

## Log Master for DB2



### Benefits

- > Enhances precision and flexibility of database recoveries
- > Provides batch migration of changes to other DB2 databases or other RDBMSs
- > Supports sophisticated auditing activity with filters, reports, and the ability to retrieve prior data
- > Extends DB2 resources by obtaining information from log files instead of production databases—without custom applications

### Features

- > Enables selective transaction backout or roll-forward for optimal recoveries
- > Generates load format outputs for various platforms such as Oracle or Microsoft CSV
- > Provides a wide variety of filtering options and reports
- > Automates the recovery of dropped objects
- > Exploits DB2 8.1 features. Supports DB2 8.1 and 7.1.

### YOUR BUSINESS CHALLENGE

Many businesses need to enhance and expedite DB2 recoveries, migrate data changes, and routinely audit activity on critical data assets. These needs could be met by using data stored on the DB2 log; however, access to and analysis of log data require complex programming because the information is not available in a format that most administrators can readily use. As a result, recovery, change migration and auditing are difficult, time-consuming and costly.

What is needed is a robust tool that provides flexible log analysis and data filtering, prepares a variety of reports, generates SQL to correct problems, and provides a short path for on-demand or regular analysis. *Such a tool would provide significant cost and time savings.*

### BMC SOFTWARE ANSWERS THE CHALLENGE

The Log Master for DB2 product is the most sophisticated and robust log analysis tool for DB2 on the market. This tool provides capabilities that allow users to quickly take advantage of the information that is available to them through the DB2 log. With Log Master for DB2, you can:

- > **Exploit DB2 version 8.1 features** – Log Master for DB2 supports DB2 8.1 by exploiting the following DB2 features:
  - online schema evolution (in current mode)
  - long names (including creator, table, index, and column names)
  - Unicode (user data and DB2 object names)
  - 4,096 partitions
  - variable CISIZE
  - extended limits: increased number of log files
- > **Analyze the DB2 log** – This tool can locate transactions that must be changed, migrated, or reported.
- > **Generate SQL to correct or migrate changes** – This tool can 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).
- > **Provide easy on-demand or repeated analysis** – Whether you need to perform a one-time analysis, initiate continued analysis, migrate database changes, or reuse customized analysis structures and reports, the Log Master for DB2 online interface provides a fast method to accomplish your objectives.

- > **Report on catalog changes** – This feature allows DDL, DML or other reporting. You can reverse the effect of catalog operations with the UNDO DDL feature.
- > **Enable log mark creation** – This exclusive feature enhances log analysis by letting you associate specific names and generations with points on the log that you define.
- > **Enable data capture analysis reporting** – This feature helps you determine the impact on database resources of activating or deactivating the DB2 attribute DATA CAPTURE CHANGES.
- > **Customize reports** – Create your own unique reports from Log Master for DB2 generated logical log files.
- > **Automate drop recovery** – Log Master for DB2 fully automates the process of recovering a dropped object. 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. Log Master for DB2 can work with RECOVER PLUS for DB2 (to recover dropped tables, table spaces, or databases) or DSN1COPY (to recover a single dropped table space).
- > **Provide DB2 security support** – When activated, this feature prevents access to log records when a job does not have select authority on the original tables. The product can use DB2 native security or external security (such as RACF, CA-ACF2 for DB2, or eTrust CA-Top Secret).
- > **Automate recall support** – This feature automates handling of migrated DB2 log files, allowing the product to recall log files as early as possible and reducing run time. The feature also provides automatic remigration of the log files to help control DASD use.
- > **Create logical logs** – This feature expedites analysis and use of information from the DB2 log by letting you create a separate file that contains only the log information that you select. You can further analyze or filter the logical log file without reading the DB2 log again.

The Log Master for DB2 product also includes many features that enable selective transaction backout during recovery, migration of changes, and auditing.

## Selective Transaction Backout and Enhanced Recoveries

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. Faced with this situation, DBAs without Log Master for DB2 have two unappealing and unproductive options: perform a conventional recovery and lose data, or have an application programmer write a program that locates and corrects errors relating to specific transactions. The latter solution causes the programmer to take time away from critical development efforts, and might not be a viable solution.

Log Master for DB2 provides a better approach. You can quickly specify information about the transactions in question. Then you can analyze the DB2 log to locate transactions that must be changed and generate SQL to correct the problem. Depending on your needs, the correction can take the form of an UNDO action or a REDO action.

The Apply Plus component of Log Master for DB2 can make your required changes more rapidly than other available methods.

In addition, the following capabilities of the Log Master for DB2 approach significantly enhance your ability to quickly and accurately complete database recoveries:

- > **Backout integrity checking** – This exclusive feature ensures data integrity by reporting data updates that should be backed out.
- > **Allowing concurrent batch backout and online processing** – Because Log Master for DB2 uses SQL to perform backout actions, problems can be corrected while the DB2 table is still available for use by online applications.
- > **Locating additional recovery points** – Log analysis can uncover “quiet ranges” on the logs that can be used as additional recovery points. Use an option to exclude shorter quiet ranges and concentrate on times when there is truly no activity for your table spaces.
- > **Providing sophisticated, automated log record completion** – The complete context of log information is required to perform transaction backout. Log Master for DB2 provides the most comprehensive set of completion options available and it can automatically select the best option for each situation.

## Batch Change Migration

Other solutions exist for bulk migration of data between DB2 databases, or between DB2 and other databases. However, the amount of data moved and the availability requirements of online applications and other resources make most solutions impractical for systems that require access to current data.

Log Master for DB2 provides a better method by allowing batch migration of database *changes* after an initial bulk move has been completed. The migration does not disrupt online applications that require access to the original database. The following options for processing and output provide optimal flexibility and speed of migration:

- > **Ongoing processing** – Set up an ongoing job once and run it repeatedly without changing the JCL. Log Master for DB2 automatically keeps track of previous runs and adjusts its own starting point so that no transaction is included more than once and in-flight transactions are included in later processing .
- > **Migrate to other platforms** – Migrate database changes wherever you need your data. Log Master for DB2 includes versions of the high-speed Apply Plus component that run on mainframe DB2 subsystems, or on distributed systems (UNIX or Windows) against target databases under IBM's DB2 Universal Database (UDB) or Oracle.
- > **Easily-used output** – Log Master for DB2 provides multiple forms of output designed for use by other application programs or packages, including program-friendly logical log files (in a published format) and load data files and load control files in cross-platform, character-based formats (CSV, SDF).
- > **Select only changed log records** – Log Master for DB2 lets you select log records based on whether the content of a column has changed in any way. Migrate only the data that you need to migrate (data that has changed during your time frame).
- > **Control columns included in output** – Include or exclude columns from the generated output (usually SQL statements). Migrate data to tables that may not be defined with exactly the same set of columns as the source table.
- > **Translate table or column names** – Use your own specifications to translate names in SQL statements when the statements are generated or when you execute them against a target database.

## Sophisticated Auditing Capabilities

Whether you need to closely monitor critical resources or provide information to auditors, having programmers build audit capabilities into applications can be unreliable. Log Master for DB2 provides a variety of robust reports, without adding overhead to your applications. Other audit needs supported include:

- > **Reporting on objects that no longer exist** – Even if the structure of the database has changed, you can map the previous structures as they existed and then audit changes. If you have image copy data sets available, the product can attempt log record completion for previous objects that do not exist in the DB2 catalog.
- > **Support for ongoing processes** – An easy, one-time setup lets you quickly repeat audit analysis when needed.

**Additional capabilities.** Further efficiencies with Log Master for DB2 include:

- > **Sophisticated log completion techniques** – Eliminate the need to use DATA CAPTURE CHANGES
- > **One-time setup for ongoing processes** – Allow easy periodic or repeated tasks (for migration or audit)

## Better Performance and Productivity with Apply Plus

Log Master for DB2 uses the Apply Plus component to dramatically improve the performance and manageability of migration and backout processing. Apply Plus executes the SQL statements or logical log files that are generated by Log Master for DB2 with maximum speed and maximum control.

- > **High Performance** – The Apply Plus component delivers high performance through a highly-parallel, multi-threaded processing architecture and a robust set of management features.
- > **High Productivity** – Apply Plus virtually eliminates batch processing errors (by letting you specify conflict resolution rules) and assures a high level of productivity and database availability.
- > **Easy JCL Generation** – Use the Log Master for DB2 online interface to generate JCL for Apply Plus.
- > **Multiple Platforms** – Cross-platform migration of changes is easier, faster, and more efficient than ever. Log Master for DB2 includes versions of the Apply Plus component that run on distributed systems (UNIX or Windows) against target databases under IBM's DB2 Universal Database (UDB) or Oracle.

The Log Master for DB2 installation includes installation of Apply Plus.

## Integration With Specific BMC Software Products

BMC Software is committed to providing high-value integration between products or components to provide you with more features and increased flexibility:

- > **RECOVER PLUS for DB2** – Integration between BMC Software's Log Master for DB2 and RECOVER PLUS for DB2 products can improve DB2 recoverability and availability. By using the "quiet ranges" identified by Log Master for DB2 to create a new, full SHARELEVEL REFERENCE image copy (without reading the table space), DB2 objects that were accidentally dropped can be recovered more quickly. Log Master for DB2 and RECOVER PLUS for DB2 also provide automated drop recovery.
- > **RECOVERY MANAGER for DB2** – The Log Master for DB2 product also integrates with the BMC Software product RECOVERY MANAGER for DB2. Log Master for DB2 provides RECOVERY MANAGER for DB2 with detailed recovery analysis information enabling you to select efficient, cost-effective recovery strategies.

## RECOVERY MANAGEMENT FOR DB2 SOLUTION

Log Master for DB2 remains an individual product, but it is also available as a component of the Recovery Management for DB2 solution. The following components are part of the Recovery Management for DB2 solution.

- > RECOVERY MANAGER for DB2
- > RECOVER PLUS for DB2
- > COPY PLUS for DB2
- > Log Master for DB2
- > SNAPSHOT UPGRADE FEATURE for DB2

The Recovery Management for DB2 solution not only provides the features of the individual products, but it also integrates exclusive component technologies into more powerful and robust methods for backup and recovery of your data.

### About BMC Software

BMC Software, Inc. [NYSE:BMC], is a leading provider of enterprise management solutions that empower companies to manage their IT infrastructure from a business perspective. Delivering Business Service Management, BMC Software solutions span enterprise systems, applications, databases, and service management. Founded in 1980, BMC Software has offices worldwide and fiscal 2004 revenues of more than \$1.4 billion. For more information about BMC Software, visit [www.bmc.com](http://www.bmc.com).

## WORLD CLASS SUPPORT

At BMC Software, we want our customers to succeed. We realize that our Recovery Management products are an integral part of your business-critical environment. That is why we provide comprehensive, best-of-breed customer support services 24 hours a day, 7 days a week. Whether you have a basic question or a complex product issue, our support services and expert technical analysts are available to effectively address your needs.

### Helping you maintain advantage

BMC Software Education Services offers a strategic investment for your business, maximizing the value for your employees and Business Service Management initiatives. Education ensures successful product implementation, promoting mastery of all product capabilities and highest productivity with your BMC Software solutions. To explore our education offerings, visit our web page at <http://www.bmc.com/bmceducation>, or contact BMC Software Education Services by telephone or e-mail:

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