Quest® Benchmark Factory® for Databases

DATABASE WORKLOAD AND SCALABILITY TESTING

Implementing new applications and troubleshooting production database performance issues when SLAs may be in place, are important responsibilities for today's DBAs. Unfortunately, they take time away from other critical tasks. What if you could reduce the amount of time you spend troubleshooting production database performance problems? What if you could predict, diagnose and resolve production performance scalability in a test environment?

Quest® Benchmark Factory® for Databases simulates users and transactions on the database, enabling your developers, database administrators and quality assurance teams to:

• Replay production or synthetic activity in test or development environments

• Easily perform load tests on SQL scripts, PL/SQL, T-SQL code and stored procedures under different concurrent user configurations

• Simulate real database application workloads using out-of-the-box industry-standard benchmarks

• Determine system throughput and find database breaking points

• Choose the appropriate cloud tier based on workload scalability and performance

Benchmark Factory is available for Oracle, SQL Server, IBM DB2, SAP, MySQL, PostgreSQL and supports other databases via ODBC connectivity.

Database workload generation — Take production or synthetic activity and replay it in test or development environments to simulate real-world production loads. This empowers you to understand future performance problems and do what-if analyses using actual transaction workloads.

Database code scalability testing — Perform load tests on SQL scripts, PL/SQL, T-SQL code and stored procedures under different concurrent user configurations to evaluate how
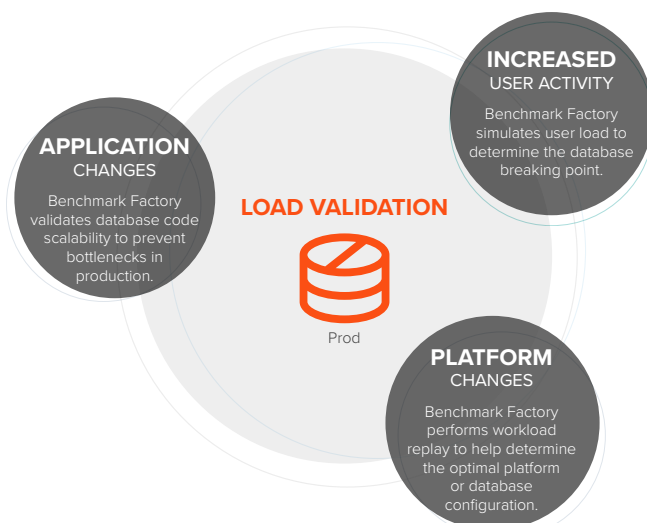
BENEFITS:

• Predict performance problems and intervene proactively

• Make changes with confidence using an easy, wizard-driven workflow

• Validate performance and scalability improvements through reportable metrics

• Capture workload subsets, as opposed to the entire database workload

• Execute automated performance testing as part of your DevOps CI/CD pipeline via REST API

• Help provide an independent assessment of appropriate cloud tier choice based on workload scalability and performance

APPLICATION CHANGES
Benchmark Factory validates database code scalability to prevent bottlenecks in production.

INCREASED USER ACTIVITY
Benchmark Factory simulates user load to determine the database breaking point.

LOAD VALIDATION

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PLATFORM CHANGES
Benchmark Factory performs workload replay to help determine the optimal platform or database configuration.

SYSTEM REQUIREMENTS

REPOSITORY

Oracle

SQL Server

MySQL

SQLite

SAP SQL Anywhere (Adaptive Server Anywhere)

MEMORY

512MB of RAM recommended

PLATFORM

1.0GHz x86 or x64 compatible CPU operating system

HARD DISK SPACE

120MB

OPERATING SYSTEM

Microsoft Windows Server 2012, 2016, 2019 and 2022

Microsoft Windows 10 and 11

Linux (BMF Agent only): Red Hat 7.x (64-bit), CentOs 7.x (64-bit), and Oracle Linux 7.x (64-bit). PostgreSQL testing only, Oracle, MySQL and Microsoft SQL Server

CLOUD DATABASE SERVICES

Oracle Database as a Service

AWS RDS platform for MSSQL, MySQL and Maria DB

Azure SQL Database

DATABASE CLIENT/ SERVER VERSIONS

MariaBD 10.x, 11.x

Oracle 10g R2, 11G, 12c, 18c, 19c and 21c

SQL Server 2012, 2014, 2016, 2017, 2019, and 2022

Azure SQL (limited support)

SAP ASE 15.5, 15.7, 16

IBM DB2 LUW: 9.x through 10.x, 11.xIBM DB2 z/OS 12, 13

MySQL 5.5, 8.0.36

PostgreSQL 9.5, 9.6, 10 EnterpriseDB Postgres 10, 11, 12, 13, 14, 15, and 16

Note: For a complete list of hardware and software requirements, please refer to the Release Notes.

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applications perform when deployed with real activity. Benchmark Factory also integrates with Quest's SQL Optimizer products to fix any code performance issues found prior to production deployment.

Industry-standard benchmark testing — Simulate real database application workloads using out-of-the-box industry-standard benchmarks (TPC-H, TPC-C, TPC-D, TPC-E, AS3AP and scalable hardware) to evaluate database scalability, test hardware/configurations and determine system throughput.

Virtual user and transaction load simulation — Propagate user and transaction workloads on the system under test to quantify application or server performance, determine system throughput and find database breaking points. Each user and transaction acts as

a separate, independent thread with its own connection and statistics, including run times and transactions per second.

Configurable Agents - Enable user and workload propagation via Agents which can be deployed on remote machines (Windows or Linux) to spread the load and reduce desktop console bottlenecks.

PRACTICAL APPLICATIONS

- **Evaluates Oracle Real Application Cluster (RAC) configurations to help determine the correct number of RAC nodes to deploy** — a major challenge when deploying RAC environments. By replaying real production activity, you can balance workload and evaluate scalability thresholds in already-implemented environments. Through integration with Spotlight® by Quest on RAC, you have detailed performance metrics. This solution minimizes implementation and maintenance costs of Oracle RAC environments.

- **Facilitates migration to Microsoft SQL Server and Oracle**. By replaying production workload from your previous SQL Server or Oracle version on a new version test database, you can determine user and transaction load capacity and processing speed before you deploy to production. Using Benchmark Factory with Quest® Toad for Oracle, SQL Server, DB2 and SAP Solutions, you can also tune database code for optimal performance to increase the success of migrations.

ABOUT QUEST

Quest creates software solutions that make the benefits of new technology real in an increasingly complex IT landscape. From database and systems management, to Active Directory and Microsoft 365 migration and management, and cybersecurity resilience, Quest helps customers solve their next IT challenge now. Quest Software. Where next meets now

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