
Oracle Database Vault

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What Security problems do we face today?

The most pressing security problems facing organizations today are :

- Protecting sensitive data against insider threats;
- Meeting regulatory compliance requirements; and
- Enforcing Separation of Duties.

Insider Threats

Although external exploits by criminals breaking into systems get big headlines, industry specialists estimate that ***80% to 90% of the damage to information systems is done by insiders***, which typically gets hushed up.

Meeting regulatory compliance requirements

- **King III - King Report on Governance for South Africa 2009**
- **Sarbanes–Oxley Act of 2002**

Other Laws:

- **Health Information Portability and Accountability Act (HIPAA)**
- **UK Data Protection Act**
- **Family Educational Rights and Privacy Act (FERPA)**
- **California Breach Law**
- **Federal Information Security Management Act (FISMA)**

Separation of Duties (SoD)

Definitions:

- The main objective is to prevent a single person from defrauding the organization.
- A security principle that says no one person should be able to effect a breach of security.
- ***This principle prevents any part of the computer system from being under the control of a single person.***

What Auditors require

- **Separation of Duties**
- **Reporting**
- **Notification**
- **Proven audit data integrity**

Fundamental Data Security Requirements

- **Confidentiality**
Individuals see only what they are supposed to see
- **Integrity**
The data is valid and trustworthy
- **Availability**
Authorized users data is available when required

Components for Enforcing Security

- **Authentication**
- **Authorization**
- **Access control**
- **Auditing**
- **Encryption**
- **Abuse of privilege**
- **Data or service theft**

Principle of Least Privilege

Definitions:

- The principle of least privilege requires that a user be given no more privilege than necessary to perform a job.
- A process, user or a program must be able to access only such information and resources that are necessary for its legitimate purpose.

Oracle Database Vault

What is Oracle Database Vault?

Oracle Database Vault is a database security option that allows you to address the most pressing security problems facing organizations today, and that is:

- protecting sensitive data against insider threats;
- meeting regulatory compliance requirements; and
- enforcing Separation of Duties.

Oracle Database Vault

Oracle Database Vault Benefits

- Prevents application data access by DBA's, Administrators and other privileged accounts.
- Protects database and schema structures from unauthorized change.
- Affords Dynamic and flexible security options.
- Enforces Separation of Duties.
- Meets Regulatory compliance such as King III and SOX.
- Enforces Internal Control measures.
- Transparent to Applications.

Oracle Database Vault Examples

- DBA's can fully manage the database but **cannot access** application data.
- Data structures can only be modified by specific personnel from specific PC's at specific times.
- Data is only modified from within the Application.
- Applications can be individually secured within the same database using Realms therefore **disallowing even 'SELECT ANY TABLE'** or similar global database privileges.
- Multi-Factor authentication processes.
- Multiple Identity values.
- Data access Rule Sets – Logging in from a specific PC and a specific time.
- Command Rule Sets - covering DDL and DML restrictions.
- Secure Application Roles - enabled conditionally and dynamically.



Oracle Database Vault

Oracle Database Vault Operability

- Host installation and administration done through Database Vault Configuration Assistant (DVCA).
- Full security administration via web based Database Vault Administrator (DVA).
- Comprehensive reporting from 13 predefined Database Vault reports and 40 general database security reports.
- Detailed monitoring capabilities covering Policy Changes, Violation Attempts and Configuration and Structural changes.
- Database Vault API.
- Supports RAC and Data Guard.

Oracle Database Vault

Oracle Database Vault Summary

- Data is protected – even from the DBA and System Administrator.
- Fully King III and Sox compliant.
- Enforces Separation of Duties (SoD).
- Enforces Principle of Least Privilege.
- Monitoring and Reporting.
- Auditing.

Oracle Database Vault

MyDBA Security Credentials

- Database Vault implementation experience.
- MyDBA Lectures Oracle Identity Manager at Oracle University SA.
- MyDBA Lectures Oracle Access Manager at Oracle University SA.
- MyDBA Lectures Oracle Database 10GR2 Security at Oracle University SA.

Oracle Database Vault

MyDBA Consulting Services

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