mertech

BTR2SQL

Connecting Btrieve and Pervasive Applications to
Modern SQL Databases

Introduction

The Internet revolution has underscored the importance of making data available reliably, at high speeds, to an ever-growing user base. Corporations continue consolidating their data into a single, enterprise-wide databases so they can easily extract and manipulate information about their customers, products, and market. These databases allow customers and staff to update and retrieve information at the same time, from any location. The new, data-intensive demands of today's businesses require a database server that's robust, scalable, provides excellent response time, has great disaster recovery features, and above all, provides excellent security features and guaranteed 24/7 availability.

Relational, Structured Query Language (SQL) databases, from companies like Oracle, Microsoft, IBM, and others, meet those criteria. These databases' features, and their owners' marketing might, have made them the standard of the business application market. Relational databases are now the heart of any reasonably sized IT infrastructure.

For companies that use or develop applications written around transactional Btrieve or Pervasive.SQL engines, moving to SQL can present significant challenges. Typically, these companies must either rewrite their entire application to support relational databases or create a new application from scratch. Both solutions are costly and time-intensive, preventing many companies from making the leap.

Mertech's Solution

Mertech offers a flexible, cost-efficient third option. BTR2SQL allows developers to deploy Btrieve-based applications alongside a SQL backend, without recompiling or rewriting their code. Using BTR2SQL's easy migration tools, developers can quickly convert applications working exclusively with Btrieve or Pervasive.SQL engines to store and retrieve data using a SQL database.

In the following pages, we'll explain in greater detail how BTR2SQL works.

The Case for Relational Databases

The relational model of data storage and retrieval has proven superior for handling large amounts of data and turning it into useful information. The reason for that superiority is Structured Query Language (SQL). This relatively simple language allows complex data manipulation using only a few simple commands.

SQL's superiority and simplicity, as well as the standardization of the SQL language, has led almost all major software providers to support SQL-based backends, either through Open Database Connectivity (ODBC) or native programming interfaces. Companies that switch to SQL databases get not only a more robust, efficient enterprise-wide data solution, but also access to a variety of tools and applications that work seamlessly with these databases.

The Dilemma for Enterprises and Developers

Enterprises

Corporations who have their data scattered over disparate databases often face difficulties using new, crucial business analysis and reporting tools. To meet the stringent demands that data consolidation places on database servers, corporate database application users want the power, scalability, and reliability that industry-leading relational database engines offer.

In many cases, companies might already be using a SQL database alongside newer applications but still have some applications that use Btrieve and Pervasive.SQL engines. This lack of standardization often creates integration issues for IT departments. You can modify your applications to support a single corporate database standard, but this option often proves time-consuming and expensive.

In an effort to quickly consolidate their data, companies might be willing to pull the plug on their existing applications and opt for an off-the-shelf solution that works with mainstream database engines. But adopting a new

application requires much more than just buying and installing a piece of software. IT departments must implement the new product, test it, roll it out to select users, test it again, answer users' questions, and finally, deploy the new software. All these tasks cost time, manpower, and productivity.

Developers

Developers face two primary challenges as the market moves toward SQL-based applications. First, their established customers often want the ability to run their applications on a mainstream database server. Second, these developers must be able to attract new customers. Since 90% of the customers buying database servers now choose a SQL-based solution, it's imperative that application developers looking to attract new customers support SQL.

These hurdles have left developers using Btrieve and Pervasive.SQL with one option, until now: roll up their sleeves and learn SQL, potentially re-writing thousands of lines of code to accommodate relational databases.

How BTR2SQL Solves the Dilemma

Recognizing enterprises' demand for SQL-based relational databases, and the hurdles that developers supporting transactional engines must overcome to work with industry-leading databases, Mertech created BTR2SQL to:

- Alleviate the costs of migrating applications from existing transactional data sources to SQL-based relational databases.
- Provide developers with a cost-effective, efficient, and platform-independent solution for using their existing apps with SQL-based relational databases.
- Create an opportunity for developers to offer existing applications alongside a SQL backend immediately.
- Accomplish all of the above without compromising applications' speed or stability.

To accomplish these objectives, the BTR2SQL database driver translates calls to the Btrieve/Pervasive.SQL transactional API into SQL statements that work with a target SQL backend. Our database driver replaces the existing Btrieve Dynamic Link Libraries and relays application commands to the SQL database as optimized, efficient SQL statements.

This solution provides both corporate users and developers with the most

cost-effective, efficient method of connecting to SQL databases. In addition, developers can use BTR2SQL to make their applications ' database independent' - they can deploy the same application using Btrieve engines, Pervasive.SQL engines, or a SQL backend, without modifying their code.

How BTR2SQL Works

BTR2SQL includes both a GUI migration tool and high-performance database connectivity drivers. Btrieve/Pervasive Version 7 and above are supported.

The GUI migration tool is a standard Windows application that allows you to easily migrate your existing Btrieve file structures and data to a SQL backend, creating the required tables and indexes.

The database connectivity drivers work with your Btrieve/Pervasive runtime, handling all client/server connections and database operations.
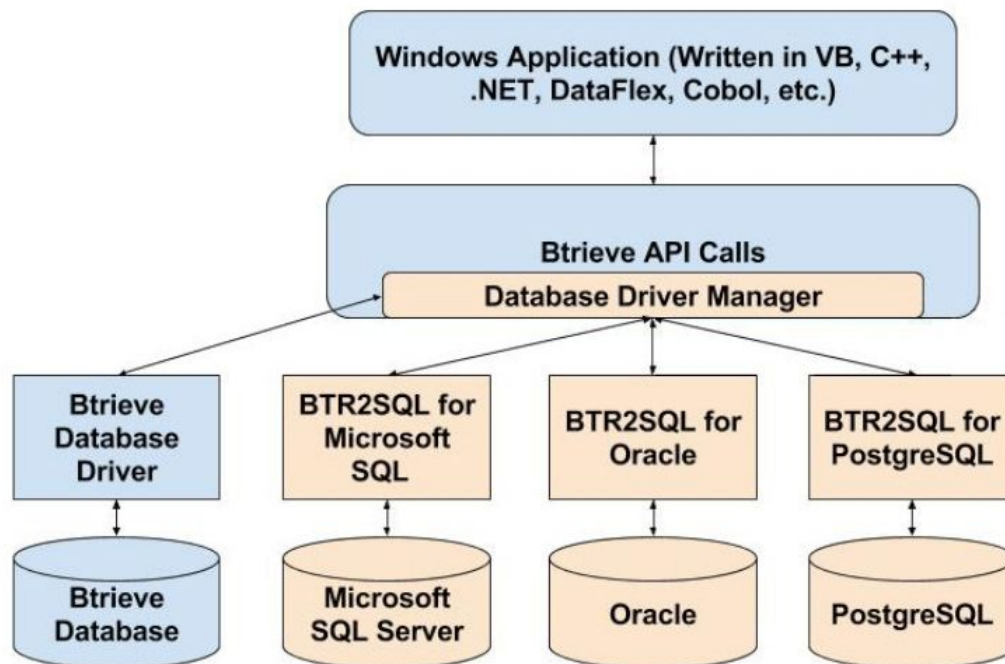
BTR2SQL for Microsoft SQL Server

BTR2SQL for Microsoft SQL Server uses an Object Linking and Embedding Database programming interface to communicate with and access a Microsoft SQL Server database. This direct connection does not require Open Database Connectivity drivers or Data Source Name entries. BTR2SQL supports Microsoft SQL Server 2008 and higher (including Azure).

BTR2SQL for Oracle

BTR2SQL for Oracle uses the Oracle Call Interface (OCI) to communicate with and access an Oracle database. This direct connection uses Oracle's network interface, SQL*Net. BTR2SQL supports Oracle version 10g and higher.

BTR2SQL for PostgreSQL

BTR2SQL for PostgreSQL uses the PostgreSQL C programming interface to communicate with and access a PostgreSQL database. This direct connection does not require Open Database Connectivity drivers or Data Source Name entries. BTR2SQL supports PostgreSQL version 9.1 and higher.

The Benefits of BTR2SQL

BTR2SQL provides a number of critical benefits for both developers and enterprises making the move to SQL.

Developer Benefits

- **Cuts down your implementation time**: BTR2SQL lets you run your application against SQL-based relational databases immediately.
- **Allows you to continue programming in a familiar environment:** Because BTR2SQL doesn't require source code changes, you can keep programming in Btrieve while deploying on multiple databases.
- **Opens doors to new markets**: BTR2SQL allows you to continue supporting existing customers on Btrieve while offering SQL support to those who need it.
- **Maintains your application's speed and reliability:** Every developer is concerned about their application's speed and efficiency. BTR2SQL optimizes Btrieve calls to work as effectively as possible with a SQL backend.

Enterprise Benefits

- **Easy migration**: Because BTR2SQL allows Btrieve-based applications to work alongside both SQL-based relational databases and Btrieve databases concurrently, your customers and employees will never be disconnected from your data during the migration.
- **Corporate-wide data consolidation**: The scalability that SQL-based

relational databases provide allows you to consolidate data from disparate Btrieve files into a single, corporate-wide database.

- **Faster reporting and application integration:** BTR2SQL allows you to use Crystal Reports and other business analysis tools that require SQL-based relational databases.
- **Zero retraining costs:** Because you can continue using your existing applications as is, BTR2SQL mitigates the retraining costs normally incurred with a move to SQL.

About Mertech

Over 9,000 companies on five continents have saved millions of dollars using Mertech's data migration tools and data connectivity drivers since 1997. If you'd like to know more about our products, please visit our website, mertechdata.com, or contact us at:

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