



MD.060/70

FUNCTIONAL & TECHNICAL DESIGN
DOCUMENT

CNAS to EBSHR Person Interface

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Document Control

All aspects of document control (Change History, Reviewers/Distribution, Approvers) will be managed in the BSPTA item for the specification



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Introduction

Modifications to the CNAS to EBSHR Interface were identified during the gap analysis phase of the OTL implementation. This document is a living document that will follow the modifications to the CNAS to EBSHR interface program through the entire development life cycle.

Design Principles

The purpose of this document will vary with the applicable phase in the lifecycle as indicated below:

Requirements – Technical and functional team members will contribute to both high level and detailed requirements in this document. The requirements will be used to design a solution.

Design – Technical team members will update the document with high level and detailed design specifications. All related modules will be included in the design including legacy programs, SQL*Loader scripts, PL/SQL scripts, and error reports. The high level design includes finalizing the process flow and corresponding narrative.

Coding – The developer will update the document if design changes are made during coding.

Testing Strategy – Testing strategy and test cases will be documented in the test case section.

Enhancements and Upgrade – After implementation, this document should be used to record and changes to the customization.

Topical Essay/Business Requirements

This document describes the design approach for changes required to the current CNAS to EBSHR interface. We need to include a strategy for populating the required fields at implementation and process updates after then initial implementation.

Basic Business Needs

Fermilab collects/inputs data related to people in PeopleSoft, CNAS, and EBSHR. Some of the data that is collected and input into PeopleSoft and CNAS is also needed in EBSHR. Conversely, some of the data entered in EBSHR is also needed in PeopleSoft and CNAS. As a result, we need to build interfaces between the systems that keep this data in synch and eliminate issues associated with dual/triple entry of that data. At a high level, basic information for Employees, Visitors and Contractors will come from CNAS, PTO Accrual Balance and Pay related Policies for Employees from PS and Organizational data will come from EBSHR.

In addition to the fields being passed in the existing CNAS/EBSHR interface, several new fields are required because of the implementation of the full HR module (from the shared module) in EBS. New fields related to time entry are also required.

Major Features

On the surface, this is a modification to an existing interface/customization. The primary function of the current interface is to pass employee, visitor, and contractor information to EBSHR. Given the number of changes to the interface and the existence of several known issues in the current process, this interface will be rewritten from scratch (the existing interface will not be modified), and this document will be written from that perspective

Business Rules

1. Currently, if a person has worked in multiple roles at Fermilab (some combination of contractor, visitor, employee), separate records have been created in EBSHR for each role. For this implementation, we need to consolidate those records and identify a method to make sure that only one record per person exists in EBSHR. CNAS is currently responsible for the synchronization of this data and will continue to be responsible for this synchronization going forward. As a result, activations and terminations for all records will be managed from CNAS. The initial consolidation/conversion process is described in BSPTA 6058.

2. All adds, updates, and terminations to all person data (employees, contractors, and visitors) will be accomplished via CNAS. This method was chosen because of the complexity that would need to be incorporated on the EBSHR side to replicate all of the processing around managing the single id/record process for a person as they move between employee/visitor/contractor roles and deciding which system wins when both (PS and CNAS) have new updates for common data. CNAS will create a View including all people for EBSHR to use. EBSHR will have custom tables to hold the records in the View at the time of the Interface running in order to find which records have been updated from the last time the interface ran. The Interface from CNAS to EBSHR will run every 15 minutes. The exceptions will be recorded in GLC_ERRORS table and an alert that contains all exceptions will be sent to system administrator.
3. Vacation, floating holiday, and sick accruals will continue to be calculated in PeopleSoft. However, the accrual balances are needed by OTL for editing purposes during time submittal and approval. As a result, these balances need to be passed from PeopleSoft to EBSHR. Pay Related Policies (Rotation Plan, Earning Policy, Shift Differential Policy and Hour Deduction Policy) will be maintained in PS. PS will insert the changes of employees on PTO Accruals and Pay Related Policies to an interface table (See the interface table details in 60/70 Doc in PTA6415). The interface program from PS to EBSHR will pick up records in the interface table and update the employee in EBSHR. If the record is successfully processed, it will be deleted from the interface table. If the record fails to update in the EBSHR, the record will remain in the interface table. When PS inserts the changes of employees to the interface table, it will check if the employee is already in the interface table or not. If the employee is already in the interface, PS will update the record with the new changes, otherwise the interface will insert the changes to the interface table. Employee's FERMI_ID should be the unique key in the interface table although the FERMI_ID won't be explicitly defined as a unique key in the interface table. The interface program from PS to EBSHR will run every 15 minutes. The error related PS side will be recorded to CNAS Error table in order to send a notification to PS users. The error related in EBSHR will be recorded in GLC_ERRORS table and an alert that contains all exceptions will be sent to system administrator. The PeopleSoft to EBSHR Interface is described in detail in BSPTA #6021
4. We need to automatically create/maintain application accounts in EBS for everyone that will be entering time (all employees, some visitors and contractors). This process will be driven from the creation/maintenance/termination of the primary Kerberos account (everyone that gets a Kerberos account will get an Oracle Application account). However, if a person needs to enter timecard, CNAS should always send the person with active status and the person's EBS account should remain in active regardless the termination of the Kerberos account. The process to add EBS Application Accounts (a one time mass load) is described in detail in BSPTA #6034. This interface (CNAS/EBSHR) needs to incorporate the EBS Application Account maintenance function.
5. When a person migrates from one role (visitor, contractor, employee) to another, the person data from the CNAS system will update the existing person data in EBSHR for that person.
6. Currently, person updates on employee data are passed from PeopleSoft to CNAS on a fifteen minute interval. Updates from CNAS to EBSHR are currently passed on a nightly interval. With this implementation, all of the interfaces need to be changed to fifteen minute intervals. This includes activations, updates and terminations of EBS application accounts.
7. We need to create a base record, an address record, and an assignment record for each person in EBSHR
8. Some of the data included in these interfaces is considered sensitive. Access to the sensitive data will need to be limited in EBSHR.

9. Modifications to some of the data in this interface needs to be processed with effective dates in EBSHR. Data that needs to be effective dated will be considered an update. Data that does not need to be effective dated will be considered corrections.
10. Several fields that are required in the EBSHR full install will not be populated with actual data. The following defaults will be used:

Data	Default	Notes
Social Security Number	999-99-9999	Need to modify a system setting that doesn't force this to be unique per person
Birth Date	12-Dec-1950	
Address Line 1	P.O. Box 500	
City	Batavia	
County	Kane	
State	IL	
Country	US	
Zip Code	60510	
Primary Flag	Y	Used to identify if the address (can have multiple addresses) is the primary
Government Reporting Entity EMP_ASG_GRE	Master Fermilab	

Definitions/Notes

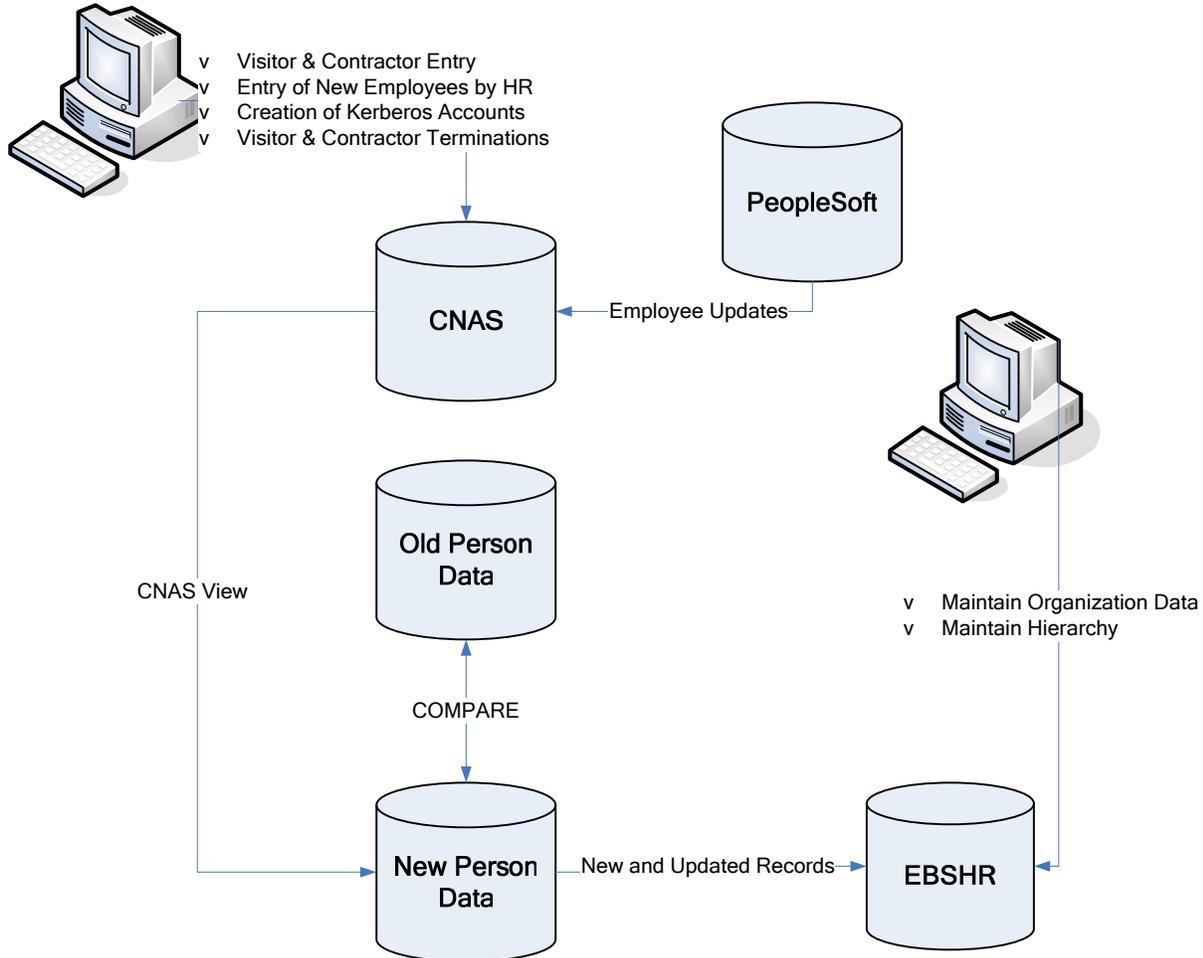
There are two fields maintained in EBSHR that represent "Supervisor" – Supervisor and Timecard Approver. At Fermilab, the Timecard Approver may not be the Supervisor (it could be a Crew Chief Project Lead, or some other Admin person). From a CNAS perspective we need the true supervisor not the timecard approver.

Assumptions

- 1.
- 2.

Functional Overview

Process Overview



Form/Report/Interface Description

In the current interface between CNAS and EBSHR

1. The interface program is run/initiated from EBS on a nightly basis
2. All person data for employees, visitors, and contractors comes from CNAS
3. Current data from CNAS is made available from the opsf_persons view
4. On the EBS side, a custom/temp table is used to store data from the current and previous day
5. Current data is compared to previous data to identify changes
6. Current data is moved to previous data to prep for the next day

Differences in the new interface:

1. The interface program is run/initiated from EBS on a fifteen minute interval from 7:00 am to 6:00 pm
2. The majority of the person data for employees will still come from CNAS. However, some of the new data required on employees for OTL will come directly from PeopleSoft

Validation Rules and Warnings

NA

Navigation

NA

Performance and Volume Expectations

Need to get current interface volume stats

Unit Test Cases

Test cases that will validate of the requirements have been satisfied. The individual unit test cases need to be listed within the table below. The Comment column should be utilized as a status of the test case (i.e. This test failed and the test is being re-executed after a code change...). The Developer and the Analyst should put their initials in the appropriate column once they have verified that the test has been successful

Test Case	Comment	Developer Tested	Analyst Tested

User Procedures

Outline of the user procedures that will need to be created/updated because of this customization.

Technical Overview

File/Table/Object Details

	Notes	Sensitive? Effective?	CNAS Table.Column	CNAS View Column Name
Person ID	Unique identifier associated with the person that will be used to facilitate maintenance of a single person record in EBSHR	N/N	ORACLE_ID	CNAS_PERSON_ID
Previous Person ID	When a person is merger/superseded with another person record.	N/N	PERSON_ID	OLD_PERSON_ID
FERMI ID	Identifier used on the badge and in lab systems to identify the current classification of the person	N/N	FERMI_ID	FERMI_ID
Last Name		N/N	LNAME	LAST_NAME
First Name		N/N	FNAME	FIRST_NAME
Preferred Name		N/N	PNAME	PREFERRED_NAME
Middle Name		N/N	MNAME	MID_NAME
Suffix		N/N	SNAME	SUFFIX
Gender	Male/Female	Y/N	GENDER	GENDER
Hire Date		Y/N	HIRE_DATE	HIRE_DATE
Rehire Date		Y/N	REHIRE_DATE	REHIRE_DATE
Termination Date			TERMINATION_DATE	TERMINATION_DATE
Email Address		N/N	EMAIL_ADDRESS	EMAIL_ADDRESS
Mail Stop		N/N	MAIL_STOP	MAIL_STOP
Extension 1	Using the nas.get_phone_num function to get the extensions from CNAS	N/N		EXTENSION
Physical Location	Need to replace with the current Physical Location field(s)	N/N	TBD	PHYSICAL_LOCATION
Kerberos Account			PRINCIPAL_NAME	KERBEROS_ACCOUNT
Kerberos Account Status	Identifies if the Kerberos account is active or terminated. If expire_date is current date/time or earlier, set to "N". Otherwise set to "Y". Set to "N" if there is no Kerberos account.		EXPIRE_DATE	KERBEROS_ACCOUNT_STATUS
Person Type		Y/N	ID_TYPE	PERSON_TYPE
Status		Y/Y	STATUS	PERSON_STATUS
Job Code	Scrubbed version of the actual Job title (levels are left off).	Y/Y	JOB_CODE or PROF_CLASS_CODE or A default if nether exist	JOB_CODE
Employee Type	Regular, Temp	Y/Y	EMP_TYPE	EMPLOYMENT_CATEGORY
Employee Time	Full time, Part Time	Y/Y	EMP_TIME	EMPLOYMENT_STATUS
On Call Indicator		Y/Y	ON_CALL	ON_CALL_EMPLOYEE
Pay Type	Weekly, Monthly, No Pay	Y/Y	PAY_TYPE	PAYROLL_TYPE
Union Membership	Drivers, Firefighters, etc	Y/Y	TBD	UNION_MEMBERSHIP
Stock Room Code		Y/N	STOCK_ROOM_CODE	STOCK_ROOM_CODE
Maintenance Date		NA	MAINT_DATE	MAINT_DATE

Basic Person Data

Address Data

Assignment Data

On all Records

Program Overview

CNAS will create a View including all people for EBSHR to use. EBSHR will have custom tables to hold the records in the View at the time of the Interface running in order to find which records have been updated from the last time the interface ran. The Interface from CNAS to EBSHR will run every 15 minutes. The exceptions will be recorded in GLC_ERRORS table and an alert that contains all exceptions will be sent to system administrator.

The interface process will start with CNAS_PERSON_ID. If the CNAS_PERSON_ID is not in the EBSHR, a new person will be created. If the CNAS_PERSON_ID is in the EBSHR, update the person on the latest record.

When a person's employment type changes, i.e. from employee to contractor, the Employee_Number in the person's record will be updated with the contractor FERMI_ID. It is possible that the person was a contractor (with the same contractor Id) before becoming an employee and the contractor Id is attached to a different Person_Id (this is due the way the people in EBS were maintained before OTL, see PTA 6058 for additional information). If this is the case, Oracle won't allow using the contractor FERMI_ID in the current person's record. The contractor FERMI_ID in the terminated person's record needs to be updated to something else, i.e. 01234C → 01234C-T in order to reuse the contractor Id in the current active person.

To understand how current process does, the program \$POC_TOP/sql/POCEMPIN.sql may be reviewed.

Fields in the view:

Column Name	Data Type	Comment	Map to EBSHR
PERSON_STATUS	VARCHAR2 (1)	A – Active T – Termination	
CNAS_PERSON_ID	NUMBER		Per.Attribute1
SUPERSEDED_BY_ID	NUMBER	If a person is merged to a new Cnas Id	Per.Attribute3 with the Su CNAS_PERSON_ID
PERSON_TYPE	VARCHAR2(1)	N – Employee C – Contractor V – Visitor	
FERMI_ID	VARCHAR2(30)		Per.Employee_Number
KERBEROS_ACCOUNT	VARCHAR2 (100)		Fnd_User.User_Name
KERBEROS_ACCOUNT_STATUS	VARCHAR2 (1)	Y – Active N - Inactive	
ON_CALL_EMPLOYEE	VARCHAR2 (1)	'Y' – Yes 'N' – No NULL - No	Per_All_People_f.Attribut
LAST_NAME	VARCHAR2 (150)		Per.Last_Name
FIRST_NAME	VARCHAR2 (150)		Per.First_Name
PREFERED_NAME	VARCHAR2 (80)		Per.Known_As
MIDDLE_NAMES	VARCHAR2 (60)		Per.Middle_Names
SUFFIX	VARCHAR2 (30)		Per.Suffix
GENDER	VARCHAR2 (30)		Per.Sex
HIRE_DATE	DATE		Per.Start_Date
REHIRE_DATE	DATE		Per.Effective_Start_date Per.Rehire_Reason 'Rehir
TERMINATION_DATE	DATE		Per.Effective_Start_Date
EMAIL_ADDRESS	VARCHAR2 (240)		Per.Email_Address
MAIL_STOP	VARCHAR2 (45)		Per.Mailstop

EXTENSION	VARCHAR2 (60)		Per.Work_Telephone Per_Phones.Phone_Numb Per.Person_Id
PHYSICAL_LOCATION	VARCHAR2 (60)	Hr_Locations.Location_Code	ASS.Location_Id
JOB_CODE	VARCHAR2 (700)	Per_Jobs.Job_Code or Create one	ASS.Job_Id
EMPLOYMENT_STATUS	VARCHAR2 (60)	F – Full Time P – Part Time The Key Flex Values need to maintain the same as PS	Check if the three values exist, if they don't, mark the record error. The values sent from CNAS to the Interface program will process when the next time the interface runs. Check if the combination of values exists in pay_people_groups.
EMPLOYMENT_CATEGORY	VARCHAR2 (60)	R – Regular T – Temporary The Key Flex Values need to maintain the same as PS	If it does not, create a record in pay_people_groups.
UNION_MEMBERSHIP	VARCHAR2 (60)	00 – None 01 - IAM Local 701 Machinist 03 - Int'l Assoc of Fire Fighters 07 - IAM Local 701 Electricians 08 - IAM Local 701 Drivers The Key Flex Values need to maintain the same as PS	Ass.People_Group_Id = Pay_People_Groups.People_Group_Id.
PAYROLL_TYPE	VARCHAR2 (1)	M - Monthly N - NoPay – Monthly W - Weekly Pay_Payrolls_F.Payroll_Name.	Ass.Payroll_Id
STOCK_ROOM_CODE	NUMBER		Ass.Ass_Attribute2
MAINT_DATE	DATE		

Process Flow Diagram

Detailed Visio that identifies every step/module in the process

Program Modules

Detailed list of programs, scripts, etc. that will be developed. Includes program type, name, purpose, location, execution method, etc

A PL/SQL program (\$FLPER_TOP/sql/FPERUPDT.sql) will be created to pull the records from a custom interface table (PTA 6415) and post them to EBSHR, PA_COMPENSATION_DETAILS, and FND_USERS.

The program will use APIs where they are available.

If person_status is 'A' and rehire_date is NULL, the person will be a new hirer with effective_start_date = hire_date.

If person_status is 'A' and rehire_date is NOT NULL, the person will be rehired with effective_start_date = rehire_date.

If person_status is 'T', the person will be terminated on termination_date when termination_date is not NULL, otherwise, terminated on sysdate.

If person_type is 'N', Kerberos_account is from NULL to NOT NULL and Kerberos_account_status = 'Y', create an EBS account for the person.

If person_type is 'N', Kerberos_account is NOT NULL and Kerberos_account_status = 'N', terminate EBS account.

If physical_location is NULL, default to "WH 15W".

If a person is newly created, he/she will be assigned a Default Org "MASTER FERMILAB". Division/Section will maintain the person's Org later.

Superseded Scenario

Example 1

Before the supersede, the data looked like this (i.e. this is what would have been in your view):

ID	FNAME	LNAME	SUPERSEDED_BY_ID
201740	GIUSEPPINA	GIAGU ALBANI	
13490N			
221646	GIUSEPPINA	ALBANI	
04047C			
225639	GIUSEPPINA	ALBANI	
07277C			

After the supersede, the data in the view

ID	FNAME	LNAME	SUPERSEDED_BY_ID
201740	GIUSEPPINA	GIAGU ALBANI	
13490N			
221646	GIUSEPPINA	ALBANI	201740
225639	GIUSEPPINA	ALBANI	201740
07277C			

**Note: 04047C is associated to 201740 in CNAS, but will not be show up in the view, because 13490N is the most current ferm id for this person. 04047C would only show up if 13490N terminates and 04047C is reactivated.

Example 2

Before the supersede:

ID	FNAME	LNAME	SUPERSEDED_BY_ID
211896	FRANCESCO	SCIACCA	
211895	FRANCESCO	SCIACCA	
215019	FRANCESCO	SCIACCA	

After:

ID	FNAME	LNAME	SUPERSEDED_BY_ID
211896	FRANCESCO	SCIACCA	211895
211895	FRANCESCO	SCIACCA	215019
215019	FRANCESCO	SCIACCA	

**Note: 07248V is associated to 215019 in CNAS, but will not show up in your view because 10345N is the most current. 07248V would only show up if 10345N terminates and 07248V is reactivated.

Example 3:

Here is an example of a supersede that was reversed:

Before the supersede, the view will contain:

ID	FNAME	LNAME	SUPERSEDED_BY_ID
200228	CHARLES	NELSON	
222208	CHARLES	NELSON	

After the supersede, the view will contain:

ID	FNAME	LNAME	SUPERSEDED_BY_ID
200228	CHARLES	NELSON	
222208	CHARLES	NELSON	200228

**Note: 02529V is associated to 200228, but will not show up in your view, because 03691N is the most current ferm id for this person.

After the reversal, the view will look like this again:

ID	FNAME	LNAME	SUPERSEDED_BY_ID
200228	CHARLES	NELSON	
222208	CHARLES	NELSON	

200228 CHARLES NELSON
03691N
222208 CHARLES NELSON
02529V

Prerequisites

Conditions that must exist so that this process works

Process Details

Pseudo code describing the programs that will be developed

Development Estimates

Estimate based on a more complete understanding of the requirements and proposed solution