IBM DB2 Universal Database for z/OS, Version 8

Re-engineered for e-business on demand
The world of e-business is evolving, and your business needs to adapt with it. You strive to gain a consistent competitive edge by responding in realtime to the demands of a changing marketplace—and to the needs of your customers, partners, suppliers and employees. You want a stream of transactions, work, ideas and opportunities to flow through your enterprise and across your extended value chain, delivering profitable new business opportunities. And, you want your enterprise technologies to be resilient enough to support these goals with the availability and security required. To achieve this vision, you need to transform the information infrastructure that forms the foundation of your enterprise.

IBM DB2® Universal Database™ for z/OS®, Version 8—the most comprehensive release of DB2 ever offered—is designed to help your business easily make that transformation. Reengineered for e-business on demand, DB2 Universal Database for z/OS, Version 8 efficiently and cost-effectively delivers information for your enterprise-class e-business applications. Leveraging the capacity and processing power of IBM @server® zSeries® and z/OS, the new version features a broad and powerful range of enrichments and improvements that push the envelope of information availability, scalability and manageability. The result: even greater performance, capacity and security for your information management infrastructure.

Breaking the barriers of information management
Becoming an on demand business means breaking traditional barriers such as siloed business processes and proprietary standards, by leveraging flexible infrastructures optimized for massive business process integration. DB2 Universal Database for z/OS, Version 8 provides that flexibility, breaking the limits in virtually all dimensions of information management.

Highlights

- **Offers enriched functionality, better diagnostics and improved database portability with enhanced structured query language (SQL)**
- **Provides on-the-fly table alteration for better information availability**
- **Improves storage management and scalability substantially with 64-bit virtual storage**
- **Enhances application functionality with strengthened Java™ technology and Unicode support**

XML Publishing Functions provide a set of built-in SQL capabilities that allow applications to generate XML data from relational data.
In the latest version of DB2, IBM has increased and expanded all of the following:

- Virtual storage addressing, from 31-bit to full 64-bit addressing
- Table name sizes—as well as VIEW and ALIAS names—from 18 to 128 characters
- Column name sizes, from 18 to 30 characters
- Maximum number of partitions, from 254 to 4,096
- SQL statement length, from 32 kilobytes to 2 megabytes
- Index key size, from 255 to 2,000 characters
- Character literals, from 255 to 32,704 characters
- Number of tables in a join, from 15 to 225
- Number of active logs, from 31 to 93
- Number of archive logs, from 1,000 to 10,000

**Maximizing availability for realtime responsiveness**

This release of DB2 Universal Database for z/OS leverages crucial enhancements that help keep your data assets available when they are needed. Key among these is online schema evolution, which lets you alter table attributes on the fly without stopping the application. Additionally, you can extend numeric and character columns, and convert between CHAR and VARCHAR data types—all without costly downtime or error-prone table drops.

Also addressing availability, IBM has made a series of far-reaching partitioning enhancements—such as data-partitioned secondary indexes, which can help eliminate availability issues that might otherwise result from a disk failure on a large secondary index. Partition management is dynamic, so you can add a new partition to an existing partitioned table space. Or, you can rotate partitions—which allows you, for example, to keep the most current 36 months of data.

In Version 8, partitioning and clustering are independent—so you can partition without an index and cluster on any index. This means that in some tables, one index can be removed, enabling faster sequential processing for heightened performance of INSERT, DELETE, LOAD, REORG and UPDATE processing—and speedier responses to your customers and partners.
SQL consistency — all in the family

Another key barrier-breaker in Version 8 is cross-platform compatibility. This release of DB2 Universal Database for z/OS expands on the trend of previous versions, extending SQL consistency and compatibility across the DB2 family, while adding even more information management functionality. The new version significantly enhances the SQL language, delivering transaction capabilities essential for both traditional online transaction processing as well as leading-edge, Web-based e-business applications. These enhancements include:

- Support for common table expressions.
- Recursive SQL.
- Multi-row INSERT and FETCH.
- GET DIAGNOSTICS.
- INSERT within a SELECT statement.
- Identity column enhancements.
- Sequences.
- Dynamic scrollable cursors.
- CURRENT PACKAGE PATH.
- Scalar fullselect.
- Materialized query tables.
- XML publishing.

DB2 Universal Database for z/OS, Version 8 breaks down national and linguistic barriers, too, by delivering better, more flexible support for Unicode — improving globalization capabilities and enhancing your Java technology-based applications with powerful multilingual functionality. SQL statements and literals can be either Unicode or Extended Binary Coded Decimal Interchange Code (EBCDIC), and Unicode tables can join with an EBCDIC table. Many of the DB2 catalog character columns are converted to Unicode, so you can manage data from around the world.

Expanding real storage by billions

DB2 gains large memory support from the power of 64-bit z/Architecture™. With 64-bit virtual addressing, DB2 Universal Database for z/OS, Version 8 provides you relief from storage constraints, extending the previous real storage limit of 2 gigabytes 8 billion times, to an almost inconceivable 16 exabytes.

That means larger buffer pools, more concurrent threads and greater scalability of large DB2 subsystems and data sharing groups — making your enterprise more responsive to the demands of increasing and unpredictable workloads. So, for example, you can perform an urgent analysis of a broad base of customer data with minimal performance impact to ongoing information management tasks.
Immediate tools support

IBM offers a complete portfolio of DB2 tools that exploit the rich new functions of DB2 Universal Database for z/OS, Version 8. These tools handle basic administration tasks, help improve performance, specialize in solving backup and recovery problems, replicate data efficiently across multiple databases and manage a variety of applications—all in support of Version 8.

Version 8 users will find IBM DB2 Utilities Suite to be of particular value. This tool delivers full support for such DB2 Universal Database for z/OS, Version 8 features as Unicode catalog, long names and long statements, schema evolution, and indexing and partitioning enhancements. In addition, DB2 Utilities Suite includes improvements to RESTART that increase its autonomic capabilities, as well as online schema support that allows reconciliation between DB2 catalog/directory and tablespace or indexes copied from another system.

Operational enhancements include delimited data support for LOAD and UNLOAD, which provides family compatibility with DB2 for Linux, UNIX® and Windows®. You can easily achieve effective utilities performance via new defaults, which provide better “out of the box” performance, reducing the time needed to fine-tune parameters. Additionally, backup and restore enhancements provide system level point-in-time backup and recovery.

For more information about DB2 Utilities Suite and all DB2 Tools for z/OS, visit ibm.com/software/data/db2imstools. For details on the tools’ support of DB2 Universal Database for z/OS, Version 8, visit http://www-306.ibm.com/software/data/db2imstools/support.html.

Optimize value from your digital assets

DB2 Universal Database for z/OS, Version 8 is the information server of choice for the 21st century, providing your business with powerful, highly reliable information management for e-business on demand. It delivers unparalleled performance for business intelligence, customer relationship management and enterprise resource planning applications such as Siebel, Vantive, Baan, PeopleSoft and SAP R/3, as well as for operational transaction processing.

With the power and capacity of zSeries, the high performance and availability of z/OS and the unmatched reliability of the DB2 information management platform, DB2 Universal Database for z/OS, Version 8 can help your enterprise maximize customer value, safeguard the return on your digital information assets and attain tangible market advantages in an on demand world.

For more information

Please contact your IBM marketing representative or an IBM Business Partner, or call 1-800 IBM CALL within the U.S. Also, visit our Web site at ibm.com/software/db2zos.

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