

# How Can I Establish a Solid Foundation for Successful Db2 Database Management?

## Challenge

Enterprises need database management tools that help reduce costs, streamline operations, improve productivity, and resolve all issues quickly. Database Management for Db2 for z/OS helps ensure successful Db2 database management with four suites that categorize the products according to database administrator job functions.

## Opportunity

Broadcom database management solutions provide Db2 for z/OS database administration, database performance management, database backup and recovery, and more. Our solutions use innovative technology that helps you to proactively manage Db2 for z/OS environments and enhance the overall business value provided by your Db2 applications.

## Benefits

These solutions optimize database performance for faster data retrieval, automate routine administrative tasks, and dramatically reduce their completion time. Use Broadcom database management solutions to minimize backup and recovery times, migrate more easily to new releases of applications and databases, increase data availability, conserve CPU resources, and provide consistent, secure data that can be recovered in minimal time.



## Overview

Broadcom<sup>®</sup> database management solutions for IBM Db2 for z/OS databases provide the power and flexibility enterprises need to ensure optimal performance, efficient database administration, and reliable backup and recovery.

Our interoperable solution suites offer practical products that are integrated to improve service levels, data availability, and application responsiveness across Db2 for z/OS databases.

## Managing Your Db2 Environment

Enterprises are storing ever-increasing amounts of data that must be accessible around the clock. Downtime or delayed processing due to performance bottlenecks can cause more than a loss of productivity—it can mean losing customers. In today's business environment, organizations must ensure optimal performance for their databases and applications.

Every minute of database maintenance that interferes with data access can adversely impact the bottom line of an enterprise. Many database administrators (DBAs) are struggling to find time for both maintenance and optimization. DBAs need fast, dependable tools that streamline routine maintenance tasks, allowing more time for proactive database administration.

## Managing Your Db2 Environment (cont.)

Databases are among the most valuable assets for an enterprise—they can also be among the most vulnerable assets. Data loss often results in a loss of profits, reputation, and customers. For many organizations, data stores are getting larger while backup windows are becoming smaller. Therefore, it is increasingly important to implement dependable backup and recovery routines that protect valuable data assets.

Enterprises need database management tools that help resolve issues quickly, before they become problems that drag down system performance and decrease productivity.

## Simplify Database Management

Broadcom database management solutions for Db2 for z/OS address database management challenges and provide flexible options for database management and control. You can utilize full automation where appropriate, powerful manual control when desired, or expert software-guided assistance.

With our database management products, you can reduce the cost and risk associated with upgrades. These products also help you streamline workflows, use available skill sets better, make more precise updates, and improve responsiveness across complex database and application environments.

## Crush Costs and Unlock Savings

Database administration costs can quickly get out of hand in complex Db2 environments. Automating routine tasks helps you to streamline operations so that they can be completed by your IT staff faster and more cost-effectively, regardless of their experience level. You can increase productivity and capture real savings when you use integrated Db2 tools from Broadcom to automate the following functions:

- **Object migration and alteration:** Make global changes to your database and easily deploy them online.
- **Object comparison:** Simplify the way you compare and synchronize your Db2 structures.
- **Catalog navigation:** Benefit from an interactive tool that quickly retrieves, integrates, analyzes and presents information from the Db2 catalog in multiple report formats.
- **Data archiving:** Automatically archive old or inactive data to increase performance.
- **Application development:** Enable easier development by automating complex extraction, copying and moving of related and logically interconnected objects.
- **Data unload, data load, and data cloning:** Perform data unloading and loading at high speed, while allowing data cloning to be accomplished without unloading or loading data.

## Database Administration Management

DBAs are challenged with the task of managing object and schema changes. These changes require the DBA to navigate the Db2 catalog and understand the impact of a change and all the related objects that may be impacted by the change. This may require the need to unload data, drop and recreate objects, reload data, reapply any associated security authorization, repair dependent applications, backup data, and recover data.

*Administration Suite for Db2 for z/OS* provides intelligent automation designed to safely manage your big data warehouse, ERP/CRM, or internet applications and data. This suite helps you reduce costs, simplify Db2 object schema and data management, and provide for the integrity of your Db2 environments.

Administration Suite for Db2 for z/OS includes the following products:

- **RC/Query™ for Db2 for z/OS:** Provides catalog management capabilities and alleviates the time-consuming task of manually developing and testing specialized queries. RC/Query enables you to take immediate action—whether that means executing a command, invoking a utility, or moving to another Broadcom database management product for Db2 for z/OS.
- **RC/Update™ for Db2 for z/OS:** Automates labor-intensive tasks related to changing Db2 objects and data. It provides a development environment for the application developer, an editor and data copy feature for the end user, and sophisticated object management facilities for the DBA. These features result in simplified database administration tasks, reduced database downtime, and increased DBA productivity.
- **RC/Migrator™ for Db2 for z/OS:** Provides automation that increases database availability and helps you to reduce the time and risk of human error involved with complex database administration tasks.
- **RC/Compare™ for Db2 for z/OS:** Helps you to compare and synchronize Db2 structures that reside on different subsystems.

## Database Administration Management (cont.)

- **RC/Extract™ for Db2 for z/OS:** Reduces time and human error involved in extracting referentially related data, reducing database downtime, and increasing your staff productivity.
- **RC/Secure™ for Db2 for z/OS:** Is a comprehensive online security administration tool for Db2 for z/OS that helps you streamline and automate the tasks of Db2 security administration.

## Database Performance Management

*Performance Suite for Db2 for z/OS* helps you to quickly identify poor running SQL statements and recommend changes to these statements based on expert rules. The access path, SQL performance, and Db2 object usage history can be stored for future trending and analysis. Application change control procedures can automatically detect and stop an inefficient SQL statement from moving into production, saving the company money due to high CPU usage and improving the customer experience by reducing the risk of slow performing applications.

Performance Suite for Db2 for z/OS provides analysis capabilities that help to identify the programs and SQL statements that impact your Db2 system performance.

Performance Suite for Db2 for z/OS includes the following products:

- **Bind Analyzer™ for Db2 for z/OS:** Helps accelerate the application development lifecycle and decrease unnecessary CPU and I/O resource usage by helping you avoid unnecessary binds.
- **Detector® for Db2 for z/OS:** Provides in-depth analysis capabilities that enable you to identify the programs and SQL statements that most significantly affect your Db2 system performance.
- **Subsystem Analyzer for Db2 for z/OS:** Designed to help DBAs quickly understand and analyze Db2 subsystem performance, DASD usage, and contention and buffer pool activity.
- **Plan Analyzer® for Db2 for z/OS:** Designed to improve Db2 performance by efficiently analyzing SQL and utilizing expert rules to offer SQL performance improvement recommendations.
- **SYSVIEW® Performance Management Option for Db2 for z/OS:** Monitors network-connected Db2 subsystems and Db2 applications outside of the z/OS environment while customizing monitoring functions and setting up automatic alerts.

## Database Recovery Management

DBAs are responsible for ensuring your critical business data is recoverable regardless of the data corruption caused by an errant application change or storage device failure. *Recovery Suite for Db2 for z/OS* provides a comprehensive solution designed to automate and streamline the process to recover data, thus reducing the risk of a prolonged outage due to manual creation of recover jobs.

Recovery Suite for Db2 for z/OS helps you simplify and streamline Db2 recovery, whether it is simply a few application objects, a complete ERP application, or an entire Db2 system.

Recovery Suite for Db2 for z/OS includes the following products:

- **Log Analyzer™ for Db2 for z/OS:** A powerful product that analyzes Db2 log and SMF records to aid in auditing data changes.
- **Recovery Analyzer™ for Db2 for z/OS:** Simplifies complex Db2 recovery situations by automating the generation of efficient recovery jobs.
- **Fast Recover™ for Db2 for z/OS:** Provides the ability to quickly recover Db2 data (table spaces and indexes) after a disaster or system failure, while minimizing CPU cycles, service units and EXCPs.
- **Merge/Modify™ for Db2 for z/OS:** Accelerates image copy and recovery processes to help you reduce the drain on valuable CPU resources and streamline backup and recovery procedures.
- **Quick Copy for Db2 for z/OS:** Provides you with backups of Db2 data by making single or multiple image copies at high speeds.

## Database Utilities

DBAs regularly perform routine maintenance tasks such as database reorganizations, loads and unloads, and backups to ensure the performance, availability, and integrity of their database environments. Maintenance requires precious system resources, requiring DBAs to find the most efficient tools possible to limit response time and availability impacts to critical business systems. *Utility Suite for Db2 for z/OS* provides a set of tools architected to efficiently use system resources on a limited basis, and to limit the adverse impact on the business.

Originally designed to complement and add further value to the native utilities that were included as part of earlier versions of Db2 for z/OS, Utility Suite for Db2 for z/OS tools are tightly integrated to provide the efficiency and usability needed to deliver fast and efficient database management.

## Database Utilities (cont.)

Utility Suite for Db2 for z/OS includes the following products:

- **Database Analyzer™ for Db2 for z/OS:** Provides robust database monitoring and analysis capabilities to help uncover database errors, prevent data loss, and simplify administration. It is designed to increase DBA productivity by leveraging existing Db2 real-time statistics and collecting new statistics on Db2 objects to automate Db2 housekeeping, utility scheduling and execution, and to perform space management following user-defined thresholds.
- **Fast Check for Db2 for z/OS:** Offers you superior performance and important functional advantages in the areas of managing RI and reporting, and correcting errors in tablespace or index pages. It also offers you high-speed, in-depth integrity checking for data, LOBs, and indexes.
- **Fast Index® for Db2 for z/OS:** Enables you to conserve system resources by deleting indexes you no longer need and then building new ones later when you need them.
- **Fast Load® for Db2 for z/OS:** A high-speed utility that helps you load large amounts of data into Db2 tables.
- **Fast Unload® for Db2 for z/OS:** Helps you to reduce the time required to unload Db2 data, thus improving the availability of corporate data.
- **Rapid Reorg® for Db2 for z/OS:** Reorganizes your table spaces and index spaces to alleviate problems caused by disorganized data. It can reclaim space used by dropped tables, recluster data, remove overflow pointers, re-establish free space, re-balance index trees, and reduce the number of levels required. It is designed to help increase data availability, improve performance, and save resources.

Also includes: Log Analyzer for Db2 for z/OS, Recovery Analyzer for Db2 for z/OS, Fast Recover for Db2 for z/OS, Quick Copy for Db2 for z/OS, and Merge/Modify for Db2 for z/OS.

## Intuitive Access and Reporting of Business Data on Db2

If your organization stores decision support data in Db2 for z/OS databases, your end users need an easy way to access that data both online and in batch.

Report Facility is a full function Db2 for z/OS reporting environment that provides users with easy access to business information. The product offers a robust yet easy-to-use reporting environment that combines a SQL creation system with multiple diverse and flexible report formatting styles.

Report Facility provides users with intuitive access to business data, builds the queries designed to obtain that data, and formats the data into business information documents designed to meet operational and management requirements without forfeiting any measure of control.

Report Facility provides the following features to simplify and facilitate data requisition:

- **Building queries:** The Query Build facility allows non-technical users to construct an SQL SELECT statement, and helps them learn SQL as the product forms the query. Technical users have the additional capability to enter the SQL syntax themselves and leverage the full SQL SELECT language.
- **Using non-Db2 data sources:** Report Facility natively obtains the catalog information for Db2 stored data and provides users with meta-information. Users can also define the contents of sequential and VSAM stored data, allowing Report Facility to provide its full information environment inside and outside of Db2 with the same SQL SELECT language.

## About the Mainframe Division at Broadcom

The Mainframe Division at Broadcom continues to drive the next horizon of open, cross platform, enterprise solutions. We specialize in DevOps, security, AIOps, and infrastructure software solutions that allow customers to embrace open tools and technologies, make mainframe an integral part of their cloud, and enable innovation that drives business forward. We are committed to forging deep relationships with our clients at all levels. We go beyond products and technology to partner with you in creative ways that support your success.

For more information, please visit our site: [broadcom.com/db2](https://broadcom.com/db2)