

# **ABT Program**

# Modifications Strategy Plan

June, 2008

# **Revision History**

Version	Prepared by	Date	Reviewed by	Approved by	Note
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# **Table of Contents**

1.0 INTRODUCTION	4
1.1 Executive Summary	4
1.2 Objectives	
1.3 MODIFICATION STRATEGY:	4
1.4 SUMMARY OF RECOMMENDATIONS:	
1.5 Assumptions	
2.0 CHANGE CONTROL	6
2.1 ABT Fit/Gap Development Change Control – Recommended	6
2.1.1 Key Elements:	
2.1.2 Procedure:	
2.2 Initiation of a Development Change for ABT Modifications, Interfaces and Custom Reports	7
3.0 MODIFICATION MATRIX	8
3.1 Oracle Financials EBS – New Modifications	
3.2 Oracle Financials IBIS – Existing Modifications	
3.3 Oracle Financials EBS – Candidates for Possible Removal	
3.4 PEOPLESOFT HCM – NEW MODIFICATIONS.	
3.5 PEOPLESOFT HCM – EXISTING MODIFICATIONS	
3.6 PEOPLESOFT HCM – CANDIDATES FOR POSSIBLE REMOVAL	
3.7 Other Systems – New Modifications	
4.0 MODIFICATION APPROACH	15
4.1 MODIFICATION STANDARDS:	15
4.2 Custom Schema	
4.3 CUSTOM APPLICATIONS AND CUSTOM FOLDERS (CUSTOM TOP)	
4.4 Preserving the integrity of the original object	
4.5 Naming Standards	
4.6 MODIFICATION TOOLS	
5.0 ABOUT MODIFICATION TOOLS	18
APPENDIX A: SUMMARY OF PEOPLESOFT 8.9 CUSTOMIZATIONS	19
APPENDIX B: PSSD DEVELOPMENT STANDARDS	10

#### 1.1 Executive Summary

An important goal of ABT Program is to consolidate the functions of Human Capital Management (HCM) and Financials into a common platform by implementing PeopleSoft 9 and Oracle eBusiness Suite Release 12 for the entire county.

Modifications are changes that extend the functionality of a software system in the context of this document - Oracle EBS and PeopleSoft 9. The modification strategy recognizes the need to change some of the delivered functionality to support specific business needs of King County that cannot be efficiently met by modifying business processes. This plan recommends a change control structure for handling modifications and recommends a process for tracking modifications. The plan also proposes an approach to modifications that includes how, when and why modifications should be done.

#### 1.2 Objectives

The objectives of this document are three fold.

- This first is to provide a structure for Change Control as modifications are made to the PeopleSoft HCM and Oracle EBS systems. The process also includes an approval process for interfaces, and custom reports.
- The second is to provide a high level overview of the currently identified modifications that the ABT reimplementations will need to be aware of and handle while moving the County to PeopleSoft HCM 9 and Oracle EBS 12.
- The last is to list new modifications and modifications to be removed from existing baseline, identified by the ABT DIP analysis effort.

#### 1.3 Modification Strategy:

In general, the strategy will serve as an initial guide on the following areas and it will evolve over time during the ABT implementation:

- Recommend processes and methodology to track Configurations, Modifications, User Defined Fields, and Interfaces
- Create a Modification Matrix of current and possible future modifications.

## 1.4 Summary of Recommendations:

Oracle EBS, PeopleSoft 9 and the new Budget System and are general purpose software systems, as such some of the delivered functionality may need to be modified or extended to fit the needs of the County or specific departments. Modification can be defined as changing or adding logic to the delivered functionality or by extending the functionality by providing a "bolt-on" application or sub module.

- It is highly recommended to avoid modifying the delivered functionality, but rather adjust the business process. Business process change should be considered where it can substitute for system modification and is adequately efficient and effective.
- A naming standard is recommended and will be designed so that all modified objects can be identified.
- It is recommended that the same naming standards be followed that are currently used for custom objects within Oracle IBIS and PeopleSoft 8.9.
- Modification of delivered objects, if needed, should be done only to a copy of the original object that is intended to be modified, renamed according to standard and saved in a separate location. This practice preserves the original version of the object and also prevents overwriting during upgrades to Oracle EBS or PeopleSoft 9.
- Modifications are done using the same tools and technologies that are used to develop the original
  objects. As such, when modifying the object, the same version of the tools and technologies need to be
  used.

#### 1.5 Assumptions

This assessment was based on the following assumptions.

- The ABT Program will be re-implementing Oracle EBS 12 and PeopleSoft HCM 9.
- Fit/Gap sessions will be held on each module to be implemented or re-implemented, which may result in further modification requests.
- Information gathered from the County on current Modifications made to PeopleSoft 8.9 and IBIS are representative of the state of the two systems when the ABT Program starts the re-implementation activities.
- Knowledgeable King County representatives will be available for guidance on the modifications that are currently used in IBIS and PeopleSoft 8.9.
- Interfaces and Custom Reports will follow the modifications change control processes, as well as the development and testing schedule.

#### 2.0 Change Control

CIBER has performed research on the Modification Change Control practices and documentation that is currently in place around the County's core HR/Payroll and Financial systems, and recommends using a targeted process for Development Change Control which will provide an appropriate level of project development tracking and approval visibility.

#### 2.1 ABT Fit/Gap Development Change Control – Recommended

The ABT Fit/Gap Development Change Control process encompasses approval to fund all design and configuration work coming out of Fit/Gap and BPR, including modifications, interfaces, temporary interfaces, and custom reports. The process includes notifying ABT Program Management of elements going into design and configuration and noting whether they deviate from the DIP.

Variances to the planned design and configuration work tasks, resources, or schedule will require notification of intended changes, and include justification and analysis of the impact on the project.

Development Change Control will include effective tracking, monitoring and control over changes by:

- Establishing a central point of control and decision making.
- Minimizing changes, even those that are easy to make. This step includes identification and analysis of alternatives.
- Establishing quantification for each proposed change and requiring business justification to be documented and approved by the Program Manager or delegate, prior to design.

Any proposed modifications, interfaces, or custom reports are subject to the Development Change Control process.

This Development Change Control process does not include changes to the scope of the ABT Program or fundamental universe of tasks agreed to in the Project Charter.

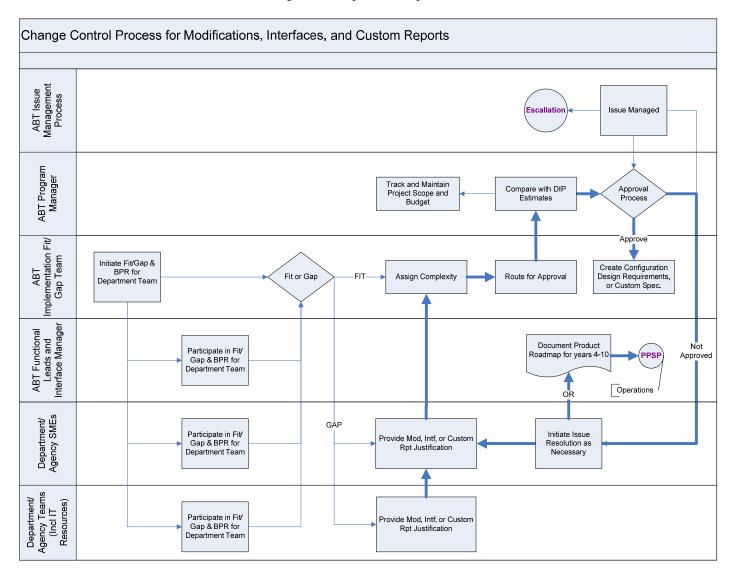
Included at the discretion of the Program Manager are any modifications, interfaces or custom reports, not included in the project plan at the conclusion of the Fit/Gap process, or tasks identified in the plan for which new requirements surface which align with project scope.

#### 2.1.1 Key Elements:

- Establishment of project baseline, variation from which triggers the Development Change Control process
- Documentation and analysis of proposed changes, including alternatives
- Approval process
- Structured tracking

#### 2.1.2 Procedure:

- Process flow diagram for Development Change Control process
- Detailed instructions on the Change Control process steps



# 2.2 Initiation of a Development Change for ABT Modifications, Interfaces and Custom Reports

The ABT Implementation team will initiate development change process and work with the affected department on justification for development requests. After estimates have been provided and reviewed, ABT Program Manager will make an approval decision.

Based on Decision by the ABT Program Manager or delegate, the ABT Implementation Team will initiate design.

#### 3.0 Modification Matrix

For the estimation part of the DIP, the assumption has been made that the modifications listed below will be included in the re-implementation of Oracle Financials and PeopleSoft EBS. These potential modifications have been identified during the DIP Fit/Gap Analysis.

These lists of modifications will be analyzed during the Fit/Gap sessions for each module. At that time, these modifications will be included in the system rollout or Business Processes will be implemented to satisfy the Business Requirements identified:

#### 3.1 Oracle Financials EBS - New Modifications

Module	Functional Area	Justification	Complexity
Oracle Payables	Project Supplier Invoice Account Generator - Workflow	Template to be modified for generating accounting codes	Low
Oracle Inventory	Inventory Account Generator	Template to be modified for generating accounting codes	Low
Oracle Fixed Assets	FA Account Generator - Workflow	Template to be modified for generating accounting codes	Low
Oracle Purchasing	PO Requisition Account Generator - Workflow	Template to be modified for generating accounting codes	Low
Oracle Purchasing	PO Account Generator - Workflow	Template to be modified for generating accounting codes	Low
Oracle GL	Journal approval rules for Workflow	Template to be modified for generating accounting codes	Low
Oracle Payables	AP Invoice Approvals Rule and Credit Memo - using AME configuration	Customize the AP invoice approvals Workflow based on department rules	Med
Oracle Purchasing	Requisition approval rules for Requisitions - Workflow	Template to be modified for generating accounting codes	Low
Oracle Accounts Receivable	AR Credit memo approval rules	Customize the AP Credit Memo approvals Workflow based on department rules	Med
Crosswalk	Cross Walk - 1. ARMS - GL 2. ARMS - Projects 3. ARMS - Projects for Labor	Need to build a set of tables and user entry screen to manage the crosswalk on a daily basis. GL Crosswalk maintenance screens may already exist in IBIS. The same can be leveraged.	High
Oracle Projects	Change to Invoice Workbench user entry screen	Trigger to change the Expenditure Item Date in Accounts Payable to be the system date. This should occur when the AP invoice is interfaced to GL or approved or some other current action. The Expenditure Item Date needs to be changed because it is populated with a date corresponding to when the original blanket PO is created, or when the inventory is initially purchased which could be in the past. The revised Expenditure Item Date will slot the expenditure into the proper period within Grants-Projects and will also send the transaction to the corresponding GL Period.	Low

Module	Functional Area	Justification	Complexity
Oracle Projects	Populate GL Value set for Project Segment	Trigger to populate the GL Project segment value set with a newly entered Project Number created in Grants Accounting. This eliminates the need to manually populate every new Project Number in General Ledger.	Low
Oracle Projects	List of Values for Time Entry - limit based on certain criteria	May be needed in PeopleSoft Time and Labor & iProcurement  Limit some Project Number List of Values to show only those Projects where the logon user is a Key Member. This prevents users from charging Projects out of their domain. the area where This will probably be necessary is Time Entry	Low
Oracle Projects	Projects Approval Workflow Changes	Modify the template to build Project creation approvals Workflow based on department rules	High
Oracle Projects	Project Budget Approval Workflow Changes	Modify the template to build Project budget creation approvals Workflow based on department rules	High
Oracle Payables	AP Invoice Approvals - Changes to Workflow notifications as necessary	Changes to notifications and message body etc. for AP invoice approval workflow	Low
Oracle Inventory	Inventory Alerts/Notifications - Workflow	Changes to notifications and message body etc. for approval workflow	Low
Oracle Purchasing	PO Approvals - Workflow changes for Notifications etc	Changes to notifications and message body etc. for PO Approval workflow	Low
iProcurement	Workflow Changes for electronic output of system generated approved releases	Changes to notifications and message body etc. for approval workflow	Low
Oracle Accounts Receivable	XML/BPA invoice billing templates	Assumption - 2 templates - potentially change the data presented in the body of the form	Low
Oracle Accounts Receivable	XML dunning letter templates	Assumption 3 templates	Low
Oracle Accounts Receivable	Statement XML template	Assumption 3 templates	Low
Oracle Payables	XML Warrant (check Printing) form with electronic signatures	Check printing changes	Low
Oracle Purchasing	XML PO Templates	Assumption - 2 Templates	Low
Oracle Purchasing	XML Requisition template	Assumption - 1 Template	Low

## 3.2 Oracle Financials IBIS – Existing Modifications

This modifications listed below are currently in use within IBIS and will be migrated during the Oracle EBS implementation.

Module	Functional Area	Comments	Complexity
Oracle Payables	Purchasing Card Data		Low – Effort to Migrate and test
Oracle Payables	AP Supplier Query: Custom PLL form revision for 50-80 forms to block view to Supplier Tax ID when employee ID; ( HR API Payroll Interface revision/conversion addressed this in 11i10 Upgrade)	Oracle Release 12 offers this functionality on some of the screens. For the rest, the preferred way would be to 'Personalize' the form rather that 'Customize'.	
Oracle Accounts Receivable	Lockbox Submission		Low – Effort to Migrate and test
Oracle Accounts Receivable	Customer Query		Low – Effort to Migrate and test
Oracle Accounts Receivable	Modify Customer Query to include full history of Customer Primary Bill-to information		Low – Effort to Migrate and test
Oracle Accounts Receivable	Custom Cap Charge Invoice: add the Customer number and Profile Class in the first line of the Bill To address that prints on the invoice		Low – Effort to Migrate and test
Oracle Accounts Receivable	AR Custom Invoices revised to place past due amounts on the invoice		Low – Effort to Migrate and test
Oracle GL	HR Payroll Scrubber Form		Low – Effort to Migrate and test
Oracle GL	HR Payroll Scrubber program changes: Update the scrubber program to write out the records that cause program errors Provide feedback at key points in the process to determine status and confirm program proceeding		Low – Effort to Migrate and test
Oracle GL	Project-Subproject Description form		Low – Effort to Migrate and test
iProcurement	Accounting Regions (King County specific GL Accounting Distribution Segments)		Low – Effort to Migrate and test
iProcurement	Profile for Accounting Regions POR: Edit Accounts Region POR:Multiple Accounts Region		Low – Effort to Migrate and test
iProcurement	Preferences/My Profiles Accounting Regions		Low – Effort to Migrate and test
iProcurement	Requisition DFF - Accounting Regions		Low – Effort to Migrate and test
iProcurement	Default Taxable Status : Default value "Don't Know"		Low – Effort to Migrate and test
iProcurement	Suggested Buyer displayed in Delivery Page		Low – Effort to Migrate and test
iProcurement	Single Row/Multiple Row		Low – Effort to Migrate and test

Module	Functional Area	Comments	Complexity
iProcurement	Urgent Requisition Check Box		Low – Effort to Migrate and test
iProcurement	Customized removal of field Requestor ID in iProcurement forms (included SSN # for user)		Low – Effort to Migrate and test
Oracle GL	The unit price field on the order transmittal form does not allow enough digits		Low – Effort to Migrate and test
Oracle GL	Receipt Form: Customize to alert user when Receipt Flag not checked in form		Low – Effort to Migrate and test
Oracle GL	Budget Upload:To be replaced with ADI		Low – Effort to Migrate and test
Oracle Inventory	Use Tax Interface: CSV To be replaced by ADI		Low – Effort to Migrate and test
Oracle Inventory	Calculate lead times for inventory items		Low – Effort to Migrate and test
Order Management	Pass Sales Inventory Sales Account Update		Low – Effort to Migrate and test
Order Management	Pass Sales Generate Standing Orders		Low – Effort to Migrate and test
Oracle Purchasing	OM: No Pick, No Ship		Low – Effort to Migrate and test
Oracle Purchasing	Validate Employee Trigger		Low – Effort to Migrate and test
Oracle Purchasing	SSN custom library		Low – Effort to Migrate and test

#### 3.3 Oracle Financials EBS - Candidates for Possible Removal

Module	Functional Area	Comments
Oracle Payables	Supplier Tax ID when employee ID; ( HR	Oracle Release 12 offers this functionality on some of the screens. For the rest, the preferred way would be to 'Personalize' the form rather that 'Customize'.

## 3.4 PeopleSoft HCM – New Modifications

Module	Functional Area	Justification	Complexity
Time & Labor	Time Admin Process must enforce Project/Grant Entry Rules	This is a business requirement agreed to by the SMEs and approved by the ABT Governance Structure during HLBP and HLBD	High
Time & Labor	Administrative Time and Labor Entry must follow Project/Grant Entry Rules	This is a business requirement agreed to by the SMEs and approved by the ABT Governance Structure during HLBP and HLBD	Med

Module	Functional Area	Justification	Complexity
Time & Labor	Self Service Time and Labor Entry must follow Project/Grant Entry Rules	This is a business requirement agreed to by the SMEs and approved by the ABT Governance Structure during HLBP and HLBD	Low
Time & Labor	Time Capture needs to allow for a Work Order to be entered for DES employees using Maximo for Work Order Management	This mod replaces current functionality in POL	Med
Human Resources	Position Management must carry an MSA Position Mgt value to cross walk back to MSA. Also, assign the sequence number for new positions created in PeopleSoft.	This is required in order to maintain the existing functionality between MSA and ARMS	Med
Human Resources	Organization / DeptID cross walk back to MSA	This is required in order to maintain the existing functionality between MSA and ARMS	Low

#### 3.5 PeopleSoft HCM – Existing Modifications

The summary results of the DIP analysis on existing modifications are included here, and the details are included in the Appendix C.

Identified menu items listed on the King County custom menus. This method identified only King County Bolt-On modification not changes to PeopleSoft delivered objects. There are 248, menu items lists in this category that were identified by complexity from a Functional testing perspective of:

- High = 111,
- Medium = 94,
- Low = 37,
- Not Needed = 5 and
- Don't Know = 1.

These menu items made up of the following functionality areas:

- 1. Report Run Controls
- 2. Setup and Configurations
- 3. Update Process Run Controls
- 4. Page Groups called Components that capture data to support custom Functionality.

Counts of current pages and records that have been modified by someone other than PeopleSoft denotes another set of customizations. Pages and records represent the major objects that other modifications are attached or are built to support. Both contain a multitude of triggers that can contain PeopleCode that may have been changed or create by King County. The counts are shown here:

#### **Customized Pages**

Delivered from PeopleSoft and changed by King Cou	nty 63
Created by King County	438
To	otal: 501
<b>Customized Records</b>	
Delivered from PeopleSoft and changed by King Cou	nty 138
Created by King County	768

Total:

906

Reviewing the migration logs from the 8 to 8.9 Upgrade Project identified the customizations that were moved into production 8.9. The summary results are shown here:

#### **KC RFW Upgrade Migrations**

Reports		66
Interfaces		17
Processes		41
Online Pages		133
Other		4
	Total:	261

Each migration can represent many custom objects in the database and the majority has a Functional and Technical Specification that details the modification.

Reviewing the list of custom SQR programs that are executable within PeopleSoft production system provided more customization efforts. The summary results are shown here:

#### **Custom SQRs by Function**

Interface		58
Report		93
Process		64
Other		53
	Total:	268

Additional modifications were found by counting the number of objects by type by Project or migration folder. The summary results of Project, Object Type and Count filled close to 3000 lines in a spreadsheet with a total count of 25,133 objects changed. This proved too large to be analyzed and placed in this document.

In conclusion, it can be assumed that PeopleSoft is heavily modified by King County and will take significant resources to ensure that the functionality is not lost during the re-implementation of PeopleSoft 9 by the ABT Program. Estimates have been entered into the Detailed Project Schedule based on CIBER knowledge base and a review of the PeopleSoft 8 to 8.9 Upgrade recently completed by the County.

#### 3.6 PeopleSoft HCM - Candidates for Possible Removal

Initial analysis has determined that some current modifications maybe able to be removed. The last PeopleSoft Upgrade from 8 to 8.9 performed extensive analysis attempting to remove unneeded modifications. That project was successful in that effort which completed in the third quarter of 2007. This list contains a few more possible candidates:

Module	Functional Area	Comments
Time & Labor	KC Feeder Batch Status	Not Needed
Time & Labor	KC Feeder Error Display	Not Needed
Time & Labor	KC Feeder Error Report	Not Needed
Time & Labor	KC Feeder File Available Report	Not Needed
Time & Labor	KC Feeder Files Avail Display	Not Needed

Module	Functional Area	Comments
Human Resources	Job Class Lookup Table	KC_JOB_CLASS_TB, lookup table for kc_msa_class (fields ** KC_JOB_CLASS, ** EFFDT, DESCR, KC_MSA_CLASS) stores the all the King County Class Specification codes and serves as a cross walk to the MSA class code. KC_JOBCODE_TBL contains a foreign key relationship to KC_JOB_CLASS_TB to group job codes to a class specification. KC_JOB_CLASS_TB could possibly be replaced by PS_JOB_PROFILE_TBL and the parent-child relationship recreated using the JOB_PROFILE_ID field on PS_JOBCODE_TBL.
Benefits	Qualifying Life Events	Cindy Baumeyer of CIBER, recommendation to use delivered Life Events in Self Service.

#### 3.7 Other Systems - New Modifications

Enforcement of Project/Grant Entry Rules at the source system, as well as corrections for prior period adjustments will create a condition for modifications, as will a restructuring of the accounting coding structure elements for data transmissions.

Some modifications work to side systems has been planned, and additional work has been estimated and added to the ABT Project Schedule and Budget in this area.

#### **4.0 Modification Approach**

Modifications are done to provide additional functionality or to change the behavior of the available functionality within an application. Modifications fall into two broad categories. Changing the delivered objects provided by the vendor of the software systems and extending the application by providing a bolt-on application.

**Modifying vendor delivered objects:** Modifications are done to objects that are provided by the vendor of the software systems to change the behavior to suit a specific need. Different tools and technologies are used within the different software applications. As such, any modification that is done essentially has to use the same technology to change the behavior as needed. The most common modifications are listed below.

- Changes to user interface screens.
- Changes to underlying program logic.
- Changes to an existing delivered report.
- Changes to a workflow process.

Software vendors provide the ability to change the behavior of user interface screens without having to make changes to the underlying code. As such, it is important to understand and differentiate the type of modification that is needed.

- Personalization is a change to a user interface screen to tailor the 'user interface screens' look-and-feel, layout or visibility of built-in content to suit a business need or a user preference.
- Extensions are changes to the business logic or adding new content to extend the functionality of an application. Extensions require that the underlying program code be modified to achieve the intended functionality.

**Bolt-On Modifications:** Software vendors may not deliver all the functionality that is needed. As such, additional functionality may need to be provided to meet specific business needs. Such requirements are categorized as extensions and usually need a combination of user entry screen, reports and specific program logic to achieve the intended functionality.

#### 4.1 Modification Standards:

Objects that have been modified need to be easily identified from objects that are delivered by the software vendor. The following modification approach is recommended for ensuring custom objects are preserved during software patching and upgrades.

- Custom Schema
- Custom Applications and Custom Folders
- Preserving the integrity of the Original Object

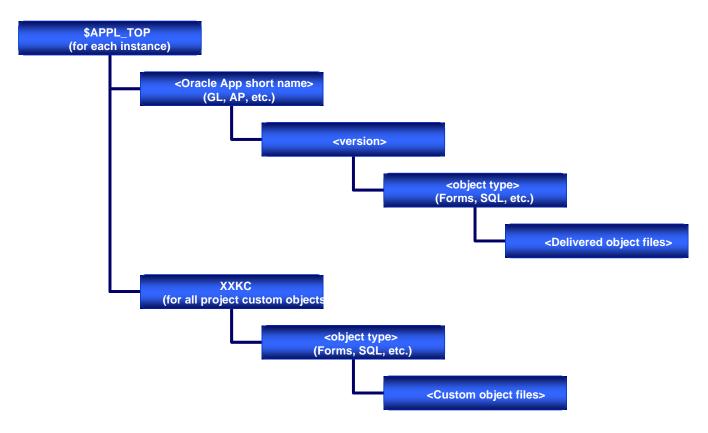
- Naming Standards
- Modification Tools

#### 4.2 Custom Schema

A Schema is a location within a database that contains database objects such as tables, packages, procedures and views among other database objects. It is recommended that all custom objects be created in the custom schema. Permissions will be given to the appropriate database user as necessary.

#### 4.3 Custom Applications and Custom Folders (Custom TOP)

Custom Applications are defined with system Administration so that all custom objects are can be registered under the custom applications. Also a file structure is created for all custom objects that need be placed in folders. The below diagram illustrates how the file structure is defined.



#### 4.4 Preserving the integrity of the original object

When modifications are made to an object that is delivered by the software vendor, the following standards are recommended.

- The change should be done only to the copy of the original object that is intended to be modified.
- The modified version should be renamed and easily distinguishable from the original name.
- The location of the modified version should be different from the original version.

#### 4.5 Naming Standards

It is recommended that the same naming standards be followed that are currently used for custom objects within Oracle IBIS and PeopleSoft 8.9. In the absence of proper naming standards in IBIS, the below is recommended. See Appendix B – PSSD Development Standards

Characters 'KC' concatenated with the module name, such as GL or AP followed by a brief description of the functionality of the modification is the recommended naming convention.

- Example: KCAP Invoice Import Program
  - o 'KC' stands for King County
  - o 'AP' stands of Oracle Payables
  - o 'Invoice Import Program' is the brief description of the process.

#### 4.6 Modification Tools

In order to preserve the integrity of the object within Oracle EBS and PeopleSoft, Modifications are done using the same tools and technologies that are used to develop the original objects. As such, when modifying the object, the same version of the tools and technologies need to be used. The following table lists out the tools and technologies used within Oracle EBS and PeopleSoft

Tool	Version	Common Tool for PeopleSoft and Oracle EBS	Purpose
Oracle Forms	10G	No	Used to develop User Interface Screens
OAF( Oracle Application Framework)	-	No	Used to develop Web based User Interface Screens. Version changes with the installation
Oracle Reports	10G	No	Reporting tool
BI Publisher	10G	No	Reporting tool
PLSQL	-		Used to develop programs that contain business logic.  – Version is not an issue.
PeopleTools	8.48 or higher	No	Used to develop User Interface Screens and processes

#### **5.0 About Modification Tools**

**Oracle Forms** is a proprietary tool that has been used within Oracle e-Business Suite to provide the user interface screens.

OAF (OA Framework) is a unified platform for all HTML-based applications. OAF is used to provide Web Based user interface screens within Oracle EBS.

**Oracle Reports** is a proprietary tool that has been used within Oracle e-Business Suite to provide a complete set of ready-to-run and easy-to-read standard reports for each Oracle application module. Oracle reports 10G is the version that is currently used with Oracle applications Release 12 and can be used to design and build a variety of standard and custom Web and paper reports.

**BI Publisher** (formerly XML Publisher) is a template-based publishing solution. By utilizing a set of familiar desktop tools such as Adobe Acrobat and Microsoft Word, users can create and maintain their own report formats based on development-delivered xml data extracts. This enables users to easily and quickly convert a prepackaged, plain-text Oracle report into a pretty-print report, with graphs and tables, and in multiple formats (such as PDF, HTML, MS Excel, etc).

PLSQL (Procedural Language/Structured Query Language) is Oracle Corporation's proprietary procedural extension to the SQL database language. Some other SQL database management systems offer similar extensions to the SQL language. The key strength of PL/SQL is its tight integration with the Oracle database; some of the features are outlined below

- Can be used to create Oracle packages, procedures and triggers
- Data centric and tightly integrated into the database
- Proprietary to Oracle and difficult to port to other database systems
- Data manipulation is slightly faster in PL/SQL than in Java

**PeopleTools** is the proprietary software development environment that was created by the PeopleSoft Corporation. Since Oracle Corporation acquired PeopleSoft, Oracle has significantly increased its development of the PeopleSoft tools with Version 8.49 as the current "latest and greatest" version of PeopleTools. The PeopleTools consist of Application Designer, Application Engine, Data Mover, PeopleCode and various other developer tools.

## **Appendix A: Summary of PeopleSoft 8.9 Customizations**

SupportDocs\FromJenniferMa\KC Custom Menus Complexity From JenniferMa.xls

SupportDocs\FromJenniferMa\Mods from 8 0 to 8 9 Upgrade From JenniferMa.xls

SupportDocs\FromBetschart-Ken\Listing of KC Modified SQRs.xls

SupportDocs\FromBetschart-Ken\Count of objects in project from Betschart.xls

## **Appendix B: PSSD Development Standards**

SupportDocs\FromBetschart-Ken\PSSD Development Standards.doc