



BMC[®] CHECK PLUS for DB2

Key benefits

- > Provides a rich set of integrity checking functionality for DB2 objects and data
- > Ensures application availability with online access during execution
- > Maximizes performance while minimizing the use of system resources
- > Provides many functional and operational differences over the IBM DB2 utilities
- > Provides DB2 version 8 support

Globalization and the internet have placed a high demand on data availability. As important as the speed at which data can be accessed is, it is even more important that the data be accurate.

BMC Software solution

IBM DB2 Universal Database for z/OS is a powerful relational database management system that facilitates fast application development and provides easy access to data. Data consistency is crucial for DB2 and its applications to support mission critical business operations. But inconsistencies do occur for many different reasons. The BMC Software CHECK PLUS for DB2 product provides the performance and full range of integrity checking functions required in a DB2 environment.

Checks objects and data

Data consistency is crucial for DB2 and its applications to run successfully. Several types of consistency influence data integrity:

- > table space and index page
- > index-to-data
- > column data
- > tables related through referential integrity (RI) constraints

Inconsistencies in these areas can occur for reasons such as:

- > DB2 malfunctions
- > recovery or partial recovery of a table or table space
- > operational errors in maintaining the tables
- > application errors

- > partial enforcement of RI constraints
- > partial enforcement of table check constraints

CHECK PLUS provides a comprehensive check of table spaces and indexes to ensure a correct structure between space maps and data pages. It provides checking of column data through both the VERIFY option and support of table check constraints. CHECK PLUS provides RI checking of related tables, whether the RI is maintained by DB2 or a user-written application program. It generates a sequential file containing foreign keys in RI violation. This file can also be used when correcting the tables and provides an SQL batch execution program for deleting rows with foreign keys.

CHECK PLUS offers three types of integrity checking as specified in the commands CHECK TABLESPACE, CHECK INDEX, and CHECK DATA. Within each of these types, you can also customize what CHECK PLUS validates.

CHECK TABLESPACE checks the structural integrity of the DB2 objects within a table space. Level 1 table space checking performs structural consistency checks within each data page. Level 2 table space checking performs structural consistency checks across data pages. It also validates column data if you specify the VERIFY option or if table check constraints exist.

CHECK INDEX checks the integrity of the index structure. Level 1 index checking ensures structural consistency of the index pages. Level 2 index checking verifies index page consistency and index key to data consistency. If running level 2 index checking, CHECK INDEX can also concurrently run any of the CHECK TABLESPACE levels.

CHECK DATA checks DB2-defined RI and allows you to specify additional referential constraints that are not defined to DB2. It also verifies column data if table check constraints exist.

Improves availability

CHECK PLUS can leverage the BMC SNAPSHOT UPGRADE FEATURE (SUF) product to optionally perform checking while the data is online and available for read and write access.

Achieves maximum performance

CHECK PLUS uses advanced processing techniques to provide significant performance advantages over standard check processing methods. These techniques allow CHECK PLUS to be optimized for a single purpose—to achieve maximum utility performance.

CHECK PLUS performs most of its work outside of the scope of DB2. Because it is not dependent on DB2's facilities and services, the impact on those resources is minimized.

Provides more features/functions

CHECK PLUS is the first utility to combine integrity checking functions, replacing functions provided by the CHECK option of the DSN1COPY stand-alone DB2 utility, and the DB2 CHECK INDEX and CHECK DATA utilities. It also provides the increased flexibility of allowing you to specify which of these checks should be performed.

Combining functions currently performed by separate utilities gives CHECK PLUS a significant performance edge. For example, you can check the structural integrity of both table space pages and index pages concurrently. CHECK PLUS can also check the integrity of the table space and index pages it reads while checking for data violations. As a result of performance advantages like these, CHECK PLUS runs many times faster than the IBM utilities and uses much less CPU time and fewer EXCPs.

CHECK PLUS determines the optimum method for checking RI; for example, it might read the actual data pages instead of primary key indexes, if this strategy will enhance performance. In contrast, the DB2 CHECK DATA utility always reads primary key indexes to check for RI. In addition to performing standard RI checking functions, CHECK PLUS can check referential constraints not defined within the DB2 subsystem and perform column data verifications. This gives you the advantage of checking business rules without paying the performance penalty of processing with RI defined.

Provides DB2 version 8 support

CHECK PLUS provides support for DB2 for z/OS version 8. Support includes, but is not limited to the following:

- > Greater than 254 partitions
- > Variable CI size
- > Nonpadded indexes
- > Online schema (OLS) changes
- > Long object names

Helping you maintain advantage

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