**EID Generation**

**Low Level Architecture**

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**Table of contents**

[1. Introduction 5](#_Toc480380845)

[1.1 Purpose of the document 5](#_Toc480380846)

[1.2 Intended Audience 5](#_Toc480380847)

[2. Project Overview 5](#_Toc480380848)

[2.1 Scope 5](#_Toc480380849)

[2.1.1 In Scope 5](#_Toc480380850)

[2.1.2 Out of Scope 5](#_Toc480380851)

[2.2 Related documents 6](#_Toc480380852)

[2.3 Assumptions 6](#_Toc480380853)

[2.4 Dependencies 6](#_Toc480380854)

[2.5 Constraints 6](#_Toc480380855)

[3. EID Generation Proposed State Overview 7](#_Toc480380856)

[3.1 Logical overview of new EID generation system 7](#_Toc480380857)

[3.1.1 Proposed architecture highlights 8](#_Toc480380858)

[3.2 EID Generator Component Overview 9](#_Toc480380859)

[4. PeopleSoft Workflows 10](#_Toc480380860)

[4.1 Employee Person Trigger Events 10](#_Toc480380861)

[4.2 Non-Employee Person Trigger Events 11](#_Toc480380862)

[4.3 Insert new EID Process 12](#_Toc480380863)

[4.4 PeopleSoft Bridge Process Workflow 13](#_Toc480380864)

[5. EID Generator Workflow 14](#_Toc480380865)

[5.1 EID Generator Flow Overview 14](#_Toc480380866)

[Appendix A – Business service classifications 15](#_Toc480380867)

[Definitions, Acronyms and Abbreviations 15](#_Toc480380868)

**Table of Figures**

[Figure 1: Low-level overview of new EID Generation System 7](#_Toc480380869)

[Figure 2: Low-level component overview of the new EID Generation System 9](#_Toc480380870)

[Figure 3: Workflow for EID Generator Call – PS for Employee Person Events 10](#_Toc480380871)

[Figure 4: Workflow for EID Generator Call – PS for Non-Employee Person Events 11](#_Toc480380872)

[Figure 5: New EID Process 12](#_Toc480380873)

[Figure 6: PS Legacy Bridge Process 13](#_Toc480380874)

[Figure 7: EID Generator Workflow 14](#_Toc480380875)

[Table 1: Definitions, Acronyms and Abbreviations 15](#_Toc480380876)

[Table 2: Service Definitions 16](#_Toc480380877)

# Introduction

## Purpose of the document

This document contains the low-level architecture for the implementation of a new EID generator.

## Intended Audience

The audience for this document is everyone in Enterprise Holdings Inc. who manages, is responsible for, develops, or uses the existing EID generation system; including any third parties engaged to work on behalf of Enterprise whose remit includes management and/or associated services relating to EID generation and consumption.

# Project Overview

The intention of this project is to provide infrastructure and services to support EID generation.

## Scope

### In Scope

The following items are in scope for this document:

* Low-level system architecture for moving the EID generation off the AS/400 platform
* Low-level integration requirements suitable for business and development partners to allow initial high-level estimates to be produced.

### Out of Scope

The following sections in the low-level document have not been reviewed:

* Any changes outside the migration of the EID generation process from the AS/400 platform.
* Low-level design for either the PeopleSoft or AS/400 application.[[1]](#footnote-1)

## Related documents

[EID Generation High Level Architecture](https://confluence.ehi.com/display/ES/EID+Generation+High-Level+Architecture?preview=/67445300/67445303/EID%20Generation%20V%200_3%20High%20Level%20Architecture%20.docx)

## Assumptions

The following assumptions are being made:

1. A DB link will exist between the PS and ERD system for the execution of the EID generator code residing on the ERD database

## Dependencies

The following dependencies have been identified:

* + ERD Oracle database
  + PeopleSoft Application
  + AS400

## Constraints

Development lifecycles for other systems – e.g. HR replacement project, AS400 migration, TempMast.

# 

# EID Generation Proposed State Overview

## Logical overview of new EID generation system

Below is the low-level overview of the replacement system.



Figure 1: Low-level overview of new EID Generation System

### Proposed architecture highlights

The proposed system consists of a new PL/SQL function that generates an EID on demand. The HRMS system (PeopleSoft) will request a new EID from the new EID generator and add it to the HR record prior to sending hire or new hire event notifications to the AS/400 or other systems.

The following events have been identified as part of the generation workflow.

**PS Database**

* HR Event detected
  + New Hire
  + Re Hire
* Upon insert from the existing PS business logic into the appropriate trigger table the following actions occur
  + New Hire
    - EID generator is called
    - Verify that there is no existing cross-reference
      * EID is placed in the appropriate cross-reference table if not null
  + Re-Hire
    - Appropriate cross-reference table is checked to see if the a PSID to EID record exists
      * If it does not exist
        + EID generator is called
        + EID is placed in the appropriate cross-reference table
      * If it exists
        + No action
* Updates follow the same logic using a different trigger

**PS Application**

* Modification of Bridge Export (Hire/Re-hire) workflows
  + Record in the trigger table(s) are found with a pending process flag set
    - Trigger Tables
      * PS\_ZHRT\_INTTRIGGER
        + Employee
      * PS\_ZHRT\_ALTTRIGGER
        + Non-employees and Multiple EIDs
    - Check made for New Hire or Re-Hire event
      * If not either of these events
        + Process as normal
      * If either of these events
        + Check for EID in the appropriate cross-reference table

If that exists

Process as normal

Otherwise

Wait a defined period and then recheck

* Modification of Legacy Bridge
  + Add EID element to Hire and New-Hire Method ZHRI101A

**AS/400 Application**

* Modification of HRZ101A to support EID element sent from PeopleSoft Application
* Modification of HRZ101A to not generate EID element in the AS/400

## EID Generator Component Overview

Below is the proposed systems low-level logical overview



Figure 2: Low-level component overview of the new EID Generation System

# PeopleSoft Workflows

This section describes the workflows for the PeopleSoft HRMS.

## ZHRT\_INTTRIGGER Table Triggers

### Post Insert Trigger

As records are put into the PS\_ZHRT\_ALTTRIGGER table they are analyzed for either a HIRE or REHIRE event and processed accordingly.



Figure 3: Workflow for EID Generator Call Post Insert Trigger Employee Person Events

### After Update Trigger

To automate failures an update trigger has been inserted so that in the event of a failure a simple update to the same trigger record[[2]](#footnote-2) will cause an EID to be generated if none exists.



Figure 4: Workflow for EID Generator Call Update Trigger Employee Person Events

## ZHRT\_ALTTRIGGER Table Triggers

### Post Insert Trigger

Post insert trigger for non-person/non-employee HIRE and REHIRE events.



Figure 5: Workflow for EID Generator Call – PS for Non-Employee Person Events

### After Update Trigger

To automate failures an update trigger has been inserted so that in the event of a failure a simple update to the same trigger record[[3]](#footnote-3) will cause an EID to be generated if none exists.



Figure 6: Workflow for After Update Trigger Non-Employee Events

## Insert new EID Process

This section describes the Request New EID Process.



Figure 7: New EID Process

## PeopleSoft Bridge Process Workflow

This section describes the changes to the PeopleSoft Legacy Bridge which pushes data to the AS/400 system.



Figure 8: PS Legacy Bridge Process

# EID Generator Workflow

This section describes the workflow for the PeopleSoft HRMS.

## EID Generator Flow Overview



Figure 9: EID Generator Workflow

## 

# Appendix A – Business service classifications

## Definitions, Acronyms and Abbreviations

The following abbreviations and acronyms have been used in this document.

Table 1: Definitions, Acronyms and Abbreviations

|  |  |
| --- | --- |
| **Term** | **Meaning** |
| **PS** | People Soft |
| **ERD** | Employee Reference Data |
| **SQL** | **Structured Query Language**: language used to access data held in a database |
| **TBD** | **To Be Determined** |
| **REST** | **Representational State Transfer**: Interface standard that allows for interchanging data between systems via web services. |
| **JSON** | **JavaScript Object Notation**: a lightweight data-interchange format easily read by humans and processed by computers |
| **ACL** | **Access Control List**: a list that tells a computer system which access rights a user or client has to a particular data object such as allowed access to PII data elements |
| **RESTful** | Interfaces that implement a REST like service |
| **DB** | **Database**: a system used to store large record sets allowing for standard methods to manage CRUD operations. |
| **CRUD** | **Create Retrieve Update Delete**: a basic set of operations done on data sets |
| **ETL** | Method to Extract, Translate, Load data from one system to another |
|  |  |
|  |  |

Table 2: Service Definitions

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Characteristic** | **Aspect** | **Mission Critical** | **Business Critical** | **Business Operational** | **Administrative Services** |
| **Service Hours** | Operational hours | 7 x 24 | 7 x 24 | 5 x 24 | 5 x 8 |
| Maintenance window | 4 hours / month | 8 hours / month | 48 hours / week | 60 hours / week |
| **Service Availability** | Availability | 99.99% | 99.9% | 99% | 99% |
| Backups | No impact to availability | No impact to availability | May impact availability | May impact availability |
| Availability measurement | Required | Required | Required | Required |
| **Reliability** | Unplanned outage | 1 / year | 4 / year | 8 / year | N/A |
| **Customer Support** | Maximum priority of helpdesk call | 0 | 0 | 1 | 2 |
| **Service performance** | Metrics defined in SLA | Required | Required | Required | Not required |
| Backups | No impact to service performance | May impact service performance | May impact service performance | May impact service performance |
| Restore metrics defined in SLA | Required | Required | Required | Not required |
| **Change Management** |  | Required | Required | Required | Not required |
| **IT Service Continuity** | DR Solution | Required with full operational capability | Required with full operational capability | Not required | Not required |
| Availability in DR mode | 99.99 | 99.5% | N/A | N/A |
| Data loss | None | Some, defined in SLA | N/A | N/A |
| Service recovery time | 2 hours | 72 hours | N/A | N/A |
| **Security** | Compliance | Required | Required | Required | Required |
| **Service Reviews** | Frequency | Monthly | Monthly | Six monthly | Not required |

1. The integration between EID and these systems is documented but the engineering for the PS or AS/400 work will come from the appropriate team [↑](#footnote-ref-1)
2. The trigger fires when the TASK\_FLAG is updated on a record. [↑](#footnote-ref-2)
3. The trigger fires when the TASK\_FLAG is updated on a record. [↑](#footnote-ref-3)