

**Dynamics HR Management  
To  
Microsoft Project Service Automation  
Integration**

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## VERSION HISTORY

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### 1 Global Definitions

Name	Description
DI	Dynamics Industries
HR	Human Resource
PSA	Microsoft Project Service Automation
Customer/User	DI HR or PSA users

## 2 Introduction

This feature will ensure that in the future the DI HR Management and Microsoft Project Service Automation (PSA) are integrated and available for customers with an Extended Solution.

The use of PSA and DI Project Management solutions in parallel must be disregarded completely. Customers must use one of the project management solutions and not both in parallel.

It is required to map group of entities between DI HR solution and Microsoft PSA. Integration will be one direction from DI HR solution to PSA.

This solution is only for the customers who have a clean organization with DI HR and Microsoft PSA installed without existing data and not for existing customers or with customers that already had installed and used either PSA or DI HR systems independently before importing the extended integration solution.

## 3 Requirements

### 3.1 Functional Requirements

#### 3.1.1 Entities mapping

Entity Mapping	
Dynamics Industries HR Solution	Microsoft Project Service Automation
Employee	Bookable Resource
Skills	Characteristic
Skill Grades	Rating Model, Rating Value
Skill Levels	Bookable Resource Characteristic
Time Entry	Time Entry
Employment Contract	Bookable Resource CRM
Leave Request	Calendar
Calendar Rule	

#### 3.1.2 DI HR Skills - PSA Characteristic

1. User must not be able to edit, or delete Characteristics created based on DI HR skills from PSA; the only way to manipulate is from the DI HR solution via Skills settings.

2. Skills are mapped to PSA when its status reason is "Available".
3. HR skill will be automatically mapped to PSA Characteristic.
4. DI HR skill will create Characteristic of type "Skill" on the PSA side.
5. Fields which needs to be maintained:

Field Mapping		
DI HR - Skills	PSA - Characteristic	Default Value
Name	Name	-
Type	Characteristic Type	Skill
Description	Description	-
-	Require Approval	Yes

### 3.1.3 DI HR Skill Grades - PSA Rating Model and Rating Value

1. User must not be able to add, edit or delete the Rating Value and Rating Model from PSA for entries that had been created based on Skill Grades from DI HR side, the only way to manipulate these PSA Rating Values is from the DI HR solution via Skill and Skill Grades settings.
2. HR skill grades must be automatically mapped to PSA.
3. DI HR Skill Grades must be created on PSA as a rating value with a parent appropriate Rating Model based on minimum and maximum skill grade value based on the type of the skill grade.
4. A Rating Model record will be created on the PSA for each skill grade type on DI HR solution to specify the minimum and maximum rating values based on the related skill grades for that skill grade type on the DI HR solution. The Rating Model name will be the skill grade type.
5. The created Rating Model on PSA "Ratable Entity" field will be equal to the same type as the skill grade type.
6. A Rating Value will be created for each Skill grade related to the skill grade on the DI HR solution.

Field Mapping		
PSA - Rating Value	DI HR - Skill Grade	Default Value
Name	Name	-
Value	Rating	-

Field Mapping	
---------------	--

PSA - Rating Model	DI HR - Skill Grade	Default Value
Min	Min (based on type)	-
Max	Max (based on type)	-
Ratable Entity	Type	-

### 3.1.4 DI HR Employee - PSA Bookable Resource

1. PSA resource has many types we will consider only the types (User, Contact).
2. The PSA bookable resource type will be dynamically selected based on the employee system user field, if it contains data then the bookable resource will be from type user otherwise it will be from type contact.
3. Creating a bookable resource from HR employee will be done when HR manager selects Yes on "Create bookable resource" in the Project Service Automation part at "HR management Details" section in the employee digital personal file.
4. The mapping process might take some time until the bookable resource created and all related employee records mapped to PSA as well.
5. Related employee records which are going to be mapped on the creation are as per each entity conditions:
  - Skill Levels
    - Skills (if are not mapped)
    - Skill Grades (if are not mapped)
  - Employment Contract
  - Leave requests
  - Calendar Rules or Holidays
6. The bookable resource time zone will be determined in sequence by:
7. If the employee system user contains value, Consider his user time zone
8. If employee's system user does not contain data then consider the supervisor system user else consider the HR manager system user's time zone.
9. The bookable resource that are mapped from DI HR employee will be managed only from DI HR solution.
10. Fields which will be mapped are:

Field Mapping		
DI HR - Employee	PSA - Bookable Resource	Default Value
Full Name	Name	-
Full Time Equivalent	Target Utilization	-

### 3.1.5 Work Time Model

DI HR employee's work time model will be mapped from DI HR solution based on employee's employment contract, leave requests and primary work location holidays.

#### 3.1.5.1 Employment Contract

1. Creating employment contract for an employee shall set default working hours from Monday until Friday from 09:00 until 17:00 if there is no values defined on creation.
2. These work hours are required to define the working hours for the employee's bookable resource to be available for projects bookings.
3. Once employment contract status is "Valid", the defined working hours will be mapped to the bookable resource work hours as per his time zone.
4. A work hours CRM calendar rule will be created from the employment contract start date and ends at employment contract end date if available.
5. Changing the employment contract at any time to "Refused" will remove all corresponding work hours from the equivalent bookable resource.
6. By changing the status of an employment contract to "Replaced, EmployeeOffPayroll or NotExtended" will also terminate the bookable resource work hours sequence to have an end date from the employee's digital personal file at section "Resignation & Dismissal" – "Effective Date" Field.
7. If there is no working hours a work time model will be created for the bookable resource from 12:00 AM until 12:00 PM.

#### 3.1.5.2 Leave Request

DI HR employee's leave requests are mapped to PSA bookable resource schedule as time off calendar rules.

1. Ad-hoc absences will affect bookable resource's work time model after creation for example "Sick" leave.
2. Planned absence will update the employee's work time model after approval.
3. Canceled leave requests after approval will remove all corresponding time-off calendar rules for the PSA bookable resource.
4. Updating leave request will update the corresponding time-off rules on PSA side.
5. Half-day leave requests are calculated based on the employee's employment contract daily working hours.
6. If the employee does not have employment contract, time-off calendar rules will be created as all day event.

### 3.1.5.3 HR Calendar Rules

1. Dynamics Industries HR Calendar rules will be mapped to employee's bookable resource based on primary work location.
2. This is done by Bulk Import to optimize the performance in case of importing calendar rules.
3. Holidays are created as all day event or Half-day based on the calendar rule definition.
4. Updating calendar rule should affect the whole related time-off of affected bookable resource.
5. If the Calendar of the calendar rule has no end date and the calendar rule is "Weekly or Yearly", it will create a sequence of 10 years of holidays for affected employee's bookable resources.

### 3.1.6 DI HR Employee Skill Levels - PSA Bookable Resource Characteristic

1. User must not be able anymore to manipulate Bookable resource characteristic from PSA side. It should be handled only from DI HR solution skill levels.
2. The actual skill grade of the employee skill level will be mapped to PSA.
3. Status of skill level will reflect on Bookable Resource Characteristic as follows:

Status Mapping	
DI HR - Skill Level	PSA - Bookable Resource Characteristic
To be evaluated	Saved
To be confirmed	Pending approval
Current level	Approved

Field Mapping		
DI HR - Skill Level	PSA - Bookable Resource Characteristic	Default Value
Skill	Characteristic	-
Actual Grade	Rating Value	-
Employee	Resource	-

### 3.1.7 DI HR Time Entry - PSA Time Entry

1. Employee's time entries are going to be mapped as "Work" time entries on PSA solution

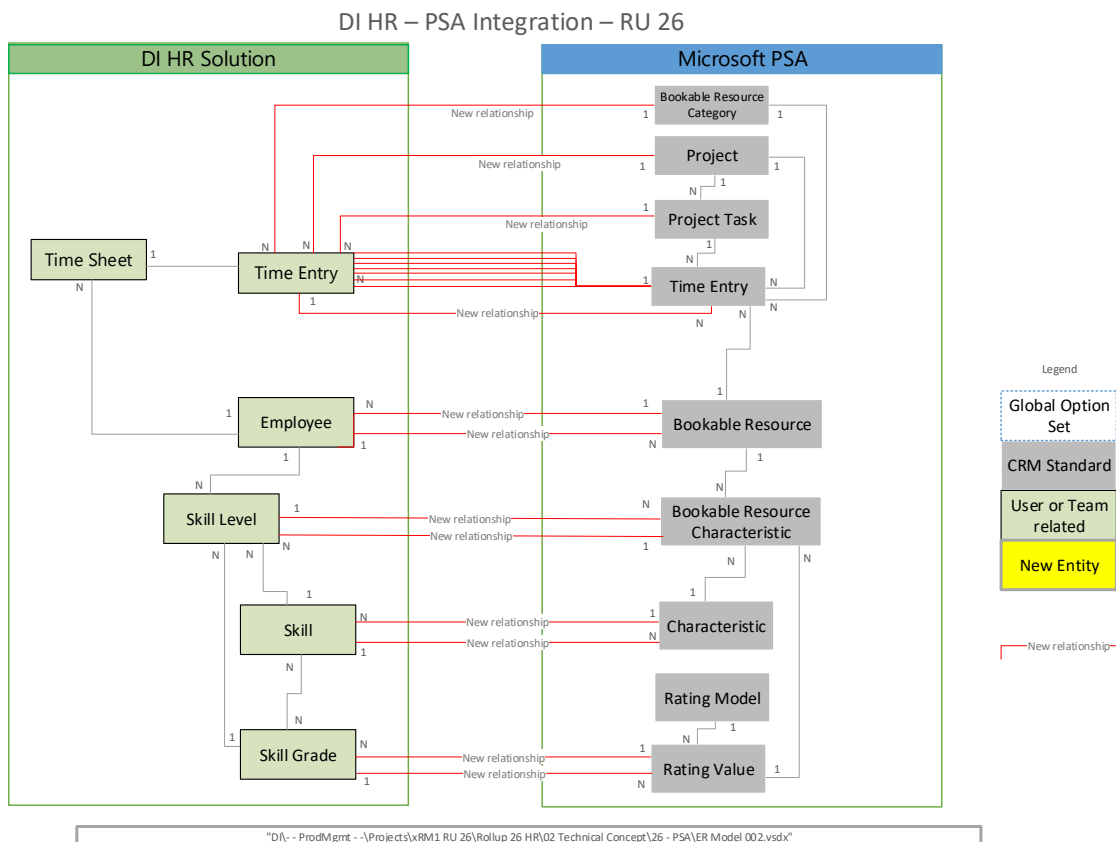


2. Bookable resource should not be able to create new Time entries from PSA side anymore, only from DI HR solution.
3. PSA time entries will be created with the bookable resource time zone.
4. Mapping time entries is done only for self service employees.
5. Each weekday in DI HR, time entry will create a time entry record in PSA.
6. User should be able to assign project, project tasks and role to DI HR time entries. These project, project task and roles are managed from PSA side.
7. Changing the BPF or the status of the time sheet in DI HR solution will change the corresponding PSA time entries status as well.

Field Mapping		
DI HR – Time Entry	PSA – Time Entry	Default Value
Date [Day]	Date	-
Duration [Day]	Duration	-
Employee	Bookable Resource	-
Project	From the Project Task selected	-
Project Task	Project Task (new Relationship attribute)	-
Role	Role	-
Description	Internal Comments	-
-	Type	Work

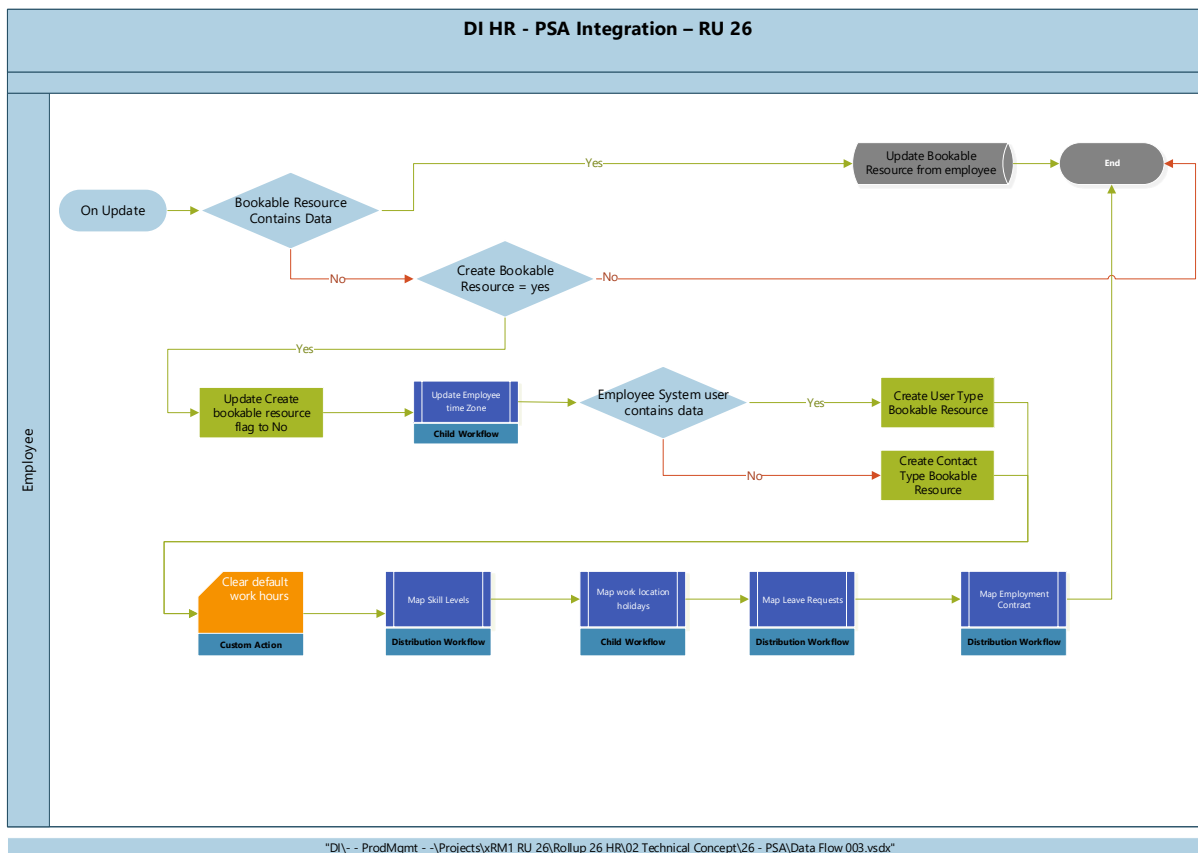
### 3.2 Technical Requirements

#### 3.2.1 ER Model

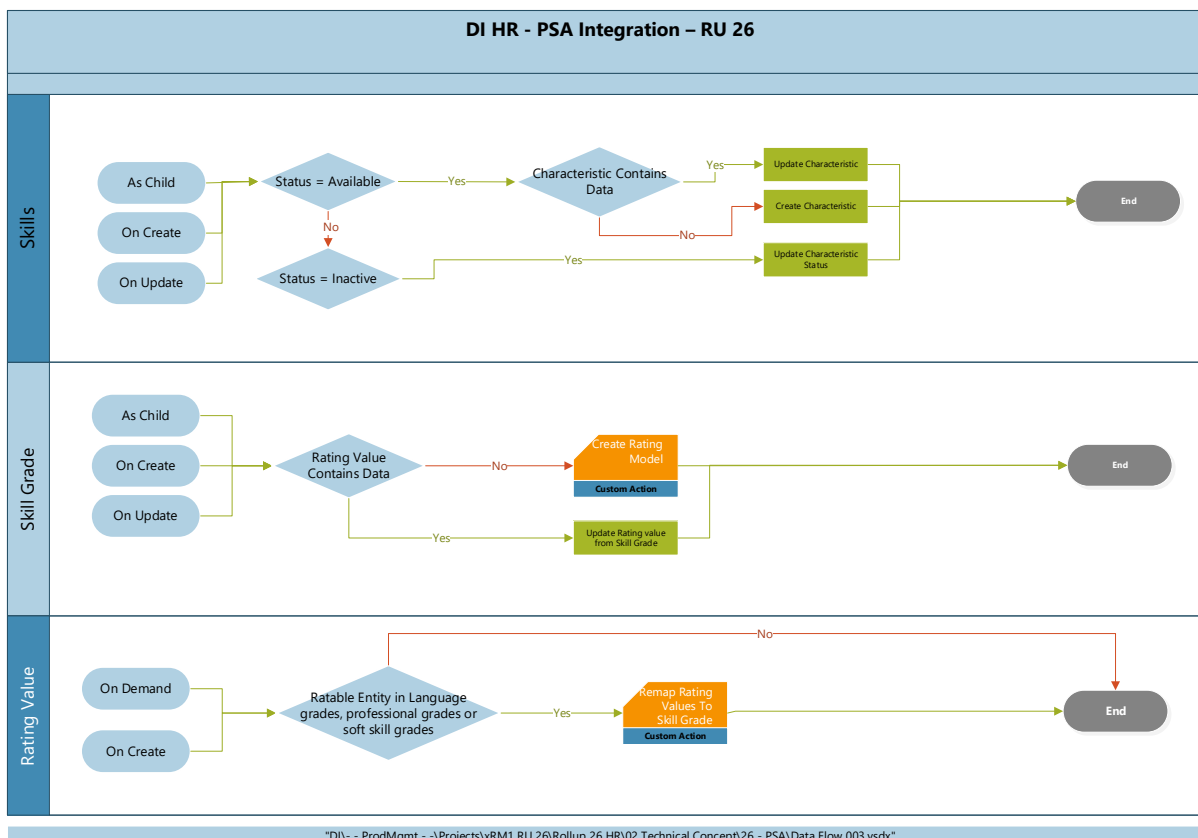


### 3.3 Data Flows

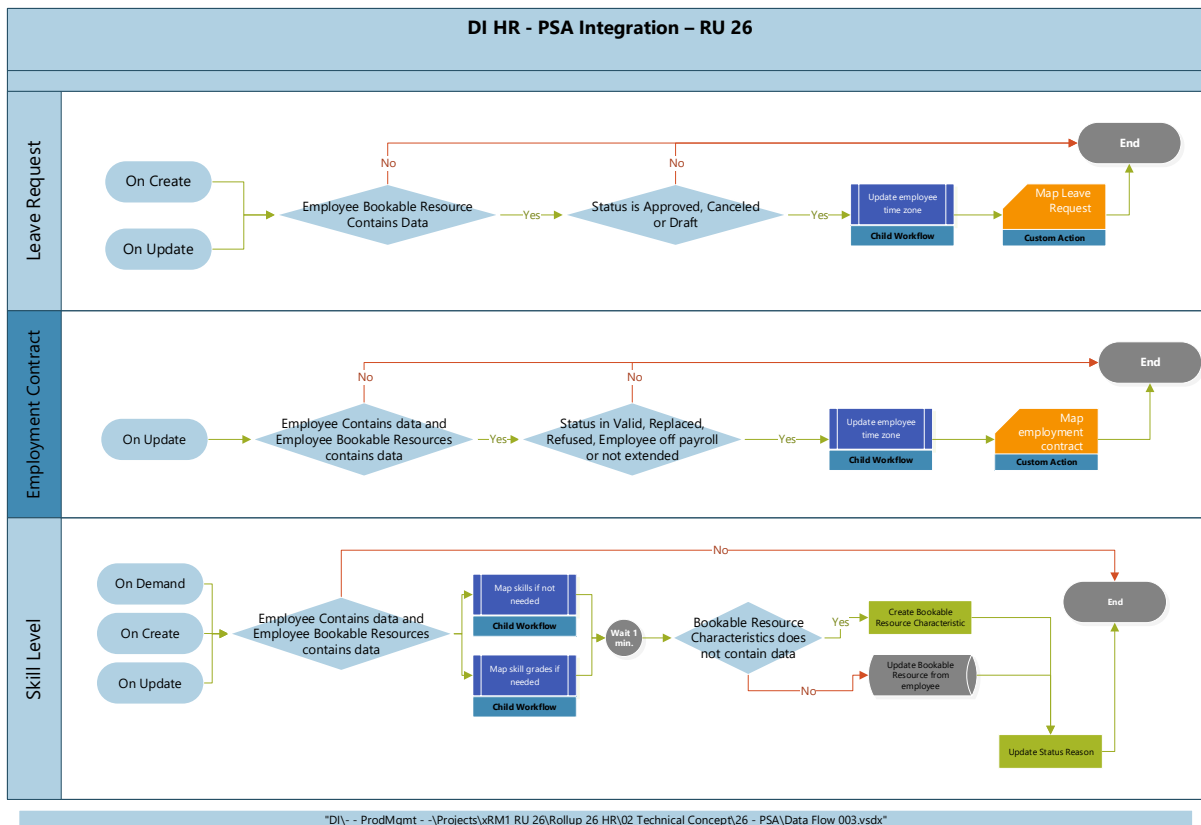
#### 3.3.1 Employee Data Flow



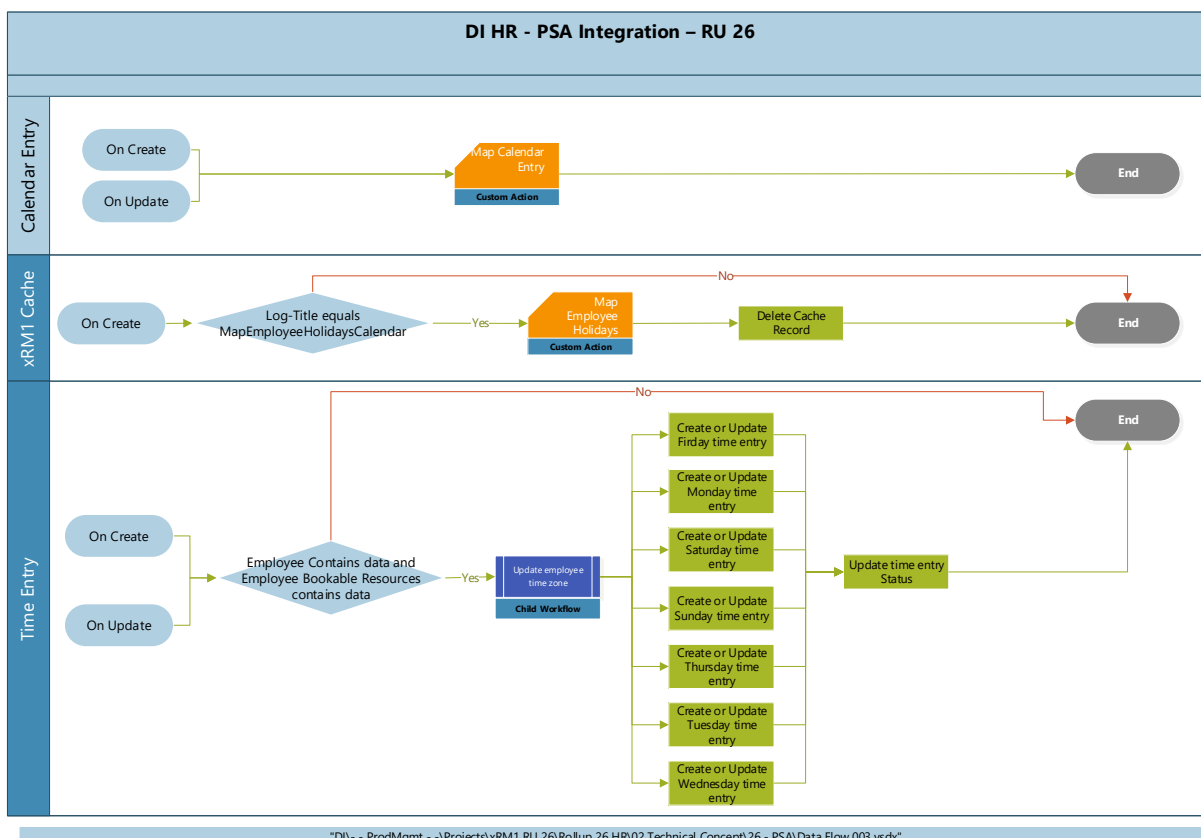
#### 3.3.2 Skill and Skill Grade Data Flow



### 3.3.3 Leave Request, Employment Contract, Skill Level Data Flows



### 3.3.4 Calendar Entry and Time Entries Data Flow



## 4 Custom Actions

### 4.1 Clear Default PSA Calendar

Assembly Name: xRM1BS.Golbright.CustomAction

Custom Action Name: ClearDefaultPSACalendar

Input parameters: None

Description: Clears the default work hours from Bookable resource.

#### **4.2 Synchronize Employee Primary Work Location to CRM Calendar**

Assembly Name: xRM1BS.Goldbright.CustomAction

Custom Action Name: SyncEmployeePrimaryWorkLocationCalendar

Input parameters: None

Description: Synchronizes CRM holiday's time-off rules calendar based on the employee's primary work location.

#### **4.3 Synchronize Employment Contract Work Hours to CRM Calendar**

Assembly Name: xRM1BS.Goldbright.CustomAction

Custom Action Name: SyncEmploymentContractCalendar

Input parameters: None

Description: Synchronizes bookable resource CRM work hours based on employee's employment contract.

#### **4.4 Synchronize Leave Request to CRM Calendar**

Assembly Name: xRM1BS.Goldbright.CustomAction

Custom Action Name: SyncLeaveRequestToCalendar

Input parameters: None

Description: Synchronizes bookable resource CRM time-off rules based on employee's leave request days and employment work hours.

#### **4.5 Synchronize XRM1 Calendar Rules (Calendar Entries) to CRM Calendar**

Assembly Name: xRM1BS.Goldbright.CustomAction

Custom Action Name: RemapCalendarEntriesToBookableResources

Input parameters: Dynamic URL or the xRM1 Calendar record associated with Calendar Entry (Calendar Rule).

Description: Synchronizes CRM Holidays based on the primary work location of employee.

#### **4.6 Synchronize Skill Grade**

Assembly Name: xRM1BS.Goldbright.CustomAction

Custom Action Name: MapSkillGradeToPSA

Input parameters: None.

Description: Creates / update the PSA Rating Model maximum and minimum values based on the type of the skill grade.

#### **4.7 Recalculate Rating Model**

Assembly Name: xRM1BS.Goldbright.CustomAction

Custom Action Name: ReclaculateRatingModel

Input parameters: None.

Description: Recalculates the minimum and the maximum of the rating model when a new rating value is added/updated based on a skill grade.

#### **4.8 Map Rating Value to Skill Grade**

Assembly Name: xRM1BS.Goldbright.CustomAction

Custom Action Name: MapRatingValueToSkillGrade

Input parameters: None.

Description: Reconnect rating value to the equivalent skill grade as soon as rating values are created automatically by creating or updating rating model minimum or maximum values, Remapping is done by the type and value of the skill grade.

#### **4.9 Convert PSA Time Entry Time Zone to UTC**

Assembly Name: xRM1BS.Goldbright.CustomAction

Custom Action Name: ConvertTimeEntryTimeZone

Input parameters: None.

Description: Coverts created PSA time entry date to UTC while the field is user local and the date to be stored should be in UTC.

#### **4.10 Update Employee Time Zone**

Assembly Name: xRM1BS.Goldbright.CustomAction

Custom Action Name: UpdateEmployeeTimeZone

Input parameters: None.

Description: Updates the employee time zone based on his system user settings, otherwise his manager user settings else the HR manager user settings.

### **5 License**

Product Feature Id: PF0000000069

### **6 Security and user Roles**

For HR Employee to be able to access the PSA module the required PSA roles has to be assigned to the HR employee, HR supervisor or HR manager.

### **7 Use Cases**

#### **7.1 Guidelines and expectations**

- It is recommended to create an employee, save its data first, and then select his system user because this will trigger a workflow to update his time zone based on his CRM user settings, which will be needed during the mapping to PSA.
- Staff employees PSA records will be assigned if needed to the HR manager system user.

- Switching from staff employee to a user employee by selecting a system user on the employee file, if there is existing PSA bookable resource created, this will cause to disconnect the PSA related or mapped records from the employee and will create a new bookable resource with type user and recreates all related records again to the newly created PSA bookable resource from type user.
- Leave request and employment contracts should be canceled to reflect this action on PSA, for example leave requests status should be changed to canceled to remove the PSA time-off. Same for employment contract, to remove the PSA work hours, the employment contract status should be changed to Refused; it should be "Replaced, EmployeeOffPayroll or NotExtended".
- Maintaining any record on PSA which originally created by HR record should be done on DI HR side.
- Deleting any record on PSA side should not be done on PSA side, it should be done on DI HR equivalent record, and then it will set the PSA record as inactive. "Users are not allowed to delete PSA record originally created from HR side".
- PSA time entries doesn't support more than 1 day of duration in the time entry, then any DI HR time entry with duration more than 1 day will not be mapped.

## **7.2 Use Case Diagram**

## **7.3 Use Case Description**

## **8 User Interface Specification**