



Progress.
OpenEdge

Sonic Database Service™

Direct RDBMS connectivity to Sonic ESB delivers performance with simplicity.

HIGHLIGHTS

Service interface to database queries, updates and stored procedures

Out-of-the box support for OpenEdge, Oracle, SQL Server, Informix and Sybase

Integrates any JDBC driver and its associated data source

Support for client load-balancing, connection failover and connection retry

Use Dynamic SQL or populate SQL query parameters based on XML message parameters

Maps database resultset to XML

Intuitive database operations editor to create, test and debug database service operations

Service management from anywhere on the bus

KEY BENEFITS

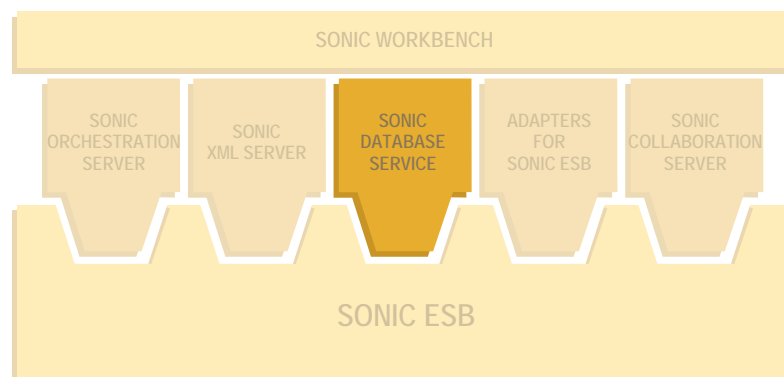
Simplifies incorporation of relational data into SOA without coding

Ability to customize database operations at runtime

Increased scalability and reliability of database services made available on ESB

Corporations have tens to hundreds and thousands of data source instances distributed across the enterprises. Typically these data sources are relational databases such as OpenEdge® RDBMS, Oracle, DB2, SQL Server, Sybase or Informix, and desktop applications such as Microsoft Excel. As companies move to standardize on XML and achieve greater reuse of existing data assets through the implementation of service-oriented architectures, the challenge is to easily convert relational data resultsets into XML documents. Without a service framework for database access and management, significant time is spent coding XML transformations in languages such as C++, Java and JavaScript, and configuring the associated connection settings, management functions and service interactions. What is needed is a more productive and natural way for a database to be accessed and reused as a service by other services throughout the enterprise.

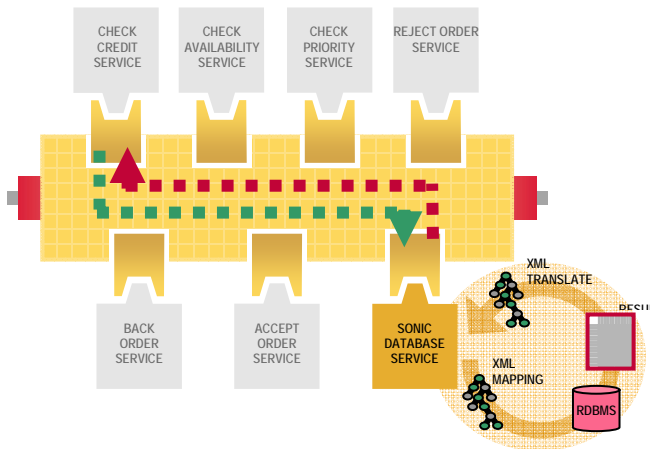
Progress® Sonic Database Service™ is a native ESB service that enables ESB applications including OpenEdge applications to access relational data stored in JDBC-enabled data sources from any location on the enterprise service bus. The Database Service enables a Sonic ESB application to execute SQL statements and stored procedures and transforms the resultset into an XML document, thereby eliminating the associated coding required.



PROGRESS
SOFTWARE

SIMPLIFIED INTEROPERABILITY OF ENTERPRISE DATA SOURCES

With Sonic Database Service, partners and enterprise IT personnel can easily enable access to information stored in the OpenEdge RDBMS—and they can provide OpenEdge applications with access to information stored in third-party RDBMS environments. Sonic Database Service simplifies the incorporation of relational data into SOA applications without coding. It allows you to customize database operations at runtime and provides a service interface to database queries, updates, and stored procedures. It leverages Sonic ESB, which provides a centrally managed, yet globally deployable foundation for an enterprise-wide SOA by integrating applications as standards-based, event-driven services.



Proven Drivers with Robust JDBC 3.0 Implementation

Sonic Database Service embeds DataDirect Connect for JDBC drivers, the fastest and most comprehensive set of Type 4 JDBC drivers. With support for all the major databases, developers can standardize on one driver set and do not have to deal with the frustrations of working with different drivers of varying quality and multiple support organizations. The drivers are built on a common architecture and all have similar implementations of the JDBC standard.

Out-of-the-box support is provided for the leading databases including:

- Progress OpenEdge 10.1 RDBMS
- Oracle 8i, Oracle 9i (R1-R2), Oracle 10g
- IBM DB2 UDB 7.x and 8.x
- Microsoft SQL Server 7; 2000, 2005 and 2000 Enterprise Edition (64 bit)
- Sybase Adaptive Server 11.5 and higher; Sybase Adaptive Server Enterprise 12.0, 12.5, 12.5.1
- Informix Dynamic Server 9.2, 9.3 and 9.4
- Integrates any JDBC driver and its associated data sources, e.g. Microsoft Excel.

Rapid Development, Test and Debug

The optional Progress Sonic Workbench™ provides an intuitive database operation editor to create, test and debug SQL queries, map XML documents to SQL query parameters and map the resultset to XML documents without the need for custom coding. Creation of SQL statements is facilitated through statement auto-completion and support for the drag-and-drop of table elements from the database tree view. Once SQL statements have been defined, test scenarios can be created to validate and debug input parameters, the SQL resultset and output transformations, saving significant development vs. debugging database interactions manually.

The database operation editor and Sonic uniform service invocation framework provide a common methodology for programming access to all relational data sources enterprise-wide.

Input and Output Mapping Parameterization

Database Service automates the steps to extract and translate XML data from an incoming message, call OpenEdge RDBMS or a third-party database, and translate and insert the resultset into an XML message. In a Database Service application, the XML documents and values used in the ESB process are mapped into database operation input parameters, or mapped using XSLT transformations or XPath expressions, so database queries, updates or stored procedures can be customized at runtime. Similarly, the resultset returned by a database operation is mapped back into output variables for the ESB process with support for applying XPath expressions or XSLT transformations. Different parameter values, and/or XPath and XSLT transformations, can be supplied each time a statement is executed, increasing the reuse of SQL statements.

By using standard SQL and configuring input/output parameters vs. coding variables and transformations using third-generation languages, the development to deployment cycle is reduced, there is less code to maintain, OpenEdge or third-party database portability is improved.

Additionally, with Dynamic SQL support, queries generated at runtime by the sending application can be directly executed by the Database Service.

Load Balancing, Failover, Pooling and Retry

Sonic Database Service drivers are compliant with the JDBC 3.0 specification, and advanced functionality is provided to increase the scalability and reliability of database operations, including client load balancing, connection pooling, connection failover and connection retry.

Client load balancing helps distribute new connections, and connection pooling listener threads can be configured so that no single server is overwhelmed with connection requests. Connection failover allows an application to connect to an alternate, or backup, database server if the primary database server is unavailable, for example, because of hardware failure or traffic overload. And with connection retry, the JDBC driver will retry connections from a list of database servers (primary and alternate) until a successful connection is established. Connection timeout and reconnect parameters for Sonic Database Service can be set to optimize performance.

Sonic Database Service can be configured to execute upon receipt of a message or at a scheduled time using a polling query, providing flexibility in the choice of database interactions.

Centralized Management of Database Services

Through the Sonic Management Console, all database services can be configured, started, stopped and monitored—from a central location. The Sonic Directory Service provides a central repository for the input/output mapping logic and database operations. Through this repository, it is easy to deploy applications, replicate to other locations and provide continuous availability should there be a single directory service failure.

Integrating Database Services Across the Enterprise

Relational databases distributed throughout the enterprise store and manage critical information, and organizations need more efficient ways to access RDBMS environments without requiring extensive, customized programming efforts.

The Foundation of the Sonic Family of Products

You can further enhance OpenEdge integrations with the Sonic ESB product family. Built on the foundation of SonicMQ, Sonic enterprise service bus (ESB) simplifies the integration and flexible reuse of business components using a standards-based service-oriented architecture (SOA). Additional capabilities are made available in Sonic Workbench™, Sonic Orchestration Server™ and Sonic XML Server™ .

For additional information on Sonic Database Service and the OpenEdge platform support, please contact your local Progress Software sales representative or visit www.progress.com.

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