Global Financial Services and DB2 Data Sharing

"The LOAD utilities in our DB2 data sharing environment run free of contention thanks to Thread/STOPPER and RLF."
— DB2 DBA at a major financial institution

In today's information economy, the company with efficient operations is sure to enjoy significant competitive advantage. A global financial services company with approximately $3.1 trillion in assets under management, administration or custody required a simple and reliable means to ensure its DB2 utility jobs run free of contention — without operator intervention.

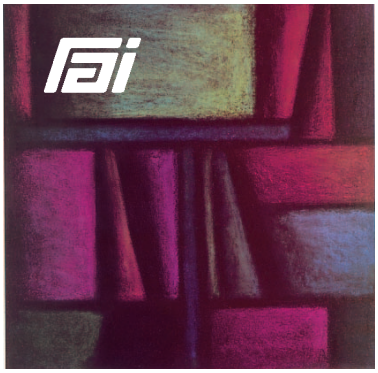
The Business Challenge

The DB2 tables accessed by one of the organization's business intelligence applications must be refreshed nightly via LOAD/REPLACE and LOAD/RESUME utilities. Every BI application user is assigned the same DB2 authorization ID which is granted SELECT only access to these tables.

"Even though users of the business intelligence application held only shared locks, the nightly refresh jobs were terminating abnormally because the LOAD utility requires exclusive locks" said the DB2 DBA for the financial services company. Since the BI application runs in a five member data sharing group with many concurrent users, it was impractical for operators to manually identify and cancel the thread of each DB2 user holding locks preventing the LOAD utility from running.

The RLF – Thread/STOPPER Solution

An automated solution was developed using the DB2 Resource Limit Facility (RLF) in conjunction with Thread/STOPPER, a product from Relational Architects International (RAI). Two RLF tables were created — one for regular processing and another expressly for the nightly LOAD utility jobs. Every night, before commencement of the batch cycle, the RLF table governing regular processing is stopped (via the -STOP RLIMIT command). The RLF table for utility processing is then started (via -START RLIMIT ID=xx). It allows no CPU time to the DB2 authorization ID associated with the Business Intelligence application and effectively prevents all threads with this Auth ID from being scheduled.



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The RLF–Thread/STOPPER Solution *(continued)*

RLF uses *reactive* governing to control dynamic SQL statements by plan, package or collection name. However, the BI threads running *before* the utility RLF table is activated are not stopped by RLF and need to be canceled. For this purpose, the financial services company uses the Thread/STOPPER Batch Facility to identify and cancel all BI threads holding locks that prevent the LOAD utility from running. Thread/STOPPER provides many commands and filtering criteria that let you manage DB2 threads within a single DB2 subsystem or across an entire DB2 data sharing group.

Once the DB2 LOAD jobs complete, the RLF table for utility processing is stopped and the RLF table governing regular processing is restarted so threads for the Business Intelligence application can run again.

The LOAD jobs run free of contention and without operator intervention as follows:

- **Job step 1** Execute TSO in batch and issue DSN commands to STOP the RLF table governing regular processing and START the RLF table designed for the LOAD utility
- **Job step 2** Execute Thread/STOPPER Batch Facility to identify and cancel threads holding locks on the DB2 objects the LOAD utility will refresh
- **Job step 3** Run the DB2 LOAD utility
- **Job step 4** Execute TSO/DSN in batch again to STOP the LOAD RLF table and START the RLF table that governs regular processing

Together, Thread/STOPPER and RLF provide the bank with the complete and automated solution it requires.