BEAM TEST and PeopleSoft Test Framework (PTF)
Compare and Contrast

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Overview

This document provides a summary of the main differences between TEST and PeopleSoft's PTF tool. Both are automated Testing tools, integrated with PeopleTools at the PeopleSoft page level, to ensure a consistent record and playback.

But the differences are significant especially in the areas of:

- o   Usage across multiple PeopleSoft environments

- o   Generating documentation

- o   Utilizing excel data files

- o   The intended user

For purposes of this document, we assume you have used or tried to use PTF. Please refer to PeopleTools documentation if you need more info on PTF than we have provided here.

It has been our observation over the last few releases that the Test Framework, while offering value, is probably best used as an app developer's tool to test new development, rather than an automated test tool focused on testing changes made to applications via bundles, patches, or upgrades.

Finally, we briefly cover BEAM Compare at the end of this document. BEAM Compare is a separate product from BEAM Test, but its ability to verify data across environments is a powerful alternative or supplement to BEAM Test or PTF, both of which are limited to working within one environment at a time.

# Record / playback across different PeopleSoft Environments

BEAM TEST:

A simple environment selection drives TEST's ability to record scripts within one environment, yet play them back in a different PeopleSoft environment. (IE - Record in Dev environment, but perform the tests playback in another environment, such as TEST)

The integration between TEST and PeopleSoft is defined within TEST's 'Contexts' configuration options. The Context defines the specific environments PIA url.   In the example below, the environment context, HCMTest is configured to link to the PIA for the H5191DM1**A** environment.
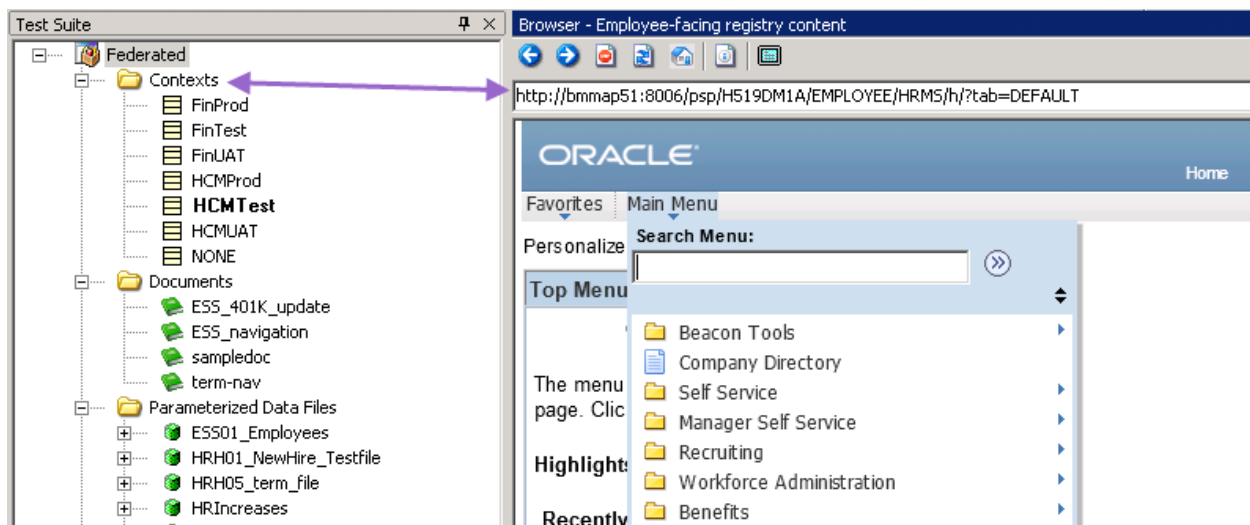

The 'active' environment is highlighted, in bold, within the contexts list. An environment is 'made active' by simply right clicking on the desired environment:
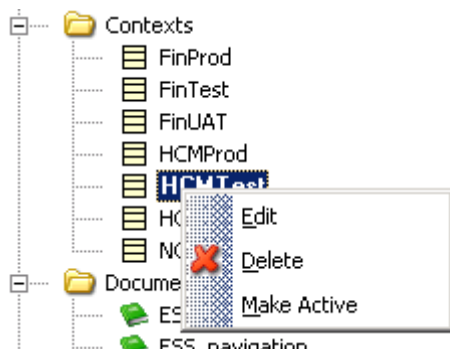
So to switch environments, it is truly a single mouse click.

In the example below, the HCMUAT environment is now the active environment, and the PIA browser has now switched to the H5191DM1**B** environment. So a script created in the HCMTST environment can play back in the HCMUAT environment because of the context configuration feature.
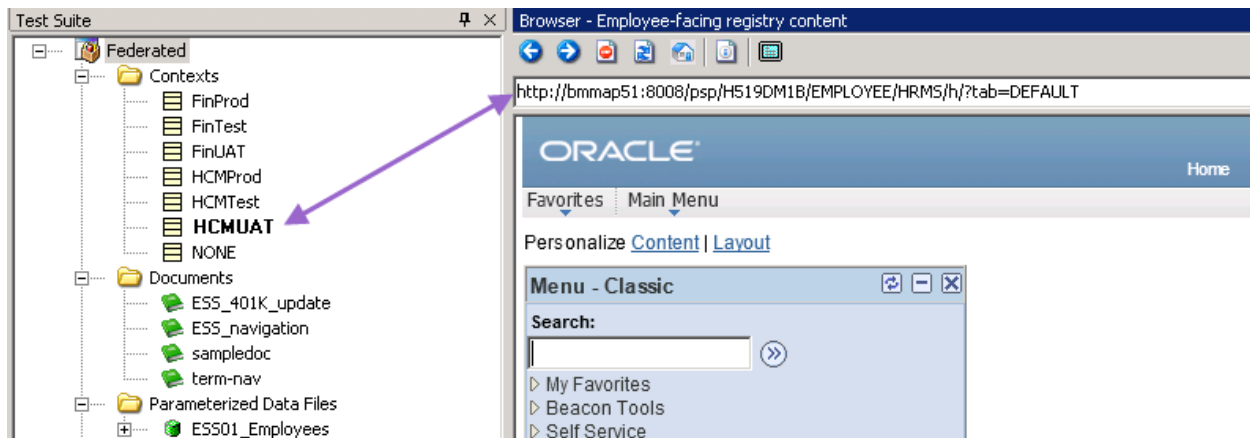
(Note: To show the different environments within the screen shots, we also set the HCMTEST environment to use the top down menu style, and the HCMUAT environment to the classic menu style)

Supporting script creation steps:

If the script recording is utilizing the 'Context Recording' method, then the active context will resolve all environment integration options. There are no related script recording steps..

If the script has been recorded in an environment independent manner, then the browser line within the script should be commented out. As done in the example below, line 75.

```
73        NxTest(Description="Navigation validation")
74        public function ESS_navigation() : void {
75    //        Browser.getPage("http://beaconhcmtst/psp/hc9185t/EMPLOYEE/HRMS/h/?tab=DEFAULT");
76            findByID("pthnavbca_PORTAL_ROOT_OBJECT");
77            CurElement.Click();
78            findByID("pthnavsrchinput");
79            CurElement.Focus();
80            findByID("fldra_CO_EMPLOYEE_SELF_SERVICE");
```

PTF's approach

After recording a script using PTF, all objects related to that script must be packaged and migrated to the environment desired for the playback. We will not try to recap this effort in this document except to say users will need IT to successfully manage and migrate PeopleSoft objects.

Creating documentation

BEAM TEST:

TEST was designed to facilitate the creation of documentation. Originally expected to document the TEST case itself, the documentation features have become very popular with the TEST business users to create business documentation.   The documentation can be automatically generated during the recording process, or it can be generated during the playback.

To create documentation from an existing TEST script, simply right click on the script and select the 'capture document' option:
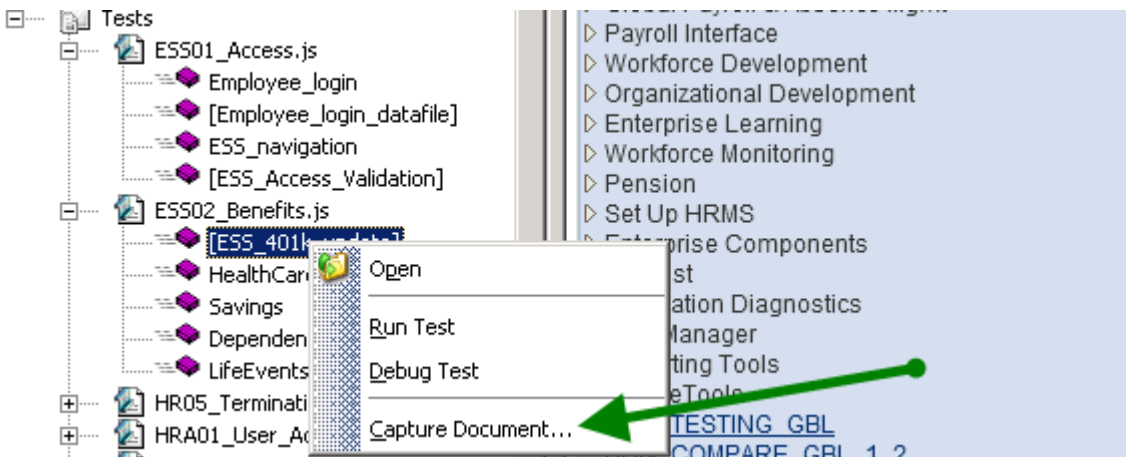
This option will playback the script, capturing each page used within the TEST script and will store an image as a 'business process document' within TEST.

In addition to the page image, all field actions will be highlighted, and a section is available to add free form text:

The business process document can also be published to MS Word, resulting in a final MSWord document containing all navigation, all page actions and any associated free form descriptions, instructions.

This same level of documentation can be created during the recording, by utilizing the 'record document' button. (below) With this recording option, TEST creates the business document rather than a 'test script' during the recording process.
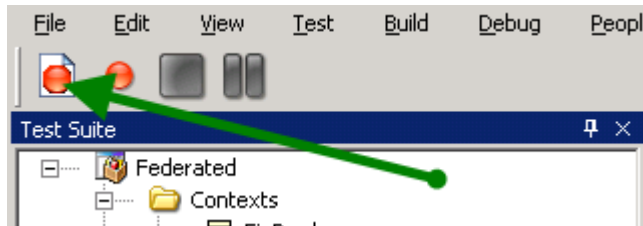
PTF's documentation features:

N/A

Utilizing excel datasheets with BEAM TEST (External Data)

BEAM TEST:

Data driven testing is critical to establishing a broad, deep, application test. The proper volume of transactions, with data specific differences to drive the various scenarios is critical for an accurate, thorough test. And who knows the data better than the business users.

This is why TEST's datasheet functionality begins with Excel. The business user can create and manage an excel datasheet, completely independent of TEST. The data file is then utilized by TEST to repeat a test script for each row with the data sheet.

TEST provides advanced functionality to process the data (ignoring or processing specific rows) and during the recording process to easily establish the link between a column in the spreadsheet and a field on a PeopleSoft page.

The following are a few screen shots of this functionality:

The datasheet begins as an excel file and is 'loaded' into TEST converting it into an xml format:
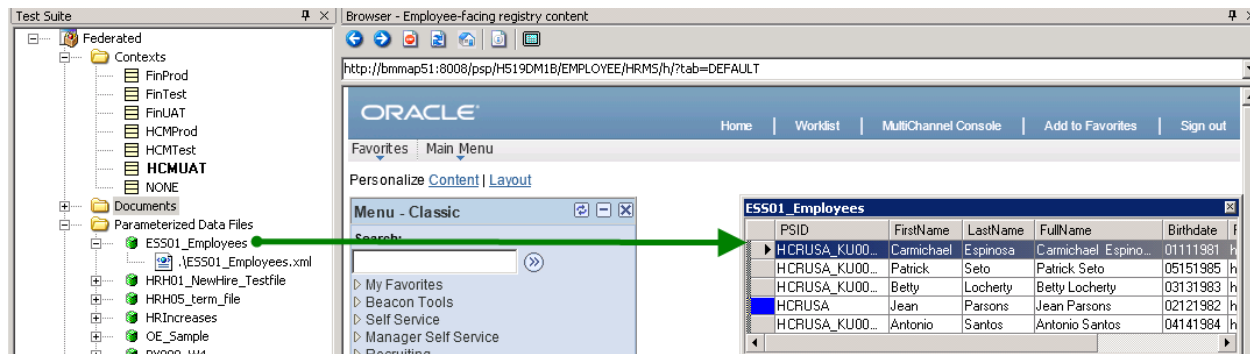
Within TEST, the box preceding the datasheet row will indicate if a row has been selected to be ignored during the processing. After the processing this box will indicate the status of the rows testing (green for success, yellow for a warning, red indicating that the row failed the business test).

Recording with data files

When recording a test using a data sheet (referred to as a Parameterized TEST), a simple right click on the PeopleSoft field will trigger the option to match this field to the column in the spreadsheet. In the example below, the Profile ID field has been 'right clicked', triggering the Input parameterized variable option. By selecting the 'AM_Asset_Profile' the match between the Profile field on the page and Profile data sheet column has been made. With no coding, no hassles, the TEST script is now smart enough to use the data in the Profile column during its playback.
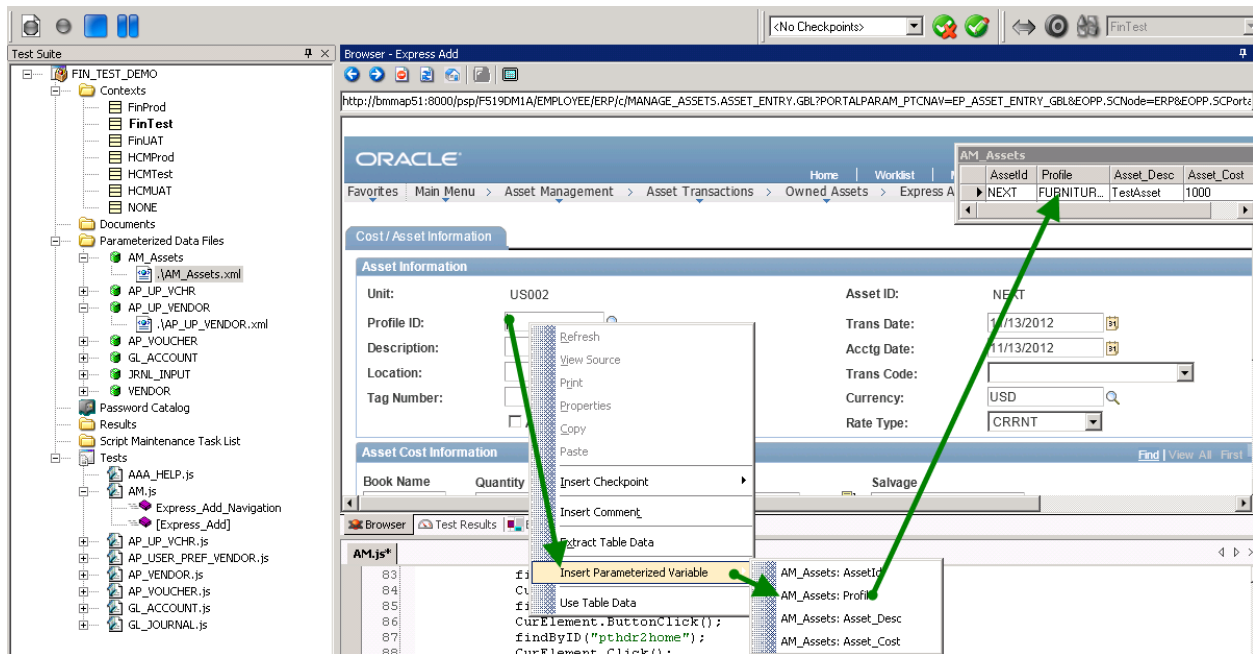
Extending the power of the data file

Because the data file aspects are easy to use, the PeopleSoft business user can extend the power of this functionality by using the data sheet to:

1. Load data
2. Perform mass maintenance

Loading Data: A PeopleSoft business user may use TEST to:

- establish new control data (new departments, accounts)
- seed a consistent set of base data (employees with benefit programs xyz, vendors, user preferences, time and labor rules)
- process the actual transactional data (vouchers, assets, time cards)

Performing mass maintenance:

A data sheet can easily be used to drive a repetitive process to perform a mass update for all the appropriate 'records'. Updating a set of employees to a new benefits program, or changing asset characteristics to match a new tax law are examples of the mass maintenance usages of our TEST customers.

Regardless of the intent, the functionality within TEST remains consistent and easy to use. Because TEST uses the PeopleSoft pages, every transactions performs all PeopleSoft editing and associated processing to ensure a valid PeopleSoft end result.

PTF's data file:

PTF's data file is created from the test script itself. Each row is a combination of the test script logic and the actual data values. At best, this makes its overall usage rather awkward, diminishing the real value and power of an external data sheet.

Intended User – ease of usage

TEST is easy to learn, easy to use. It has all the functionality that a professional tester expects in an automated test tool, but its simplicity puts that power in the hands of the PeopleSoft business user.

TEST matches the person that knows the PeopleSoft application the best, with a tool that allows them to become more productive. TEST users do not need to migrate scripts or objects, and do not need 2-tier access to PeopleTools.

PTF's usage:

The business testing requires a coordinated effort between technical and business resources. Our impression is that PTF is best suited for 'unit' testing development changes – a more technical, development tool for those that are not PeopleSoft module experts.

Environment Analysis – Validation and Verification with BEAM Compare

Business configuration, user preferences and even metadata definitions drive the flexibility of the PeopleSoft applications. But with this comes a level of complexity that makes managing this data, across multiple PeopleSoft environments difficult, especially as changes/updates are made and migrated across the PeopleSoft platform (dev to test to staging to Prod to training).

BEAM Compare provides cross environment tools – specifically the ability to compare data and objects. From a testing perspective, comparing data across environments is a verification tool. (While from a helpdesk or app developer perspective comparing data is an investigation tool) BEAM Compare is designed to aid in finding differences (investigate), or to confirm there are no differences (verify).

Configuration data, user preferences, security – all PeopleSoft application and PeopleTools table-based data – can be analyzed between environments to ensure that the foundation of the PeopleSoft business processes are properly in place even before testing takes place. In essence, BEAM's Compare features provide the validation to ensure that 'things' are the same, are truly defined as expected. And if they aren't, the results will zero in on the exact differences.

This compare can be done at the user level (preferences, roles, permission lists, etc), the application level (i.e. – Asset profiles), the cross application level (vendors, banking setup, chartfield structure) and/or at the system level (security, trees)

The following is a sample result of a BEAM compare method analyzing a portion of the ePro configuration (the Buyer_TBL) between 2 environments:

Job	Methods

Job BUYER_SETUP   Refresh   ?

Source

Server BEACONDB1   🔍   **Database** FN9185T 🔍

Target

Server BEACONDB1   🔍   **Database** FN9185D 🔍

Description

Compare ePro configuration - Buyer Table

Actions

Run   In the Background ▼   No Trace ▼

▼ Last Run...

Process 295 Ended Normally at 04:22:27 10/18 after 3.0 Minutes   View

▶ Maintanence

Job Log	Steps	**Compare Results**	Beam SQL	Timings	AE Trace	PS Trace	System Log

[Refresh] **Process**   **Job** BUYER_SETUP   **Status** Completed

Compare Results by Method/Record		Personalize | Find | View All | 🔲 | 🏭	First ◀ 1-3 of 3 ▶ Last	
Method		**Record**	**Differences**	**Summary**
BUYER_SETUP		BUYER_TBL	12	[Summary]
BUYER_SETUP		PSDBFIELD	0	[Summary]
BUYER_SETUP		PSRECFIELDALL	0	[Summary]

Beam Compare Results Summary

Instance 282   **Job** BUYER_SETUP   **Record** BUYER_TBL

	Personalize | Find | View All | 🔲 | 🏭	First ◀ 1-4 of 4 ▶ Last
Description	**Row Counts**	**Details**
Records not Found on Target Database	8	[Details]
[DEPTID] Field Is Different	1	[Details]
[PO_STATUS] Field Is Different	2	[Details]
[SHIPTO_ID] Field Is Different	1	[Details]

Beam Compare Result Details

Process 282   **Job** BUYER_SETUP   **Record** BUYER_TBL   **Field Name** <RECORD>   ☑ View in Grid

Results				Personalize | Find | View All | 🔲 | 🏭 First ◀ 1-8 of 8 ▶ Last	
Field	**Keys**	**Source Value**	**Target Value**		**SQL**
<RECORD>	BHUFF,		<NOT FOUND>		[SQL]
<RECORD>	HMOUNGER,		<NOT FOUND>		[SQL]
<RECORD>	JBAILEY,		<NOT FOUND>		[SQL]
<RECORD>	JSUMRALL,		<NOT FOUND>		[SQL]
<RECORD>	LDEAN,		<NOT FOUND>		[SQL]
<RECORD>	PWILLIAMS,		<NOT FOUND>		[SQL]
<RECORD>	chorton,		<NOT FOUND>		[SQL]
<RECORD>	cralph,		<NOT FOUND>		[SQL]

Results		Personalize | Find | View All | 🔲 | 🏭	First ◀ 1 of 1 ▶ Last	
Field	**Keys**	**Source Value**	**Target Value**	**SQL**
DEPTID	VP3,	31000	21000	[SQL]

Results			Personalize | Find | View All | 🖼 | ⊞	First ◀ 1-2 of 2 ▶ Last	
Field	**Keys**	**Source Value**	**Target Value**	**SQL**
PO_STATUS	VP1,	PA	O	SQL
PO_STATUS	VP2,	O	PA	SQL

Results			Personalize | Find | View All | 🖼 | ⊞	First ◀ 1 of 1 ▶ Last	
Field	**Keys**	**Source Value**	**Target Value**	**SQL**
SHIPTO_ID	VP3,	GBR003	GBR01	SQL

PTF's environment analysis:

PTF's Impact Analysis, Performance, or Usage Monitor tools provide information regarding a specific environment. It does NOT provide cross environment information that would be used to help manage the entire PeopleSoft platform, or trouble-shoot problems between environments or validate the migration of system changes.

PeopleSoft's application designer has metadata compare features, but neither PeopleSoft, nor any other tool addresses the data level analysis provided by BEAM Compare.