BMC Performance for DB2 Databases

Keep DB2 for z/OS objects continuously available and eliminate unnecessary maintenance.

Key Benefits

» Improves DB2 for z/OS object availability; maintains continuous access to DB2 during a reorganization

» Performs maintenance only on objects as needed

» Controls and increases collection of statistics without affecting applications accessing DB2

» Proactively manages space allocation

» Controls database maintenance and housekeeping through a centralized, common interface

» Provides sophisticated automation of problem detection and correction to sustain and maximize database performance

» Enables proactive trend analysis and capacity planning

» Updates DB2 history tables, DB2 catalog tables, and real-time statistics

Business Challenge

Business applications are constantly changing to meet the demands of instant response time, continuous availability, and service level agreements. The database structures that support these applications undergo a tremendous amount of insert, update, and delete activity, with the result that DB2 objects become disorganized and performance and availability both suffer. Adding to these challenges is the need to accurately manage how database objects are stored on disk, to improve performance and to avoid wasting valuable resources.

The BMC Solution

BMC Performance for DB2 Databases identifies and manages maintenance activities to provide continuous availability and optimal performance of your DB2 database objects. It also provides trending analysis to address capacity planning. BMC Database Performance for DB2 provides maximum database performance and application availability, while minimizing system resources usage by ensuring the most efficient access paths are used and by keeping objects in the best state of organization possible. With BMC Database Performance for DB2, you can manage larger workloads with intelligent, customizable automation. BMC Database Performance for DB2 includes the following product capabilities:

» BMC DASD MANAGER PLUS for DB2

» BMC REORG PLUS for DB2

» BMC SNAPSHOT UPGRADE FEATURE

BMC DASD MANAGER PLUS for DB2

You have two choices for scheduling maintenance: - to reorganize all objects or to specifically determine which objects need maintenance. BMC DASD MANAGER PLUS for DB2 automates DB2 maintenance, guiding you to the statistics needed for space utilization management, and automating utility setup and execution through triggers as well as providing cost effective statistics collection itself. These can be either statistics to enable automated management of housekeeping, statistics for DB2 to make accurate access path decisions or a combination of both.

BMC DASD MANAGER PLUS for DB2 collects more statistics than RUNSTATS and STOSPACE combined. It can also store statistics to provide historical insight.

Managing the space allocation of the table spaces and index spaces is one of the biggest challenges of working with DB2. Manually building the jobs for every object that needs to be maintained is time-consuming and error-prone, often resulting in inefficient utilization of DASD resources and performance degradation. BMCTRIG automatically generates the job streams to execute required maintenance which transforms a manual, error-prone procedure into an automated, reviewable function, with the chance of errors virtually eliminated.

With BMC DASD MANAGER PLUS for DB2, you determine when to perform maintenance. You can establish thresholds to perform maintenance when needed, rather than performing these tasks at scheduled time intervals.
You can create and maintain utility job streams to dynamically and automatically perform the required maintenance. BMC DASD MANAGER PLUS for DB2 can build and rebuild the utility jobs as the DB2 objects requiring maintenance change or as maintenance requirements change.

**BMC REORG PLUS for DB2**

BMC REORG PLUS for DB2 is a powerful utility that reorganizes your DB2 data quickly while retaining read/write access to the DB2 table spaces and index spaces during processing. BMC REORG PLUS for DB2 automatically calculates the amount of memory required to process online reorganizations, and it allows you to alter the size of DB2 objects while the data is being reorganized. You can resize the structures that hold the data to make better use of disk resources.

BMC REORG PLUS for DB2 performs reorganizations without affecting high-transaction CRM and ERP applications such as SAP. You have more control over drain processing, which allows you to determine the concurrency levels to suit availability needs.

BMC REORG PLUS for DB2 improves performance of critical DB2 applications and enables continuous access. Allowing access to applications during reorganization is not enough to achieve true non-disruptive processing; if the reorganization process competes with the application for database resources, you can experience performance degradation. BMC REORG PLUS for DB2 avoids this situation by:

- Working outside of DB2 and not using DB2 resources such as the DB2 buffer pool, the buffer pool manager, or work databases
- Allocating work files and staging copies of DB2 objects and virtual storage as needed

To achieve even greater application availability, BMC REORG PLUS for DB2 does not require a QUIESCE when reorganizing DB2 objects. BMC REORG PLUS for DB2 can exploit advanced hardware configurations that support multiple processors. It uses parallel processing and concurrent execution of several tasks to reduce elapsed time. You can scale reorganization tasks based on your resources. BMC REORG PLUS for DB2 can exploit your available resources by automatically detecting the addition of new processors.

The internal sort engine significantly increases the speed of the sort phase during processing. To maximize I/O performance, BMC REORG PLUS for DB2 manages all buffering and performs I/O operations at the lowest level possible. This allows reading and writing of several blocks of data with each I/O operation and allows BMC REORG PLUS for DB2 to perform prefetching of I/O.

**BMC SNAPSHOT UPGRADE FEATURE**

BMC SNAPSHOT UPGRADE FEATURE increases data availability through the use of snapshot technology. When used with supporting BMC utilities, BMC SNAPSHOT UPGRADE FEATURE enables the creation of point-in-time copies of DB2, IMS, or VSAM data concurrently with batch and online activity - enabling full read and write access to the databases. You can take snapshot copies and while performing updates.

- Software snapshots create a point of consistency and then release the objects, so that the objects are available for updates.
- Hardware snapshots exploit intelligent hardware storage devices and require no software cache to provide a pre-image for snapshot utilities.
- Instant snapshots use intelligent storage devices to take instant snapshots. When a utility requests an instant snapshot, BMC SNAPSHOT UPGRADE FEATURE directs a copy of physical data on a storage device to a different location on the same device (or on another device within the same control unit or frame). You can snap, or reapply, this copied data to the original location for recovery.

For More Information