



Oracle8TM for OLTP

Features Overview

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OVERVIEW

Database technology has always been a key component in Online Transaction Processing (OLTP) applications. These applications are characterized by their demanding technology requirements. The key requirements have included performance, manageability, reliability, availability, and scalability. Oracle database technology, including associated development and management tools, has always led in solving these demanding OLTP applications. As technology has evolved, the Oracle database has been enhanced to exploit the best technologies available. Now, in addition to the previous requirements, Oracle8i must fully support the Internet and the Web as these technologies are being used for even the most demanding OLTP applications.

This Internet-based computing complements rather than replaces earlier technologies. New OLTP applications must support intranet access and in many cases Internet access by the public. This creates high availability and security requirements that exceed those typical for previous-generation OLTP applications. Oracle8i represents a major change in database management for OLTP. Enhancements affect the total environment ranging from Java in the database to support for Internet standard protocols.

In addition to the changes in the environment to support new forms of access, Oracle8i has fully integrated messaging. This allows Oracle8i to be used for applications, both newly-developed and packaged-application deployments, in a heterogeneous distributed environment. Messages can be queued, delivered, and propagated with flexible content- and subject-based addressing in both single system and distributed environments. Replication provides support for distributed servers and for distribution of data to large numbers of disconnected sites. In many cases, large-scale distributed systems also need access to legacy data and Oracle provides a rich set of gateways to access both relational and non-relational data. Net8™ provides the networking capability to deploy Oracle8i across intranets and the Internet.

Oracle8i supports transaction processing with integration for TP monitors and Object Transaction Managers. New in this release is support for Microsoft® Transaction Server on the Windows NT operating system.

Oracle8i extends the capabilities of the Oracle database system to support the demands of today's OLTP applications from packaged to corporate IS developed applications. Oracle8i is the only database to provide a messaging environment to support integration of these applications.

ORACLE8i OLTP ENHANCEMENTS

JAVA

- Java™ Virtual machine (VM) in the database
- Java stored procedures, functions and triggers
- Seamless interaction between Java, SQL, and PL/SQL™
- SQLJ embedded SQL in Java code
- Enhanced JDBC driver
- Full Support for Enterprise JavaBeans™ 1.0 and CORBA 2.0 Models for Building Distributed Components and Applications

SYSTEM FAULT RECOVERY

- Fast-Start Checkpoints
- Fast-Start Rollback
- Fast-Start Parallel Recovery
- Improved IO Scheduling
- More support for Transparent Application Failover

ONLINE REORGANIZATION AND DEFRAGMENTATION

- Online Index Creation and Rebuild
- Online In-Place Index Defragmentation
- Online Table Move and Reorganization
- Online Read-Only Tablespaces

SYSTEM MANAGEABILITY

- LogMiner™
- Optimizer Plan Stability
- Database Resource Manager
- Transportable Tablespaces
- Locally Managed Tablespaces
- Block Corruption Detection and Repair
- Partitioning Enhancements
- Online Java Application Logic Upgrades
- Temporary Files and Tables
- Progress Monitor
- System Event Triggers (logon, DDL, ...)
- Drop Column
- Parallel Analyze
- Intelligent Automatic Analyze

DISASTER PLANNING

- Automated Standby Database Log Shipping
- Standby Database Reporting
- Multiple Archiver Processes
- Replication Performance Improvements

RECOVERY MANAGER ENHANCEMENTS

- Support for Hardware Backup Accelerators
- Node Affinity for Backup on Clusters
- Mirrored Backups
- Catalog Synchronization with Third-Party Media Managers

CLUSTERING IMPROVEMENTS

- Cache Fusion—Direct Block Transfers Between Nodes
- Support for High Speed Interconnects (VIA, etc.)
- Cluster Aware Management Tools
- Node Affinity for Queues, Jobs, and Replication

GENERALIZED INDEXING

- Functional Indexes
- Case Insensitive Indexes
- National Language Indexes
- Descending Index Columns
- Optimizer Statistics Captured at No Cost During Create Index

TRANSACTIONS

- Microsoft Transaction Server Support
- Autonomous Transactions

ENTERPRISE SECURITY

- Declarative and Programmable Row Level Security
- Centralized User Management Across Enterprise
- Enterprise Roles that Span Multiple Databases
- Oracle Secure Directory: An LDAPv3-Compliant Directory Server
- X.509-compliant Certificate Authority
- Secure Sockets Layer Support Across all Tiers
- Invoker's Rights on Procedure Calls

QUEUING AND MESSAGING

- Publish/Subscribe Capabilities
- Rules Engine
- Streaming Protocol for Queue Propagation
- Tools Support for Queues
- Asynchronous Event Notification

REPLICATION

- Significant Performance Improvements
- Snapshot Templates for Mass Deployments
- Improved Offline Instantiation
- Oracle[®] Lite Support for Bidirectional Replication
- Oracle Lite refresh using IIOP

SUMMARY

Oracle8i is a milestone in OLTP database systems. With a large number of enhancements to a broad range of OLTP capabilities, this release provides significant improvements to all of the key attributes of an OLTP system; performance, reliability, availability, scalability, and manageability. The inclusion of Java and Internet capabilities with supporting development and management tools makes the release the right OLTP platform for critical application deployments. With integrated messaging, Oracle8i is the platform for applications requiring the isolation of a loosely coupled environment, in particular integration of applications. Oracle8i is a stable upwardly compatible platform for existing Oracle applications, so upgrading from Oracle7™ and Oracle8™ is straightforward.

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