Understanding the Oracle Diagnostics Security Model and support for Custom Responsibilities

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Agenda

• Value Proposition
• Overview
• New Features
• New Security Model
• Support for Custom and Localization Responsibilities
• Resources
• Appendix
Value Proposition
Oracle Diagnostics
Value Proposition

• Easy-to-use
• Shorten the issue resolution life cycle
• Brings analysis and resolution closer to customers
• Enable self-service issue identification
• Minimize burden on functional experts
• Increase productivity

Customer Satisfaction ➺ Total cost of ownership
Why Oracle Diagnostics? Top 10 Reasons

1. It’s free
2. Reduction in number of SRs
3. Reduction in SR time to resolution
4. Find problems before they’re critical
5. Addresses known problems
6. Over 400 diagnostics for 50 products
7. Most tests provide corrective actions
8. Delivering customer value/satisfaction
9. Clear long-term vision for Oracle
10. It’s free
Oracle Diagnostics Customer Advisory Board Members

- Enbridge
- McCarthy Building Companies, Inc.
- Carnegie Mellon University
- UPS
- Hudson Advisors
- Citigroup
- Alcoa
“Unbelievable, what we have accomplished here for year-end close. With our Applications footprint growing by approximately 20% per year, and our number of sites increasing, we reduced SEV 1 issues by 84%, from 2004 to 2007, by utilizing Oracle Diagnostics. We are working together to stress the need to start working off the year-end close issues by late Nov of each year.”
Overview
Overview

Oracle E-Business Suite Diagnostics is a framework and a repository of diagnostic tests.
Overview

- Oracle Diagnostics provides the ability to quickly identify and resolve problems by executing diagnostic tests.
Troubleshooting Lifecycle
Without Diagnostics

Customer → SR → Support
Troubleshooting Lifecycle
With Diagnostics

Customer ➔ Run Test ➔ Diagnostics Test ➚ Resolve
Troubleshooting Lifecycle
With Diagnostics

- **Customer**
  - Run Test
  - Diagnostics Test
  - Download
    - Diagnostics Test Report
  - Update SR
  - Support
    - Resolve
Diagnostics: Architecture

Oracle Diagnostics Framework

- Role Based Access Control
- Execution Engine
- Reporting Library

Interface Handlers

Client
- Browser
- Command Line

Repository
- Configuration
- Report
- Java, PL/SQL Declarative

BI Publisher
- html

Declarative Configuration

Report
New **Features**
New Features
12.1 & 12.0.6

- High performing, multi-threaded execution engine
- Customizable security layer implemented using Role-Based Access Control (RBAC)
- Enriched Swan Look and Feel UI
- Enhanced reporting integrated with BI Publisher
Other Changes

Name change
- **OLD**: Support Diagnostic Tools
- **NEW**: Oracle E-Business Suite Diagnostics

Release schedule
- Aligns with standard EBS product release cycle
- Also available as Standalone RUP release

Navigation
- **Application Diagnostics** responsibility

Access
- Granted via Diagnostics Roles
New Security Model for 12.1 and 12.0.6
New Security Model
Challenges/Capabilities/Value

**CHALLENGES**
- SOX
- Granular roles
- Setups, Executions, and Configurations
- Group sensitivity
- Protecting data
- Controlling

**CAPABILITIES**
- Custom roles
- Access Apps & Tests
- Grant or restrict role access
- Test sensitivity
- Data masking
- Role administration

**VALUE**
- Flexible
- Segregated
- Improved control
- Protect sensitive data
- Integrated
New Security Model Roles – 3 Seeded/Shipped

Diagnostics Super User Role
• Has unrestricted execution and configuration access

Application Super User Role
• Has unrestricted execution on tests under own application and restricted access on other applications

Application End User Role
• Has restricted access in own and other applications

Note*
• ‘Own application’ is defined as any application in which the user has a valid responsibility
• All three roles have the Application Diagnostics Responsibility
New Security Model
Sensitivity Levels

Sensitivity is an attribute of the test that indicates the kind of data it is dealing with:

<table>
<thead>
<tr>
<th>Levels</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>3</td>
</tr>
<tr>
<td>Medium</td>
<td>2</td>
</tr>
<tr>
<td>Low</td>
<td>1</td>
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</table>
# New Security Model
## Security Matrix

<table>
<thead>
<tr>
<th>Function</th>
<th>Diagnostics Super User</th>
<th>Application Super User</th>
<th>Application End User</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select, Execute Tests, View Execution Results</td>
<td>Yes</td>
<td>All tests in own application and low sensitive tests in other applications</td>
<td>Medium &amp; low sensitive tests in own application and low sensitive tests in other applications</td>
</tr>
<tr>
<td>Scheduling</td>
<td>Same as Execution</td>
<td>Same as Execution</td>
<td>Same as Execution</td>
</tr>
<tr>
<td>View Reports</td>
<td>Same as Execution</td>
<td>Same as Execution</td>
<td>Same as Execution</td>
</tr>
<tr>
<td>Configure Test Input Values</td>
<td>Same as Execution</td>
<td>Same as Execution</td>
<td>Same as Execution</td>
</tr>
</tbody>
</table>
### New Security Model
#### Security Matrix

<table>
<thead>
<tr>
<th>Function</th>
<th>Diagnostics Super User</th>
<th>Application Super User</th>
<th>Application End User</th>
</tr>
</thead>
<tbody>
<tr>
<td>View Registered Apps, Groups and Tests</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Register Apps, Create/Edit/Delete Tests and Groups</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>
Customizing Security Summary of Setup Steps

1. Create a new role

2. Attach the responsibility to this role

3. Create a new permission set

4. Create a new grant

5. Assign the role to the user
Company xyz has been unable to uptake EBS Diagnostics due to external regulatory and auditing requirements. System Administrator can’t assign execution and setup access to the same resource/user; also they need to increase/decrease sensitivity levels of the roles.

The demo will cover 3 scenarios; we will define 3 roles; the first role will have execution permission only; the second role will have reporting permission only; and the last role will just be able to perform configurations.

Demo features: New UI, Test Selection & Execution, Viewing Online Reports, Download/Publish Reports (HTML, EXCEL) in BI, and Configuration
Demo
QUESTIONS

ANSWERS
Support for Custom and Localization Responsibilities for 11i & R12
Support for Custom and Localization Challenges/Capabilities/Value

<table>
<thead>
<tr>
<th>CHALLENGES</th>
<th>CAPABILITIES</th>
<th>VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Security model</td>
<td>• Create Role &amp; Grant</td>
<td>• Everyone can run diagnostics</td>
</tr>
<tr>
<td>• Hard coded</td>
<td>• Administration of roles</td>
<td>• One role per seeded application</td>
</tr>
<tr>
<td>• Custom/localized responsibilities</td>
<td>• Administration of mapping</td>
<td>• Works with most diagnostic tests</td>
</tr>
<tr>
<td>• No mapping</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Support for Custom/Localization Responsibilities - Summary of Steps

1. Create one Role per seeded application
2. Create a new grant for the new role
3. Bounce the Apache
4. Assign role to the custom or localized responsibility
11i Security Model
Use Case Demo

Company xyz has been unable to uptake EBS Diagnostics for the last 5 years. When installing Oracle Applications their implementer created custom responsibilities with their company short name.

The demo will cover 2 scenarios; the first will show a user with a custom responsibility unable to execute diagnostics and second will show a user with localized responsibility unable to execute diagnostics; for both once the new setup steps are completed both will have access to EBS Diagnostics.

Demo feature: Support for custom and localized responsibilities
Demo
Roadmap
Roadmap

Key Features

Proxy execution
  • Execute a test on behalf of another user

In-context diagnostics
  • Execute a diagnostic test from applications

Pipe lining of tests
  • Execute tests in sequence where the output of a test becomes the input for the next test

User specific pre-configured inputs
  • Allow users the option to use site pre-config inputs or user specific
Roadmap
Key Features

NLS support
  • Provide National Language Support

Support for alerting
  • Allow for integration with Workflow or BPEL

End dating support
  • Soft delete of registered tests
Resources
Oracle Diagnostics Resources

E-Business Suite Diagnostic Tools Patch Installation Guide
  • MetaLink Note: 167000.1

E-Business Suite Diagnostic Tools FAQ and Troubleshooting Guide
  • MetaLink Note: 235307.1

Oracle E-Business Suite Diagnostics User's Guide
  • Part Number: E12895-01 Rel. 12.1

Oracle Applications Supportability Guide
  • Part Number: B31457-02 Rel. 11i
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Application Technology

or

oracle.com
Appendix
Appendix
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Appendix – A  
R12 Key Concepts

- **Diagnostics Super User Execution grant** has the **Execution Permission Set** on all records of the **JTF_DIAGNOSTIC_TEST** table
  - Allows the EBS Diagnostics Super User to execute all diagnostics tests without any restriction
  - There is no instance set or WHERE clause as *all the records* are accessible
Appendix – A
R12 Key Concepts

• Diagnostic Super User Configuration grant has the Configuration Permission Set on all records of the JTF_DIAGNOSTIC_APP table
  - Allows EBS Diagnostics Super User to configure diagnostics
  - There is no instance set or WHERE clause as all the records are accessible
Appendix – A R12 Key Concepts

- Application Super User Execution grant has the Execution Permission Set on a set of records of the JTF_DIAGNOSTIC_TEST table
- The WHERE clause for the instance set has three conditions
  - Own application IDs (Resolved from the context for seeded responsibilities)
  - Sensitivity of own application
  - Sensitivity of other applications
Appendix – A
R12 Key Concepts

• Application End User Execution grant has the Execution Permission Set on a set of records of the JTF_DIAGNOSTIC_TEST table

• The WHERE clause for the instance set has three conditions
  • Own application IDs (Resolved from the context for seeded responsibilities)
  • Sensitivity of own application
  • Sensitivity of other applications
Appendix – B
New Security Model – Concepts

Permissions

• A permission is, as the name suggests, the permission to do an action

• There are four permissions in diagnostics
  • Execute a test
  • View the report of an execution
  • Pre-configure inputs for a test
  • Configure diagnostics
Appendix – B
New Security Model – Concepts

Permission Sets
• This is a logical grouping of permissions
• Grants are given using permission sets
• There are three permission sets in diagnostics
  • Execution permission set
    • Execute a test
    • Pre-Configure inputs
  • Reporting permission set
    • View report of an execution
  • Configuration permission set
    • Configure diagnostics
Appendix – B
New Security Model – Concepts

Instance Sets
• An instance represents a record in a table
• An instance set represents a set of records
• Always associated with a table and a where clause

• There one instance sets in diagnostics
  • Diagnostics Execution Instance set

• RBAC terms:
  • A TABLE is referred to as Object
  • A WHERE clause is referred to as Predicate
Appendix – B
New Security Model – Concepts

Grants

• Grants put it all together
• A role has a certain permission set on an instance set of an object
• A role can perform a certain set of actions on a set of a records in a table

• Out of the box we ship four grants
  • Diagnostics Super User Execution Grant
  • Diagnostic Super User Configuration Grant
  • Application Super User Execution Grant
  • Application End User Execution Grant
Appendix – B
New Security Model – Concepts

- Grants are used to give access to different roles

- The `JTF_DIAGNOSTIC_TEST` table is used to give execution/reporting grants

- The `JTF_DIAGNOSTIC_APP` table is used to give configuration grants
Appendix – B
New Security Model – Concepts

Diagnostic Super User Execution Grant
• Gives Execution Permission Set to all instances of JTF_DIAGNOSTIC_TEST table

Diagnostic Super User Configuration Grant
• Gives Configuration Permission Set to all instances of JTF_DIAGNOSTIC_APP table
Appendix – B
New Security Model – Concepts

Application Super User Execution Grant

- Gives Execution Permission Set to an instance set of JTF_DIAGNOSTIC_TEST
- The instance set is called **Diagnostics Execution Instance Set**
- It’s predicate takes two parameters -
  - **Parameter 1** is the sensitivities allowed for its own application (value 4)
  - **Parameter 2** is the sensitivities allowed for other applications (value 2)
- **Note*** Value 4 stands for all sensitivities. Value 3 stands for medium and low. Value 2 stands for only low
Appendix – B
New Security Model – Concepts

Application End User Execution Grant

- Gives Execution Permission Set to an instance set of JTF_DIAGNOSTIC_TEST
- The instance set is called Diagnostics Execution Instance Set
- It’s predicate takes two parameters -
  - Parameter 1 is the sensitivities allowed for its own application (value 3)
  - Parameter 2 is the sensitivities allowed for other applications (value 2)
Appendix – C
R12 Seed Data & Navigation

• Objects
  • Diagnostics Execution Access Control
    • Code - ODF_EXECUTION_OBJ
    • Maps to the table JTF_DIAGNOSTIC_TEST
  • Diagnostics Configuration Access Control
    • Code - ODF_CONFIGURATION_OBJ
    • Maps to the table JTF_DIAGNOSTIC_APP

• UI Access
  • Functional Developer
    • Objects subtab under Security tab
    • Search by entering ODF% in Code field
Appendix – C
R12 Seed Data & Navigation

• Instance Set
  • Diagnostics Execution Instance Set
    • Code - ODF_EXECUTION_IS
  • Diagnostics Custom App Execution Instance Set
    • Code - ODF_CUSTOM_APP_EXECUTION_IS

• UI Access
  • Functional Developer
    • Objects subtab under Security tab
    • Search by entering ODF% in Code field
    • Click on the Name column of the Object
Appendix - C
R12 Seed Data & Navigation

• Permissions (code)
  • ODF_EXECUTE_TEST
  • ODF_CONFIGURE_TEST_INPUTS
  • ODF_VIEW_TEST_REPORT
  • ODF_CONFIGURE

• UI Access
  • Functional Administrator
  • Permissions subtab under Security tab
  • Search by entering ODF% in Code field
Appendix - C
R12 Seed Data & Navigation

• Permission Sets
  • Diagnostics Configuration Permission Set
    • Code - ODF_CONFIGURATION_PS
  • Diagnostics Execution Permission Set
    • Code - ODF_EXECUTION_PS
  • Diagnostics Reporting Permission Set
    • Code - ODF_REPORTING_PS

• UI Access
  • Functional Administrator
  • Permission Sets subtab under Security tab
  • Search by entering ODF% in Code field
Appendix - C
R12 Seed Data & Navigation

• Roles
  • Application End User Role
    • Code - UMX|ODF_APPLICATION_END_USER_ROLE
  • Application Super User Role
    • Code - UMX|ODF_APPLICATION_SUPER_USER_ROLE
  • Diagnostics Super User Role
    • Code - UMX|ODF_DIAGNOSTICS_SUPER_USER_ROLE

• UI Access
  • User Management
  • Roles & Role Inheritance
  • Search by entering UMX|ODF% in Code field
Appendix - C
R12 Seed Data & Navigation

• Grants
  • Diagnostics Super User Execution Grant
  • Application Super User Execution Grant
  • Application End User Execution Grant
  • Diagnostic Super User Configuration Grant

• UI Access
  • **Functional Administrator**
  • Grants subtab under Security tab
  • Select Grantee Type as Group of Users
  • Enter ‘Diagnostics%’ in the Object field and open list of values
  • Select Execution Object or Configuration Object to see the grants associated with it
Appendix – D
Support for Custom and Localization Responsibilities - Setup Steps Detail

1. Create one Role per seeded application that needs to be customized using the following details:
   • Category - Diagnostics Roles
   • Role Code - ODF_CUSTOM_<Seeded App Short Name>_ROLE
   • Display Name - Diagnostics role for Custom <Seeded App Short Name>
   • Description – Any description
   • Application - Seeded Application Name

* Use User Management responsibility
2. Create a grant for the role to execute diagnostics test under the custom application using the following details:
   
   - Name – Can be any name
   - Grantee Type - Group Of Users
   - Grantee - Code - UMX|ODF_CUSTOM_<Seeded App Short Name>_ROLE
   - Object - Diagnostics Custom Execution Access Control
   - Data Context Type - Instance
   - Instance Primary Key - <Custom App Short Name>
   - Set - Diagnostics Execution Permission Set

* Use Functional Administrator responsibility
Appendix – D
Support for Custom and Localization Responsibilities - Setup Steps Detail

3. Bounce the Apache

4. Assign a Diagnostic seeded role to the custom or localized responsibility
   - In Oracle Diagnostics navigate to Configuration/Security:
     - Select Application from the dropdown
     - Select the role to be tied to the custom or localized responsibilities
     - From the Role Responsibility Assignment page select the custom application from the application dropdown
     - From the Available Responsibilities list highlight the custom responsibility and add it to the Select Responsibilities and save
Appendix – E
Statistics

- Total number of customer downloads by release to date:
  - 11i – 34,704
  - 12.0 – 1,400
# Appendix – F
## Commonly Reviewed Metalink Tests

<table>
<thead>
<tr>
<th>APPLICATION</th>
<th>TEST TYPE</th>
<th>METALINK #</th>
<th>TEST NAME</th>
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<tbody>
<tr>
<td>Oracle Receivables</td>
<td>Data Collection</td>
<td>215969.1</td>
<td>Receipt Data</td>
</tr>
<tr>
<td>All</td>
<td>Data Collection</td>
<td>420427.1</td>
<td>RDA</td>
</tr>
<tr>
<td>Oracle Payables</td>
<td>Data Collection</td>
<td>205446.1</td>
<td>Purchase Order/Release Number</td>
</tr>
<tr>
<td>Oracle Receivables</td>
<td>Data Collection</td>
<td>306017.1</td>
<td>AutoInvoice Interface Data</td>
</tr>
<tr>
<td>Oracle Application Object Library</td>
<td>Setup</td>
<td>244274.1</td>
<td>Generic Service Management (GSM)</td>
</tr>
<tr>
<td>E-Business Tax</td>
<td>Setup</td>
<td>462877.1</td>
<td>Tax Setup</td>
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# Appendix – F
### Commonly Reviewed Metalink Tests

<table>
<thead>
<tr>
<th>APPLICATION</th>
<th>TEST TYPE</th>
<th>METALINK #</th>
<th>TEST NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle Projects</td>
<td>Expenditure Item</td>
<td>201973.1</td>
<td>Expenditure Item</td>
</tr>
<tr>
<td>Oracle Receivables</td>
<td>Transactions</td>
<td>204790.1</td>
<td>AutoInvoice Setup</td>
</tr>
<tr>
<td>Oracle Purchasing</td>
<td>Setup</td>
<td>204502.1</td>
<td>Purchasing</td>
</tr>
<tr>
<td>Application Install</td>
<td>Setup</td>
<td>271795.1</td>
<td>Linux Requirements for Installing Oracle Applications Release 11i</td>
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</table>