



# IBM Enterprise PL/I for z/OS , V4.4 offers new function and improved performance

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## 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 CICS® , DB2® , IMS™ , and other transactional and data systems.

This compiler can help facilitate 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 4.4 offers:

- Improved middleware support for IMS and DB2
- Further exploitation of the zEC12 hardware architecture to help improve performance of the code generated under the ARCH(10) option
- Improved UTF-16 and multithreading support
- Productivity and usability improvements, many of them client requested

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 compiler development.

## Key prerequisites

- z/OS V1.13 (5694-A01), or later
- z/OS V2.1 (5650-ZOS), or later

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

## Planned availability date

September 6, 2013

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## Description

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### Improved middleware support for IMS and DB2

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- This release includes support for built-in functions that perform Base64 encoding and decoding, which can be useful in some XML processing, particularly by IMS .
- The compiler now supports new built-in functions that "clean" and "normalize" XML. These functions are important to the PL/I IMS XML convertors, and their presence in PL/I enables each of those convertors to be reduced by more than 64 KB in size.
- The compiler introduces a new PL/I attribute that creates typed OFFSET variables. This provides for significantly reduced storage usage for sparse arrays such as those often found in structures representing complex XML documents.
- The structured query language (SQL) preprocessor is enhanced to issue better diagnostic messages for incorrect programs and to create, under an option, an empty database request module (DBRM) for programs containing no SQL statements.

### Performance

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- The compiler now generates its assembler listing faster, thereby reducing overall compiler time and cpu consumption.
- This release includes additional exploitation of the EC12 (zEC12) processor; as such code generated with the ARCH(10) option is expected to run faster.
- The compiler has increased its exploitation of the DFP-zoned instructions in order to help improve the performance of conversions between PICTURE and FIXED BIN variables when the PICTURE has a precision between 9 and 18 and contains no drifting, no exponent, no overpunch, and no credit symbols.
- This release also improves the code generated for some WCHAR assignment statements thereby improving its support for UTF-16.

### Modernization

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- The PL/I compiler is expanded in its ability to support UTF-16 with the addition of the new WIDEPIC attribute. WIDEPIC variables serve the same purpose as the traditional PICTURE variables with the important difference that the data is held as UTF-16 rather than as simple character data.
- The release improves the multithreading support in PL/I with the addition of the CANCEL THREAD statement.

### Miscellaneous user requirements

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- PL/I has always supported a subset of the full DEFAULT statement as defined in the PL/I standard. With this release, the compiler now supports the full DEFAULT statement. This provides users with more control over when and which defaults are applied to their variables.
- The compiler now supports the INDEXR built-in function, which provides the same ability to index into a string as provided by the traditional INDEX built-in function with the difference that INDEXR starts from the right rather than the left.
- The compiler now flags the declares for variables that do not have the STATIC attribute but do have more than 100 INITIAL items. This helps you identify variables that probably should be declared as STATIC, and if it would be correct to change them to STATIC, then both the compiler itself and the user code could perform better.
- The ALLOCATE built-in function is extended so that an AREA may be specified as an optional second argument thereby allowing users to allocate arbitrarily sized chunks of storage from AREAs as well as from heap storage.
- New compiler options are delivered to give the users more control of their code quality. An example is to prohibit assignments of " to POINTER variables or to disallow %INCLUDE statements except during the preprocessor passes.
- The macro preprocessor now supports a CALL statement for use in macro procedures that wish to invoke other macro procedures that are subroutines

rather than functions. This new statement increases the usefulness of procedures using the ANSWER statement and enhances the power and flexibility of the macro preprocessor.

## **Accessibility by people with disabilities**

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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](http://www.ibm.com/able/product_accessibility/index.html)

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## **Hardware and software support services**

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### **SmoothStart/installation services**

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IBM SmoothStart and Installation Services are not provided.

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## **Availability of national languages**

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Description	Program number	Availability Date	Language
IBM Enterprise PL/I for z/OS V4.4	5655-W67	September 6, 2013	Japanese

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## **Technical information**

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### **Specified operating environment**

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#### **Hardware requirements**

The Enterprise PL/I for z/OS , V4.4 compiler runs on the following IBM servers:

- zEnterprise® EC12 (zEC12) or zEnterprise BC12 (zBC12)
- zEnterprise 196 or zEnterprise 114
- z10™ Enterprise Class or z10 Business Class
- System z9® Enterprise Class or z9® Business Class

The Enterprise PL/I for z/OS , V4.4 compiler generates code that runs on the following IBM servers:

- zEnterprise EC12 (zEC12) or zEnterprise BC12 (zBC12)
- zEnterprise 196 or zEnterprise 114
- z10 Enterprise Class or z10 Business Class
- System z9 Enterprise Class or z9 Business Class
- zSeries® z990
- zSeries z890

#### **Software requirements**

Enterprise PL/I for z/OS , V4.4 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 V1.13 (5694-A01), or later
- z/OS V2.1 (5650-ZOS), or later

## Optional licensed programs

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

- CICS Transaction Server for z/OS , V5 (5655-Y04)
- CICS Transaction Server for z/OS , V4 (5655-S97)
- CICS Transaction Server for z/OS , V3 (5655-M15)
- DB2 10 for z/OS (5605-DB2)
- DB2 10 for z/OS Value Unit Edition (5697-P31)
- DB2 V9 for z/OS (5635-DB2)
- DB2 V9 for z/OS Value Unit Edition (5697-P12)
- IMS V13 (5635-A04)
- IMS V12 (5635-A03)
- IMS V11 (5635-A02)
- DFSORT element of z/OS (5694-A01, 5650-ZOS)
- High Level Assembler/MVS and VM and VSE (5696-234)
- Debug Tool for z/OS , V12.1 (5655-W70)
- Debug Tool for z/OS , V11.1 (5655-W45)
- Fault Analyzer for z/OS V12.1 (5655-W69)
- Fault Analyzer for z/OS V11.1 (5655-W46)
- File Manager for z/OS V12.1 (5655-W68)
- File Manager for z/OS V11.1 (5655-W47)
- Application Performance Analyzer for z/OS , V12.1 (5655-W71)
- Application Performance Analyzer for z/OS , V11.1 (5697-Q03)
- Rational® Developer for System z® , V8 (5724-T07)
- Enterprise COBOL for z/OS , V5 (5655-W32)
- Enterprise COBOL for z/OS , V4 (5655-S71)
- Enterprise COBOL for z/OS and OS/390® , V3 (5655-G53)
- Enterprise PL/I for z/OS , V4 (5655-W67)
- Enterprise PL/I for z/OS , V3 (5655-H31)
- PL/I for MVS™ & VM V1.1 (5688-235)
- OS PL/I V2.3 (5668-909, 5668-910, 5668-911)
- For XL C/C++ with Enterprise PL/I -- You must use the XL C/C++ feature of z/OS , V1.13 (5694-A01) or the XL C/C++ feature of z/OS , V2.1 (5650-ZOS), or later
- IBM VS FORTRAN V2 (5668-806, 5688-087)

Enterprise PL/I for z/OS , V4.4 as described in this announcement, is supported for use only with the announced and currently supported levels of IBM software listed above. Enterprise PL/I for z/OS , V4.4 should continue to work with certain earlier, unsupported IBM software products.

IBM will undertake to fix problems found using Enterprise PL/I for z/OS , V4.4 as described in this announcement with the previously 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:

- RFE27954
- RFE28536
- RFE29703
- RFE30159
- RFE31139
- RFE31140
- RFE31207
- RFE31214
- RFE31216
- RFE31632
- RFE32334
- RFE35961

### **Planning information**

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#### ***Packaging***

The Enterprise PL/I for z/OS , V4.4 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**

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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.

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## **Ordering information**

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### **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>

## New licensees

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- Orders for new licenses can be placed now.
- Customers whose orders ship before the planned availability will receive Enterprise PL/I for z/OS , V4.3.
- Customers whose orders ship after the planned availability date will receive Enterprise PL/I for z/OS , V4.4.
- 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 , V4.4.
- The previous release, Enterprise PL/I for z/OS , V4.3, is therefore withdrawn from marketing and being replaced by Enterprise PL/I for z/OS , V4.4.

For ordering information on IBM Enterprise PL/I for z/OS V4, refer to Software Announcement [ZP10-0299](#), dated July 22, 2010.

## System z New application license charge (zNALC) ordering info

A *Program Directory* (GI11-9144) and *Licensed Program Specifications* (GC14-7283) are supplied automatically with the basic machine-readable material. No other hardcopy publications are shipped with the product. Subsequent updates (technical newsletters or revisions between releases) to the publications shipped with the product will be distributed to the user of record for as long as a license for this software remains in effect. A separate publication order or subscription is not needed.

## Customized offerings

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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.

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## Terms and conditions

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### Global Technology Services®

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

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## Prices

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The pricing information for Enterprise PL/I for z/OS , V4, as previously announced in Software Announcement [ZP10-0299](#), dated July 22, 2010, remains unaffected by this announcement.

For all local charges, contact your IBM representative.

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## Announcement countries

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All European, Middle Eastern and African countries, except Syria, Sudan, and Iran.

### **Trademarks**

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