



IBM Enterprise PL/I for z/OS , V4.3 exploits the latest IBM zEnterprise EC12 hardware architecture for improved performance

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At a glance

IBM® Enterprise PL/I for z/OS® , V4.3 delivers:

- Exploitation of the latest IBM zEnterprise EC12™ machine architecture for improved compiler performance
- SQL preprocessor enhancements
- Customer-requested productivity improvements

Overview

IBM Enterprise PL/I is a leading-edge, z/OS-based compiler that helps you create and maintain mission-critical, line-of-business PL/I applications to execute on your z/OS systems. It gives you access to IBM DB2® , IBM CICS® , and IBM IMS™ systems, and other data and transaction systems.

This compiler facilitates your new On Demand Business endeavors by helping to integrate PL/I and web-based business processes in web services, XML, Java™ , and PL/I applications. This compiler's interoperability helps you capitalize on existing IT investment while more smoothly incorporating new, web-based applications as part of your organization's infrastructure.

Version 4.3 offers exploitation of the latest IBM zEnterprise® EC12™ hardware architecture, SQL preprocessor enhancements, and customer-requested productivity improvements.

Enterprise PL/I for z/OS , V4 underscores the continuing IBM commitment to the PL/I programming language on the z/OS platform.

With Enterprise PL/I for z/OS , V4, you can take advantage of more than 30 years of IBM experience in application development.

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

Key prerequisites

For details, refer to the [Software requirements](#) section.

Planned availability date

September 28, 2012

Description

Improved performance

Enterprise PL/I for z/OS , V4.3 delivers the following features designed to improve performance:

- The new ARCH(10) compiler option produces code that takes advantage of instructions available on the IBM zEnterprise EC12 models.
 - Specifically, these ARCH(10) machines add new instructions supported by the execution-hint, load-and-trap, and miscellaneous-instructions-extensions facilities, which may be exploited by the compiler.
 - The compiler uses some of these new instructions to improve the performance of some data type conversions from PICTURE to FIXED BIN and from PICTURE to FLOAT.
- Inlined code (rather than calls to library routines) is used for:
 - VERIFY and SEARCH when there are three arguments and the second is a single character
 - Additional conversions from PICTURE to DFP
 - Additional conversions of BIT to CHAR
 - Additional conversions of BIT to WIDECHAR
- The code generated for TRIM of FIXED DEC is improved.
- The code generated to get and set non-native string lengths can execute faster.

Enhanced middleware support

- SQL preprocessor improvements
 - The ONEPASS SQL option is supported.
 - Host variable declarations may make use of some restricted expressions.
 - The display in the listing of the EXEC SQL statement is changed to be readable and similar to the original source.
 - Declares using LIKE are supported.
 - Missing and extraneous END statements are flagged helping make it easier to track down syntax errors that cause problems in resolving host variable references.
 - A new DEPRECATE preprocessor option allows the user to deprecate the use of the EXPLAIN, GRANT, REVOKE, and SET CURRENT SQLID EXEC SQL statements.
 - EXEC SQL DECLARE statements are allowed at the PACKAGE level of a program.

Productivity enhancements requested by compiler users

- The new built-in functions UTF8, UTF8TOCHAR, and UTF8TOWCHAR
 - Provide the ability to convert between CHAR and UTF-8 with sensitivity to the CODEPAGE option.
 - Simplify conversions between UTF-8 and UTF-16.
 - Allow the user to create UTF-8 literals and to initialize static variables with UTF-8 data.
- The new MSGSUMMARY compiler option lets the user request that the listing include a brief summary of what messages were produced in a compilation and, optionally, where those messages appeared.

- The new CASERULES compiler option allows the user to specify casing rules to be applied to PL/I keywords (for example, that all keywords must be in uppercase).
- The DEPRECATE compiler option has a new STMT suboption that allows a wide range of statements to be deprecated.
- The new DEPRECATENEXT compiler option allows for staged deprecation of any of the items in the DEPRECATE option.
- The new ALLCOMPARE built-in function supports comparing structures.
- The new ASSERT statement helps make it easier to verify a program's correctness.
- The RTCHECK compiler option is expanded to allow checking for dereferencing of pointers equal to the old NULL() value (namely, pointers with the hex value of 'FF000000').
- The maximum length of WIDECHAR strings is increased to 32767 so that it matches the limit for CHAR and BIT.
- The RULES compiler option is enhanced so that you can optionally flag the use of:
 - CONTROLLED variables via its NOCONTROLLED suboption
 - RECURSIVE procedures via its NORECURSIVE suboption
 - Nested procedures occurring in between executable code via its NOLAXNESTED suboption
 - Assignments of the form $x = y = z$ as part of its NOLAXIF suboption
- RULES(NOLAXSCALE) will issue a separate message for ROUND(x,p) when p is negative. This allows you to use the EXIT option to suppress this message while keeping the other messages issued under RULES(LAXSCALE).
- The SUPPRESS attribute is now permitted on PROCEDURE statements so you can direct the compiler not to flag selected procedures as unreferenced or in violation of RULES(NOLAXNESTED).
- The support for handles now allows:
 - Comparing handles with the same associated type
 - Adding to and subtracting from handles but with sensitivity to the associated structure type
 - Computing the difference of two handles but with sensitivity to the associated structure type

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 Enterprise PL/I for z/OS , V4 is capable as of September 28, 2012, when used in accordance with associated IBM 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 on the following website

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

Hardware and software support services

SmoothStart/installation services

IBM SmoothStart and Installation Services are not provided.

Program number

| Program name | Program number |
|------------------------------------|----------------|
| IBM Enterprise PL/I for z/OS, V4.3 | 5655-W67 |

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=212-322>

Technical information

Specified operating environment

Hardware requirements

Enterprise PL/I for z/OS , V4.3 will run on the following IBM servers:

- IBM zEnterprise EC12
- zEnterprise 196
- z10™ Enterprise Class, or follow-on product
- IBM System z9® Enterprise Class or z9® Business Class, or follow-on product
- zSeries® z990, or follow-on product
- zSeries z890, or follow-on product

Software requirements

Enterprise PL/I for z/OS , V4.3 runs under the control of, or in conjunction with, the currently supported releases of the following programs and their subsequent releases or their equivalents. For more information on the following programs listed that require program temporary fixes (PTFs), refer to the *Program Directory* and the preventive service planning (PSP) bucket.

z/OS V1.12 (5694-A01), or later is a required licensed program.

Optional licensed programs

Depending on the functions used, one or more of the following programs may be required:

- CICS Transaction Server for z/OS , V4 (5655-S97)
- CICS Transaction Server for z/OS , V3 (5655-M15)
- Enterprise COBOL for z/OS , V4 (5655-S71)
- Enterprise COBOL for z/OS and OS/390® , V3 (5655-G53)
- IBM DB2 10 for z/OS (5605-DB2)
- DB2 10 for z/OS VUE (5697-P31)
- DB2 V9 for z/OS (5635-DB2)

- DB2 V9 for z/OS VUE (5697-P12)
- IBM Debug Tool for z/OS , V12 (5655-W70)
- Debug Tool for z/OS , V11 (5655-W45)
- Debug Tool for z/OS , V10 (5655-V50)
- IBM DFSORT element of z/OS (5694-A01)
- IBM High Level Assembler/MVS and VM and VSE (5696-234)
- IBM IMS V12 (5635-A03)
- IMS V11 (5635-A02)
- IMS V10 (5635-A01)
- For C/C++ with Enterprise PL/I -- You must use the XL C/C++ feature of z/OS (5694-A01).

Enterprise PL/I for z/OS , V4.3 in this announcement is supported for use only with the announced and currently supported levels of IBM software listed above. IBM knows of no reason Enterprise PL/I for z/OS , V4.3 will not work with certain earlier, unsupported IBM software products, specifically:

- OS PL/I V2.3 (5668-909, 5668-910, 5668-911)
- PL/I for MVS™ & VM V1.1 (5688-235)
- IBM VS FORTRAN V2 (5668-806, 5688-087)

IBM will undertake to fix problems found using Enterprise PL/I for z/OS , V4.3 in this announcement with the above mentioned earlier, unsupported product levels. IBM must be able to reproduce the problem using a supported level of the same product. If the problem can be reproduced and fixed, the fix will be developed and tested using supported levels of IBM software. If a fix is made available, it is likely to work on the unsupported product level, however, IBM can not guarantee that the fix will work with the unsupported product.

User group requirements

This announcement addresses twelve requirements from one or more of the worldwide user group communities. Groups include COMMON, COMMON Europe, Guide Share Europe (GSE), InterAction (Australia/New Zealand), Japan Guide Share (JGS), and SHARE Inc.

Requirements addressed include:

- MR0112123439
- MR0301122751
- MR0312125520
- MR0312123058
- MR0605126355
- MR0801114548
- MR0913116646
- MR1003111822
- MR1201112816
- MR1220115357
- MR1227113230
- MR1229115656

Planning information

Packaging

The Enterprise PL/I for z/OS , V4.3 package includes:

- Basic machine-readable material on the customer-selected distribution medium
- Program Directory (GI11-9144)
- Licensed Program Specifications (GC14-7283)

Security, auditability, and control

The announced program uses the security and auditability features of the host operating system software. The customer is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communication facilities.

Ordering information

Ordering z/OS through the Internet

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

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

Current licensees

Current® licensees of IBM Enterprise PL/I for z/OS , V4.2 must order this release via MES.

New licensees

Orders for new licenses can be placed now.

Customers whose orders ship before the planned availability will receive Enterprise PL/I for z/OS , V4.2.

Customers whose orders ship after the planned availability date will receive Enterprise PL/I for z/OS , V4.3.

New users of Enterprise PL/I for z/OS , V4 should specify Type: 5655 Model: W67.

New Users will receive Enterprise PL/I for z/OS , V4.3.

The previous release, Enterprise PL/I for z/OS , V4.2, is therefore withdrawn from marketing and being replaced by Enterprise PL/I for z/OS , V4.3.

For ordering information on IBM Enterprise PL/I for z/OS V4, refer to Software Announcement [210-232](#), dated July 22, 2010

Customized offerings

Product deliverables are shipped only via CBPDO, ServerPac, SystemPac® .

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

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

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

- 3590
- 3592

Most products can be ordered in ServerPac and SystemPac the month following their availability on CBPDO. z/OS can be ordered via all three offerings at general availability. Production of software product orders will begin on the planned general availability date.

- CBPDO shipments will begin one week after general availability.
- ServerPac shipments will begin two weeks after general availability
- SystemPac shipments will begin four weeks after general availability due to additional customization, and data input verification.

Terms and conditions

The terms for Enterprise PL/I for z/OS , V4, as previously announced in Software Announcement [210-232](#), dated July 22, 2010, IBM Customer Agreement are unaffected by this announcement.

IBM Operational Support Services - SupportLine

Yes

Prices

The pricing information for Enterprise PL/I for z/OS , V4, as previously announced in Software Announcement [210-232](#), dated July 22, 2010, remains unaffected by this announcement.

Contact your IBM representative for information on the current prices for this program.

Order now

To order, contact the Americas Call Centers or your local IBM representative, or your IBM Business Partner.

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

Phone: 800-IBM-CALL (426-2255)
Fax: 800-2IBM-FAX (242-6329)
Internet: callserv@ca.ibm.com
Mail: IBM Teleweb Customer Support
ibm.com® Sales Execution Center, Americas North
3500 Steeles Ave. East, Tower 3/4
Markham, Ontario
Canada
L3R 2Z1

Reference: LE001

The Americas Call Centers, our national direct marketing organization, can add your name to the mailing list for catalogs of IBM products.

Note: Shipments will begin after the planned availability date.

Trademarks

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