

IBM Db2 V11.5 delivers enhancements to help automate data management, eliminate ETL, and support artificial intelligence data workloads

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Overview

The IBM^(R) Db2^(R) family of hybrid data management solutions is built on an intelligent common SQL engine that is designed for scalability and flexibility and to run on premises, in private, and on any public cloud. Db2 uses open source technology and provides a singular view of data, enabling businesses to automate data management, eliminate ETL, and support artificial intelligence (AI) data workloads.

The integration of IBM Db2 Enterprise Edition V11.5 with IBM Hybrid Data Management offers advancements in database efficiency, simplicity, and reliability in the form of new features and enhancements that address a wide variety of business requirements.

IBM Db2 V11.5 offers database efficiency, simplicity, and reliability in the form of new features and enhancements that address a wide variety of business requirements. Robust enterprise security, simplified installation and deployment, improved usability and adoption, a streamlined upgrade process, enhancements to large databases, and improvements to BLU Acceleration^(R) are the key benefits of this technology:

- 4K sector support
- Improved CF recovery time
- New monitoring metrics
- Automatic Recompress feature for tables
- Call level interface (CLI) driver enhancements
- The Db2 V11.5 release includes the following enhancements and new capabilities for the CLI driver:
 - Data movement using CLI LOAD with an external table
 - Capability to generate a unique utility id for zload
 - Db2dsdriver.cfg support in MicrosoftTM ODBC Administrator
 - Enhancement to the WLB/ACR algorithm
 - Server side enablement of WLB/ACR for Db2 pureScale^(R) server

Other enhancements to the IBM Hybrid Data Management Platform include:

- New version of IBM Db2 Event Store 2.0. In-memory event store database is optimized for event-driven applications and real-time analytics.

- Application compatibility, standardized API, flexible licensing, and operational compatibility with the Db2 family (now part of the same Common SQL Engine capabilities).

IBM Db2 Advanced Recovery Feature 11.5 is available for advanced database backup, recovery, and data extraction with new versions of:

- IBM Db2 Recovery Expert 5.5
- IBM Db2 Merge Backup 3.5
- IBM InfoSphere^(R) OptimTM High Performance Unload for Db2 6.5

Key requirements

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

Planned availability date

June 25, 2019

Description

Db2 and hybrid data management

Db2 is a relational database that delivers advanced data management and analytics capabilities for your transactional and warehousing workloads. Db2 is purpose-built to provide high performance, actionable insights, data availability, and reliability.

The Db2 database includes advanced features such as in-memory technology (BLU Acceleration), advanced management and development tools, storage optimization, workload management, actionable compression, and continuous data availability (IBMDB2pureScale).

Db2 is now part of the Hybrid Data Management Platform offering. Hybrid data management enables enterprises to drive innovation by seamlessly accessing, sharing, and analyzing data. This is a higher level of data management that enables all structured, semistructured, or unstructured data to be easily accessed and analyzed, whether it is stored on premises, in a public cloud, in a private cloud, open source, or in any combination of those deployments.

Use data of all types and sources with hybrid data management

Hybrid data management enables seamless access, sharing, and analysis of all types of data, regardless of its structure or whether it is stored on premises, in a public cloud, in a private cloud, or in any combination of those deployments.

These capabilities are achieved through the integration of advanced technologies that enable you to analyze a range of new data types and sources, including social, mobile, web, and Internet of Things (IoT), alongside your historical customer and operations data to yield new insights.

Seamlessly integrate cloud and on-premises deployments

Deploying workloads in the cloud can reduce costs and accelerate time to market on application development and new products. Because of these benefits, many businesses are integrating cloud into their IT environments but still depend on on-premises infrastructure for certain workloads.

The capability to access and analyze all data, whether in the cloud or on premises, is a key part of effective data management. This enables users to access data from

your entire IT environment while keeping that data in the best-suited deployment model.

Prepare your data management for machine learning

The capability of machine learning to stream, analyze, and learn from data sets without explicit programming can be extremely valuable, enabling data scientists to develop and improve machine learning models on the platform where the data resides.

Effective data management enables data from various sources, including on-premises, cloud, and data lakes, to be input into machine learning models. Workloads such as cross-analyzing unstructured data from external sources with historical structured data to uncover patterns can enable you to predict changes in customer demand, identify potential problems before they occur, and gain additional insights.

Embrace open source technologies and data more securely

Open source technologies drive innovation by providing environments where users can collaborate with data and developers, both inside and outside of the company.

Open source users can manage large amounts of unstructured data faster and at a reduced cost. This new data can be analyzed alongside structured customer, financial, or inventory information without migration, facilitating security and governance control of sensitive data sets and supporting innovation.

Adapt current data management to changing business needs

As new technologies emerge, data is expanding exponentially.

The capability to integrate new cloud-based and open source technologies with existing infrastructure enables you to drive innovation across a business. The flexibility of a hybrid data environment enables IT professionals to evolve with changing technology and business needs.

Empower users across your business with self-service access to data

With hybrid data management, authorized users from various lines of business can more securely access relevant data from practically any location. This democratization of data insight enables users across an organization to respond more quickly to new opportunities and challenges while reducing strain on the IT department.

Overcome the sprawl of data applications and data silos

Storing data on multiple, disconnected platforms can significantly hinder efforts to discover patterns and insights through cross analysis. Manually collecting and analyzing data from various infrastructures can be very labor intensive and inefficient.

Implementing an analytics engine that connects all data in your IT environment, regardless of where it is stored, enables deeper and more efficient analysis. This approach also allows for greater flexibility by supporting and unifying more deployment options.

Improve database efficiency, simplicity, and reliability with new features and enhancements

Version 11.5 of IBM Db2 addresses a wide variety of business requirements, offering robust enterprise security, simplified installation and deployment, improved usability and adoption, a streamlined upgrade process, enhancements to large databases, and vast improvements to BLU Acceleration:

- 4K sector support. Db2 Version 11.5 now offers support for storage devices that use a 4KB sector size in production environments.

- Improved security through host-based firewall enablement. In a multi-node environment, Db2 needs to run commands on remote nodes for certain operations. The registry variable DB2_FIREWALL_PORT_RANGE ensures that this cross-node communication is performed through the use of ports in the range specified. This registry variable is supported for single-node, DPF, and pureScale Db2 configurations.
- Improved CF recovery time. On Db2 pureScale configurations, CF recovery is faster in public Ethernet failure scenarios.
- SQL insert and update statement optimizations. SQL-based insert and update statements for columnar tables are optimized to support large data sets efficiently. Encoding dictionary creation for such operations is optimized.
- New monitoring metrics. For determining failure rate of SQL statements, it is now possible to monitor the failure rate of an SQL statement using the MON_GET_PKG_CACHE_STMT table function. For workloads at the service superclass level, it is now possible to examine monitor data the need to manually aggregate data across all service subclasses within a service superclass.
- Automatic Recompress feature for tables. If an insert operation is used to populate a table, automatic creation of the compression dictionaries begins after a threshold count of rows is inserted into the table. This design ensures that a large enough sample of rows exists to build dictionaries that yield an adequate compression ratio. The Automatic Recompress feature for tables uses the new compression daemon to asynchronously check for tables that contain rows that have not been compressed at the front of the table. It then recompresses those rows in place, which might leave empty extents in the table. The feature runs online, concurrent with other insert, update, delete, and select transactions. In addition to improving space utilization, it can also improve query performance which is more efficient for processing encoded data. This efficiency enables queries to be faster on a table where the front part of the table has been recompressed with the dictionary. The Automatic Recompress feature requires no user intervention, and uses the REORG TABLE command with a new RECOMPRESS option to recompress the rows. For simplicity, this feature is fully automated and manual execution of this RECOMPRESS option is not supported.
- CLI driver enhancements. Db2 Version 11.5 brings the following advancements and capabilities for the CLI driver:
 - Data movement using CLI LOAD with an external table
 - Capability to generate a unique utility id for zload
 - Db2dsdriver.cfg support in Microsoft ODBC Administrator
 - Enhancement to the WLB/ACR algorithm
 - Server side enablement of WLB/ACR for Db2 pureScale server

Other enhancements to the IBM Hybrid Data Management Platform include:

- New version of IBM Db2 Event Store 2.0. This in-memory event store database is optimized for event-driven applications and real-time analytics.
- Integration with the same Common SQL Engine capabilities.
- Application compatibility. Write once, run anywhere.
- Standardized API. Gain efficiency with common engagement for systems of engagement, systems of record, and systems of insight.
- Flexible licensing. Use the Hybrid Data Management Platform bundle for flexible deployment options and shifts.
- Operational compatibility with the Db2 family. Reuse operational and administrative procedures.

Additional backup and recovery features

IBM Db2 Advanced Recovery Feature 11.5 is available for advanced database backup, recovery, and data extraction with new versions of:

- IBM Db2 Recovery Expert 5.5 offers self-managing backup and recovery to help protect the mission critical data that runs your business.

- IBM Db2 Merge Backup 3.5 shortens recovery times and improves the speed and efficiency of your backup process.
- IBM InfoSphere Optim High Performance Unload for Db2 6.5 provides a high-speed solution for unloading, extracting, and repartitioning data in Db2.

Accessibility by people with disabilities

A US Section 508 Accessibility Compliance Report containing details on accessibility compliance can be found on the [Product accessibility information](#) website.

Reference information

For more information about IBM Db2, see Software Announcement [ZP17-0457](#), dated July 18, 2017.

For more information about IBM Hybrid Data Management Platform, see Software Announcement [ZP18-0069](#), dated January 9, 2018.

Program number

Program number	VRM	Program name
5725-L47	11.5.0	IBM Db2 Advanced Enterprise Server Edition for Linux ^(R) , UNIX ^(R) , and Windows TM
5765-F41	11.5.0	IBM Db2 Enterprise Server Edition for Linux, UNIX, and Windows
5725-L15	11.5.0	IBM Db2 Advanced Workgroup Server Edition for Linux, UNIX, and Windows
5724-N76	11.5.0	IBM Db2 Developer Edition
5737-E53	V2.0.0	IBM Db2 Event Store
5725-L16	11.5.0	IBM Db2 Advanced Recovery Feature for Linux, UNIX, and Windows
5724-R28	11.5.0	IBM Db2 CEO Offering
5725-E89	11.5.0	IBM Db2 Advanced CEO Offering
5725-T27	11.5.0	IBM Db2 Performance Management Offering
5724-B90	6.5.0	IBM InfoSphere Optim High Performance Unload for Db2 for Linux, UNIX, and Windows
5724-H93	5.5.0	IBM Db2 Recovery Expert for Linux, UNIX, and Windows
5725-B07	3.5.0	IBM Db2 Merge Backup for Linux, UNIX, and Windows
5724-B62	11.5.0	IBM Db2 Connect Unlimited Edition for System z ^(R)
5724-Z19	11.5.0	IBM Db2 Connect Application Server Advanced Edition
5765-F30	11.5.0	IBM Db2 Connect Enterprise Edition

Program number	VRM	Program name
5724-D54	11.5.0	IBM Db2 Connect Application Server Edition
5724-Z18	11.5.0	IBM Db2 Connect Unlimited Advanced Edition for System z
5724-M15	11.5.0	IBM Db2 Connect Unlimited Edition for System i ^(R)
5725-Z98	11.5.0	IBM Db2 Direct Standard Edition
5725-Z99	11.5.0	IBM Db2 Direct Advanced Edition
5737-K73	11.5.0	IBM Db2 Advanced Edition
5737-K74	11.5.0	IBM Db2 Standard Edition
5737-K75	11.5.0	IBM Db2 Lite Edition
5737-K76	11.5.0	IBM Hybrid Data Management Platform On-Premise

Offering Information

Product information is available on the [IBM Offering Information](#) website.

More information is also available on the [Passport Advantage^{\(R\)}](#) and [Passport Advantage Express^{\(R\)}](#) website.

Publications

None

Services

Global Technology Services

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, or integration of this product.

Technical information

Specified operating environment

Software requirements

Hybrid Data Management Platform

The operating system support level for various Hybrid Data Management Platform products is frequently updated. To obtain the current information for supported software levels, including recommended maintenance levels, see the [Hybrid data management](#) website.

Planning information

Packaging

This offering is delivered through the internet as an electronic download. There is no physical media.

This program, when downloaded from a website, contains the applicable IBM license agreement and License Information, if appropriate, which will be presented for acceptance at the time of installation of the program. For future reference, the license and License Information will be stored in a directory such as LICENSE.TXT.

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IBM Db2 Advanced Edition (5737-K73)

Part number description	Part number
IBM Db2 Advanced Edition VPC Option Virtual Processor Core License + SW Subscription & Support 12 Months	D233MLL
IBM Db2 Advanced Edition VPC Option Virtual Processor Core SW Subscription & Support Reinstatement 12 Months	D233NLL
IBM Db2 Advanced Edition VPC Option Virtual Processor Core Annual SW Subscription & Support Renewal 12 Months	E0Q5ULL
IBM Db2 Advanced Edition AU Option for Non-Production Environments Authorized User License + SW Subscription & Support 12 Months	D233PLL
IBM Db2 Advanced Edition AU Option for Non-Production Environments Authorized User SW Subscription & Support Reinstatement 12 Months	D233QLL
IBM Db2 Advanced Edition AU Option for Non-Production Environments Authorized User Annual SW Subscription & Support Renewal 12 Months	E0Q5VLL

IBM Db2 Standard Edition (5737-K74)

Part number description	Part number
IBM Db2 Standard Edition VPC Option Virtual Processor Core License + SW Subscription & Support 12 Months	D233RLL
IBM Db2 Standard Edition VPC Option Virtual Processor Core SW Subscription & Support Reinstatement 12 Months	D233SLL
IBM Db2 Standard Edition VPC Option Virtual Processor Core Annual SW	E0Q5WLL

Part number description	Part number
Subscription & Support Renewal 12 Months	
IBM Db2 Standard Edition AU Option for Non-Production Environments Authorized User License + SW Subscription & Support 12 Months	D233TLL
IBM Db2 Standard Edition AU Option for Non-Production Environments Authorized User SW Subscription & Support Reinstatement 12 Months	D233ULL
IBM Db2 Standard Edition AU Option for Non-Production Environments Authorized User Annual SW Subscription & Support Renewal 12 Months	E0Q5XLL

IBM Db2 Lite Edition (5737-K75)

Part number description	Part number
IBM Db2 Lite Edition VPC Option Virtual Processor Core Monthly License	D233XLL
IBM Db2 Developer C Authorized User Monthly License	D2340LL

IBM Hybrid Data Management Platform On-Premise (5737-K76)

Part number description	Part number
IBM Hybrid Data Management Platform On-Premise Authorized User License + SW Subscription & Support 12 Months	D233VLL
IBM Hybrid Data Management Platform On-Premise Authorized User SW Subscription & Support Reinstatement 12 Months	D233WLL
IBM Hybrid Data Management Platform On-Premise Authorized User Annual SW Subscription & Support Renewal 12 Months	E0Q5YLL

Charge metric

The charge metrics for these licensed products can be found in the following License Information documents:

Program identifier	License Information document title	License Information document number
5725-L47	IBM Db2 Advanced Enterprise Server Edition	L-XHUG-B8VM47
5737-K73	IBM Db2 Advanced Edition	L-XHUG-BBASJH
5737-K74	IBM Db2 Standard Edition	L-XHUG-BBASSK
5737-K75	IBM Db2 Lite Edition	L-XHUG-BBAS5F

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License Information number

The following License Information documents apply to the offering in this announcement:

Program identifier	License Information document title	License Information document number
5725-L47	IBM Db2 Advanced Enterprise Server Edition	L-XHUG-B8VM47
5737-K73	IBM Db2 Advanced Edition	L-XHUG-BBASJH
5737-K74	IBM Db2 Standard Edition	L-XHUG-BBASSK
5737-K75	IBM Db2 Lite Edition	L-XHUG-BBAS5F

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Limited warranty applies

Yes

Limited warranty

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For additional information about the IBM Software Support Lifecycle Policy, see the [IBM Software Support Lifecycle Policy](#) website.

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Volume orders (IVO)

No

Passport Advantage applies

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Software Subscription and Support applies

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Variable charges apply

No

Educational allowance available

Education allowance does not apply. Education software allowance does not apply. Special education prices are available for qualified clients through Passport Advantage.

Statement of good security practices

IT system security involves protecting systems and information through intrusion 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 regulatory compliant, comprehensive security approach, which will necessarily involve additional operational procedures, and may require other systems, products, or services to be most effective.

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Passport Advantage

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Corrections

(Corrected on July 12, 2019)

Revised Software requirements section.