

PROGRESS® DATADIRECT® DATABASE DRIVERS PERFORMANCE ADVANTAGES

DATA SHEET

FEATURES:

- ✓ Ensure optimum usage of all resources—infrastructure, hardware and software
- ✓ Maximize existing capacity
- ✓ Eliminate bottlenecks

BENEFITS:

- ✓ Increased throughput
- ✓ Dramatic gains in application performance
- ✓ Increased customer satisfaction

Doing More with What You Have

For many application developers, processing capacity is a limiting factor, especially when onboarding new user groups or projects. In these types of scenarios, balancing the risks of application performance degradation (and user dissatisfaction) with the risks of inflated IT infrastructure costs, are an ongoing concern that consumes valuable time, resources, and money.

**SCALE QUICKLY AND INCREASE
PERFORMANCE NOT COST.**

The Answer – Progress DataDirect

Unlike alternative database drivers, Progress DataDirect enables applications to make optimal use of available resources thereby increasing existing processing capacity and enhancing architectural elasticity. As a result, they easily onboard new user groups or projects, and assimilate volume processing spikes during peak usage. This means they can minimize downstream infrastructure and hardware investments.

Database drivers and data providers are integral parts of database middleware, but they do not work in isolation. Instead, they are part of a multi-layered architecture, working in concert with a variety of other infrastructure components.

Progress DataDirect drivers and data providers optimize the usage of key infrastructure components such as runtime environments, operating systems, network protocols as well as hardware components such as memory and CPU.

This optimization enables applications to scale quickly and increase performance without inflating infrastructure and hardware costs.

How Connectivity Impacts Performance

DataDirect connectivity consistently outperforms competitive drivers in throughput, CPU efficiency and memory footprint. This results in:

- Faster response time
- Greater application scalability
- Fewer hardware requirements to support applications

Database connectivity influences application performance on many levels by impacting the amount of disk I/O, network I/O, CPU efficiency and memory usage. In a well-tuned application, up to 90% of data access time is spent in the connectivity layer. Yet data connectivity is one of the most overlooked areas when it comes to optimizing application performance.

In fact, many application performance issues turn out to be problems or bottlenecks caused by a poor connector. Very often, the same application could support more users with the same hardware resources or return results faster simply by using a high-performance connector.

DataDirect Performance Features

DataDirect connectivity is optimized for the efficient use of CPU and memory resources while optimizing throughput. Our features and implementations are rigorously tested and optimized for performance and scalability. State-of-the-art features deliver performance without requiring application code changes.

Superior Architecture Design

- Wire Protocol Architecture: Communicating directly over TCP/IP without client libraries results in better performance while using fewer CPU and memory resources
- Network Wire Management: Optimizing data across the network by limiting the number of network roundtrips
- Socket Management: Efficiently managing wire contention while handling multiple simultaneous database connections

Efficient Resource Management

- Connection Management: Configurable capabilities to pool and manage connections for better performance and scalability
- Statement Pooling: Allocation of statements to a pool for faster execution and reuse
- Load Balancing: Workload distribution so that no one database server is overwhelmed with connection requests

Large Operation and Conversion Optimization

- Bulk Load: Quickly add high volumes of data to your database, bypassing the data parsing and small packets that normally slow day bulk operations
- Batching and Throughput Optimization: Efficient batch management to reduce network I/O and database workload while boosting throughput
- Data Conversion: Minimize time spent in copying and converting data, while ensuring correct handling of DBMS-specific and platform-specific data types

Competitive Testing Results

When tested against a driver from a large database manufacturer, DataDirect delivered performance gains of 400% while operating with a 60% increase in efficiency. If not tuned for optimal usage, key infrastructure components such as runtime environments, operating systems, network protocols as well as hardware components such as memory and CPU quickly become limiting factors for application performance.

Via robust performance tuning features that optimize resource usage, maximize existing capacity and eliminate bottlenecks, DataDirect empowers application developers with increased throughput and dramatic improvements in application performance.

In large virtualized environments, DataDirect demonstrates additional value; giving application architects the power to both achieve the cost reduction targets of virtualization while ensuring uninterrupted performance for their enterprise.

When it comes to ensuring application performance, scalability and reliability, application developers must look closely at the negative impacts of inferior data access products. Inefficient data access products consume available processing capacity at an alarming rate. And with shrinking capacity, application developers are faced with a sobering choice—sacrifice performance or scarce budget dollars.

Duration	Connect	Competition	Comparison	Comparison Notes
100 Iterations	265	1313	395.50%	As more queries run, DataDirect drivers become more efficient at an increasing rate, meaning more transactions on the same hardware – by changing only the driver.
CPU Seconds				
100 Iterations	0.203	0.531	-61.80%	60% less resource requirements ensures maximized capacity and performance gains in highly virtualized environments. The more efficient DataDirect driver provides more elasticity for peak usage
Throughput (Numbers of Rows/Second)				
100 Seconds	251,731/ sec	39,770	533.00%	Regardless of the amount of time the tests were run, the Progress DataDirect driver maintained more than a 5x throughput advantage over the competition.

Maximize Existing Resources

Constantly increasing expenditures on infrastructure and hardware assets is an ongoing challenge. DataDirect solves this problem by ensuring optimized usage of all available resources, thereby eliminating performance and scalability concerns and enabling application developers to focus their resources on delivering greater application functionality.



To learn more about how DataDirect can help your organization optimize existing resources, visit progress.com/datadirect-connectors or call 1-800-876-3101

About Progress DataDirect

Progress® DataDirect® delivers powerful data connectivity for applications running on premise or in the cloud. Get connected to the vast data landscape using a single standard interface with SQL or REST. DataDirect connectivity solutions support the full range of relational, cloud, NoSQL and big data sources across trusted industry standards, including ODBC, JDBC, ADO.NET and OData (REST).

Learn more at www.progress.com/datadirect-connectors

About Progress

Progress (NASDAQ: PRGS) offers the leading platform for developing and deploying mission-critical business applications. Progress empowers enterprises and ISVs to build and deliver cognitive-first applications that harness big data to derive business insights and competitive advantage. Progress offers leading technologies for easily building powerful user interfaces across any type of device, a reliable, scalable and secure backend platform to deploy modern applications, leading data connectivity to all sources, and award-winning predictive analytics that brings the power of machine learning to any organization. Over 1,700 independent software vendors, 80,000 enterprise customers, and 2 million developers rely on Progress to power their applications.

Learn about Progress at www.progress.com or +1-800-477-6473.

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Rev 2017/09 | 170908-0080

