IBM Db2 11 for z/OS
Licensed Program Specifications
Product Number 5615-DB2

IBM® Db2® 11 for z/OS® is a relational database management system licensed program for the z/OS environment.

IBM has embarked on an effort to rebrand DB2 to Db2. (See http://ibm.biz/Rebrand4Db2.) As such, there will be changes to all the Db2 offerings. For example, “DB2 for z/OS” is now referred to as “Db2 for z/OS,” beginning with Db2 11 for z/OS. While IBM implements the product name change across the Db2 family of products, be aware that you might see references to the original name “DB2 for z/OS” or “DB2” in different IBM web pages and documents. Clients can be sure that “DB2 for z/OS” and “Db2 for z/OS” refer to the same product, when the PID, Entitlement Entity, version, modification, and release information match.

In this document, Db2 11 for z/OS is sometimes referred to as “Db2 for z/OS,” “Db2 11,” or “Db2.”

Highlights

Db2 for z/OS is a licensed program that supports the relational data model with a high-level language to access Db2 data. Db2 offers many functions in support of traditional database application areas, web and mobile devices, and business intelligence. The highlights of this licensed program and its functions are described below.

• **Relational data model:** Db2 provides a tabular data structure. Users view data as a series of rows and columns. Db2 for z/OS provides hybrid data-server support for both relational and pureXML® storage, with services to support both data structures.

• **Structured query language:** Structured query language (SQL) is a high-level language that is used for data manipulation, data definition, and control. SQL does not depend on data paths, placement, or order when it accesses relational databases. In Db2 11 for z/OS, enhancements to SQL facilitate easier portability of applications from other members of the Db2 family or from other database products.

• **pureXML:** Db2 for z/OS supports XML data. With pureXML, your client applications can manage XML data in Db2 tables. In Db2 11 for z/OS, enhancements to pureXML improve productivity, help optimize performance, and improve consistency across the Db2 family of products. Key enhancements include support for the XML data type for the cross-loader function, improved evaluation of some XPath predicate expressions, and improved performance when loading binary XML data.

• **Access to data:** Db2 provides robust availability and can be accessed by many applications, including:
  – IBM Information Management System (IMS) Transaction Manager
  – IBM Customer Information Control System (CICS®) Transaction Server
  – IBM Time Sharing Option (TSO) users
  – IBM Data Server Driver Package
  – Web and mobile devices
  – WebSphere® Application Server
  – Batch jobs

Application programs that run under the control of IMS Transaction Manager or the CICS Transaction Server can also access Db2 data, IMS data, or both. The data sharing function allows a group of Db2 subsystems to have concurrent access to the same data without replication. In addition, Db2 can access, or be accessed by, different instances of Db2 or by other database management systems that support Distributed Relational Database Architecture™ (DRDA). These
systems must be connected to the local Db2 subsystem by TCP/IP or Advanced Communication Facility/Virtual Telecommunications Access Method (ACF/VTAM®). Each data sharing member or non-data sharing subsystem can have up to 150,000 concurrent connections; up to 20,000 of those connections can be active at one time. Data can be changed and read by more than one subsystem in a single unit of work, and the commit processing of all data is coordinated. Other programs can access the data at the same time.

**Application programming:** Programmers can use integrated development environments (Java™, WebSphere Studio Enterprise Developer, or Microsoft .NET), many languages, and many access styles to access Db2. Users can access and manipulate Db2 data by using SQL through application programs that are written in Java, JavaScript, C#, APL2®, Perl, PHP, Ruby on Rails, SQL procedural language, REXX, C, C++, COBOL, Fortran, PL/I, or assembler language. C and C++ applications can use embedded SQL or ODBC. Programmers can write applications that are written in the Java programming language and that access Db2 for z/OS data or data on any DRDA server. These applications can access data either dynamically through JDBC or through static embedded SQL by using pureQuery® or SQLJ.

You can use the following other methods to develop or run applications:

- Use one of the several types of IBM data server clients and drivers if the application is running on a distributed environment, such as UNIX, Windows, or Linux.
- Use one of the IBM Db2 Query Management Facility™ (QMF™) licensed programs.
- Use the IBM Rational® Developer for System z® application development workbench, which provides an integrated set of tools that support end-to-end, model-based development, runtime testing, and rapid deployment of simple and complex applications.
- Use the integrated set of Db2 Development Add-Ins for Microsoft Visual Studio .NET that are provided through IBM Data Studio to support iterative development of server-side stored procedures and user-defined functions.
- Use Optim™ Development Studio to develop and test SQL, PL/SQL, and Java database routines, generate and deploy database web services, create and run SQL and XQuery scripts, and develop Java database applications.
- Use Optim pureQuery Runtime for z/OS to build high-quality, better performing database applications, and then deploy pureQuery or pureQuery-enabled Java applications to production environments.
- Use the tools that are provided with Optim Query Workload Tuner to analyze queries and to analyze and monitor query workloads that run on data servers.

**Migration:** Db2 11 for z/OS for z/OS supports migration from DB2® 10 for z/OS. Migration with fallback protection is available for customers who are running on DB2 10 for z/OS in new-function mode. In addition, DB2 10 for z/OS can coexist with Db2 11 for z/OS in a data sharing environment and in a distributed environment.

**Optional features**

Db2 11 for z/OS delivers a variety of optional features. Each optional feature includes a Program Directory.

**Specified operating environment**

Db2 11 for z/OS has hardware and software requirements for the operating environment, which are identified in detail in the *Db2 11 for z/OS Program Directory.*
Compatibility
Db2 11 for z/OS is upwardly compatible with earlier releases of Db2 for z/OS. Migration with full fallback protection is available for customers who are running on DB2 10 for z/OS. Existing customers should ensure that they are successfully running on DB2 10 for z/OS (new-function mode) before migrating to Db2 11.

Licensed program materials availability
Restricted materials - No. This licensed program is available without source licensed program materials. It is available in object code.

Supplemental terms
Designated machine identification
Designated machine identification is required.

The machine identification requirement prohibits copying platform-independent components that are delivered with this product, such as JDBC drivers, to other machines or operating systems unless specifically permitted by this document.

Limited-use license for z/OS Application Connectivity to Db2 for z/OS
The z/OS Application Connectivity to Db2 for z/OS feature, a type 4 JDBC driver, is licensed for installation and use solely on z/OS. The sole authorized use of z/OS Application Connectivity to Db2 for z/OS is limited to connecting an application that runs on z/OS to Version 7, 8, 9, 10, or 11 of Db2 for z/OS that is running in a separate partition on the same server as the application is running or on a different z/OS server. You can also connect applications to a subsequent supported version of Db2 for z/OS. Authorized use does not extend to applications that run on Linux or on any other platform or operating system.

QMF Enterprise Edition and accompanying program licenses
QMF Enterprise Edition Version 11 consists of the following licensed programs:
• QMF for TSO/CICS
• QMF High Performance Option
• QMF Analytics for TSO
• QMF for Workstation
• QMF for WebSphere

QMF for Workstation and QMF for WebSphere contain third party code that IBM, not the third party, licenses to Licensee under the terms of the IBM Customer Agreement. Notices for the third party code are included for information only. These notices can be found in the Program’s NOTICES file(s). Information on how to obtain source code for certain third party code can be found in the Program’s NOTICES file(s).

Although QMF Version 11 can be used with earlier versions of Db2 for z/OS, you must have a license for Db2 11 to use QMF Version 11 with any supported version of Db2.

Enterprise Advisor for Db2 for z/OS feature
Enterprise Advisor for Db2 for z/OS entitles you to nondefect support for out-of-service versions and direct access to the IBM Lab for support subject to the following terms and conditions.

This offering includes support, as set forth below, for short duration problems involving:
• Installation
• Usage (how-to)
• Product compatibility and interoperability questions
• Technical references to publications, such as IBM Redbooks® publications or manuals
• Providing available configuration samples
• Planning information for software fixes
• IBM database searches

The following areas are beyond the scope of the Enterprise Advisor for Db2 for z/OS feature:
• Analyzing performance
• Writing, troubleshooting, or customizing code for a client
• Answering extensive configuration questions
• Recovering a database, or data recovery
• Consulting
• Interpretation or triage of customer-generated or third-party-generated defect scanning reports

Continuing support for release levels of Db2 for z/OS software that have reached end of support (see Notes below):
• 7 days, 24-hour support for mission-critical emergencies (Severity 1)
  – Provided by voice in most countries
  – Provided in English, with the local language accommodated when possible
• Remote problem analysis and assistance during normal country business hours in your time zone
• Support for routine, short duration installation and usage questions
• Response-time objective of two hours during prime shift for voice and electronic problem submissions
• Response-time objective of two hours for critical/emergency problems during off-shift hours
• Unlimited number of technical support incidents
• Access to documentation, technotes, and other online product material
• Access to existing available fixes created before the product’s end of service date to correct known defects

Notes:
• Continuing support for end of service release levels of Db2 for z/OS does not include:
  – Development analysis of new defects
  – Development of or packaging fixes that are not already available
  – Support for supporting programs and third-party components
  – Infrastructure that is not included in the software version’s Hardware and Software Requirements page
• For more information about IBM Support practices and terminology, see the IBM Software Support Handbook at: https://www.ibm.com/support/customercare/sas/sf/handbook/getsupport.html.

Enterprise Advisor for Db2 for z/OS, as a feature of the Db2 for z/OS Program, is a “Service,” as defined in the ICA, CRA, or equivalent agreement, and its use is subject to the terms regarding Services in that agreement. This Licensed Program Specifications document constitutes an “Attachment” to that agreement.

Redistribution of code for Db2 for z/OS
This document includes information about certain language interface modules that are intended to be bound or otherwise included with code and run on Db2 for z/OS subsystems. In connection with your authorized use of Db2 for z/OS, you may include these language interface modules in your modules and distribute your modules with the included language interface modules for the purposes of developing, using, marketing and distributing programs conforming to the documented programming interfaces for
Db2 for z/OS, provided that each language interface module is included in its entirety, including any IBM copyright statements. These language interface modules have not been thoroughly tested under all conditions. IBM, therefore, cannot guarantee or imply the reliability, serviceability, or function of these language interface modules. The language interface modules referred to here are:

- DSNALI
- DSNELI
- DSNHADD2
- DSNHADDR
- DSNHLIR
- DSNHMVHW
- DSNRLI
- DSNTIA1
- DSNTIAR
- DSNULI

**Usage restriction**
Not applicable.

**Type and duration of program services**
IBM Support will be provided until discontinued by IBM with a minimum of six months written notice.

**Softcopy publications**
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**Warranty**
This Program is warranted as specified in the IBM license.

Licensed Program Specifications may be updated from time to time and such updates may constitute a change in specifications.

For Distributed Systems License Option (DSLO) Licenses, warranty service, if any, will be provided only through the Basic License location.

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