

# Performance Suite for Db2 for z/OS

## Key Benefits

- **Comprehensive data collection:** Monitors SQL activity, Db2 subsystems, and thread activity from a wide variety of sources.
- **Assess resource consumption:** Facilitates tuning efforts.
- **Monitor errors and exceptions:** Helps to debug and prevent system and application failures.
- **Detailed reporting:** Online and historical reporting provides data that helps improve tuning.
- **Reduce contention:** Identifies frequently used objects that should be isolated to prevent contention.

## Key Features

- **Comprehensive data collection:** Collect, retain, and analyze Db2 performance data from multiple sources.
- **Identification of resource consumers:** Reports on the most active applications and heavily used database objects, and displays the state of internal Db2 components.
- **Extended problem tracking:** Integration of SQL statement level tracking along with Db2 object level tracking creates a unique view to track database objects, programs, and SQL statements.
- **Reporting capabilities:** Includes reports based on collected and externalized Db2 trace data, RESTful APIs to retrieve real-time performance statistics, and web-based performance dashboards to visualize the data leveraging open-source solutions.
- **SQL statement sources:** Analyzes SQL from multiple sources for SQL statement and access path changes.

## Overview

*Performance Suite for Db2 for z/OS* will help you 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 customer experience by reducing the risk of slow performing applications.

## Business Challenges

As enterprises rely more on their Db2 database applications, high performance and ongoing reliability become increasingly important. IT organizations must detect and avoid moving inefficient SQL statements into production. However, analyzing SQL statements and complex access paths to find the subset of statements that need database administrator (DBA) attention is a time-consuming process. Reading and interpreting EXPLAIN PLAN\_TABLE output, or collecting statistics and dependency information to determine which access path Db2 has chosen and why, are also complex and time-consuming.

Once the application and SQL are in production, it is important to detect and identify the poor performing statement. The challenge a DBA has is determining if the problem is due to disorganized data in the table or index, bad access path due to application change, contention on Db2 objects, or system resources such as inappropriate sizing of the bufferpool.

## Solution Overview

Performance Suite for Db2 for z/OS provides analysis capabilities that help identify the programs and SQL statements that impact your Db2 system performance. SQL activity is collected from many sources including online and batch mainframe applications using static SQL, client/server applications, reporting applications, and ERP systems that access Db2 using dynamic SQL. Data warehousing applications using dynamic or static SQL and host variable values can also be collected. Subsystem information is collected to track usage at the database object level, by program and statements, as well as information to analyze buffer pool hit ratios, get page requests, and physical object I/O.

## Key Features (cont.)

- **Expert rules system:** Applies built-in or customized rules to your SQL, and makes recommendations for improvement.
- **Extensive troubleshooting:** Integration of SQL statement level along with Db2 object level tracking, dynamic SQL text capture, Db2 traces and an expert rules system create a unique combination to track problematic database objects, programs, and SQL statements.
- **Exceptions system:** A variety of exceptions to monitor the subsystem, databases, applications, and SQL statements.
- **Bind elimination:** Package binds are only necessary when significant SQL changes are encountered.
- **zIIP support:** Reduce the processing load on general CPUs and decrease overall cost of product ownership.

## About the Mainframe Division

The Mainframe Division at Broadcom continues to drive the next horizon of open, cross-platform, enterprise solutions. We specialize in DevOps, Security, AI/ops, 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.

## Solution Overview (cont.)

This suite 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:** Provides real-time performance monitoring of Db2 applications and subsystems, enabling the rapid detection and correction of performance problems.

## Critical Differentiators

Detector identifies high resource consumers by reviewing real-time or historical data at the application, plan, program, or statement level.

Subsystem Analyzer comprehensively examines and analyzes object activity at the database, tablespace, table, index, data set, and data set extent levels, and evaluates getpage activity, physical I/O activity and buffer pool hit ratios for all tablespaces and indexspaces referenced on your subsystem.

Plan Analyzer lets you logically group SQL sources to streamline EXPLAIN processing, with the ability to save, modify, and re-execute strategies at any time.

Bind Analyzer optimizes applications' build process by detecting when a significant SQL change has occurred, generating bind cards, and performing the bind. The previous DBRM is restored when a build error has occurred.

SYSVIEW for Db2 equips database administrators with the means to maximize Db2 system and application performance. With its extensive Insight Query Language, you can extend product reports and build custom exceptions to satisfy your monitoring needs. Integration with SYSVIEW Performance Management, the WatchTower Platform, and open-source solutions for dashboarding to provide overall z Systems monitoring capabilities.

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