

DB2 for i5/OS: V5R4 Overview



On January 31, 2006, IBM announced the new IBM System i5 family based on the new POWER5+ processor architecture. The IBM System i5 utilizes the most advanced processor architecture available in the industry. The System i5 platform extends IBM's Virtualization Engine technologies, including features such as enhanced dynamic logical partitioning and uncapped use of processor resources, memory on demand, and multi-platform systems management through IBM Director.

A new version of i5/OS, an operating system that can run on the System i5, was also announced. Version 5 Release 4 (V5R4), although not a requirement for the POWER5+ models, includes an updated version of DB2 for i5/OS, which is built into the operating system. DB2 enhancements included in V5R4 cover a broad range of areas including usability, open standards, and performance.

Here's a summary of the V5R4 enhancements.

In V5R4, "DB2 for i5/OS" continues its position as a leader in ease of use and integration by extending the tools used to more easily manage and use their database. DB2 On Demand Performance Center, included with iSeries Navigator, allows you to easily analyze and improve your indexing strategy on your system by reviewing the indexes advised system-wide by the optimizer, looking at indexes that are not being used, and managing index rebuilds. The 'always on' diagnostic information in the SQL plan cache allows the customer to do query performance analysis and comparisons from one point in time to another without the overhead of a Database Monitor. The DB2 Health Center, also part of iSeries Navigator, allows the user to track their environment against system limits, including archiving of that information to do trend analysis.

Proof of the commitment to open standards is shown in V5R4 by delivering one of the first databases that has satisfied all of the Core components of the 2003 SQL Standard.

DB2 for i5/OS extends its capabilities to support data warehouse workloads in V5R4, building on the unique attributes of the integrated database established in previous releases (Encoded Vector Indexing, Parallel I/O, automated real time statistics). V5R4 delivers additional SQL Syntax to support OLAP functions, improved Materialized Query Table support, and Recursive Common Table Expressions.

Performance and scalability are improved on a number of fronts boosted by the SQL Query Engine (SQE) handling more DB2 requests. SQL Procedures, functions and triggers will receive a significant performance boost from advancements in the DB2 code generation engine. Additionally, enhancements in the operating system and in the XML Extenders code have shown between 50% and 90% improvements on some XML-based workloads. Limits such as the number of tables in a query, the size of an SQL statement, length of a column name will give programmers more flexibility in their database design and implementation.

The availability of the database remains second to none with improvements like System Managed Access Path Protection (SMAPP) support for EVI indexes and resiliency improvements to the database cross reference file. Journaling is also easier in V5R4 with automatic journaling of Sequence objects and automatic journal restart after database copies and restore processing.

Another focus of the release is application portability and modernization. An enhanced RPG precompiler allows free format RPG applications to easily integrate SQL with their current native database access. Extending our XA support to DRDA allows ISVs to take advantage of distributed transactions through DRDA-based drivers such as the DB2 Universal JDBC driver within DB2 Connect Unlimited Edition for iSeries. Alter Procedure has been added to ease the versioning and maintenance of code delivered through stored procedures.

Additional Information on DB2 for i5/OS:

DB2 for i5/OS Home Page:

<http://www.ibm.com/eserver/series/db2>

DB2 for i5/OS Education Roadmap

<http://www-03.ibm.com/servers/eserver/series/db2/gettingstarted.html>