock by IBM Support all at no additional cost to you.

Now integrated into the base operating system of AIX® 5.3, AIX 6.1, and AIX 7.1, Electronic Service Agent is designed to automatically and electronically report system failures and utilization issues to IBM, which can result in faster problem resolution and increased availability. System configuration and inventory information collected by the Electronic Service Agent tool also can be viewed on the secure Electronic Support web portal, and used to improve problem determination and resolution by you and the IBM support team. To access the tool main menu, simply type "smitty esa_main", and select "Configure Electronic Service Agent ." In addition, ESA now includes a powerful Web user interface, giving the administrator easy access to status, tool settings, problem information, and filters. For more information and documentation on how to configure and use Electronic Service Agent, refer to

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

The IBM Electronic Support portal is a single Internet entry point that replaces the multiple entry points traditionally used to access IBM Internet services and support. This portal enables you to gain easier access to IBM resources for assistance in resolving technical problems. The My Systems and Premium Search functions make it even easier for Electronic Service Agent tool-enabled customers to track system inventory and find pertinent fixes.

Benefits

Increased uptime: The Electronic Service Agent tool is designed to enhance the Warranty or Maintenance Agreement by providing faster hardware error reporting and uploading system information to IBM Support. This can translate to less wasted time monitoring the "symptoms," diagnosing the error, and manually calling IBM Support to open a problem record. Its 24x7 monitoring and reporting mean no more dependence on human intervention or off-hours customer personnel when errors are encountered in the middle of the night.

Security: The Electronic Service Agent tool is designed to be secure in monitoring, reporting, and storing the data at IBM. The Electronic Service Agent tool securely transmits either via the Internet (HTTPS or VPN) or modem, and can be configured to communicate securely through gateways to provide customers a single point of exit from their site. Communication is one way. Activating Electronic Service Agent does not enable IBM to call into a customer's system. System inventory information is stored in a secure database, which is protected behind IBM firewalls. It is viewable only by the customer and IBM. The customer's business applications or business data is never transmitted to IBM.

More accurate reporting: Since system information and error logs are automatically uploaded to the IBM Support center in conjunction with the service request, customers are not required to find and send system information, decreasing the risk of misreported or misdiagnosed errors. Once inside IBM, problem error data is run through a data knowledge management system and knowledge articles are appended to the problem record.

Customized support: Using the IBM ID entered during activation, customers can view system and support information in the "My Systems" and "Premium Search" sections of the Electronic Support website at

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

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Choose the option entitled Purchase/upgrade tools.

Program name: IBM 31-bit SDK for z/OS, Java Technology Edition, Version 7 Release 1

Program PID: 5655-W43

Entitlement identifier	Description	License option/ Pricing metric
S01640B	IBM 31-bit SDK for z/OS, Version 7 Release 1 Modification 0	Unlimited Installs Basic No Charge

Subscription and Support PID: 5655-I48

Entitlement identifier	Description	License option/ Pricing metric
S00X7JC	IBM SDK for z/OS Software Subscription and Support	Unlimited Installs SW Subscription and Support Registration, No charge

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