

Oracle9i: A Family of Database Products

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INTRODUCTION

Oracle9i Database is available in three editions, each suitable for different development and deployment scenarios. Oracle also offers several additional optional database products that enhance the capabilities of Oracle9i Database for specific application requirements. The following are the three available editions of Oracle9i Database:

- Oracle9i Standard Edition delivers unprecedented ease-of-use, power, and price/performance for workgroup, department-level, and internet/intranet applications. Oracle9i Standard Edition includes a fully integrated set of easy-to-use management tools, full distributed, replication, and web features. From single-server environments for small businesses to highly distributed, branch environments, Oracle9i Standard Edition includes all the facilities necessary to build business-critical applications.
- Oracle9i Enterprise Edition provides efficient, reliable, secure data management for high-end applications such as high volume on-line transaction processing (OLTP) environments, query-intensive data warehouses, and demanding Internet applications. Oracle9i Enterprise Edition provides the tools and functionality to meet the availability and scalability requirements of today's mission-critical applications for the enterprise.
- Oracle9i Personal Edition supports single user development and deployment that require full compatibility with Oracle9i Standard Edition and Oracle9i Enterprise Edition. By bringing the award-winning functionality of Oracle9i Database to the personal workstation, Oracle offers a database that combines the power of the world's most popular database with the ease of use and simplicity you would expect in a desktop product.

Oracle9i Personal Edition, Oracle9i Standard Edition and Oracle9i Enterprise Edition include a common set of application development features including SQL object-relational capabilities and PL/SQL and Java programmatic interfaces for writing stored procedures and triggers. Applications written for any edition of Oracle9i Database will run with the others, although Oracle9i Enterprise Edition provides additional performance, scalability, availability and security functions that are generally transparent to application developers. The

APIs supported with Oracle9i Enterprise Edition are generally also supported with Oracle9i Personal Edition and Oracle9i Standard Edition, with exceptions related to the functionality associated with optional additional products only available with Oracle9i Personal Edition and Oracle9i Enterprise Edition such as Oracle OLAP or Oracle Data Mining.

These Oracle9i Database products are all built using the same robust and reliable database engine architecture. Oracle9i Standard Edition and Oracle9i Personal Edition are both 100 percent compatible with Oracle9i Enterprise Edition on many different platforms, so your database applications can scale from the laptop to the desktop to the enterprise without re-engineering.

ADVANCED OPTIONS TO MEET DEMANDING REQUIREMENTS

The three Oracle9i Database products each have features and functionality to meet the varying requirements of today's applications. Additionally, Oracle offers optional products that contain sophisticated technology to meet your most demanding requirements for development and deployment of mission-critical OLTP, data warehouse, and Internet application environments.

Oracle Real Application Clusters

Oracle Real Application Clusters provides unlimited scalability and high availability for any packaged or custom application by exploiting clustered hardware configurations, with the simplicity and ease of use of a single system image. Oracle Real Application Clusters allows access to a single database from multiple nodes of a clustered system configuration, to insulate application and database users from hardware and software failures, while providing performance that scales with the hardware environment.

Oracle Partitioning

Oracle Partitioning enhances the data management environment for OLTP, data mart, and data warehouse applications by adding significant manageability, availability, and performance capabilities to large underlying database tables and indexes. Oracle Partitioning permits large tables to be broken into individually managed smaller pieces, while retaining a single application-level view of the data. Range, hash, composite (range combined with hash), and list partitioning methods are supported.

Oracle Advanced Security

Oracle Advanced Security is an Oracle9i Enterprise Edition option which provides strong authentication and encryption by implementing industry standard encryption and integrity algorithms as well as supporting several external authentication services. The product provides robust Enterprise User Security where organizations have a choice of implementing end-to-end

security by authenticating users using digital certificates or passwords, reducing the total cost of deploying security.

Oracle Label Security

Oracle Label Security provides sophisticated and flexible security based on row labels for fine-grained access control. Oracle Label Security employs labeling concepts used by government, defense and commercial organizations to protect sensitive information and provide data separation and includes a powerful tool to manage policies, labels, and user label authorizations.

Oracle OLAP

Fully integrated in the database, Oracle OLAP provides a complete set of analytical functions. Predictive analysis can be used to forecast market trends, predict product manufacturing requirements, and build enterprise budgeting and financial analysis systems, for example. Using complex, multidimensional queries and calculations, information such as market shares and net present value can be derived. The Java OLAP API provides efficient object-orientation for building applications that require complex analytical queries.

Oracle Data Mining

Oracle Data Mining allows companies to build advanced business intelligence applications that mine corporate databases, discover new insights, and integrate that information into business applications. Oracle Data Mining embeds data mining functionality for making classifications, predictions, and associations. All model-building and scoring functions are accessible through a Java-based API.

Oracle Spatial

Oracle Spatial allows users and application developers to seamlessly integrate their spatial data into enterprise applications. Oracle Spatial facilitates analysis based on the spatial relationships of associated data, like the proximity of store locations to customers within a given distance and sales revenue per territory. Oracle Spatial manages spatial data in an industry-standard database, resulting in application integration that takes place at the data server. This enables vendor tools and applications to access spatial data directly from Oracle9i Database, providing interoperability and minimizing costs.

Oracle Enterprise Manager Packs

In addition to Oracle Enterprise Manager, Oracle provides an advanced integrated package of tools for performance tuning, diagnostics, and change management:

- *Oracle Tuning Pack* - Oracle Tuning Pack provides database administrators with expert performance management for the Oracle environment, including SQL tuning and storage optimization.
- *Oracle Diagnostics Pack* - Oracle Diagnostics Pack enables database administrators to perform advanced monitoring, diagnosis, and planning for the Oracle environment.
- *Oracle Change Management Pack* - Oracle Change Management Pack eliminates errors and loss of data when upgrading databases to support new applications. The pack analyzes the impact and complex dependencies associated with application change and automatically performs database upgrades.
- *Oracle Management Pack for Oracle Applications* - Oracle Management Pack for Oracle Applications extends Oracle Enterprise Manager to enable the monitoring, diagnosis, capacity planning, and tuning of the Oracle Applications environment.
- *Oracle Management Pack for SAP R/3* - Oracle Management Pack for SAP R/3 offers real time monitoring for SAP R/3 systems, capacity planning for historical analysis and future planning purposes, event integration, and a single point of administration of the host, database, and application.

Oracle Programmer

Oracle Programmer provides a rich set of interfaces for developers who build enterprise applications that access and manipulate Oracle9i database.

Oracle Programmer is a family of products consisting of:

- Three embedded SQL-style interfaces: Precompilers, SQL*Module, and SQLJ
- Four call level interfaces: Oracle Call Interface (OCI), Oracle C++ Call Interface (OCCI), ODBC, and JDBC
- Oracle Objects for OLE
- Two utilities to generate host-language bindings from database schemas: Object Type Translator and JPub

FEATURE AND PRODUCT AVAILABILITY

Not all features and options are available with all editions of the Oracle9i Database.

Oracle9i Personal Edition is available on Windows2000, Windows NT, and Windows98. It includes at no extra cost all features and options that are available with Oracle9i Enterprise Edition, such as Oracle Partitioning and Oracle Advanced Security. Not all features and options are available with Oracle9i Personal Edition on Windows98.

Some features which were previously available in Oracle8i Enterprise Edition and Oracle8i Personal Edition are now also available in Oracle9i Standard Edition. In Oracle9i Release 9.0.1 these include Advanced Queuing and Proxy Authentication. In a future release, Oracle Corporation intends to make the encryption toolkit, analytic functions, sample scan, plan stability, and function-based indexes also available in the Standard Edition.

See the following table for Oracle9i Standard Edition and Oracle9i Enterprise Edition feature and option availability.

Feature/Option	Oracle9i Standard Edition	Oracle9i Enterprise Edition	Notes
High Availability			
Oracle Data Guard	N	Y	
Basic readable standby database	Y	Y	
Fast-start selectable recovery time	N	Y	
Online index build	N	Y	
Online table reorganization/redefinition	N	Y	
Online index coalesce	N	Y	
Global index maintenance during DDL	Y	Y	
Flashback Query	Y	Y	
Quiesce database	N	Y	
Block-level media recovery	N	Y	
Incremental backup and recovery	N	Y	
Online backup and recovery	Y	Y	
Parallel backup and recovery	N	Y	
Point-in-time tablespace recovery	N	Y	
Trial recovery	N	Y	
Oracle Fail Safe	Y	Y	Windows only
Transparent application failover	N	Y	
Scalability			

Feature/Option	Oracle9i Standard Edition	Oracle9i Enterprise Edition	Notes
Oracle Real Application Clusters	N	Y	Extra cost option
Java native compilation	Y	Y	
PL/SQL native compilation	Y	Y	
Security			
Advanced Security Option	N	Y	Extra cost option
Oracle Label Security	N	Y	Extra cost option
Encryption toolkit	Y	Y	
Virtual Private Database	N	Y	
Fine grained auditing	N	Y	
Password management	Y	Y	
Proxy authentication	Y	Y	
Development Platform			
Oracle Programmer	Y	Y	Extra cost option
Java support	Y	Y	
SQLJ	Y	Y	Requires Oracle Programmer
JDBC drivers	Y	Y	
XML support	Y	Y	
Objects and extensibility	Y	Y	
PL/SQL stored procedures and triggers	Y	Y	
PL/SQL Server Pages	Y	Y	
User-defined aggregates	Y	Y	
Microsoft Transaction Server integration	Y	Y	Windows only
COM cartridge	Y	Y	Windows only
AppWizard for Visual Studio	Y	Y	Windows only
Globalization support	Y	Y	

Feature/Option	Oracle9i Standard Edition	Oracle9i Enterprise Edition	Notes
Autonomous transactions	Y	Y	
iSQL*Plus	Y	Y	
Manageability			
Oracle Enterprise Manager	Y	Y	
Oracle Change Management Pack	N	Y	Extra cost option
Oracle Diagnostics Pack	N	Y	Extra cost option
Oracle Tuning Pack	N	Y	Extra cost option
Oracle Management Pack for Oracle Applications	N	Y	Extra cost option
Oracle Management Pack for SAP R/3	N	Y	Extra cost option
Automatic undo management	Y	Y	
Self-tuning memory management	Y	Y	
Server managed backup and recovery	Y	Y	
Recovery Manager	Y	Y	
Legato Storage Manager	Y	Y	
Duplexed backup sets	N	Y	
Database Resource Manager	N	Y	
Oracle Managed Files	Y	Y	
Resumable space allocation	Y	Y	
Unused index identification	Y	Y	
VLDB, Data Warehousing, Business Intelligence			
Oracle Partitioning	N	Y	Extra cost option
Oracle OLAP	N	Y	Extra cost option
Oracle Data Mining	N	Y	Extra cost option
Optimizer statistics management	Y	Y	
Analytic functions	Y	Y	

Feature/Option	Oracle9i Standard Edition	Oracle9i Enterprise Edition	Notes
Bitmapped index and bitmapped join index	N	Y	
Descending index	Y	Y	
Function-based index	Y	Y	
Automated parallel query degree	N	Y	
Parallel analyze	N	Y	Requires Oracle Partitioning
Parallel bitmap star query optimization	N	Y	
Parallel DML	N	Y	Requires Oracle Partitioning
Parallel index build	N	Y	Requires Oracle Partitioning
Parallel index scans	N	Y	
Parallel load	Y	Y	
Parallel query	N	Y	
Star query optimization	Y	Y	
Sample scan	Y	Y	
Summary management	N	Y	
Long operations monitor	Y	Y	
Direct Path Load API	Y	Y	
Export transportable tablespace	N	Y	
Import transportable tablespace	Y	Y	
External tables	Y	Y	
MERGE	Y	Y	
Multi-table insert	Y	Y	
Pipelined table functions	Y	Y	
Synchronous Change Data Capture	N	Y	

Feature/Option	Oracle9i Standard Edition	Oracle9i Enterprise Edition	Notes
Integration			
Advanced Queueing	Y	Y	
Messaging Gateway to IBM MQSeries	N	Y	
Basic Replication	Y	Y	Updatable materialized view site
Advanced Replication	N	Y	Multi-master replication
Distributed queries	Y	Y	
Distributed transactions	Y	Y	
Heterogeneous Services	Y	Y	
Networking			
Connection pooling	Y	Y	
Oracle Connection Manager	N	Y	
Oracle Names	Y	Y	
Oracle Net Services	Y	Y	
Content Management			
Oracle Spatial	N	Y	Extra cost option
Dynamic Services	Y	Y	
Oracle Database Workspace Manager	Y	Y	
Parallel text index creation	N	Y	
Ultra Search	Y	Y	
<i>interMedia</i>	Y	Y	
Oracle Text	Y	Y	
Internet File System	Y	Y	
Additional Database Features			
Database event triggers	Y	Y	

Feature/Option	Oracle9i Standard Edition	Oracle9i Enterprise Edition	Notes
DBMS_REPAIR package	Y	Y	
DBMS_METADATA package	Y	Y	
Drop column	Y	Y	
Index-organized table	Y	Y	
Instead-of triggers	Y	Y	
LOB (large object) support	Y	Y	
Locally-managed tablespaces	Y	Y	
LogMiner	Y	Y	
Multiple block size support	Y	Y	
Plan stability	Y	Y	
Reverse key index	Y	Y	
Temporary table	Y	Y	

Oracle reserves the right to make changes to the contents of this paper at a later date.



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