

Integrate your PL/I applications with web services, XML and Java™.

Enterprise PL/I for z/OS, Version 4.1



To make your business as agile and responsive as possible, you need to be able to connect your business components end to end with your suppliers, partners, employees, and customers, and you need to position your organization to quickly take advantage of opportunities by responding to challenges in real time.

Unfortunately, many IT systems weren't designed to address these objectives or to support Web services and service-oriented architecture (SOA) that are essential for transforming an enterprise into a flexible business with an open, integrated operating environment. You could rewrite your applications in a different programming language in order to address these objectives, but rewriting your applications would be expensive and risky, and it could potentially create downtime that you just can't afford. To remain competitive, you need a complete business strategy to help you modernize, integrate, and manage existing applications, data, and skill sets to ease your organization's transformation into a more flexible business.

Highlights

- *Enables the creation, maintenance, and modernization of business-critical PL/I applications on z/OS® systems*
- *Exploits the latest z/Architecture® for application performance improvements*
- *Improves SQL processing*
- *Improves application debugging with the IBM Debug Tool through compiler enhancements*
- *Delivers enhanced XML parsing support*
- *Leverages productivity with new options*
- *Empowers your developers by providing a modern development environment¹*
- *Unifies your developers by providing a collaborative team environment²*

1. Separate product: IBM Rational® Developer for System z
 2. Separate product: IBM Rational Team Concert for System z

Integrates, modernizes and manages assets with web services capabilities

With Enterprise PL/I for z/OS® you can leverage more than 30 years of IBM experience in application development to facilitate your new On Demand Business endeavors, helping integrate PL/I and web-based business processes in web services, XML, Java, and PL/I applications. This compiler's interoperability lets you capitalize on existing IT investment while smoothly incorporating new, web-based applications as part of your organizations infrastructure.

Enterprise PL/I for z/OS is an integral part of the comprehensive application development environment delivered with IBM Rational® Developer for IBM System z® software—providing a robust, integrated development environment (IDE) for PL/I and connecting web services; Java Platform, Enterprise Edition (Java EE) applications; and traditional business processes.

IBM Enterprise PL/I is a leading-edge, z/OS-based compiler that maximizes middleware by providing access to IBM DB2®, CICS®, and IMS™ systems.

This new version of Enterprise PL/I for z/OS V4.1, underscores the continuing IBM commitment to the PL/I programming language on the z/OS platform.

Facilitates web interoperability using XML parsing and generation

Enterprise PL/I for z/OS allows existing PL/I transactions to process inbound and outbound XML data directly within the applications. It provides a high-speed parser that enables PL/I programs to parse XML documents in Extended Binary Coded Decimal Interchange Code (EBCDIC), American Standard Code for Information Interchange (ASCII) or Unicode Transformation Format (UTF)-16. Using the IBM PL/I Simple API for XML (SAX) parser, this XML can then be passed to other applications, even those running on other platforms—including IBM IMS and IBM CICS environments.

Enterprise PL/I for z/OS also supports the generation of XML using a built-in function, so you're able to dump the contents of a structure as XML into a buffer. You can use this XML code to enhance existing high-performance IMS and CICS transactions that have been written in PL/I. By enabling these transactions to send and receive XML documents, you're better positioned to support a business-to-business (B2B) environment.

In Enterprise PL/I for z/OS V4.1, XML validation is supported through the XML System Services parser and the new PLISAXD built-in routine. PLISAXD has the same set of arguments as the PLISAXLIC built-in subroutine except that it also has an additional, mandatory argument that is the address of an optimized schema representation.

Exploits IBM z/Architecture for application performance improvements

Additional exploitation of the hardware is implemented in the compiler in order to improve performance of the generated code:

- The ARCH option controls the code generated by adjusting the instructions, scheduling, and other optimizations for a specific architecture level of the system, Enterprise PL/I for z/OS V4.1 introduces the new ARCH(9) option to support the latest z/Architecture. The following new facilities are used to produce code targeting the latest z/Architecture:
 - Load/store-on-condition
 - Distinct-operands
- The compiler will now inline code to resolve references to elements of structures with complex REFER if all the elements are byte-aligned. Previously the compiler would have resolved these references through costly library calls.

As mentioned above, zEnterprise™ System hardware exploitation has been implemented in the Enterprise PL/I for z/OS compiler through the addition of the ARCH(9) option. This option enables the use of new instructions from the load/store-on-condition, and the distinct-operands facilities to be exploited in the compiler generated code. This is designed to provide better performing applications tuned for the

Summary of features and benefits

Feature	Benefit
Designed for IBM platforms	<ul style="list-style-type: none"> Exploits z/Architecture®.
Maximizes middleware	<ul style="list-style-type: none"> Exploits the latest middleware (DB2, CICS, IMS) to facilitate application integration and modernization.
Modernize applications	<ul style="list-style-type: none"> Easy to extend your applications on a modern web infrastructure.
Improved debug information	<ul style="list-style-type: none"> Reduces the size of the generated object by placing the statement number in the side file. Generates more specific information for the Debug Tool automonitor function. Includes information in the side file identifying the source files for declares, references and assignments. Generates information to identify the implicit locator reference when a variable is BASED on the ADDR of an array element.
Improved SQL and CICS preprocessing	<ul style="list-style-type: none"> With the integrated SQL preprocessor or CICS preprocessor, it is not necessary to run a separate job step that precompiles EXEC SQL statements or EXEC CICS statements into PL/I code. Instead, the compile step will handle EXEC SQL statements or CICS statements in the same way that it handles any use of the MACRO facility. Also, since debugging is against the source code fed to the compiler, you can debug against the source you wrote (rather than what the SQL preprocessor or CICS precompiler produced).
Exploits hardware support for IEEE 754 decimal floating-point data	<ul style="list-style-type: none"> Improves the accuracy and performance of decimal floating-point calculations for commercial applications.
Provides compatibility for PL/I and Java components	<ul style="list-style-type: none"> Supports the Institute of Electrical and Electronics Engineers (IEEE) decimal floating point standard, so the compiler can receive, manipulate and send Java data without any translation. Supports UTF-8 and UTF-16 through built-in functions. Provides a thread-safe PL/I library and multithreading statements (ATTACH, WAIT, DETACH) as part of the PL/I language for improved Java interoperability.
Ease of migration	<ul style="list-style-type: none"> Gives you a migration path from OS PL/I V2 and PL/I for MVS and VM compilers to easily move your applications to a new run-time (run-time migration) and to compile your source programs with the new compiler (compiler migration). Migrating to the new compiler allows your existing applications to take advantage of new functions.
Integrated development environment¹	<ul style="list-style-type: none"> Rational Developer for System z boosts developer productivity by making it easy to edit, compile, and debug PL/I applications from your workstation.
Collaborative team environment²	<ul style="list-style-type: none"> Rational Team Concert for System z unifies development teams by making it easy to manage your distributed software projects and teams.
IBM service and support	<ul style="list-style-type: none"> Provides responsive platform and cross-platform support that meets or exceeds customer expectations. Teams with subject matter experts in compiler development for dedicated support excellence.

1. Separate product: IBM Rational Developer for System z

2. Separate product: IBM Rational Team Concert for System z

