Employee Central Side-by-Side: Solution Architecture Considerations
**Document Details**

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<td>Employee Central Side-by-Side: Deployment and Solution Architecture Considerations</td>
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**Change Log**

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The recommendations in this document are based on the functionality available up to SuccessFactors release mentioned above. Future functionality can impact recommendations provided by this document. We strive to keep these recommendations up-to-date, however, in case you find that recent new functionality have not yet been considered in the latest version of this document, please reach out to your Customer Success Manager / Partner Delivery Manager or send an email to: SAPSuccessFactorsIDPDoc@sap.com.

Implementation Design Principles (IDPs) for SuccessFactors solutions are delivered by SAP for helping customers and partners on how to choose the most appropriate strategy and solution architecture for SuccessFactors implementations. IDPs are compiled taking into consideration the experience of many implementation projects and addressing frequent business requirements as well as real-life implementation challenges. They are continuously reviewed and updated as product functionality evolves. In addition, the reader is advised to read and familiarize with essential and additional product-related documentation which includes Implementation Guides, SAP Notes, SAP Knowledge Base Articles, and additional assets as referenced in this document, see chapter 7.
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1 TERMINOLOGY

The following table explains some abbreviations used in this document.

<table>
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<tr>
<td>EC</td>
<td>Employee Central</td>
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<tr>
<td>ERP</td>
<td>SAP Enterprise Resource Planning often referred in the document pertains to SAP HCM on premise system</td>
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<td>SBS</td>
<td>Side-by-Side Employee Central Deployment</td>
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2 ABSTRACT

Side-by-Side deployment of Employee Central (EC) is when a subset of employees exists in EC as the system of record and another subset of employees exist in on-premise SAP HCM as the system of record, thus having two core HR system. Side-by-Side deployment has the ability to consolidate the entire workforce and organizational data on Employee Central. This document details various technical considerations using Side-by-Side deployment and explains how it can be applied to a cross-country multi-system environment. It also explains how it is possible to transition from a Side-by-Side deployment to a Core Hybrid deployment which is the recommended target state. Additionally, this document covers various implementation considerations for supporting use-cases of global mobility.

3 INTRODUCTION

Customers end up with a distributed HR system landscapes due to multiple factors. Sometimes, it is the result of continuous mergers and acquisitions, sometimes it is the need to have independently, locally optimized HR processes running in local systems thus blocking the consolidation on a single globally harmonized HR system. In such cases, customers lack a global consolidated view of their HR data (employee and organizational data) and suffer from the consequences.

Side-by-Side provides a globally consolidated view on HR data while at the same time respects the need to leave the distributed HR system landscape (their SAP HCM systems) basically unchanged. In such a setup, Side-by-Side also enables customers to focus on implementing EC for a specific country while leaving the rest of the system landscape unchanged.

4 BUSINESS REQUIREMENTS

In Side-by-Side deployment method, Employee Central will be leveraged as the consolidation system plus optionally as a system of record for a subset of the global employee population. The way Side-by-Side achieves the consolidation by means of multiple data integrations feeding HR data from disparate SAP HCM systems into Employee Central.

Since Side-by-Side leverages EC as a consolidation system as well as system of record based on country, setting up Side-by-Side and operating is complex. The complexity comes mainly from the lack of global data harmonization (for example different picklist values and HR processes) and the distributed nature of the system landscape. All these add to the complexity of data maintenance practices.

This document gives practical advice on how to configure Side-by-Side and how to organize data maintenance globally. It also provides recommendation and guidelines on how to transition from the Side-by-Side
deployment model to Core Hybrid deployment, which is the recommended target state when Employee Central is integrated to SAP Business Suite.

4.1 Out of Scope

Certain topics related to deployment scenarios are not covered in this document, such as:

- How to Migrate from Talent Hybrid Integration to Integration with Employee Central. Information on this topic can be found in the standard guide *Integrating SAP ERP HCM with Employee Central Using the Side-by-Side Deployment Option* and on the IDP *Employee Central Core Hybrid: Handling Employee Identifiers*.

- Setting up UI mash-ups within Employee Central to provide access to HR data and processes that are mastered in on-premise SAP ERP HCM.

- Details on Core Hybrid set up (replication from EC to SAP HCM). Refer to the available Core Hybrid IDPs for more details on this option. Also, refer to the implementation guide *Replicating Employee Master Data and Organizational Assignments from Employee Central to SAP ERP HCM*.

5 SOLUTION OVERVIEW AND CONCEPTS

In the Side-by-Side deployment employee data is partially mastered in EC and partially in the legacy SAP HCM systems. However, it is important to note that the employee data distribution between these two Core HR systems is based on the employee’s country or legal entity.

This deployment method allows companies with distributed HR system landscapes to gradually migrate to Employee Central, often by:

- Replacing non-SAP HCM systems as a first step
- Gradually migrate SAP HCM systems to cloud for employee administration

During this gradual migration, Side-by-Side allows consolidation of HR data in Employee Central supporting usage of SuccessFactors Talent Modules. Side-by-Side is mainly seen as a transitional phase architecture, not a permanent target deployment (system landscape). The recommended target architecture is to have a Core Hybrid setup where Employee Central is the system of record for complete employee population and organization data, with both these data being replicated back to SAP HCM system for payroll processing or time management.

The Side-by-Side is a deployment option for customers who want to transition their HCM system landscape to the cloud while still leveraging investments into employee administration on premise. It comprises the coexistence of HR core in the Cloud (SAP SuccessFactors Employee Central) and on premise (SAP ERP HCM). In this setup, EC is used as the cloud-based core HR system for a subset of employees while on-premise SAP ERP HCM is still retained as the core HR system for a disjoint subset of employees. Changes to the employee’s data are being made in the respective system of record depending on the country of employee being mastered in one of the Core HR systems. The core HR system landscape is thus not homogeneous but distributed, and needs to be consolidated to enable centralized access, reporting, and so on.

Some characteristics of the Side-by-Side deployment option are:

- The workforce is split across Employee Central and on-premise SAP ERP HCM. Both systems are used as a system of record depending on the employee’s country assignment.
- There can be multiple SAP ERP HCM systems which can store the employee data based on the employee country caused by inherent legacy of customer implementation.
- HR processes run in the respective system of record while employee data is kept in sync across the distributed HCM system landscape.
- UI mash-ups within Employee Central provide access to HR data and processes that are mastered in Employee Central as well as in on-premise SAP ERP HCM.
- Customers can now consolidate their system landscape from their previous distributed system landscape.
5.1 Deployment Variants

There are various kinds of Side-by-Side deployment possible depending upon the existing SAP HCM systems landscape and how this has been setup across multiple legal entities/countries. Customers can have one single SAP HCM system to manage their entire employee population and organizational data or may have different SAP HCM systems which could either be based on legal entities or country. Following sections looks at this kind of distributed SAP HCM landscape and provides guidance on the right landscape setup for integration to cloud based Employee Central using the standard productized integration of Side-by-Side capabilities.

During the Side-by-Side deployment of Employee Central, the entire employee population is consolidated in Employee Central. The subset of the employee population existing as mini master in Employee Central are those who are mastered in SAP HCM while another subset of employee population has Employee Central as their system of record. The employee mini master is a set of five EC entities namely – Basic User, Biographical, Personal, Employment and Job Info. The employee mini master data exists as a read only record on Employee Central by suitable Role Based Permissions (RBPs). For these mini master employees, the system of record will continue to stay as SAP HCM system and any changes done here will be replicated to EC.

5.1.1 Single SAP HCM System Integration to Employee Central

A single on-premise SAP HCM system would exist across multiple countries or a single country managing the different (or a single) legal entities to administer the employee master data and organizational data of the organization.

The following section shows the different possibilities of employee data and organizational data replication from a single SAP HCM system (shared between Country A and Country B) to Employee Central. It also depicts the landscape setup supported by the standard productized integrations.

Employee Data Replication

In figure 1a, the employee data (belonging to both the countries A and B) from a single SAP HCM system flows into EC. The employee data is consolidated on EC and the system of record for these employees will still be SAP HCM. While in figure 1b, the employees of country B have been now mastered in EC and hence the replication direction shows from EC to SAP HCM while employees of country A have a mini master records in EC. In such a case, the data maintenance for employees of country A happens in SAP HCM while that of country B happens in EC. EC acts as a consolidation system for employees across country A and country B. The Side-by-Side deployment in figure 1a is supported by standard productized integrations while figure 1b is not fully supported by productized integration and hence comes with certain challenges as discussed in section 6.1.

Figure 1a. Employee Data Replication from a single SAP HCM system (for Country A & Country B) to EC.
Organizational Data Replication

In figure 2a, organizational data replication is shown from a single SAP HCM system (shared between country A and country B) to Employee Central in a side-by-side deployment. In this setup, SAP HCM system will be the leading system of record for organizational data with EC receiving it as a read only data. This setup is supported by the standard integration albeit a limitation such as no possibility of delta replication. In figure 2b, organizational data replication is shown split between the SAP HCM system and EC system across country A and country B respectively. Such a side-by-side deployment is not supported by the standard productized integration.
5.1.2 Multiple SAP HCM System Integration to Employee Central

Employee Data Replication

In a multi SAP HCM system setup, different countries will have their own SAP HCM system or a single country with different legal entities can have more than one SAP HCM system. Figure 3a. shows country A with SAP HCM system A and country B with SAP HCM system B. The employee data can be consolidated in EC from both these different SAP HCM systems. The employee records are set read only in EC and its respective SAP HCM system will be the system of record for employee data maintenance. This deployment setup is supported by the standard productized integration. Figure 3b. shows the same setup with one of the countries having the
system of record for employee in EC (Country B) while country A still having SAP HCM as the master system which is also supported by the standard productized integration.

Figure 3a. Employee Data Replication from Multiple SAP HCM System to Employee Central

Figure 3b. Employee Data Replication from Multiple SAP HCM System to Employee Central

**Organizational Data Replication**

In a multi SAP HCM system setup, organizational data cannot be consolidated in EC from different SAP HCM systems nor allowed to be replicated from the EC system to one of the SAP HCM system as shown in figure 4a and 4b. Both these kinds of setup are not possible through standard productized integration. There are no
bi-directional standard interfaces for organizational data replication provided. Also avoid building any bi-directional interfaces even on a single SAP HCM system.

Figure 4a. Organizational Data Replication from Multiple SAP HCM System to Employee Central

Figure 4b. Organizational Data Replication from Multiple SAP HCM System to Employee Central

5.1.3 Employee and Organizational Management Data Replication in Side-by-Side Deployment

Single SAP HCM System Integration to EC

In case of single SAP HCM system for country A & country B, if the employee master data is being mastered in SAP HCM system with a slave record in EC and its organization data is being mastered either in SAP HCM or in EC as shown in figure 5a, it is still considered not the best deployment option of integration due to product
limitations. This is also the case in figure 5b, where the employee master data replication reverses for one set of country (Country B) which means that employee master data resides for one set of country in SAP HCM system and other set in EC while organizational data can be either be residing in the EC system or SAP HCM system. Both these kinds of Side-by-Side deployment causes constraints in handling global employments with cross country manager scenarios. Therefore, these setups are not highly recommended.

Figure 5a. Employee & Organizational Data Replication from Single SAP HCM System to Employee Central

Figure 5b. Employee & Organizational Data Replication from Single SAP HCM System to Employee Central
**Multiple SAP HCM System Integration to EC**

In a multiple SAP HCM system setup where for each country there is a separate SAP HCM system; in this case country A and country B the employee data can stay unidirectional as show in figure 6a where they move from SAP HCM master system to EC system acting as a consolidation for the entire employee population where they exists as read only employee data records. The organizational data is mastered in EC and transferred to SAP HCM system in country A & county B. This setup is not recommended due to the limitation it poses in handling different business processes like global employments.

![Side-by-Side Deployment](image)

Figure 6a. Employee & Organizational Data Replication from Multiple SAP HCM System to Employee Central

Figure 6a. Employee & Organizational Data Replication from Single SAP HCM System to Employee Central

In figure 6b, the multiple SAP HCM systems for country A & country B have bidirectional employee master data which means one of the SAP HCM system is a master system (got country A) while for country B it is EC which is the employee master data system. The organizational data replication is EC system which is the system of record and its data being a slave record in SAP HCM system. This Side-by-Side deployment is not recommended and also comes with limitations in managing global employments.
5.2 Employee Central recommended deployment option

Although this document describes in detail the Side-by-Side deployment option, we strongly recommend customers to opt for the Core Hybrid deployment option. The Core Hybrid setup (figure 7) translates into a much less complex deployment from a technical integration and process point of view.

We also strongly recommend considering the big-bang approach opposed to a phased go-live. A typical phased go-live is seen in projects in which customers want to migrate the data from SAP HCM to EC phase by phase, in which each phase represents the go-live for certain country populations. This is also explained in detail in the IDP Employee Central: Implementation Considerations for a Phased Rollout. In Chapter 5.3 we
will explain the two main different deployment strategies for a phased rollout and focus on the approach which is based on the Side-by-Side deployment model.

While a phased go-live rollout may facilitate the management of the implementation project, they add additional technical hurdles to the implementation some of which are listed below:

- Difficulties with mobility scenarios such as Global Assignments and International Transfers during the phases is difficult to manage and automate.
- Compensation integration with Employee Central is challenging to implement during phased rollout period
- Impact on integrations – Requirements for temporary integrations / filters
- Population split between EC and Employee profile. Continue to feed the employee profile with the population not on EC, either via an interface or manual uploads. These users will not be impacted by the HRIS Sync.

Take into consideration that the Side-by-Side deployment imposes limitations on the management of talent processes that are tightly integrated with Employee Central for the subset of employees/countries that are managed in SAP HCM. For example, while it is possible to use SAP SuccessFactors Recruiting solution globally with the Side-by-Side scenario to post jobs and recruit candidates, you will face limitations on the recruiting integration process called Manage Pending Hires for countries which are managed in SAP HCM. As such, the hiring process for those countries must be executed in the SAP HCM system. When designing your Side-by-Side integration architecture, you will need to take into consideration all talent processes/modules that are planned to be tightly integrated to Employee Central and evaluate the impact of these not being manageable for countries which are SAP HCM mastered. For the Compensation module, SAP has delivered functionality that allows the management of employees within this module for countries that are mastered in SAP HCM. For more details on this topic, please refer to the implementation guide Integrating SAP ERP HCM with Employee Central Using the Side-by-Side Deployment Option available on help.sap.com

5.3 Considerations for Phased Rollout of Employee Central via Side-by-Side Deployment Model

Employee Central can be implemented in two different approaches either in big bang or phased rollout. When Employee Central is implemented in big bang it means that the entire organization across the geographic spread goes live on the EC solution simultaneously, while phased rollout is when parts of the organization goes live by groups of countries at a given time until the whole organization goes live over a predefined length of time. The reasons for choosing one kind of Employee Central implementation over the other and the pros and cons of both these approaches are described in detail in the IDP Employee Central: Implementation Considerations for a Phased Rollout. Phased rollout of Employee Central can be achieved either through multiple EP feed or via the Side-by-Side deployment. The implementation details of the former approach is discussed in the IDP previously mentioned while the Side-by-Side implementation approach for a phased Employee Central rollout is detailed below. The target state of this implementation approach is a Core Hybrid deployment.

When implementing Side-by-Side deployment it is recommended to get the entire employee population mini master data in EC. However, it’s important to note that changes to employee data cannot be made in EC system while the employee data exists as a mini master. The employee master data is replaced from the existing mini master data country wise to ensure EC is made the Core HR system for the given set of country/countries and related set of employees. For these employees EC becomes the leading system of record and hence changes can be made in EC itself while for the rest of the remaining countries and related employee population the system of record would still remain SAP HCM system. During the next phase, other groups of countries and related employee population will be moved to EC. Once the employee master data has been moved to EC, then SAP HCM seize to be the master system of record as EC becomes the leading system of record. This transition of master system of record from SAP HCM to EC for different countries in a phased manner is described in the figures below along with its respective explanation.

Figure 8. shows the initial set up of a talent customer who is planning to implement EC and has SAP HCM as the current Core HR system. The systems that are involved here is SAP HCM system and one or more SAP SuccessFactors Talent Suite modules. The employee data from SAP HCM system is replicated to talent system through Talent Hybrid Integration. In SAP HCM system, employee data exists as master system of record. It is important to note that only a snapshot of employee data, which is non-effective is sent to the Talent
module via Employee Profile (EP) and does not contain historical data records. In this figure 8, Employee Central is shown without any employee data in it as it’s the first stage of implementation.

Figure 9. shows the multiple EP feed deployment of EC system. In this setup, Country A has mini master employee data migrated to EC which then populates the Employee Profile (EP) in talent modules while for Country B, the employee data is fed through talent hybrid integration. Such a setup is called multiple EP feed deployment. This deployment is discussed in detail in the IDP ‘Employee Central: Implementation Considerations for a Phased Rollout’.

Figure 10. shows the end state of Side-by-Side deployment where the employee mini master exists in EC as a slave record for all the countries in scope of EC implementation. In this setup, the employee data is replicated as mini maser records from the countries in scope (here country A & country B) to EC. The desired way to achieve this is a big-bang approach where all employee data across the countries in scope are brought to EC for consolidation. If this cannot be achieved for various project reasons, the Side-by-Side deployment could be implemented for each country to finally reach a state of complete Side-by-Side deployment for all countries in scope. Also, this is the desired deployment state of Side-by-Side before it could be converted to the target Core Hybrid deployment.

Figure 11. shows Side-by-Side deployment transitioned to Core hybrid deployment for one of the country A and the other country B still in SBS scenario. In such a setup, country A has the master employee data records, where the data is replicated back to SAP HCM system while country B still has mini master employee data for which SAP HCM system still remains the system of record. In the next phase, country B will undergo Core Hybrid deployment and will finally reach the target state deployment as shown in figure 12.

Figure 12. shows the Core Hybrid deployment, the target state deployment, when EC system becomes the core system of HR for maintaining employee and organizational data, and this data is replicated to SAP HCM system. This deployment is reached after the EC systems have transitioned from Side-by-Side deployment to Core Hybrid when employee and organizational master data exists in EC and thus being the leading system of record.

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![Diagram](image-url)

**Figure 8. Customer with Talent Hybrid Integration (SAP HCM and Talent Integration)**
Figure 9. EC Implementation with Multiple EP Feed Deployment

Figure 10. Side-by-Side deployment with Employee Central for Country A & Country B
Figure 11. Side-by-Side transitioned to Core Hybrid Deployment for Country A & Country B in Side-by-Side

Figure 12. Transition of Side-by-Side to Core Hybrid for Country B in next phase (Full Core Hybrid) with EC as the system of record

6 DETAILED SOLUTION
This chapter covers some implementation considerations for the scenarios described above as well as the impacts on the global employment management.

6.1 The ‘Person’ Challenge

In Employee Central, the person entity contains information such as national ID, addresses, name, marital status, dependents data etc. (Figure 13).

**EC Person “Entity”**

![Figure 13. Masterdata belonging to the Person entity in EC](image)

Now let's compare EC & SAP HCM in terms of how the Person-related data looks like in the case of a Person having multiple employments (ex: international transfer, global assignment, concurrent employment). In Employee central, the information in the “Person Entity” exists only once per “natural person” regardless of the number of employments held. In SAP HCM system, the Person related information will be “duplicated/repeated” through infotypes of multiple personnel assignments (PERNR).

Due to this structural difference, it is necessary to understand how the Person and its assignments are mapped between EC and SAP HCM. The EC “Person-entity” can have several employments (in the case of global assignment, concurrent employment, international transfer etc.). Every “Person-entity” in Employee Central is represented by a Person ID (actually two IDs, one being a system internal ID and another one being an external ID). Each employment is related to a different “System User ID” and username (meaning that the same person could be logged in with two different users, related to the same person but in separate employments). The EC Person ID (external) is mapped to the “Central Person” (or alternatively to IT709) in SAP HCM, and the EC User ID is mapped with the PERNR (more details on the mappings and mapping strategies can be found in the IDP).

The above described relationships are illustrated in Figure 14.
In the Side-by-Side scenario, a key factor related to the Person Entity is determining which system “owns” the Person data. In general, the system of record for a given country (be it EC or SAP HCM) is the owner of the Person data for employees in that country. This concept is non-trivial, since an employee might be or have been employed in multiple countries, for which different systems are used as system of record. This leads to the fact that the ownership of the Person data may switch between systems over time for cases of international transfer and global assignment.

Taking into consideration the complexity related to the Person Entity mentioned above, for the purpose of data mapping and integration between EC and SAP HCM, it is necessary to consider the Employee HR Masterdata as being separate into two different “categories”: the data related to a Person, and the data related to an employment. This separation is required due to the fact that the person-related data can exist multiple times in SAP HCM, but only once in EC. For example, an employee with concurrent employment or global assignment in SAP HCM may have the date of birth (or other personal info) copied into different PERNR assignments (either by manual consistency, or by the usage of data sharing in infotypes), resulting in data duplication.

Therefore, the implementation and integrations should take into consideration two main aspects:
the mapping and replication of the employee IDs and assignments (key mapping) between systems (described in chapter 7.2)
the integration scope and mapping of the employee Masterdata, considering especially the person-related data (described in chapter 7.3).

6.2 Typical HR Transactions

Assuming the system landscape is configured as outlined in the previous chapters, this chapter explains in detail how person data is maintained for all possible scenarios involving a transfer/assignment of employee between different countries and systems. This will have implication on where person data needs to be maintained impacting the HR practices for performing data maintenance. A similar discussion is not necessary for employment related data since its ownership does not change over time.

Let’s have a closer look at the maintenance of the EC Person entity for the cases in which it receives data from one or more SAP HCM system(s) in a Side-by-Side deployment:

Case 1: EC is the system of record for certain countries (country A), while SAP HCM is the system of record for another set of other countries (country B), refer to Figure 15.
Case 2: SAP HCM is the system of record for all countries. EC is used as a global consolidation system for Employee masterdata (for example, for talent management and reporting), refer to Figure 16

In cases 1 & 2 above, there can be employees being transferred from country A to B (or from country B to A) and employees being “sent” into global assignment from country A to B (or from country B to A). Moreover, Countries A and B could be managed by the same or separate SAP HCM systems. All these combinations span up a large variety of cases. We start by looking at specific cases depicted by the figures 15 & 16. All the other cases are covered by the tables in sub-chapters below.

For international transfers (which are usually permanent and therefore the employment in the “home” country is terminated), the owner of the Person-related data becomes the system mastering the “destination” country. In global assignment cases, the owner of the Person related data remains the system mastering the Home country. Therefore, is important to understand how the person related data replication in EC (and the necessary manual maintenance) is managed, for each of the sub-entities composing the Person entity:

Biographical Info & Personal Info:
• Case 1: Only employees located in country B are replicated back to EC. Consider an employee originating in Country A being “sent to” country B (either Global assignment or international transfer). From the moment of the transfer onwards, you need to maintain biographical and personal info only in SAP HCM. An update on infotype 2 of PERNR 2 will trigger a replication to the Biographical and Personal Info in EC.

• Case 2: employees of country A and B are replicated back to EC. Consider an employee originating in Country A being “sent to” country B (either Global assignment or international transfer). From the moment of the transfer /assignment onwards, you maintain biographical and personal info as usual only for the employee in the country B in SAP HCM (PERNR 2). You should then avoid changes for Bio- and personal info in PERNR 1, country A, as these changes will be replicated to EC and will override the Person data there.

National ID:
• EC data model supports multiple National IDs (one per country). Therefore, in the case of International transfer or global assignment of an employee from country A to B (or B to A) in any of the Cases 1 or 2, the National IDs would be replicated without any conflict to its respective “country record” in EC National ID employee table.

Address info & dependents info:
• in general, double (manual) maintenance of address & dependents data is required in both EC and SAP HCM for employees who have an assignment in a country being mastered in SAP HCM. This arises from our recommendation given in chapter 7.3 of the “reduced scope approach” in which the SAP HCM system owning Address and Dependents data will not replicate this data to EC. For more information on the reduced scope approach, refer to chapter 7.3.

Note on data sharing: For system landscapes following the pattern in Case 1 (figure 16), make sure the “infotype data sharing” is occurring only between concurrent employment cases (same country employments).

The tables below detail the behavior of the system with regards to the person data and for the different combinations of employee transfer across systems/countries. It also gives guidance on the HR processes to be carried out in each system.

### 6.2.1 Person Maintenance in Scenario 1

Table 1 below applies for the System Landscape described in Case 1 (Figure 16: EC is the system of record for certain countries (country A), while SAP HCM is the system of record for another set of other countries (country B)). All cases described in the table below are valid regardless if a single or separate SAP HCM system(s) are used for countries A and B.

<table>
<thead>
<tr>
<th>Int. transfer or Global assignment?</th>
<th>Employee goes from country A to B, or from B to A?</th>
<th>Biographical info and Personal info:</th>
<th>Email info:</th>
<th>HR process:</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT</td>
<td>A to B</td>
<td>From the moment of the transfer onwards, you need to maintain biographical and personal info only in SAP HCM. An update on infotype 2 of PERNR 2 will trigger a replication to the Biographical and Personal Info in EC. This update in EC will eventually be replicated back to the PERNR 1 in country A.</td>
<td>From the moment of the transfer onwards, you need to maintain Email info only in SAP HCM. Email addresses maintained in Infotype 105 for this employee (in country B, PERNR 2) will be replicated to EC.</td>
<td>Terminate the employment in country A for the employee in EC. Hire a new employee (PERNR 2) in SAP HCM in country B assigning it to the same central person (CP object) related to PERNR 1.</td>
</tr>
</tbody>
</table>
**Table 1.**

**6.2.2 Person Maintenance in Scenario 2**

Table 2 below applies for the system landscape described in Case 2 (Figure 17: SAP HCM is the system of record for all countries. EC is used as a global consolidation system for Employee masterdata). Cases described in the table below are valid only if separate SAP HCM systems are used for countries A and B.
From the moment of the transfer /assignment onwards, you maintain biographical and personal info as usual only for the employee in the country B in SAP HCM (PERNR 2). You should then avoid changes for Bio- and personal info in PERNR 1, country A, as these changes will be replicated to EC and will override the Person data there.

Perform an international transfer (or global assignment) for the employee in SAP HCM as usual.

Analog to “A to B” case.

Analog to “A to B” case.

Table 2.

6.2.3 Person Maintenance in Scenario 3

Table 3 applies for the system landscape described in Case 2 (Figure 17). Cases described in the table below are valid only if a single SAP HCM system is used for countries A and B.

<table>
<thead>
<tr>
<th>Int. transfer or Global assignment?</th>
<th>Employee goes from country A to B, or from B to A?</th>
<th>Biographical info and Personal info:</th>
<th>Email info:</th>
<th>HR process:</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT / GA</td>
<td>A to B</td>
<td>From the moment of the transfer/assignment onwards, you maintain biographical and personal info as usual for the employee in the country B in SAP HCM system. Note that in GA cases, the home assignment is usually “paused” (set to inactive), this is however not possible in some cases (for example, if the employee actively continues on the payroll in country A). The replication to EC will take care of replicating Biographical information (which in EC is NOT effective dated) based on which assignment of the employee is active. If both assignments are active,</td>
<td>From the moment of the transfer/assignment onwards, you maintain email info as usual for the employee in the country B in SAP HCM system. Email address of an employee will be extracted from the employee (PERNR) who is active. If there is no data available for the active assignment, then the system will get the information from the first assignment it finds which belongs to the same person and has email address.</td>
<td>Perform an international transfer (or global assignment) for the employee in SAP HCM as usual.</td>
</tr>
</tbody>
</table>
the data records of both PERNRs will be replicated, leaving the last replicated in EC as the one that remains. In contrast, this special replication logic does not occur for personal information, as personal information in EC is effective dated. This means, if the data in infotype 2 of PERNR 1 and 2 are not overlapping in time, a conflict-free situation should occur in the replication of the EC personal info.

Therefore, if you have cases of GA where both assignments are active, pay attention so that the infotype 2 of the two relevant PERNRs do not overlap.

|---------|--------|-------------------------|-------------------------|-------------------------|

Table 3.

6.3 Employee ID Mapping

Before starting with the implementation and integration of Employee central in the Side-by-Side scenario, it is necessary to decide how the Person object in EC will be mapped to the “person” in SAP HCM.

The customizing view V_ECPAO_CMPNY_EE offers three alternatives:

![Customizing View V_ECPAO_CMPNY_EE – Mapping for EC Person ID](image)

For the Side-by-Side scenario to work, it is necessary to select “BAdl Mapping”. This will activate the use of BAdl EX_ECPAO_EMP_USYID_PRN_UNM_MAP, method GET_PERSONID. In this BAdl method, one of the activities needed is to map the Person ID External of EC to some field in SAP HCM: either Central Person or the Person ID External of infotype 709. While these two mapping options is provided by the standard solution, it is in any case necessary to perform the mapping via BAdl in order to take care of the additional BAdl-method parameter EV_IS_ADDNL_EMPL (for reasons which will become clear in sub-chapter 7.2.2).

A comparison of both Person mapping strategies in shown below. It is important to understand the implications the ID Mappings have for the cases of global mobility involving both EC and SAP HCM systems:
6.3.1 Preventing EC Mastered Employees Replication from SAP HCM to EC

In the case a single SAP HCM system is used for countries “A” and “B” (depicted as “system A” in Figure 18, as opposed to the previous example, where countries A and B are in separate SAP HCM Systems), then an additional enhancement is necessary: to prevent EC-Mastered Employees to be replicated from SAP HCM back to EC.

Figure 18.

To prevent EC-Mastered Employees to be replicated from SAP HCM back to EC, you need to implement method GET_EMP_VALIDITY_SEGMENTS of BAdI EX_ECPAO_EMP_VALIDITY_TAB. In this method, it is required to determine the MOLGA (country code) of the PERNR being replicated, and if the determined country is now mastered in EC, then the method’s exporting parameter EV_IS_EC_MASTER should be set to “X”. This ensures that the PERNR will be filtered out of the replication. For cases of International transfer or Global assignment (example with 2 PERNRs), the country of one PERNR can be mastered in SAP HCM and the country of the other PERNR mastered in EC. Therefore, if this BADI is implemented appropriately, only the SAP HCM mastered PERNR is sent to EC after go-live(migration).

<table>
<thead>
<tr>
<th>Parameter name</th>
<th>Type</th>
<th>Data type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IV_PERNR</td>
<td>Importing</td>
<td>PERNR_D</td>
<td>Personnel number</td>
</tr>
<tr>
<td>IT_P0001</td>
<td>Importing</td>
<td>P0001_TAB</td>
<td>Infotype 0001 record of the PERNR</td>
</tr>
<tr>
<td>EV_IS_EC_MASTER</td>
<td>Exporting</td>
<td>BOOLE_D</td>
<td>Is employee mastered in EC</td>
</tr>
</tbody>
</table>

Parameters of method GET_EMP_VALIDITY_SEGMENTS of BAdI EX_ECPAO_EMP_VALIDITY_TAB
6.3.2 International Transfer Handling in SAP HCM and EC

Consider the scenario shown in Figure 19 below. In Figure 19 the SAP HCM system which is replicating data to EC (System B) must be able to identify if the employee (PERNR) being replicated is actually an assignment of a Person which already exists in EC. With this identification, the replication is able to create an additional employment in the existing “Person Entity” object in EC (instead of creating a whole new Person in EC, which would lead to a data mismatch).

Examples of such situations, in which the person data already exists in EC by the time the SAP HCM is replicating data, arise from International transfer or global assignment cases. In these cases, the employee was originally employed in a country for which Employee Central is the system of record, subsequently the employee is employed/moved into a country for which SAP HCM is the system of record. To illustrate this scenario, take into consideration the system landscape in Figure 19, and imagine an international transfer of an employee from country A into B.

For setting up the integration logic described above, it is necessary to implement the BAdI “Mapping of UserID, Person ID, Username for employee and Object Id for org objects” (technical name: EX_ECPAO_EMP_USYID_PRN_UNM_MAP), specifically its method GET_PERSONID. This implementation must be done only within the SAP HCM system(s) which are replicating data to EC.

For method GET_PERSONID to be called, it is necessary to customize the mapping mode of “person id external” in Company View V_ECPAO_CMPNY_EE to “BADI Mapping” (Figure 20):

The exporting parameter EV_IS_ADDNL_EMPL of method GET_PERSONID should be set to “X” for the SAP HCM-mastered PERNRs for the following cases:

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- If the PERNR is part of an “international transfer” from an EC-mastered country to an SAP HCM-mastered country;
- If the PERNR is part of a Global assignment, its home country is EC-mastered and its host country is SAP HCM-mastered.

Note that by using this method, you also must map “person id external” of a PERNR by yourself in the parameter EV_PERS_ID_VALUE. The following table summarizes the available parameters of method GET_PERSID:

<table>
<thead>
<tr>
<th>Parameter name</th>
<th>Type</th>
<th>Data type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IV_PERNR</td>
<td>Importing</td>
<td>PERNR_D</td>
<td>Personnel number</td>
</tr>
<tr>
<td>IV_CENTRAL_PERSON</td>
<td>Importing</td>
<td>PERSONID</td>
<td>Central Person Id</td>
</tr>
<tr>
<td>EV_PERS_ID_VALUE</td>
<td>Exporting</td>
<td>PAOCFEC_EMPLOYEE_ID</td>
<td>Person id external</td>
</tr>
<tr>
<td>EV_IS_ADDNL_EMPL</td>
<td>Exporting</td>
<td>BOOLE_D</td>
<td>Indicates additional employment from ERP to an existing employment in EC. Indicates whether the personnel assignment replicated from ERP is a new employment or an additional employment for an existing person in Employee Central. If you set this indicator to true, an existing person_id_external is used, meaning, an additional employment is added for an existing person in Employee Central. If you don't set this indicator, a new employment with a new person_id_external is created in Employee Central. Example: In the ERP system, an employee can have several personnel assignments in different countries, but only one central person ID. Therefore, the sample implementation of this BAdI ensures that an employee’s central person ID is always mapped to one and the same person_id_external in Employee Central, independent of the number of personnel assignments the employee might have.</td>
</tr>
</tbody>
</table>

**IMPORTANT**: Also, in view V_ECPAO_CMPNY_EE, it is required to set field “International Transfers Handling - EMPLY_INTTRF” to value “Create New Employment for International Transfer”. This field controls how employments are to be handled within the Employee Central Instance when an employee is transferred from one country to another within SAP HCM. The option “Create New Employment for International Transfer” forces EC to create a separate new employment for each new assignment (PERNR) being replicated. The other option (reuse employment) is not allowed, as it would lead to “merging” the different PERNR assignments of a Person into a single employment in EC.
6.3.3 **Infotype 709 Mapping to EC Person ID External**

Consider the architecture depicted in the following diagram (figure 21): Country A is mastered in EC, replicates data to SAP HCM. Country B is mastered in SAP HCM, and replicates data to EC. Example: employee is hired in EC (after go-live) in country A; afterwards, an International transfer is started in SAP HCM for the same person in country B.

![Diagram](image_url)

**Figure 21. Side-by-Side Deployment with External person of Infotype 709 mapped to Person ID External**

1. EC to ERP creates new PERNR in ERP with ID derived from EC User-sys-id (1111)
2. EC to ERP Replication (standard) creates new CP in ERP with ID derived from ERP number range (ex:12345678, which is a different value than Person id external) and adds relationship to PERNR 1111.
3. Entry in BIB key mapping table is created
4. New employment (PERNR 2222) is created in ERP and added to CP 12345678 for country B, while value 88888888 must be entered manually in IT709 for this new employment
5. New employment (PERNR 2222) is replicated (according to BIB BAdI mapping) to new user-sys-id = 2222 and person 88888888.
6. Mapping table entry is added for PERNR 2222

This is the recommended mapping for customers who manage countries A and B in separate SAP HCM Systems where multiple CP IDs exist for the same natural person (as the CP objects between system are not synchronized). In such situations, customers usually use infotype 709 to group/identify persons across systems.
It is also necessary to slightly enhance the “IDs-mappings” part of the integration (via configuration and BAdIs) between SAP HCM and Employee Central, so that the systems can correctly match the different combinations of multiple assignments/employments of a person. These enhancements are covered in the following sections.

6.4 Standard Field Mappings of Employee Master Data

Within the Business Integration Builder (BIB), SAP delivers three sets of pre-defined sample content for the integrations between SFSF EC and SAP HCM:

- **Employee Data ERP to EC: Mini Master Scope (EE_WS_1):** This scope is thought for customers who want to replicate SAP HCM data to SFSF Employee Profile for the purpose of managing Talent in SFSF (Talent Hybrid).
- **Employee Data ERP to EC: Integration or Migration (EE_WS_2):** Technically, this scope provides field mappings for employee master data to be regularly replicated or to be migrated from the SAP ERP HCM system to Employee Central.
- **Employee Data EC to ERP: Replication (EE_WS_3):** Provides field mapping for employee master data to be replicated from Employee Central to SAP ERP HCM system.

The Side-by-Side scenarios described in this document contain replications occurring in two directions: from EC to SAP HCM and from SAP HCM to EC. Due to the consolidation of the person-related data in EC, and as soon as you have global employment in a cross country Side-by-Side scenario, it is not possible to simply pick the scope EE_WS_2 and EE_WS_3 to fulfill the replication directions: for the replication EC to SAP HCM, it is still possible and recommended to use scope EE_WS_3, but for the replication SAP HCM to EC it is necessary to set up a new scope which is a bit “slimmer” than EE_WS_2.

The custom scope (for the replication SAP HCM to EC) should ignore some of the person related data and include only the essential information that is mandatory and that would not conflict with already existing information in the Person entity in EC. From the entities in Figure 22, only the ones originating from Infotype 2 and 105 should be included:

![Person related mappings (SAP HCM PERNR+CP to SFSF EC Person)](image)

Due to the complexity that the mapping of infotypes 6, 21 and 106 can bring to the replication of person-related data in the cases of global employment and international transfer, we strongly recommend not to include these in your replication scope (from SAP HCM to EC). Our Recommendation is therefore to follow a “reduced scope” approach for the integration flowing from SAP HCM to EC. Notice that this also implies in “double maintenance” for the addresses and dependent information (infotypes 6 and 21 in SAP HCM) in EC employees being managed in SAP HCM. This will be further described in the next chapters.

The table below shows the subset of the EE_WS_2 scope which you can as a recommendation include in the replication to EC:
<table>
<thead>
<tr>
<th>Transformation Template</th>
<th>Transformation Description</th>
<th>Template</th>
<th>EC Entity</th>
<th>EC Field Name</th>
<th>EC Field Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ERP_WS_2</td>
<td>Biographical Info Template for Web Service</td>
<td>WS_2</td>
<td>birthName</td>
<td>Birth Name</td>
<td></td>
</tr>
<tr>
<td>ERP_WS_2</td>
<td>Biographical Info Template for Web Service</td>
<td>WS_2</td>
<td>countryOfBirth</td>
<td>Country Of Birth</td>
<td></td>
</tr>
<tr>
<td>ERP_WS_2</td>
<td>Biographical Info Template for Web Service</td>
<td>WS_2</td>
<td>dateOfBirth</td>
<td>Date Of Birth</td>
<td></td>
</tr>
<tr>
<td>ERP_WS_2</td>
<td>Biographical Info Template for Web Service</td>
<td>WS_2</td>
<td>placeOfBirth</td>
<td>Place Of Birth</td>
<td></td>
</tr>
<tr>
<td>ERP_WS_2</td>
<td>Biographical Info Template for Web Service</td>
<td>WS_2</td>
<td>regionOfBirth</td>
<td>Region Of Birth</td>
<td></td>
</tr>
<tr>
<td>ERP_WS_2</td>
<td>Biographical Info Template for Web Service</td>
<td>WS_2</td>
<td>birthName</td>
<td>Birth Name</td>
<td></td>
</tr>
<tr>
<td>ERP_WS_2</td>
<td>Biographical Info Template for Web Service</td>
<td>WS_2</td>
<td>firstName</td>
<td>First Name</td>
<td></td>
</tr>
<tr>
<td>ERP_WS_2</td>
<td>Biographical Info Template for Web Service</td>
<td>WS_2</td>
<td>firstNameAlt1</td>
<td>First Name Alt1</td>
<td></td>
</tr>
<tr>
<td>ERP_WS_2</td>
<td>Biographical Info Template for Web Service</td>
<td>WS_2</td>
<td>firstNameAlt2</td>
<td>First Name Alt2</td>
<td></td>
</tr>
<tr>
<td>ERP_WS_2</td>
<td>Biographical Info Template for Web Service</td>
<td>WS_2</td>
<td>formalNameAlt1</td>
<td>Formal Name Alt1</td>
<td></td>
</tr>
<tr>
<td>ERP_WS_5</td>
<td>Personal Info Template for Web Service</td>
<td>WS_5</td>
<td>birthName</td>
<td>Birth Name</td>
<td></td>
</tr>
<tr>
<td>ERP_WS_5</td>
<td>Personal Info Template for Web Service</td>
<td>WS_5</td>
<td>firstName</td>
<td>First Name</td>
<td></td>
</tr>
<tr>
<td>ERP_WS_5</td>
<td>Personal Info Template for Web Service</td>
<td>WS_5</td>
<td>firstNameAlt1</td>
<td>First Name Alt1</td>
<td></td>
</tr>
<tr>
<td>ERP_WS_5</td>
<td>Personal Info Template for Web Service</td>
<td>WS_5</td>
<td>firstNameAlt2</td>
<td>First Name Alt2</td>
<td></td>
</tr>
<tr>
<td>ERP_WS_5</td>
<td>Personal Info Template for Web Service</td>
<td>WS_5</td>
<td>formalNameAlt1</td>
<td>Formal Name Alt1</td>
<td></td>
</tr>
<tr>
<td>ERP_WS_5</td>
<td>Personal Info Template for Web Service</td>
<td>WS_5</td>
<td>gender</td>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>ERP_WS_5</td>
<td>Personal Info Template for Web Service</td>
<td>WS_5</td>
<td>initials</td>
<td>Initials</td>
<td></td>
</tr>
<tr>
<td>ERP_WS_5</td>
<td>Personal Info Template for Web Service</td>
<td>WS_5</td>
<td>lastName</td>
<td>Last Name</td>
<td></td>
</tr>
<tr>
<td>ERP_WS_5</td>
<td>Personal Info Template for Web Service</td>
<td>WS_5</td>
<td>lastNameAlt1</td>
<td>Last Name Alt1</td>
<td></td>
</tr>
<tr>
<td>ERP_WS_5</td>
<td>Personal Info Template for Web Service</td>
<td>WS_5</td>
<td>lastNameAlt2</td>
<td>Last Name Alt2</td>
<td></td>
</tr>
<tr>
<td>ERP_WS_5</td>
<td>Personal Info Template for Web Service</td>
<td>WS_5</td>
<td>maritalStatus</td>
<td>Marital Status</td>
<td></td>
</tr>
<tr>
<td>ERP_WS_5</td>
<td>Personal Info Template for Web Service</td>
<td>WS_5</td>
<td>middleName</td>
<td>Middle Name</td>
<td></td>
</tr>
<tr>
<td>ERP_WS_5</td>
<td>Personal Info Template for Web Service</td>
<td>WS_5</td>
<td>middleNameAlt1</td>
<td>Middle Name Alt1</td>
<td></td>
</tr>
<tr>
<td>ERP_WS_5</td>
<td>Personal Info Template for Web Service</td>
<td>WS_5</td>
<td>namePrefix</td>
<td>Prefix</td>
<td></td>
</tr>
<tr>
<td>ERP_WS_5</td>
<td>Personal Info Template for Web Service</td>
<td>WS_5</td>
<td>nationality</td>
<td>Nationality</td>
<td></td>
</tr>
<tr>
<td>ERP_WS_5</td>
<td>Personal Info Template for Web Service</td>
<td>WS_5</td>
<td>nativePreferredLanguage</td>
<td>Native Preferred Language</td>
<td></td>
</tr>
<tr>
<td>ERP_WS_5</td>
<td>Personal Info Template for Web Service</td>
<td>WS_5</td>
<td>partnerNamePrefix</td>
<td>Partner Name Prefix</td>
<td></td>
</tr>
<tr>
<td>ERP_WS_5</td>
<td>Personal Info Template for Web Service</td>
<td>WS_5</td>
<td>salutation</td>
<td>Salutation</td>
<td></td>
</tr>
<tr>
<td>ERP_WS_5</td>
<td>Personal Info Template for Web Service</td>
<td>WS_5</td>
<td>secondLastName</td>
<td>Second Last Name</td>
<td></td>
</tr>
<tr>
<td>ERP_WS_5</td>
<td>Personal Info Template for Web Service</td>
<td>WS_5</td>
<td>since</td>
<td>Marital Status Since</td>
<td></td>
</tr>
<tr>
<td>ERP_WS_5</td>
<td>Personal Info Template for Web Service</td>
<td>WS_5</td>
<td>suffix</td>
<td>Suffix</td>
<td></td>
</tr>
<tr>
<td>ERP_WS_5</td>
<td>Personal Info Template for Web Service</td>
<td>WS_5</td>
<td>thirdName</td>
<td>Third Name</td>
<td></td>
</tr>
<tr>
<td>ERP_WS_5</td>
<td>Personal Info Template for Web Service</td>
<td>WS_5</td>
<td>thirdNameAlt1</td>
<td>Third Name</td>
<td></td>
</tr>
</tbody>
</table>

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With regards to the mapping of the Employment related masterdata (which will not touch person data in EC), this can be copied from the standard template available in EE_WS_2. The high-level list of permissible mappings can be found in figure 23. Details can be found directly on the system’s sample content.

![Employment related mappings (SAP HCM PERNR to SFSF EC User)](image)

Figure 23.

Make sure also that the constant “Migration to EC- Current Data of Non-Effective Date Entries” in the view V_ECPAO_CONSTANT is active. This will enable person related data to be replicated from SAP HCM to EC taking into consideration the status of the employee-assignments (active/inactive) according to the logic which is further described in the next sections.

### 6.4.1 SAP HCM Central Person(CP) Mapping to EC Person ID External

Consider the architecture depicted in the following diagram (figure 24): Country A is mastered in EC, replicates data to SAP HCM. Country B is mastered in SAP HCM, and replicates data to EC. Example: employee is hired in EC (after go-live) in country A; afterwards, an International transfer is started in SAP HCM for the same person in country B.
Figure 24. Side-by-Side setup having SAP HCM CP (central person) mapped to EC Person ID External

1. EC to ERP Replication creates new PERNR in ERP with ID derived from EC User-sys-id (1111)
2. EC to ERP Replication (enhanced via BAdI ECPAO_IN_EXT_PERNR_MAP) creates new CP in ERP with ID derived from EC Person ID External (ex:88888888) and adds relationship to PERNR 1111.
3. Entry in BIB key mapping table is created
4. New employment (PERNR 2222) is created in ERP and added to CP 88888888 for country B
5. New employment (PERNR 2222) is replicated (according to BIB BAdI mapping) to new user-sys-id = 2222 and person 88888888.
6. Mapping table entry is added for PERNR 2222

This is the recommended mapping for customers which have a single SAP HCM system for managing all countries (and therefore a unique CP exists for a single Person)
7 \ \ REFERENCES

SAP Help Portal:


- Replicating Employee Data from SAP ERP HCM to Employee Central Using SAP Cloud Platform Integration as the Middleware
- Replicating Organizational Data from SAP ERP HCM to Employee Central Using SAP Cloud Platform Integration as the Middleware
- Replicating Employee Master Data and Organizational Assignments from Employee Central to SAP ERP HCM (As Of Q2 2017)
- Integrating SAP ERP HCM with Employee Central Using the Side-by-Side Deployment Option
- Integrating SAP ERP HCM On Premise with Employee Central Using the Core Hybrid Deployment Option

IDPs:

- Employee Central Core Hybrid: Handling Employee Identifiers
- Employee Central Core Hybrid: Data and Process Distribution Strategy
- Employee Central: Implementation Considerations for a Phased Rollout