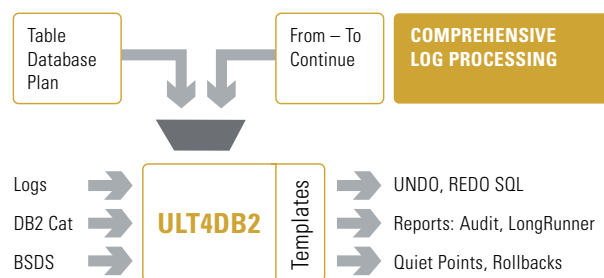# ULT4DB2™
THE UBS HAINER LOG TRACKER

Log Analysis / Auditing

ULT4DB2 is a powerful log analysis tool that simplifies how you can extract and view changes to DB2 tables. Whether you want to propagate data, undo faulty changes that were made to a production table, or populate an auditing table with a detailed list of previously made changes, ULT makes it easy for you to get the most from your DB2 log. With ULT4DB2 the desired data can be output in many preferred formats usable by z/OS and other platforms. The comprehensive automation features of ULT and its friendly ISPF interface make the ULT4DB2 log analyzer applications very easy to implement.

Auditing

Businesses want to keep track of changes to sensitive information – who made a change to a table, when was it made, and what exactly was changed. The DB2 log contains all this data in assorted places. ULT4DB2 helps you to put the pieces together and populate your auditing tables with the information you require. You can analyze all the changes over a given period of time and filter by user name, plan, column contents or other criteria. If you already have auditing tables in place, ULT4DB2 can vary its output to match your existing table structures.

Auditing Read Access

ULT4DB2's log analysis functions provide a broad range of efficient means for tracking data modifications within DB2 for z/OS. However, the DB2 log does not contain information about read access - although it may be very important, from an auditing point of view, to identify unauthorized read access to sensitive enterprise data.

For such purposes ULT4DB2 integrates and automates DB2 audit trace which is based on SMF event recording. ULT4DB2 facilitates table set up and selection for auditing, converts and reads relevant SMF data, handles trace activation and provides conditioned data in a set of well-designed auditing tables for easy evaluation. In this way ULT4DB2's auditing function becomes a really complete solution.

Repair

Most application systems are interlinked. Soon after updates are completed the records are forwarded to other systems and again updated. It is nearly impossible to apply traditioal recovery methods across these systems. Instead, specific repairs of the changed records are required to correct the flawed change. Recovering the affected table to a point-in-time before the update may not be practical because it would undo all subsequent changes as well. ULT4DB2 can create SQL statements that revert a specific change which happened at a given point-in-time. Filtering by various criteria helps you isolate the original operation that was executed against a single table or a set of tables.

Table Database Plan → **From — To Continue** → **COMPREHENSIVE LOG PROCESSING**

Logs →
DB2 Cat →
BSDS →
ULT4DB2 | Templates →
UNDO, REDO SQL
Reports: Audit, LongRunner
Quiet Points, Rollbacks

© UBS Hainer GmbH distributed by Team Data ApS in the Nordics

ULT4DB2™ – THE UBS LOG TRACKER

Quiet Points

Quiesce points are good candidates for recovery processes. However, in busy environments it is normally not possible to create preventively quiesce points. Even an unsuccessful attempt to create a quiesce point will have an impact on the availability. Hence, consistent point-in-time recovery can become a challenge. With ULT4DB2 you can scan the log for so-called "quiet points" which are points in time where there happened to be no update activity for the set of table spaces in question, spontaneous quiet points so to say. You can use ULT4DB2 to scan for quiet points on unit of recovery (UR) or logical unit of work (LUW) level, whichever is more appropriate for your needs. You can easily recover to a quiet point that ULT4DB2 detected and then reset the CHECK-pending status using the REPAIR utility.

Undrop

Accidentally dropping an object in a production environment can have severe consequences and cause prolonged outages. Restoring an object to the state before the DROP is usually a tedious and error-prone process. It requires a lot of resources on the mainframe, and means a vast amount of extra work for DBAs.

ULT4DB2 version 1.5 introduces the ability to bring back objects that have been accidentally dropped. Based on the information from the DB2 log and existing image copy data sets, ULT4DB2 can re-create objects and fill them with the same data that they had right before the DROP command was issued. You can scan an arbitrary log range for drop operations and select the objects that you want to undrop from an easy-to-use ISPF interface. The entire process is automated and does not require any manual interventi-

on. ULT4DB2 is able to undrop databases, table spaces, tables and indexes. All views, synonyms, database authorities, table authorities, foreign key constraints and check constraints are automatically recreated as well. ULT4DB2 can also generate BIND statements for packages and plans that have been invalidated due to the DROP.

ULT4DB2 can undrop objects without doing a point-in-time recovery of the DB2 catalog, which means that all other objects stay fully available during the undrop process.

Rollback Report

The ULT4DB2 rollback report lists all rollbacks that occurred within the observation period, sorted by number of UNDO compensation records and lists the percentage of Undos.

Long Running Job Report

This report identifies potentially broken jobs and those transactions with low commit frequency. Filters are available for number of log records, execution time, number of DB2 checkpoints and number of updated rows.

Data Propagation

Keep tables synchronized with ULT's data propagation feature. ULT4DB2 can directly execute the same INSERTs, UPDATES and DELETEs to different target tables. Alternatively, you can have ULT4DB2 generate SQL statements for examination or later execution. If your target tables are in a different database system or platform

Benefits

- Let DBAs quickly and easily identify, isolate and restore unwanted changes
- Identifies quiet points
- Provides efficient data propagation
- Helps auditors to locate updates to sensitive data and provides information about those updates including who made them and when

ULT4DB2™ – THE UBS LOG TRACKER

» Keeps DB2 systems working even when large-scale corrections to data are required. «

like Oracle, SQL Server, or other DBMS, then you can change the syntax of the generated statements to suit your needs. ULT4DB2 forwards DB2 data in an efficient way. Different from other propagation tools it does not increase the load on the source DB2 system as ULT4DB2 simply reads the log datasets. This results in significant savings in CPU time. Furthermore, the ULT runtime schedule can be controlled by the user to run at non-peak times and avoid higher cost levels (breach capping).

Automation

ULT4DB2 presents itself to the user as a friendly ISPF application with easily operated screens and broad user guiding features. The ISPF application enables the user to define repair, auditing, reporting, and data propagation tasks, along with automation functions for these tasks. Automation comprises retrieval of DB2 Catalog and log information, maintenance of database and application profiles, scope rules, generation of robust and restartable JCL, job order queueing and tracking, transparent creation of process-required DB2 tables and data sets, task history, and more. To set up a complete data propagation process not more than defining and submitting two jobs is required.

Ease of Use

ULT4DB2 automatically detects if it is executed against a DB2 data sharing group, the relevant archived log datasets, and assembles the table structures from the DB2 catalogs. ULT4DB2 also has an efficient and flexible restart mode should the target table become unexpectedly full. The output for different tables, or different sets of tables, can be written using templates to separate

data sets. With ULT4DB2 you can optionally generate SQL statements ready for execution if your target database system is DB2 for z/OS. If you use DB2 tables to store legacy data then you will sometimes want to treat this data as binary even if the DB2 catalog states otherwise. ULT4DB2 allows you to override the catalog information on a per-column-basis enabling you to manage this unwieldy data. A change to your source tables may »trigger« additional changes that need to be taken into consideration during data propagation. Where these triggers do not exist in the target environment, ULT4DB2 can generate SQL statements to produce the same changes that the original triggers did.

What Challenges Does ULT4DB2 Meet?

In most enterprises you are dealing with multi-platforms and applications are interlinked. Data is changed and shortly afterwards delivered to other business units or partners. Incorrect changes are often first detected when they are already in use at other places. Hence, standard recovery based on image-copies may be excluded from the process and instead specific repairs to the data are required. ULT4DB2 quickly isolates the undesired changes to database tables and provides easy to use UNDO SQL statements to revoke wrong updates. It also provides REDO statements to apply a set of changes to other tables. It provides the ability to quickly recover mission-critical DB2 data.

ULT4DB2™ – THE UBS LOG TRACKER

Features

- *Identifies log records by various attributes such as table, database, plan, user, group, job*
- *Presents DB2 log data decompressed and in every conceivable format*
- *Reports data changes, long running transactions, rollbacks*
- *Generates Undo and Redo SQL*
- *Flexible templates allow easy adaption of naming standards*

» Easier to handle than mainstream analyzers and executes faster «

This capability to prevent prolonged unavailability of vital applications can translate into a large sum of money for the different businesses involved.

ULT4DB2 also makes data propagation affordable. The immense costs in CPU consumption on the production DB2 that other propagator programs require are significantly decreased by ULT4DB2.

Who Utilizes ULT4DB2?

Database administration, application development and maintenance programmers use ULT4DB2 to repair the result of an incorrect program execution, a wrongly scheduled job or some user error. Auditors and administrators deploy ULT4DB2 to determine update sequences. Data centers replace expensive data propagator tools by ULT4DB2 because ULT offers reduced CPU consumption and reasonable license conditions. Database administrators use ULT4DB2 to analyze update frequencies and idle times. ULT4DB2 supports DB2 Versions 8 and 9 in single and data-sharing modes.

The DB2 High-End Product Line:

BCV4™
Full DB2 Subsystem Clones in minutes versus days

BCV5™
Save 90% CPU & Run Time with each DB2 copy

BCV6™
Log enhanced copies for 24x7 DB2 refresh/migration

BPA4DB2™
Premier advisor for DB2 buffer pool optimization

ULT4DB2™
Easily identify & restore unwanted changes of DB2 data

TUC4DB2™
RTS & Policy driven automation of DB2 data maintenance

XM4DB2™
Pro-active surveillance for a greater DB2 availability
_____

Contact Us For More Information
We offer a free 30-day trial evaluation as well as private web demo. Learn more about ULT4DB2 and our complete line of DB2 z/OS products at: **www.ubs-hainer.com**
For more information please send an email to:
info@ubs-hainer.com

TEAM·DATA
BRINGING SOFTWARE TO BUSINESS

Tel: +45 49 90 16 90
teamdata@team-data.dk
www.team-data.dk

IBM Business Partner

UBS HAINER