



IBM DB2 11 for z/OS Early Support Program

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At a glance

DB2® 11 for z/OS® expands the value delivered to your business by IBM's industry-leading mainframe data server in the following ways.

- Help save money, save time, and reduce costs
- Provide unmatched availability, reliability, and security for business critical information
- Provide enhanced analytics for business growth
- Offer simpler, faster migration for faster ROI

Selected features that deliver these valuable benefits to your business include:

- CPU reductions and performance improvements for certain online transaction processing (OLTP), heavy insert, select query workloads, and when running queries against compressed tables
- Improved-data sharing performance and efficiency
- Improved utility performance and additional zIIP eligible workload
- Cost-effective archiving of warm and cold data with easy access to both within a single query
- Intelligent statistics gathering and advanced optimization technology for efficient query execution in dynamic workloads
- Additional online schema changes that simplify management, reduce the need for planned outages, and minimize the need for REORG
- Productivity improvements for DBAs, application developers, and system administrators
- Efficient real-time scoring within your existing transaction environment
- Enhanced analysis, forecasting, reporting, and presentation capabilities, as well as improved storage management, in QMF™
- Expanded SQL, SQL PL, temporal, and XML function for better application performance
- Faster migration with application protection from incompatible SQL and XML changes and simpler catalog migration

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

IBM intends to make DB2 11 for z/OS (DB2 11) available to a select group of clients in a closed Early Support Program (ESP) on March 8, 2013.

Shrinking budgets, exploding data growth, and dynamic business requirements continue to challenge companies everywhere. Add to that the need to deliver full availability with rock solid security and you understand why the demands on IT are greater than ever. Building on the formidable capabilities of DB2 10 for z/OS (DB2 10) and the IBM System z® platform, DB2 11 helps you meet those challenges head on - efficiently and cost effectively.

DB2 11 for z/OS delivers innovations in these key areas:

Save money, save time, reduce cost

DB2 10 delivered strong CPU savings that drove great value for IBM clients. DB2 11 follows up with even more CPU savings and improved performance. Compared to DB2 10, DB2 11 clients may achieve up to 5% out-of-the-box CPU savings for various traditional online transaction processing (OLTP), heavy INSERT, and SAP workloads. Select query workloads may see even more benefits, with up to 20 to 30% CPU savings. Read intensive OLTP workloads may see up to 10% CPU savings with DB2 11. Decompressing data is much faster using DB2 11, with significant performance improvements, delivering up to 15% CPU savings when running the queries against compressed tables. Deep integration between DB2 and System z continues to bring value.

Additional RUNSTATS and LOAD workloads can now take advantage of zIIP engines¹, driving faster LOAD processing, improved performance, and CPU savings. With IBM zEnterprise® EC12 (zEC12) and DB2 11, you can achieve additional CPU reductions through the use of pageable large (1 MB) pages and Flash Express®, as well as the support of 2 GB pages.

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IBM authorizes customers to use IBM specialty engines (for example, zIIPs, zAAPs, and IFLs) (SEs) only to execute the processing of Eligible Workloads of specific Programs expressly authorized by IBM as specified in the "Authorized Use Table for IBM Machines" (AUT) provided at

http://www.ibm.com/systems/support/machine_warranties/machine_code/aut.html

No other workload processing is authorized for execution on an SE. IBM offers SE at a lower price than General Processors/Central Processors because customers are authorized to use SEs only to process certain types and/or amounts of workloads as specified by IBM in the AUT.

Growing regulatory and business requirements to retain and manage archive data has brought many new challenges. Finding ways to cost effectively build and manage archive data while ensuring it remains operational can be daunting. DB2 temporal technology and integration with IBM DB2 Analytics Accelerator for z/OS provides high speed access to historical data at a lower cost.

People continue to be your most valuable resources. Additional productivity enhancements delivered in DB2 11 can make DBAs and system programmers even more efficient, driving operational efficiencies and cost savings.

Unmatched resiliency, availability, scalability, and security for business-critical information

The real-world proven, system-wide resiliency, availability, scalability, and security capabilities of DB2 and System z continues to be the gold standard in the industry - keeping your business running when other solutions may not. DB2 11 continues to excel. It delivers even higher availability with improvements in online schema

capabilities like DROP COLUMN support and by significantly reducing the need for planned outages with new online data repartitioning.

With new capabilities you can reduce the number of REORGs, automatically clean up after index pseudo deletes, and achieve even faster performance when a REORG is needed. You can avoid manual recovery actions with extended relative byte address (RBA) and log record sequence number (LRSN) addressing support. Resiliency is further enhanced with improved backup manageability for even faster recovery.

DB2 11 improves performance for BIND and DDL options on long-running persistent threads.

DB2 11 delivers improved cloning capabilities, requiring less manual effort to roll out the cloned environment.

DB2's data sharing capabilities continue to provide the highest standard in availability. DB2 11 adds to this capability with improvements for even more efficient data-sharing performance.

Enhanced analytics for business growth

As the amount and types of data grow, efficiently unlocking true business value through business analytics becomes more challenging. Providing effective ways to manage the amount of data and the speed of getting important data to all levels of an organization is a critical requirement for today's enterprises. To meet these growing demands:

- DB2 can work with SPSS® in an integrated fashion to deliver the unique capability of real-time scoring within your existing transaction environment.
- QMF 11 delivers enhanced analysis, forecasting, reporting, and presentation capabilities, as well as improved storage management, to help users at all levels find answers and communicate decisions.
- Together with IBM DB2 Analytics Accelerator for z/OS and System z , you can run your online transaction processing (OLTP) and data warehouse as one integrated workload in real time with great cost effectiveness.

Simpler, faster migration for faster ROI

The longer it takes to migrate to a new version, the longer it is before you can take advantage of all of the features. The new application compatibility feature helps streamline the migration process by allowing an application with incompatible SQL or XML that is no longer compatible with DB2 11 to continue to run with DB2 11 without requiring code changes. There is no longer a need to wait for application changes to be planned and delivered for your business to realize the benefits of DB2 11. Simpler catalog migration enables faster migration for a faster return on your investment to your business.

IBM Business Partners have been working with specifications for this release since November 2011 and with early code drivers since March 2012 to help validate product design and to support timely availability of ISV products that interoperate with the new capabilities offered by DB2 11.

Refer to the [Description](#) section of this announcement for further details on the exciting new capabilities DB2 11 delivers. A limited number of additional clients may be accepted for the DB2 11 for z/OS (5615-DB2) ESP. For further information, contact your IBM representative or the general contact email address under the contact us heading at

<https://www.ibm.com/software/productintro/>

Key prerequisites

- z/OS V1.13 Base Services, (5694-A01), or later
- DB2 11 for z/OS operates on z10™ , or higher, processors supported by z/OS V1.13, or later

Planned availability date

March 8, 2013

Description

IBM DB2 11 for z/OS (DB2 11) introduces innovation that matters to improve the business value of your information.

Save money, save time, reduce cost

- Compared to use of DB2 10, you may achieve up to 5% out-of-the-box CPU savings for many traditional OLTP, heavy INSERT, and SAP workloads.
- Compared to use of DB2 10, you may also achieve up to 20 to 30% out-of-the-box CPU savings for select query workloads. These performance improvements along with use of IBM DB2 Analytics Accelerator for z/OS , can further enable significant query acceleration and potential cost savings.
- New SQL PL ARRAY support may bring up to an additional 10% CPU savings for OLTP workloads with higher read-to-write ratios
- DB2 Utilities now offer more zIIP eligible workload for RUNSTATS and LOAD and faster LOAD processing for improved performance and CPU savings. Additional REORG enhancements minimize DBA workload with automated mapping tables and improved PBG handling.
- Data sharing clients may see performance improvements from a 2x to 5x more efficient index structure modification and from full LRSN spin avoidance.
- You may see additional performance and CPU savings by taking advantage of additional enhancements, including DPSI performance improvements and suppress null indexes.
- Inline statistics gathering enhancements greatly reduces the need for RUNSTATS which can reduce resource consumption.
- Additional optimizer enhancements for distinct, group by, and sparse index support bring performance improvements across a wide variety of queries.
- Deep integration with IBM zEnterprise EC12 (zEC12) brings additional performance improvements in two ways:
 - Using pageable large (1 MB) pages and Flash Express
 - Enabling support of 2 GB pages
- Cost effective archiving of warm and cold data with easy access to both within a single query

Unmatched resiliency, availability, scalability, and security for business-critical information

- The need for planned outages is significantly reduced with online data repartitioning capabilities, including support for REORG, REBALANCE, SHRLEVEL, CHANGE, and online ALTER LIMITKEY.
- SWITCH phase reduction and improved drain processing in online REORG deliver additional availability improvements.
- Improve productivity and performance through REORG avoidance and auto index pseudo delete cleanup.
- With extended relative byte address (RBA) and log record sequence number (LRSN) addressing support you can avoid many manual recovery actions that can potentially cause extended outages
- Improved backup manageability enables even faster recovery.
- Improved cloning capabilities support automatic VCAT name translation for system-level backup.

Enhanced analytics for business growth

- Deploy real-time scoring directly within the transaction when used in conjunction with IBM SPSS offering.
- Together with IBM DB2 Analytics Accelerator for z/OS and System z , you can efficiently colocate OLTP and data warehouse as one integrated workload in real time with great cost effectiveness.
- DB2 QMF , a separately priced feature of DB2 for z/OS , has also been enhanced to include improved analysis, forecasting, reporting, and presentation capabilities, as well as better storage management, supporting greater analytics on your core business data.
- Improvements in XML, temporal support, and SQL PL deliver even more capabilities for application developers.
- Various SQL enhancements including support for array data types and global variables, make it easier for application developers

Simpler, faster migration for faster ROI

- With the new application compatibility feature, migration plans no longer have to wait for applications to make SQL or XML changes before leveraging new DB2 features.
- Simpler catalog migration helps your business get the value of DB2 11 faster.

Overview of DB2 features

DB2 11 for z/OS consists of the base DB2 product with a set of optional orderable features. Some of these features are available at no additional charge and others are chargeable.

Chargeable features

DB2 QMF Enterprise Edition:

DB2 QMF Enterprise Edition includes the entire DB2 QMF family of products, enabling enterprise-wide business information across end-user and database platforms. DB2 QMF Enterprise Edition consists of these components:

- DB2 QMF for TSO and CICS®
- DB2 QMF Analytics for TSO (new)
- DB2 QMF High Performance Option (HPO)
- DB2 QMF for Workstation
- DB2 QMF for WebSphere®

The following sections describe the new features for each product in the QMF family.

In QMF for TSO and CICS :

- Improved management of storage for report operations
- Broader support for large data types, including LOB and XML
- Increased support for DB2 temporal data
- Enhancements in SQL queries and QMF commands
- Enhancements in application programming support
- Better global variable management

In QMF Analytics for TSO (new):

New charting and analytical capabilities launched from within QMF for TSO

In QMF High Performance Option:

New SQL query enhancements

In QMF for Workstation and QMF for WebSphere :

- Analytics on free-form text
- Increased support for ad hoc reporting and dynamic dashboards
- Enhanced scheduling of tasks
- Wizard-driven reporting facility
- Support for saving queries with their data

DB2 QMF Classic Edition:

DB2 QMF Classic Edition supports users working entirely on traditional mainframe terminals and emulators (including IBM Host On Demand) to access DB2 databases. QMF Classic Edition consists of DB2 QMF for TSO and CICS . Refer to the preceding list for the enhancements to QMF for TSO and CICS .

DB2 Utilities Suite for z/OS :

DB2 Utilities Suite for z/OS , V11.1 is a comprehensive set of utilities for managing DB2 data maintenance tasks. DB2 Utilities Suite helps you to minimize down time associated with routine DB2 data maintenance while ensuring a high degree of data integrity. DB2 Utilities Suite supports new functions and structural changes in the DB2 11 for z/OS product.

Non-charge features

z/OS Application Connectivity to DB2 for z/OS consists of Universal Database Driver for z/OS Java™ Edition, a pure Java type 4 JDBC driver designed to deliver high performance and scalable remote connectivity for Java-based enterprise applications on z/OS to a remote DB2 for z/OS database server.

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 DB2 11 for z/OS is capable as of March 8, 2013, when used in accordance with IBM's associated 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 at

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 with this ESP but will be offered in conjunction with general availability of this product.

Program number

Program number	Program name
5615-DB2	DB2 11 for z/OS

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=212-364>

Technical information

Specified operating environment

Hardware requirements

Note that the information on hardware and software requirements in the following sections is preliminary and applies to the ESP version of DB2 11 for z/OS . Changes should be expected for the generally available product.

Processors

DB2 11 for z/OS operates on z10 or later processors running z/OS V1.13, or later. The processors must have enough real storage to satisfy the combined requirements of:

- DB2
- z/OS
- The appropriate DFSMS storage management subsystem components, access methods, telecommunications, batch requirements, and other applications

DB2 11 will probably require increased real storage as compared to DB2 10 for z/OS .

The configuration must include sufficient I/O devices to support the requirements for system output, system residence, and system data sets. Sufficient disk storage must be available to satisfy the user's information storage requirements and can consist of any direct-access facility supported by the system configuration and the programming system.

In addition to listing auxiliary storage and data communications devices, this section identifies function-dependent hardware requirements and virtual storage requirements.

Auxiliary storage

DB2 is independent of both disk and tape device type. You can use any magnetic, optical, or tape device that is supported by the data facilities component of DFSMS or the DB2 data sets. Tape products are not supported for databases but can be used for the DB2 archive log and utility functions.

The following DB2 data sets are supported by the following device types:

- Active recovery log data sets: disk
- Archive recovery log data sets: disk, tape
- Image copy data sets: disk, tape
- Bootstrap data sets: disk
- User data sets: disk, tape (if migrated by HSM)
- DB2 catalog data sets: disk
- Work data sets (for utilities): disk, tape

If these data sets are on a disk that is shared with other z/OS systems, you should use global resource serialization to prevent concurrent access by more than one z/OS system.

The minimum disk space requirement, based on installing DB2 using the panel default values, is approximately 1.3 GB. You need additional disk space for your data.

If you use dual logging and tape for the log archiving device, you need at least two tape drives.

Data communications devices

DB2 operations can be controlled from:

- The system console
- Authorized IMS™ Transaction Manager terminals
- Authorized CICS terminals
- TSO terminals (by authorized users)

Function-dependent hardware requirements:

DRDA® data stream encryption

DRDA Data Stream Encryption uses the following ICSF APIs: CSNECKM, CSNERNG, CSNFPKB, CSNFPKE, CSNEENC, and CSNEDEC. Refer to *z/OS ICSF Application Programmer's Guide* for additional information on the usage of these APIs including hardware requirements.

DRDA AES user ID password encryption

DRDA AES user ID password encryption uses the following ICSF APIs: CSNEOWH, CSNERNG, CSNFPKB, CSNFPKE, CSNESYE, and CSNESYD. Refer to *z/OS ICSF Application Programmer's Guide* for additional information on the usage of these APIs including hardware requirements.

DSNLEUSR

DSNLEUSR uses the following ICSF APIs: CSNBCKM, CSNBENC, CSNEDEC. Refer to *z/OS ICSF Application Programmer's Guide* for additional information on the usage of these APIs including hardware requirements.

Encryption and decryption functions

Built-in functions for encryption and decryption require cryptographic hardware in a cryptographic coprocessor, cryptographic accelerator, or cryptographic instructions.

Coupling Facility levels

Refer to the latest Coupling Facility (CF) level recommended for your processor at:

<http://www.ibm.com/systems/z/advantages/pso/cftable.html>

Software requirements

This section lists licensed programs, or specific elements and features of licensed programs, that are required in the DB2 11 environment. You can use subsequent versions or releases of the programs, unless stated otherwise. This section also identifies requirements that are associated with specific DB2 capabilities, as well as optional programs that you can use with DB2 11. Refer to the following websites for the most current information

http://www.ibm.com/servers/eserver/zseries/zos/support/zos_eos_dates.html

<http://www.ibm.com/software/data/db2/zos/support.html>

Operating system and support programs

DB2 11 requires the function that is provided by the following licensed programs or their equivalents. Subsequent versions or releases of these products are acceptable.

- z/OS V1.13 Base Services (5694-A01) with the following base and optional elements:
 - DFSMS V1.13
 - Language Environment® Base Services
 - z/OS V1.13 Security Server (RACF®)
- IRLM V2.3 (delivered with DB2 11)

If DB2 11 is installed with IRLM V2R3 into the same SMP zone as any version of IMS with IRLM V2R2, IRLM V2R2 will be deleted during the SMP/E installation of IRLM V2R3.

Notes :

- New functions are available only in new-function mode (NFM) unless explicitly stated otherwise in the product documentation. A general exception exists for optimization. In prior versions, most utility functions were available in conversion mode or compatibility mode (CM), but for DB2 11, most new utility improvements only work in NFM.
- z/OS Unicode Services and appropriate conversion definitions are required.
- Some of the basic operation of a DBMS is provided by utility functions such as backup, recovery, reorganization, loading and unloading data, gathering statistics, and checking data, indexes, and large objects. You should ensure that these functions are provided either by ordering DB2 Utilities Suite for z/OS , V11 or by obtaining equivalent function elsewhere.

Virtual storage requirements

Most of DB2 data resides in shared memory of the DB2 address spaces, above the bar. DB2 11 for z/OS requires 1 TB contiguous of 64-bit shared private storage above the 2 GB bar for each DB2 subsystem. This storage is virtual, controlled by the z/OS HVSHARE parameter in IEASYSxx. This storage is not backed at allocation, only as it is used. Most control blocks and buffers reside in the extended private area above the 2 GB bar, while modules and some data resides above the 16 MB line, but below the 2 GB bar.

The amount of space needed for the common service area (CSA) below the 16 MB line is less than 40 KB for each DB2 for z/OS subsystem and 24 KB for each IRLM subsystem. High concurrent activity, parallelism, or high contention can require more E/CSA. The amount of 64-bit above the bar common storage needed for each DB2 subsystem is a minimum of 6G contiguous controlled by the z/OS HVCOMMON parameter in IEASYSxx.

Function-dependent program requirements

The following functions of DB2 require specific licensed programs, or features of licensed programs, before they can be used.

Application execution: Applications written in high-level programming languages, such as applications or stored procedures written in the C language and using the ODBC or CLI interfaces to DB2 , require Language Environment at run time. Applications or stored procedures written in Java , such as those using the JDBC or SQLJ interfaces to DB2 , require IBM SDK for z/OS , Java 2 Technology Edition V5 or later, at run time.

Requirements for dependent functions of DB2 11 for z/OS :

Before using these features, refer to the installation information for these features to ensure you have all required and recommended products.

- System-level Point-in-Time (PIT) Backup and Recovery function needs:
 - DFSMSHsm
 - DFSMSdss
 - FlashCopy® V1
 - FlashCopy V2 (required for object-level recovery from system-level backup and FlashCopy image copy)
- Encryption and decryption functions
 - Built-in functions for encryption and decryption require z/OS Cryptographic Services Integrated Cryptographic Service Facility (ISCF).
- DRDA Data Stream Encryption can optionally use z/OS Cryptographic Services Facility (ICSF).
- DB2 QMF
- The QMF Classic Edition feature includes DB2 QMF for TSO and CICS .
- The QMF Enterprise Edition feature includes the following components:
 - DB2 QMF for TSO and CICS
 - DB2 QMF Analytics for TSO (new)
 - DB2 QMF High Performance Option (HPO)
 - DB2 QMF for Workstation
 - DB2 QMF for WebSphere

For DB2 QMF Analytics for TSO, refer to the QMF for TSO and CICS requirements on the above web page.

For the QMF 11 ESP version, the following releases of DB2 are supported:

- DB2 9 NFM
- DB2 10 (all modes except CM8)
- ESP version of DB2 11

All other operating requirements for the QMF 11 ESP version are the same as those for QMF Version 10. These requirements can be found here:

<http://www.ibm.com/support/docview.wss?uid=swg27025148>

Limited-use license for z/OS Application Connectivity to DB2 for z/OS : The zero-priced z/OS Application Connectivity to DB2 feature, a Type 4 JDBC driver, is licensed for installation and use solely on z/OS . Its sole authorized use is limited to connecting an application that runs on z/OS to Version 7, 8, 9, 10 or 11 of DB2 for z/OS running in a separate partition on the same server as the application or on a different z/OS server. You can also connect applications to a subsequent supported version of DB2 UDB for z/OS . Authorized use does not extend to applications that run on Linux™ or any other platform or operating system.

DB2 Accessories Suite 2.2: This product comprises three separately orderable features. The DB2 Accessories Suite 10 feature is compatible with DB2 11 for z/OS . To use spatial applications in DB2 11, first install DB2 Accessories Suite 10 feature on DB2 11 for z/OS . The spatial applications in DB2 Accessories Suite 10 feature will work directly with DB2 11 for z/OS .

For information about DB2 Accessories Suite 2.2 content refer to Software Announcement [212-135](#), dated May 08, 2012

Optional program requirements

The following functions are enabled in conjunction with the specified optional licensed programs when used together with DB2 . Note that the information is for expected toleration support for DB2 11.

Connectivity:

For database applications running on Linux , UNIX™ , or Windows™ platforms, customers may access DB2 for z/OS using DB2 Connect™ . DB2 Connect , using either direct connection access or gateway access, provides run-time support to access DB2 by applications that use ODBC, CLI, .NET, OLE DB, PHP, Ruby, JDBC, pureQuery™ , JPA, SQLJ, Python, Perl, and more. They can be used alone or in combination as needed.

The direct connection access, using the IBM data server clients and drivers, is the recommended approach to connect to DB2 for z/OS . It provides significant TCO advantages along with excellent performance and improved availability for all DB2 applications. For more information about DB2 Connect deployment choices, refer to the documentation for the DB2 Connect product.

DB2 11 acting as a client supports the following relational database products:

- IBM DB2 for Linux , UNIX , Windows 9.5 (5765-F41), or later
 - DB2 Enterprise Server (ESE) for Linux , UNIX , and Windows V9.5 (5765-F41), or later
 - DB2 Express Edition for Linux , UNIX , and Windows , V9.5 (5724-E49), or later
 - Database Enterprise Developer Edition V9.5 (5724-N76), or later
 - DB2 Personal Edition for Linux , UNIX , and Windows V9.5 (5724-B55), or later
- IBM DB2 for iSeries® V6.1 (5761-SS1), or later
- DB2 Server for VSE & VM V7.3 (5697-F42), or later
- Any other DRDA-compliant client or relational DBMS server

Web connectivity is provided by any of the DB2 Connect clients using one of the IBM data server clients or drivers.

For DB2 support services, refer to

<http://www-01.ibm.com/software/data/db2/db2connect>

JDBC: DB2 11 supports the following JDBC Application Programming Interface specification levels:

- JDBC 3.0 API requires any of the following at run time:
 - IBM 31-bit SDK for z/OS , Java 2 Technology Edition, V5 (SDK5) (5655-N98), or later
 - IBM 64-Bit SDK for z/OS , Java 2 Technology Edition, V5 (SDK5) (5655-N99), or later
- JDBC 4.0 API requires any of the following at run time:
 - IBM 31-bit SDK for z/OS , Java Technology Edition, V6 (SDK6) (5655-R31), or later
 - IBM 64-bit SDK for z/OS , Java Technology Edition, V6 (SDK6) (5655-R32), or later
- For more information, refer to
<http://www.ibm.com/servers/eserver/zseries/software/java/>

The following transaction management products work with DB2 11:

Information Management System (IMS)

- IMS V12 (5635-A03)
- IMS V11 (5635-A02)

Customer Information Control System (CICS)

- CICS Transaction Server for z/OS V5.1 (5655-Y04)
- CICS Transaction Server for z/OS V4.1 and V4.2 (5655-S97), or later
- CICS Transaction Server for z/OS V3.1 and V3.2 (5655-M15), or later

Note: For versions 3.1 and 3.2, you also need APAR PM01880 to return the correct version and release number for DB2 11

Query support: The following query programs work with DB2 :

- DataQuant for z/OS Version 1 Release 2 (5697-N64)
- Query Management Facility™ (QMF) family of products, Versions 9, 10, and 11
- Cognos® BI Server, V10.2 (5724-W12)

Programming languages: The following application development programming languages can be used to build applications for DB2 11:

Building applications using a DB2 precompiler:

- Assembler: High Level Assembler, part of the System Services element of z/OS
- C/C++: C/C++ (without Debug Tool), which is an optional priced feature of z/OS
- COBOL
 - Enterprise COBOL for z/OS V3.4 (5655-G53)
 - Enterprise COBOL for z/OS V4.1 (5655-S71), or later
- Fortran: VS Fortran Version 2 Release 6 (5668-806, 5688-087, 5668-805)

Note: New data types and new SQL functions (such as FETCH CONTINUE) are not supported since DB2 9 for z/OS .
- PL/1: Enterprise PL/I for z/OS V3.9 (5655-H31), or later

Building applications using a DB2 coprocessor:

- C/C++: C/C++ (without Debug Tool), which is an optional priced feature of z/OS
- COBOL
 - Enterprise COBOL for z/OS V3.4 (5655-G53)
 - Enterprise COBOL for z/OS V4.1 (5655-S71), or later
- PL/1: Enterprise PL/I for z/OS V3.9 (5655-H31), or later

Building applications that are not supported with a precompiler or coprocessor:

- Java : Applications or stored procedures written in Java , such as those using the JDBC or SQLJ interfaces to DB2 , require IBM 31-bit SDK for z/OS , Java 2 Technology Edition V5 (5655-N98), or later, at run time.
- Optionally, the following may be used for applications written in Java (not including Java stored procedures):
- IBM 64-Bit SDK for z/OS , Java 2 Technology Edition, V5 (SDK5) (5655-N99), or later, at run time.

Note: 5655-N98 and 5655-N99 are independent products and can coexist on the same z/OS system n the same z/OS system
- REXX: z/OS V1R13.0 TSO/E REXX Reference (5694-A01)
- SQL Procedure Language
 - Native SQL Procedure Language
 - External SQL Procedure Language, which requires a C language compiler
- APL2®
 - Mainframe APL2 V2.2 (5688-228) (full APL2)
 - APL2 Application Environment (5688-229)

Operational support: The following programs provide operational support for DB2 11:

- DFSMS features, part of the Systems Management optional feature of z/OS ; specifically:
 - DFSMSHsm for archiving
 - DFSMSdss for concurrent copy in Utilities

Tools support:

Refer to the IBM Data Management Tools website for the complete list of products

<http://www.ibm.com/software/data/db2imstools>

IBM Tools for Replication Management and Database Recovery

- IBM Tools for Replication Management include the following tool:
 - IBM InfoSphere® Data Replication for DB2 for z/OS , V10 (5655-DRP)
- IBM Tools for Database Recovery, including the following tools:
 - IBM DB2 Recovery Expert for z/OS , V3.1 (5655-W78)
 - IBM DB2 Change Accumulation Tool for z/OS , V2.1 (5697-P32), or later

IBM Tools for Database Application Management, including the following tools:

- IBM DB2 Bind Manager for z/OS , V2.4 (5655-E43)
- IBM DB2 Path Checker for z/OS , V4.1 (5697-Q01)
- IBM DB2 Table Editor for z/OS , V4.4 (5697-G65)

IBM Tools for Database Administration and System Management Support, including the following tools:

- Data Encryption for IMS and DB2 Databases V1.2 (5655-P03)
- DB2 Administration Tool for z/OS , V10.2 (5655-W34)
- DB2 Object Comparison Tool for z/OS , V10.2 (5655-W36)

IBM Tools for Utilities Management, including the following tools:

- DB2 Automation Tool for z/OS , V3.1 (5655-T59)
- DB2 Cloning Tool for z/OS , V3.1 (5655-N15))
- DB2 High Performance Unload for z/OS , V4.1 (5655-AA1)
- DB2 Sort for z/OS , V1.3 (5655-W42)
- DB2 Utilities Enhancement Tool for z/OS , V2.2 (5655-T58)

IBM Tools for Performance Management, including the following tools:

- DB2 Query Monitor for z/OS , V3.1 (5655-V42)
- DB2 SQL Performance Analyzer for z/OS , V4.1 (5655-W60)

Other miscellaneous IBM Tools, including:

- IBM Tools Base for z/OS , V1.3 (5655-V93)
- InfoSphere Optim™ pureQuery Runtime for z/OS , V3.2 (5655-W94)

Compatibility

DB2 11 for z/OS : This product is upwardly compatible with earlier releases of DB2 for z/OS . Migration with full fallback protection is available for customers running on DB2 10. Existing customers should ensure they are successfully running on DB2 10 for z/OS (NFM) before migrating to DB2 11.

User group requirements

This announcement satisfies or partially satisfies many requirements from one or more of the worldwide user group communities. Specific requirement information will be included in the general availability announcement of DB2 11.

Planning information

Direct customer support

Direct customer support is provided by IBM Operational Support Services - SoftwareXcel Enterprise Edition or SoftwareXcel Basic Edition. These fee services can enhance your productivity by providing voice and electronic access into the IBM support organization. IBM Operational Support Services - SoftwareXcel Enterprise Edition or SoftwareXcel Basic Edition will help answer questions pertaining to usage, how-to, and suspected software defects for eligible products.

Installation and technical support is provided by IBM Global Services. For more information on services, call 888-426-4343. Eligible customers can obtain installation and usage assistance from the Industry Support Center through a telephone response line.

Security, auditability, and control

DB2 11 for z/OS uses the security and auditability features of the host z/OS systems. It also provides facilities for the protection and control of its resources. These facilities include controls for:

- System access
- Data access and control
- Concurrent access
- Data recovery
- Accounting and auditing

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 U.S., 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 Web site at

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

New licensees

Orders for new licenses can be placed now.

Registered customers can access IBMLink for ordering information and charges.

Shipment will not occur before the availability date.

Unless a later date is specified, an order is scheduled for the week following order entry.

New users of DB2 11 for z/OS should specify:

Type: 5615 Model: DB2

CFSW configuration and order entry capability are available.

Advanced Entry Workload License Charge (AEWLC) basic license

The AEWLC pricing metric leverages the reporting mechanisms and existing Millions of Service Units per hour (MSU) tiers of the Entry Workload License Charges (EWLC) pricing metric while extending the software price/performance provided by EWLC and MWLC. For details, refer to Software Announcement [211-250](#), dated July 12, 2011

Program name: DB2 11 for z/OS

Program PID: 5615-DB2

Entitlement identifier	Description	License option / pricing metric
S0171R2	QPP DB2 11 for z/OS	Basic MLC, AEWLC
S0171R3	QPP QMF Classic Edition	Basic MLC, AEWLC
S0171R4	QPP QMF Enterprise Edition	Basic MLC, AEWLC

Advanced Workload License Charge (AWLC) basic license

The AWLC pricing metric leverages the reporting mechanisms and existing MSU per hour tiers of the Variable Workload License Charges (VWLC) pricing model while extending the software price/performance provided by the VWLC tiers. For details, refer to Software Announcement [210-238](#), dated July 22, 2010

Program name: DB2 11 for z/OS

Program PID: 5615-DB2

Entitlement identifier	Description	License option / pricing metric
S0171R2	QPP DB2 11 for z/OS	Basic MLC, AWLC
S0171R3	QPP QMF Classic Edition	Basic MLC, AWLC
S0171R4	QPP QMF Enterprise Edition	Basic MLC, AWLC

Parallel Sysplex License Charge (PSLC) basic license

To order a basic license, specify the program number and quantity of MSU.

If there is more than one program copy in a Parallel Sysplex®, the charge for all copies is associated to one license by specifying the applicable PSLC license options and quantity represented by the sum of the MSUs in your Parallel Sysplex . For all other program copies, specify the System Usage Registration No-Charge (SYSUSGREG NC) Identifier on the licenses.

Program name: DB2 11 for z/OS

Program PID: 5615-DB2

Entitlement identifier	Description	License option / pricing metric
S0171R2	QPP DB2 11 for z/OS	Basic MLC, PSLC
S0171R3	QPP QMF Classic Edition	Basic MLC, PSLC
S0171R4	QPP QMF Enterprise Edition	Basic MLC, PSLC

Workload License Charge (WLC) basic license

If there is more than one program copy in a Parallel Sysplex , the charge for all copies is associated to one license by specifying the applicable WLC license options and quantity represented by the sum of the MSUs in your Parallel Sysplex . For all other program copies, specify the Workload Registration Variable WLC Identifier on the licenses.

Program name: DB2 11 for z/OS

Program PID: 5615-DB2

Entitlement identifier	Description	License option / pricing metric
S0171R2	QPP DB2 11 for z/OS	Basic MLC, VWLC
S0171R3	QPP QMF Classic Edition	Basic MLC, VWLC
S0171R4	QPP QMF Enterprise Edition	Basic MLC, VWLC

Entry Workload License Charge (EWLC) basic license

To order a basic license, specify the program number and the quantity of MSUs.

Program name: DB2 11 for z/OS

Program PID: 5615-DB2

Entitlement identifier	Description	License option / pricing metric
S0171R2	QPP DB2 11 for z/OS	Basic MLC, EWLC
S0171R3	QPP QMF Classic Edition	Basic MLC, EWLC
S0171R4	QPP QMF Enterprise Edition	Basic MLC, EWLC

S/390® and System z Usage License Charge, basic license:

Specify the applicable S/390 and System z Usage License Charge option.

Charges will be based upon the Peak MSUs. Usage reported between thresholds of features 1, 2, or 3, will be rounded up to the next MSU level. Above 1.0 MSU, usage will be rounded to the nearest whole MSU. For example, 2.4 MSUs would round to 2.0 MSUs for pricing, and 2.5 MSUs would round to 3.0 MSUs for pricing.

Program: DB2 11 for z/OS

Program PID: 5615-DB2

Entitlement identifier	Description	License option / pricing metric
S0171R2	QPP DB2 11 for z/OS	Basic MLC, ULC

System z Entry License Charge (zELC)

To order zELC software, specify the program number and the corresponding machine capacity setting. zELC is available on the IBM System z10® Business Class capacity setting A01, and the IBM zEnterprise 114 capacity setting A01.

Program name: DB2 11 for z/OS

Program PID: 5615-DB2

Specify the zELC monthly license option.

Entitlement identifier	Description	License option/ Pricing metric
S0171R2	QPP DB2 11 for z/OS	Basic MLC, ZELC
S0171R3	QPP QMF Classic Edition	Basic MLC, ZELC
S0171R4	QPP QMF Enterprise Edition	Basic MLC, ZELC

No-Charge

Entitlement identifier	Description
S0171R5	QPP z/OS App Connectivity

Single version charging

To elect single version charging, the customer must notify and identify to IBM the prior program and replacement program and the designated machine the programs are operating on.

Basic machine-readable material

Orderable Supply ID	Language	Distribution medium	Description
S0171R8	US English	3590 Tape Cartridge	QPP DB2 11 for z/OS
S0171R7	US English	3590 Tape Cartridge	QPP DB2 Utilities Suite
S0171R6	US English	3590 Tape Cartridge	QPP QMF Classic Edition
S0171RB	US English	3590 Tape Cartridge	QPP QMF Enterprise Edition
S0171R9	US English	3590 Tape Cartridge	QPP z/OS App Connect

Supply Function	Description
S0171PZ	QPP DB2 11 for z/OS
S0171PX	QPP DB2 Utilities Suite v11
S0171R1	QPP QMF Enterprise Edition
S0171R0	QPP QMF Classic Edition
S0171PW	QPP z/OS Application Connect

Customization options

Select the appropriate feature numbers to customize your order to specify the delivery options desired. These features can be specified on the initial or MES orders.

Example

If publications are not wanted for the initial order, specify feature number 3470 to ship media only. For future updates, specify feature number 3480 to ship media updates only. If, in the future, publication updates are required, order an MES to remove feature number 3480; then the publications will ship with the next release of the program.

Other option types used in ESW:
Capacity Mode Options
Certificate Options
License Management Options
Maintenance Options
Partition Options
Package Options
Preload Options
Subcapacity Options

Other option types used in ESW:

Capacity Mode Options
Certificate Options
License Management Options
Maintenance Options
Partition Options
Package Options
Preload Options
Subcapacity Options

Expedite shipments will be processed to receive 72-hour delivery from the time IBM Software Delivery and Fulfillment (SDF) receives the order. SDF will then ship the order via overnight air transportation.

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

Agreement

IBM Customer Agreement

Variable charges apply

No

Indexed monthly license charge (IMLC) applies

No

Location license applies

No

Use limitation applies

No

Educational allowance available

Yes, 15% education allowance applies to qualified education institution customers.

Volume orders

Not applicable.

Replaced program number	Program(s) program name	Replacement program number	Program(s) program name
5740-XYR	DB2 V1_	5615-DB2	DB2 11
5665-DB2	DB2 V2_	5615-DB2	DB2 11
5685-DB2	DB2 V3_	5615-DB2	DB2 11
5695-DB2	DB2 V4_	5615-DB2	DB2 11
5655-DB2	DB2 V5_	5615-DB2	DB2 11
5645-DB2	DB2 V6_	5615-DB2	DB2 11
5675-DB2	DB2 V7_	5615-DB2	DB2 11
5625-DB2	DB2 V8_	5615-DB2	DB2 11
5635-DB2	DB2 V9_	5615-DB2	DB2 11
5605-DB2	DB2 V10	5615-DB2	DB2 11
5615-DB2	DB2 V11	To a follow-on program, if any.	

Warranty applies

Yes

Licensed program materials availability

Restricted Materials of IBM: Some
 Non-Restricted Source Materials: Some
 Object Code Only (OCO): None

Program services

Support Center applies: Yes

Access available through the
 IBM Support Center

Available until: General Availability of DB2 11 for z/OS

APAR Mailing Address: IBM Corporation
 APAR Processing
 555 Bailey Avenue
 San Jose, CA 95141

Program currency

IBM DB2 11 for z/OS ESP will be available until General Availability of IBM DB2 11 for z/OS .

IBM Operational Support Services - SupportLine

Yes

Statement of good security practices

IT system security involves protecting systems and information through prevention, detection, and response to improper access from within and outside your enterprise. Improper access can result in information being altered destroyed or misappropriated or can result in misuse of your systems to attack others. Without a comprehensive approach to security, no IT system or product should be considered

completely secure and no single product or security measure can be completely effective in preventing improper access. IBM systems and products are designed to be part of a comprehensive security approach, which will necessarily involve additional operational procedures, and may require other systems, products, or services to be most effective. IBM does not warrant that systems and products are immune from the malicious or illegal conduct of any party.

IBM Electronic Services

IBM has transformed its delivery of hardware and software support services to help you achieve higher system availability. Electronic Services is a Web-enabled solution that offers an exclusive, no-additional-charge enhancement to the service and support available for IBM servers. These services are designed to provide the opportunity for greater system availability with faster problem resolution and preemptive monitoring. Electronic Services comprises two separate, but complementary, elements: Electronic Services news page and Electronic Services Agent.

The Electronic Services news page is a single Internet entry point that replaces the multiple entry points traditionally used to access IBM Internet services and support. The news page enables you to gain easier access to IBM resources for assistance in resolving technical problems.

The Electronic Service Agent™ is no-additional-charge software that resides on your server. It monitors events and transmits system inventory information to IBM on a periodic, client-defined timetable. The Electronic Service Agent automatically reports hardware problems to IBM. Early knowledge about potential problems enables IBM to deliver proactive service that may result in higher system availability and performance. In addition, information collected through the Service Agent is made available to IBM service support representatives when they help answer your questions or diagnose problems. Installation and use of IBM Electronic Service Agent for problem reporting enables IBM to provide better support and service for your IBM server.

To learn how Electronic Services can work for you, visit

<http://www.ibm.com/support/electronic>

Prices

Program number

5615-DB2

Entitlement identifier	Description	License option/ Pricing metric
S0171R2	QPP DB2 11 for z/OS	Basic MLC, PSLC (ABCD), V-WLC, ULC, EWLC, ZELC, AEWLC, AWLC
S0171R3	QPP QMF Classic Edition	Basic MLC, PSLC (ABCD), V-WLC, EWLC, ZELC, AEWLC, AWLC
S0171R4	QPP QMF Enterprise Edition	Basic MLC, PSLC (ABCD), V-WLC, EWLC, ZELC, AEWLC, AWLC

For additional information and current prices, contact your local IBM representative

Order now

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Fax: 800-2IBM-FAX (242-6329)
Internet: callserv@ca.ibm.com
Mail: IBM Teleweb Customer Support
ibm.com® Sales Execution Center, Americas North
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Markham, Ontario
Canada
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Reference: LE001

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Note: Shipments will begin after the planned availability date.

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