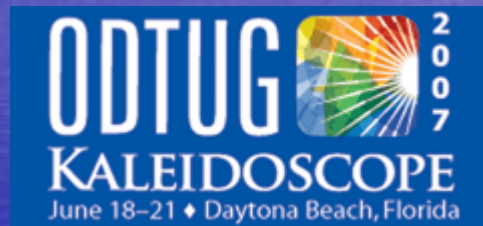


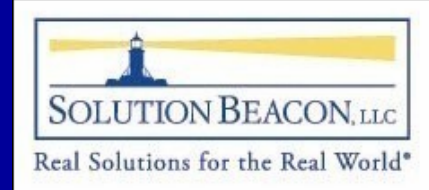
Application Security What Are My Options?



Susan Behn
June, 2007

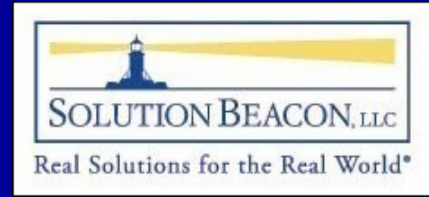


Agenda



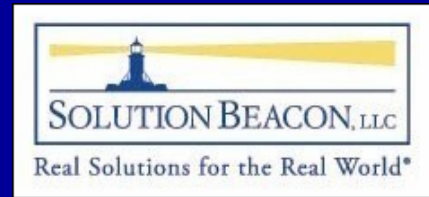
- ◆ Standard Application Security
- ◆ Authentication
 - Security Profile Options
 - Timeouts
- ◆ Authorization
 - Menu Driven Security
 - HRMS Security Options
 - User Management
- ◆ Audit Trail
- ◆ Diagnostic Reports
- ◆ Personalized and Custom Security Options
 - Custom Library
 - Forms 6i and OA Framework Personalization
- ◆ Additional Resources

About the Presenter – Susan Behn



- ◆ Solution Beacon Practice Manager – Technical Services
- ◆ 23+ yrs in IT Industry / 14+ yrs Oracle Applications
- ◆ 70% Technical / 30% Functional
- ◆ Current/Past Presentation Topics
 - Application Security (OAUG 2007/ODTUG 2007)
 - Oracle Diagnostics for Functional Users (OAUG 2007)
 - Approvals Management (AME) (OAUG 2007)
 - Purchasing – Technical Foundation (OAUG 2007)
 - Oracle Diagnostics for DBAs and Developers (ODTUG 2007)
 - Workflow Setup, Care and Feeding, New Features, Functional Overview (OAUG/ODTUG/Local User Groups)
 - Forms Development Standards (OAUG/ODTUG)
 - Forms Personalizations (OAUG 2006)
 - OA Framework Personalizations (Local User Groups)
 - FNDLOAD (Local User Groups)

Standard Application Security Components



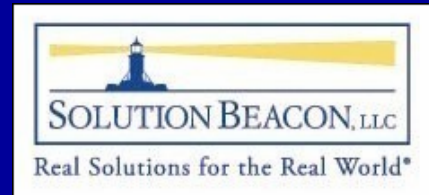
- ◆ Authentication – Who Are You?
 - Password Restrictions
 - Timeouts
- ◆ Authorization – What Can You Do?
 - Function Security
 - Data Security
- ◆ Audit – What Did You Do?
 - Shared Accounts
 - Standard Audit Reports
 - Oracle Audit Trail Implementation

Authentication – Password Profile Options



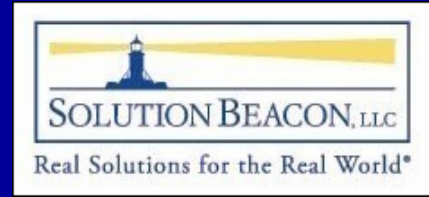
Profile	Default	Recommendation
Signon Password Failure Limit	None	3 (attempts)
Signon Password Hard to Guess	No	Yes
Signon Password Length	5	8 (characters)
Signon Password No Reuse	None	180 (days)
Signon Password Custom	None	Create custom java class if needed
Password Case Option	Insensitive	Sensitive

Authentication – Timeout Profile Options



Profile	Purpose	Default	Recommend
ICX:Session Timeout	Time of inactivity in a form session	None	30 (minutes)
ICX: Limit Time	Maximum connection time regardless of activity	4 (hours)	4 (hours)
ICX: Limit Connect	Max HTML page requests that can be made in a session	1000	2000
JTF_INACTIVE_SESSION_TIMEOUT	CRM session timeout for inactivity	None	30 (minutes)

Authentication - Configuration File Timeout Settings



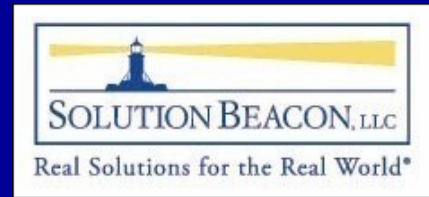
- ◆ DBAs update these settings in configuration files
 - Jserv (Java) Timeout Settings
 - Apache HTTP Timeout Settings
 - Forms 60 Environment Timeout Settings
 - Oracle Single Sign On Timeout Settings

Authentication – Other Best Practices



- ◆ Never use generic passwords
- ◆ Set passwords to expire every 60 days
- ◆ Regularly change system passwords and shared account passwords (e.g. APPS, SYSADMIN)
- ◆ Minimize passwords in files
- ◆ Run programs through the concurrent manager to avoid passing user names and passwords
- ◆ Use encrypted password files to pass parameters

Authorization



70-80% of security breaches are internal
and most result in financial loss

Authorization and Auditing are even more
critical than Authentication!!!

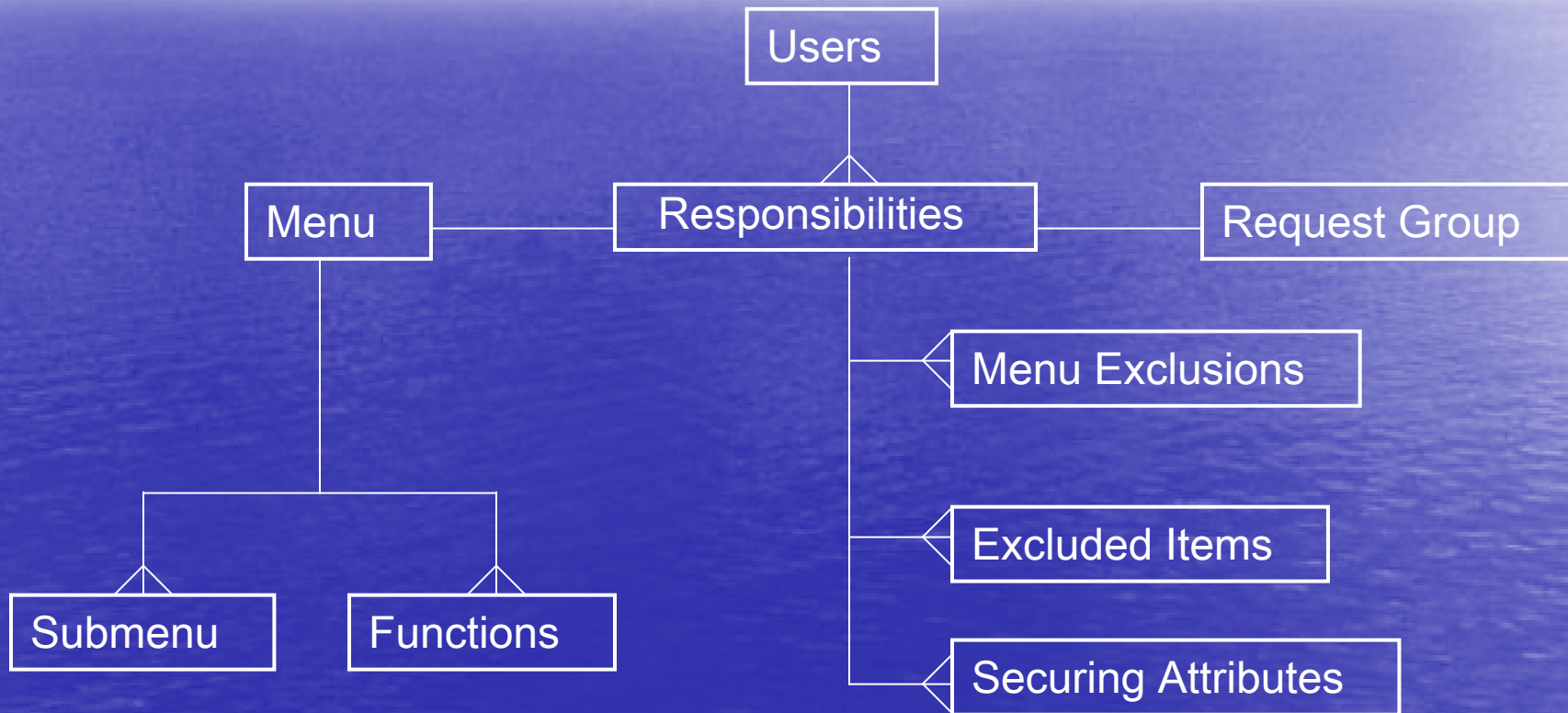
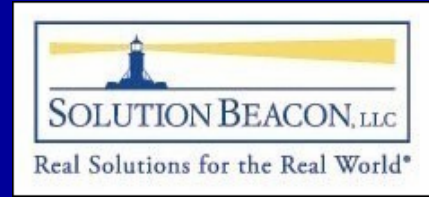
Authorization - Menu Driven Security



◆ Menu

- Group functions into logical menu structures
 - ◆ Include all form functions for a logical group
 - ◆ Create inquiry only functions with the parameter `QUERY_ONLY="YES"`
 - ◆ Include submenus for related functionality
- Group concurrent requests into request groups
- Assign request groups to responsibilities
- Assign menus to responsibilities
- Assign responsibilities to users

Authorization - Menu Driven Security



Authorization - Menus



◆ Includes functions and submenus

Menus View Tree...

Menu: **AP_NAVIGATE_GUI12**

User Menu Name: **AP_NAVIGATE_GUI12**

Menu Type: **Standard**

Description: **AP Navigate Menu**

Seq	Prompt	Submenu	Function	Description	Grant
1		AP_INVOICE_GATEWAY		Maintain Quick Invoices	<input checked="" type="checkbox"/>
2	Invoices	AP_INVOICES_GUI12		Maintain Invoices	<input checked="" type="checkbox"/>
3	Payments	AP_PAYMENTS_GUI12		Maintain Payments	<input checked="" type="checkbox"/>
4	Accounting	AP_ACCOUNTING_GUI1		Maintain Accounting	<input checked="" type="checkbox"/>
5	Suppliers	AP_SUPPLIERS_GUI12		Maintain Suppliers	<input checked="" type="checkbox"/>
6	Employees	AP_EMPLOYEES_GUI12		Maintain Employees	<input checked="" type="checkbox"/>
7	Credit Cards	AP_MAINTAIN_CREDIT_		Maintain Credit Cards	<input checked="" type="checkbox"/>
8	Setup	AP_SETUP_GUI12		Setup	<input checked="" type="checkbox"/>
9	Workflow	AP_WORKFLOW_GUI12		Workflow	<input checked="" type="checkbox"/>
10	Other	FND_OTHER 4.0		Other	<input checked="" type="checkbox"/>

Authorization - Request Groups



- ◆ Includes requests and request sets available
- ◆ Requests not limited to application indicated

Request Groups

Group: **All Reports**

Application: **Payables**

Code:

Description: **All Payables SRS reports (including update programs)**

Requests

Type	Name	Application
Application	Payables	Payables
Program	Workflow Background Process	Application Object Library
Program	Mass Additions Create Report	Assets
Program	Publish RX Reports	Assets
Program	Invoice Register	Payables
Program	Invoice on Hold Report	Payables
Program	Cash Requirement Report	Payables
Program	Payment Register	Payables
Program	Missing Document Numbers Report	Payables
Program	Batch Control Report by Entered By	Payables

Description:

Authorization - Responsibility



- ◆ Menu, request and data groups, exclusions & securing attributes

The screenshot shows the 'Responsibilities' configuration window for 'Payables Manager'. The window is divided into several sections:

- Responsibility Name:** Payables Manager
- Application:** Payables
- Responsibility Key:** PAYABLES_MANAGER
- Effective Dates:** From 01-JAN-1951, To (empty)
- Available From:** Oracle Applications (selected), Oracle Self Service Web Applications, Oracle Mobile Applications
- Data Group:** Name Standard, Application Payables
- Request Group:** Name All Reports, Application Payables
- Menu:** AP_NAVIGATE_GUI12
- Web Host Name:** (empty)
- Web Agent Name:** (empty)

At the bottom, there are three tabs: 'Menu Exclusions', 'Excluded Items', and 'Securing Attributes'. The 'Menu Exclusions' tab is active, showing a table with columns 'Type', 'Name', and 'Description'. The first row has 'Function' in the 'Type' column.

Type	Name	Description
Function		

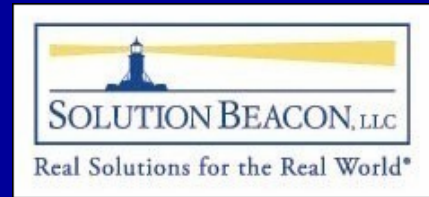
Data Security based on Oracle User Name (Table Level)

Concurrent Programs Available

Functions Included

Functions Excluded

Authorization – Menu Exclusions

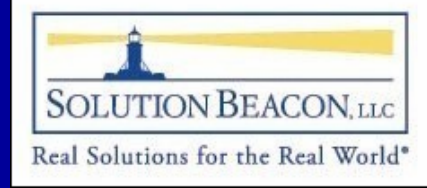


◆ Functions

- Form Functions – Called from a menu
- Subfunctions – Called from within a form
 - ◆ Button
 - ◆ Action Item
 - ◆ Tab

◆ Menu exclusions - Exclude functions or subfunctions to vary functionality by responsibility

Authorization – Menu Exclusions



- ◆ Prevent the ability to force invoice approval by responsibility

The screenshot shows the Oracle Invoices application interface. A dialog box titled 'Invoice Actions' is open, listing various actions with checkboxes. The 'Force Approval' checkbox is circled in red. The background window shows a table with columns for Invoice Amount, Withheld Amount, and Prepaid Amount, and a summary section for Approval Status and Summary.

Invoice Amount	Withheld Amount	Prepaid Amount
600.00		
400.00		
100.00		
100.00		

Approval Status
Approval: **Not Required**
Pending Approver:

Summary
Holds: **0**
Distribution Total: **0.00**

Authorization – Menu Exclusions



- ◆ Exclude the *Force Approval Invoices* sub function

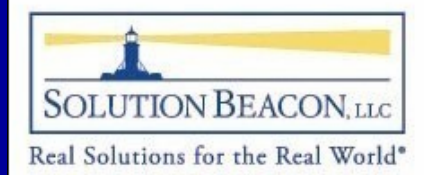
Responsibilities

Responsibility Name: **Payables Manager**
Application: **Payables**
Responsibility Key: **PAYABLES_MANAGER**
Effective Dates: From **01-JAN-1951**
Available From: Oracle Applications
Data Group: Name **Standard**, Application **Payables**
Menu: **AP_NAVIGATE_GUI12**
Request Group: Name **All Reports**, Application **Payables**

Menu Exclusions

Type	Name	Description
Function	Force Approve Invoices	

Authorization – Menu Exclusions



◆ Option is no longer available after menu exclusion

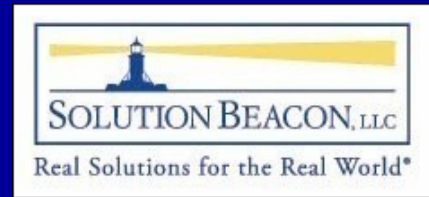
The screenshot shows the Oracle Invoices application interface. A dialog box titled 'Invoice Actions' is open, listing various actions with checkboxes. The 'Force Approval' option is circled in red. The background application window shows a table of invoice data and various summary fields.

Invoice Amount	Withheld Amount	Prepaid Amount
600.00		
400.00		
100.00		
100.00		

Approval Status: Approval **Not Required**

Summary: Holds **0**, Distribution Total **0.00**

Authorization – Excluded Items

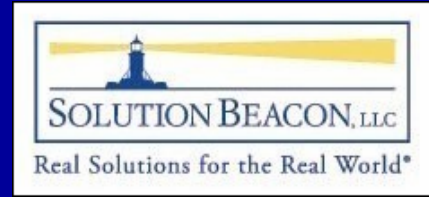


- ◆ Exclude attributes to restrict access to columns
- ◆ Attributes in the Web Application Dictionary (LOV)
- ◆ Example: Users of the Service and Support responsibility cannot view public comments

The screenshot shows the 'Responsibilities' configuration window in Oracle. The 'Service and Support (Full Access)' responsibility is selected. The 'Excluded Items' tab is active, showing a table with one entry: 'CS_PUBLIC_COMMENT' in the 'Name' column and 'Service' in the 'Application' column.

Name	Application
CS_PUBLIC_COMMENT	Service

Authorization – Securing Attributes



- ◆ Securing attributes allow rows (records) of data to be visible to specified users or responsibilities based on the specific data (attribute value) contained in the row.
 - iExpenses example - Expenses are limited to the ICX_HR_PERSON_ID for the user logged in
 - ICX_HR_PERSON_ID value is set in the user record to the PERSON_ID assigned to the user
 - Limits expense report entry to employee related to user

Authorization – Securing Attributes



Responsibilities

Responsibility Name: **iExpenses, Vision Services (USA)**
 Application: **Payables**
 Responsibility Key: **OIE_EXPENSE_REPORTS_SERVICES**
 Description: **New UI respon for Services**

Effective Dates: From **13-APR-2001** To

Available From:
 Oracle Applications
 Oracle Self Service Web Applications
 Oracle Mobile Applications

Data Group:
 Name: **Standard**
 Application: **Payables**

Request Group:
 Name:
 Application:

Menu: **Time and Expense Self Service M**
 Web Host Name:
 Web Agent Name:

Menu Exclusions | Excluded Items | **Securing Attributes**

Name	Application
ICX_HR_PERSON_ID	Self-Service Web Applications

Users

User Name: **SBEHN**
 Password:
 Description: **Susan Behn**

Person: **Behn, Susan**
 Customer:
 Supplier:
 E-Mail: **sbehn@solutionbeacon.com**
 Fax:

Password Expiration:
 Days
 Accesses
 None

Effective Dates: From **22-SEP-2005** To

Direct Responsibilities | Indirect Responsibilities | **Securing Attributes**

Attribute	Application	Value
ICX_HR_PERSON_ID	Self-Service Web Application	13516
TO_PERSON_ID	Self-Service Web Application	13516



Authorization – User Assignments



◆ Users assigned to Responsibilities

Users

User Name: **SBEHN**
 Password:
 Description: **Susan Behn**

Person: **Behn, Susan**
 Customer:
 Supplier:
 E-Mail: **sbehn@solutionbeacon.com**
 Fax:

Password Expiration

Days
 Accesses
 None

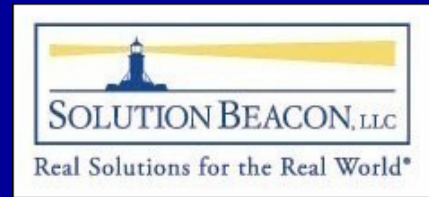
Effective Dates

From: **22-SEP-2005**
 To:

Direct Responsibilities | Indirect Responsibilities | Securing Attributes

Responsibility	Application	Description	Security Group	Effective Dates	
				From	To
Application Developer	Application Object L		Standard	05-APR-2006	
Workflow Administrator, Vision Enterprise	Application Object L		Standard	22-SEP-2005	
Workflow User, Vision Enterprise	Application Object L		Standard	03-MAY-2006	

Authorization - HRMS Security

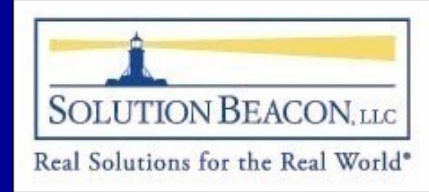


Standard HRMS Security Model

- ◆ Responsibility is assigned a security profile
 - Profile Option – HR: Security Profile
 - ◆ Security profile includes a business group
- ◆ Separate responsibilities are required for each security profile
- ◆ Can switch to Security Groups Enabled model later



Authorization - HRMS Security



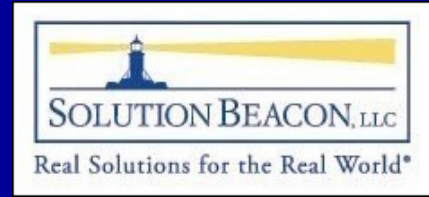
Standard HRMS Security Model

- ◆ Security profiles are assigned to a Business Group
- ◆ Business Group limits accessible data

The screenshot shows the 'Security Profile' configuration window for 'Vision Corporation'. The 'Business Group' is set to 'Vision Corporation', which is highlighted by a red arrow. Other settings include 'Reporting User' as 'DISCO', 'View All Records' checked, and 'Allow Granted Users' and 'Restrict on Individual Assignments' unchecked. The 'Security Type' is set to 'View all organizations (no security)'. Below this, there are options for 'Organization Hierarchy', 'Specify Top Organization', and 'Include Top Organization' checked. A table at the bottom allows for including or excluding specific organizations.

Classification	Organization Name	Include	Exclude
		<input checked="" type="radio"/>	<input type="radio"/>
		<input type="radio"/>	<input type="radio"/>

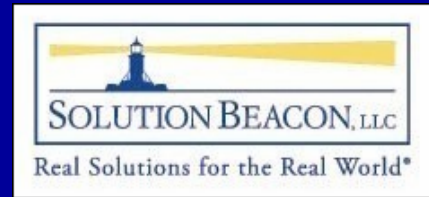
Authorization - HRMS Security



Security Groups Enabled Model

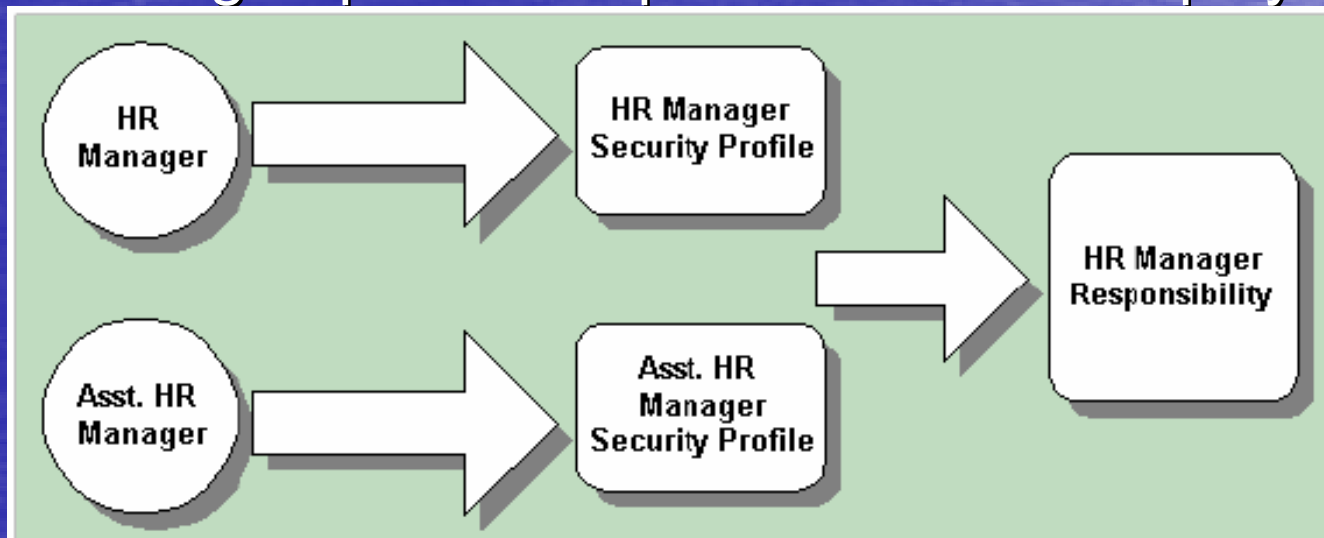
- ◆ Set Enable Security Groups profile option to “Yes”
- ◆ *Assign Security Profile* Form
 - Links a security profile to a user’s responsibility and business group
- ◆ Disadvantages
 - Only one business group can be viewed at a time
 - Security profiles are not easily changed
 - Cannot revert back to standard HRMS security

Authorization - HRMS Security

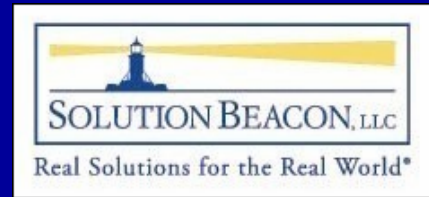


Security Groups Enabled Model

- ◆ Advantage - One responsibility is used for multiple security groups
 - When a user logs on, the pairings created between business groups and responsibilities are displayed



Authorization - HRMS



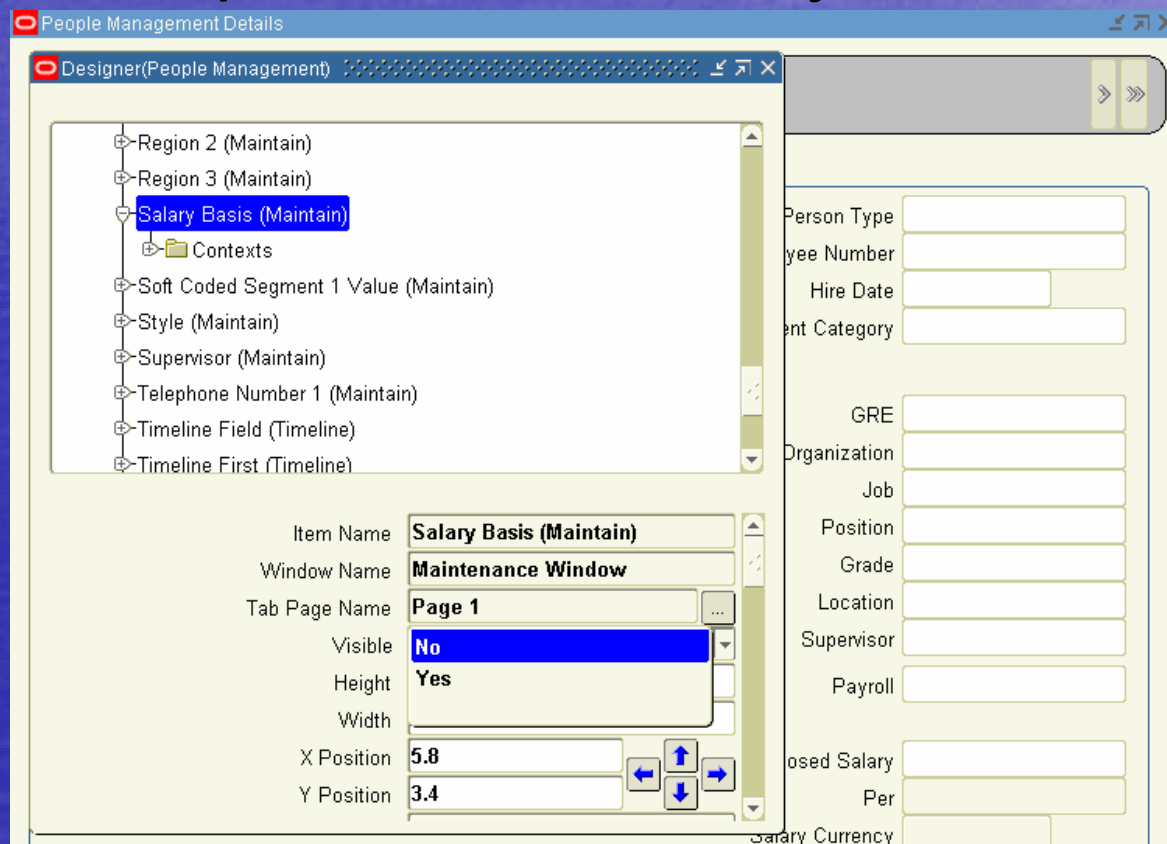
People Management Configurator

- ◆ Design templates to only include essential information (similar to Personalization tools)
 - Choose fields, tabs, buttons to display
 - Set default values
 - Define data restrictions
 - ◆ Employees only
 - ◆ Applicants only
- ◆ Pre-defined templates are also available
- ◆ Add task flows to access other HRMS windows

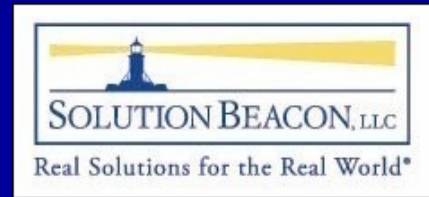
Authorization - HRMS



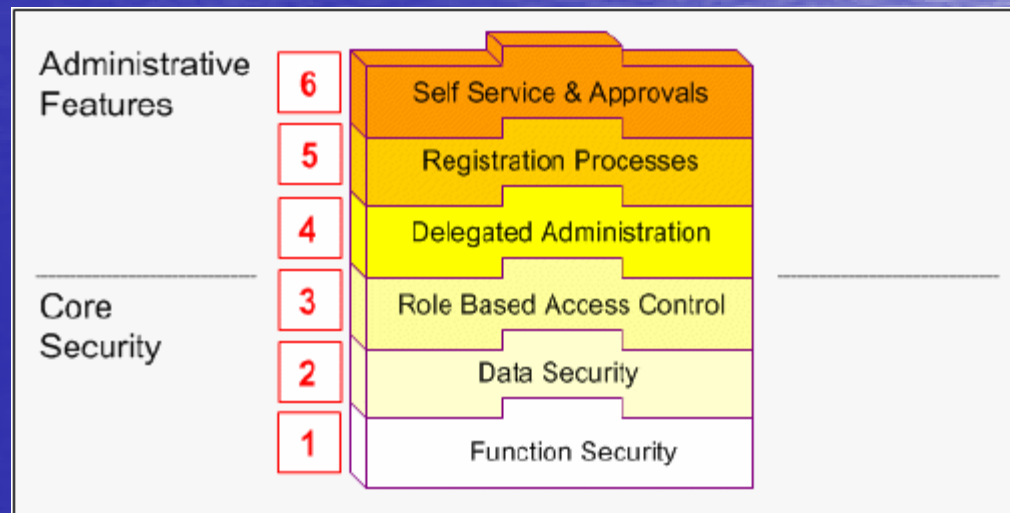
- ◆ Security → People Management Configurator
- ◆ Create a template to hide salary basis



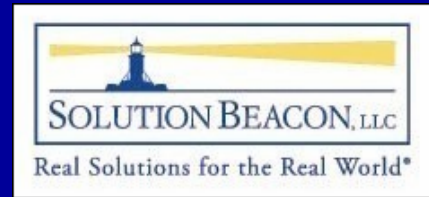
Authorization - User Management



- ◆ Seeded menus, request groups and responsibilities do not always comply with regulations regarding separation of duties
- ◆ Role Based Access Control (RBAC) combines data and function security with delegation of access control with an approval process to provide a more complete security strategy

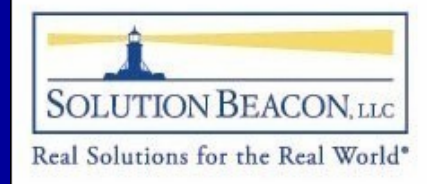


Authorization - User Management

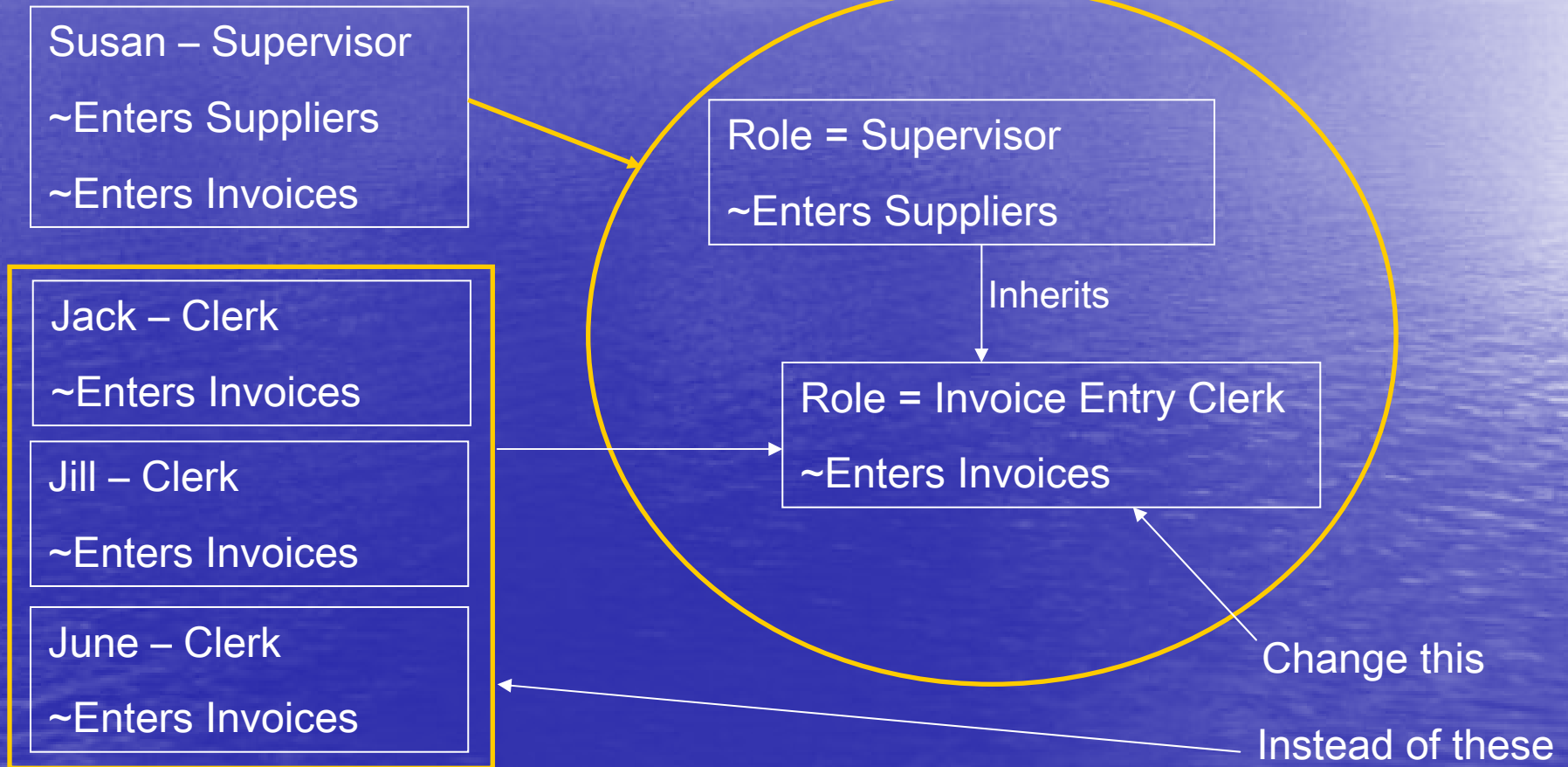


1. Function Security – Menus, request groups, responsibilities
2. Data Security – Securing attributes, data groups, security groups
3. RBAC – Role based data security + function security
4. Delegated Administration – Roles granted by local administrators
5. Registration Process – Users can request access via a registration process
6. Self Service and Approvals – Workflow routes user access requests based on rules in Oracle Approvals Management

Authorization - User Management



Responsibility = Payables



Audit Trail



◆ Never share accounts

- No audit trail for shared accounts

◆ Invalidates “Who” Columns

- `CREATED_BY`
- `LAST_UPDATED_BY`

- `SYSADMIN` most abused

- Use “Grant Access” functionality in Workflow

◆ Use workflow event subscription to:

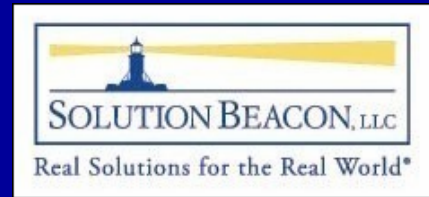
- Limit number of sessions
- Limit number of forms opened
- MetaLink Note 270454.1

Audit Trail – Standard Reports



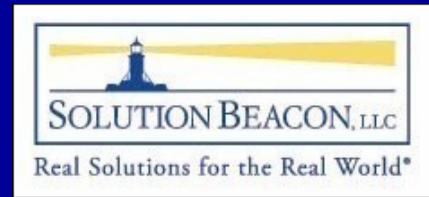
- ◆ Set profile option `SIGNONAUDIT:LEVEL` to “Form” at the site level to track actions from the time the user logs on
- ◆ Periodically monitor the following standard reports
 - Signon Audit Concurrent Requests
 - Signon Audit Forms
 - Signon Audit Responsibilities
 - Signon Audit Unsuccessful Logins
 - Signon Audit Users
- ◆ Run *Purge Signon Audit Data* concurrent program to periodically purge audit data

Audit Trail



- ◆ Audits rows and columns
- ◆ Audits inserts, updates and deletions
- ◆ Use sparingly for critical static tables
- ◆ Consider performance impact
- ◆ Limited reporting available

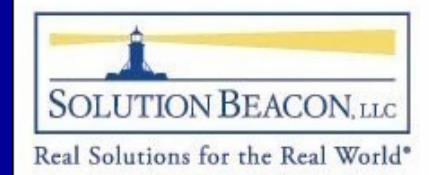
Audit Trail



◆ Recommended tables to audit

ALR_ALERTS	FND_AUDIT_COLUMNS
FND_AUDIT_GROUPS	FND_AUDIT_SCHEMAS
FND_AUDIT_TABLES	FND_CONCURRENT_PROGRAMS
FND_DATA_GROUPS	FND_DATA_GROUP_UNITS
FND_ENABLED_PLSQL	FND_FLEX_VALIDATION
FND_FORM	FND_FORM_FUNCTIONS
FND_GRANTS	FND_MENUS
FND_MENU_ENTIRES	FND_ORACLE_USERID
FND_PROFILE_OPTIONS	FND_PROFILE_OPTION_VALUES
FND_REQUEST_GROUPS	FND_REQUEST_GROUP_UNITS
FND_RESP_FUNCTIONS	FND_USER_RESP_GROUPS

Audit Trail



- ◆ Set the profile option, *AuditTrail:Activate*, to *Yes*
- ◆ Navigate to Security → AuditTrail → Install
- ◆ Check the *Audit Enabled* checkbox for schemas where auditing is to be enabled

Oracle Username	Description	Audit Enabled
APPLSYS	Application Object Library Account	<input checked="" type="checkbox"/>
APPLSYSPUB	Application Object Library Public Account	<input type="checkbox"/>
		<input type="checkbox"/>

Audit Trail



- ◆ Navigate to Security → AuditTrail → Groups
 - Created logical groups of audit tables to facilitate enabling/disabling at this level

Audit Groups

Application Name: **Application Object Library**

Audit Group: **Audit Setup Group**

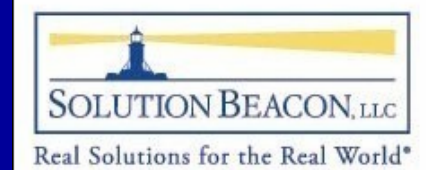
Group State: **Enabled**

Description: **Audit Setup Group**

Audit Tables

User Table Name	Table Name	Application	Description
FND_AUDIT_COLUMNS	FND_AUDIT_COLUMNS	Application Object Lib	Table columns being audited
FND_AUDIT_TABLES	FND_AUDIT_TABLES	Application Object Lib	Application tables being audited
FND_AUDIT_GROUPS	FND_AUDIT_GROUPS	Application Object Lib	Application tables and columns being audited
FND_AUDIT_SCHEMA	FND_AUDIT_SCHEMA	Application Object Lib	Audit schema

Audit Trail



- ◆ Navigate to Security → AuditTrail → Tables
- ◆ Identify tables and columns to be audited

Audit Tables

User Table Name: **FND_AUDIT_TABLES**

Table Name: **FND_AUDIT_TABLES**

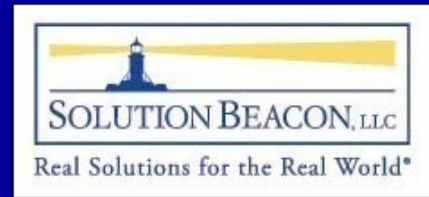
Application: **Application Object Library**

Description: **Application tables being audited**

Audit Columns

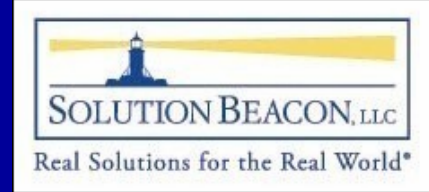
Column Name	Column Type	Primary Key
<input checked="" type="checkbox"/> AUDIT_GROUP_ID	Number	<input checked="" type="checkbox"/>
<input type="checkbox"/> AUDIT_GROUP_APP_ID	Number	<input checked="" type="checkbox"/>
<input type="checkbox"/> TABLE_APP_ID	Number	<input checked="" type="checkbox"/>
<input type="checkbox"/> TABLE_ID	Number	<input checked="" type="checkbox"/>
<input type="checkbox"/> STATE	Varchar2	<input type="checkbox"/>
<input type="checkbox"/>		<input type="checkbox"/>

Audit Trail



- ◆ Run the *AuditTrail Update Tables* concurrent request to activate auditing
- ◆ Creates triggers populate shadow tables
- ◆ Creates shadow tables for each audited table
 - FND_GRANTS audit table is FND_GRANTS_A

Diagnostic Reports for Security



- ◆ Oracle Diagnostics report adherence to best practices

The screenshot shows the Oracle Diagnostics web interface. At the top left is the 'ORACLE Diagnostics' logo. On the right, there are 'Logout' and 'Help' links. Below the logo is a navigation bar with tabs for 'Home', 'Basic', 'Advanced', and 'Configuration'. The 'Basic' tab is selected and circled in red. Below the navigation bar is a dropdown menu for 'Application' with 'Application Object Library' selected, also circled in red. On the left side, there is a list of test categories: 'RunAll', 'Logging Tests', 'EBusinessSecurity' (circled in red), 'Workflow Tests', and 'SSO Setup Tests'. In the center, there is a section titled 'All Groups Tests' with a 'Run All Groups' button.

Diagnostic Reports for Security



◆ Partial list

Home Basic

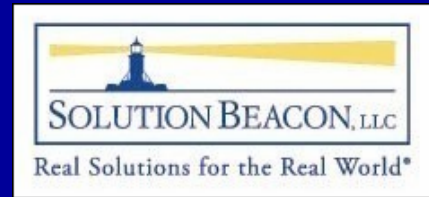
Application

EBusinessSecurity Tests

Prerequisites

Num	Test Name	Tested Component	Test Description
1	PLS Custom Authentication Check	Security	This test validates that the mod_plsql custom authentication setting is set to 'CUSTOM' by validating certain URLs are FORBIDDEN
2	Application Profile Options values related to ICX	Declarative Diagnostic Test	This is a declaratively constructed diagnostic test for DB setups
3	Best Practices : Database Security Tests.	Declarative Diagnostic Test	This is a declaratively constructed diagnostic test for DB setups
4	Best Practices : E-Business Suite Security Tests	Declarative Diagnostic Test	This is a declaratively constructed diagnostic test for DB setups
5	Profile Option Tests for Framework Validation Modes	Declarative Diagnostic Test	This is a declaratively constructed diagnostic test for DB setups

Diagnostic Reports for Security



◆ Partial list continued – Click either *Run* button

9	Password Check - Profile Settings	Declarative Diagnostic Test	This is a declaratively constructed diagnostic test for DB setups
10	Remote Authentication - Validation	Declarative Diagnostic Test	This is a declaratively constructed diagnostic test for DB setups
11	Role Based Check	Declarative Diagnostic Test	This is a declaratively constructed diagnostic test for DB setups
12	Basic Database Check	Declarative Diagnostic Test	This is a declaratively constructed diagnostic test for DB setups
13	User Account Based Check	Declarative Diagnostic Test	This is a declaratively constructed diagnostic test for DB setups

Run With Prerequisite

Run Without Prerequisite

Diagnostic Reports for Security



Results

Errors occurred in test!

EBusinessSecurity

Test Name	Run#	Status	Time (mil sec)	Values	Report
▶ PLS Custom Authentication Check	1	FAIL	1905		
▶ Application Profile Options values related to ICX	1	FAIL	1143		
▶ Best Practices : Database Security Tests.	1	FAIL	413		
▶ Best Practices : E-Business Suite Security Tests	1	FAIL	556		
▶ Profile Option Tests for Framework Validation Modes	1	FAIL	193		
TO ENSURE THAT GUEST USER HAS USERID=6	1	SUCCEED	18		
▶ Verification of Security Alert Patches	1	FAIL	852		
▶ Access Control Check	1	FAIL	11610		
▶ Password Check - Profile Settings	1	FAIL	140		
Remote Authentication - Validation	1	SUCCEED	50		
▶ Role Based Check	1	FAIL	173		
▶ Basic Database Check	1	FAIL	54		
▶ User Account Based Check	1	FAIL	195		

EBusinessSecurity Tests Have Some Errors

Diagnostic Reports for Security



◆ Example of text from results of Best Practices Test

STEP NAME:

21: TIGHTEN LOGON AND SESSION PROFILE OPTION - SIGNON_PASSWORD_LENGTH.

STEP DESCRIPTION:

The profile option SIGNON_PASSWORD_LENGTH sets the minimum length of an Applications Signon Password. If no value is entered, the minimum length defaults to 5. Set Signon Password Length to a minimum of 6 and when setting the password verify if it has at least one numeric character.

SQL QUERY EXECUTED:

```
select count(*) from fnd_profile_options a,fnd_profile_option_values b where a.PROFILE_OPTION_ID = b.PROFILE_OPTION_ID and upper
(a.PROFILE_OPTION_NAME ) = 'SIGNON_PASSWORD_LENGTH' and b.PROFILE_OPTION_VALUE is not NULL and lpad
(b.PROFILE_OPTION_VALUE,3,'0') >= '006'
```

RETURNED VALUE:

0

EXPECTED RESULT:

Returned value must equal 1

ERROR MESSAGE:

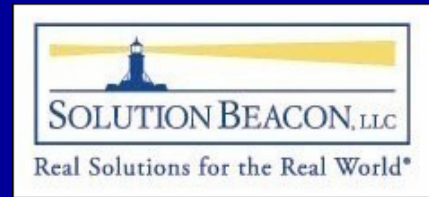
Signon Password Length not set to 6 characters or more at the site level.

FIX INFO:

Use forms interface and log on as System Administrator and change the value of SIGNON_PASSWORD_LENGTH to 6 or more.

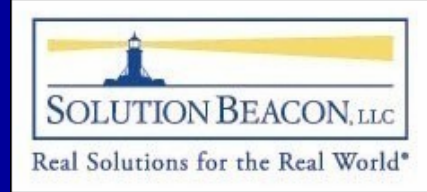
STATUS: Failed

Authorization - Personalizations



- ◆ Personalizations refer to the ability to tailor the applications
- ◆ Personalizations can increase security
 - Limit access at field level – column level security
 - Limit scope of access – row level security
- ◆ Personalization Methods
 - Custom Library
 - Forms 6i Personalizations
 - OA Framework Personalizations

Authorization – Personalizations



- ◆ Remove buttons
- ◆ Hide fields, tabs, columns
- ◆ Mask fields with asterisks
- ◆ Set initial values
- ◆ Make fields required
- ◆ Format fields
- ◆ Validations
- ◆ Alter LOVs

Function security

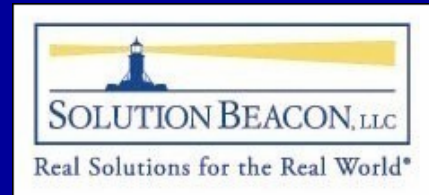
Column level security

Authorization - Custom Library



- ◆ Library available in \$AU_TOP/resource is modified to provide customizations to Oracle Application forms
- ◆ Use forms builder 6i to modify package spec and package body
- ◆ Move to server and compile

Authorization - CUSTOM.pll – Examples



* Hide the tax payer id*\

```
APP_ITEM_PROPERTY2.SET_PROPERTY('VNDR.NUM_1099_MIR',DISPLAYE  
D,PROPERTY_OFF)
```

* Mask the tax payer id*\

```
APP_ITEM_PROPERTY2.SET_PROPERTY('VNDR.NUM_1099_MIR',CONCEAL_  
DATA,PROPERTY_OFF)
```

Authorization - Forms Personalization



- ◆ Forms Personalizations declaratively alter the behavior of Forms delivered with the E-Business Suite
- ◆ User must understand Forms and PL/SQL
- ◆ Most changes traditionally done using CUSTOM.pll can be accomplished using Forms Personalization
- ◆ Forms Personalizations are effective immediately – no compiling
- ◆ Forms Personalizations fire prior to CUSTOM.pll for the same event

Authorization - Forms Personalization



◆ Profile Options

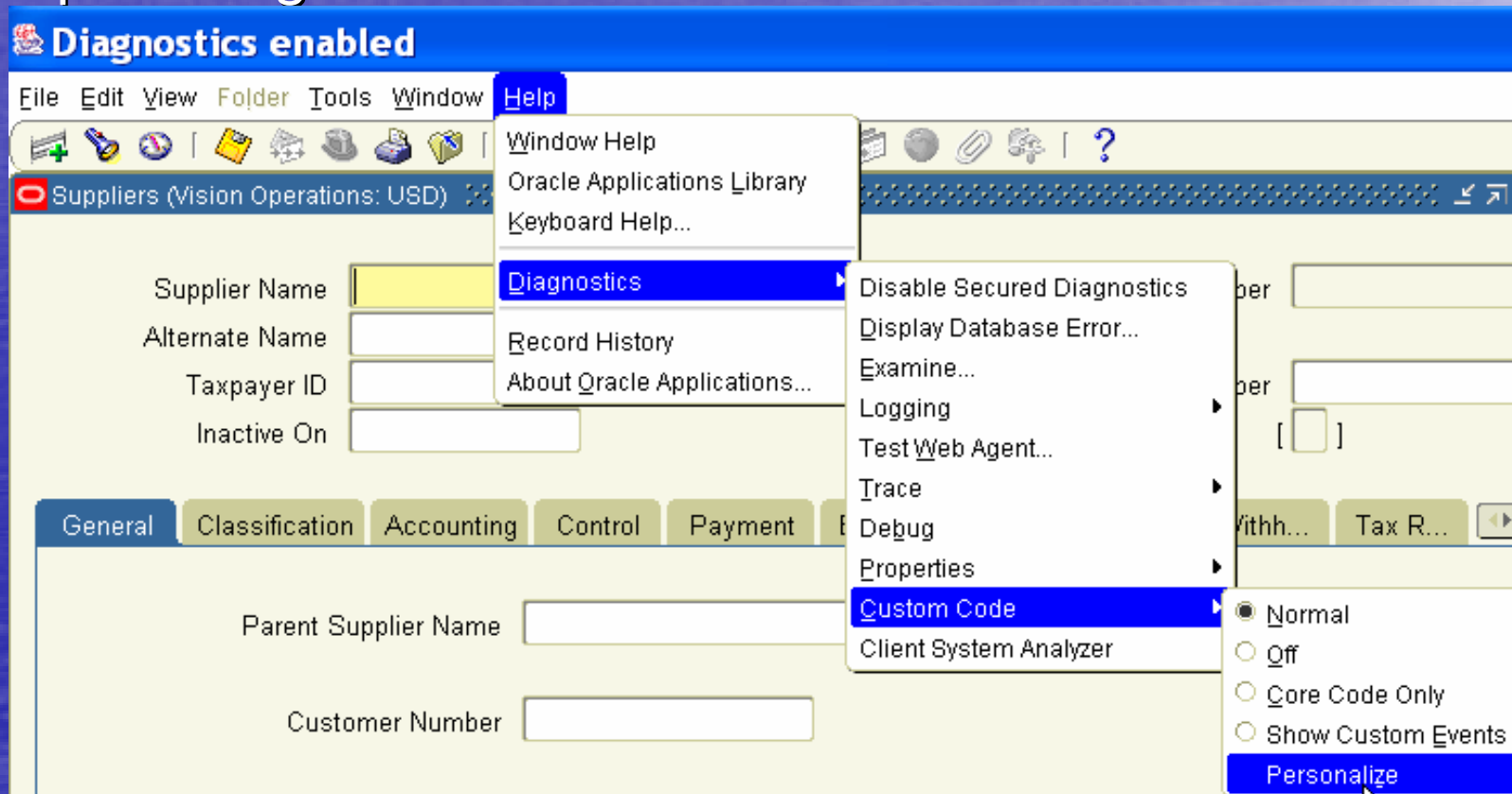
- Hide Diagnostics menu entry – Set to No
 - ◆ Yes will hide the diagnostics menu
- Utilities: Diagnostics – Set to No to require apps password

Profile	Site	Application	Responsibility	User
FND: Diagnostics	No			
Hide Diagnostics menu entry	No			
Utilities:Diagnostics	No			

Authorization - Forms Personalization



- ◆ Access the form or function needing Personalization
- ◆ Help → Diagnostics → Custom Code → Personalize



Authorization - Forms Personalization



Form Personalizations (Suppliers)

Function Name: Form Name: Debug Mode:

Seq	Description	Level	Enabled
10	Susan's Test	Form	<input checked="" type="checkbox"/>
			<input type="checkbox"/>
			<input type="checkbox"/>
			<input type="checkbox"/>

Condition Actions

Trigger Event: (You can enter additional event names.)

Trigger Object:

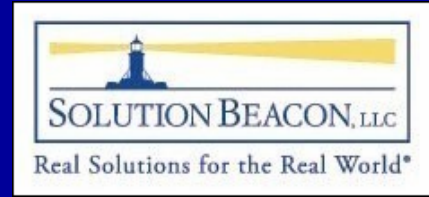
Condition:

Processing Mode:

Context

Level	Value
User	SBEHN

Forms Personalization – Condition Tab – Standard Trigger Events



◆ WHEN-NEW-FORM-INSTANCE

- Security rules
- Navigation rules
- Visual attributes

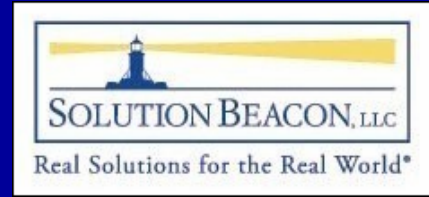
◆ WHEN-NEW-BLOCK-INSTANCE

- Same as WHEN-NEW-FORM-INSTANCE
- Message rules

◆ WHEN-NEW-RECORD-INSTANCE

- Default values

Forms Personalization – Condition Tab – Standard Trigger Events



◆ WHEN-NEW-ITEM-INSTANCE

- Message rules
- Default values dependent on entry of another item

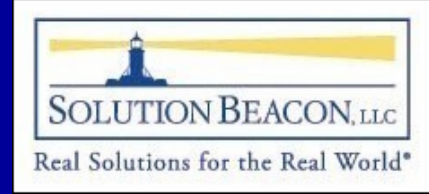
◆ WHEN-VALIDATE-RECORD

- Populate hidden fields
- Additional validations

◆ SPECIALn

- Populate tools menu (SPECIAL 1-15)
- Populate reports menu (SPECIAL 16-30)
- Populate actions menu (SPECIAL 31-45)

Forms Personalization – Condition Tab – Context

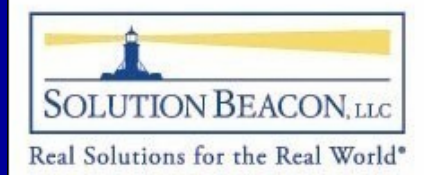


- ◆ Who does this rule apply to?
- ◆ Level at which rule will apply
 - Site
 - Responsibility
 - User – Use this for testing rules
 - Industry (For future use)

Tip: For initial development, set scope to your user id

Context	
Level	Value
Industry	SBEHN
Site	
Responsibility	
User	

Forms Personalization – Property Actions



Form Personalizations (Suppliers)

Function Name: Form Name: Debug Mode:

Seq	Description	Level	Enabled
10	Supplier Rules	Form	<input checked="" type="checkbox"/>
			<input type="checkbox"/>
			<input type="checkbox"/>
			<input type="checkbox"/>

Condition Actions

Seq	Type	Description	Language	Enabled
	Property		All	<input checked="" type="checkbox"/>
				<input type="checkbox"/>
				<input type="checkbox"/>
				<input type="checkbox"/>
				<input type="checkbox"/>
				<input type="checkbox"/>
				<input type="checkbox"/>
				<input type="checkbox"/>
				<input type="checkbox"/>
				<input type="checkbox"/>
				<input type="checkbox"/>
				<input type="checkbox"/>
				<input type="checkbox"/>
				<input type="checkbox"/>
				<input type="checkbox"/>
				<input type="checkbox"/>
				<input type="checkbox"/>

Select By Text...

Object Type:

Target Object:

Property Name:

Value:

Get Value

Insert 'Get' Expression... Insert Item Value... Validate Apply Now

Forms Personalization – Property Actions Example



Prevent Insert in the Bank Accounts Tab

- ◆ Type = Property
- ◆ Object Type = Block
- ◆ Target Object = VNDR_USES
- ◆ Property Name = INSERT_ALLOWED
- ◆ Value = False

A screenshot of a configuration window for forms personalization. At the top is a button labeled "Select By Text...". Below it are four rows of configuration options, each with a label on the left and a value in a field on the right. The first row is "Object Type" with a dropdown menu showing "Block". The second row is "Target Object" with a text field containing "VNDR_USES". The third row is "Property Name" with a text field containing "INSERT_ALLOWED". The fourth row is "Value" with a dropdown menu showing "False". At the bottom of the window is a button labeled "Get Value".

	Select By Text...
Object Type	Block
Target Object	VNDR_USES
Property Name	INSERT_ALLOWED
Value	False
	Get Value

Forms Personalization – Example



- ◆ Prevent employee from entering an invoice for their own supplier record

30 Prevent entry of invoice related to user id Function

Condition **Actions**

Seq	Type	Description	Language	Enabled
10	Property		All	<input checked="" type="checkbox"/>
				<input type="checkbox"/>
				<input type="checkbox"/>
				<input type="checkbox"/>
				<input type="checkbox"/>
				<input type="checkbox"/>
				<input type="checkbox"/>
				<input type="checkbox"/>
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				<input type="checkbox"/>
				<input type="checkbox"/>
				<input type="checkbox"/>
				<input type="checkbox"/>

Object Type: **Block**
Target Object: **INV_SUM_FOLDER**
Property Name: **DEFAULT_WHERE**
Value: **Editor**

```
vendor_id NOT IN  
(SELECT vendor_id  
FROM po_vendors pv,  
fnd_user fusr  
WHERE fusr.user_id = fnd_profile.value('USER_ID')  
AND fusr.employee_id = pv.employee_id)
```

Buttons: Insert 'Get' Expression... Insert Item Value... OK Cancel Search

Forms Personalization – Example



◆ Conceal the Taxpayer id – Conceal Data

23 Conceal the taxpayer id Form

Condition Actions

Seq	Type	Description	Language	Enabled
10	Property	Conceal Taxpayer id	All	<input checked="" type="checkbox"/>
				<input type="checkbox"/>
				<input type="checkbox"/>
				<input type="checkbox"/>
				<input type="checkbox"/>
				<input type="checkbox"/>

Select By Text...

Object Type: **Item**

Target Object: **VNDR.NUM_1099_MIR**

Property Name: **CONCEAL_DATA**

Value: **TRUE**

Forms Personalization – Example



◆ Update LOV which includes Taxpayer id

<input checked="" type="checkbox"/>	22	Show 'Inactive Date' in Supplier LOV	Form	<input checked="" type="checkbox"/>
<input type="checkbox"/>	23	Conceal the taxpayer id	Form	<input type="checkbox"/>

Condition **Actions**

Seq	Type	Description	Language	Enabled
10	Builtin	Create Group Name	All	<input checked="" type="checkbox"/>
12	Property	Assign group name	All	<input checked="" type="checkbox"/>

Editor

```
select vendor_name,  
segment1||'-'||to_char(end_date_active,'DD-MON-RRRR'),  
to_char(end_date_active,'DD-MON-RRRR') num_1099,  
vat_registration_num,  
vendor_id  
from po_vendors
```

OK Cancel Search

Builtin Type: **Create Record Group from Query**

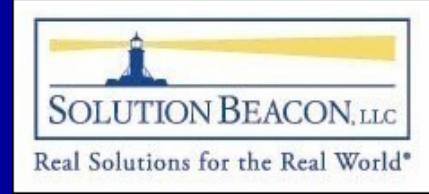
Argument: `select vendor_name,
segment1||'-'||to_char(end_date_active,'DD-MON-RRRR'),
to_char(end_date_active,'DD-MON-RRRR')
num_1099`

Group Name: **XXXXX_QF_VENDORS_BY_NAME**

Add Parameter...

Insert 'Get' Expression... Insert Item Value... Validate Apply Now

Forms Personalization – Example



◆ Assign new group name to LOV

22	Show 'Inactive Date' in Supplier LOV	Form	<input checked="" type="checkbox"/>
23	Conceal the taxpayer id	Form	<input type="checkbox"/>

Condition **Actions**

Seq	Type	Description	Language	Enabled
10	Builtin	Create Group Name	All	<input checked="" type="checkbox"/>
12	Property	Assign group name	All	<input checked="" type="checkbox"/>
				<input type="checkbox"/>
				<input type="checkbox"/>
				<input type="checkbox"/>
				<input type="checkbox"/>

Select By Text...

Object Type: **LOV**

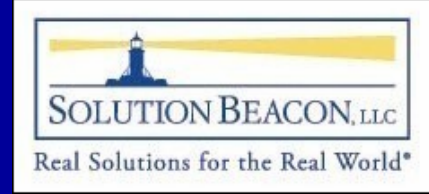
Target Object: **QF_VENDORS_BY_NAME**

Property Name: **GROUP_NAME**

Value: **XXXXX_QF_VENDORS_BY_NAME**

◆ Repeat process for vendor number LOV on query block and vendor name LOV and vendor number on Supplier Header block

Forms Personalization – Example



◆ Supplier header

Suppliers (Vision Operations: USD)

Supplier Name **American Power Conversion Corp**

Alternate Name **APC Corp**

Taxpayer ID *****

◆ LOV – replaced taxpayer id with inactive date

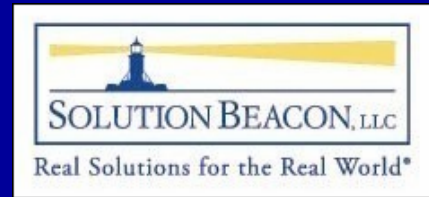
Supplier Name

Find %

Supplier Name	Number	Taxpayer ID	Tax Registration Number
3G Communications, Inc.			
3M Health Care			
ACSYS Consultoria e Sistemas Ltda			
AUTO HAUS			24-FEB-2007
Abbott Laboratories, Inc			

End OK Cancel

Authorization - OA Framework Personalization



- ◆ OA Framework Personalization is for self-service applications
 - Introduced with 11.5.9 - Patch 3323690
 - Standard with 11.5.10
- ◆ Intuitive – setup and maintained by functional Superusers
- ◆ Technical assistance needed only to move upload/download files between instances

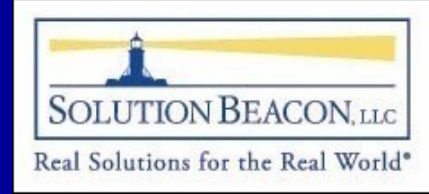
Authorization - OA Framework Personalization



◆ Profile Options

- Personalize Self-Service Defn
 - ◆ Yes to allow personalizations
- FND: Personalization Region Link Enabled
 - ◆ Yes to display the regional links to the Personalization pages in the Self-Service applications
- Disable Self-Service Person
 - ◆ Yes will disable all Personalizations at any level
- FND: Personalization Document Root Path (new in 11.5.10)
 - ◆ Required to migrate Personalizations
 - ◆ Set this profile option to a tmp directory with open (777) permissions

OA Framework Personalization - Example



- ◆ Hide the “duplicate” column on an Expenses page to disallow duplication of an expense report
- ◆ Click the personalize page button

ORACLE Expense Reports Contact Us Global Policy Home Logout Preferences **Personalize Page**

Expenses

Expenses Home | Expense Reports | Credit Card Transactions | Expenses Preferences | Projects and Tasks

Expenses Home Create Verification Report Export Spreadsheet

Personalize "OIE Home Page Container"

Track Submitted Credit Card Verification Reports
 Personalize "Track Submitted Credit Card Verification Reports"
 Personalize Table Layout: (TrackReportsRN TrackSubReportsHelp)
 The following expense reports are either outstanding or have been paid in the last 30 days.
 Personalize "Track Submitted Expense Reports table."

Report Number	Report Submit Date	Report Status	Last Report Status Activity (Days)	Current Approver	Receipts Status	Report Total (USD)	Purpose	Previous 1-5 Next 5	
W14112		Paid	21			640.00	Expense Report		
W11890		Paid	21			2,688.60	Sales Conference		
W17647	23-May-2006	Pending Payables Approval	170	Accounts Payable	Required	120.00	GL String Change		
W17636	24-Apr-2006	Pending Your Resolution	188	Stock, Ms. Pat	Not Required	10.00			
W17635	21-Apr-2006	Pending Your Resolution	192	Stock, Ms. Pat	Required	420.00	test line number spl...		

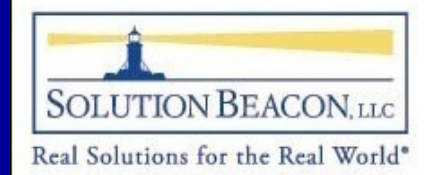
If the status is Pending Your Resolution, you were sent a notification explaining the required action.

Update Credit Card Verification Reports
 Personalize Table Layout: (ActiveReportsRN ActiveReportsHelp)
 Click an Update icon to make changes to a saved, rejected, or returned expense report.
 Personalize "Update Expense Reports table."

Report Number	Report Date	Status	Report Total (USD)	Purpose	Update	Duplicate	Delete
W17677	08-Nov-2006	Saved	0.00	Test			
W17669	20-May-2006	Saved	250.00	demo			

Personalize "Notifications"

OA Framework Personalization - Example



◆ Set Rendered = False and apply change

ORACLE Expense Reports
[Contact Us](#) [Global Policy](#) [Home](#) [Logout](#) [Preferences](#) [Help](#) [Personalize Page](#)

Expenses

Personalize Switcher : Duplicate

▼ Personalization Context

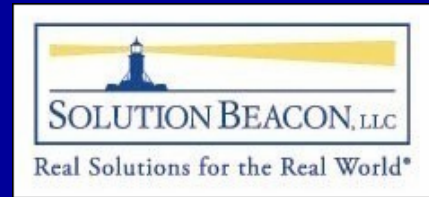
Scope **Page: Expenses Home**
 Document Name **/oracle/apps/ap/oie/webui/HomePG**
 Function **OIE Home Page**
 Site **Include**
 Organization **Vision Operations**
 Responsibility **IE OAUG DEMO**

Personalization Properties

Clear Personalization

	Original Definition	Function: OIE Home Page	Site	Organization: Vision Operations	Responsibility: IE OAUG DEMO	Result / Source
Admin Personalization	true	Inherit <input type="button" value="5"/>	Inherit <input type="button" value="5"/>	Inherit <input type="button" value="5"/>	Inherit <input type="button" value="5"/>	true / Original Definition
CSS Class	Default	Inherit <input type="button" value="5"/>	Inherit <input type="button" value="5"/>	Inherit <input type="button" value="5"/>	Inherit <input type="button" value="5"/>	Default / Original Definition
Controller Class	Default	Inherit <input type="button" value="5"/>	Inherit <input type="button" value="5"/>	Inherit <input type="button" value="5"/>	Inherit <input type="button" value="5"/>	Default / Original Definition
Export View Attribute	Default	Inherit <input type="button" value="5"/>	Inherit <input type="button" value="5"/>	Inherit <input type="button" value="5"/>	Inherit <input type="button" value="5"/>	Default / Original Definition
Post Initial Values	false	Inherit <input type="button" value="5"/>	Inherit <input type="button" value="5"/>	Inherit <input type="button" value="5"/>	Inherit <input type="button" value="5"/>	false / Original Definition
Prompt	Duplicate	Inherit <input type="button" value="5"/>	Inherit <input type="button" value="5"/>	Inherit <input type="button" value="5"/>	Inherit <input type="button" value="5"/>	Duplicate / Original Definition
Rendered	true	Inherit <input type="button" value="5"/>	Inherit <input type="button" value="5"/>	Inherit <input type="button" value="5"/>	false <input type="button" value="5"/>	false / Responsibility
Sort Allowed	no	Inherit <input type="button" value="5"/>	Inherit <input type="button" value="5"/>	Inherit <input type="button" value="5"/>	Inherit <input type="button" value="5"/>	no / Original Definition
Sort By View Attribute	Default	Inherit <input type="button" value="5"/>	Inherit <input type="button" value="5"/>	Inherit <input type="button" value="5"/>	Inherit <input type="button" value="5"/>	Default / Original Definition
User Personalization	true	Inherit <input type="button" value="5"/>	Inherit <input type="button" value="5"/>	Inherit <input type="button" value="5"/>	Inherit <input type="button" value="5"/>	true / Original Definition

Authorization - OA Framework Personalization



- ◆ Functional Administrator responsibility → Personalization
- ◆ Manage Personalizations
 - Deactivate
 - Reactivate
 - Delete
- ◆ Import/Export Personalizations

ORACLE Applications Administration

Home Logout Preferences Help Personalize Page

Security Core Services **Personalization**

Application Catalog **Import/Export**

Application Catalog

Search

Application

Document Path

Personalized

Go

Personalization Shortcuts

Standard Footer

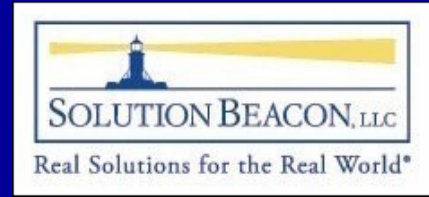
Application	Doc Name	Personalized	Personalize Page	Manage Personalizations
	/oracle/apps/ap/oie/entry/header/webui/GeneralInformationPG	Yes		

Summary – Superuser Security Options



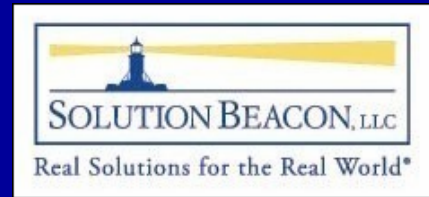
Security Functionality	What is it for?
Forms6/Personalizations OA Framework Personalizations	Authorization - data & functions Row/Column level
HRMS Forms Configurator and Taskflow	Authorization - functions
Excluded Items Securing Attributes	Authorization - data
Security Groups Security Profiles	Authorization - data
User Management	Authorization - data
Function Security-Responsibilities	Authorization - functions
Menus, Request Groups, Responsibilities	Authorization - functions

Summary – Technical Team Security Options



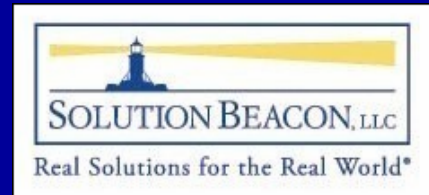
Security Functionality	What is it for?
Timeout Options	Authentication
Oracle Label Security (OLS)	Authorization – data/functions Row/Column level All data
Audit Trail	Audit
Password Profile Options	Authentication
Custom Library	Authorization – data/ functions Row/Column level 6/forms

Additional Resources



- ◆ MetaLink Note 189367.1 - *Best Practices for Securing Oracle E-Business Suite*
- ◆ 30 Minute Release 11 i Security, Keeping the Bad Guys Away, OAUG Insight, Fall 2006
- ◆ *Oracle Applications Concepts*, Chapter 12
- ◆ *Oracle Applications System Administrator's Guide – Security*
- ◆ *Oracle Application Framework Personalization Guide*
- ◆ MetaLink Note: 290996.1 - *Oracle User Management Supplementary Documentation*
- ◆ *Oracle HRMS Configuring, Reporting, and System Administration Guide*

Questions and Answers



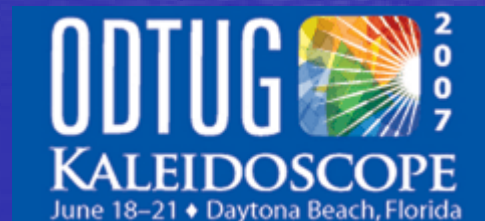
Thank you!

Susan Behn

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Real Solutions for the Real World.®



Installing, Upgrading and Maintaining Oracle E- Business Suite Applications 11.5.10.2+

*Solution Beacon and OnCallDBA
Installing, Upgrading and Maintaining Oracle E-Business Suite Release 11i*



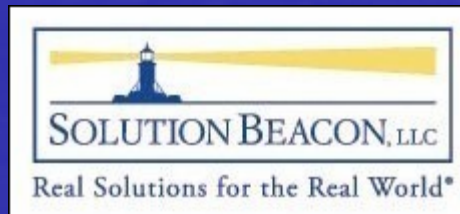
(or "Teaching an Old Dog New Tricks - Release 11i Care and Feeding")

**Installing, Upgrading and Maintaining
Oracle E-Business Suite Applications
Release 11.5.10+**

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