

IBM XL C/C++ V2.4.1 for z/OS

V2.4 web deliverable



Improve application performance and developer productivity using the latest IBM z/OS XL C/C++ compiler

Highlights

IBM® XL C/C++ V2.4.1 for z/OS® V2.4 web deliverable is available for those clients who need C++11 and C++14 support and is ideal for users porting applications from distributed platforms. The following features are available in XL C/C++ V2.4.1:

- Support for the C11, C++11, and C++14 language standards
- Exploitation of the latest IBM z15™ mainframe
- Support for both EBCDIC and ASCII execution character sets
- Generating AMODE 64 code
- Ideal for z/OS UNIX users porting applications from distributed platforms to z/OS UNIX

The XL C/C++ V2.4.1 compiler helps you create and maintain critical business applications written in C or C++, maximize application performance, and improve developer productivity. z/OS XL C/C++ can transform C or C++ source code to fully exploit your existing IBM Z and optimize workloads through smarter computing capabilities with the IBM z15 hardware. Built-in functions, performance-tuned libraries, and language constructs are some of the features that simplify programming and boost application runtime performance.

IBM works constantly to improve compiler components, including front-ends and optimizers. By upgrading your compiler, you can keep up with new language standard features and extensions, advancements in hardware technology, usability features, and advances in optimization with minimal or no source code changes. IBM XL C/C++ offers cost effective compilers to get more out of existing technology and stay ahead of competitors on the technology curve.

If your application development requires the C++11 and C++14 language standards, it makes good business sense to upgrade to the latest XL C/C++ V2.4.1 compiler. XL C/C++ V2.4.1 supports C++14 features and additional C++11 features than z/OS XL C/C++ V2.4. It is the integration of IBM's advanced XL optimization technologies with the LLVM open source Clang infrastructure that gives XL C/C++ V2.4.1 additional current language standards support to easily migrate applications from distributed platforms, and to exploit z/Architecture® capabilities.

For more information on the differences between XL C/C++ V2.4 and XL C/C++ V2.4.1, see the feature comparison table in the whitepaper [Benefits of upgrading to XL C/C++ V2.4.1 for z/OS V2.4](#).

Supports the C11, C++11, and C++14 language standards

Alongside the language standards supported in the z/OS V2.4 XL C/C++ compiler, XL C/C++ V2.4.1 adds support for the core C11 standard and most of the C++11 and C++14 standards features, enabling straightforward porting and consolidation of C/C++ applications to z/OS for improved platform performance.

Exploitation of the latest IBM z15 mainframe

XL C/C++ V2.4.1 exploits the latest IBM z15 servers with new hardware exploitation features. The hardware level capabilities are exposed directly to you through the `-qarch=13` and `-qtune=13` compiler options.

Summary of features and benefits

The following table summarizes the features and benefits for z/OS XL C/C++.

Table 1: Summary of features and benefits	
Feature	Benefit
Designed for IBM servers and z/OS	<ul style="list-style-type: none">Exploits IBM Z® servers (which are listed in the below section System requirements on page 2) and z/OS V2.4.
Improved industry language standards compliance	<ul style="list-style-type: none">Facilitates porting from other platforms to z/OS.Provides compiler diagnostics to help you achieve the level of conformance to a particular programming language standard.Supports the core C11 standard and most of the C++11 and C++14 standards features.
Improved industry-leading optimizations	<ul style="list-style-type: none">Supports multiple optimization levels to tailor the optimization aggressiveness for your applications. The following optimization levels are provided: nooptimize Performs only quick local optimizations such as constant folding and elimination of local common subexpressions. -O -O2 -qoptimize=2 Performs optimizations that the compiler developers considered the best combination for compilation speed and runtime performance. -O3 -qoptimize=3 Performs additional optimizations that are memory intensive, compile-time intensive, or both. They are recommended when the desire for runtime improvement outweighs the concern for minimizing compilation resources.

System requirements

The following table presents the hardware requirements for XL C/C++ V2.4.1.

Table 2: System requirements	
Operating system	Hardware
z/OS V2.4 Note: z/OS XL C/C++ is an optionally priced feature of z/OS.	<ul style="list-style-type: none">IBM z15 (z15)IBM z14™ Model ZR1IBM z14 (z14)IBM z13® (z13)IBM z13s® (z13s)IBM zEnterprise® EC12 (zEC12)IBM zEnterprise BC12 (zBC12) <p>Note: For a complete description of z/OS software prerequisites, see <i>z/OS Planning for Installation (GA32-0890-30)</i>.</p>

License options

To help you optimize software licensing costs, IBM can assist in identifying the licenses that best suits your organization. For additional information on the types of licenses available for z/OS, see:

<https://www.ibm.com/it-infrastructure/z/software/pricing>

Ordering information

IBM z/OS XL C/C++ is an optional priced feature of z/OS. To make the purchase, [contact your IBM representative](#) and obtain the product from the IBM Shopz website at https://www-03.ibm.com/software/shopzseries/ShopzSeries_public.wss.

z/OS XL C/C++ is supported on z/OS at the same level. For more information about the support lifecycle of z/OS, see the [Software lifecycle of z/OS](#).

XL C/C++ V2.4.1 can be installed on a z/OS V2.4 system after you have enabled z/OS XL C/C++ (an optional priced feature) on z/OS V2.4.

XL C/C++ V2.4.1 is available as a web download from <http://www.ibm.com/systems/z/os/zos/downloads/>.

Upgrade now

Upgrade to the latest z/OS operating system and get the latest XL C/C++ compiler to leverage your IBM Z investment and stay ahead of competitors on the technology curve.

For more information

To learn more about XL C/C++ V2.4.1, [contact your IBM representative](#) or IBM Business Partner, or visit the [product page of z/OS XL C/C++](#).

You can also give us feedback or post questions on [IBM Z and LinuxONE Community](#).

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