SAP SuccessFactors Suite: Instance Management To Support Project Implementation Lifecycle
This document details recommended instance layout and architecture for common functionality combinations and proposes the optimum number of instances in order to support the implementation considering module compatibility and integration requirements across the suite.

SAP SuccessFactors Customers: IT and HR professionals;
SAP SuccessFactors Implementation Partners: Consultants, solution architects and project managers

The recommendations in this document are based on the functionality available up to SAP SuccessFactors release mentioned above. Future functionality can impact the recommendations provided by this document. We strive to keep these recommendations up-to-date, however, in case you find that recent new functionality has 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>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAU</td>
<td>Business as Usual</td>
</tr>
<tr>
<td>BizX</td>
<td>Business Execution Software platform which contains modules like EC, PMGM, RCM etc. Please note BizX platform is now renamed as SAP SuccessFactors HXM Core platform</td>
</tr>
<tr>
<td>CDP</td>
<td>Career Development Planning</td>
</tr>
<tr>
<td>COMP</td>
<td>SAP SuccessFactors Compensation</td>
</tr>
<tr>
<td>DC</td>
<td>SuccessFactors Data Center</td>
</tr>
<tr>
<td>EC</td>
<td>SAP SuccessFactors Employee Central</td>
</tr>
<tr>
<td>ECP</td>
<td>SAP SuccessFactors Employee Central Payroll</td>
</tr>
<tr>
<td>ERP</td>
<td>SAP Enterprise Resource Planning often referred in the document pertains to SAP HCM on premise system</td>
</tr>
<tr>
<td>JAM</td>
<td>SAP Jam delivers social collaboration where you work, connecting customers, partners, and colleagues with information, applications, and processes to solve business-critical problems</td>
</tr>
<tr>
<td>LMS</td>
<td>Learning Management System</td>
</tr>
<tr>
<td>MDF</td>
<td>Meta Data Framework</td>
</tr>
<tr>
<td>ONB</td>
<td>SAP SuccessFactors Onboarding</td>
</tr>
<tr>
<td>PM/GM</td>
<td>SAP SuccessFactors Performance &amp; Goals</td>
</tr>
<tr>
<td>PLT</td>
<td>SAP SuccessFactors Suite Platform</td>
</tr>
<tr>
<td>QA</td>
<td>Quality Assurance</td>
</tr>
<tr>
<td>RBP</td>
<td>Role Based Permissions</td>
</tr>
<tr>
<td>RCM</td>
<td>SAP SuccessFactors Recruiting Management</td>
</tr>
<tr>
<td>RMK</td>
<td>SAP SuccessFactors Recruitment Marketing</td>
</tr>
<tr>
<td>RPOS</td>
<td>SAP SuccessFactors Recruitment Posting</td>
</tr>
<tr>
<td>SAP CPI</td>
<td>SAP Cloud Platform Integration</td>
</tr>
<tr>
<td>SAP IAS</td>
<td>SAP Cloud Platform Identity Authentication Service</td>
</tr>
<tr>
<td>SCPI</td>
<td>SAP Cloud Platform Integration; interchangeable with SAP CPI</td>
</tr>
<tr>
<td>SUCC</td>
<td>SAP SuccessFactors Succession &amp; Development</td>
</tr>
<tr>
<td>UI</td>
<td>User Interface</td>
</tr>
<tr>
<td>VP</td>
<td>Variable Pay</td>
</tr>
<tr>
<td>WFA</td>
<td>SAP SuccessFactors Workforce Analytics</td>
</tr>
<tr>
<td>WFP</td>
<td>SAP SuccessFactors Workforce Planning</td>
</tr>
</tbody>
</table>

2. ABSTRACT

Designing an Instance strategy and management approach is an important element to effectively enable and manage the multiple streams of work being done to implement the SuccessFactors solution through phases of an implementation project as well as subsequently to operate and maintain the solution after going live. An
Instance management approach involves finalizing a count and timing of instances to cover all functionality across all phases / activities of the project, procuring, provisioning, integrating instances and managing the movement of configuration and code across instances.

This document details recommended instance layout and architecture for common functionality combinations and proposes the optimum number of instances in order to support the implementation considering module compatibility and integration requirements across the suite.

This document does not include instance considerations for scenarios that include Validated Learning, or scenarios where the US Public Sector environment is applicable.

3. INTRODUCTION

The flexibility offered by SuccessFactors suite of applications allowing different functionality to be bundled together and implemented separately could result in varying instance landscapes based on functionality being implemented and on roll out strategies for the project like a phased versus big bang approach, single country vs global rollout etc.

The instance landscape requirements for a SuccessFactors implementation will vary based on modules (functionality) that are being implemented, the current system footprint and the complexity of the required solution. It is critical to understand, and take into consideration, how the landscape will influence the customer project. Failure to properly define the landscape and further the instances required to support the landscape, can impact the project timeline by requiring consecutive instead of concurrent activities, or by requiring additional instances which need to be stood up and kept in sync with configuration changes during stages of the implementation. This can have an impact on timelines, cost and complexity during the project life cycle.

4. BUSINESS REQUIREMENTS

To avoid the impacts discussed in the introduction, the overall system landscape and consequently the instance requirements should be discussed and defined as early as possible. Legal requirements, production support considerations, customers instance strategy, complexity, project scope and schedule, semi-annual release schedule should all be considered.

Other challenges to be addressed whilst managing an instance framework during an implementation include:

- Data Maintenance in productive or non-productive instances – During a phased go live or when parts of an organization are already live with some functionality, there is always a need to copy data / configurations from the productive instance into a nonproductive instance to set up a QA/Test environment. This leads to a consideration for setting up production like permissions within the test environment or to consider scrambling of employee data in all non-productive instances.
- Integration considerations: The Integrations are generally set up for one non-production environment and one production environment.
- Customer might already be live with some modules of SuccessFactors, while implementing other modules. The existing BAU (Production) instance (or instances) might be out of limits for usage by the project team and hence additional instances may be needed for the project.
- Maintaining additional instances comes at a cost and effort. Planning for the effort and time required for moving configuration and data across the multiple instances to keep them in sync to support project activities.

This Implementation Design Principle (IDP) will provide recommendations for managing instances to support and implementation, based on experience and provide guidance for customers getting ready to start on their first SuccessFactors implementation or those looking to expand their current systems.

5. SOLUTION OVERVIEW AND CONCEPTS

5.1. Terminology and Definitions

SAP SuccessFactors Human Experience Management suite

The SAP SuccessFactors Human Experience Management suite of applications represents the SAP SuccessFactors Human Experience Management product line. The product line consists of various integrated
platforms hosting solutions supporting functionalities in the Human Capital Management product category. This product line was earlier referred to as the SAP SuccessFactors Human Capital Management suite of applications.

SAP SuccessFactors solutions are housed under multiple technology stacks, for example the HXM Core (BizX) stack houses say Employee Central and multiple talent solutions like Performance & Goals.

The diagram below depicts the multiple distinct internal technology stacks and high-level integrations that make up the SuccessFactors Suite. All platforms in the suite follow the same release schedule, but the detailed method and process for upgrade varies across platforms.

The various solutions are integrated internally thru the HXM Core (BizX) stack to offer
- Single Sign on (SSO) across all products
- Data Synchronization and HR Process Integration across the solution
- Harmonized User Interface

SAP SuccessFactors Solutions

This indicates the unique SAP SuccessFactors or HR Cloud solutions that the customer is going to implement, and hence needs to have instances provisioned for. Most of the SuccessFactors solutions are available in a single HXM Core platform and does not require multiple instances of different solutions to be provisioned. But there are some solutions that have their own instances that need to be provisioned. The details of the different solutions that require their own instance will be covered in the next section.

The list of the various SF solutions which are considered while planning for the Instance strategy and management approach are:
- SAP SuccessFactors Employee Central
- SAP SuccessFactors Employee Central Payroll
- SAP SuccessFactors Recruiting Management
- SAP SuccessFactors Recruiting Marketing
- SAP SuccessFactors Recruiting Posting
- SAP SuccessFactors Onboarding
- SAP SuccessFactors Performance and Goals
- SAP SuccessFactors Succession & Development
- SAP SuccessFactors Compensation
- SAP SuccessFactors Learning
- SAP SuccessFactors Workforce Analytics
- SAP SuccessFactors Workforce Planning
- SAP SuccessFactors HR Service Center
- SAP SuccessFactors JAM
Data Center

A Data Center is a physical location of server/s where SuccessFactors cloud application is hosted. The data center is generally driven by the geographic location of the headquarters of customer.

<table>
<thead>
<tr>
<th>Data Center</th>
<th>Data Center Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC02</td>
<td>Amsterdam, Netherlands</td>
</tr>
<tr>
<td>DC04</td>
<td>Arizona, USA</td>
</tr>
<tr>
<td>DC08</td>
<td>Ashburn, USA</td>
</tr>
<tr>
<td>DC10</td>
<td>Sydney, Australia</td>
</tr>
<tr>
<td>DC12</td>
<td>ROT, Germany</td>
</tr>
<tr>
<td>DC15</td>
<td>Shanghai, China</td>
</tr>
<tr>
<td>DC16</td>
<td>Magdeburg, Germany</td>
</tr>
<tr>
<td>DC17</td>
<td>Toronto, Canada</td>
</tr>
<tr>
<td>DC18</td>
<td>Moscow, Russia</td>
</tr>
<tr>
<td>DC19</td>
<td>Sao Paulo, Brazil</td>
</tr>
<tr>
<td>DC22</td>
<td>Dubai, UAE</td>
</tr>
<tr>
<td>DC23</td>
<td>Riyadh, Saudi Arabia</td>
</tr>
<tr>
<td>DC41</td>
<td>Virginia, USA</td>
</tr>
<tr>
<td>DC44</td>
<td>Singapore</td>
</tr>
<tr>
<td>DC47</td>
<td>Central Canada</td>
</tr>
</tbody>
</table>

This table is representative of the current datacenters in operation, for the latest Data Center information please refer to KBA: 2412791 - Success Factors URL’s for Production and Test on all Data Centers. This information is also available in the OData API reference guide.

Environment

An Environment is a set of servers hosting the various SuccessFactors & HR Cloud solutions in a data center. Each data center has 2 types of environments:

- A Preview environment is where the semi-annual releases are applied first, giving the customers thirty (30) days to test the new functionality. There are universal enhancements which are mandatory to all customers and opt-in features which the customer may decide to deploy.
A Productive environment is a stable environment which has been fully tested, has real live data and is used for business operations. The customer production instance is always hosted in the Productive Environment.

Other than being on different releases at certain points in the year, there are essentially no security differences between the Preview & the Productive Environment. All new customers are automatically assigned instances both in the Preview & Productive environment. There are some long-time customers who have instances only in the Productive Environment, and none in the Preview Environment. It is best practice to ensure that there’s at least 1 instance per platform (HXM Core (formerly BizX), Learning, Onboarding etc.) available in the Preview Environment.

Instance (Tenant)

Instance and Tenant are interchangeably used terms and refer to a single database schema of a platform (product type) for example HXM Core (BizX), LMS etc. Each instance when provisioned for a specific customer is assigned a unique identifier. Every customer will be assigned at least two instances for HXM Core (BizX). Depending on the SuccessFactors functionality / modules that the customer has decided to implement, the system landscape may vary, and instances of other products will also be available. However, all the client’s instances should reside in the same data center.

For global organizations, the data center should be one that aligns with the headquarter location, or where most employees are located.

Every instance is further qualified into a ‘Non Production’ and ‘Production’ instance. There should ideally be only 1 ‘Production’ instance, but there can be multiple ‘Non Production’ instance spread across the Preview & Productive environment.

Note on naming of Instances – Historically when Employee Central was not in the picture, there were only 2 instances provided for customers, so they used to be labelled as Test (which was in preview and used for both development & testing) and Prod (which was in production environment). When Employee Central was introduced, a 3rd environment, which was called Dev (which was in the production environment). But these are just notional terms. Additional instances may be procured by customers in either the Preview or the Production environment. Each additional instance comes with a cost and maintenance and support effort, hence a business case and purpose must be discussed and documented prior to procuring an instance. Also instance procurement operates on certain SLA’s and hence must be procured and provisioned well ahead of time on the project schedule.

The naming of an instance as Dev or Test is notional and is not a hard and fast rule, and can be changed during an implementation. It is the Non Productive instance in Preview that is typically used as the Development System. During project implementation the SF release version is frozen to be the highest one at the start of the project. Other upgrades might be introduced depending on requirement, or after being sure they will not introduce any unnecessary change to existing process. The highest release, which until now for 4 months of the year has always been applied on the instance which is in the preview system, hence this gets used as Dev within implementations, even though it is referred to as Test in documentation.
Client
This term is primarily referred to in the context of EC Payroll and legacy ERP Payroll instances. A client is a partition within an instance. Each partition can be used for different purposes for example a separate client for UAT versus payroll parallels versus integration testing within the QA instance.

5.2. Instance (Tenant) Management

SAP delivered Instances (Tenants) based on functionality being implemented
Following table shows the typical instances that are issued to a customer based on the functionality being implemented.

<table>
<thead>
<tr>
<th>Stack</th>
<th>Number of Instances (Tenants)</th>
<th>Instance (Tenant) Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>HXM Core (BizX) -</td>
<td>3</td>
<td>Non-Production instance in Productive Environment</td>
</tr>
<tr>
<td>with EC</td>
<td></td>
<td>Non-Production instance in Preview Environment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Production instance in Productive Environment</td>
</tr>
<tr>
<td>HXM Core (BizX) -</td>
<td>2</td>
<td>Non-Production instance in Preview Environment</td>
</tr>
<tr>
<td>without EC</td>
<td></td>
<td>Production instance in Productive Environment</td>
</tr>
<tr>
<td>RMK</td>
<td>2</td>
<td>Non-Production instance in Preview Environment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Production Instance in Productive Environment</td>
</tr>
<tr>
<td>LMS</td>
<td>2</td>
<td>Non-Production instance in Preview Environment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Production instance in Productive Environment</td>
</tr>
<tr>
<td>ONB</td>
<td>2</td>
<td>Non-Production instance in Preview Environment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Production instance in Productive Environment</td>
</tr>
<tr>
<td>WFA</td>
<td>2</td>
<td>Non-Production instance in Preview Environment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Production instance in Productive Environment</td>
</tr>
<tr>
<td>JAM</td>
<td>2</td>
<td>Non-Production instance in Preview Environment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Production instance in Productive Environment</td>
</tr>
<tr>
<td>RPOS</td>
<td>2</td>
<td>Production instance in Productive Environment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Non-Production instance in Productive Environment</td>
</tr>
<tr>
<td>ECP</td>
<td>3</td>
<td>2 non-production instances for ECP, and allow multiple clients to be created</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Development instance can have 2 clients</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Test instance can have 3 clients</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Production instance</td>
</tr>
<tr>
<td>SCPI</td>
<td>2</td>
<td>Non-Production instance</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Production instance</td>
</tr>
</tbody>
</table>
Additional instances to support the implementation may be procured by a customer. These can be procured either in Production environment or in the Preview environment

**Instance Usage during and after an implementation**

**During Project Implementation**
- Non-Production instance in Preview Environment – All Development, Testing and SIT is done in this environment
- Non-Production instance in Productive Environment – Typically this is provided only to customers who have licensed EC, and will be used for UAT & Payroll Parallel Processing
- Production instance in Productive Environment – The Production environment

When customers have more than 3 instances or systems that they use, it gives them greater flexibility in being able to partition the different phases of the project across multiple discrete systems. The details of how they will use, will be a discussion between the benefits they'd derive from having the required phase done in a separate system, versus the cost it adds to the project.

**During Business as Usual (BAU)**
- Non-Production in Productive Environment – Used for Production Support and Payroll Testing
- Production Tenant in Productive Environment – The Production environment

**Additional Instances - procurement and timelines**

During an implementation it is very important for architects and customer project resources to be aware of the process and timelines for procuring and provisioning additional instances to support an implementation.

The process and timelines are driven by SAP Operations and subject to change and hence reference is provided to SAP Operations released documents / notes which provide information on the process to be followed and timelines for the same. Project teams are encouraged to work thru their Customer Engagement Executives to access the most current documents related to the process at the time of their implementations.

For further detail on procurement process, refer the “Reference documents related to procurement process” mentioned under section 6 – References.
6. DETAILED SOLUTION

In this section we will review examples of some commonly observed instance requirements for different combinations of functionality being implemented. Furthermore, we will review some of the requirements / challenges faced by larger global customers implementing the other SuccessFactors modules.

6.1. Default Instance allocation based on Business Scenarios

This section provides a pictorial representation of the default delivered instances and provisioned solutions for commonly implemented combinations. These diagrams correspond to the table view in section 4.2 – SAP delivered instances…

**Full Suite SuccessFactors implementation without payroll**

Customer has licensed for all the modules of SF, and aims to implement all the modules, either as a big bang, or across multiple phases.

**Full Suite with Employee Central payroll**

The SuccessFactors instance/project landscape will integrate with EC payroll using point to point integration
Employee Central with ERP Payroll or third-party payroll systems

In this case, the payroll environment would not be provisioned specifically for the project. The instance/project landscape will integrate with the existing payroll landscape via delivered integrations for ERP Payroll or custom integrations to a third party payroll environment.

Employee Central with Talent modules

If you are implementing Employee Central and one or many of the Talent modules on HXM Core (BizX) (not Learning, Recruiting or Onboarding), customers will only need to have HCM Core (BizX) provisioned.

Since Employee Central is being implemented customers will be provided with 3 instances of Employee Central and the Talent modules. Without Employee Central in scope, only two instances would have been provided.
Employee Central with Recruiting, Onboarding

Many clients choose to implement Employee Central, Recruiting and Onboarding at the same time.

Only Talent modules without Employee Central, Learning, Recruiting or Onboarding

Customer chooses to implement one or multiple talent modules without Employee Central, Learning, Recruiting or Onboarding. In this case, the customer is allocated only the BizX instance to be used for implementation purposes. The standard is to just have 2 instances allocated.
Only Learning Management

Customer is planning to implement only Learning Management. In this scenario, the customer will be allocated both a BizX & LMS instance. Only 2 versions of these instances will be provisioned to the customer.

Only Recruiting & Onboarding

Clients who elect to implement Recruiting and Onboarding together, without any other modules will have a landscape that looks like this:

All modules except Employee Central

When all the modules of SF except EC is being implemented, the landscape will look as shown below

6.2. Standard Delivered and Additional Instance scenarios for Employee Central

In this section we will review the purpose / usage and implementation / project planning considerations for instances, primarily during an implementation of Employee Central. For the small and medium scale implementations the standard delivered two or three instance landscape will suffice, but for some of the larger
global implementations, or those involving multiple phases additional instances may be required. Customers can procure additional instances at a cost. We will review the common scenarios when customers may opt to procure additional instances for example 4 and 5 instance landscapes.

Other factors which need to be considered when designing an instance approach include,

- **Implementation activities in specific environments:**
  Development in Preview environment: Development of configuration, mock data conversions, development of integrations should be done in Preview environment to allow project teams to build as they go and not affect other live customers in a Production environment.

  User Acceptance Testing (UAT): Typically done in the test instance in the Production environment to ensure that final acceptance is done in the environment in which the customer will be going live. In case of two instance landscapes like in Talent solutions, the project schedule is adjusted to perform acceptance testing and going live when both Preview and Production are on the same code level,

  - **Code release level for all instances:** The code release level across all instances in Preview and Production will be the same except during the time when releases are updated. The Preview environment receives a new release around 30 days prior to the Production environment. Hence during this 30-day period, instances in the preview environment will be on a higher release up until the release is updated in the Production environment. During this period instances within the preview environment will be receiving release related code changes periodically. From an implementation project perspective, customers should avoid cutting over to production during this time especially in a 2-system landscape. Further during this time period instance sync from a Production environment to a Preview environment is not possible.

  - **Data:** Productive instance in the Production environment will contain live production data which are considered confidential. Hence any data refreshes to Non-productive instances need to be scrambled if prescribed by the customer.

  - **Naming of instances** are customer determined and indicate the purpose/usage of the instance such as Dev-Development, QA – Quality assurance, Prod – Production etc.

  - **Additional instances** (beyond the standard 2 or 3 instance landscapes) will need to be procured in either the Production or the Preview environment. A business case should be created to justify the purpose and intended usage, planned dates for availability.

    The purpose and intended usage will help justify the environment in which the instance should be procured since additional instances can be requested in either of the two environments. The diagrams for the 4 and 5 instance landscape below are representative for some of the commonly observed scenarios, these could vary based on specific customer requirement and should be decided in consultation with implementation partners. Also, a plan for maintenance of these instances needs to also be accounted for within the business justification for the need for an additional instance.

  - **SCPI specific considerations**
    - SCPI Licenses are provided along with EC licenses hence customers who haven’t licensed EC will not get any SCPI licenses unless it has been purchased separately
    - The single Non-Production SCPI can be used for more than 1 Non-Production HXM Core(BizX) tenants. Normally a customer requires just two instances One for all non-production activities like dev and testing and another for production

Standard 2 Instance landscape
This configuration is provided as standard when Employee Central is not being implemented.
In this landscape, the Dev/Test instance in preview is the source for all configurations which after approval are moved to the Prod instance. The Prod instance is connected to all third party / downstream applications. The Prod instance contains live production data which when moved to the Dev/Test instance during refreshes, needs to be scrambled.

### Standard 3 Instance landscape

This configuration is provided as standard when Employee Central is being implemented.

<table>
<thead>
<tr>
<th>Name</th>
<th>DEV / TEST</th>
<th>PROD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>Non-Productive instance in Preview environment</td>
<td>Productive instance in Production environment</td>
</tr>
<tr>
<td>Usage</td>
<td>Development, testing, training</td>
<td>Live data and transaction processing</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name</th>
<th>QA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>Non - Productive instance in Production environment</td>
</tr>
<tr>
<td>Usage</td>
<td>End to end testing, User Acceptance testing, regression testing, training</td>
</tr>
</tbody>
</table>
In this landscape, the Dev/Test instance in preview is the source for all configurations which after approval are moved to the QA instance for end to end and user acceptance testing, after approvals these are moved to the Prod instance. The Prod instance is connected to all third party / downstream applications. The Prod instance contains live production data which when moved to the Dev/Test instance during refreshes, needs to be scrambled, when refreshed in QA this may be scrambled.

**Instance landscape (3 standard + 1 additional)**

Typically used for larger implementations and when a separate instance is required to support payroll parallels.

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEV</td>
<td>Non-Productive instance in Preview environment</td>
<td>Development, Unit testing</td>
</tr>
<tr>
<td>PROD</td>
<td>Productive instance in Production environment</td>
<td>Live data and transaction processing</td>
</tr>
<tr>
<td>QA1</td>
<td>Non - Productive instance in Production environment</td>
<td>End to end testing, User Acceptance testing, regression testing, training</td>
</tr>
<tr>
<td>QA2</td>
<td>Non - Productive instance in Production environment</td>
<td>Conversion testing, Payroll Parallel testing</td>
</tr>
</tbody>
</table>
In this landscape, the Dev/Test instance in preview is the source for all configurations which after approval are moved to the QA1 instance for end to end and user acceptance testing, after approvals these are moved to the Prod instance. The Prod instance is connected to all third party / downstream applications. The Prod instance contains live production data which when moved to the Dev/Test instance during refreshes, needs to be scrambled, when refreshed in QA this may be scrambled.

For very large customers, an additional instance in the Production environment could be procured to support payroll parallels. The Payroll parallel instance is typically dedicated to payroll testing and may contain live data and restricted to the payroll team, while the rest of the project focuses on the QA1 test, completing end to end, user acceptance testing etc. This instance could be also be used to support mock conversion cycles prior to being used for payroll testing.

**Instance landscape (3 standard + 2 additional)**

Typically used for large multi-phase implementations when one or more phases are live, and others are still in implementation. In the example below, the 5th instance has been procured in the Preview environment, largely to support a phased go live, or an additional project supporting development environment which is isolated from the production supporting dev environment. Customers should determine the environment for the 5th instance based on the business case for which the instance is being procured.
In this landscape, the Dev/Test instance in preview is the source for all configurations which after approval are moved to the QA1 instance for end to end and user acceptance testing, after approvals these are moved to the Prod instance. The Prod instance is connected to all third party / downstream applications. The Prod instance contains live production data which when moved to the Dev/Test instance during refreshes, needs to be scrambled, when refreshed in QA this may be scrambled.

For very large, typically global customers, who are say, going thru a multi-phase Employee Central implementation a 5th instance may be justified. In this case the 4th instance in the Production environment is procured to support payroll parallels. The Payroll parallel instance is typically dedicated to payroll testing and may contain live data and restricted to the payroll team, while the rest of the project focuses on the QA1 test, completing end to end, user acceptance testing etc. This instance could be also be used to support mock conversion cycles prior to being used for payroll testing. The 5th instance comes in play when two phases of the project need to run simultaneously in a multi-phase implementation. One or more phases may already be live while another phase has been started. In this case development for the new phase can be started in the 5th instance which is in Preview, configuration updates are made to the production supporting dev environment after all testing is completed and the phase is ready to go live.

In such complex landscapes determining and defining a configuration migration path becomes very important and activities need to be planned and executed sequentially.

**Golden instance**

Some customers, especially if coming from larger ERP implementations also tend to go for the concept of Golden instance which could also be helpful in a multi-phase global implementation. This instance is typically a configuration only instance to be used as a master configuration, no data is maintained in this instance. Configuration is synced or updated in the gold client after it has been tested in another instance. The gold client concept serves well when multiple phases are being implemented or when many mock conversions need to be tested. Configuration from this instance is applied to a new instance and then data is converted as part of mock conversion. The gold client can is used to refresh other instances with tested configuration.

*It should be noted by customers and implementation partners that procuring and maintaining additional instances comes at a cost and an effort to maintain and needs to be justified and planned well in advance.*
Also keeping instances within the landscape to a maximum of 5 and re-purposing existing instances during different phases should be explored.

6.3. Standard Delivered and Additional Instance Scenarios for Other Solutions

**Talent solutions (Performance & Goals, Succession, Career Development, Calibration or 360)**

When implementing only the talent modules there’s only the requirement for 2 instances. This set up should meet the requirement of most of the customer requirements. Since one of the instances is set up in Preview while the other is in Production, cutover and go-live should be avoided during the period in which both instances are on different versions of the software during the preview period.

Extra instances can be requested to align with:
- Customer’s architecture strategy that requires the presence of 3 environments
- Utilizing standard integrations with upstream systems such as SAP which have a 3-instance strategy in place
- Customer specifically requests for a 3rd environment to be able to conduct one of the phases, SIT / UAT, in a distinct environment.

**Talent Solutions (Compensation & Variable Pay)**

When implementing Compensation or Variable Pay modules there’s only the requirement for 2 instances. This set up should meet the requirement of most of the customer requirements. Since one of the instances is set up in Preview while the other is in Production, cutover and go-live should be avoided during the period in which both instances are on different versions of the software during the preview period.

Extra instances should be requested to align with:
- Utilizing standard integrations with upstream systems such as SAP which have a 3-instance strategy in place. In such cases it would be recommended that we follow a 3-instance strategy and request a 3rd HXM Core (BizX) instance.
- Customer specifically requests for an extra environment to be able to conduct one of the phases, SIT / UAT, in a distinct environment.

**Learning or WFA**

When implementing Learning or WFA there’s only the requirement for 2 instances. This set up should meet the requirement of most of the customer requirements. In addition, there’s also 2 HXM Core (BizX) instances provided to the customer.

Extra instances should be requested to align with:
- Customer specifically requests for an extra environment to be able to conduct one of the phases, SIT / UAT, in a distinct environment.
- To align with customer’s architecture strategy
- Customer specifically requires it due to phased deployment, or business complexity.

Even with the above considerations applicable, typically for WFA we only require 2 instances.

**Recruiting & Onboarding**

When implementing Recruiting & Onboarding there’s only the requirement for 2 separate systems, and instances are provisioned for HXM Core (BizX), Recruiting Marketing, Recruiting Posting & Onboarding.

Extra instances should be requested to align with:
- Utilizing standard integrations with upstream systems such as SAP which have a 3-instance strategy in place. In such cases it would be recommended that we follow a 3-instance strategy and request a 3rd HXM Core (BizX) instance.
- If extra instances are requested, then ensure that it’s requested for BizX, RMK and ONB.
6.4. Managing Instances during Project lifecycle

Whilst managing instances throughout project life cycle is critical to,

- Update system(s) with current support pack or semi-annual release changes in different phases of the project
- Apply legal and business critical change requests that impact configuration and subsequent test cycles, efficiently plan for instance refresh to meet the project need for configuration, refreshed data instances needed for different test cycles and preparing the environment ready for project cutover.
- Ensure compliance with GDPR and data privacy regulations impacts.
- Typically, the customer should be contracted to go live with features available as per the release at the start of the project. Other than any automatic upgrades, none of the optional features are enabled during the implementation. Enabling optional features should only be done in discussion with the customer via a change request process to ensure that they will not introduce any risk / complexity in the project, requiring any extra regression testing. Optional features which were delivered during the implementation may be enabled after adequate testing, after the customer is live and stable. This will need to be enabled and rolled out across all instances.

Manage project life cycle around Product Release cycles

In software-as-a-service (SaaS) products such as SuccessFactors, updates are applied more frequently and are pushed to the customer’s instances automatically. The different types of releases include:

- SAP SuccessFactors solutions provide two major releases each year, scheduled in Q2 and Q4
- SAP provides regular patch updates for defect fixes. Patches are non-disruptive and not regularly scheduled
- SAP provides occasional “hot fixes” – unscheduled updates to fix critical application or security issues
- SAP SuccessFactors Mobile and Recruiting Posting will have a monthly release

Major release impact on project life cycle:

Features available as part of the semi-annual release could have an impact on the use cases planned for the upcoming test cycle(s). These should be explored and enabled within the instance on the Preview Data Center which is updated four weeks before it is applied to instances in the Production Data Center.

Preparing and planning for semi-annual release:

During the project preparation phase, it is important to plan for release regression testing. This ensures the features automatically rolled-out part of universal updates do not have any impact on business scenarios / use cases that are in scope. In some cases, the project scope could include functionality that needs to be part of the implementation. For 30 days of each quarter the Preview and Production Data Centers are on different versions; this will limit the use of Instance Sync and may cause differences in system behavior Project planning should anticipate the following activities part:

- Review and communicate the benefits and impact of changes
- Regression test major feature changes
- Realign test scenarios and scripts
- Plan to work around system downtime, which is typically outside of normal business hours
- Identify periods when Preview and Production Data Centers are on different releases.

Keep configuration in sync during different point of project life cycle

Keeping configuration in sync in multiple instances is critical to each phase of the project. Having the right instance landscape strategy can help to mitigate this risk. Some of the typical challenges and mitigation approach are highlighted below.

During Config Iteration Cycles:

While the test instance is getting prepared (i.e. data conversion, data validation activities etc.) based on current iteration configuration, it is important to either stop configuration or use a separate instance.

Mitigation approach:

- Plan adequate time between iterations to address defects coming from previous iteration along with deviations and change requests required to be available in the next cycle
- Configuration must be kept pristine until test instance is ready to test
• Ensure all iteration testing happens on a single instance, and migrate to a new instance for a separate phase of the project like ‘SIT’, ‘UAT’ etc. If a separate instance is required just to try out data loads during one of the iterations, then special care must be taken to ensure that any changes made during the iterations, are also migrated to the data load instance.

**During Test Cycles:**
• A similar approach needs to be planned while test instance preparation is taking place for different test cycle (i.e. SIT, UAT, Payroll Parallel, Mock Cycles etc.) that no config changes made.
• Changes / deviations need to be collected and reviewed, it must be business critical and legal in nature, the same must be approved by governance group, and kept them ready along with errors coming from previous test cycle, so that it can be configured between the test cycles with adequate during
• Initiating configuration updates while test cycle preparation is taking place will create instances to be out of sync, or, having to add additional instances to support upcoming test cycle which will increase landscape complexity, or, having to maintain several instances with manual configuration, or, conversion and integration having to maintain separate code to support different test cycles.

**Mitigation approach:**
• Plan adequate time between test cycles to address deviations and change requests along with defects coming from previous test cycle to be tested/re-tested in the next cycle.
• Configuration must be kept pristine until test instance is ready to test.
• Project plan should have details of every cutover from one instance to another documented, so that appropriate timelines are provided for cutover to occur, and ensure cutover checklist is provided to the customer that has a list of all the changes will be migrating. If any of the cutover activities are expected to be performed by customer, the cutover checklist can further be updated by the customer to account all the other tasks that they are responsible for.

**Instance refresh / copy strategy to meet project life cycle requirement**
Customer engagement where SuccessFactors is going live with Employee Central first, will not have much complication in getting the new environment ready, or standing up a test instance with the latest configuration. whereas, if the client is already live with some of the SuccessFactors modules, and this engagement or subsequent project phases is to rollout additional module, the instance landscape becomes more complex. In this case, customers should always start with an instance refresh from the production instance, and then configure in that new system to prepare them for subsequent testing need. This will ensure that existing production configuration is figured into the design and will allow a mock cutover of configuration.

As of Release 1905, SuccessFactors Application allows customers to create, monitor and cancel the schedule of a refresh request directly from the admin center in a few easy steps.

The following best practice can be implemented during project preparation phase to meet the refreshed instances requirement for different project cycles:
• If the customer is already live with any SuccessFactors module(s), an instance copy and configuration move sequence need to be planned as part of project life cycle.
• Plan other SuccessFactors instances needed to support use cases like Onboarding, RMK etc. while getting an instance ready. These instances might need additional lead time to get them ready or refreshed, or, in some case, existing instances can be repointed after updating configuration needed for subsequent test cycle.
• In case of payroll parallel testing, an instance needs to be prepared with unmasked data, plus production-like permissions to be put in place, to secure employee data.
• In some cases, existing client BAU instances that support live SuccessFactors modules cannot be used for project engagement, in that case, a separate project landscape needs to be created.
• For further details on the Instance Refresh process/tool. Please refer to the section 5.5 below on Tools and processes.

**Instance readiness towards production cutover**
Preparing production instance as part of cutover preparation phase is critical for successful deployment, in some cases where SuccessFactors is already live, there will be a very small window made available as part of cutover to get the instance prepared prior to being actual cutover activities in the production instance.
Some of these activities in the production instance mentioned below, can be initiated as soon as UAT has been signed by business, and production instance is ready for preparation. In that case, Instance setup can begin as early as in pre-cutover phase:

- Copy the configuration into production instance from an instance where testing was signed-off
- Setting up cloud connectivity needed for integration that doesn’t not interfere with BUA process
- Setting up cloud based secured folder, and granting access to permitted users / integrations
- Load Foundation Objects, and perform instance specific configuration

It is also important to ensure, especially if going live around the same time as product release periods that adequate testing has been performed on the same release as that will be in production.

- For Employee Central customers go live should be targeted on the same release as which payroll parallel testing has been completed.
- For Non-Employee Central customers, there needs to be confirmation that the UAT or cutover to production confirmation is done on a release that matches what Production is on.

**Impact of GDPR / Country specific legal requirements on Instance requirements**

How instance landscape is designed and supported is affected by GDPR for EU member states, and several other countries like Russia, China etc. especially, ever since EU GDPR in force from May 25, 2018 throughout all EU member states.

SAP Operates 13 data centers around the world, giving the option of where the client data is processed. SAP also offers the EU Access service to customers who want to ensure that personal data is processed in European data centers only, and that access to your cloud systems and data is only possible from the EU, EEA and Switzerland.

So, instance strategy needs to be created while considering above GDPR requirement based on client employee population that falls within those restricted countries. This will require more than one instance for the same solution to comply with the GDPR, and it will increase complexity in instance landscape.

For further detail on SAP GDPR compliance, refer “SAP GDPR compliance” website mentioned under Section 6. References, to learn more about how SuccessFactors solutions meet the compliance.

**6.5. Process and Tools to Manage Instances**

The following tools are available for use during an implementation and post go live, during Business as Usual depending on the type of migration required,

**Instance Refresh**

A Refresh is the process of fully overwriting the database schema of an instance with the image of another. All contents of the target instance will be permanently dropped and replaced with the contents of the source instance.

Items that get refreshed will include internal instance settings such as permissions in Admin Tools, Company System and Logo settings, etc. This will also include settings at the SuccessFactors application layer level such as Company Module and Feature Settings, SSO Configuration, IP Restrictions (both Provisioning based and in Admin Tools). All Configuration settings and values, User data and history and other content of the instance.

The Company ID is the only setting that does not get updated during a refresh.

For additional information on the Instance Refresh process, latest features and capabilities including data anonymization features, please refer to the Instance Refresh guide located in the SAP Help portal.

**Instance Sync**

This tool is used to migrate configuration across two SuccessFactors instances, say from Development to Testing to Production. Instance sync uses a “push” model, meaning that configuration settings are selectively “pushed” from a designated source instance into another designated target instances.
Configurations are bundled by “type of configuration” in the form of “artifacts”. Every sync job or sync package includes one or more sync artifacts.

For additional information on current capabilities and features including a list of artifacts which can be synced across instances please refer to the Instance Sync guide on the SAP Help portal.

Data Retention Time Management (DRTM) tool

The Data Retention Time Management (DRTM) tool supports the customer to comply with Data Protection and Privacy requirements in different countries.

DRTM Data Retention Time Management provides abilities to:

- Purge all personal data across the HXM Suite for a given person or group of people.
- Configure different data retention times for different types of data and for different countries or legal entities.
- Put a legal hold on data for a given person or group of people so that it’s excluded from the purge process until the hold is removed.

Please refer to the Data Privacy and Protection guide for information regarding Data Privacy requirements and the application of the DRTM tool.

7. REFERENCES

SAP Help Portal

- SAP GDPR compliance information
- Data Privacy and Protection guide
- Instance Management tools
  - Instance Refresh guide
  - Instance Sync guide
- SAP SuccessFactors Out of the box Tenant provisioning scope:
- SAP SuccessFactors additional test tenant commercial options

SAP Notes/KBAs

- 2791468 - BizX Instance Refresh Tool & FAQ

Architecture Leading Practice (ALP):

- Instance strategy

Implementation Design Principles

- Employee Central: Side-by-Side Deployment and Solution Architecture Considerations
- Employee Central: Implementation Considerations for a Phased roll out