




# ORACLE®

## Oracle Database Vault and Applications Unlimited Certification Overview

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Oracle Corporation



The following is intended to outline our general product direction. It is intended for information purposes only, and may not be incorporated into any contract. It is not a commitment to deliver any material, code, or functionality, and should not be relied upon in making purchasing decisions. The development, release, and timing of any features or functionality described for Oracle's products remains at the sole discretion of Oracle.

# Content Overview

- What we heard from our customers
- E-Business Suite Certification with Database Vault
  - Protection policy overview
  - Demonstration
  - Supported releases
- Regulatory overview snapshot
- Oracle Database Vault certification summary
- Certification with PeopleSoft and Siebel
- Learn more
- Q&A

# What we heard from our customers...

- “Our DBAs must be able to manage the database but should not be able to read sensitive application data.”
- “Users should not be able to by-pass applications to access information in the database directly.”
- “The Finance department should not be able to run reports during production.”
- “New DBAs should not be able make database changes alone.”
- “Auditors always look for database accounts and their responsibilities. We need to control DBAs ability to create new database accounts.”

# Key Drivers to Customers

- **Stronger IT / Internal Security Controls**
  - Prevent DBA access to Applications data
  - Enforce Separation of duty in the Applications database
  - Strong controls on remote / off-shore Applications administration
  - Real-time preventive controls can prevent ad-hoc changes or access to Applications environment
- **Regulatory and Privacy Requirements**
  - Sarbanes-Oxley (SOX), GLBA, HIPAA, PCI
  - Regulations continue to expand in global economy
    - Japan, Korea have similar versions of SOX
  - Protect Personally Identifiable Information (PII)
    - 40+ US States have privacy breach disclosure laws
    - European Union Data Privacy requirements

# E-Business Certification Announcement

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Press Release

Source: Oracle

## Oracle(R) Database Vault Certified for the Oracle E-Business Suite

Thursday February 7, 8:00 am ET

### Policies and Best Practices Help Secure Sensitive Application Data from Even Privileged Users

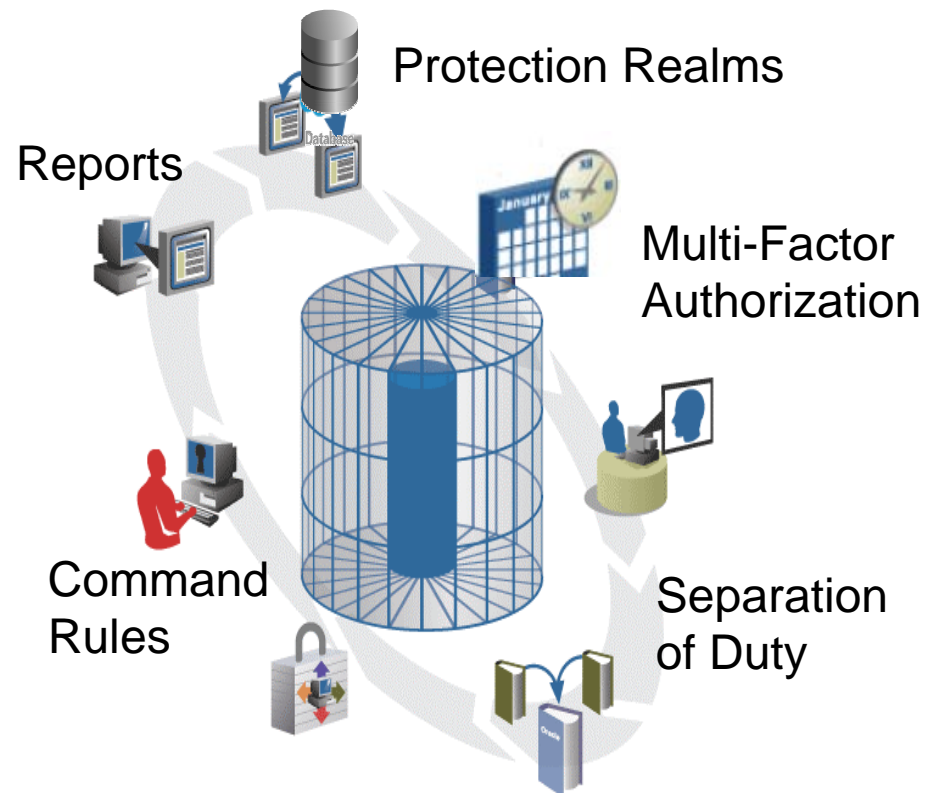
REDWOOD SHORES, Calif., Feb. 7 /PRNewswire-FirstCall/ -- Oracle today announced the certification of Oracle® Database Vault for use with the Oracle E-Business Suite. This enables customers to better protect sensitive application data from unauthorized access by any user, including privileged users, misusing their database privileges. Oracle Database Vault is the industry's most advanced database security product designed to enforce when, where, how, and by whom, data can be accessed.

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# Oracle Database Vault

## Transparent Access Controls

- Controls on privileged users
  - Restrict highly privileged users from application data
  - Provide Separation of Duty
  - Security for database and information consolidation
- Real time access controls
  - Control who, when, where and how data is accessed
  - Make decision based on IP address, time, auth...

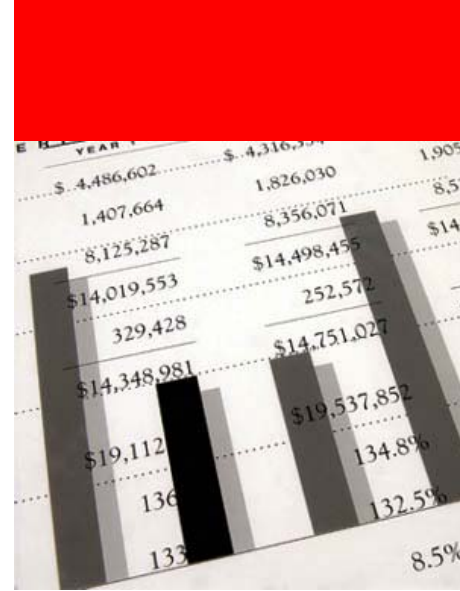


# Oracle E-Business Suite

## Database Vault Out-of-the-Box Access Control Policies

- New and existing named database users with DBA role
  - Oracle Database Vault **pre-seeded Realms** prevent access to E-Business Suite application data
  - Oracle Database Vault **Separation of Duty** prevents new account creation or changing of passwords
- Extensibility
  - Define custom command rules to **restrict ad-hoc access** to specific Factors such as IP addresses or subnets
  - Define **custom realms** for E-Business Suite





## Demonstration:

Protecting application data from privileged users

# DBA\_JSMITH Tries To Access Sensitive Data

The screenshot shows the Oracle SQL Developer interface. The title bar reads "Oracle SQL Developer : EBS - DBA\_JSMITH". The menu bar includes File, Edit, View, Navigate, Run, Debug, Source, Tools, and Help. The toolbar contains various icons for file operations and execution. The Connections pane on the left shows a tree view for the "EBS - DBA\_JSMITH" connection, including Tables, Views, Indexes, Packages, Procedures, Functions, Triggers, Types, Sequences, Materialized Views, Materialized Views Logs, Synonyms, Public Synonyms, Database Links, Public Database Links, Directories, XML Schemas, Recycle Bin, and Other Users. The main editor window displays the following SQL statement:

```
select a.full_name, a.date_of_birth, a.marital_status, a.national_identifier, b.card_number
from HR.per_all_people_f a, AP.ap_cards_all b
where a.person_id = b.employee_id;
```

Below the editor, the Results pane is visible, showing tabs for Results, Script Output, Explain, Autotrace, DBMS Output, and OWA Output. The Results section is currently empty.

# DBA\_JSMITH Able To Access Sensitive Data

Oracle SQL Developer : EBS - DBA\_JSMITH

File Edit View Navigate Run Debug Source Tools Help

Connections

EBS - DBA\_JSMITH

0.08827435 seconds

EBS - DBA\_JSMITH

Enter SQL Statement:

```
select a.full_name, a.date_of_birth, a.marital_status, a.national_identifier, b.card_number
from HR.per_all_people_f a, AP.ap_cards_all b
where a.person_id = b.employee_id;
```

Results Script Output Explain Autotrace DBMS Output OWA Output

Results:

	FULL_NAME	DATE_OF_BIRTH	MARITAL_STATUS	NATIONAL_IDENTIFIER	CARD_NUMBER
1	Stock, Ms. Pat	15-MAY-55	SE	561-77-8990	5500 7493 1638 2915
2	Stock, Ms. Pat	15-MAY-55	SE	561-77-8990	5500 8800 9900 0000
3	Frost, Mr. Jamie	08-APR-54	M	901-66-8761	5500 7494 1639 2716
4	Frost, Mr. Jamie	08-APR-54	M	901-66-8761	5500 6600 7700 8800
5	Jones, Ms. Kerry	14-APR-69	S	654-33-6511	5500 6600 7700 9900
6	Marlin, Ms. Amy	03-MAR-61	S	253-46-8027	5500 7493 1638 2715
7	Frost, Mr. Jamie	08-APR-54	M	901-66-8761	5500 7494 1639 2716
8	Frost, Mr. Jamie	08-APR-54	M	901-66-8761	5500 6600 7700 8800
9	Jones, Ms. Kerry	14-APR-69	S	654-33-6511	5500 6600 7700 9900
10	Brown, Ms. Casey	09-JUN-60	CL	324-11-0865	4444-3333-1212-1234
11	Marlin, Ms. Amy	03-MAR-61	S	253-46-8027	5500 7493 1638 2715

# Database Vault Administration Page

Database Instance: ap628s01

**Administration** [Database Vault Reports](#) [General Security Reports](#) [Monitor](#)

The links below allow you to protect applications and data using Oracle Database Vault features that include: Realms, Command Rules, Rule Sets, Factors, and Secure Application Roles.

## Database Vault Feature Administration

[Realms](#)

[Command Rules](#)

[Factors](#)

[Rule Sets](#)

[Secure Application Roles](#)

[Label Security Integration](#)

**Administration** [Database Vault Reports](#) [General Security Reports](#) [Monitor](#)

# Security Administrator Defines EBS Realm

Database Instance: [ap628s01](#) > [Realm](#) > Edit Realm: EBS Realm

Logged in as EBZDVO

## Edit Realm: EBS Realm

Enable or disable the enforcements for objects protected by the realm and to control the auditing that occurs during this enforcement.

### General

\* Name

Description

Status  Enabled  
 Disabled

### Audit Options

Audit Disabled  
 Audit On Failure  
 Audit On Success or Failure

# EBS Realms Defined Out-of-the-Box

## Realms

Database Vault realms provide a capability to classify database schemas and database roles into functional groups in order to provide fine-grained access control of the ability to use system level privileges against these types of database objects.

Create

Edit

Remove

Select	Name ▾	Audit Options	Oracle Defined Realm?	Objects Protected?	Users Authorized?	Status
<input type="radio"/>	Oracle Enterprise Manager	Audit On Failure	✓	✓	✓	✓
<input type="radio"/>	Oracle Database Vault	Audit On Failure	✓	✓	✓	✓
<input type="radio"/>	Oracle Data Dictionary	Audit On Failure	✓	✓	✓	✓
<input type="radio"/>	EBS Realm - MSC Schema	Audit On Failure		✓	✓	✓
<input type="radio"/>	EBS Realm - Apps Schema	Audit On Failure		✓	✓	✓
<input type="radio"/>	EBS Realm - Applsypsub Schema	Audit On Failure		✓	✓	✓
<input type="radio"/>	EBS Realm - Applsyst Schema	Audit On Failure		✓	✓	✓
<input checked="" type="radio"/>	EBS Realm	Audit On Failure		✓	✓	✓
<input type="radio"/>	Database Vault Account Management	Audit On Failure	✓	✓	✓	✓
<input type="radio"/>	CTXSYS Data Dictionary	Audit On Failure		✓	✓	✓

# DBA\_JSMITH Tries To Access Sensitive Data

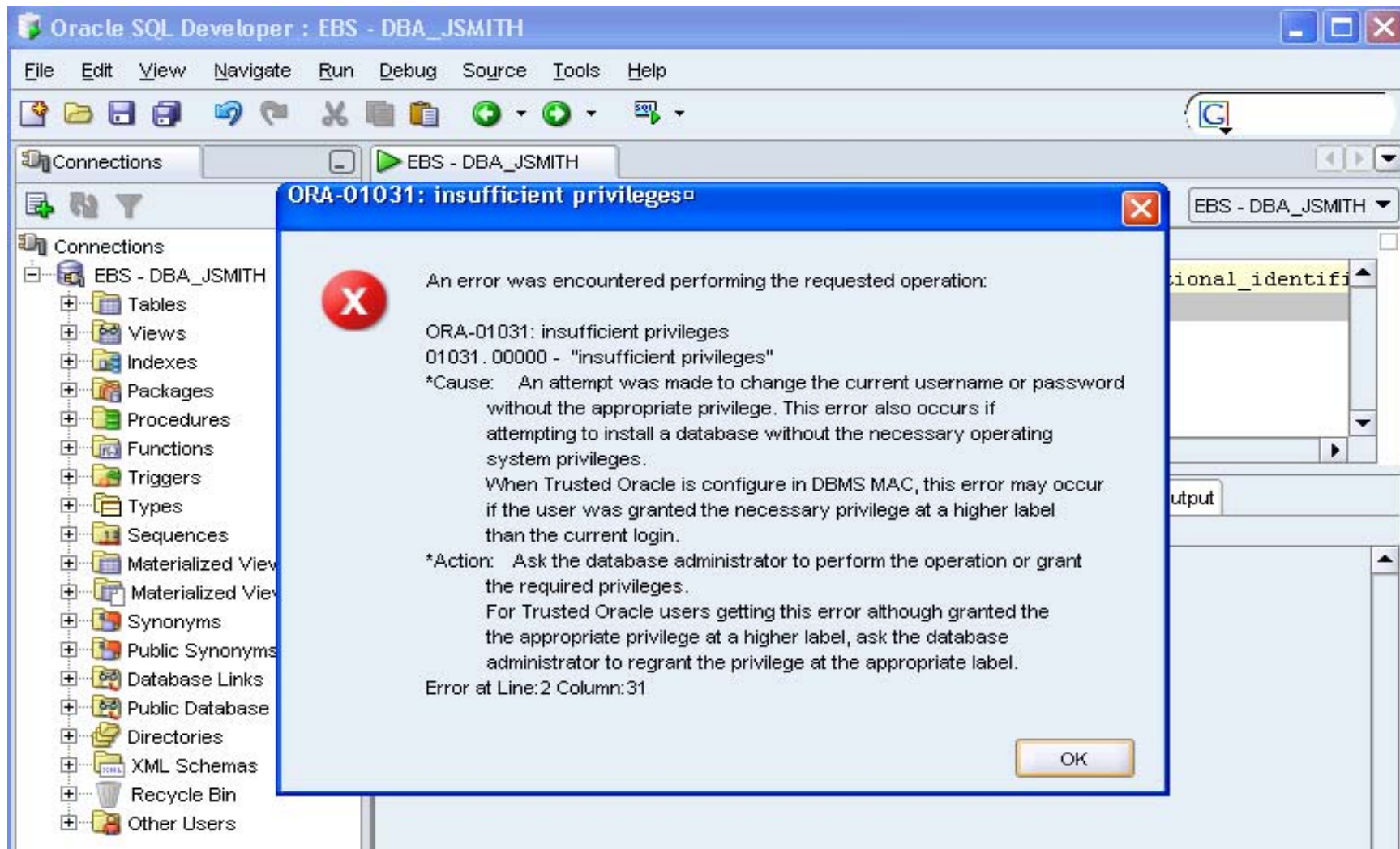
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```
select a.full_name, a.date_of_birth, a.marital_status, a.national_identifier, b.card_number
from HR.per_all_people_f a, AP.ap_cards_all b
where a.person_id = b.employee_id;
```

Below the SQL editor, there are tabs for "Results", "Script Output", "Explain", "Autotrace", "DBMS Output", and "OWA Output". The "Results" tab is active, and the "Results:" area is currently empty.



# DBA\_JSMITH Blocked By Realm Protection





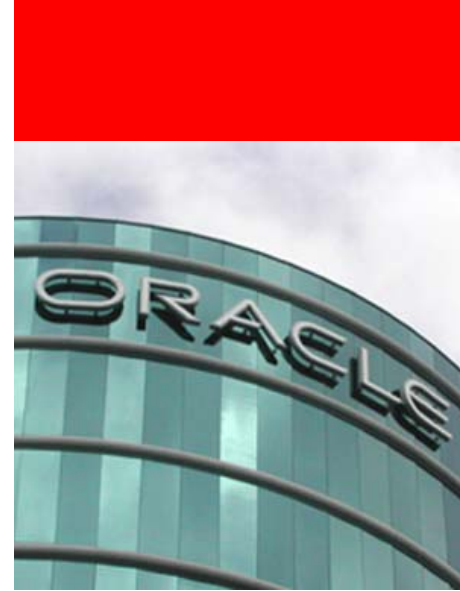
## Oracle Database Vault (DBV)

Regulatory Legislation	Regulation Requirement	Does DBV Mitigate This Risk?
Sarbanes-Oxley Section 302	Unauthorized changes to data	<b>Yes</b>
Sarbanes-Oxley Section 404	Modification to data, Unauthorized access	<b>Yes</b>
Sarbanes-Oxley Section 409	Denial of service, Unauthorized access	<b>Yes</b>
Gramm-Leach-Bliley	Unauthorized access, modification and/or disclosure	<b>Yes</b>
HIPAA 164.306	Unauthorized access to data	<b>Yes</b>
HIPAA 164.312	Unauthorized access to data	<b>Yes</b>
Basel II – Internal Risk Management	Unauthorized access to data	<b>Yes</b>
CFR Part 11	Unauthorized access to data	<b>Yes</b>
Japan Privacy Law	Unauthorized access to data	<b>Yes</b>
PCI – Requirement 7	Restrict access to cardholder data by business need-to-know	<b>Yes</b>
PCI – Requirement 8.5.6	Enable accounts used by vendors for remote maintenance only during the time period needed	<b>Yes</b>
PCI – Compensating Controls for Requirement 3.4	Provide ability to restrict access to cardholder data or databases based on the following criteria: <ul style="list-style-type: none"> <li>▪ IP address/Mac address</li> <li>▪ Application/service</li> <li>▪ User accounts/groups</li> </ul>	<b>Yes</b>
PCI - Requirement A.1: Hosting providers protect cardholder data environment	Ensure that each entity only has access to own cardholder data environment	<b>Yes</b>

# E-Business Suite Supported Versions

## Certification with Oracle Database Vault

- E-Business Suite
  - Release 11.5.10 CU2
  - Customers are encouraged to pick the latest Rollup Patch (RUP)
  - Latest RUP is RUP6
  - Apply the EBS patch that creates the Database Vault protections
  - Protections apply to all E-Business Suite modules such as: ERP, Financials, HR, CRM ...etc
  - Metalink note 428503.1 has all the Instructions
- Oracle DB Versions:
  - Oracle Database 10.2.0.3
  - One-off Database Vault patch



## **Oracle E-Business Suite**

# **Database Vault Application Protection Matrix**

# Database Vault with EBS 11i

## Delivered Security Policies

Realm Name	What is Protected?	Who is authorized to access?
EBS Realm	All tables in Oracle E-Business Suite 11i Product Schemas	All Oracle E-Business Suite 11i Product Schemas and APPS, APPLSYS, SYSTEM, CTXSYS
EBS Realm - Applsyst Schema	Most tables in the APPLSYS Schema	APPS, APPLSYS, SYSTEM and CTXSYS
EBS Realm - Apps Schema	All objects in the APPS Schema (except the views)	APPS, APPLSYS, SYSTEM, CTXSYS and All product schemas, that uses intermedia indexes
EBS Realm - Applsystpub Schema	Objects required for EBS authorization	APPS, APPLSYS, SYSTEM, APPLSYSPUB and CTXSYS
EBS Realm - MSC Schema	Tables in the MSC Schema - except those, which require partitions to be exchanged (see script for full details)	APPS, APPLSYS, SYSTEM, CTXSYS and MSC
CTXSYS Data Dictionary	Objects in the CTXSYS Schema	All Oracle E-Business Suite 11i Product Schemas and APPS, APPLSYS, SYSTEM



## **Oracle E-Business Suite**

# **Database Vault Certification Technical Details**

# Database Vault with E-Business Suite

## Delivered Security Policies

- EBS Realm
  - What is protected?
    - All tables in Oracle E-Business Suite 11i product schemas
  - Who is authorized?
    - All Oracle E-Business Suite 11i product schemas and APPS, APPLSYS, SYSTEM, CTXSYS users

# Database Vault with E-Business Suite

## Delivered Security Policies

- EBS Realm – Applsyst Schema
  - What is protected?
    - Most tables in the APPLSYS schema
  - Who is authorized?
    - APPS, APPLSYS, SYSTEM and CTXSYS

# Database Vault with E-Business Suite

## Delivered Security Policies

- EBS Realm – Apps Schema
  - What is protected?
    - All objects in the APPS Schema (except the views)
  - Who is authorized?
    - APPS, APPLSYS, SYSTEM, CTXSYS and all product schemas, which uses Intermedia indexes



# Database Vault with E-Business Suite

## Delivered Security Policies

- EBS Realm – Applsypub Schema
  - What is protected?
    - All objects required for boot-strapping the EBS applications
  - Who is authorized?
    - APPS, APPLSYS, SYSTEM, APPLSYSPUB and CTXSYS

# Database Vault with E-Business Suite

## Delivered Security Policies

- EBS Realm – MSC Schema
  - What is protected?
    - All Tables in the MSC schema except those requiring partitions to be exchanged
  - Who is authorized?
    - APPS, APPLSYS, SYSTEM, APPLSYSPUB, MSC and CTXSYS

# Database Vault with E-Business Suite

## Delivered Security Policies

- CTXSYS Data Dictionary
  - What is protected?
    - All objects owned by CTXSYS Schema
  - Who is authorized?
    - All Oracle EBS product schemas in addition to APPS, APPLSYS, and SYSTEM
    - APPS, APPLSYS, and CTXSYS are authorized to the Data Dictionary Realm as well

# Database Vault with E-Business Suite

## Patching and Cloning Instructions

- Patching and cloning
  - Step by step instructions provided for EBS patching
  - Database tier cloning works as it is without changes
  - Middle tier cloning works as it is without changes

# Database Vault with E-Business Suite

## Extending The Oracle-Supplied Realms

- Why extending the Oracle-supplied realms
  - Customers have additional security requirements
  - Customers need to create additional realms
  - Customers need to authorize named EBS DBAs to realms
  - Step by step how to instructions provided
    - Refer to metalink note 428503.1

# Database Vault with E-Business Suite

## Delivered Security Policies

- Middle tier 10gAS SSO/OID integration
  - No change is needed, if the integration was done before installing Oracle Database Vault
  - If the integration will be done after, step by step instructions provided
    - Refer to metalink note 428503.1
- Middle tier 10gAS Portal integration
  - Works as it is with no special instructions
- Oracle 10gAS Discoverer integration
  - Step by step instructions provided on what needs to be done
    - Refer to metalink note 428503.1

# Major Financial Services Company

## Use Case

- Control Privileged Users
  - Prevent DBAs from accessing sensitive data in Realms
  - Setup multiple levels of DBAs
- Control Access based upon environmental factors
  - Restrict hostnames authorized to access the DB
  - Control access based on geography
- Control use of ad-hoc query tools; Enforce maintenance periods
  - Restrict connections by ad-hoc query tools to maintenance times or specific users
- Control Patching activity
  - Patching activity requires another monitoring user to be logged in
- Control unauthorized database changes

# Oracle Database Vault

## Applications Certification Summary

### Application / Product

- PeopleSoft Applications
- E-Business Suite Applications
- Oracle Siebel Applications
- Other partner applications
  
- Oracle Content DB
- Oracle Internet Directory

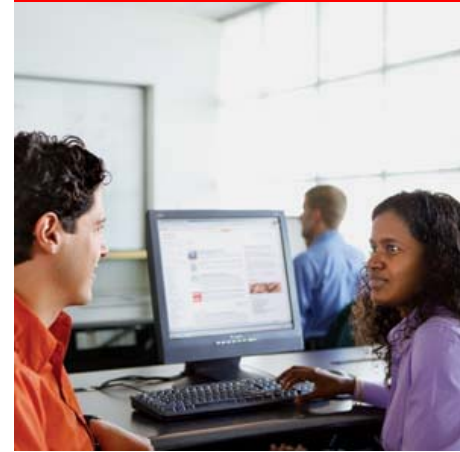
### Status



(In progress)







# **Certification** With PeopleSoft Applications

# PeopleSoft Validation **Announcement**

- Database Vault is Validated with PeopleSoft Applications
- Press Release issued at RSA 2007

## ***Security***

February 2, 2007

Oracle Set to Stake Security Claim

By [Clint Boulton](#)

Press Release

Source: Oracle Corporation

**Oracle(R) Database Vault Delivers Unrivaled Secure Data Access Control for PeopleSoft Applications**

Wednesday February 7, 8:30 am ET

**Certification With Oracle's PeopleSoft Enterprise Applications Helps Organizations Strengthen Enterprise Security**

REDWOOD SHORES, Calif., Feb. 7 /PRNewswire-FirstCall/ -- In response to customer demand, Oracle (Nasdaq: [ORCL](#) - [News](#)) today announced that Oracle® Database Vault, the industry's most advanced security product designed to protect and limit access to sensitive data and applications, is now certified with Oracle's PeopleSoft Enterprise applications.

## ***NEWS***

February 7, 2007

Oracle Database Vault Delivers Secure Data Access Control for PeopleSoft Applications

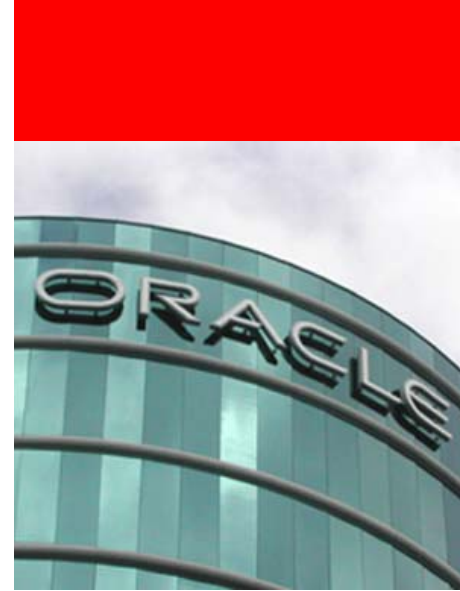
**Oracle picks up certifications, introduces new software (InfoWorld)**

8 feb 2007 | Source: Yahoo News

# Validation with PeopleSoft Applications

## Supported Versions

- PeopleSoft apps less than 8.4 (e.g.. 8.0, 8.1, 8.3)
  - Must be on PeopleTools 8.22
- PeopleSoft apps 8.4 or greater (e.g.. 8.4, 8.8, 8.9, 9.0)
  - Must be on PeopleTools 8.46 or greater
- Oracle DB Versions:
  - Oracle Database 10.2.0.3
  - Oracle Database 9.2.0.8
- Database Vault delivered security policies for Peoplesoft at:  
[http://www.oracle.com/technology/software/products/database\\_vault/index.html](http://www.oracle.com/technology/software/products/database_vault/index.html)
  - available for internal as well as customer download



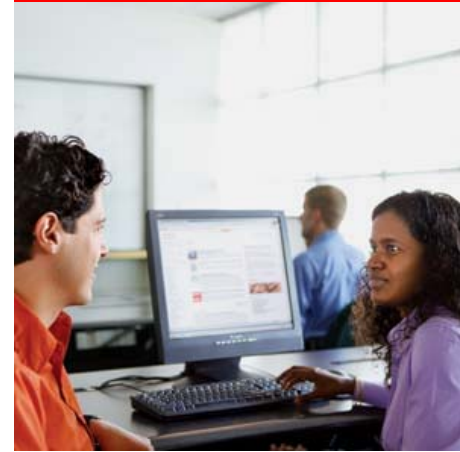
# PeopleSoft Application Protection Matrix

<b>Authorized with Rule Set Protection Type</b>	<b>SYSADM</b>	<b>PSFTDBA</b>	<b>SYSTEM</b>	<b>DBA</b>
<b>PeopleSoft Realm</b>	<b>OWNER</b>	<b>OWNER</b>	<b>No Access</b>	<b>No Access</b>
<b>Select Command Rule</b>	<b>Not Restricted</b>	<b>Limit PSFTDB Rule Set</b>	<b>No Access</b>	<b>No Access</b>
<b>Connect Command Rule</b>	<b>PeopleSoft Access Rule Set</b>	<b>Not Restricted</b>	<b>Not Restricted</b>	<b>Not Restricted</b>
<b>Drop Tablespace Command Rule</b>	<b>Disabled Rule Set</b>	<b>Disabled Rule Set</b>	<b>Disabled Rule Set</b>	<b>Disabled Rule Set</b>

# Health care Customer

## Use Case

- Customer on Oracle 9i database
- Using PeopleSoft HCM application release 8.9
- On PeopleTools version 8.46
- Running In a RAC environment
- Using Database Vault delivered security policies with no change
- Was able to go production in two weeks only
- Is running in production for more than 6 months now



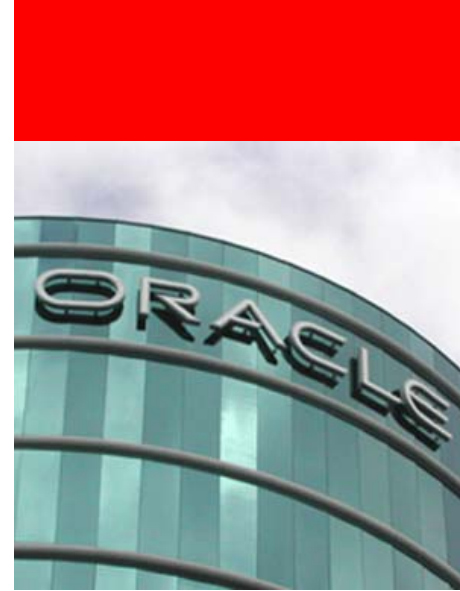
# **Certification** With Siebel Applications

# Siebel Applications Certification

## Supported Versions

- All Siebel modules are supported
  - Service, Sales, Marketing, ...etc
- Siebel 7.7 and above are supported
  - 7.7
  - 7.8
  - 8.x
- Oracle DB Versions:
  - Oracle Database 10.2.0.4
  - Oracle Database 11.1.0.7 (future)





# **Siebel** Application Protection Matrix

<b>Authorized with Rule Set Protection Type</b>	<b>SIEBEL</b>	<b>SIEBELDBA</b>	<b>SADMIN</b>	<b>DBA And SYSTEM</b>
Siebel Realm	OWNER	OWNER	Access through middle tier	No Access
Select Command Rule	Not Restricted	Restrict Select Rule Set	Not Restricted	No Access
Connect Command Rule	Siebel Access Rule Set	Not Restricted	Siebel Access Rule Set	Not Restricted
Drop Tablespace Command Rule	Disabled Rule Set	Disabled Rule Set	Disabled Rule Set	Disabled Rule Set

# Learn More

- ▶ **E-Business Suite certification technical details**
  - Visit: <http://metalink.oracle.com>  
View Metalink note: 428503.1
- ▶ **Steven Chan blog**
  - <http://blogs.oracle.com/schan/>
- ▶ **Customer facing Technical information, demos, software**
  - Visit: <http://otn.oracle.com> -> products -> database -> security and compliance -> Oracle Database Vault
- ▶ **Consulting Help**
  - Consulting Quick start implementation  
Contact Michael Beasley



*O* & *A*