



Oracle Transparent Gateway™ for Microsoft SQL Server

The Oracle Transparent Gateway for Microsoft SQL Server, Version 8.1.6 enables you to integrate data stored in SQL Server into your Oracle distributed environment. This version of the gateway works with Heterogeneous Services, a server integrated technology to provide superior performance and better throughput. It also takes advantage of all the enhancements that are introduced in the distributed feature of Oracle8i release 2 Server.

Data Integration Solutions

The demand to deliver corporate data to internal and external customers via the Internet is a major priority for the information system professional. The challenge is to quickly, efficiently, and economically deploy corporate data that may exist on many Oracle and non-Oracle systems through a single web application, providing the customer with a comprehensive view of the corporate data assets. A technical solution is required that allows the IS professional to easily publish the corporate data on the Internet, regardless of the non-Oracle system, operating system, or networking platform.

Oracle Transparent Gateways provide the flexibility, power, and scalability to transparently access many non-Oracle systems, from an Oracle environment. Web and application developers alike can focus their efforts on developing business solutions instead of trying to develop custom access solutions to non-Oracle systems.

As a result of the highly transparent nature of Oracle Transparent Gateways, access to both local and remote data is achieved using Oracle SQL and procedure call interfaces, even if the remote data is stored in multiple vendor's databases. This transparency eliminates the need for web and application developers to customize their applications to access data from different non-Oracle systems, thus decreasing development efforts and increasing the mobility of the application.

Beginning with Oracle8 release 8.0, the generic core of the Oracle Transparent Gateway is incorporated into the database as the *Heterogeneous Services* facility. Heterogeneous Services (HS) extend the Oracle SQL engine to recognize the SQL and procedural capabilities of the remote non-Oracle system and the mappings required to obtain necessary data dictionary information. Additionally, since Heterogeneous Services is integrated with the Oracle server, the transaction coordination of the server maintains the transaction coordination



between Oracle and the remote non-Oracle system, such as providing the two-phase commit protocol to ensure distributed transaction integrity, even for non-Oracle systems that do not natively expose prepare phase of the two-phase commit mechanism.

The capabilities, SQL mappings, datatype conversions, and interface to the remote non-Oracle system are contained in an Oracle Transparent Gateway. These gateways interact with Heterogeneous Services to provide the transparent connectivity between Oracle and non-Oracle systems. As your heterogeneous environment grows, you can add additional Oracle Transparent Gateways to connect to any number of additional vendors' non-Oracle systems.

For maximum performance and functionality, most of the Oracle Transparent Gateways use the native interfaces for popular and strategically critical non-Oracle systems.

Transparent Access to Data

The Oracle Transparent Gateway for Microsoft SQL Server increases your ability to easily access data by providing many levels of transparency:

- *Location transparency* - Users do not need to know the physical location of data, just the names of the tables to be accessed.
- *SQL transparency* - Automatic Oracle SQL translation into Microsoft SQL Server SQL.
- *Network and operating system transparency* - No special coding is required, even if the data resides on different systems.
- *Commit transparency* - Users do not need to know the origin of Commit as Oracle extends its transaction coordination to SQL Server.

Enhanced Functionality

The Oracle Transparent Gateway for Microsoft SQL Server, combined with an Oracle Server¹, provides sophisticated services -- without requiring a separate product to maintain information about the target databases:

- Provides distributed Join capabilities -- with a single SQL statement
- Ability to invoke SQL Server Stored Procedures through the gateway
- Automatically uses server integrated Heterogeneous Services technology to provide better performance
- Oracle Server caches the SQL Server metadata provided by the gateway
- Automatically converts SQL Server datatypes to Oracle datatypes
- Enhanced Pass Through Facilities through DBMS_HS_PASSTHROUGH package
- Enables easy relocation of data without requiring changes to your applications
- Provides better monitoring and administrative options with more data dictionary views and Distributed Access Manager.

Key Features

Hardware and Software Requirements

The Oracle Transparent Gateway for Microsoft SQL Server is supported on the Microsoft NT platform. The gateway currently supports the following configuration. Oracle strives to provide access to up to date SQL Server releases. For the most recent supported configuration information visit, <http://www.oracle.com/gateways>.

- Oracle8i Release 2 (8.1.6) or beyond residing on any Oracle supported platform.
- Platforms on which the gateway can run: NT 4.0
- SQL Server versions 6.5, 7.0 residing on any Microsoft SQL Server supported platform.

Configuration

- Easy Installation using Oracle Universal Installer
- The Microsoft SQL Server gateway, Microsoft SQL Server database, and Oracle Server may reside on different platforms
- The Microsoft SQL Server database may reside on any supported platform by
- using the Microsoft SQL Server networking software on both the gateway and target Microsoft SQL Server platforms
- Number of users limited only by the operating system and Microsoft SQL Server database user limits

Network Drivers

- Provides protocol support between client and gateway through any platform that supports Net8[®]
- Supports many additional client protocols through the use of the Oracle MultiProtocol Interchange[™]

SQL Language

- Uses ANSI-standard SQL
- Supports most Oracle Data DML, SQL extensions when accessing Microsoft SQL Server
- Supports enhanced DDL and DML with DBMS_HS_PASSTHROUGH

Datatype

- Performs automatic conversion between the Oracle Server and Microsoft SQL Server datatypes
- Supports Oracle Server datatypes including CHAR, NUMBER, RAW, and DATE
- Supports most Microsoft SQL Server datatypes such as BINARY, BIT, CHAR, DATETIME, DECIMAL, FLOAT, IMAGE, INTEGER, MONEY, NUMERIC, REAL, SMALLDATETIME, SMALLMONEY, SMALLINT, TEXT, TIMESTAMP, TINYINT, VARBINARY, VARCHAR

Security

- Enforces Microsoft SQL Server access authorization for remote logon
- Provides data encryption with Oracle's Secure Network Services[™]
- Supports Oracle's Advanced Network Option (ANO)

Key Features

Access Capabilities:

- Gateway accesses Microsoft SQL Server with its native interface.
- Provides read/write SQL access to Microsoft SQL Server data
- Supports distributed transactions such as multisite queries, distributed joins, remote updates with a single SQL statement
- Distributed transactions protected by the Oracle Universal Data Server two-phase commit protocol
- Allows your application to pass Microsoft SQL Server SQL statements to the Microsoft SQL Server database
- Executes stored procedures defined in Microsoft SQL Server databases
- Oracle translates most of the arithmetic, comparison, string and group functions to Microsoft SQL Server equivalents.

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Tools

- Supports a wide range of Oracle tools.
- Supports most third-party tools available for the Oracle Server

Easy Data Migration

- Allows data migration from Microsoft SQL Server to the Oracle Server with a single ANSI-standard SQL statement

¹ Oracle8i Release 2 or beyond is required

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This product is not yet generally available, and features and screen shots shown may not correspond exactly to the released product.

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