BMC Recovery Management for DB2

Automate local and disaster backup and recovery tasks to enable near-continuous availability. Back out problem transactions, recover to any point in time, and set up recovery scenarios so that you can get data back online as quickly as possible.

Key Benefits

- Improves availability by providing high-speed backup, recovery, and high speed transaction-level recovery capabilities
- Automates backup and recovery job creation and improves performance with multi-task parallel index rebuilds and recoveries
- Allows you to define a threshold for index copies and to use image copies and logs for index recoveries
- Provides recovery simulation that validates required recovery resources are available and that log apply can be done
- Provides disaster recovery time estimation and remote site mirroring accommodation

Business Challenge

Unplanned database downtime is an unfortunate fact of life. A comprehensive recovery strategy ensures that problems do not permanently damage or destroy data, that unplanned outages are short, and that recoveries do not consume an unreasonable amount of resources. Implementing a recovery strategy is like purchasing an insurance policy: both cost resources to obtain, but they reduce the cost and pain of a problem and enable normal activities to resume as quickly as possible after a problem occurs.

Because recovery strategies can be highly complex, preparing for a variety of recovery scenarios ensures that you can always meet service level agreements.

The BMC Solution

BMC Recovery Management for DB2 provides automation and advisory-level features to enable rapid backup and recovery, including recovery any timestamp or log point, high-speed transaction recovery, backout recovery, and instant recovery using intelligent hardware. BMC Recovery Management for DB2 includes the following products and technologies:

- BMC RECOVERY MANAGER For DB2
- BMC RECOVER PLUS for DB2
- BMC COPY PLUS for DB2
- BMC Log Master for DB2
- BMC SNAPSHOT UPGRADE FEATURE
- Exclusive features available only with the complete solution
  - Recovery simulation – practice recoveries on production databases with no risk
  - Recovery estimation – know which resources are necessary and how long it will take to recover
  - Disaster recovery tracking and reporting – analyze results of last disaster recovery
  - Disaster recovery mirror management
  - Online consistent copy – create a clean copy with no outage
  - Timestamp recovery – recover to any point in time, even though there is no quiesce or quiet point
  - Cabinet copy – reduce the elapsed time of copy jobs by 50% or more
  - Conditional restart avoidance for local subsystem recovery
  - Back out to forward recovery automation
  - Encrypted image copy

BMC RECOVERY MANAGER for DB2

BMC RECOVERY MANAGER for DB2 helps you prepare for any type of recovery. It generates optimized job streams to reduce tape handling and enable concurrent processing. You can create groups of DB2

objects that must be recovered together and establish backup and recovery options for these groups, reducing the number of tasks and decisions at recovery time. You can group objects by table space name pattern, referential integrity relationships, plan or package dependencies, pending status, volume, and application owner name.

BMC RECOVERY MANAGER for DB2 saves processing time and conserves resources by identifying objects that have not changed since the last backup and excluding them from the backup process and identifying objects that have not changed between the recovery point and the current time and excluding them from recovery.

Although hardware failures are rare, they have serious potential consequences. Even when a volume is completely unavailable, BMC RECOVERY MANAGER for DB2 can determine which objects need to be recovered and then generate an optimized recovery job. If the failing volume contained both IMS and DB2 data sets, you can coordinate recovery activities between BMC RECOVERY MANAGER products for IMS and DB2.

Disaster recovery

BMC RECOVERY MANAGER for DB2 streamlines the disaster recovery process by gathering information from the local site and building a comprehensive job to execute at the recovery site. It can make copies of the archive logs and capture DB2 system information required for offsite recovery. BMC RECOVERY MANAGER for DB2 provides a tape pick list for copies and logs to ensure that the right resources are identified for offsite shipment.

BMC RECOVERY MANAGER for DB2 generates JCL to restart and recover the DB2 system and the application data. It logically divides work across multiple jobs and synchronizes job steps.

BMC RECOVERY MANAGER FOR DB2, with BMC RECOVER PLUS for DB2, supports a disaster recovery simulation feature. Simulation lets you confirm that all required recovery resources are available and verify their integrity before they are needed for a recovery. While simulation cannot fully replace disaster recovery tests, it can reduce errors and costs that are associated with tests.

BMC RECOVER PLUS for DB2

BMC RECOVER PLUS for DB2, a high-speed utility that automates DB2 recoveries, offers several high-speed choices for recovering table spaces and indexes:

The exclusive Backout Recovery feature lets you recover table spaces and indexes faster than traditional forward recovery, while significantly reducing CPU time. With backout recovery, you recover to a point in time without first restoring image copies; instead, you start the recovery process with the database in its current state and back out updates by using the DB2 log.

BMC RECOVER PLUS for DB2 works with intelligent storage-enabled hardware to recover hardware snapshot copies to a consistent point in time. The forward recovery function lets you recover table spaces and indexes. Index recovery avoids costly key sorts by using image copies and logs.

BMC RECOVER PLUS for DB2 enables you to migrate data while keeping the data online and available for updates. You can migrate data to a local mirror database or to an offsite recovery location. BMC RECOVER PLUS for DB2 creates copies without having to access table spaces and lets you use copies that are not registered in the DB2 subsystem. It takes the image copies and log records of the table space and recovers into a new table space, translating object IDs.

Exclusive drop recovery

Because DB2 does not recognize the traditional copies or log entries for dropped objects, ordinary recovery methods for those objects do not work. Only BMC RECOVER PLUS for DB2 lets you recover data automatically by combining the copies and log records to populate the database and then translating the old object ID to a new object ID.

BMC COPY PLUS for DB2

BMC COPY PLUS for DB2 saves time setting up, restarting, and maintaining backup jobs. You can make frequent image copies so you can perform a faster recovery.

You can make an image copy and update table space statistics with one pass through the data, reducing elapsed time and CPU time. The BMCSTATS option allows you to update statistics that are stored in BMC tables for use with BMC DASD MANAGER PLUS.

BMC COPY PLUS for DB2 uses significantly less CPU time than any other utility and offers media savings through the use of incremental copies, logical page compression, and synergy with BMC PACLOG for DB2 for disk compression.

A snapshot copy option provides read-and-write support, allowing data to be updated while providing a consistent, registered copy of a table space. Because there is no buffer or locking interference, making copies is completely non-intrusive. A snapshot copy offers all the benefits of a concurrent copy without the hardware requirements and limitations. Hardware exploitation with BMC SNAPSHOT UPGRADE FEATURE lets you identify and use hardware-based instant snapshot copies to take advantage of quick hardware backup and restore facilities for local recoveries without a quiesce. Instant snapshots reduce elapsed time by 98% and virtually eliminate CPU time for copies.

BMC Log Master for DB2

BMC Log Master for DB2 enables you to take advantage of the information in the DB2 log to:

- Generate SQL to UNDO (back out incorrect transactions), REDO (replay correct transactions after a conventional recovery), or MIGRATE (replay transactions for use by another DB2 system or RDBMS)
- Automate drop recovery. All you need to provide are the name of the object that was dropped and an estimate of when the drop occurred; the rest happens automatically. BMC Log Master for DB2 can work with BMC RECOVER PLUS for DB2 (to recover dropped tables, table spaces, or databases) or DSN1COPY (to recover a single dropped table space).
- Automate recall support to handle migrated DB2 log files, allowing the product to recall log files as early as possible and reducing run time. It provides automatic remigration of the log files to help control DASD use.

Recoveries are not pleasant under any circumstances. When a recovery is caused by an application problem, and only selective parts of a DB2 database contain errors, the process is even more complicated and time-consuming. You have two unappealing options: perform a conventional recovery and lose data, or write a program that locates and corrects errors relating to specific transactions. With BMC Log Master for DB2, you can undo (back out) the invalid changes easily.

The High-speed Apply Engine component dramatically improves the performance and manageability of migration and backout processing. It virtually eliminates batch processing errors (by letting you specify conflict resolution rules) and assures a high level of productivity and database availability.

BMC Log Master for DB2 allows batch migration of database changes after an initial bulk move. The migration does not disrupt online applications that require access to the original database.

BMC Log Master for DB2 provides a variety of audit reports, without adding overhead to your applications. Even if the structure of the database has changed, you can map the previous structures and audit changes. If you have image copies available, the product can attempt log record completion for objects that no longer exist in the DB2 catalog. An easy, one-time setup lets you quickly repeat audit analysis when needed.

BMC SNAPSHOT UPGRADE FEATURE

BMC SNAPSHOT UPGRADE FEATURE increases data availability through the use of snapshot technology. When used with supported 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

To learn more on BMC Recovery Management for DB2, please visit www.bmc.com/db2.

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Business thrives when IT runs smarter, faster, and stronger. That's why the most demanding IT organizations in the world rely on BMC Software across both distributed and mainframe environments. Recognized as the leader in Business Service Management, BMC provides a comprehensive and unified platform that helps IT organizations cut cost, reduce risk, and drive business profit. For the four fiscal quarters ended September 30, 2009, BMC revenue was approximately $1.88 billion.

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