

# Process Workbench Engine PWE

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## 1. INTRODUCTION

A business scenario in HR can be quite complex. It can be termination and redundancy of an employee, increment to be given to employee, pension process for an employee. A business scenario typically comprises a set of inter-related business processes such as maintaining master data, calculating pay result, communicating with third party. A HR user has often pain to go through this entire process by jumping from one process to other process.

FIG 1 below illustrates an example of the above process that we have implemented in release 45B for Australian public sector market. The business process comprises several sub-processes which can be grouped as:

- Capturing termination related information for employee
- Simulating payroll until the termination date
- Performing manual adjustments if required
- Generate tax reports for submission to tax office
- Generate social insurance reports for submission to SI Government office, etc.

The process flow begins when an employee enters a request for termination. When this occurs, the status of the entire termination process is “new”. Once the request is entered, an end user such as HR Master Data officer commences processing the request by entering termination related data for the employee. In the figure, each curved arrow next to a sub process box denotes the status of each sub process. As this termination related data is entered, the status of the sub process changes to “in process” and once the data entry is complete then “completed”. The HR payroll officer next runs payroll in simulation mode. Subsequently the HR payroll officer performs adjustments to payments if necessary and then generates social insurance and tax reports. Each of these sub processes as indicated in the figure can have intermediate status values like – “new”, “printed”, “draft copy”, “approved”, etc. After the reports are approved, the payroll officer performs an electronic submission of these reports to the respective authority and/or the employee. Upon this submission, the status of the entire termination process becomes “completed”.

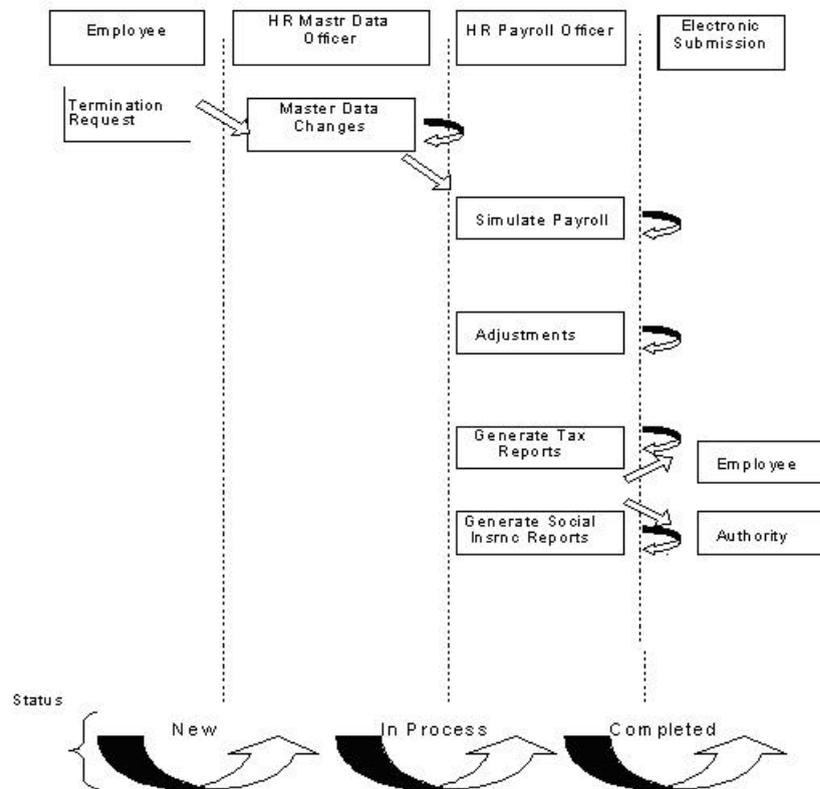


Figure 1

The traditional approach to develop this would have been to develop separate reports or module pools for the above sub processes and navigate to each of these individually in the menu. However a need was felt to drift beyond the traditional approach and present all the aspects of termination at one glance in one place.

Thus, the termination workbench was conceived and developed for Australian public sector customers. This workbench gave a holistic view of the entire termination process described above in FIG 1.

This concept was well received by the customers as well the subsidiary. Later during the course of enterprise release development, it was realized that many other countries like Germany, Singapore, etc have similar requirements.

FIG 2 gives a specific example of pension administration process for Germany, to understand the generic nature of HR processes. The sub processes involved in this are –

- Perform master data changes related to pension or organization changes
- Perform seniority calculation
- Complete assessment by executing payroll
- Generate notification reports
- Approval of notification reports
- Revision if required
- Release

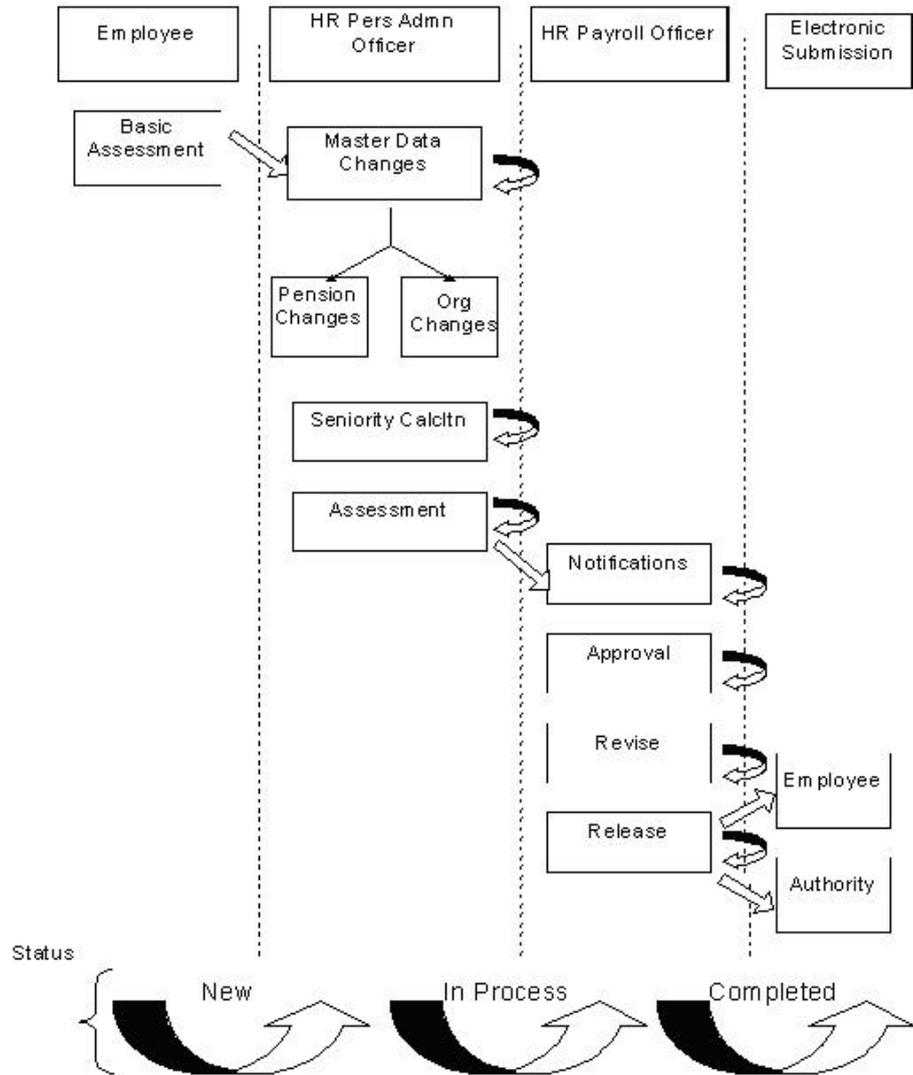


Figure 2

A pictorial representation of the above process is illustrated in figure 2.

## 2. ANALYSIS

As described in the previous section, although each process may appear at first to be totally diverse, on a closer examination there are some elements that are familiar to all such processes. Rendering the above two and many such other HR processes in a generic simplified process flow, we get FIG 3 illustrated below.

As indicated in FIG 3 above, there are some elements that are generic to all processes and some that are specific to the individual processes. Also each of these processes and in turn the sub processes follow a life cycle going through states like new, in process, completed, etc.

## 3. PROBLEMS WITH TRADITIONAL APPROACH

The complexity of such processes is often reflected in the development and use of these processes. The developers are likely to create separate modules/reports representing each sub process and then provide access to them via a menu-driven

user interface tool for the end user. When the end user selects a particular sub process menu item (such as seniority calculation), the tool launches a separate process environment that deals only with that particular sub process (seniority calculation).

This approach is problematic for both the developer and the end user. From the developer's perspective, creating and interfacing a large number of separate modules to ensure compliance with the overall process is difficult, prone to error and hard to modify, costly to maintain. For example, if an organization were to desire local application of the pension administration tool (i.e., to tailor the tool for use in a different country or region), completely new programming of the entire business process may be required or, at the least, line-by-line modification of the existing process would be required. From the end user's perspective, using a tool that restricts the user's view of the entire business process to the particular sub process at hand makes management of the entire business process difficult or even impossible.

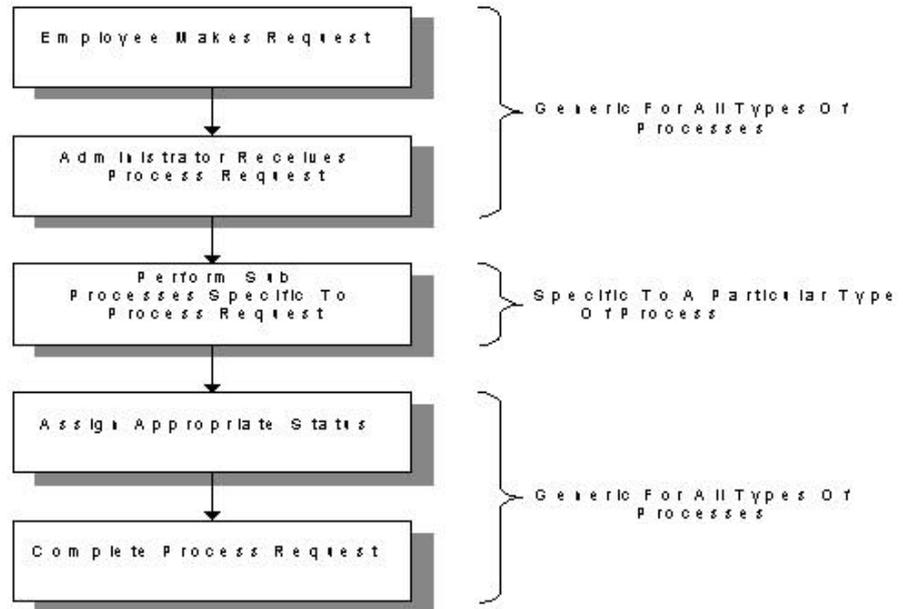


Figure 3

For each business scenario, a repeated development for generic process such process life cycle management has been done. Accordingly, there is a need in the art for a system and method that manages the life cycle of any business process while enabling localization of any particular business process.

Additionally, there is no possibility for customer to add any customer specific sub-process scenarios without modification of coding.

With this thought, the Process Workbench Engine was envisaged and developed. The following section gives a brief overview on the design of PWE.

#### 4. DESIGN CONCEPTS

##### 4.1 TERMINOLOGY AND DATA MODEL

A generalization of several business scenarios is illustrated generally in FIG 4 below. Depending on the particular business scenario to be modeled, a business scenario may include one or more process scenarios, sub process scenarios, process tasks and activities.

As a specific example, FIG 5 below illustrates a hierarchy for a German pension administration business scenario described earlier. Pension administration may include process scenarios basic assessment and adjustment for child allowance, which are different types of actions that could be requested by employees within the pension administration business scenario. As described in the earlier section, if an employee requests a basic assessment, an HR officer may need to perform sub process scenarios master data changes, seniority calculation, assessment, etc. These sub process scenarios represent processes to be performed to complete the process scenario. Master data changes may include process tasks pension changes and organizational changes. Pension changes may require activities, which could represent displaying, changing, deleting, printing, approving, activating, etc.

Process scenario adjustment for child allowance is similar to basic assessment, except that a seniority calculation is not required.

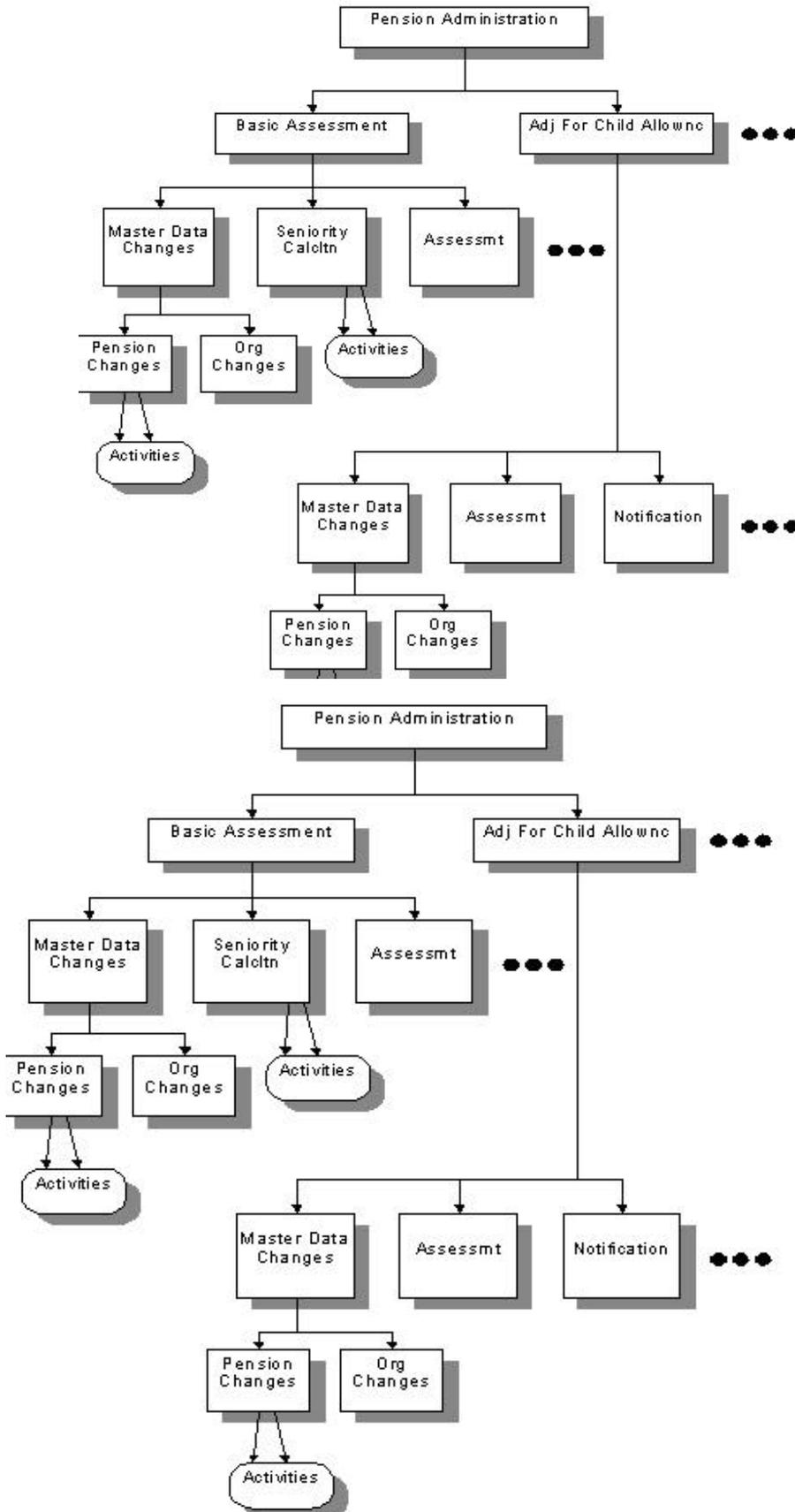


Figure 5

**4.2 ARCHITECTURE**

The architectural overview of the process flow described earlier in FIG 3 is given below in FIG 6. The generic processing of the business scenario is carried out in PWE and the localization specific part (sub process scenario processing) is handled in the localization package. The additional package Master Data tool may be used to handle generic master data (infotype specific) information.

This paper gives details of only the first component, namely PWE from the above architecture diagram in FIG 6.

**4.3 BUILDING BLOCKS OF PROCESS WORKBENCH ENGINE**

As illustrated in the FIG 7 below, there are four basic building blocks of PWE:

- Business Scenario life cycle manager: To manage the life cycle of business/process scenario and the sub process scenarios.
- Generic Work area: To display generic details like penrn details, business scenario status, search criteria, etc. This part also handles authorization relevant to PWE.
- Data Exchanger interface: For passing data between PWE and localization and vice versa. This also provides interface exits between localization and PWE, which hands out the control from PWE to localization during certain event handling like exit, save, etc.
- Business Flow rules: For managing the sequence of processes in an activity in a meaningful way

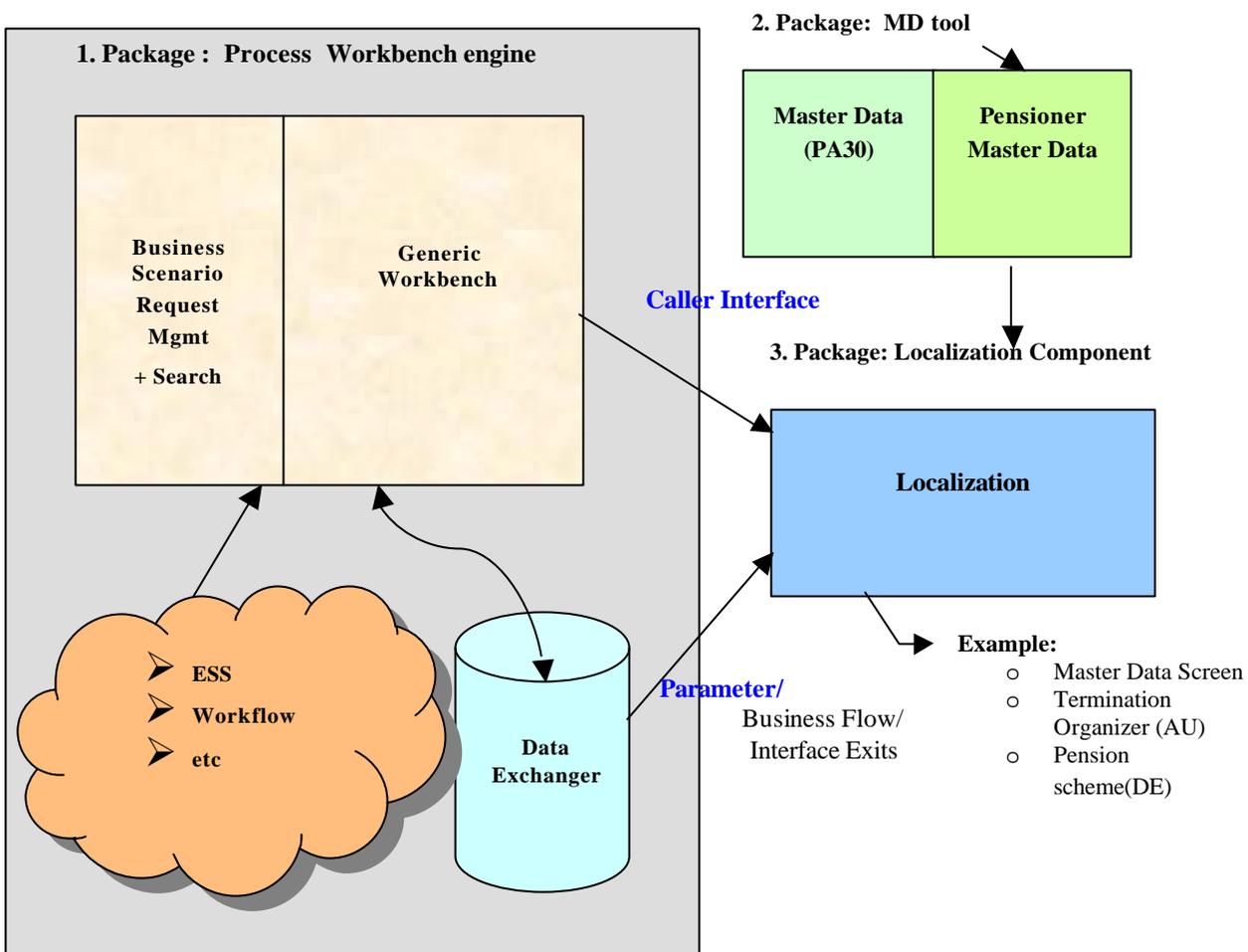


Figure 6

### 4.3.1 Business Scenario Life Cycle manager

The business scenario life cycle manager mainly manages the following things -

- Capturing the request – via ESS/ Master data screen.
- Allocating a processor to the request :
- Managing the status of business/process scenario and sub process scenarios

### 4.3.2 Generic Work area

The generic work area ensures that a similar framework is provided for all kinds of business scenarios to be plugged in easily. The major components are -

- The split screen control is provided by class CL\_HR\_OBJECTMANAGER.
- Easy plug-in of sub process scenarios is possible using table configuration
- Authorization concepts are also handled here

### 4.3.3 Data Exchanger

- The data exchanger block provides the means to transfer data between localization and PWE program. The data exchanger contains three exchangers –
- Parameter exchanger – For Passing of parameters between PWE and localization and vice versa. This also can be used to pass parameters only between localization packages
- Business exchanger – For managing the business flow related data in PWE.
- Interface exit exchanger– For providing control from PWE to localization packages for specific event handling like save, exit, etc.

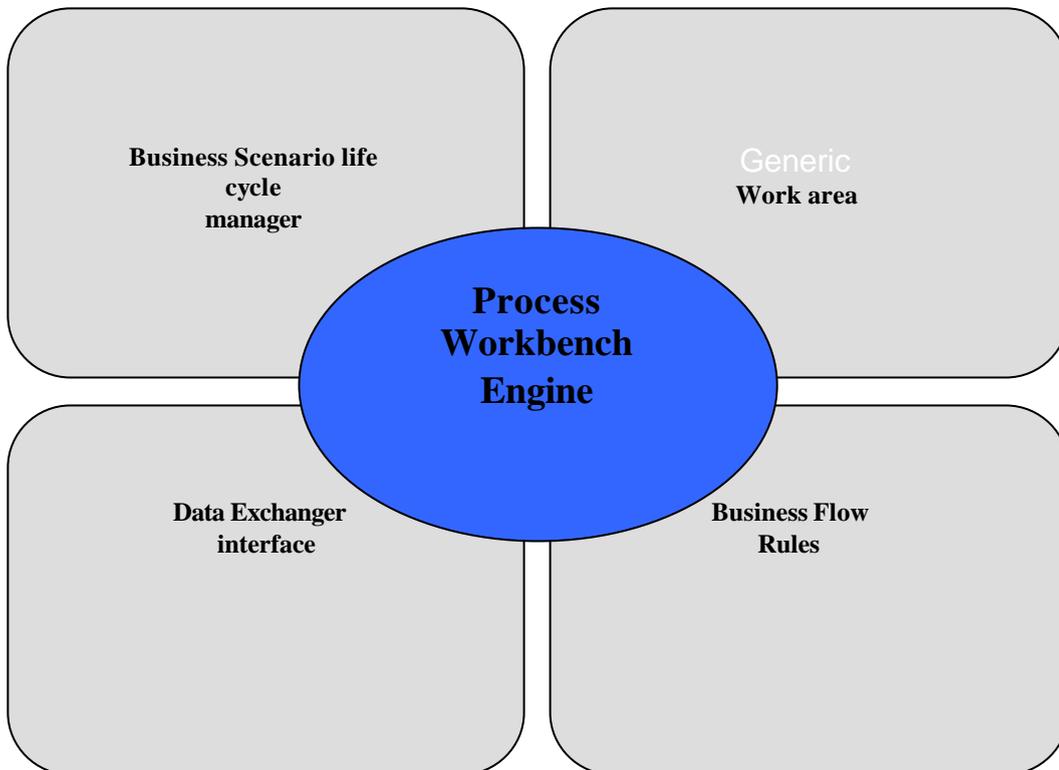


Figure 7

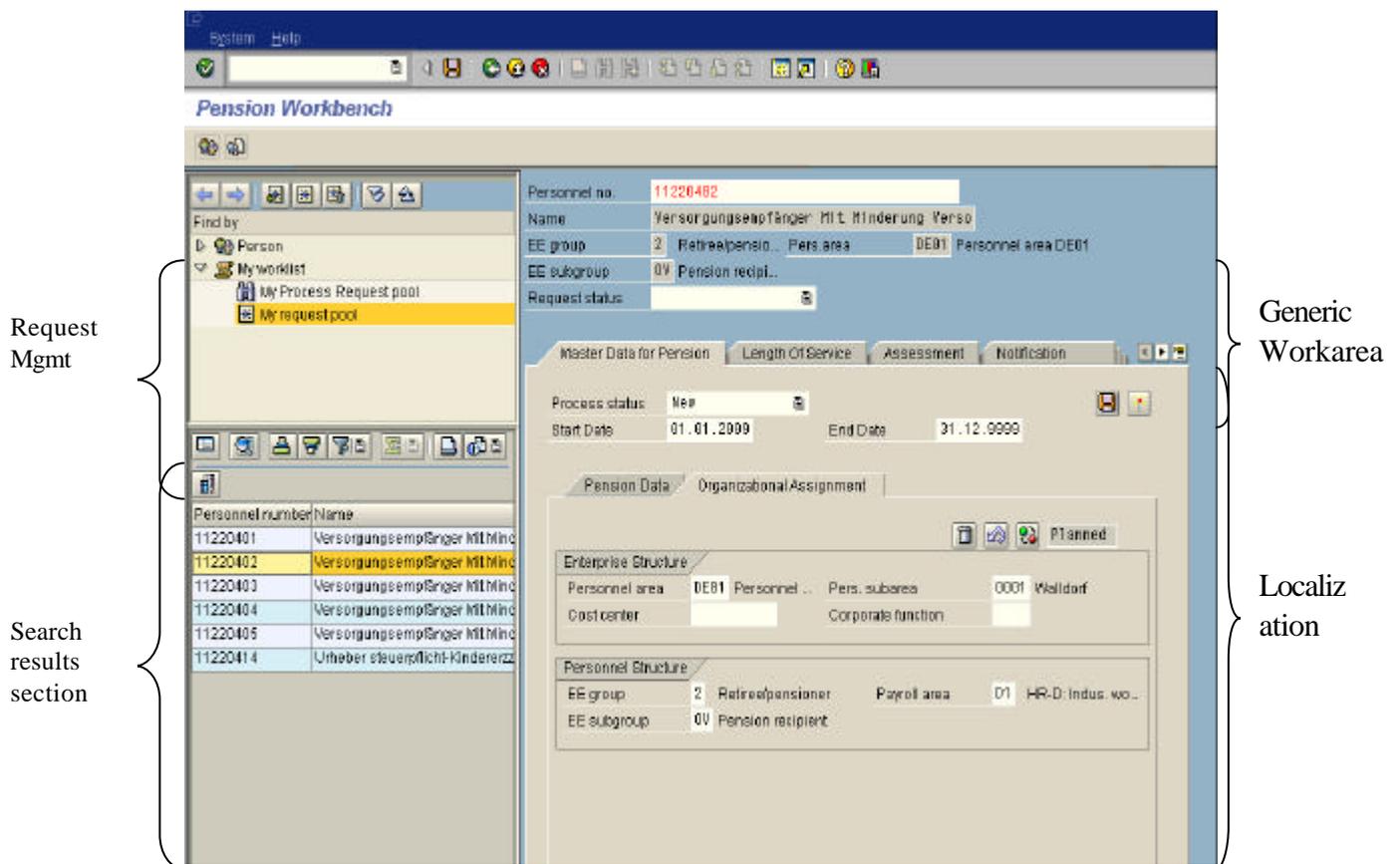
### 4.3.4 BUSINESS FLOW RULES

This part of PWE ensures that although different sub process scenarios are available in the same workbench, there is a meaningful sequence of flow between the sub process scenarios within a business scenario. For example in case of pension administration business scenario, master data changes need to be done first. Once this is completed then Seniority calculation needs to be done, then Payroll needs to be simulated, etc.. The business flow rule component of PWE ensures that this flow is maintained.

### 4.4 USER INTERFACE

FIG. 8 illustrates a user interface for the generic workbench that implemented the process flow of FIG. 2 (German pension administration business scenario) using PWE. As shown, the generic workbench renders a holistic view of the entire pension administration business scenario and its sub process scenarios for the end user. This view includes

- Request management section and search results section, both of which enable HR officers to manage employee's pension administration request
- A generic work area, which displays status information for the entire business process scenario (the "ready for approval" label in the "Proc Scn Status" field of generic work area),
- A localization section which displays through each tab the corresponding sub process scenario functionality (e.g., "Master Data for Pension", "Length of Service", etc.) and status information specific to each sub process scenario (e.g., the "Completed" label in the "Process status" field).



## **5. DESIGN HIGHLIGHTS**

- It is so generic that it can be used for any kind of HR business scenarios
- Easy for localization teams to plug-in
- Authorization can be handled at each of the levels described in the data model illustrated in FIG 3. i.e. – Authorization can be handled at totally 5 levels - Business scenario, Process Scenario, Sub Process Scenario, Process Tasks and Activities. So with PWE it is possible to configure authorizations even to the ground level (activities) such as Save, Print, Release, etc.
- Employee Self Service (ESS) Scenario has been provided for request entry
- Manages the life cycle of the process request and associated sub processes
- Workflow/Webflow etc. can be enabled
- Business flow rules specific to the business scenario which earlier was coded in several modules/reports, can now using PWE be built in using table configuration

## **6. REUSABILITY**

What makes PWE a “generic” process workbench is that it can be used to manage and process any HR business scenario. Common business scenario elements are built into the generic workbench (e.g., those shown in request management section, search results section, data exchanger, etc), while only localization elements of a business scenario need to be specified (e.g., the sub process scenarios shown in localization section). For example, the generic workbench may be used for an Australian termination business scenario, Australian increment business scenario, German pension administration business scenario, Singapore pension administration business scenario, Singapore letter of appointment business scenario, etc.

## **7. SUMMARY**

PWE is a unique tool that addresses the needs of the developer, the end user, customer specific development. It helps overcome most of the problems encountered in the traditional approach. The time to develop a business scenario can be reduced substantially by making use of PWE , as the generic elements are already built-in. Also the business rules check which traditionally was hard coded in the modules/reports can now be configured using tables.

It is also easy for customers to tailor a business scenario to their needs without having to resort to modification/ complete new programming. From the end user’s perspective, since the tool gives a holistic view it requires less effort to manage the entire business process.