ORACLE DATA SERVICE INTEGRATOR

KEY FEATURES AND BENEFITS

FEATURES

- Logical modeling that is powerful yet easy to use
- Native data access to relational, Web service, file-based, legacy, and packaged application datasources
- Intelligent query planner to optimize information service requests
- Rules-based security policies for data filtering and data element-level redaction
- Audit functionality that records who, what, and when for all information service usage
- Resilient and scalable server deployment

UNIQUE BENEFITS

- Realize best-in-class performance through optimized query and update plan generation across multiple sources.
- Gain real-time access to live operational data for queries and updates.
- Quickly develop data services and ad hoc queries over multiple sources without infrastructure changes or downtime.
- Improve developer productivity with declarative design.
- Reduce IT costs with support for various database vendors, Web service standards, and other sources.

Oracle Data Service Integrator allows companies to quickly develop and manage federated data services to access a single view of data across distributed sources. The solution is completely standards based and declarative; it allows you to reuse data services. Oracle Data Service Integrator is the only information-as-a-service technology that supports the creation of bidirectional (read and write) information services from multiple datasources. The information services approach improves agility by increasing data reuse and reducing data inconsistency errors. In addition, Oracle Data Service Integrator offers the breakthrough capability of graphically modeling both simple and complex updates to heterogeneous datasources by eliminating coding.

Executive Overview

Businesses are powered by information. When accurate, integrated, real-time information is delivered, organizations can make sound decisions. Organizations that aggregate information from datasources and deliver it as a service—via a service-oriented architecture (SOA)—are the ones that stay ahead of the competition.

Implementing a data services layer is the recommended way to take the first step toward SOA. A data services layer provides data mediation or abstraction between different data consumers and diverse sources. Data services are virtual, aggregated views of data built from sources across the enterprise. They simplify data access and updates and, once created, are highly reusable. This approach eliminates the need to build workflows or code Java by hand—making it possible to automate data service creation and maintenance. Other consumers of data services include business processes, business intelligence applications, master data management tools, portals, and Web 2.0 applications. Oracle Data Service Integrator is the industry-leading platform for delivering real-time, integrated, reusable information as a service, regardless of where the data is from.

The solution offers technology for the complete information service lifecycle: modeling, testing, deployment, and management. Oracle Data Service Integrator helps organizations achieve faster time to value, reduce costs, and increase business agility by simplifying data service management.
The Bidirectional Data Service Foundation

Oracle Data Service Integrator addresses the requirements for data services within an SOA environment. It offers automation for both read and write services; optimized composition of databases, Web services, and other sources; modeling and metadata management for data services; and policy-driven security and caching. Furthermore, Oracle Data Service Integrator offers fast path integration with Oracle Service Bus and integrates with Oracle Enterprise Repository. Each of the features discussed in the following subsections is critical to building and maintaining an enterprise-ready data services layer.

Easy-to-Use Modeling

In an SOA environment, a data model must be flexible enough to represent any complex entity and rich enough to provide information about data structure, relationships, and services to read or update. In the figure, the signature of a data service is illustrated in a diagram and can easily be shared with others in the enterprise for greater data consistency and reuse. Mappings and transformations can be designed in an easy-to-use GUI tool using a library of more than 200 functions. For complex mappings and transformations, architects and developers can bypass the GUI tool and use an XQuery source code editor to define or edit services. The editor provides real-time feedback about the correctness of a query, as well as other usability enhancing features.

Rich Connectivity

Oracle Data Service Integrator provides extreme flexibility to query diverse datasources, including structured and semistructured sources, relational sources, and Web services. It provides quick access to a range of datasources, including relational sources such as Oracle, Sybase, Microsoft SQL Server, Informix, and IBM DB2 and packaged applications such as Oracle, Oracle’s PeopleSoft and Siebel applications, SAP, custom applications, files, Web services, and XML-based sources.

Unparalleled Update and Transaction Management

Some applications or processes only need to read or access the data; however, others might require updates or that developers write to the original distributed sources. For the latter, Oracle Data Service Integrator provides a number of automated services to
handle datasource updates. This includes full create, retrieve, update, and delete capabilities; autogenerated SQL update statements; XQuery Scripting Extensions for stored procedures such as capabilities and concurrency management to ensure proper data integrity; and transactional updates to extended attribute-compliant datasources, including two-phase commit.

**Rich Connectivity Through Client APIs**
Oracle Data Service Integrator provides a variety of client APIs to satisfy all use cases. Data services can be accessed through the native Web service support or through the Java mediator API using the Service Data Object (SDO) 2.1 specification. Alternatively, Oracle Data Service Integrator provides a virtual relational database interface to those applications via Java Database Connectivity (JDBC) or Open Database Connectivity. Result sets can be streamed end to end from the datasources to the client application using the Java and JDBC interfaces.

To integrate with Oracle SOA Suite, Oracle Data Service Integrator provides fast path connectivity with Oracle Service Bus using a specialized transport that performs better than Simple Object Access Protocol (SOAP) Web services and propagates security credentials and a transaction context.

**Optimization**
Oracle Data Service Integrator offers a powerful declarative programming feature that lets data service architects and developers define the services they want and discern what data and services they are based on. It then determines the best algorithms for providing the desired services. The solution chooses the appropriate ordering of datasource accesses and orchestrates the underlying service calls. For relational database sources, it generates a set of appropriate SQL queries. It supports a rich set of algorithms for creating efficient SQL queries that delegate much of the query processing to the underlying relational database sources for overall system performance.

**Security**
Providing robust security over the data accessed and consumed is paramount for an enterprise network. Oracle Data Service Integrator provides both coarse-grained and fine-grained security. For coarse-grained security, it can protect resources such as data service functions. For fine-grained security, architects and application developers can specify which elements within the data service need to be protected or redacted based on security policies; for example, employees in credit approval would be allowed to access all customer data—including Social Security numbers—but no other roles would have visibility to those Social Security numbers. Oracle Data Service Integrator also supports data-driven security where access control policies are based on specific values of the data elements of a data service; for example, users granted the role of premium sales could be allowed to see customer orders greater than a specified value, but the general sales role would only be granted access to orders under that value.
Comprehensive Standards Support and Leadership

Oracle is a leader in developing and supporting industry standards. Oracle Data Service Integrator supports the platforms and standards outlined in the table below.

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<th>SUPPORTED PLATFORMS AND STANDARDS</th>
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| Interoperability and Security Standards | • SOAP 1.1, SOAP 1.2, WSDL 1.1  
• WS-Security 1.1: SOAP Message, Username Token Profile, X.509 Token Profile, WS-Policy 1.2  
• XML Schema 1.0, XQuery July 2004 Draft  
• SDO 2.1, JAX-RPC 1.1 |
| Platforms | • HP-UX (11i v2, 11i v3, Itanium)  
• Microsoft Windows XP, 2003 (x86)  
• Red Hat Enterprise Linux 4.0, 5.0 (x86)  
• Novell SUSE Linux 9, 10 (x86)  
• Sun Solaris (9, 10, SPARC)  
• IBM AIX 5.2, 5.3 |
| Databases | • Oracle (9.2.0.4, 10.1.03, 10.2)  
• IBM DB2 (8.2)  
• Microsoft SQL Server (7, 2000 SP3+, 2005)  
• Microsoft Access 2000  
• Sybase (12.5.03)  
• Informix IDS 9.2  
• MySQL 4.1.14, MySQL 5  
• Other JDBC-compliant databases |
| JDBC Driver Support for Reporting Tools | • JDBC Native: Crystal Reports XI  
• OpenLink Bridge: Oracle's Hyperion Interactive Reporting, Business Objects XI, Release 2, Microsoft Access 2000, Microsoft Excel 2000 |
| Browsers | • Microsoft Internet Explorer 6.0, 7.0  
• Mozilla Firefox 1.5, 2.0 |

Contact Us

For more information about Oracle Data Service Integrator, please visit oracle.com or call +1.800.ORACLE1 to speak to an Oracle representative.