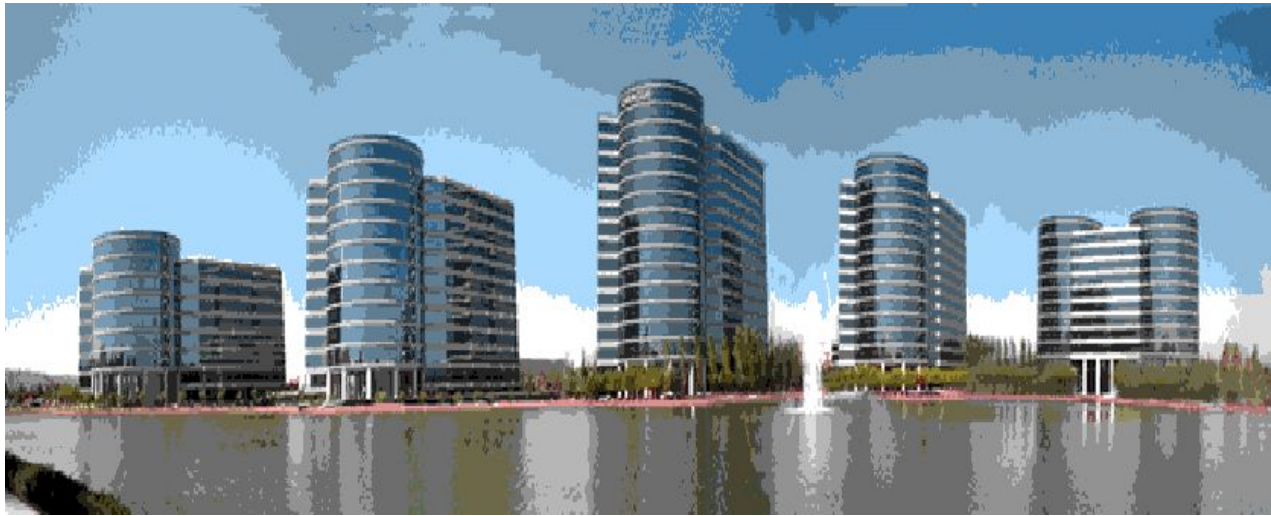




## Enterprise manager и его пакеты



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# О чем пойдет речь



- **Проблемы управления СУБД**
- **Oracle Enterprise Manager**
- **DBA Management Pack**
- **5 основных головных болей администратора**
- **Diagnostic, Tuning, Change Management packs**

# У администратора БД масса проблем

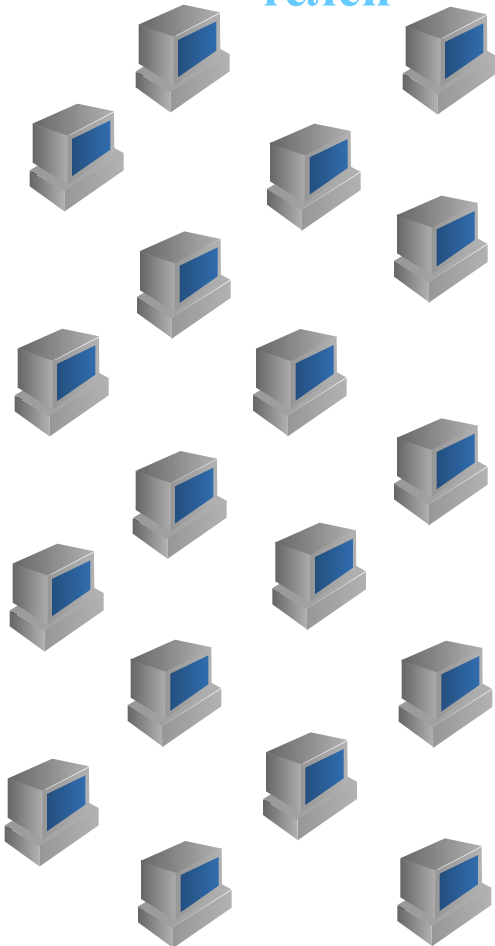


- **Управление пользователями и привелегиями**
- **Управление ресурсами в БД**
- **Копирование и восстановление**
- **Экспорт/импорт**
- **Мониторинг**
- **Обеспечение непрерывной работы**
- **Производительность**
- **Старт/остановка**
- **Инстоляции**
- **Upgrades**

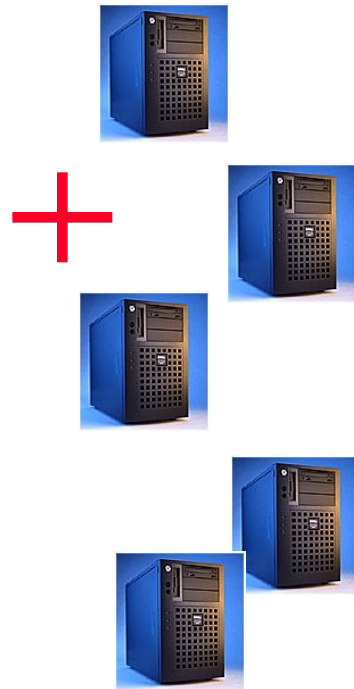
# Изменения на рынке



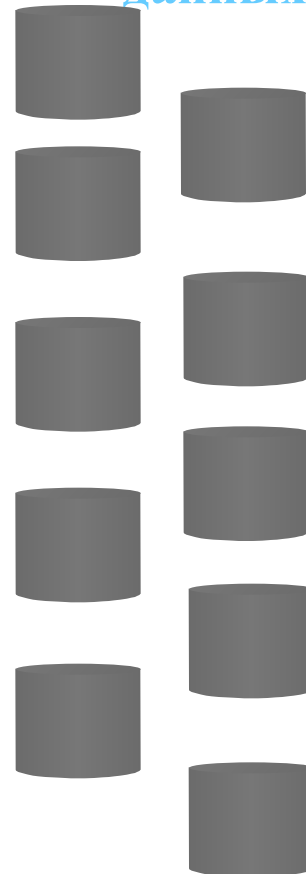
Много пользова-  
телей



Много Серверов



Много баз  
данных



Увеличение баз  
Распределенные  
базы  
Сложные связи

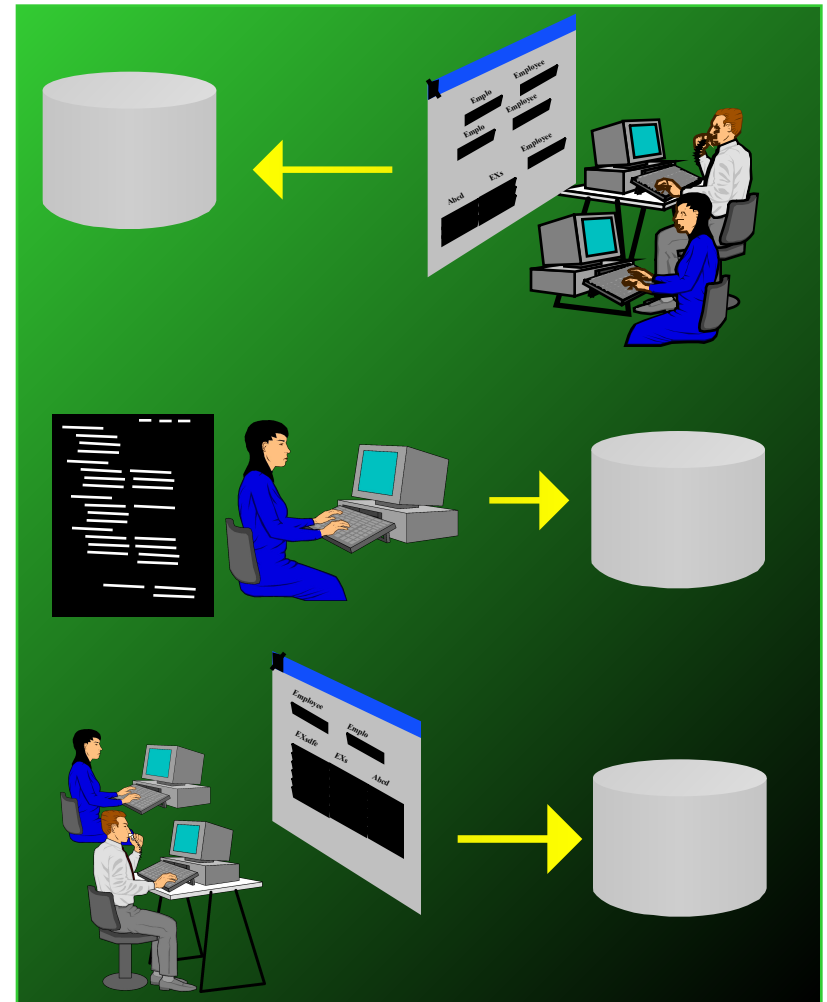


Admin \$

# Предприятие сегодня



- Разные сервера для разных приложений
- Изолированные данные
- Высокая стоимость поддержания и администрирования
- Высокая стоимость обучения
- Сложности поддержки



# Что нужно?



- **Один инструмент**
- **Масштабируемое решение**
- **Автоматизация деятельности**
- **Простота использования для пользователей с различной квалификацией**
- **Реакция в исключительных ситуациях**
- **Расширяемость**
- **Администраторы должны быть проактивными, а не реагировать на события**



# Это позволит уменьшить:



- **Стоимость обучения**
- **Время простоя системы**
- **Трудоемкость рутинных задач**
- **Увеличит производительность**

# Есть такой инструмент --- это EM



- **Центральная консоль**
- **100% Java**
- **4 кастомизируемые окна**
- **Управление многими узлами, БД, OAS, Listeners etc**
- **Многопользовательская**
- **Это РАМА (framework)**

The screenshot displays the Oracle Enterprise Manager Console interface. The main window is titled "Oracle Enterprise Manager Console RYAN@TROON". The interface is divided into several panes:

- Navigator:** A tree view on the left showing the hierarchy of resources. The "Network" folder is expanded, showing "Databases" (ds804.us.oracle.com, pooh.world, shwing.world, smpdemo1.world), "Express Servers", "Groups" (World), "Listeners" (LISTENER\_pooh, LISTENER\_shredder, LISTENER\_shwing, LISTENER\_smpdemo1), and "Nodes" (nedc-visit2.us.oracle.com, shredder.us.oracle.com, shwing.us.oracle.com, smpdemo1.us.oracle.com).
- Map:** A world map on the right showing the geographical distribution of resources. Labels include "LISTENER\_smpdemo1", "smpdemo1.world", "nedc-visit2.us.oracle.com", and "ds804.us.oracle.com".
- Jobs:** A table at the bottom left showing the status of jobs. The table has columns: Name, Destination, Destination Type, Owner, and Status.
- Events:** A table at the bottom right showing the status of events. The table has columns: Severity, Event, Target, Target Type, and Time/Date.

Name	Destination	Destination Type	Owner	Status
Listener Up/Down	LISTENER_smpdemo1	Listener	RYAN	Fixed

Severity	Event	Target	Target Type	Time/Date
Warning	CPU_Utilization	smpdemo1.world	Database	12-Oct-98 11:06:00
Warning	SessionLimit	ds804.us.oracle.com	Database	12-Oct-98 10:23:00



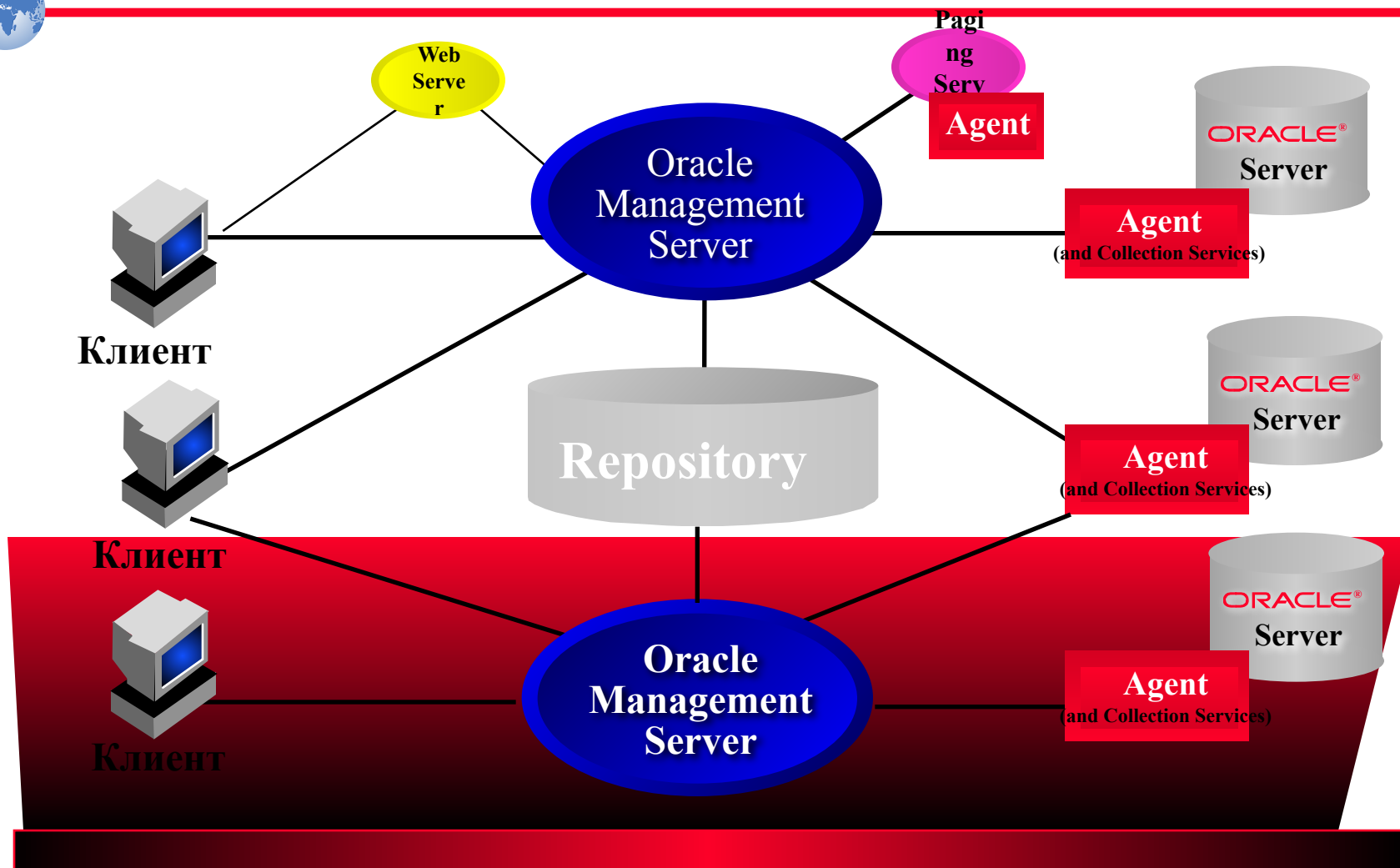
# Oracle Enterprise Manager

## *Основные компоненты*



- **Framework**
  - Console
  - Oracle Management Server (OMS)
  - Intelligent Agent
- **Repository (пароли, права, статистика ...)**
- **DBA Management Pack**
- **Прочие специфические пакеты**
- **Diagnostic, Tuning, Change management packs**

# Архитектура



# Общие характеристики: Wizards



The image displays three sequential screenshots of the Oracle Backup Wizard interface:

- Introduction:** Shows a database icon and a '< Back' button.
- Tablespaces:** Shows a folder icon and a '< Back' button.
- Save / Submit:** Shows a film reel icon and configuration options:
  - Script options:**
    - Backup job identification:
      - Name:
      - Description:
    - Operation:
      - Initiate backup.
      - Save this backup configuration to the library.
      - Save in script format so that this backup can be submitted from the DEM console.
    - Script name:

At the bottom of the 'Save / Submit' screen, there are buttons for '< Back', 'Next >', 'Finish', 'Cancel', and 'Help'.

**Step Three**

- Упрощают сложные задачи, разбивают их на этапы
- Позволяют не очень опытным DBA выполнять сложные операции

# Общие характеристики: обучение при работе



- Учит DBA сложным операциям
- Текст SQL

Quick Edit Profile DEFAULT - production.world

General Password

Expire Password

Expire in: 30 days

Lock: Unlimited days past expiration

Keep Password History

Keep: 1 passwords

Keep for: Unlimited days

Enforce Password Complexity

Complexity function: NULL

Lock account on failed logon

Lock after: 3 failed logon attempts

Lock for: Unlimited days

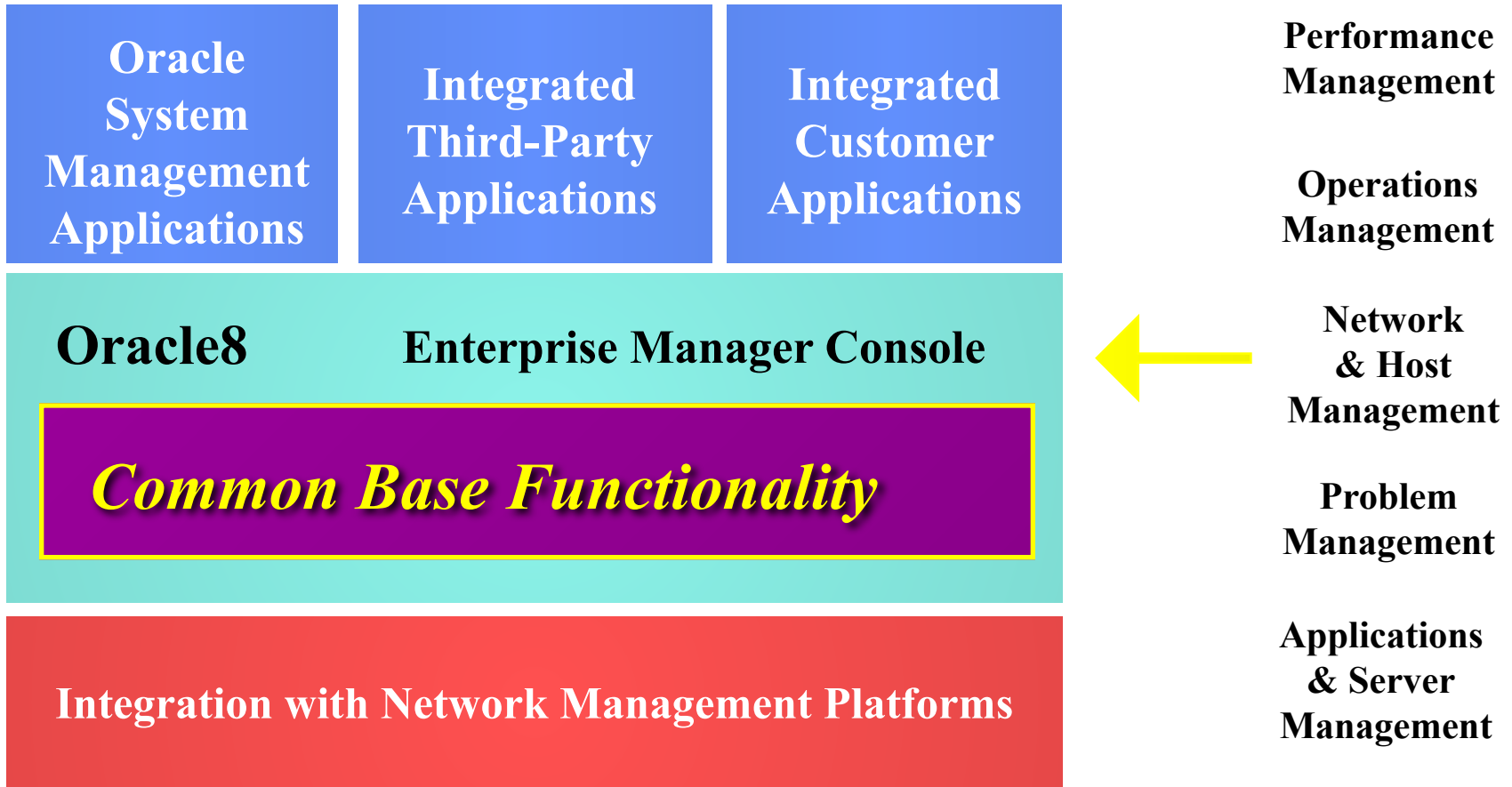
OK Cancel Apply Hide SQL Help

SQL Text

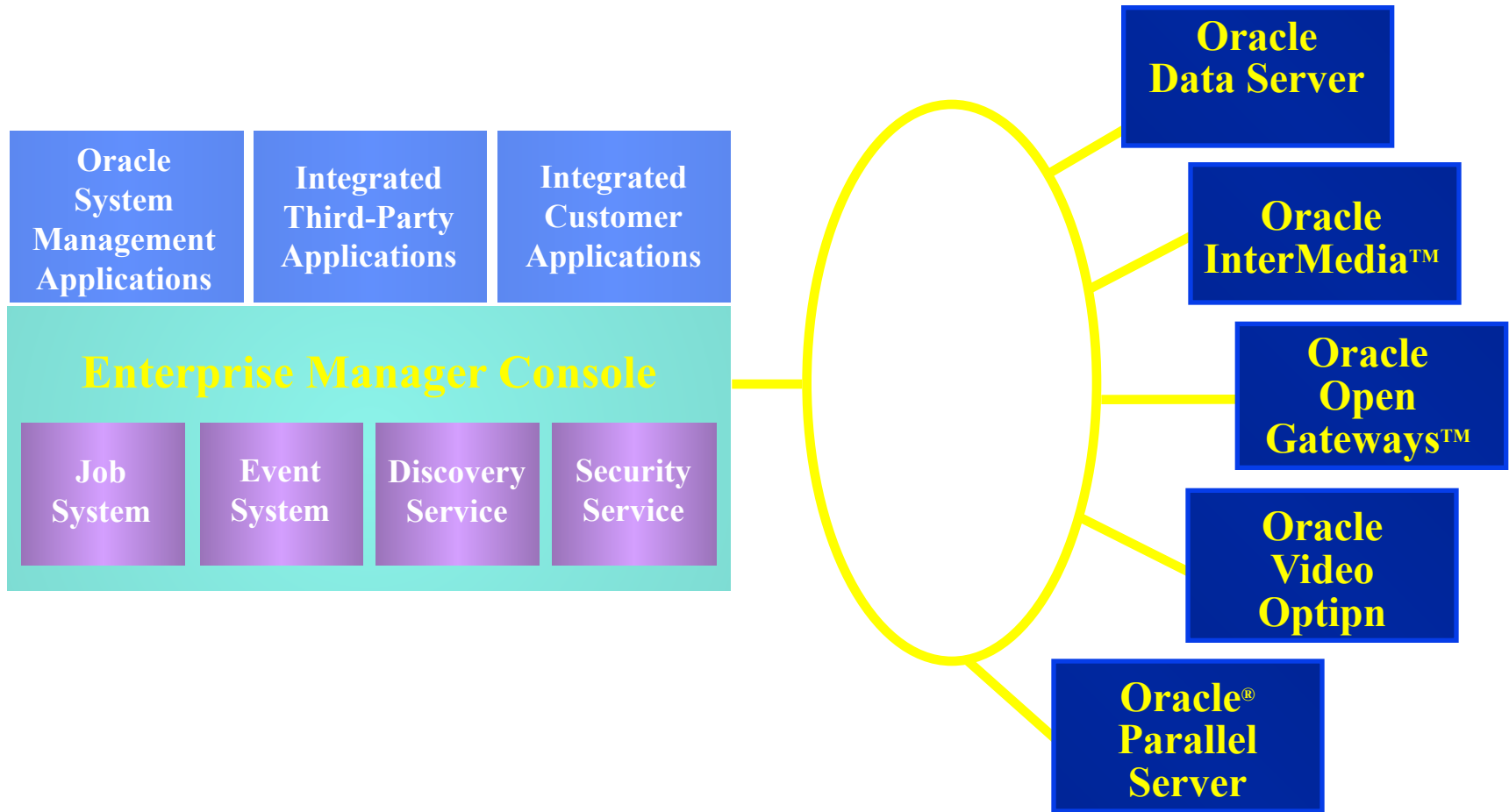
```
ALTER PROFILE "DEFAULT" LIMIT CONNECT_TIME 60
IDLE_TIME 15 SESSIONS_PER_USER 2
FAILED_LOGIN_ATTEMPTS 3 PASSWORD_LIFE_TIME 30
PASSWORD_REUSE_MAX 1;
```

**How do I do that?**

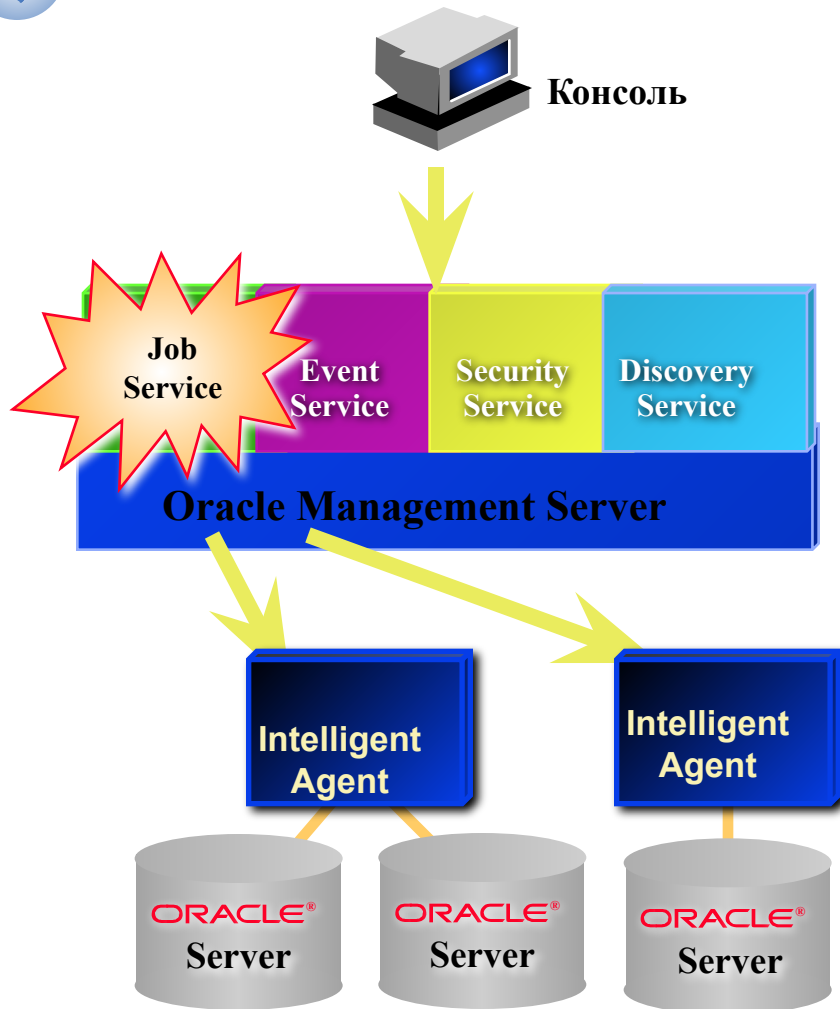
# Стратегия Oracle по управлению системами



# Oracle Environment Management Tools

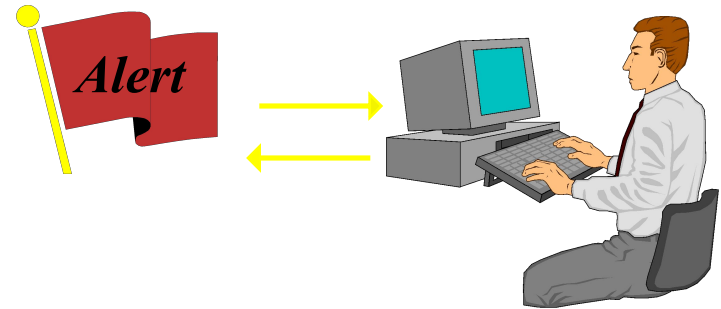
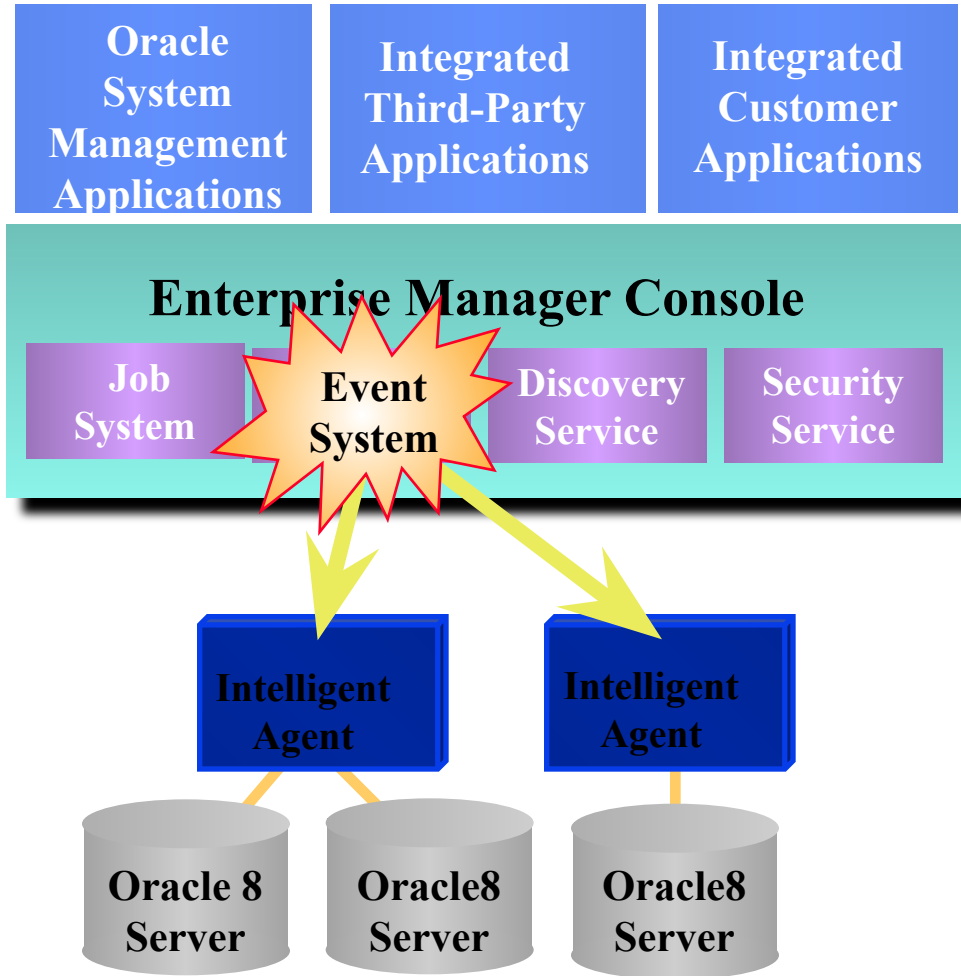


# Job System:



- **Автоматизация стандартных и повторяющихся работ**
  - выполнение SQL, tcl или OS команд
- **Установление времени выполнения**
  - немедленно, периодически, в конкретное время каждую неделю/месяц
- **Выполнять работы одновременно на многих узлах**
- **Взаимозависимость работ**
- **Fixit jobs срабатывают на события, чтобы проактивно решить проблемы, как только они определены**

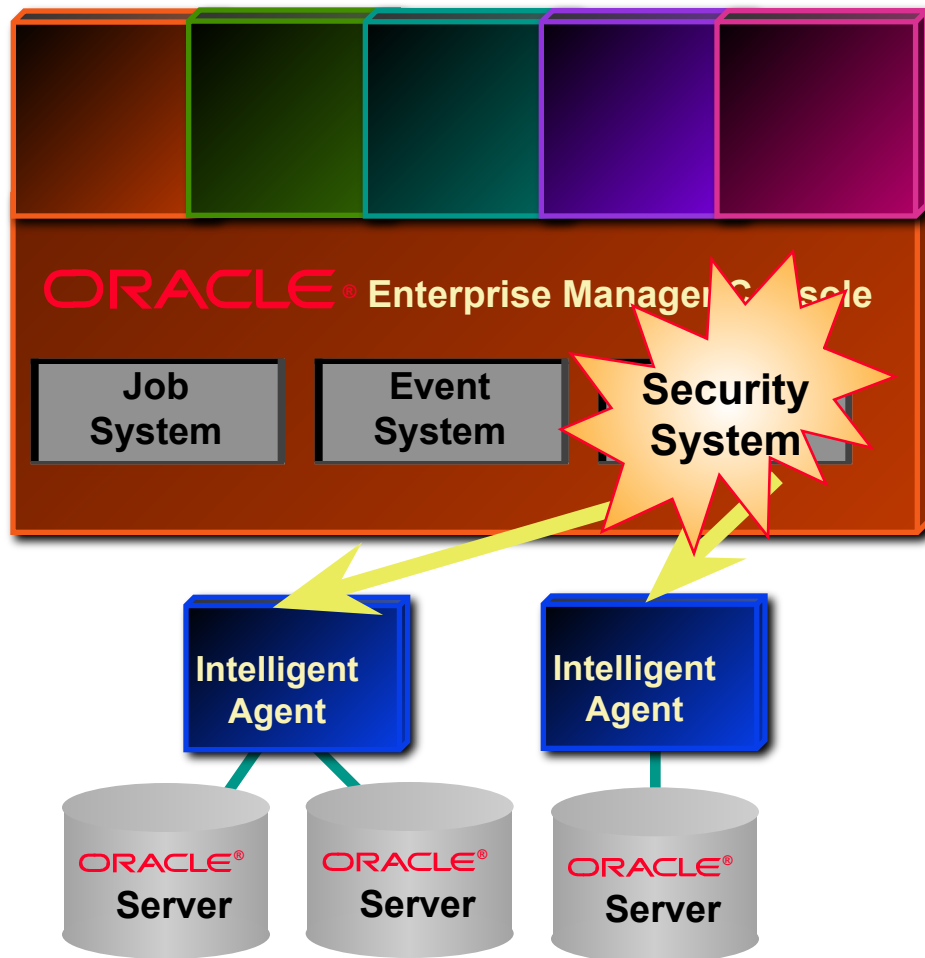
# Oracle Events:



- Отображаются графически на карте
- Paging, e-mail, and SNMP trap извещение
- Установить пороговые значения о которых Вы хотите быть оповещены
- Проактивное администрирование **ORACLE**



# Management with Security

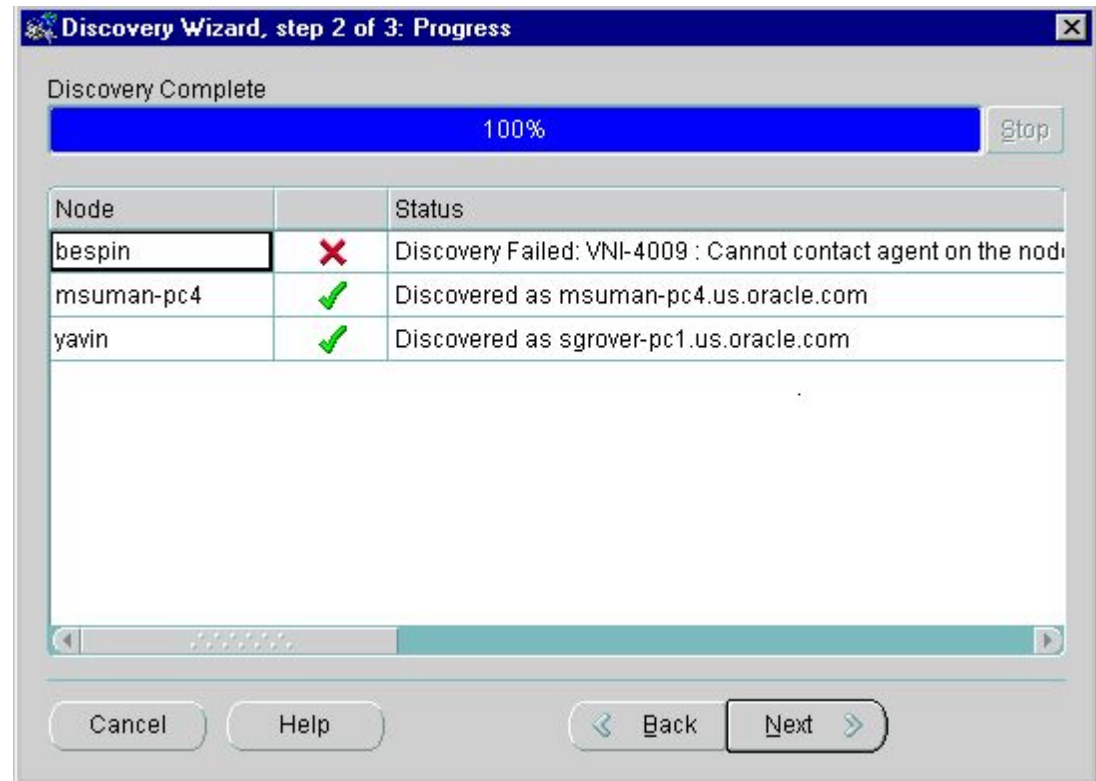


- **Single sign-on ко всем подсистемам**
- **Кодирование в сети всех management операций**
- **Пароли и имена входов в БД и узлы**

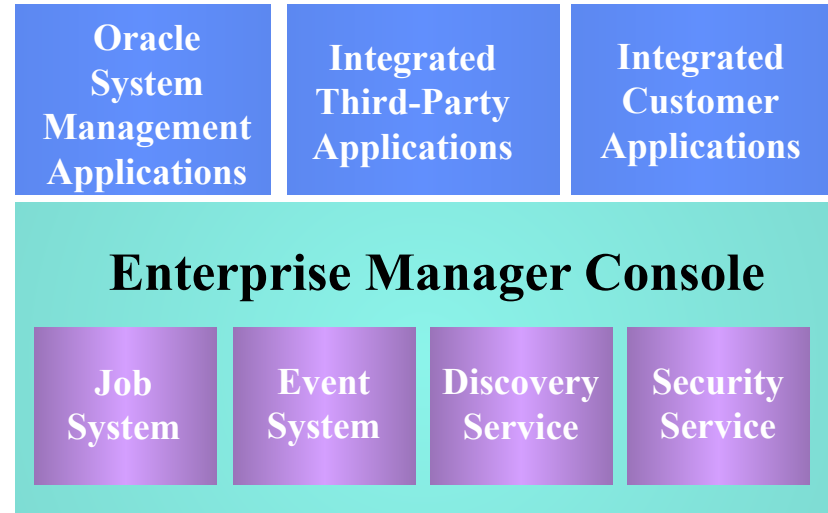
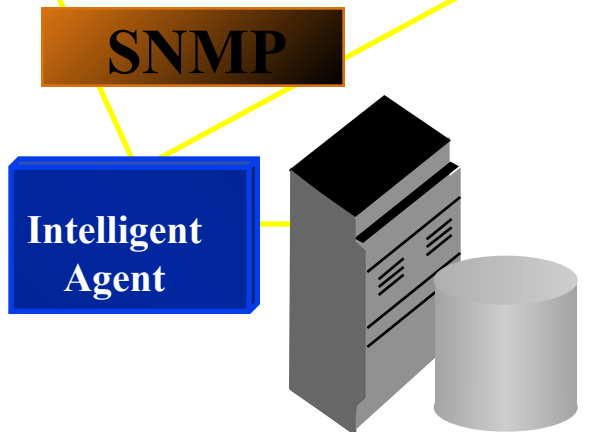
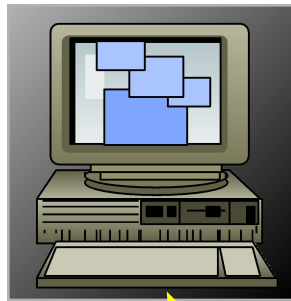
# Discovery



- **Discovery Wizard**
  - Ручное исследование
  - **Протокол результатов исследования**



# Поддержка открытых стандартов: SNMP



- **Интеграция с существующей инфраструктурой**
- **Полная поддержка стандарта RDBMS MIB**

# Фильтрация Paging/Email извещений



- **Выбор условий, при которых надо извещать**

The screenshot shows the 'Edit Administrator preferences : SYSMAN' dialog box with the 'Notification' tab selected. The dialog is divided into several sections:

- Paging Parameters:** Carrier: TEXT\_MSUMAN-PC3 (dropdown), Pin: 908754 (text field). A 'Test...' button is next to the Carrier field. A note below the Pin field states: 'Pin is required only for Alphanumeric Paging Services.'
- Email Parameters:** Receiver's EMail: nsulliva@us.oracle.com (text field), Subject Prefix: Enterprise Manager: (text field). A 'Test...' button is next to the Receiver's EMail field. A note below the Subject Prefix field states: 'Subject Prefix is optional.'
- Event Notification Filter:** A row of checkboxes: Alert (checked), Warning (unchecked), Clear (checked), Node Down (checked), Reassign (unchecked).
- Job Notification Filter:** A row of checkboxes: Start (unchecked), Complete (checked), Fail (checked), Delete (unchecked).

At the bottom right, there are 'OK', 'Cancel', and 'Help' buttons.

# Oracle Enterprise Manager Console



The screenshot displays the Oracle Enterprise Manager Console interface. The title bar reads "Oracle Enterprise Manager". The menu bar includes "File", "View", "Navigator", "Map", "Job", "Event", "Tools", and "Help". The interface is divided into several sections:

- Navigator:** A tree view on the left side showing the hierarchy of resources. A red arrow points to the "production.world" database under the "Databases" folder. The tree structure is as follows:
  - Networks
  - Databases
    - development.world
    - production.world
  - Groups
  - Listeners
    - LISTENER\_740nt-lap
    - LISTENER\_oracle8
  - Nodes
    - 740nt-lap
    - oracle8
- Map:** A world map on the right side showing the geographical locations of the databases. "development.world" is marked in North America, and "production.world" is marked in Europe.
- Active Jobs:** A table at the bottom left showing the status of active jobs.

Job Name	Destination	Status
Report	development.world	Scheduled
Report	production.world	Scheduled
- Outstanding Events:** A table at the bottom right showing the status of outstanding events.

Destination	Set Name	Event Status
production.world	Tablespace Low	0 Pending 1 Successful 0 Failed

# DBA Management Pack



- **Замеряет ввод команд SQL легким GUI**
- **Администрирует много баз одновременно**
- **Централизованное выполнение задач DBA для локальной и удаленных БД Oracle на любых платформах**

# Компоненты DBA Management Pack



- **DBA Studio**
  - Instance Management
  - Security Management
  - Schema Management
  - Storage Management
  - Wizards
    - Backup
    - Recovery
    - Data Management
- **SQL Plus Worksheet**
  - адhoc SQL и PL/SQL запросы
  - DBA команды
  - выполнение скриптов



# DBA Studio

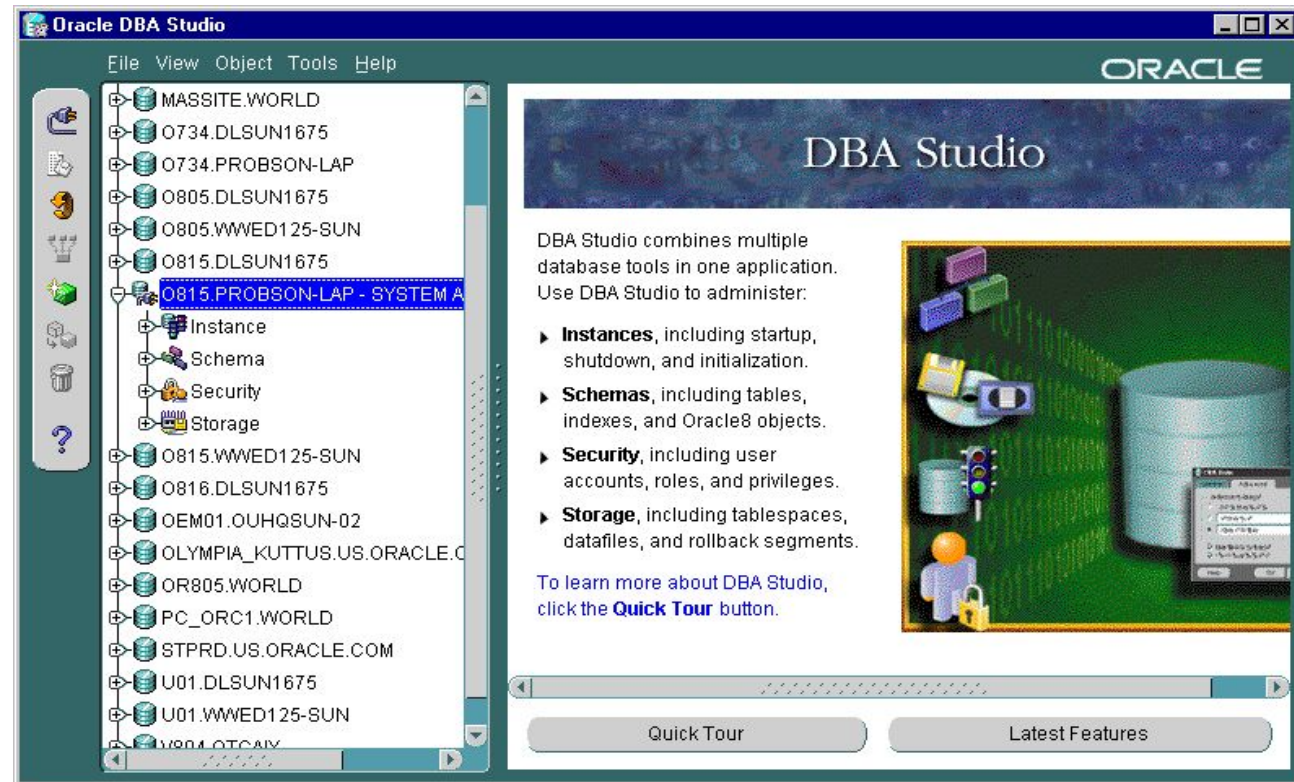


- **Read Only Mode**

  - SELECT\_CATALOG\_ROLE

- **Просмотр сгенерированных команд DDL and DML**

- **Доступ к нескольким БД**





# DBA Studio



- **Сохранение и просмотр суммарных страниц (например, список пользователей) в HTML формате**

The screenshot shows the Oracle DBA Studio interface. The 'File' menu is open, and the 'Save List...' option is highlighted. The main window displays a table of database users with the following columns: Username, Account Status, Expire Date, Default Tablespace, and Temporary Tablespace.

Username	Account Status	Expire Date	Default Tablespace	Temporary Tablespace
BLAH1	OPEN	NONE	USER_DATA	TEMPTEST2
CMDEV	OPEN	NONE	USER_DATA	TEMP
CMPROD	OPEN	NONE	USER_DATA	TEMP
DBSNMP	OPEN	NONE	SYSTEM	SYSTEM
EMV20_REP	OPEN	NONE	OEM_DATA	TEMP
EMV21_REP	OPEN	NONE	OEM_DATA	TEMP
GROCERY	OPEN	NONE	DIM	TEMP
LAURA	OPEN	NONE	USER_DATA	TEMP
OPS\$PROBSON	OPEN	NONE	USER_DATA	TEMP
OUTLN	OPEN	NONE	SYSTEM	SYSTEM
PETER	OPEN	NONE	USER_DATA	TEMP
SANGRAM	OPEN	NONE	USER_DATA	TEMP
SCOTT	OPEN	NONE	USER_DATA	TEMP
SYS	OPEN	NONE	SYSTEM	TEMP
SYSMAN	OPEN	NONE	OEMV1_DATA	TEMP
SYSTEM	OPEN	NONE	USER_DATA	TEMP
TEST	OPEN	NONE	TEST_DATA	TEMP
TRAINING	OPEN	NONE	USER_DATA	TEMP



# Instance Management

# Instance Manager



- **Общая информация о БД (имя, режимы)**
- **Информация о параметрах БД и ее состоянии**
- **Информация о сеансах (кто, статус, SQL...)**
- **Поддержка Resource Management**
- **Размеры SGA**

# Instance Management

## Параметры



- **Динамическая и статическая информация**
- **Описание параметров**

The screenshot shows a window titled "Edit Database : Database - SYSTEM@0815.PROBSON-LAP". It contains a table of database parameters with columns for parameter name, value, and category. The "ifile" parameter is highlighted in blue. Below the table are buttons for "OK", "Save As...", "Description", "Cancel", and "Help". A "Description" section is expanded, showing the details for the "ifile" parameter.

Parameter Name	Value	Category
hs_autoregister	TRUE	Distributed, Replication a...
<b>ifile</b>		<b>Miscellaneous</b>
instance_groups		OPS
instance_name		Network Registration
instance_number	0	OPS
java_max_sessionspace_size	0	Processes and Sessions
java_pool_size	1000000	Pools
java_soft_sessionspace_limit	0	Processes and Sessions
job_queue_interval	60	Job Queues

**Description**

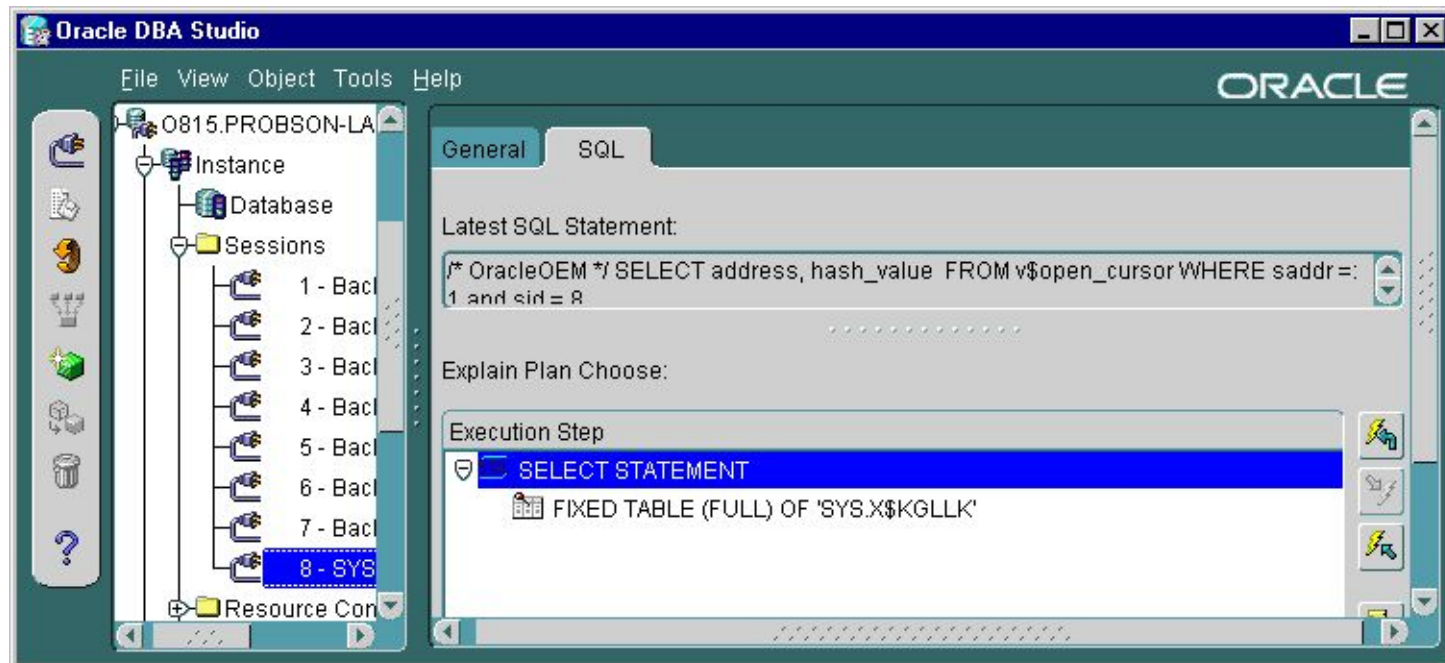
Description : Used to embed other parameter files in the current parameter file. You can include this parameter multiple times, on separate lines, in one parameter file, but there is a maximum of three levels of nesting.  
Range of Values: Any valid parameter file name (syntax is IFILE = parameter\_file\_name).  
Default Value : NULL

# Instance Management

## Сеансы



- **Общая статистика**
- **SQL и explain plan**



# Instance Management

## *Oracle®i Resource Management*



- **Создание consumer groups и plans**
- **Активизация Oracle®i resource plans**

The screenshot shows the Oracle DBA Studio interface. The left pane displays a tree view of the database instance structure, with 'Resource Plan' expanded to show 'SYSTEM\_PLAN'. The main pane shows the configuration for 'SYSTEM\_PLAN'. The 'Name' field is set to 'SYSTEM\_PLAN'. The 'Allocation' section shows 'Available Groups/Subplans' with 'DEFAULT\_CONSUMER\_GROUP' listed. Below this is a table showing resource allocation for different groups.

Group/Subplan	Level 1 - 100%	Level 2 - 100%	Level 3 - 100%	Level 4 -
LOW_GROUP	0	0	100	0
OTHER_GROUPS	0	100	0	0

# Instance Management

## SGA



- **Отображает процентное соотношение основных параметров SGA**

The screenshot shows the Oracle DBA Studio interface. The left pane displays a tree view of the database instance '0815.PROBSON-LA', with 'Database' selected. The right pane shows the 'Memory' tab, which includes 'SGA Parameters' and 'User Session Parameters'. The SGA Parameters section lists:

Parameter	Value	Unit
Shared Pool	6	MB
Buffer Cache	1000	KB
Large Pool	0	MB
Java Pool	976	KB
Total SGA	8.22282	MB

A pie chart to the right of the SGA Parameters section visualizes the distribution of memory. The Shared Pool (yellow) is the largest component, followed by the Java Pool (purple), Buffer Cache (blue), and Large Pool (green).

A stylized world map in shades of blue and green, centered on the Atlantic Ocean, serving as a background for the title. Two horizontal red lines are positioned above and below the map.

# Storage Management



# Storage Manager

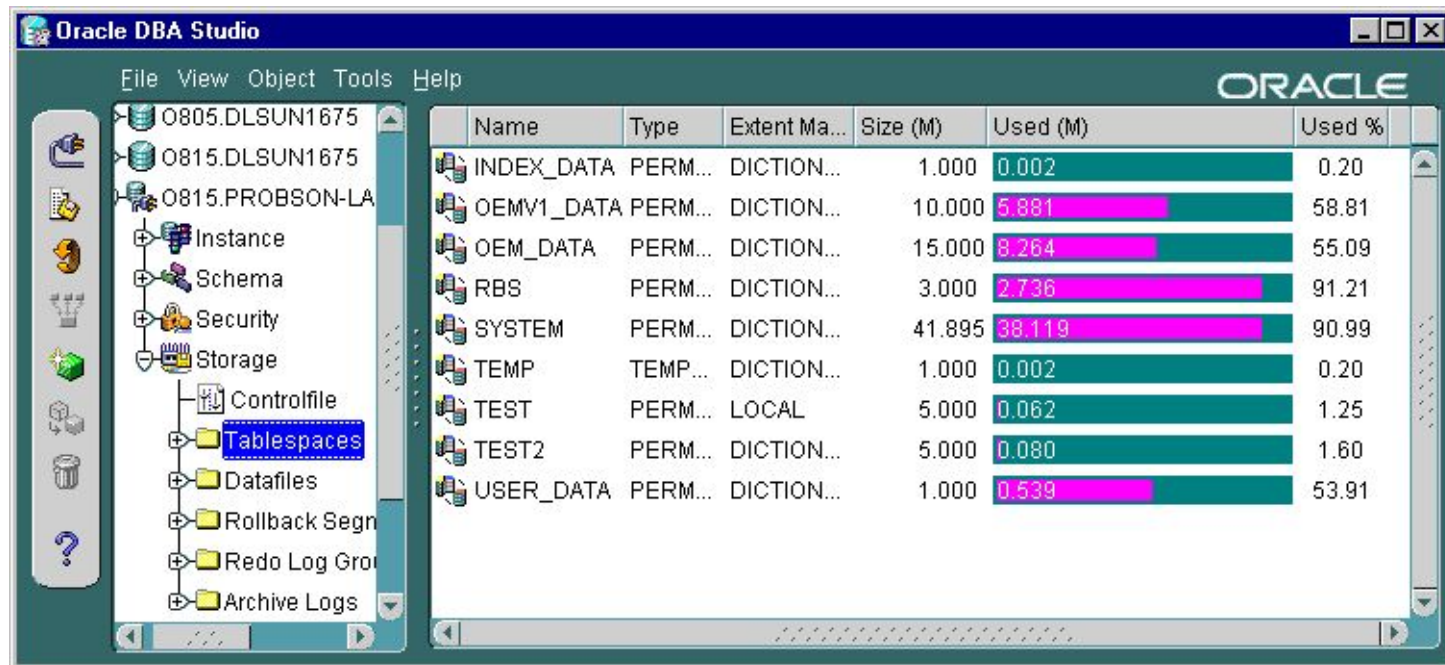


- **Tablespaces**
- **Rollbacks**
- **Datafiles**
- **RedoLogs**
- **Информация о Control files (backup)**
- **Информация о Archived Logs**
- **Наличие свободного места в TS и файлах**

# Storage Management *Summary Pages*



- **Свободное пространство и размер Tablespace**
  - Bar graphs
  - “% Used”



# Storage Management

## *Tablespaces*



The screenshot displays the Oracle DBA Studio interface. The left-hand tree view shows the 'Storage' folder expanded to 'Tablespaces', with 'TEMP\_LOCAL' selected. A context menu is open over 'TEMP\_LOCAL', listing options such as 'Create...', 'Create Like...', 'Edit...', 'Remove', 'Show Dependencies...', 'Add Datafile...', and 'Add Rollback Segment...'. The 'Storage' tab in the main pane shows the 'TEMPFILES' table with the following data:

File Name	File Directory	Size	Used
TEMP_LOCAL.ORA	D:\ORADATA\O815\	5 MB	0.000

The 'Name' field at the top of the Storage pane is set to 'TEMP\_LOCAL'. A 'Read Only' checkbox is visible at the bottom of the pane.

# Storage Management

## *Control Files*



- **Размещение control файлов**
- **Характеристики Control файлов**

The screenshot shows the Oracle DBA Studio interface. The left pane displays a tree view of the database structure, with 'Controlfile' selected under 'Storage'. The right pane shows the 'Record Section' for the Controlfile, which includes a table of mirror images and a section for controlfile information.

	File Name	File Directory
<input checked="" type="checkbox"/>	CONTROL01.CTL	D:\ORADATA\10815\
<input checked="" type="checkbox"/>	CONTROL02.CTL	D:\ORADATA\10815\

Controlfile Information

Database ID:	2124827862
Controlfile Type:	CURRENT
Controlfile Creation Date:	May 21, 1999 5:31:45 PM
Controlfile Sequence Number:	1647
Last Change Number:	1301091



# Schema Management

# Schema Manager



- **Все объекты Oracle**
- **Создать, удалить, редактировать (описания/данные)**
- **Drop column**
- **Analyze**
- **Wizard (table, view ...)**
- **Спец операции для каждого объекта**
- **Improved Data Warehouse support**
  - **Oracle8i Materialized View**
  - **Oracle8i Summary Management**

# Schema Management

## *Analyze Objects*



- Анализ tables, indexes & clusters (если связан с OMS)

**Analyze Wizard**

**Override Analyze Options**

Object list to be analyzed

- SCOTT.EMP
- SCOTT.DEPT

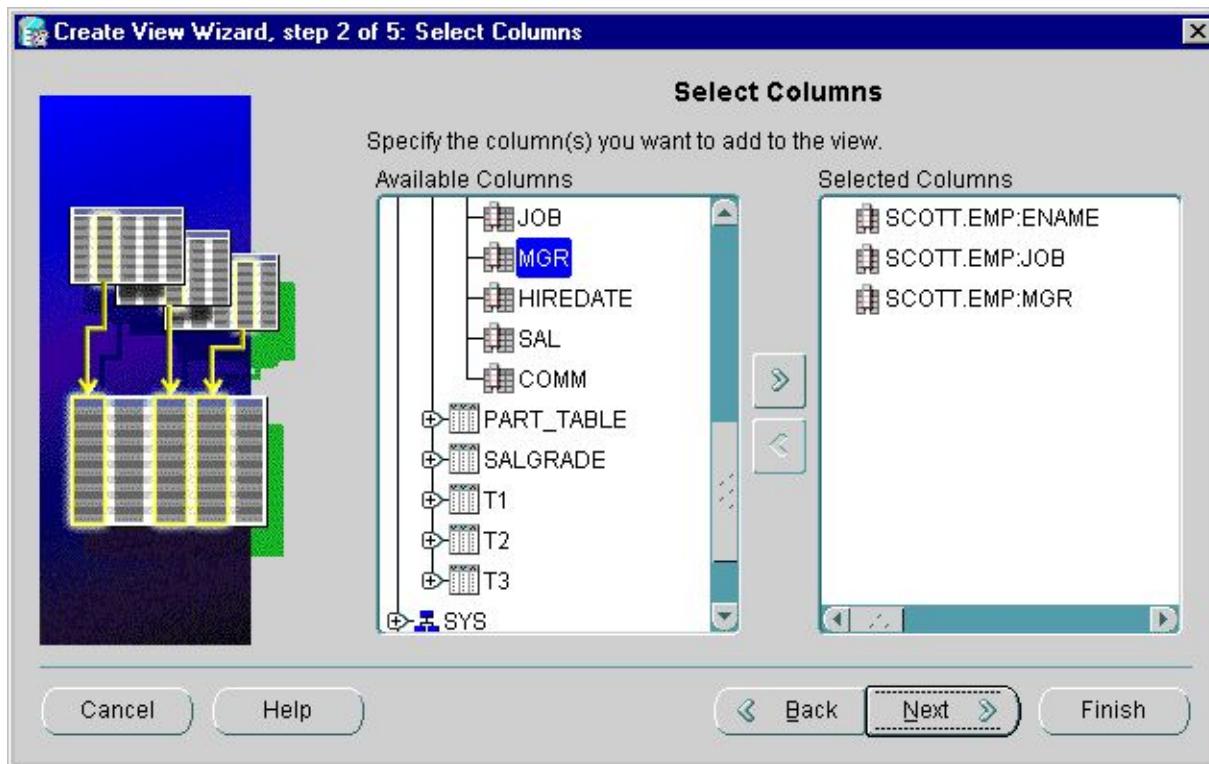
Specify analyze options for : SCOTT.EMP

- Compute Statistics  
Compute statistics and store them in the data dictionary
- Delete Statistics  
Delete statistics from the data dictionary
- Estimate Statistics  
Estimate statistics and store them in the data dictionary
  - Row
  - Percent
- Validate structure  
Validate structure of the objects
  - Cascade (Validates structure of indexes)
- List migrated and continued rows  
Identify migrated and continued rows of the analyzed table or cluster  
Continued rows table

Cancel Help Back Next Finish

# Schema Management

## *Create View Wizard*



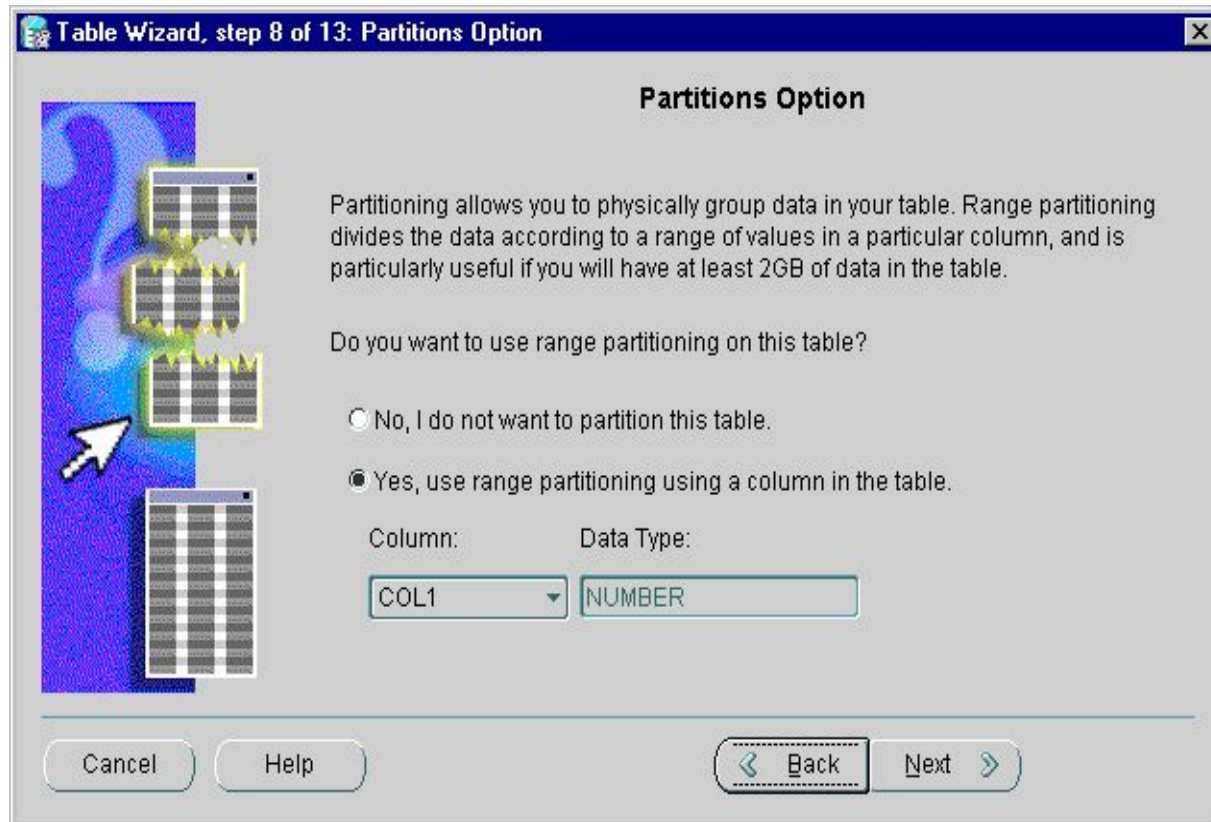


# Schema Management

## *Create Range Partitions*



- **Create range partitions c Create Table wizard**

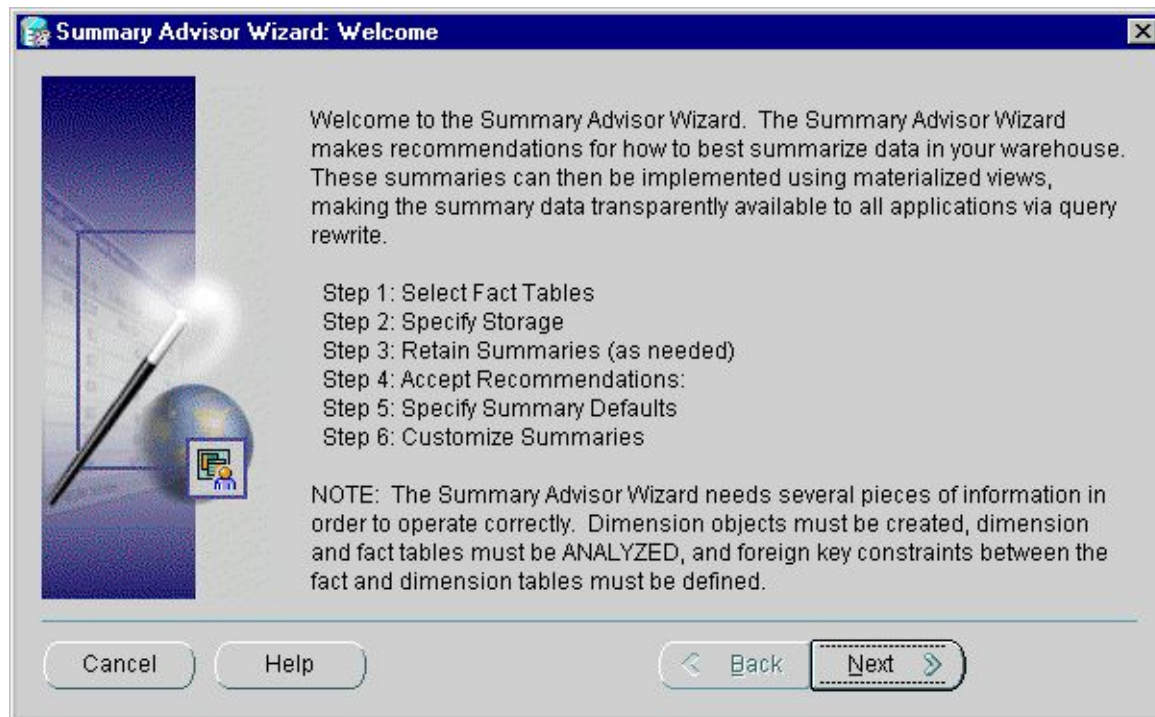


# Schema Management

## *Summary Advisor*



- **Create Materialized Views (MV's) using the Summary Advisor wizard**



A stylized world map in shades of blue and green, centered on the Atlantic Ocean, serving as a background for the title. Two horizontal red lines are positioned above and below the map.

# Security Management



- **Пользователи**
- **Роли**
- **Профайлы**

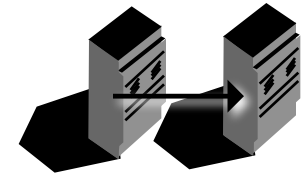
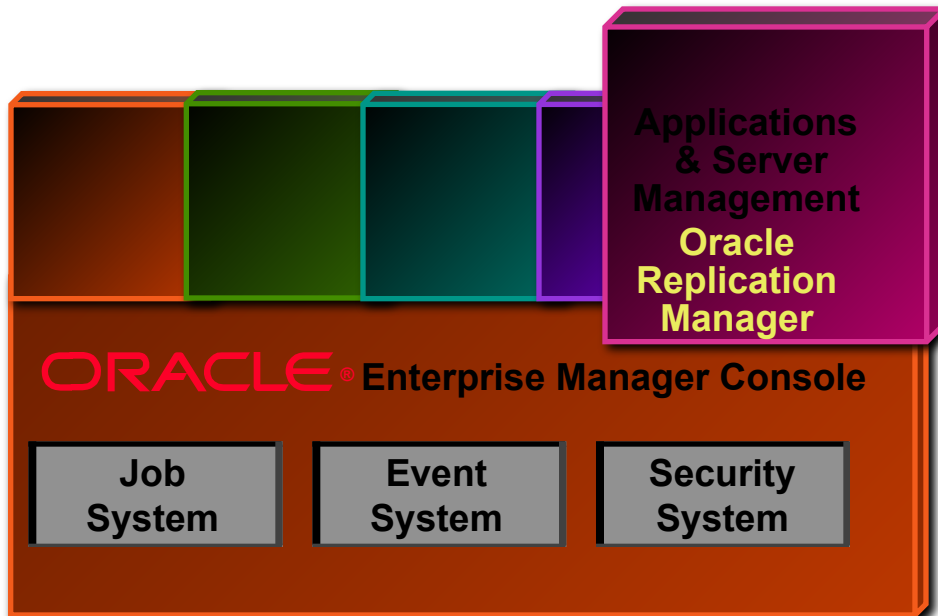


- **Прочие модули приходят с опциями Oracle**

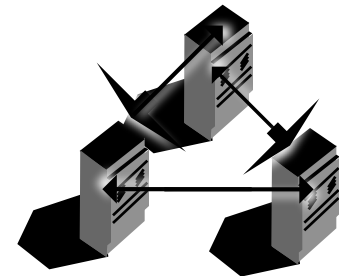
# Replication Manager



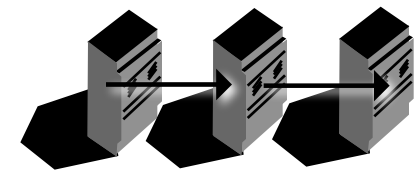
- **Облегчает конфигурирование репликации**



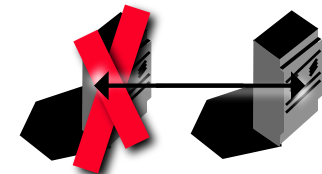
**Primary Site**



**Update Anywhere**



**Workflow**

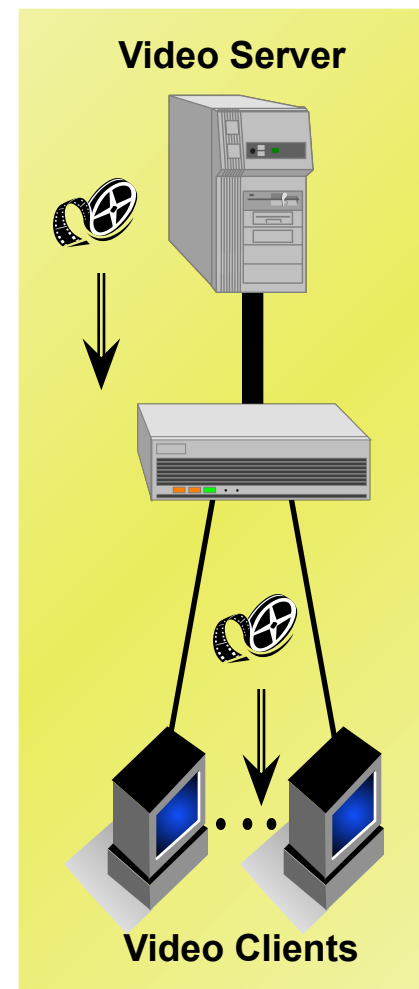
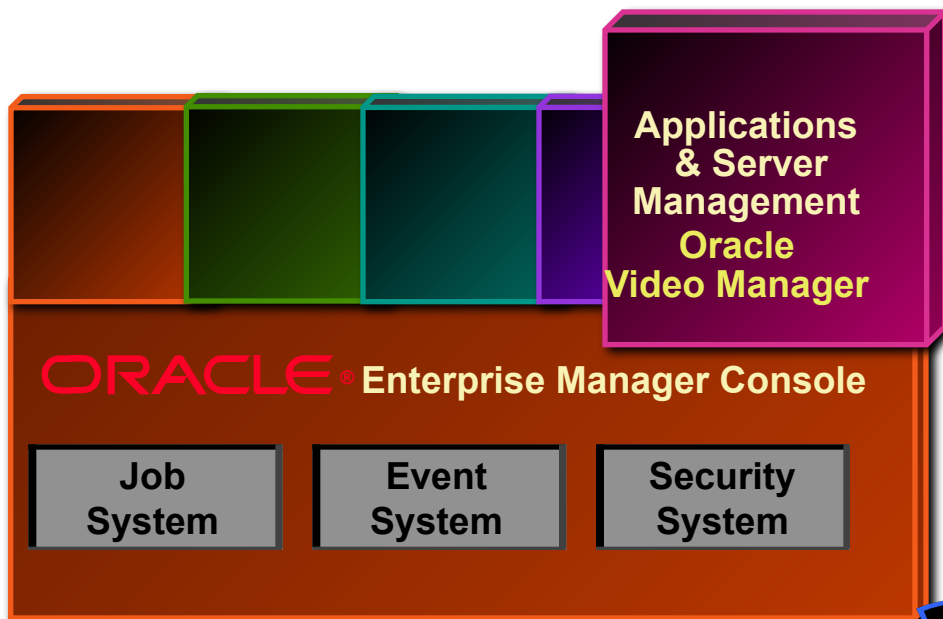


**Failover**

# Управление Video Server и Clients



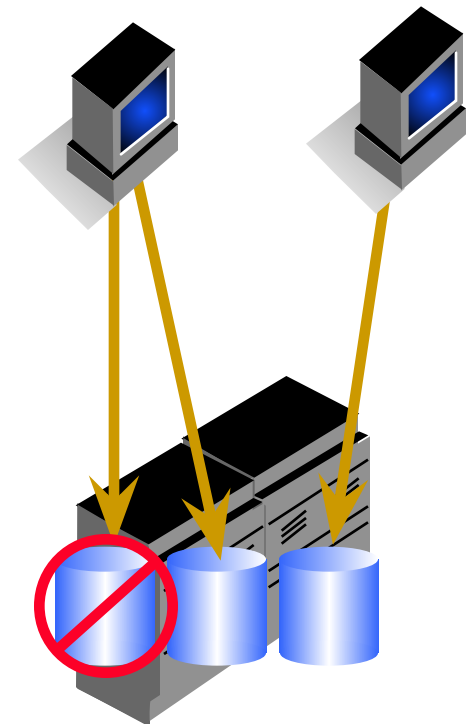
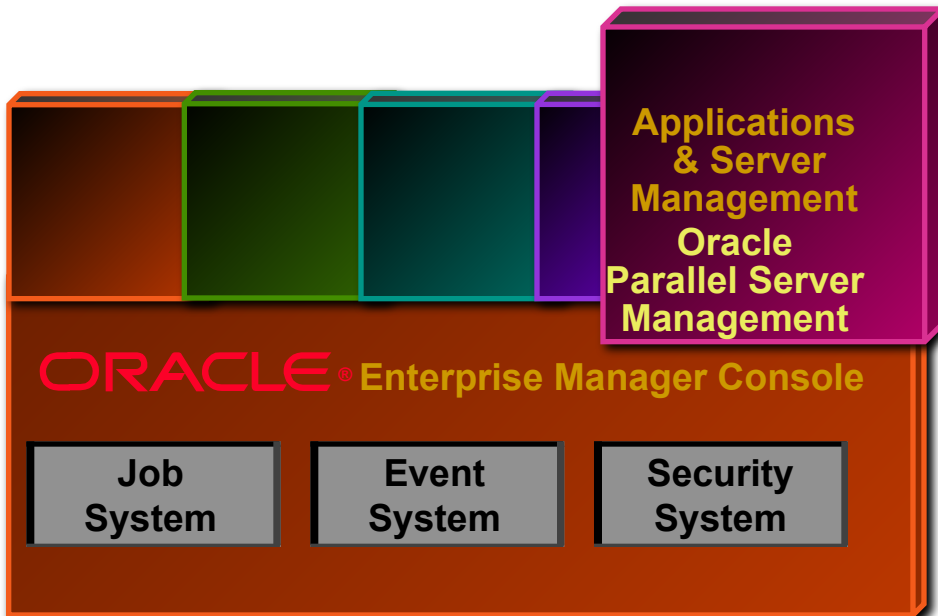
- **Управляет Видео серверами, потоками и клиентами**
- **Упрощает конфигурирование и обслуживание Видео сервера**



# Oracle Parallel Server



- Упрощает управление несколькими экземплярами Oracle
- Отслеживает и настраивает х-ки, специфические для Parallel Servers





# Oracle Enterprise Manager

## ДОПОЛНИТЕЛЬНЫЕ МОДУЛИ



- **Oracle Replication manager**
- **Oracle Video Server manager**
- **Oracle Parallel Server manager**
- **Oracle Intermedia Text manager**
- **Oracle Application Server manager**
- **Oracle Developer Server Forms Manager**
- **Oracle Spatial Index Advisor**
- **Oracle Failsafe**
- **Oracle Express**
- **Oracle Applications manager**
- **Oracle Directory Manager**
- **Oracle Enterprise Security Manager**

plus more ...

# Открытые интерфейсы

