SAP SuccessFactors

Administration Guide | PUBLIC
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Employee Central Data Replication Monitor (Deprecated)

THE BEST RUN

Content

Change History

Learn about changes to the documentation for Employee Central Data Replication Monitor in recent releases.

1H 2021

Type of Change	Description	More Info
Added	**i Note** This guide describes the legacy Data Replication Monitor. We recommend that you upgrade to the new Data Replication Monitor that offers better performance and usability than the legacy Data Replication Monitor.	Employee Central Data Replication Monitor

2H 2020

What's New	Description	More Info
Added information about using Admin Alert 2.0	We've added more information on how to go to the Data Replication Monitor using Admin Alert 2.0.	Finding the Data Replication Monitor in SAP SuccessFactors [page 15] Restricting Administrator Access to the Employee Central Data Replication Monitor [page 8]

1 What Is the Employee Central Data Replication Monitor?

Use the Employee Central Data Replication Monitor to monitor data replication from Employee Central to other systems.

The Data Replication Monitor is used in different integration contexts and for different content types:

- In the context of integration with Employee Central Payroll, the following content types are relevant:
  - *Employee Master Data*
  - *Employee Absence Data* (= Time Off data)
  - *Time Pay Components* (= Time Sheet data)
  - *Planned Working Time*
- In the context of integration with SAP ERP, the following content types are relevant:
  - *Employee Master Data*
  - *Employee Organizational Assignments*
  - *Employee Absence Data* (= Time Off data)
  - *Time Pay Components* (= Time Sheet data)

Prerequisites for Use of the Data Replication Monitor [page 4]
Things you should pay attention to if you want to use the Employee Central Data Replication Monitor.

Object Definitions Used by the Data Replication Monitor [page 5]
The Employee Central Data Replication Monitor uses specific generic objects for data replication records, notifications, confirmations, and error messages.

1.1 Prerequisites for Use of the Data Replication Monitor

Things you should pay attention to if you want to use the Employee Central Data Replication Monitor.

The Data Replication Monitor has a defined scope and purpose

The Employee Central Data Replication Monitor only supports the prepackaged standard integrations we provide for replication of employee master data and employee time data from Employee Central to Employee Central Payroll and of employee master data, employee organizational assignments, and employee time data from Employee Central to the SAP ERP system. It is not released for use in other integrations or with other content types.

The Data Replication Monitor expects to get information on the integration status by deep OData upserts on the Data Replication Monitor confirmation object (*EmployeeDataReplicationConfirmation*). Please be aware that writing to the Data Replication Monitor with other means (such as standard OData *Create* or *Update* operations on the *EmployeeDataReplicationConfirmation* object or OData upsert operations on the *EmployeeDataReplicationErrorMessage* object) is not supported.

Using the Data Replication Monitor in ways that don't comply with the intended purpose will impact its proper functionality.

Integrations using the Data Replication Monitor must be able to handle locking situations

Integrations using the Data Replication Monitor must be able to handle locking situations using a suitable retry mechanism. Locking situations can occur, for example, when two payloads are sent at the same time, both containing at least one entity of the same employee, content type, and target system.

1.2 Object Definitions Used by the Data Replication Monitor

The Employee Central Data Replication Monitor uses specific generic objects for data replication records, notifications, confirmations, and error messages.

The objects used by the Data Replication Monitor are:

- *EmployeeDataReplicationElement*
  Defines the data replication record itself.
- *EmployeeDataReplicationNotification*
  Defines the notifications being sent by the integrations. Using notifications, the integrations update the Data Replication Monitor with information about the current replication status.
- *EmployeeDataReplicationConfirmation*
  Defines the success or error confirmations being sent by the integrations. Using confirmations, the integrations update the Data Replication Monitor with information about whether data transfer was successful or not.
  To improve the performance and to reduce the load on API servers, a maximum number of 30 error messages per employee, content type, and target system can be contained in a confirmation message. If a confirmation contains more error messages, the Data Replication Monitor just ignores the messages exceeding the limit without pointing this out by default. Integrations using the Data Replication Monitor can, however, send a separate message to indicate that the limit was exceeded. The user can then go to the replication target system to check all errors there (for example, using the *Application Log*).
- *EmployeeDataReplicationConfirmationErrorMessage*
  Defines the message, in case an error confirmation is sent by one of the integrations.

You aren't allowed to change the object definitions of these objects, except for enabling role-based permissions and changing *API Sub Version*.

2 Setting up the Employee Central Data Replication Monitor

Make the required settings to show the Employee Central Data Replication Monitor in the Admin Center and to use it in data replication from Employee Central to Employee Central Payroll or SAP ERP.

Enabling the Data Replication Monitor in Provisioning [page 6]
Make the required settings in Provisioning to show the Data Replication Monitor tool in the Admin Center and to have the monitor updated with the notifications and confirmations sent by the corresponding standard integration.

Granting Permissions for the Data Replication Monitor [page 7]
Grant the required permissions, to allow users to access the Data Replication Monitor admin tool and use it to monitor data replication from Employee Central to the Employee Central Payroll or SAP ERP system.

Restricting Administrator Access to the Employee Central Data Replication Monitor [page 8]
Restrict access to the Data Replication Monitor to specific target groups, so that an admin can see data replication records only for a specific group of employees.

Granting Permissions for Deleting Entries from the Data Replication Monitor [page 12]
Grant the required permissions to allow users to delete records from the Data Replication Monitor.

Setting up Target Systems for the Data Replication Monitor [page 13]
Enter the external codes of the *Replication Target System* objects you created in Employee Central for use in the corresponding integrations when setting up the target systems for the Employee Central Data Replication Monitor.

Configuring the Styling of the Header Tabs for the Data Replication Monitor Views [page 14]
Configure the styling of the header tab in the Data Replication Monitor result views to comply with your company's styling settings.

2.1 Enabling the Data Replication Monitor in Provisioning

Make the required settings in Provisioning to show the Data Replication Monitor tool in the Admin Center and to have the monitor updated with the notifications and confirmations sent by the corresponding standard integration.

Procedure

1. Log on to Provisioning.

> → Remember
>
> As a customer, you don't have access to Provisioning. To complete tasks in Provisioning, contact your implementation partner. If you're no longer working with an implementation partner, contact Product Support.

2. Go to *Company Settings* and select one or both of the following options:
    - *Enable Employee Central Payroll*
    - *Enable SAP ERP Integration*
3. Save your changes.

2.2 Granting Permissions for the Data Replication Monitor

Grant the required permissions, to allow users to access the Data Replication Monitor admin tool and use it to monitor data replication from Employee Central to the Employee Central Payroll or SAP ERP system.

Context

The following permissions grant unrestricted access to all data replication records in the Employee Central Data Replication Monitor. Using the *Restrict Access to Data Replication Monitor for Specific Target Population* permission, you can restrict the access to data replication records created for specific target groups.

For more information about role-based permissions – what they are, how they work, how you set them up – please see Implementing Role-Based Permissions in the SAP Help Portal.

Procedure

1. Under *Administrator Permissions*, select the *Manage Integration Tools* category.
2. Select the checkbox for the *Access to Data Replication Monitor* permission.

    This permission allows a user to access the Data Replication Monitor and see all data replication records.

    > **i Note**
    >
    > The *Manage Employee Files* permission is no longer relevant. Use the *Access to Data Replication Monitor* permission instead.

3. Under *Administrator Permissions*, select the *Metadata Framework* category.
4. Select the checkbox for the permission *Access to non-secured objects*.

    This permission allows a user to access information provided by MDF objects (such as the *Target System*) when viewing data replication records in the Data Replication Monitor.
5. Under *User Permissions*, select the *General User Permissions* category.
6. Select the checkbox for the *Live Profile Access* permission.

    This permission allows a user to access the employee file from records in the Data Replication Monitor.

2.3 Restricting Administrator Access to the Employee Central Data Replication Monitor

Restrict access to the Data Replication Monitor to specific target groups, so that an admin can see data replication records only for a specific group of employees.

Context

Use the *Restrict Access to Data Replication Monitor to Specific Target Population* permission to grant access restricted to specific target groups. This permission isn't enabled by default. This means that by default all administrators who have the *Access to Data Replication Monitor* permission granted have unrestricted access to all records in the Employee Central Data Replication Monitor. If you don't want to restrict this access to specific target groups, no additional actions are required. You can just leave the *Restrict Access to Data Replication Monitor to Specific Target Population* permission disabled and don't need to make any complementary settings for generic objects or role-based permissions.

> **! Restriction**
>
> The *Admin Alerts* tile doesn't consider any restrictions. It always shows the complete number of data replication records.
>
> In the *Status per Employee* view of the Data Replication Monitor, the dropdown list of the *Employee Name* selection field will show all employees of a company, even if the administrator only has access to a restricted target user population.
>
> Using the *Manage Permission Groups* and *Manage Permission Roles* admin tools, you can define any target population to restrict administrator access to specific data replication records. But this only restricts the entries shown in the results table in the Data Replication Monitor. It doesn't reduce the list of values shown for the selection criteria.
>
> The number of users shown in the *Manage Permission Groups* admin tool can differ from the number you see in the Data Replication Monitor. Here's an example: You've configured a target population based on the country/region assignment and chosen *United States*. The *Manage Permission Groups* tool shows 1500 users for this group. But this is the number of users who are currently active in the system. Inactive users or users with a future hire date are not considered. In contrast, the Data Replication Monitor also shows records of inactive and future users. This means that the number shown here for *United States* might be higher.

For more information about role-based permissions – what they are, how they work, how you set them up – please see Implementing Role-Based Permissions in the SAP Help Portal.

Procedure

1. Under *Administrator Permissions*, select the *Manage Integration Tools* category.
2. Select the checkbox for the *Restrict Access to Data Replication Monitor to Specific Target Population* permission.

> **Note**
>
> This permission requires the *Access to Data Replication Monitor* permission to be set.

3. Define the target population.

   You can do this in different ways:

   - Based on generic objects, which are part of the Metadata Framework (MDF). This way you can restrict access to data replication records related to specific target systems, for example.
   - Based on the MDF foundation object *Legal Entity*. This way you can restrict access to data replication records related to specific countries/regions or companies.

   Restricting Access to Data Replication Monitor by Generic Object (Such as Target System) [page 9]
   Restrict access to specific data replication records in the Data Replication Monitor, by securing generic objects and defining role-based permissions based on the secured objects.

   Restricting Access to Data Replication Monitor by Legal Entity (Country/Region or Company) [page 11]
   Restrict access to specific data replication records in the Data Replication Monitor, by defining role-based permissions based on the *Legal Entity* object.

2.3.1 Restricting Access to Data Replication Monitor by Generic Object (Such as Target System)

Restrict access to specific data replication records in the Data Replication Monitor, by securing generic objects and defining role-based permissions based on the secured objects.

Context

> **Example**
>
> Let's assume you grant access to data replication records related to the replication target systems SYS1 and SYS2, using the generic objects *Employee Data Replication Status* and *Replication Target System*.

Procedure

1. Secure the generic objects.
   a. Go to the Admin Center and choose the *Configure Object Definitions* tool.
   b. Select the object definition for *Employee Data Replication Status* and choose *Take Action* > *Make Correction*.
   c. Scroll down to the *Security* section, set the *Secured* attribute to *Yes*, and save your changes.

   These steps allow you to restrict access to data replication records with a specific target system. To also reduce the list of values shown for the *Target System* selection criterion in the Data Replication Monitor, you need to secure the generic object *Replication Target System* as well. That is, repeat the same steps for *Replication Target System*.

> **Note**
>
> You can also restrict access to the Data Replication Monitor by securing other generic objects, such as *Pay Group* or *Location*. But this does not reduce the list of values shown for the corresponding selection criteria.

> **Caution**
>
> As soon as you set an object definition to *Secured*, admins no longer have permission to see or change the corresponding object. The object will be shown in the relevant permission roles, but no permissions will be set for it. This also applies to existing permission roles. You need to explicitly grant the required permission (such as *View* or *Edit*) under *User Permissions* > *Miscellaneous Permissions* once you've secured a generic object.

2. Set up role-based permissions based on the secured objects.
   a. Go back to the Admin Center and choose the *Manage Permission Roles* tool.
   b. Select the permission role you want to configure for restricted use of the Data Replication Monitor, go to *Permission Settings*, and choose the *Permission...* pushbutton.
   c. Under *User Permissions*, choose *Miscellaneous Permissions*.

   > **Note**
   >
   > This is the default category. If you selected another permission category when securing the generic objects, the permissions are shown in this other category, not under *Miscellaneous Permissions*.

   d. Select the *View* checkbox for *Employee Data Replication Status* and *Replication Target System*, then choose *Done*.
   e. Scroll down to *Grant this role to...* and choose *Add*.
   f. Under *Specify the target population for the other objects*, you'll see the secured objects, *Employee Data Replication Status* and *Replication Target System*.
   g. For both objects, select *Restrict target population to:* and specify the replication target systems, such as SYS1 and SYS2, then choose *Done*.

Results

An admin who is granted the permission role only sees data replication records for employees whose data is replicated to one of the target systems SYS1 or SYS2. The dropdown list of the *Target System* selection criterion only shows these two systems.

2.3.2 Restricting Access to Data Replication Monitor by Legal Entity (Country/Region or Company)

Restrict access to specific data replication records in the Data Replication Monitor, by defining role-based permissions based on the *Legal Entity* object.

Context

> **Example**
>
> Let's assume you grant administrators access to data replication records created for employees in whose employment information the country/region assignment is either *United States (USA)* or *Germany (DEU)*.

The Data Replication Monitor selection criteria *Country/Region* and *Company* both refer to the MDF foundation object *Legal Entity*. This object is secured by default. You can't change this setting.

Procedure

1. Create a permission group to define the group of administrators that have restricted access to the Data Replication Monitor.
    a. Go to the Admin Center and choose the *Manage Permission Groups* tool.
    b. Choose *Create New* and enter a group name.
    c. Under *Choose Group Members*, define which group of people is to get access to the Data Replication Monitor.
2. Create another permission group to define the target population the administrators have access to.
    a. Choose *Create New* and enter a group name.
    b. Under *Choose Group Members*, select the *Job Information-Company-Country* category for the people pool and add the applicable countries/regions, such as *United States* and *Germany*.

> **Note**
>
> The *Job Information-Company-Country* category is only available if permission group filters are configured in your Succession Data Model in Provisioning as shown here:
>
> ```
> <dg-filters>
>   <permission-group-filter>
>     <hris-element-ref refid="jobInfo">
>       [...]
>       <hris-field-ref refid="company"/>
>       <hris-field-ref refid="company" ref-field="countryOfRegistration"/>
>       [...]
>     </hris-element-ref>
>   </permission-group-filter>
> </dg-filters>
> ```
>
> For more information about permission group filters, see Setting Up the Succession Data Model in the *Implementing Employee Central Core* guide.

> → Remember
>
> As a customer, you don't have access to Provisioning. To complete tasks in Provisioning, contact your implementation partner. If you're no longer working with an implementation partner, contact Product Support.

3. Set up role-based permissions for the group of administrators and define the target population for them.
    a. Go back to the Admin Center, choose the *Manage Permission Roles* tool, and select the permission role you want to configure for restricted use of the Data Replication Monitor.
    b. Grant access to the secured *Legal Entity* object.
        1. Go to *Permission Settings* and choose the *Permission...* pushbutton.
        2. Go to *Administrator Permissions* and choose *MDF Foundation Objects*.
        3. Select the *View Current* checkbox for *Visibility* of the *Legal Entity* object, then choose *Done*.
    c. Grant the role to the group of administrators who are to get restricted access.
        1. Go to *Grant this role to...* and choose *Add*.
        2. In the first step, *Define whom you want to grant this role permission to*, select the permission group you created first, to define which group of people is to get access to the Data Replication Monitor.
        3. In the second step, *Specify the target population whom the above granted users have permission to access*, select the permission group you created second, to define the target population.
        This step reduces the result list.
        4. In the third step, *Specify the target population for the other objects*, you see *Legal Entity*. Select *Restrict target population to:* and specify the countries/regions, such as *United States* and *Germany*, then choose *Done*.
        This step reduces the list of entries shown for the *Country/Region* dropdown.

Results

Administrators who are granted the permission role you just defined only see data replication records for employees who have a job in one of the US or in Germany. For these admins, the dropdown list of the *Country/Region* selection criterion only shows these two countries/regions. The *Company* selection criterion only contains companies that are located in these countries/regions.

2.4 Granting Permissions for Deleting Entries from the Data Replication Monitor

Grant the required permissions to allow users to delete records from the Data Replication Monitor.

Context

Users supposed to be able to delete records need to have the *Delete Records from Data Replication Monitor* permission granted, in addition to the general permissions required to access the Data Replication Monitor. Only if this permission is granted, the *Delete* option will be shown in the standard view of the Employee Central Data Replication Monitor.

For more information about role-based permissions – what they are, how they work, how you set them up – please see Implementing Role-Based Permissions in the SAP Help Portal.

Procedure

1. Under *Administrator Permissions*, select the *Manage Integration Tools* category.
2. Select the checkbox for the *Delete Records from Data Replication Monitor* permission.

> ⚠ Caution
>
> We recommend that you grant this permission only in exceptional cases, where mass deletion is required. Once mass deletion is finished, remove the permission from the permission role.

Related Information

Deleting Entries from the Data Replication Monitor [page 24]

2.5 Setting up Target Systems for the Data Replication Monitor

Enter the external codes of the *Replication Target System* objects you created in Employee Central for use in the corresponding integrations when setting up the target systems for the Employee Central Data Replication Monitor.

Procedure

In the Data Replication Monitor, specify the exact same external code as you've entered it either in the middleware or in the SAP ERP system, when setting up the parameters for the corresponding replication process.

2.6 Configuring the Styling of the Header Tabs for the Data Replication Monitor Views

Configure the styling of the header tab in the Data Replication Monitor result views to comply with your company's styling settings.

Context

You can configure the styling of both, the standard and the extended view. You can change the text color and the background of the header.

Procedure

Use an SAP SuccessFactors theme to control the look and feel of the header tab.

For more information, see Theme Setting Details in the *Theme Manager* admin guide.

Related Information

Views on Replication Results in the Data Replication Monitor [page 18]

3 Finding the Data Replication Monitor in SAP SuccessFactors

You have two options to go to the Employee Central Data Replication Monitor in SAP SuccessFactors.

Access the Data Replication Monitor either using the *Admin Alerts 2.0* tile on the Home page or from the Admin Center.

- Go to the *Admin Alerts 2.0* tile on the *Home* page.
  From here, choose the replication content type, such as *Employee Master Data*, to go to the monitor with this replication content type preselected.
- Go to the *Admin Alerts 2.0* tile in the *Admin Center*.
  Select an alert in *Employee Central Payroll and SAP ERP Integration* to access the *Data Replication Monitor*.

  > **i Note**
  >
  > Which contexts are available in the admin alerts settings depends on what was enabled for you in Provisioning. For example, if either the *Enable Employee Central Payroll* or the *Enable Payroll Integration (Valid for SAP Payroll in ERP Systems)* option is enabled in Provisioning, you can select the *Payroll Integration* context for the *Admin Alerts* tile. If not, you won't see the *Payroll Integration* context in the admin alerts settings.

> **→ Remember**
>
> As a customer, you don't have access to Provisioning. To complete tasks in Provisioning, contact your implementation partner. If you're no longer working with an implementation partner, contact Product Support.

Related Information

Granting Permissions for Deleting Entries from the Data Replication Monitor [page 12]

4 Viewing Replication Records in the Data Replication Monitor

There is a wide range of options you can choose from to display exactly the information you need in the Employee Central Data Replication Monitor.

Making Selections in the Data Replication Monitor [page 16]
Filter replication records to be shown in the Data Replication Monitor by various attributes, such as replication status, replication time, or specific selection criteria such as the employee's company or location.

Views on Replication Results in the Data Replication Monitor [page 18]
View the list of data replication records in the Employee Central Data Replication Monitor and show additional information.

Error Messages Shown in the Data Replication Monitor [page 18]
The Employee Central Data Replication Monitor shows error messages that were sent by the middleware or by the replication target system.

How to Evaluate the Duration of a Replication [page 19]
The Data Replication Monitor 2.0 provides a time stamp that's useful for reporting: If data replication wasn't successful yet, it shows the time when it was first tried to replicate the employee's data.

4.1 Making Selections in the Data Replication Monitor

Filter replication records to be shown in the Data Replication Monitor by various attributes, such as replication status, replication time, or specific selection criteria such as the employee's company or location.

Procedure

1. If you want to filter for the replication status, select the status or statuses you're interested in.
2. If you want to filter for more attributes, enter one or more of the following criteria:
    - A country/region or multiple countries/regions
      This returns data replication records for all employees who, according to their Job Information, are located in one of the selected countries/regions.
      You're shown here all countries/regions corresponding to the legal entities that are active in your SAP SuccessFactors instance.
    - A company or multiple companies
      This returns data replication records for all employees whose Job Information contains one of the selected companies.
      The list of companies shown here varies, depending on the country/region or countries/regions you select. If you deselect a country/region, the companies belonging to this country/region are also removed from

the dropdown list, even if you had selected them before. If you select the country/region again, the companies of this country/region are added to the dropdown list again, but are unselected.

- The employees' location
- An employee class
- The employees' pay group
  This returns data replication records for all employees whose Compensation Information matches the selected pay group criteria.
- A replication target system
  This returns data replication records for all employees for which the middleware sent a notification or confirmation containing the corresponding replication target system. You can choose from all *Replication Target System* objects that were created in your Employee Central instance (in Admin Center, using the *Manage Data* tool).
- The replication content type

> **i Note**
>
> The Data Replication Monitor also shows data replication records for inactive employees (such as terminated or retired employees) and for employees to be hired in the future – if they match your selection criteria. It considers Personal Information, Compensation Information, and Job Information of the employees in question.

3. If you want to filter for the replication time, select one of the time options.

   The Data Replication Monitor uses the time stamp from your browser and converts it to the correct time zone of the database. The default *Replication Time* selection is *Last 15 Minutes*, but you can use other options such as *Last Hour* or *Last 24 Hours*. You can also enter a specific time frame.

   Selecting a time option returns data replication records for all employees with a confirmation time stamp (shown in *Last Replicated At*) that is within this time frame. If you choose *All Until Now*, all data replication records for the filter criteria you've specified are shown.

   The Data Replication Monitor includes the current time slice, plus future time slices using the system high date (December 31, 9999).
4. Choose *Apply* to show the result list of all data replication records matching your selection.

Next Steps

The number of entries that can be shown by the Data Replication Monitor is limited to 10,000. If the number of results matching your selection exceeds this limit, you're shown a warning. The monitor then displays a reduced results list. You can work with this list as usual. But we recommend that you adjust your filter conditions in this case, in order to show all data replication records that match your selection.

4.2 Views on Replication Results in the Data Replication Monitor

View the list of data replication records in the Employee Central Data Replication Monitor and show additional information.

Once you've made your selections in the Employee Central Data Replication Monitor and the result list of replication records is shown, you see two views:

- The **standard view** shows you a quick overview of the most important information.
- The **extended view** has extra columns:
  - *Replication Scheduled For*
  - *Replication Duration*
  - *Error Description*
  - *Target System*

  The extended view is especially helpful for troubleshooting. In the *Target System* column you can check to which system the data was replicated.

In both views, you can click the employee's name to see the respective employee file and the status *Failed* to see the detailed error message for this data replication record.

Related Information

Configuring the Styling of the Header Tabs for the Data Replication Monitor Views [page 14]

4.3 Error Messages Shown in the Data Replication Monitor

The Employee Central Data Replication Monitor shows error messages that were sent by the middleware or by the replication target system.

Once you've made your selections and the result list is shown, click the status *Failed* to see the detailed error message for this particular data replication record. The error message comes from either the Application Log in the SAP ERP system (transaction `SLG1`), from another system that uses the Data Replication Monitor, or from the middleware.

A confirmation message can contain a maximum number of only 30 error messages per employee, content type, and target system. If a confirmation contains more error messages, the Data Replication Monitor just ignores the messages exceeding the limit without pointing this out by default.

Based on the replication content type and the *sourceMessageTypeId* of the *EmployeeDataReplicationConfirmationErrorMessage* object definition, different values are displayed in the error message. By default, the following attributes are shown:

Error Message Details

This field in the error message...	Is filled from this field of the Employee-DataReplicationConfirmationErrorMessage object definition...	Which has this technical name...
<header>	Message Text	sourceMessageText
Infotype Name	Infotype Description	sourceObjectTypeDescription
	Infotype ID	sourceObjectTypeId
Infotype Field	Infotype Field Description	sourceAttributeDescription
Technical Information	Technical Information	technicalInformation
Effective Date	Start Date	sourceValidityPeriodStartDate

If the error message comes from the middleware and you use Dell Boomi AtomSphere, the following attributes are shown instead:

Middleware Error Message Details

This field in the error message...	Is filled from this field of the Employee-DataReplicationConfirmationErrorMessage object definition...	Which has this technical name...
Mapping Error in Boomi Replication Process	Message Text	sourceMessageText
Section	Message Variable 1	sourceMessageVariable1
Field Name	Message Variable 2	sourceMessageVariable2

4.4 How to Evaluate the Duration of a Replication

The Data Replication Monitor 2.0 provides a time stamp that's useful for reporting: If data replication wasn't successful yet, it shows the time when it was first tried to replicate the employee's data.

The *firstReplicationStartTimeSinceLastSuccess* time stamp written by the Data Replication Monitor shows when the last replication run was started for the employee that hasn't ended successfully yet. Data replication for the employee in question either shows the *Failed* status, or it remains in the *Pending* status. If multiple replication attempts fail one after the other, *firstReplicationStartTimeSinceLastSuccess* shows the time stamp of the very first attempt.

The *firstReplicationStartTimeSinceLastSuccess* time stamp is empty if the previous replication was successful and no new replication run has started yet.

You can use *firstReplicationStartTimeSinceLastSuccess* for reporting purposes. For example, to find out about replications taking longer than 24 hours to complete. Or to check for how long an employee's data wasn't replicated to the target system and therefore is not in sync between Employee Central and this system.

You find the *firstReplicationStartTimeSinceLastSuccess* time stamp in the database and in Admin Center, using the *Manage Data* tool. It is also available in Employee Central Advanced Reporting, where you can use it for reporting. The time stamp isn't shown on the UI.

> **i Note**
>
> The time stamp is only provided for integrations that send notifications or use the `Compound Employee` API with the parameter setting `triggerReplicationMonitorUpdate=yes`. This parameter setting doesn't create a notification, but it changes the status of a record to *Pending*, same as the notification sent by an integration process does.

> **→ Tip**
>
> If you find the time stamp is missing in Employee Central Advanced Reporting, raise an incident including the following information:
>
> *New field firstReplicationStartTimeSinceLastSuccess is not visible in Advanced Reporting for MDF object EmployeeDataReplicationElement. Please refresh the object view in Advanced Reporting.*

5 Rescheduling Employee Data Replication

For certain errors, data replication is automatically rescheduled. You can also reschedule the replication manually.

Automatic Rescheduling

There are certain errors that aren't caused by incorrect employee data or faulty mapping logic. These errors usually occur when data is locked or in correction phase. In these cases, the system automatically reschedules the replication.

Replication Errors and Automatic Rescheduling

Message	Message type ID from incoming confirmation message	Relevant for replication content type	Waiting time before next replication run starts
Status of payroll area <name> forbids replication of employee <employee name/ID>	127(HRSFEC_SERVICES)	all	60 minutes
Status of payroll area <name> does not allow replication of employee <employee ID>	127(PAOCF_EC_SERVICES)	all	60 minutes
Payroll area <name> is locked for master data maintenance	135(PG)	*Employee Master Data*	60 minutes
Status of payroll area <name> does not allow replication of employee <employee ID>	150(ECPAO_PROCESSING)	*Employee Master Data*	60 minutes
Online maintenance is locked in payroll area <name>	135(RP)	*Employee Master Data*	60 minutes
Personnel number <employee ID> is locked by user <user ID>	051(HRPAY99OC)	*Employee Master Data*	none
Person is already being processed by user <user ID>	001(PBAS_SERVICE)	*Employee Master Data*	none
Employee <employee ID> is currently processed with another inbound message	250(HRSFEC_SERVICES)	*Employee Master Data*	none

Message	Message type ID from incoming confirmation message	Relevant for replication content type	Waiting time before next replication run starts
Payroll area <name> locked	015(HRTIM00BLPRETRO)	*Employee Absence Data* *Time Pay Components* *Planned Working Time*	60 minutes

> **i Note**
>
> If the replication error comes from the SAP ERP system, the message type ID consists of the SAP ERP message number and, in brackets, the SAP ERP message class.

Replication Time Offset in Minutes

For the errors that have a default waiting time of 60 minutes, you can overrule this default by setting a replication time offset in the configuration of the *Replication Target System* object. There, you can enter the number of minutes you want the resend of data to be delayed by when the payroll area is locked or in correction phase. If you don't set a replication time offset in the configuration of the *Replication Target System* object, the default time offsets are used as listed in the table.

> **i Note**
>
> Overruling automatic rescheduling is only possible for errors that have a default waiting time specified in the table, and only for the replication content types *Employee Master Data*, *Employee Absence Data*, *Time Pay Components*, and *Planned Working Time*.

Manual Rescheduling

You can trigger a replication run for one or more employees in the Data Replication Monitor. Select the employees and choose *Send*. By doing so, the field *Scheduled Replication Time* is set to the current time and the flag *Allow Replication in Correction Phase* is set to *True* for the respective employee or employees. This means that the employee data is replicated to the target system, even if payroll is in correction phase. In this case, the error message *Payroll area in correction phase* isn't generated.

If you select more than one record and choose *Send*, you're shown a confirmation popup with information about the amount of records to be sent. You can still cancel manual rescheduling at this point in time.

Manual rescheduling overrules any other method of rescheduling.

> **i Note**
>
> If you use combined replication of employee master data together with organizational assignments from Employee Central to SAP ERP, triggering a replication run for one or more employees in the Data Replication Monitor also triggers organizational assignment replication for the employees in question. (But organizational

assignment replication only happens, when the employees' master data was posted without errors in the SAP ERP system.)

You can also trigger a replication run for one or more employees (including their organizational assignments) from the SAP ERP system, using the query program there.

If you use one of the standalone processes for organizational assignment replication, manual rescheduling from the Data Replication Monitor isn't possible for the *Employee Organizational Assignments* content type. But in case the *Delete Records from Data Replication Monitor* permission is granted for your user, you'll nevertheless be able to select these records (they're selectable because you might want to select them for deletion). In this case, if you choose *Send*, the confirmation popup you're shown tells you that you have selected records of the *Employee Organizational Assignments* content type and that these records won't be sent.

Related Information

Replication Content Type: Employee Organizational Assignments [page 28]
Deleting Entries from the Data Replication Monitor [page 24]

6 Deleting Entries from the Data Replication Monitor

You can delete entries you no longer need for monitoring from the Data Replication Monitor. For example, because they were created during a test phase.

Prerequisites

Users supposed to be able to delete records need to have the *Delete Records from Data Replication Monitor* permission granted. Only if this permission is granted, the *Delete* option will be shown in the standard view.

Triggering deletion from the Data Replication Monitor

Select all records you want to delete in the result list and choose *Delete*. You'll be shown a confirmation that tells you how many records will be deleted. If you confirm deletion and have selected up to ten records, the selected records will immediately be deleted.

Deletion is done in the background

If you have selected more than ten records to be deleted, the records will immediately be flagged as *Deleted* and will no longer be visible in the Data Replication Monitor. But deletion doesn't happen immediately in this case. Instead, a background process is triggered, which will delete the records from the database in packages of 100.

The system decides when the background process will run. Once it is started, it searches for all records that are flagged as *Deleted* to delete them from the database. Once the background process has started to run, you can check the status and download it in the *Comma-Separated Values* (CSV) format from job monitoring. To do this, go to Admin Center and choose the *Monitor Job* tool.

> **i Note**
>
> The numbers shown in the *Monitor Job* tool can differ from what you were shown on the confirmation popup when triggering deletion. Here's why:
>
> - The number of records in a package might be smaller than 100, and the total number of deleted records might be smaller than the number of records that was shown on the confirmation pop-up. This is because meanwhile another background process might already have run and deleted some of the records.
> - The total number of deleted records might also be higher than the number of records you originally selected for deletion. This is because the background process picks up all records that are flagged as *Deleted*. There might be other records for which deletion was triggered by another user.

Triggering deletion from Provisioning if the background process failed

If a deletion background process failed and records flagged as *Deleted* remain in the database, you can start a deletion job manually, without triggering deletion from the Data Replication Monitor.

To do this, go to Provisioning for your instance and go to the *Managing Job Scheduler* section. From here, choose *Manage Scheduled Jobs*, then *Create New Job*. Enter job name and job owner and choose the job type *Employee Data Replication Element Deletion*, but **don't** select the *Clean Up Orphaned Records from Data Replication Monitor* parameter. Then choose *Create Job*.

> → Remember
>
> As a customer, you don't have access to Provisioning. To complete tasks in Provisioning, contact your implementation partner. If you're no longer working with an implementation partner, contact Product Support.

For more information, refer to Monitoring Scheduled Jobs in Provisioning

Related Information

Granting Permissions for Deleting Entries from the Data Replication Monitor [page 12]

7 How the Employee Central Data Replication Monitor Reacts to Data Purge

If master data or inactive users are purged using Data Retention Management, the related data replication records are also purged in the Employee Central Data Replication Monitor.

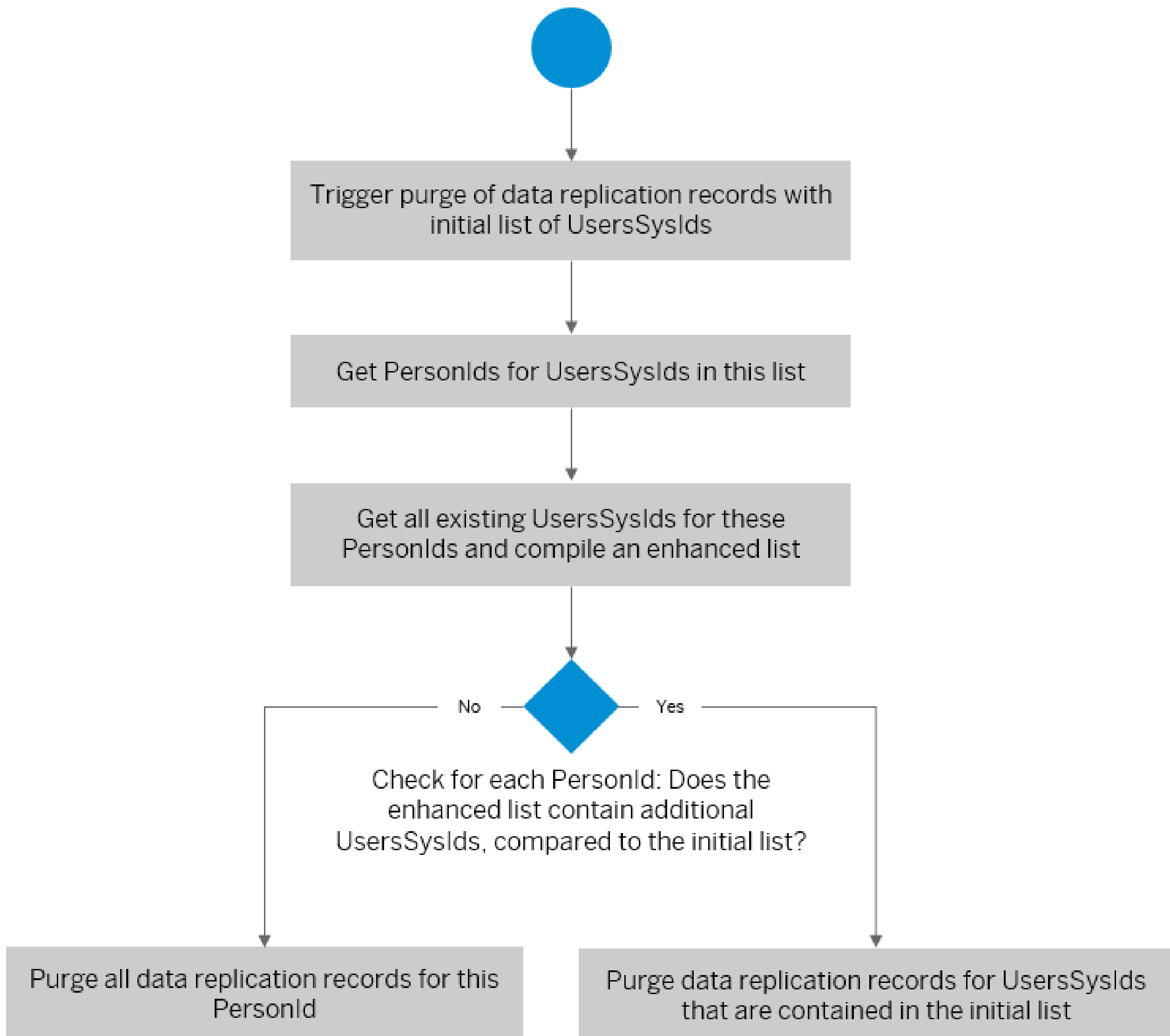
Data replication records can be related to the employee, who is identified by the `PersonId`. This means they are valid for all employments of this employee. Or they can be related to only one employment, which is identified by the `UsersSysId`. If the employee has multiple employments, only those data replication records are purged that are related to the employment for which the data is purged. Other data replication records stay in the database as long as not all of the employee's employments are purged.

In detail, purge of data replication records goes through these steps:

1. Using Data Retention Management, data is purged for specific employments, identified by `UsersSysIds`.
2. Data Retention Management determines the `PersonIds` for these `UsersSysIds`.
3. Data Retention Management checks for each `PersonId` whether the list of `UsersSysIds` to be purged contains **all** `UsersSysIds` of this `PersonId`.
    - If yes, this means that the employee has only one employment or that the data of all of the employee's employments was purged. In this case, all data replication records related to this `PersonId` will be purged.
    - If no, this means the employee has multiple employments, but data was purged for only one or several of these employments, not for all of them. In this case, only the data replication records related to these specific `UsersSysIds` will be purged. Data replication records for other `UsersSysIds` of the same `PersonId` will stay in the database.

    > **i Note**
    >
    > Only data replication records with the replication content types *Employee Absence Data*, *Time Pay Components*, and *Planned Working Time* contain a `UsersSysId`. Only these records are purged for a `UsersSysId`. Data replication records with other content types, such as *Employee Master Data* or *Employee Organizational Assignments*, only contain the `PersonId`. They don't have a `UsersSysId`. This means that these data replication records will stay in the database until the last employment of the respective employee is purged.

4. The data replication records related to the determined `UsersSysIds` and `PersonIds` are purged. The referenced Confirmations and Notifications are also purged.



Purging Data Replication Records

8 Specifics for the Replication Content Types

In the next sections you'll find specifics for some individual replication content types used in the Employee Central Data Replication Monitor.

8.1 Replication Content Type: Employee Organizational Assignments

Note these specifics for status elements related to employee organizational assignment replication shown in the Employee Central Data Replication Monitor.

Integration Context

The *Employee Organizational Assignments* replication content type is only available for the context of integration with SAP ERP.

Types of Status Elements

The Employee Central Data Replication Monitor shows elements with this statuses::

- *In Progress*
  This status means that data replication has started and a corresponding notification was sent by the middleware or the SAP ERP system.
- *Successful*
  This status means that data replication was successful and a corresponding confirmation was sent.
- *Failed*
  This status means that data replication was not successful and a confirmation containing error messages was sent either by the middleware or by the SAP ERP system.

> **i Note**
>
> The employee organizational assignments process reuses the confirmation message for employee master data replication from Employee Central to SAP ERP to send the confirmations. For more information see the *Replicating Employee Master Data from Employee Central to SAP ERP* integration guide (section *Configuring the Web Service for the Employee Replication Confirmation*). Find the most current version of this guide at http://help.sap.com/hr_ecintegration.

The statuses shown in the SAP ERP system map to the Employee Central Data Replication Monitor statuses as shown in the following table.

i Note

You'll find the SAP ERP statuses in these monitoring tools:

- Replication Request Monitor: Web Dynpro application `SFIUI_A_REPL_REQ_MONITOR`
- Replication Request Viewer: transaction `SFIOM_VIEW_REQUESTS`

Statuses in SAP ERP and in the Employee Central Data Replication Monitor

Status in SAP ERP	Status in Employee Central
Open	*In Progress*
Pending	*In Progress*
Successful	*Successful*
Failed	*Failed*

Manual Rescheduling

Whether you can manually reschedule organizational assignment replication depends on the version of organizational assignment replication you are using.

Combined replication of employee master data and organizational assignments

If you use combined replication of employee master data together with organizational assignments from Employee Central to SAP ERP, triggering a replication run for one or more employees in the Data Replication Monitor also triggers organizational assignment replication for the employees in question. (But organizational assignment replication only happens, when the employees' master data was posted without errors in the SAP ERP system.)

You can also trigger a replication run for one or more employees (including their organizational assignments) from the SAP ERP system, using the query program there.

To post organizational assignments from the staging area in SAP ERP to the database again, go to the Replication Request Monitor or Replication Request Viewer and process the corresponding request from there.

For more information see the integration guide *Replicating Employee Master Data and Organizational Assignments from Employee Central to SAP ERP*. Find this guide in SAP Help Portal, at http://help.sap.com/hr_ecintegration.

Standalone replication of organizational assignments

To post organizational assignments from the staging area in SAP ERP to the database again, go to the Replication Request Monitor or Replication Request Viewer and process the corresponding request from there.

For more information see the integration guide *Replicating Organizational Data from Employee Central to SAP ERP*. Find this guide in SAP Help Portal, at http://help.sap.com/hr_ecintegration.

Note

You can't choose *Send* in the Employee Central Data Replication Monitor for employee organizational assignment elements. The *Send* button is only available for employee master data.

9 Troubleshooting Issues with the Data Replication Monitor

Learn more about some known issues regarding the Employee Central Data Replication Monitor and how to troubleshoot them.

What Information Is Shown in the Employee Data Replication Status Object [page 31]
Find out what kind of information you can view in the *Employee Data Replication Status* object and how you can use this information to analyze errors.

9.1 What Information Is Shown in the Employee Data Replication Status Object

Find out what kind of information you can view in the *Employee Data Replication Status* object and how you can use this information to analyze errors.

Status Information

The *Replication Update Status* field shows the final status of the **last** replication run.

The *Search Field for Replication Status* field shows the status of the replication that's **currently** running.

Confirmation Message

The *Is waiting for Confirmation* field shows whether the latest confirmation has or hasn't yet arrived in Employee Central.

Time Stamps

The *Replication Processing Time in Target System* field shows when the **last** replication run was triggered.

The *Last Replication Start Time* field shows when the replication that's **currently** running was triggered.

How to Use the Employee Data Replication Status Information

Let's say, the current status (shown in *Search Field for Replication Status*) is *Pending* for an employee. The *Last Replication Start Time* field holds a timestamp that's after the timestamp shown in *Replication Processing Time in Target System*. *Is waiting for Confirmation* is *Yes*. This means that after the last successful replication a new replication run was triggered, but no confirmation has been sent yet for this replication run to Employee Central. Check the replication target system and the middleware to find out why the confirmation hasn't been sent yet.

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