

July 1, 2005



Technical Bulletin

**Real-time seamless access
of the HP NonStop
SQL/MX database, SQL/MP database,
and ENSCRIBE file system
from an Oracle database**

Connectivity Options

Periscope Universal Database Access

Periscope implements Universal Database Access to any disparate data source that a driver has been configured for. Periscope allows the Oracle database full access to disparate data sources, just as if the data were already loaded within the Oracle database. Data remains distributed, but can be accessed real-time thru Oracle. Access is full function (ie. SELECT, INSERT, UPDATE, DELTE, COMMIT, ROLLBACK).

Periscope is installed into the Oracle database. Drivers for the disparate data source can be ODBC, JDBC, or of a custom type. JDBC drivers can be loaded directly into Oracle if the JDBC driver JAVA version matches the JVM version within the Oracle database. JDBC drivers can also be loaded into OC4J and accessed from Oracle as a web service. We use this method if the JDBC driver JAVA version does not match the Oracle JVM version.

Once Periscope has been installed into Oracle, we use the Periscope Admin tool to “virtualize” a disparate database into virtual Oracle tables. These Periscope driven tables appear as local Oracle tables, but are actually virtual connections into the disparate database source.

Once a disparate database has been virtualized within Oracle, it can be accessed thru normal Oracle functions with few restrictions.

When an application selects data from the Periscope/Oracle table, Oracle invokes Periscope. Periscope maps the IO request thru the appropriate driver back to the disparate data source to be executed. The result of the IO is returned to Periscope, which then transforms the data back into a normal Oracle view. All Periscope driven data accessed thru Oracle will appear as normal Oracle tables and will be completely transparent to the application.

While Periscope is complex, the actual overhead of Periscope against a virtualized table ranges anywhere from 10ms to 150ms for the actual SQL request. Since database access is typically performed against larger subsets of the database, actual overhead per record retrieved is typically insignificant.

Benefits

- NonStop databases and files become another real-time database source within Oracle and can now be accessed by any application that can connect to the Oracle database
- Oracle access is full function, supporting SELECT, INSERT, UPDATE, and DELETE
- Legacy Applications can continue to create and maintain mission critical data in the NonStop fault tolerant environment, while being shared across the enterprise from an Oracle database
- NonStop databases and files can be “joined” with other business data, and made available thru Oracle tables
- NonStop databases and files do not have to be replicated to Oracle, but can be accessed real-time out of the Oracle database.
- Data is transformed into an Oracle view, so that Oracle applications can work with consistent data types.
- Reports can be generated out of Oracle that contain a real-time snapshot of all data across the enterprise

Connectivity Options

There are five connectivity methods supported for real-time connections to the various HP NonStop databases and file systems. Depending on the business requirements and hardware environment, some or all of the methods may be used.

- 1. Enscribe for all platforms
(using Cornerstone ODBC driver)**
- 2. SQL/MP for all platforms
(using Cornerstone ODBC driver)**
- 3. SQL/MP for all platforms
(using HP ODBC driver)**
- 4. SQL/MP for S-series and Integrity platforms
(using HP JDBC driver)**
- 5. SQL/MX for S-series and Integrity platforms
(using HP JDBC driver)**

All drivers and components required for the selected connectivity approach come bundled within the Periscope product.

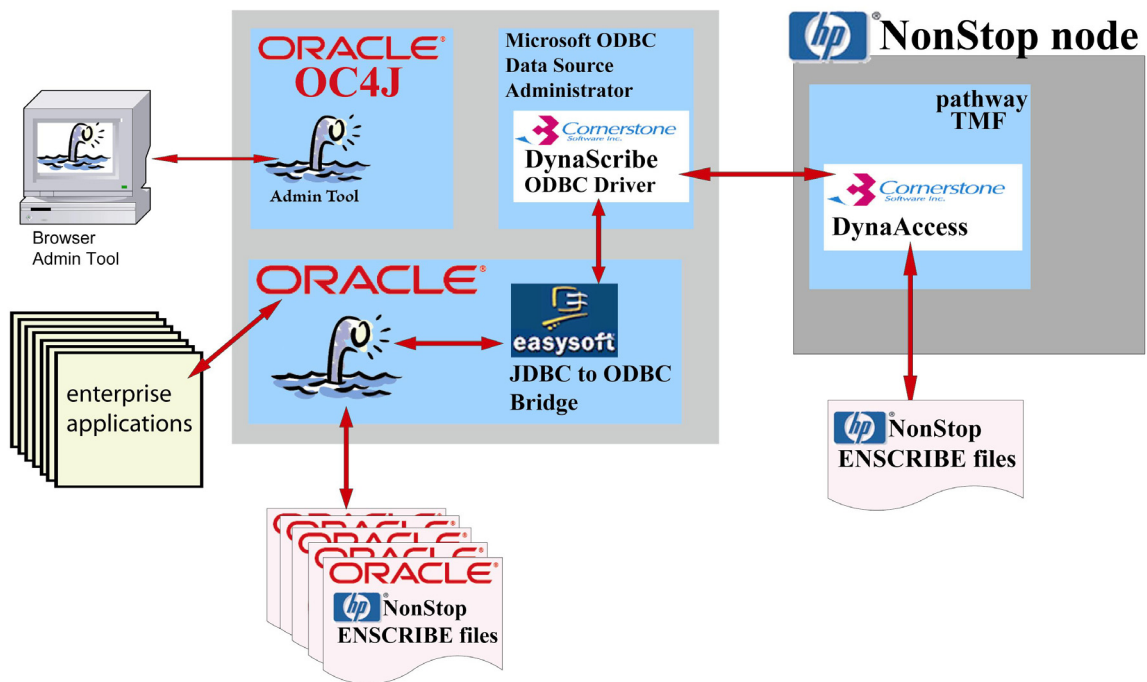
Enscribe (using Cornerstone driver)

- All HP NonStop platforms supported
- Connection supported using the Cornerstone ODBC driver
- Cornerstone drivers must be hosted within a Windows platform
- Pathway required
- Periscope can reside within any Oracle database but must connect thru a Windows platform



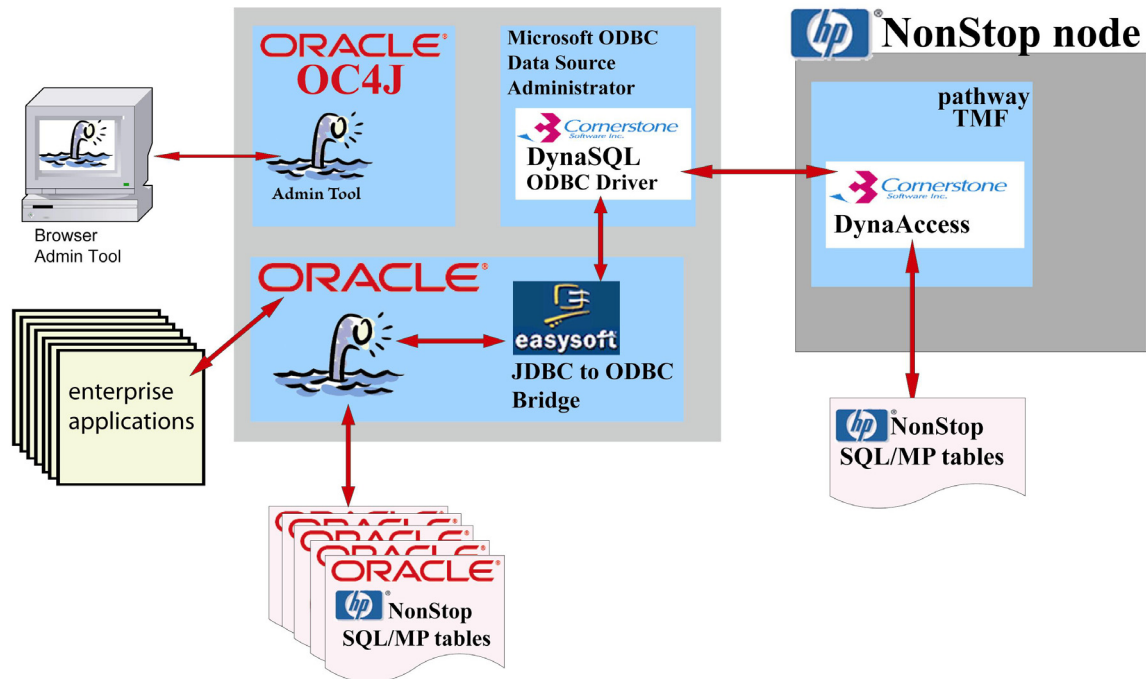
NonStop
Enscribe

using



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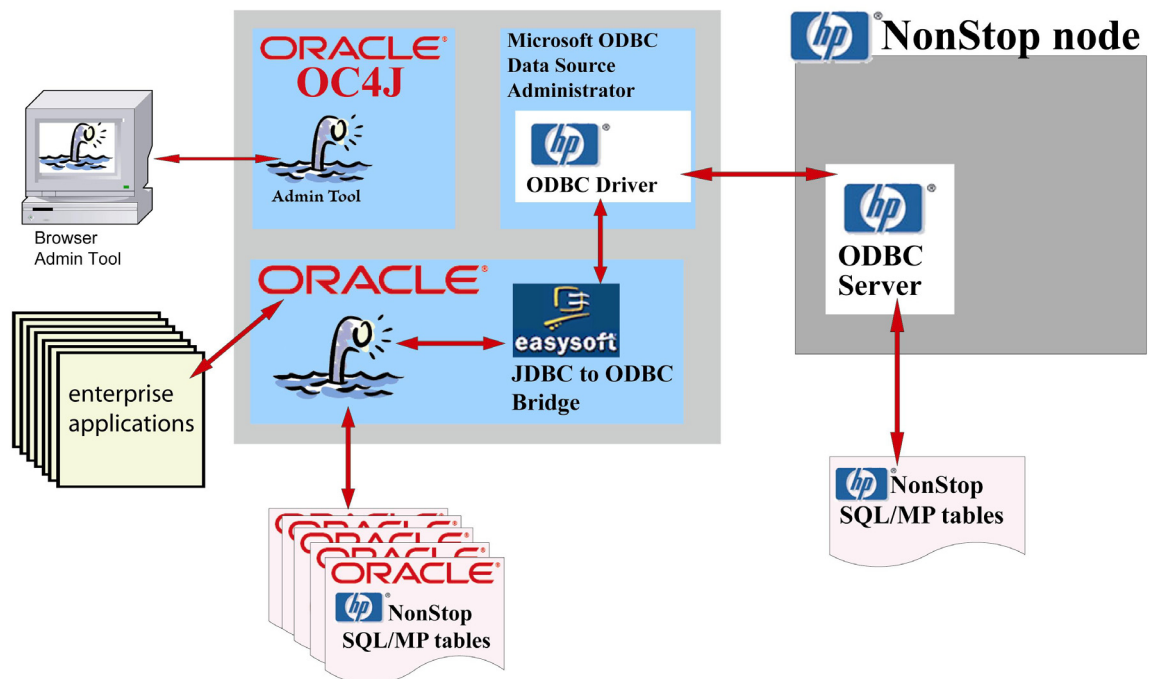


SQL/MP for all platforms (using HP ODBC driver)

- All HP NonStop platforms supported
- Connection supported using the HP ODBC drivers
- HP ODBC driver must be hosted within a Windows platform
- HP ODBC Server required
- Periscope can reside within any Oracle database but must connect thru a Windows platform

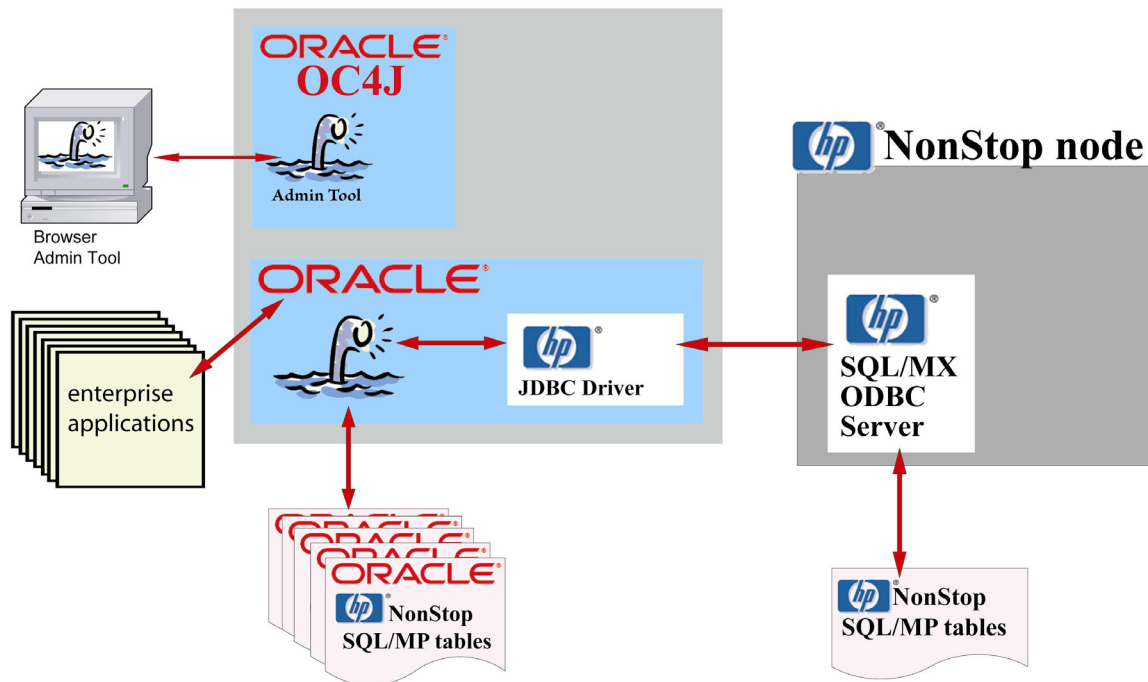


 NonStop
SQL/MP using  ODBC drivers



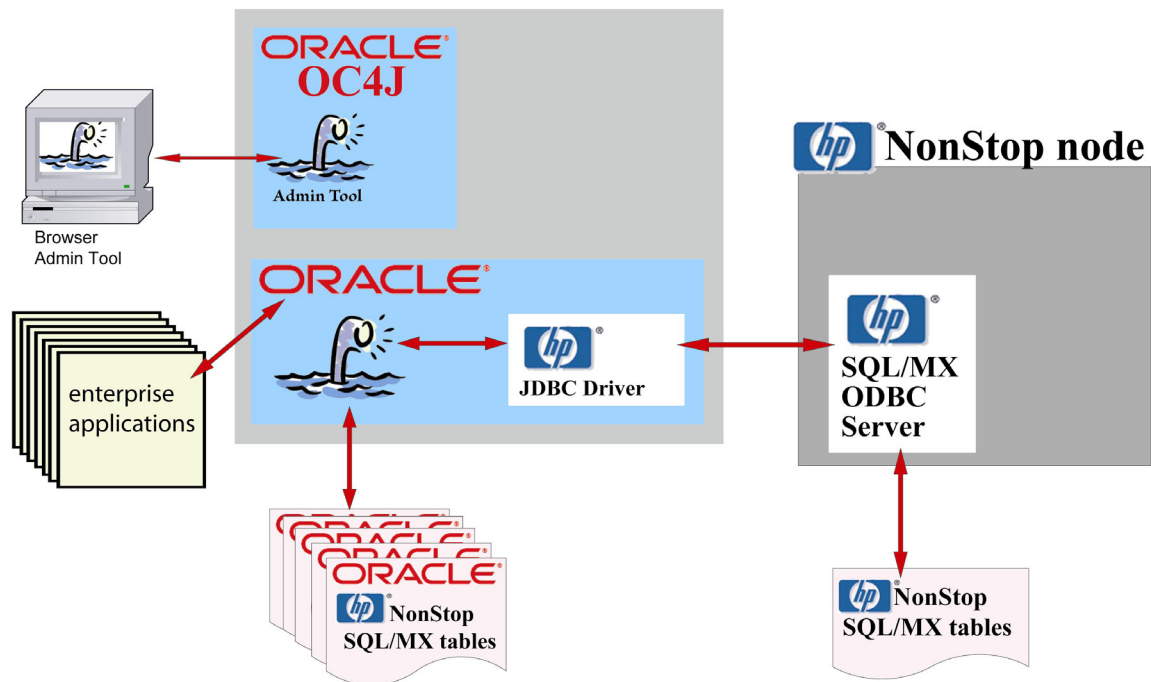
SQL/MP for S-series and Integrity platforms (using HP JDBC driver)

- HP NonStop S-Series and Integrity platforms supported
- Connection supported using the HP JDBC drivers
- HP JDBC driver is loaded inside of the Oracle database
- HP SQL/MX ODBC Server required
- HP SQL/MX database required
- SQL/MP tables must be linked into the SQL/MX database
- Periscope can reside within any Oracle database and can connect directly to the HP NonStop platform



SQL/MX for S-series and Integrity platforms (using HP JDBC driver)

- HP NonStop S-Series and Integrity platforms supported
- Connection supported using the HP JDBC drivers
- HP JDBC driver is loaded inside of the Oracle database
- HP SQL/MX ODBC Server required
- HP SQL/MX database required
- Periscope can reside within any Oracle database and can connect directly to the HP NonStop platform



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