

Oracle8i™: A Family of Database Products

Features Overview

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A FAMILY OF DATABASE PRODUCTS

In today's ever-changing computing environment, new groups of users demand access to information rapidly and efficiently. Applications that are developed to meet these needs have their own requirements for availability, performance, and functionality. Oracle offers four products in the Oracle8i product line:

- Oracle8i delivers unprecedented ease-of-use, power, and price/performance for workgroup or department-level applications. Oracle8i includes a fully integrated set of easy-to-use management tools, full distribution, replication, and web features. From single-server environments for small businesses to highly distributed, branch environments, Oracle8i includes all the facilities necessary to build business-critical applications.
- Oracle8i™ 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. Oracle8i Enterprise Edition provides the tools and functionality to meet the availability and scalability requirements of today's mission-critical applications.
- Oracle8i™ Personal Edition supports single user development and deployment that require full compatibility with Oracle8i and Oracle8i Enterprise Edition. By bringing the award-winning functionality of Oracle8i 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'd expect in a desktop product.
- Oracle8i™ Lite is a small footprint database built from the ground up to deliver enterprise applications to mobile devices such as laptop computers, handheld computers and information appliances. With strong management tool support and built in replication to Oracle8i and Oracle8i Enterprise Edition, Oracle8i Lite allows you to deploy mobile solutions simply and effectively.

These Oracle8i products are all built using the same robust and reliable database engine architecture. Oracle8i and Oracle8i Personal Edition are both 100 percent compatible with Oracle8i Enterprise Edition on more than 90 different platforms, so your database applications can scale from the laptop to the desktop to the enterprise without re-engineering.

ADVANCED PRODUCTS AND OPTIONS TO MEET DEMANDING REQUIREMENTS

The four Oracle8i 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 PARALLEL SERVER

The Oracle® Parallel Server architecture and management infrastructure combines the benefits of cluster scalability and availability with single system management capabilities. Oracle Parallel Server fully exploits clustered systems for database applications by delivering the following benefits:

- *High Availability* — Cluster technology insulates application and database users from hardware and software failures. Oracle Parallel Server architecture enables all the nodes of the system to access all the data and provides inherent fault resilience.
- *Cluster Scalability* — Clustering enables more users and greater transaction throughput, especially for enterprise applications and Internet commerce applications. Oracle Parallel Server achieves greater scalability by fully exploiting the expanded CPU, memory and disk resources of the clustered system to drive more transactions.
- *Single System Manageability* — Oracle Parallel Server's Single System View technology simplifies manageability by reducing the complexity of managing a server cluster. With Single System View, an entire cluster of servers appears as one system to the administrator.

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, and composite (range combined with hash) partitioning methods are supported. Oracle Partitioning is also especially useful in an Oracle Parallel Server configuration, improving performance in clustered environments, as well as large OLTP and data warehouse sites.

ORACLE JSERVER

Oracle has integrated a fast, scalable, highly available, and secure Java™ Virtual Machine (Java VM) with the Oracle8i database server. The Oracle8i Java VM, named Oracle JServer, provides an ideal platform on which to deploy enterprise applications written in Java.

Oracle JServer supports a variety of application programming models including Java stored procedures and triggers, Java methods of object-relational types, CORBA objects, Enterprise JavaBeans™, Java Servlets and Java Server Pages. It also supports a variety of standards based protocols like IIOP and HTTP in addition to Net8™. Full support for a HTTP listener in the database, Java Server Pages, and Java Servlets will be available in a later Oracle8i release.

Oracle JServer is included at no charge with Oracle8i.

ORACLE JSERVER ENTERPRISE EDITION

Oracle JServer Enterprise Edition includes all features that are available in Oracle JServer. In addition, Oracle JServer Enterprise Edition provides the ability to deploy Java code in natively compiled form for execution on the Oracle8i server, producing significant speed enhancement. This feature, the JServer Accelerator, will be available in a later Oracle8i release.

Oracle JServer Enterprise Edition is included at no charge with Oracle8i Enterprise Edition.

ORACLE iFS: INTERNET FILE SYSTEM

Oracle® iFS (Internet File System) brings the worlds of structured and unstructured data together into a powerful, easy-to-manage document-centric repository accessible via all major Internet protocols. Oracle iFS makes it possible to treat an Oracle8i database like a shared network drive. This means that users can store and retrieve files managed by the database as if they were files managed by a file server. End users can easily access files and folders in Oracle iFS via a variety of protocols, such as HTML, FTP, and IMAP4, giving them universal access to their data. Advanced searching capabilities make it easy to rapidly locate information contained in Oracle iFS, other content management features help organize and manage data in ways not possible on other file systems. The iFS development environment makes it easy to develop applications using a wide range of content, all with a single skill set using Internet standard languages like XML and Java. And, finally, everything in Oracle iFS is built on top of the reliable, portable, scalable, and secure Oracle8i server. This sophisticated functionality will be available in a later Oracle8i release.

ORACLE *INTER*MEDIA

Oracle® *inter*Media enables Oracle8i to manage text, documents, image, audio, video, and locator data in an integrated fashion with other enterprise information. It includes Internet services supporting popular web client interfaces, web development tools, web servers, and streaming media servers. It provides a higher level of services for database applications written in Java, C++, and traditional 3GLs using modern class library interfaces, or PL/SQL™ and Oracle® Call Interface, through native support for image, audio and video data types, data attribute management and operators. Functionality previously found in separate Oracle products, such as ConText®, has been significantly enhanced and is now part of the *inter*Media product.

Oracle *inter*Media is included at no charge with all editions of the Oracle8i database.

ORACLE VISUAL INFORMATION RETRIEVAL

Oracle Visual Information Retrieval supports content-based retrieval by performing queries based on the visual attributes of the image (color, structure, texture). Oracle Visual Information Retrieval is based on the VIR technology from Virage, Inc. The primary benefit of using content-based retrieval is to support queries where the query is semantically of the form "find me objects that look like this one".

ORACLE TIME SERIES

Oracle Time Series allows time stamped data to be stored efficiently in an Oracle database. It supports a basic set of functions — calendar, time series and time scaling — which retrieve and process data. Its collection-based interface enables product developers and third-party providers to add functions to the base product. By offering basic functions and datatypes, MIS shops and independent software vendors (ISVs) can develop data provisioning, data warehousing and full-analysis time series applications using the power of Oracle8i.

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 Oracle8i, increasing interoperability and minimizing costs.

ORACLE8i LITE

Oracle8i Lite is a small footprint Java-enabled database that brings enterprise applications to mobile devices such as laptops, handheld computers, PDAs, information appliances, or wherever a persistent network connection is unavailable. Oracle8i Lite provides the following services:

- Internet Lite, a set of services that facilitate deployment, development and management of mobile web applications.
- EnterpriseSync Lite, a set of services that enables reliable and scalable synchronization of data and applications between Oracle8i Lite and central database servers.
- Advanced Queuing Lite provides application messaging services that are compatible with Oracle8i advanced queuing and enables development of mobile and message based applications.

Oracle8i Lite can replicate to Oracle8i and Oracle8i Enterprise Edition.

ORACLE WEBDB

Oracle® WebDB is a complete and cost-effective solution for building, deploying, and proactively monitoring Web database applications and content-driven web sites. By combining an intuitive, HTML interface with a complete set of robust, browser-based HTML tools, Oracle WebDB allows non-programmers to easily develop web database applications and still have time to concentrate on their real jobs. Oracle WebDB is the fastest and easiest way to web-enable Oracle databases.

ORACLE PROGRAMMER

Oracle Programmer provides a rich set of interfaces for developers who build enterprise applications that access and manipulate Oracle8i data and schemas. To fully support Java, Oracle Programmer includes SQLJ, the embedded SQL interface for Java that simplifies Java access to the Oracle8i database, and JPub, which is used to map SQL objects and collections to Java and vice versa.

Oracle Programmer is a family of products consisting of:

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

ORACLE ADVANCED SECURITY

Oracle Advanced Security provides a comprehensive range of network security features that increase security and user reliability in distributed networks. Through support of industry standards such as SSL and X.509 for public key infrastructure and RADIUS for integration with existing infrastructures and enhanced authentication choices, Oracle Advanced Security protects your investment in hardware and software. Through support of single sign-on services such as Kerberos, and enhanced user authentication devices including smartcards and biometric devices, Oracle Advanced Security ensures user reliability and simplifies account management. Encryption technology provided by Oracle Advanced Security provides strong protection for all data in your network.

Oracle Advanced Security also includes a restricted use license of Oracle Internet Directory for enterprise user and authorization management.

ORACLE INTERNET DIRECTORY

Oracle Internet Directory is an LDAP (Lightweight Directory Access Protocol) v3 compliant directory server built on top of Oracle8i Enterprise Edition. A directory server is an object-oriented database repository and application that maintains hierarchically organized information. LDAP directory services are used to manage information about network objects such as user information (user names, group names, security/authorization information, preferences), application information (interfaces, locations, load-balancing information), and network asset information (databases, application servers, printers, file servers, hardware). Oracle Internet Directory is designed to leverage the scalability, availability and security features of the Oracle8i platform to meet the needs of carriers, service providers, and large extranet sites.

Oracle Internet Directory is a stand-alone product that includes a restricted use license of Oracle8i Enterprise Edition.

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 DBA Management Pack* — Oracle Enterprise Manager includes at no charge the DBA Management Pack, which is a set of assistants and database management tools that automate and simplify the common tasks of database administration.
- *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 administrator 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 Standard Management Pack* — Oracle Standard Management Pack is a subset of Oracle Tuning Pack, Oracle Change Management Pack and Oracle Diagnostics Pack. It provides advanced functionality to assist in managing and tuning Oracle8i standard edition databases and applications.

FEATURE AND PRODUCT AVAILABILITY

The Oracle8i database is available as Oracle8i, Oracle8i Enterprise Edition, and Oracle8i Personal Edition. Not all features and options are available with all editions of the Oracle8i database.

Oracle8i Personal Edition is available on Windows NT and Windows98 and includes at no extra cost, all features and options that are available with Oracle8i Enterprise Edition, such as Advanced Queuing and Oracle Partitioning. Oracle8i Personal Edition on Windows98 includes the database server and most related products and features, depending on whether the required functionality is supported on the Windows98 platform.

See the following table for Oracle8i and Oracle8i Enterprise Edition feature and option availability for release 8.1.6. For Oracle8i Lite features and functionality, see the Oracle8i Lite collateral.

Feature	Oracle8i	Oracle8i Enterprise Edition	Notes
Java Support			
SQLJ	Y	Y	Note 1
JDBC drivers	Y	Y	
Oracle JServer	Y		Note 2
Oracle JServer Enterprise Edition		Y	Note 2
OLTP/High Availability			
Optimizer statistics management	Y	Y	
Readable standby database	Y	Y	
Database resource management		Y	
Transparent Application Failover		Y	
Automated standby database		Y	
Online index build		Y	
Fast-start fault recovery		Y	
Advanced queuing		Y	
Plan stability		Y	
Oracle Parallel Server		Y	Extra cost option
Data Warehouse and Very Large DB Support			
Star query optimization	Y	Y	
Parallel load	Y	Y	
CUBE and ROLLUP	Y	Y	
Import transportable tablespaces	Y	Y	
Direct Path Load API	Y	Y	
Analytic functions (rank, moving average, ratio-to-report, etc.)		Y	
Export transportable tablespaces		Y	
Materialized views		Y	
Parallel bitmap star query optimization		Y	
Bitmap indexes		Y	
Sample scan		Y	
Parallel query		Y	
Automated parallel query degree		Y	
Parallel DML (insert/update/delete)		Y	Note 3
Parallel index scans		Y	Note 3
Parallel index build		Y	
Parallel analyze		Y	Note 3
Oracle Partitioning		Y	Extra cost option

Feature	Oracle8i	Oracle8i Enterprise Edition	Notes
Manageability			
Oracle Enterprise Manager	Y	Y	
Server managed backup and recovery	Y	Y	
Recovery Manager	Y	Y	
Online backup and recovery	Y	Y	
Legato Storage Manager	Y	Y	
Oracle Fail Safe for Oracle8i on NT	Y	Y	
Parallel backup and recovery		Y	
Incremental backup and recovery		Y	
Point-in-time tablespace recovery		Y	
Duplexed backup sets		Y	
Oracle DBA Management Pack	Y	Y	
Oracle Standard Management Pack	Y		Extra cost option
Oracle Diagnostics Pack		Y	Extra cost option
Oracle Tuning Pack		Y	Extra cost option
Oracle Change Management Pack		Y	Extra cost option
Distributed			
Replication to Oracle8i Lite	Y	Y	Extra cost product
Distributed queries	Y	Y	
Distributed transactions	Y	Y	
Heterogeneous services	Y	Y	
Single master replication	Y	Y	Note 6
Multiple master replication		Y	Note 7
Networking and Security			
Net8	Y	Y	
Oracle Names	Y	Y	
Connection pooling	Y	Y	
Oracle Connection Manager		Y	
• <i>Multiplexing</i>		Y	
• <i>Multi-protocol connectivity</i>		Y	
• <i>Network access control</i>		Y	
N-tier authentication/authorization		Y	
Oracle Advanced Security		Y	Extra cost option

Feature	Oracle8i	Oracle8i Enterprise Edition	Notes
Database Features			
Objects and extensibility	Y	Y	
LOB (large object) support	Y	Y	
National language support (NLS)	Y	Y	
PL/SQL stored procedures, triggers	Y	Y	
PL/SQL Server Pages	Y	Y	
Database event triggers	Y	Y	
Instead-of triggers	Y	Y	
Password management	Y	Y	
Long operations monitor	Y	Y	
Temporary tables	Y	Y	
Index-organized tables	Y	Y	
LogMiner	Y	Y	
Locally-managed tablespaces	Y	Y	
Descending indexes	Y	Y	
Reverse key indexes	Y	Y	
Drop column	Y	Y	
Virtual private database		Y	
Index coalesce		Y	
Function-based indexes		Y	
Indexes on NLS collating sequences		Y	
Automatic literal conversion		Y	Note 8
Programming Interfaces			
Pro*C and other pre-compilers	Y	Y	Note 1
Native ODBC/OLEDB driver	Y	Y	
Microsoft Transaction Server integration	Y	Y	Note 4
COM Automation Feature	Y	Y	Note 5
AppWizard for Visual Studio	Y	Y	Note 5
Objects for OLE	Y	Y	Note 1
Oracle Call Interface (OCI)	Y	Y	Note 1
Oracle Programmer	Y	Y	Extra cost option
Content Management			
Oracle <i>interMedia</i>	Y	Y	
Oracle WebDB	Y	Y	Extra cost option
Oracle Time Series		Y	Extra cost option
Oracle Visual Information Retrieval		Y	Extra cost option
Oracle Spatial		Y	Extra cost option

NOTES

1. Requires Oracle Programmer.
2. Includes support for Java2 (JDK 1.2); Java triggers, functions, and procedures; Enterprise Java Beans 1.0; and CORBA 2.0. Oracle JServer Enterprise Edition also includes JServer Accelerator, when it becomes available.
3. Requires Oracle Partitioning.
4. This feature is available on Windows NT.
5. This feature is available on Windows NT and Windows98.
6. Single master replication fully supports bi-directional replication between a single, updatable master site and multiple, updatable snapshot sites. The entire replicated environment can be controlled from Oracle® Replication Manager.
7. Multiple master replication supports multiple, n-way connected, updatable master sites, each capable of supporting multiple, updatable snapshot sites for improved scalability and availability. Oracle Replication Manager also provides support for multiple masters.
8. This feature automatically converts literal strings in a WHERE clause to bind variables, improving performance in some packaged applications.



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