CA Rapid Reorg® for DB2 for z/OS (CA Rapid Reorg) helps you perform quick and effective DB2 data reorganizations to help increase data availability and performance and save resources.

Overview

Constant additions, deletions and updates of DB2 information may cause the data to become disorganized. CA Rapid Reorg helps you quickly reorganize DB2 data and accelerate response time. Online reorganization gives you full read/write access to DB2 data during reorganizations, while automatic space allocation facilities make it easy to redefine data sets during the reorganization, performing space management as part of the entire process.

Business value

CA Rapid Reorg improves system availability by shortening reorganization times and enhancing application data access through efficiently organized databases. The online capability enables read and update operations to tables during the reorganization process so that application access to data is left unaffected. In addition, CA Rapid Reorg helps reduce CPU time, I/O activity and the costs associated with downtime.
Features

Mainframe 2.0

CA Rapid Reorg has adopted key Mainframe 2.0 features that are designed to simplify your use of CA Rapid Reorg and enable your staff to install, deploy and maintain it more effectively and quickly.

- **CA Mainframe Software Manager™**: CA Mainframe Software Manager (CA MSM) automates CA Rapid Reorg installation, deployment and maintenance and removes SMP/E complexities.
  - The Software Acquisition Service enables you to more easily move product installation packages and maintenance from CA Support Online directly to your mainframe environment and prepare them for installation.
  - The Software Installation Service standardizes CA Rapid Reorg installation, which includes a new, streamlined Electronic Software Delivery (ESD) method that allows CA Rapid Reorg to be installed using standard utilities. This service also provides standardized SMP/E product installation and maintenance via APARs and PTFs, and simplifies SMP/E processing through an intuitive graphical user interface and an intelligent Installation Wizard.
  - The Software Deployment Service enables you to more easily deploy CA Rapid Reorg in your mainframe environment.
  - CA MSM Consolidated Software Inventory (CSI) updates and infrastructure improvements add flexibility to CA MSM processing of CSIs and enable CA MSM to more effectively utilize CPU and system memory.

- **Installation Verification Program (IVP) and Execution Verification Program (EVP)**: As part of qualification for inclusion in the set of CA Technologies mainframe products released every May, CA Rapid Reorg has passed stringent tests performed through the IVP and EVP to find and resolve interoperability problems prior to release. These programs are an extension of our ongoing interoperability certification initiative launched in May 2009.

- **Best Practices guide**: This guide provides information on CA Rapid Reorg installation, initial configuration and deployment to shorten the learning curve for staff who are responsible for the installation and management of this product.
Release r14.5

- **DB2 10 support**: CA Rapid Reorg runs in DB2 10 NFM (New Function Mode) with a converted catalog and in DB2 10 CM (Conversion Mode).

Release r14

- **New data types support**: BIGINT, BINARY, DECFLOAT, and VARBINARY data types are now supported.

- **New index page size support**: Index page sizes greater than 4 KB (8 KB, 16 KB and 32 KB) are now supported. This increases the number of index entries per page, and reduces the number of pages needed and page splits for large insert processes.

- **Universal Tablespace Support**: Universal Tablespace Support (UTS) is now provided.

- **Mapping table support**: You can now use an existing mapping table or define default settings for the mapping tables that CA Rapid Reorg creates. You can also use your own mapping table.

Other key features

CA Rapid Reorg provides:

- **Reorganization processing**: You need both versatility and control to perform efficient and effective reorganization of DB2 objects. CA Rapid Reorg provides multiple ways to reorganize your objects, which help you design reorganizations to help meet your specific needs.
  
  - **Offline reorganization**: This method provides exclusive access to the object and performs a standard, offline reorganization, enabling you to use existing IBM utility JCL to run CA Rapid Reorg with only minor changes. The data is unloaded, sorted and reloaded, and indexes are rebuilt. The standard mode of reorganization understands CA Fast Load for DB2 for z/OS (CA Fast Load) output, allowing you to perform a load of new data and reorganization in one step.
  
  - **Read only access**: This executes the same type of standard reorganization as offline reorganization, but allows read access to the data during the reorganization process.
  
  - **Extended mode**: Extended reorganization mode helps you improve performance, lower EXCPs, sort more efficiently and access DB2 objects during and immediately after the reorganization. In addition, it lets you control clustering and sorting so that you can make separate decisions regarding the reorganization of your table data, clustering index and non-clustering indexes. Extended mode can be used with both offline and read only reorganization processing.
  
  - **Online reorganization**: Online reorganization allows read/write accessibility to DB2 data during reorganizations. This process reorganizes the original object to a shadow copy.
For changes that occur during the reorganization, it reads the log entries, records changes to the original data and applies them to the shadow copy. It repeats the log-apply function until the reorganization is complete. At that point, the original and the copy are then swapped, and access proceeds using the reorganized objects.

- **Performance features:** The speedy and effective reorganization of DB2 table spaces and index spaces reduces the window of data inaccessibility. CA Rapid Reorg uses such internal processes as controlling the number of I/O buffers, VSAM buffers, tasks and sort space used during the reorganization process to increase performance. It allows you to control the use of additional performance improvement capabilities.
  - **Multitasking capabilities:** CA Rapid Reorg can unload partitions concurrently when a partitioned table space is being reorganized. In addition, it can sort non-clustered indexes simultaneously and load indexes concurrently to accelerate the reload phase of table space reorganizations.
  - **Partition independence:** CA Rapid Reorg is fully partition independent, enabling you to reorganize individual partitions of a table space whether or not the tables contain non-clustering indexes. At the same time, it provides access to partitions that will not be reorganized.
  - **Delete processing:** This allows you to delete unnecessary rows from a table during the reorganization. You specify selection criteria—similar to a SQL SELECT or DELETE—and CA Rapid Reorg will use the criteria to filter and delete the required rows. The advantage of deleting rows this way—as opposed to using SQL DELETE—is that all remaining data will be fully organized after the reorg with no wasted space.
  - **Log monitor:** The high-performance mode provides a patented, alternative method for capturing log records of the object that is being reorganized. It eliminates the need to read log records from the log data sets. This technique only captures log records of the object that is being reorganized, rather than scanning records for all objects using the log. This technique is very efficient and can vastly reduce the time for the log apply phase.

- **Productivity features:** CA Rapid Reorg adds capabilities that make the reorganization process more productive, helping to save both DBA time and processing time.
  - **Automatic space management:** CA Rapid Reorg redefines data sets automatically. This is done by using specified allocation amounts, calculating the amount of space needed by the data sets and increasing or decreasing the size of the data sets by a specific percentage each time they are reorganized.
  - **Update statistics:** You can update both the CA Database Analyzer™ for DB2 for z/OS (CA Database Analyzer) and the DB2 system catalog tables with the newest statistics without having to run a CA Database Analyzer extract procedure or RUNSTATS.
— **Multiple image copies**: CA Rapid Reorg lets you make up to eight concurrent image copies during the reorganization process, eliminating the need to set the copy pending flag. It also creates an image copy as a separate step and allows easy table space recovery if an error occurs.

— **Online reorg data set switching**: CA Rapid Reorg uses a unique method during the data set switch phase that helps reduce the impact to concurrent applications. Other reorg utilities issue a DRAIN during the switch phase that can lock out new transactions while waiting for existing locks to be released. If there are long-running transactions holding locks, the new transactions may need to wait for a long time which can impact application availability. CA Rapid Reorg allows you to control when the switch occurs. You can specify that the switch must not happen until all locks are released. Only then will a STOP be issued and the switch will occur. This provides higher availability and is designed to prevent applications from being locked out by long running transactions.

— **Integration with other products from CA Technologies**: CA Rapid Reorg is designed to work in concert with other Database Management solutions for DB2 for z/OS from CA Technologies to further increase processing performance and productivity.

  — **CA Quick Copy for DB2 for z/OS (CA Quick Copy)**: CA Rapid Reorg can call CA Quick Copy to perform up to eight image copies.

  — **CA Database Analyzer**: CA Database Analyzer works with CA Rapid Reorg to determine when reorganization is necessary and calls CA Rapid Reorg to begin reorganization if values fall within a specified range. CA Rapid Reorg can invoke the statistics collection capability of CA Database Analyzer to gather and update catalog and PDASTATS information.

  — **CA Fast Load**: CA Rapid Reorg understands CA Fast Load output, allowing you to perform a load and reorganization in one step.

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**Delivery approach**

CA Services provides a portfolio of mainframe services delivered through CA Technologies internal staff and a network of established partners chosen to help you achieve a successful deployment and get the desired business results as quickly as possible. Our standard service offerings are designed to speed deployment and accelerate the learning curve for your staff. CA Technologies field-proven mainframe best practices and training help you lower risk, improve use/ adoption and ultimately align the product configuration to your business requirements.
Benefits

CA Rapid Reorg is designed to perform quick and effective DB2 data reorganizations, which helps increase data availability and performance and saves resources. It improves system availability by shortening reorganization times, thereby helping to reduce the costs associated with downtime. CA Rapid Reorg also enhances application data access through efficiently organized databases.

The online capability enables read and update operations to tables during the reorganization process so that application access to data is left unaffected. By allowing you to reorganize data at any time, CA Rapid Reorg helps improve productivity and helps you utilize DBA resources cost-effectively and efficiently.

Automatic space allocation facilities make it easy to redefine data sets during the reorganization, performing space management as part of the entire process. CA Rapid Reorg manages all related reorganization processing—including producing up to eight image copies and collecting and updating DB2 catalog statistics in one execution—with just one pass of the data.

The CA Technologies advantage

CA Technologies has 30 years of recognized expertise in robust, reliable, scalable, and secure enterprise-class IT management software. CA Rapid Reorg for DB2 for z/OS is a key component of the Mainframe 2.0 initiative from CA Technologies to change the way the mainframe is managed forever by helping you maximize the value of our mainframe products and by providing a simplified experience and innovative solutions that deliver value quickly and flexibly.