

# ORACLE ENTERPRISE MANAGER

## Database Management

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Oracle Enterprise Manager's console is a comprehensive management solution that simplifies everyday database management tasks. Its rich feature set helps database professionals maximize the availability and security of enterprise Oracle databases. At the same time, Enterprise Manager increases productivity significantly by streamlining day to day database administration tasks. Special wizards directly integrated into the console guide the users through a series of steps that are required for database management tasks, from creating and altering objects, creating database user accounts to more complex tasks such as replication, backup or data warehousing management. Experienced and novice database administrators can realize significant productivity gains by standardizing on Oracle Enterprise Manager to manage their IT environments.

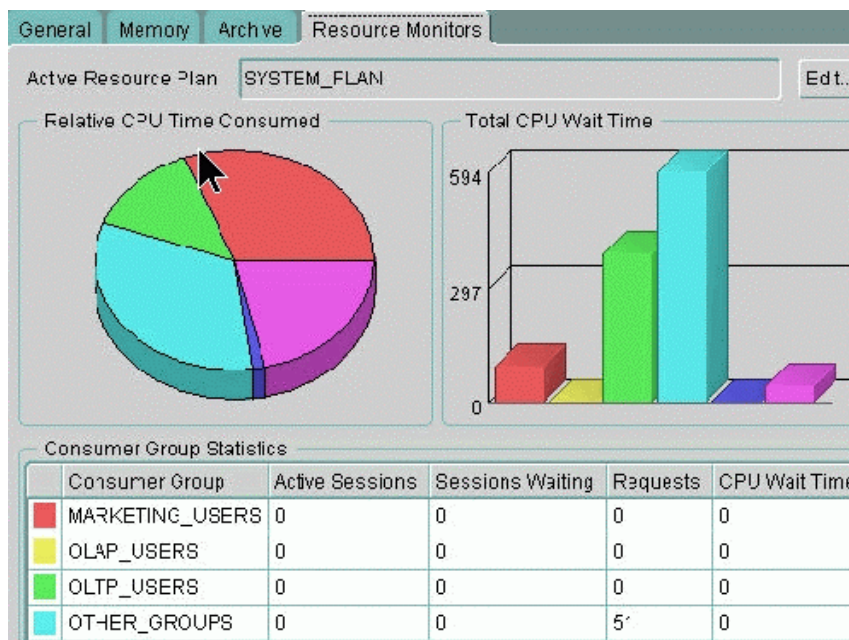
### **Simplify IT Management**

Designed for today's complex any-business environments, Oracle Enterprise Manager automates and simplifies the daily tasks of a DBA. It helps minimize training costs and maximize productivity by assisting administration of multi-platform environments and reducing the time to perform repetitive tasks. Enterprise Manager is a one stop solution for all database management including database users and their privileges, schema, instance, storage, replication, Real Application Cluster environments, OLAP or Java components management as well as database reports generation. The interface provides intuitive wizards, toolbars, quick tours, numerous integrated, single-step operations and a common look-and-feel for all database management activities.

Rather than attempting to remember complex SQL syntax, DBAs can now focus on larger operational functions, such as diagnostics, tuning or service performance reporting. As a state of the art IT management solution, Enterprise Manager offers system managers ways to convert technical statistics into meaningful e-business reports. These tools help summarize these statistics, analyze them and correlate them to the overall business service performance.

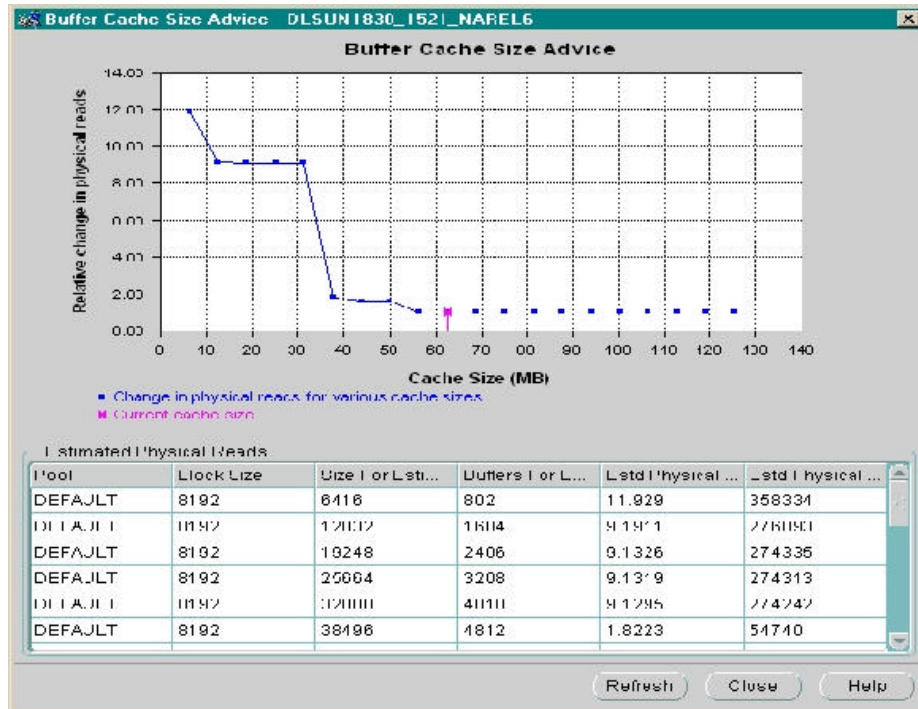
## Optimize Instances Resource Usage and Improve Performance

Efficient use of system resources is critical to ensure high priority transactions always complete. Depending on several factors, such as the number of users, hardware configuration and type of activity, system and database performance can suffer. Oracle's Resource Management can help alleviate these problems by optimizing resource allocation. Enterprise Manager's powerful graphical interface allows you to manage the priority level for each set of database users and it provides an easy-to-interpret graphical display of the resource distribution.



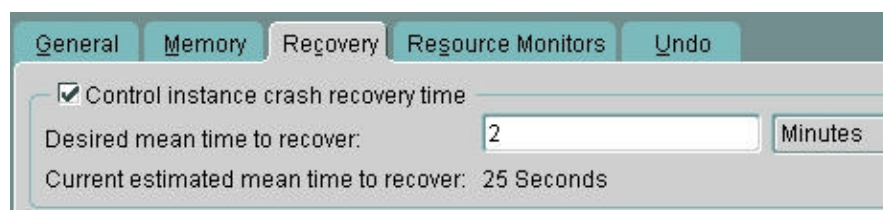
**CPU Resource Distribution of Different Consumer Groups**

Optimal setting of instance parameters can provide performance improvements of any Oracle database. Enterprise Manager helps you find the optimal settings for all memory related parameters. In addition, Oracle9i includes an advisory mechanism that can be used to determine an optimal size for the buffer cache. Enterprise Manager's Buffer Cache Size Advice provides a chart to determine if buffer cache should be grown or shrunk for your present workload.



**Buffer Cache Size Distribution**

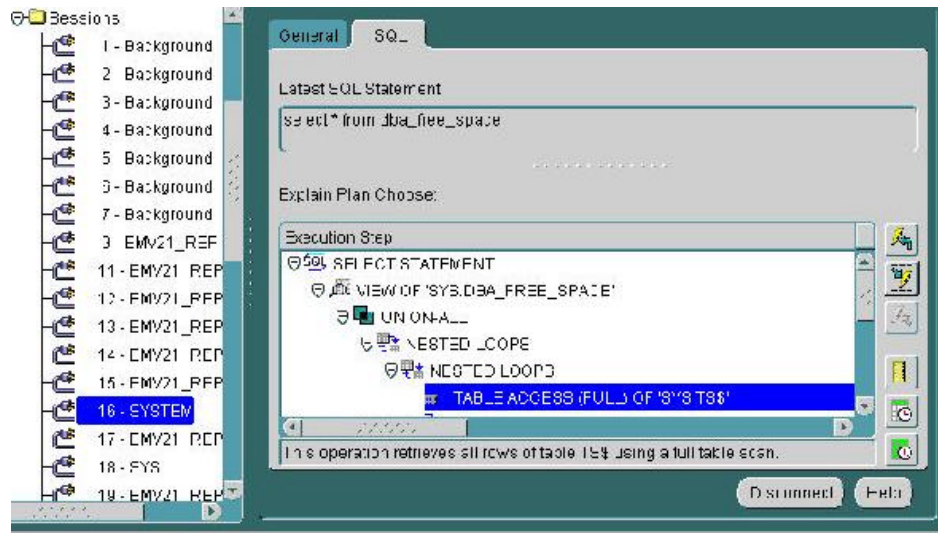
An important new aspect of managing a database instance is control over its recovery. In many businesses, especially e-businesses, downtime must be minimized. Mean Time to Recovery (MTTR) tells the database how long you can tolerate downtime in an instance recovery. Enterprise Manager makes it easy to set this parameter and the database automatically translates it to the appropriate combination of settings to ensure the recovery happens in the time specified.



**Managing Instance Mean Time To Recovery(MTTR)**

In cases when the response time for a particular task against the database is sub-optimal a DBA needs to inspect the session details to determine what SQL statement the user is running and statistics to ascertain what the user is currently doing. With Oracle Enterprise Manager all key statistics are displayed by a simple point and click, such as a user's database connection time, OS user name, machine they are running from, what SQL statement they are issuing, and a detailed

description of the SQL statement execution (explain plan).

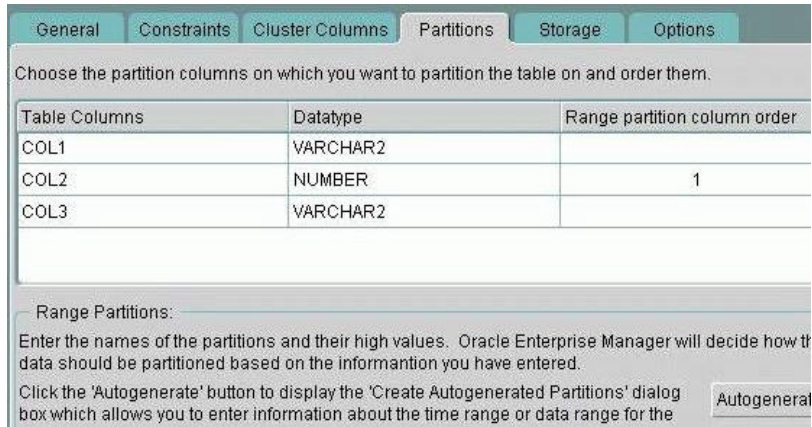


Current SQL and explain plan for a session

## Object and Data Management Key to Success

Data management and schema setup and maintenance are key to any successful database application site. Enterprise Manager plays a key role in increasing database management productivity by offering an easy to use graphical interface to create new database objects, alter them, view all their dependencies or analyze them for cost-based optimization.

Wizards and comprehensive property sheets simplify administrators work by streamlining processes and turning complex tasks into easy steps. Intuitive graphical interfaces, including options to view the generated SQL, help novice DBAs learn database administration while being productive. More experienced DBAs benefit from it by consolidating multiple operations in a few simple tasks.



Create Table property sheet, also available as a Wizard, simplifies object management

Querying or editing table data can be a very complex and time consuming task, especially for frequent updates to specific column values. The Table Data Editor displays the content and allows editing of table data. To make data manageable the initial query may be restricted to a specified number of rows. Presented data can then be filtered or queried with a full range of options.

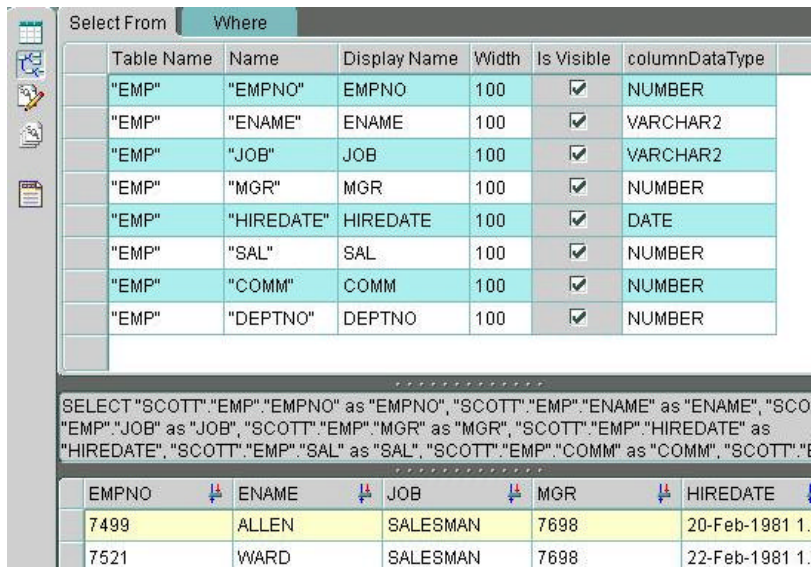


Table Data Editor - powerful data query and update mechanism

Before any action is performed against an object, it is often useful to gather more information about it, such as dependencies and dependents. This is as simple as clicking on a single Show Dependencies button. Dependencies can be directly edited from this view and a report on all dependencies can be generated.

The Object Analyze wizard is designed to collect cost-based optimization information, either immediately or scheduled at regular intervals. You select which tables to analyze, and what type of analyze to perform (for example, compute statistics or validate structure) or you can select to use the

latest analyze method (the dbms\_stats package).

Creating reports on managed systems, having a common view of all related attributes is one of the most common tasks DBAs perform today. Oracle Enterprise Manager provides a framework to generate such reports. You can select to create custom HTML reports of your instance, your schema objects, your users as well as your storage attributes. Reports can also include custom data retrieved via custom SQL statements. If connected to a Management Server, reports can be scheduled and published periodically on a Website.

### **Ensure Secure Access to Your Data**

As maintaining secure business data is critical, providing database users access can be complex and time-consuming. Enterprise Manager provides a graphical interface to create, examine, and maintain users, privileges, roles, and profiles.

Drag-and-drop functionality makes it very easy for an administrator to grant new privileges to a user or a role by simply dragging and dropping the selected privilege from one user to another, or from one role to another. This feature-rich graphical user interface is easy to learn and packed with additional options for advanced users. The "Create Like" feature helps simplify the process by allowing you to easily create a new user with similar characteristics to an existing user.

Roles are used to simplify the management of users and privileges. Instead of granting privileges directly to users, privileges can be granted to roles, and then roles granted to users. Similarly, profiles can be created for different types of users, either based on business or auditing requirements. Enterprise Manager provides a simple mechanism for managing roles and profiles.

### **Successful Backup and Recovery with Proper Storage Management**

Managing your storage, such as tablespaces and physical datafiles, enables administrators to always ensure sufficient space and that data can be committed or undone efficiently. At the same time, if recovery is required, it ensures appropriate and effective backup and recovery structures. The Oracle database server can manage internally many of the storage aspects. Enterprise Manager offers database administrators a global view of their storage and complete control over its distribution.

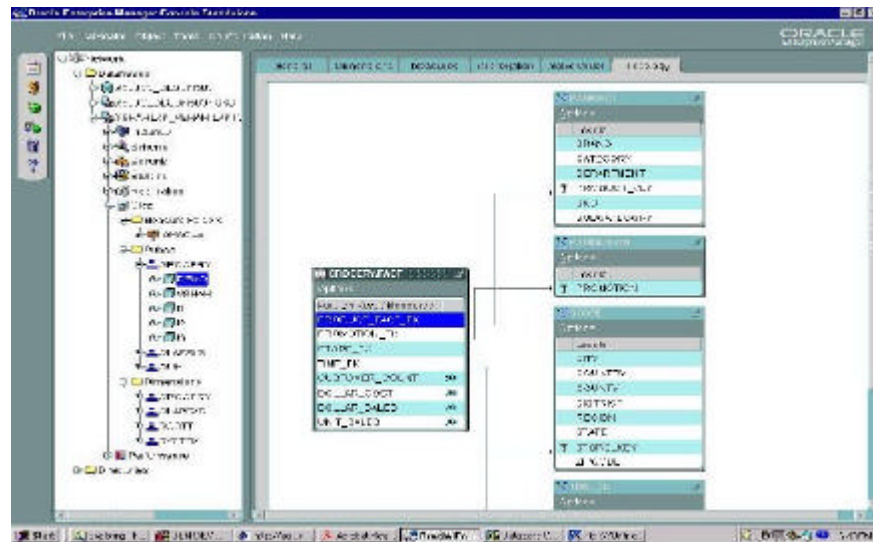
Name	Tablespace	Size (M)	Used (M)
D:\ORADATA\0315\SY...	SYSTEM	41.335	38.113
D:\ORADATA\0315\RB...	RBS	3.000	0.000
D:\ORADATA\0315\US...	USER_DATA	1.000	0.000
D:\ORADATA\0315\TF...	TEMP	1.000	0.000
D:\ORADATA\0315\IND...	INDEX_DATA	1.100	0.002
D:\ORADATA\0315\OEM...	OEM_DATA	16.000	8.264
D:\ORADATA\0315\OEM...	OEMV1_DATA	10.000	8.881
D:\ORADATA\0315\TE...	TEST2	5.000	0.080
D:\ORADATA\0315\TE...	TEST	5.000	0.062
D:\ORADATA\0315\TE...	TEMP_LOCAL	5.000	0.000

**Datfile summary page view**

For backup and recovery, DBAs can use wizards to create a process for scheduled backups and specific types of recovery. The Enterprise Manager interface transparently utilizes many of the features provided by the Oracle Recovery Manager utility (RMAN) provided with the Oracle database.

### Single Common Management Framework for All Environments

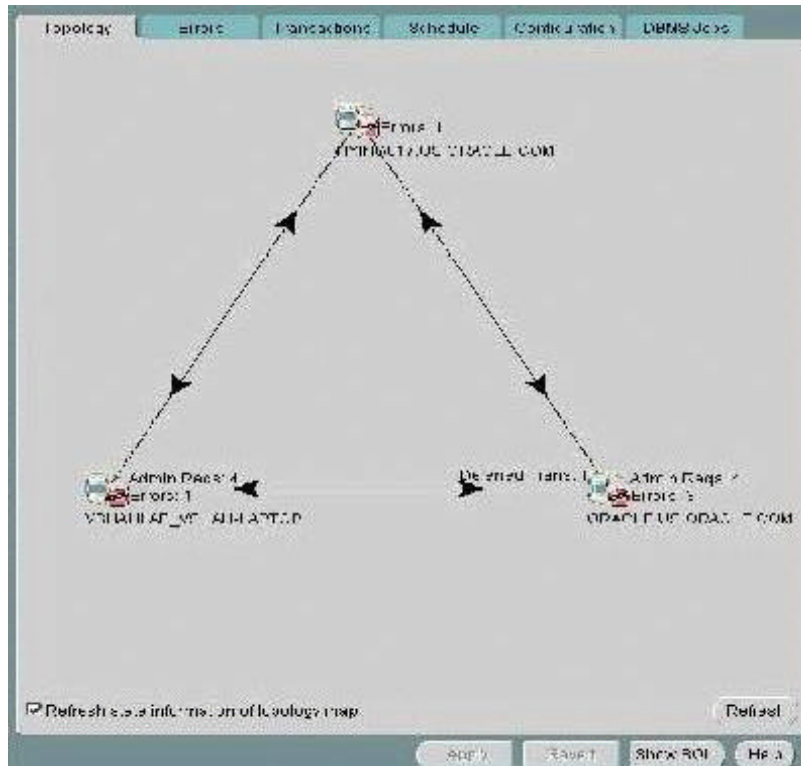
As the Oracle database server is also the platform for OLTP and Data Warehousing, the same familiar interface allows the definition and management of the metadata objects and can generate pre-computed data elements of the OLAP model using the Oracle Summary Management.



**OLAP Management made easy: Cube Topology Viewer**

Defining and maintaining a distributed replicated database environment is seamlessly integrated into the Enterprise Manager framework and accessible from Enterprise Manager. It provides comprehensive wizards to prepare a database for supporting multimaster and/or materialized view replication. Once set up, additional wizards help you replicate schema objects using either multimaster or a combination of multimaster and materialized view replication. After you have configured your environment, you can use Enterprise Manager to monitor and modify it. The Topology tab provides an

overall view of the definition and status of your environment and assists DBAs in diagnosing and resolving problems in that replicated setup. In addition, managing replication adds the capability to generate and save comprehensive HTML reports of the status of your environment.



**Replication Topology Map**

Recent enhancements also focus on Advanced Queuing support by introducing a new topology map that displays individual queues and their states, along with schedule details, properties and errors details.

The same familiar interface, Oracle Enterprise Manager, can also be used to manage Real Applications Cluster environments, the next generation of Oracle Parallel Server. These include a variety of management tasks, similar to single instance management, along with cluster specific tasks, such as cluster instance configuration, session details viewing or job and events that apply to only parallel environments.

The most effective disaster recovery solution, Oracle9i Data Guard, is now integrated into Oracle Enterprise Manager. Data Guard Manager provides access to all management functions to automate complex recovery tasks and enhance monitoring, alert and control of standby databases.

A new Oracle Enterprise Manager module, Oracle9i LogMiner Viewer, adds a graphical interface to help administrators read, analyze and interpret online or archived redo log files.



## Comprehensive Solution For All the Database Management Needs

Oracle Enterprise Manager combines simplicity in use with a rich feature set to offer a complete solution for managing any size environments regardless of platform. From managing users, database instances, schema creation and maintenance, backup and recovery to more complex replication and OLAP environments, Enterprise Manager is the DBA's one-stop solution aimed at increasing productivity and helping compete in today's complex markets.

### KEY FEATURES

- Instance management including memory parameters, CPU resources and recovery options
- Schema and data management including object definitions and dependencies
- Database users management for secure access to data
- **NEW!** OLTP and Data Warehousing definition
- Define scheduled backups and specific types of recovery
- HTML Database Reports
- Define and maintain distributed replicated database environments
- Manage Real Applications Cluster environments



美商甲骨文股份有限公司 台灣分公司  
台北市 100 忠孝西路一段 66 號 35 樓  
Oracle Taiwan Inc.  
35FL., NO. 66, Sec. 1, Chung Hsiao W. Rd.,  
Taipei, Taiwan ROC  
Tel/02-23818118  
Fax/02-23818688  
<http://www.oracle.com/tw>

甲骨文教育訓練中心  
台北市 100 忠孝西路一段 66 號 33 樓  
Tel/02-23127100 Fax/02-23818768

新竹辦事處/教育訓練中心  
新竹市 300 光復路二段 295 號 8 樓之 4  
Tel/03-5735988 Fax/03-5735118

高雄辦事處/教育訓練中心  
高雄市 806 中正二路 175 號 21 樓之 2  
Tel/07-2233000 Fax/07-2231010

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