Progress® DataDirect®

Provide Real-Time Data To Financial Applications

DATA SHEET

Introduction

Companies typically build numerous internal applications and complex APIs for enterprise data access. These APIs are often engineered for application developers and based on protocols such as REST or SOAP with payloads in XML or JSON.

However, enterprise data teams need to access this data for analytics, which requires standard query capabilities and the ability to surface metadata. As enterprises adopt new analytical and data management tools, a SQL access layer for this data becomes imperative. Many industries such as financial services, healthcare and technology rely on Progress® DataDirect® OpenAccess™ SDK to build a custom ODBC, JDBC, ADO.NET or OLE DB layer on top of their internal APIs and hosted multi-tenant databases. **(Figure 1)**

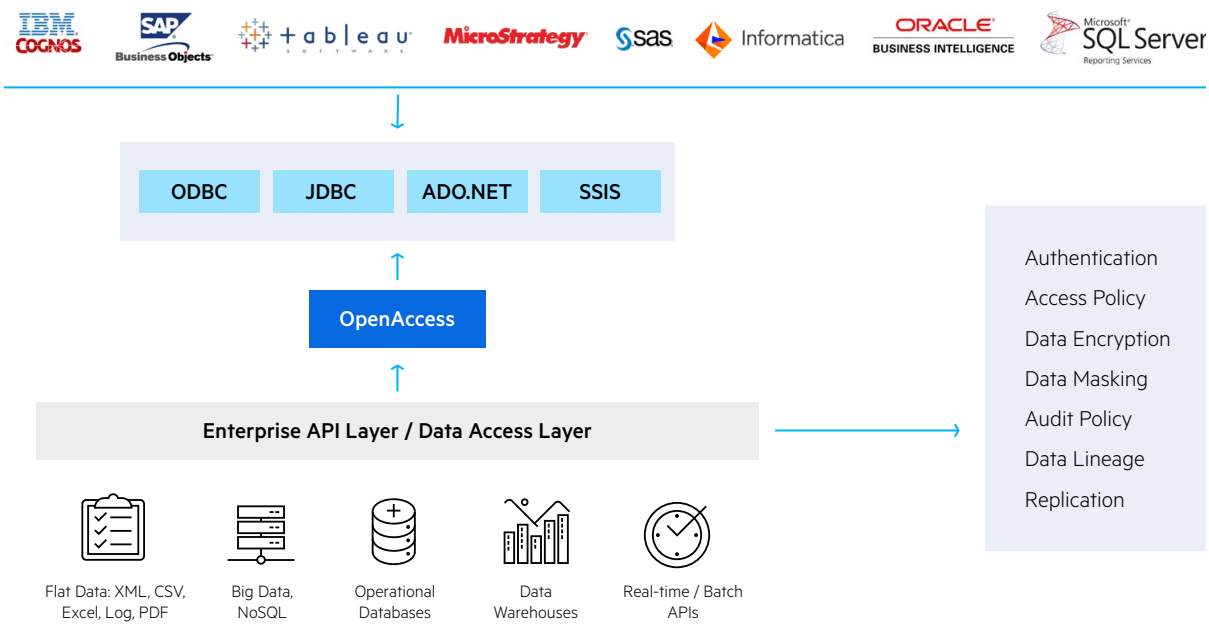

Figure 1: ODBC / JDBC Opens Up Access to Financial Application's Data

Features Of An Ideal Solution For Opening Up Your Platform

An ideal solution for opening up your platform to many applications requires support for ODBC and/or JDBC with the following features:

1. **Standards-based Connectivity –** Provides real-time access to your application platform from popular off-the-shelf commercial tools used by enterprises worldwide.

2. **REST API –** Consume your REST API through standard ODBC/JDBC OpenAccess connectors.

3. **Powerful SQL Engine –** Tools that connect through ODBC or JDBC issue SQL queries. An enterprise-quality SQL engine is a must to allow complex queries to be efficiently executed in cooperation with your data engine.

4. **Flexibility –** Work with site-specific implementation of the system. This means the tables and columns displayed to the user are based on the current meta-data at the site.

5. **Secure –** Ensure data security with numerous advanced authentication choices including Kerberos, Active Directory, Proxy Authentication and SSL/TLS encryption.

6. **Platform Independence –** Allows the query processing to occur on any platform including Windows, Linux and Unix, and allows client applications to run on any of these platforms. Use C, C++, Java or ADO.NET for integration with your existing API.

7. **Quick Time To Market –** Quickly get a functional driver out to users based on proven technology.

How To Quickly Enable Universal Access To Your Financial Data

Progress® DataDirect® OpenAccess™ SDK provides the framework and pre-built components to quickly allow one or more data source (s) to be exposed as a single logical data source that behaves like a SQL compliant RDBMS database with standardized APIs, including ODBC, OLE DB, ADO.NET, JDBC, and REST.

The OpenAccess components provide the ODBC, JDBC, OLE DB, or .NET APIs, SQL parsing, distributed query processing, aggregation, and a client/server protocol (if required). These components interact with the Interface Provider code that is implemented for a specific data source. The Interface Provider code implements the schema management, security, and the execution of the query against the data source. **(Figure 2)**

The driver developed using the OpenAccess SDK can enforce all the business rules, data conversions, security, and data configurations supported by your system.

With OpenAccess SDK, the amount of custom code required is minimal. OpenAccess handles all the client API related issues. The custom code, which we refer to as the Interface Provider (IP), consists of the implementation of a data access module and a schema management module. The schema manager module is responsible for using your meta-data to expose a schema. The data access layer is responsible for efficiently retrieving the required rows from your backend based on conditions in the query.

The OpenAccess SQL engine supplies the required information and flexibility for you to optimize this processing.

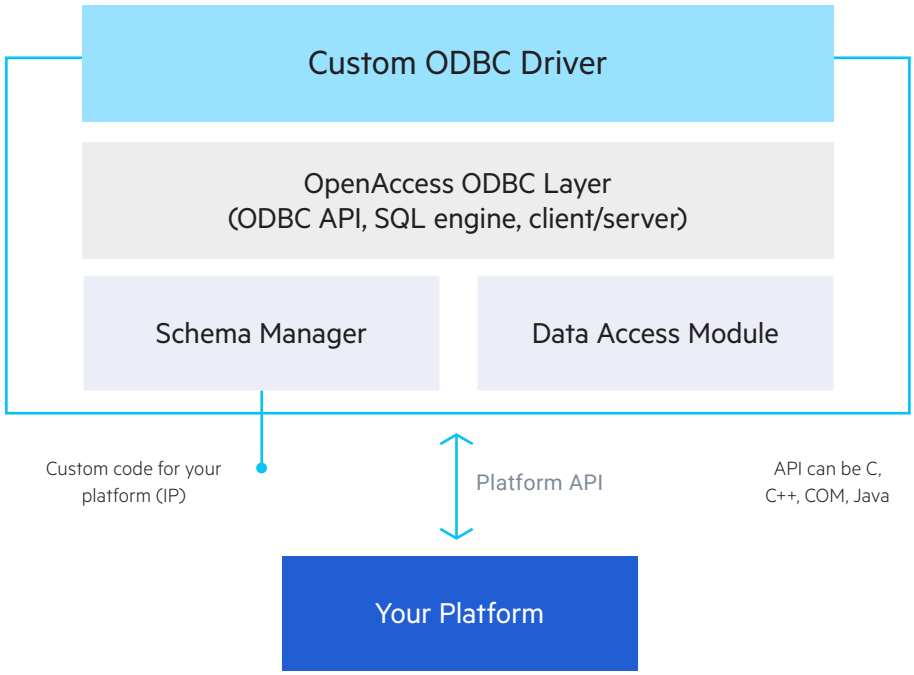

Figure 2: Architecture for Custom ODBC Driver Implementation

Your Development Effort

1. **Design and code the schema manager (3 days)**
2. **Implement the data access module as required (10 days)**
3. **Do your QA (5 days)**
4. **Package up for distribution (2 days)**

Expected time of completion: **20 person days**
Expected time for working prototype: **5 days**

Success Stories

Companies like Sunguard/FIS Global, Princeton Financial Systems (a State Street Company), Asset Control International BV and DST International and many others use OpenAccess to open up their data sources to Windows, UNIX, and Java applications.

FAQS

Why can't I just connect my application directly to a database using the vendor-supplied ODBC or JDBC driver, instead of using the SDK to create a driver for my platform API?

This is one approach many customers start with. It leads to many limitations. One limitation is that it does not make use of the business layer code your other modules use for data access. Presumably this layer was developed to isolate the application layer from the data storage and management layer and it's the layer that is kept up to date. Applications that make direct access to the underlying data store will break if the underlying schema changes.

Another limitation is that the schema used to store the application data may be very complex and thus require clients to use very complex queries and in many cases a set of queries to get one answer.

For hosted applications, other issues like authentication and routing to the customer specific database need to be handled.

My API for accessing the data makes extensive use of objects and object hierarchies. Can I implement efficient SQL processing over it?

Yes, OpenAccess has features such as join push-down,
table expression push-down, user defined scalar functions, and many more that allow efficient implementation of SQL processing over object oriented APIs.

My application is written in Java. Can I implement an ODBC driver using Java?

Yes, OpenAccess allows you to implement the IP code completely in Java. ODBC is a great way to connect the Java world to the Windows world.

My application is hosted for Web access. How would I ODBC enable it?
The client/server version of OpenAccess with the SSL option enables hosted Web applications to expose data through ODBC and/or JDBC in order to give end users flexible and secure access to their data for additional reporting and analysis.

Conclusion

This use case provides an overview and details of using OpenAccess to implement a custom ODBC, JDBC, OLE DB, or .NET driver for your platform, allowing commercial applications like Microsoft Access, Crystal Reports, Brio and any other ODBC, JDBC, OLE DB, or ADO.NET compliant application to access data from your data source. All supported standards are based on consuming the IP that is developed to adapt your data source to OpenAccess. So if you use OpenAccess to implement ODBC, it's just a matter of licensing to get OLE DB or JDBC – no code changes. OpenAccess enables universal access to your data.

To learn more about how DataDirect can help your organization, visit progress.com/datadirect or call 1-800-477-6473

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 1700 independent software vendors, 80,000 enterprise customers, and 2 million developers rely on Progress to power their applications.

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