

Time Sheet and Human Resources in Distributed Systems



HELP.PT-BFA

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Time Sheet and Human Resources in Distributed Systems

Use

With this function, you can record time data using the Time Sheet when the *SAP Cross-Application Time Sheet* and *SAP Human Resources* operate in distributed systems.

The Time Sheet provides information about working times performed in the following SAP components:

- Controlling (CO): Activity Allocation
- Human Resources (HR): Time Management
- Materials Management (MM-SRV): Service Entry
- Plant Maintenance (PM): Confirmations
- Project System (PS): Confirmations
- Customer Service (CS): Confirmations

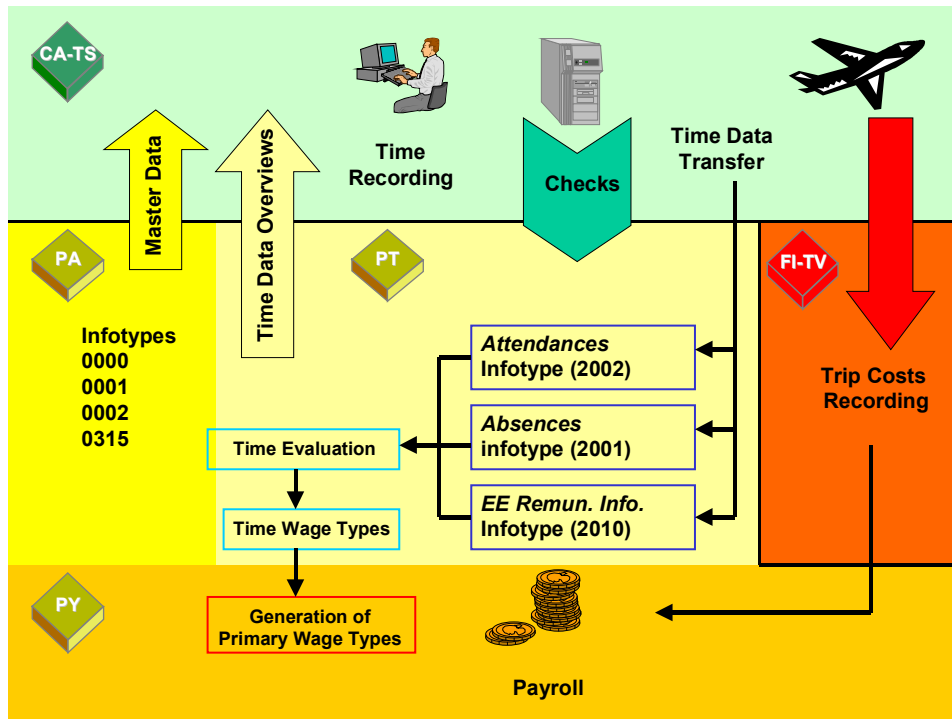


For more information, see [Time Sheet \[Ext.\]](#).

Integration

As a result of its close relationship with the operative data in *SAP Logistics*, the Time Sheet should be implemented in each Logistics System.

Time Sheet and Human Resources in Distributed Systems



Information from employee work schedules are required to calculate actual times. To access this information, the Time Sheet uses time data overviews from *SAP Time Management* (PT).

When time data is recorded in the Time Sheet, checks can be performed before the data is transferred to the HR System.

During the transfer to HR, data records are stored in the *Attendances* (2002), *Absences* (2001), and *Employee Remuneration Info* (2010) infotypes. This data can then be processed in time evaluation to form time wage types. In *SAP Payroll*, primary wage types are generated from these time wage types. The data entered in the Time Sheet is thus included during the payroll run for the employees.

You can also enter information on business trips using the Time Sheet. The business trip is directly created in the *SAP Travel Management* component.



There are two options for implementing this business process that depend on the extent you want to use the available Time Sheet functionality.

- Tightly coupled HR and time sheet systems
- Loosely coupled HR and time sheet systems

The type of access to time data overviews and the checks you want to perform are both relevant when deciding on which option you want to implement.

In a tightly coupled system, HR data is usually accessed synchronously. In a loosely coupled system, the required data is first distributed from the HR System to the system where the Time Sheet is located.

To ensure better performance, use a loosely coupled system.

Prerequisites

The HR master data required must first be transferred to the system where the Time Sheet is located. To do so, carry out the ALE Business Process for *Distributing HR Master Data*.

Distributing Data from External Services (MM-SRV)

Distributing Data from External Services (MM-SRV)

Use

You can record data for the *External Services* component (MM-SRV) in the Time Sheet.

Prerequisites

The external supplier data must first be transferred to the *Time Sheet Defaults* infotype (0315). Then, the infotype 0315 data must be distributed in the system where the Time Sheet is located using the ALE business process *HR Master Data Distribution*.

Interfaces

Export via this BAPI is asynchronous.

Business Object

PurchaseOrder

Method

GetDetail

Business Object

Service

Method

ServiceGetDetail



Both Business Objects are used to transfer relevant master data from the MM-SRV System to the Infotype 0315 in HR.

Tightly Coupled Systems

Use

With a tightly coupled system, access from the system where the Time Sheet is located to the HR System is synchronous.

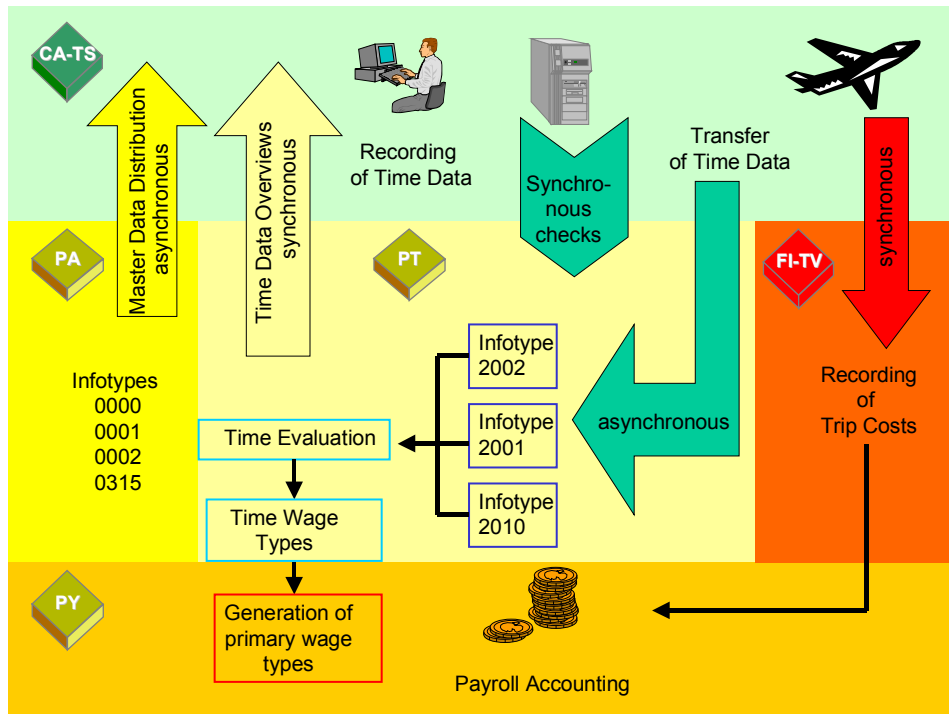
This variant should be implemented if you always want to directly access data in the HR System.

To do so, however, the system where the Time Sheet is located and the HR System must always be active at the same time.



In order to ensure better system performance, use a loosely coupled system.

Integration



In a tightly coupled system, the following functions are carried out synchronously.

- The time data overviews are read directly in the HR System.
- The tests run remotely in the HR System.

Tightly Coupled HR Systems and Time Sheet Systems

Tightly Coupled HR Systems and Time Sheet Systems

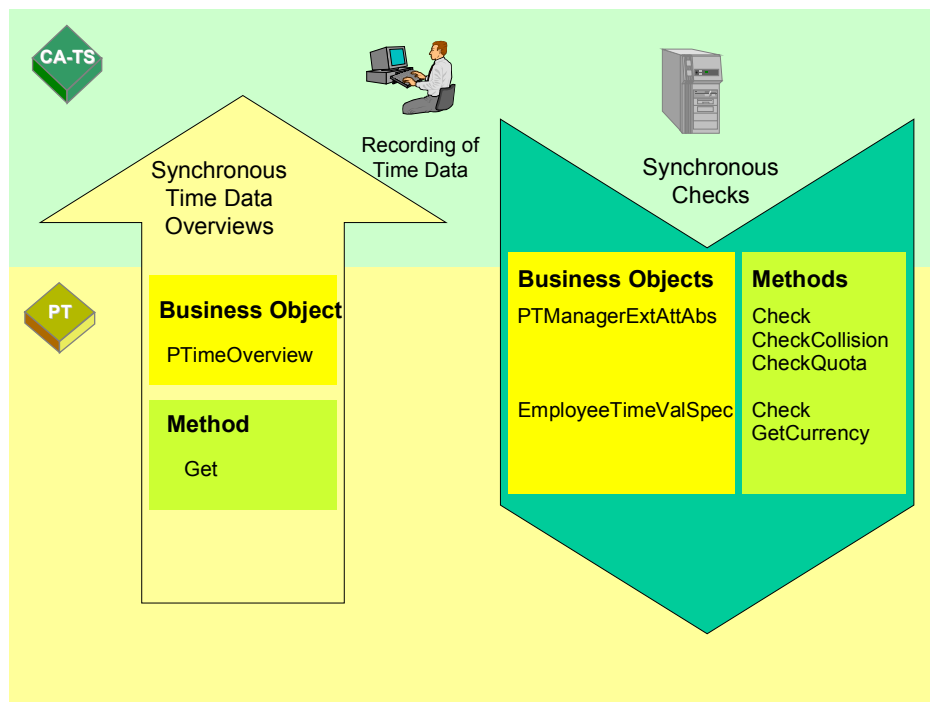
Purpose

Communication between the Time Sheet system and a tightly coupled HR System is detailed in this section.

Prerequisites

HR master data must first be available in the system where the Time Sheet is located.

Process Flow



In the time data overviews, access to variants in narrow coupled systems is synchronous. Checks are also carried out synchronously (remotely) in the HR System.

To do so, the applicable business objects and methods in the ALE Distribution Model must be entered.

To check [Attendances/Absences \[Page 25\]](#), you need the Business Object **PTManagerExtAttAbs** as well as the **CheckCollision** and **CheckQuota** methods.

To check [Different Payment \[Page 15\]](#), you need the Business Object **EmployeeTimeValSpec** as well as the **Check** and **GetCurrency** methods.

For [Global Checks \[Page 27\]](#), you need the Business Object **PTManagerExtAttAbs** and the method **Check**.



Tightly Coupled HR Systems and Time Sheet Systems

[Transferring Time Data to HR Systems \[Page 28\]](#) is carried out asynchronously for both tightly as well as loosely coupled systems

Accessing Time Data Overviews in the HR System

Accessing Time Data Overviews in the HR System

Use

Time data overviews can be displayed in each employee's time sheet. From the time data overviews, you can specify the number of hours for which you want to use as guide values in the Time Sheet to record time data. If recording takes place using hours, then the actual times are checked for the time data overviews.

When the time data overviews are called in the Time Sheet, they are created synchronously in the HR System and then stored in a buffer table in the system where the Time Sheet is located. You can then display the time data overviews in the Time Sheet.

Interfaces

Import via this BAPI is synchronous.

Business Object

PTimeOverview

Method

Get

Recording Attendances/Absences and Employee Remuneration Information

Use

Time data can be entered in the Time Sheet as clock times or as attendance/absence hours.

When recording clock times, the attendance/absence hours are determined from the employee's daily work schedule. The checks are carried out locally in the system where the Time Sheet is located.



However, the time data overview must already be transferred from the HR System to the system where the Time Sheet is located. If this is not the case, the checks are carried out synchronous in the HR System.



If you record time data for *R/3 Logistics* as clock times, but do not want to enter attendance/absence types, the difference between the start and end times is formed. Remember that scheduled breaks from the HR System are not taken into account in the distributed systems.



If wage types are assigned when time data is entered in the Time Sheet, then data records are created in the *EE Remuneration Info* infotype (2010) when the data is transferred to *R/3 Time Management*.

Interfaces

Import via this BAPI is synchronous.

Checking Attendances/Absences

Business Object

PTManagerExtAttAbs

Method

Check

Checking Employee Remuneration Information

Business Object

PTMgrExtRemunSpec

Method

Check

Recording Attendances/Absences and Employee Remuneration Information

Recording Different Payments

Use

You can record information regarding a different payment in the Time Sheet. This takes place when a different pay scale group or level is entered.

In distributed systems, you can carry out checks on the data entered in the Time Sheet against the entries in the HR System.

These checks include:

- Checks of pay scale groups and levels
- Checks of bonus types and values
- Checks positions

The checks are carried out synchronously in the HR System.

Interfaces

Import via this BAPI is synchronous.

Business Object

EmployeeTimeValSpec

Method

Check (Check different payment)

GetCurrency (Determine currency)

Performing Global Checks Against HR Data

Performing Global Checks Against HR Data

Use

Global checks are basically used to perform collision checks on the existing data in the HR System and to simulate quota deduction.

These checks occur prior to the transfer of data to the HR System.

Collision Checks

Here, the time data entered in the Time Sheet is checked to see if data records for the same time period in the HR System.

Simulation of Quota Deduction

Here, the attendances and absences entered in the Time Sheet are checked to see if enough remaining quota exists in the HR System.

Interfaces

Import via this BAPI is synchronous.

Business Object

PTManagerExtAttAbs

Method

CheckCollision (Collision Check)

CheckQuota (Check Quota Deduction)

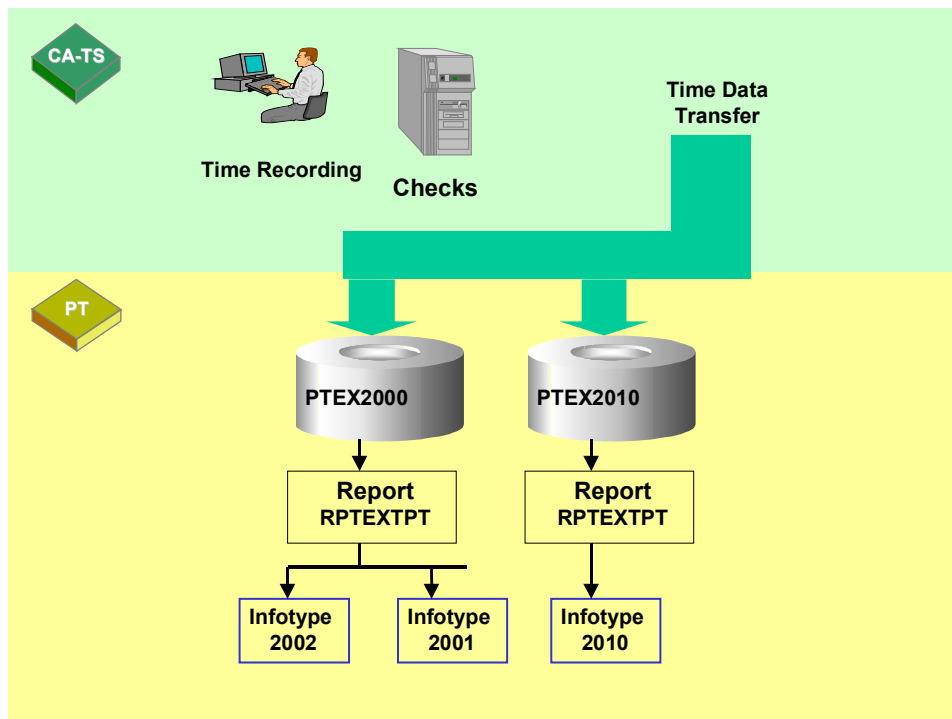
Transfer Time Data to HR Systems

Use

You can transfer time data recorded in the Time Sheet to the HR System.

The transfer is always asynchronous.

Procedure



1. Save the time data recorded in the Time Sheet.
An IDoc outbound process is triggered automatically when you save your data.
2. In the HR System, the time data is stored in the interface table PTEX2000 for attendances/absences and in the interface table PTEX2010 for employee remuneration information.
3. The report **RPTXTPT** (*External Transfer → Time Management*) reads the time data from the interface tables and then creates data records in the *Attendances* (2002), *Absences* (2001), or *EE Remuneration Info* (2010) infotypes.

Interfaces

Export via this BAPI is asynchronous.

Transfer Time Data to HR Systems

Transferring Attendances/Absences

Business Object

PTManagerExtAttAbs

Method

InsertWithCostAssignment (Insert Attendance/Absence with Cost Assignment)

Transferring Employee Remuneration Information

Business Object

PTMgrExtRemunSpec

Method

InsertWithCostAssignment (Insert External EE Remuneration Info in Table with Cost Assignment)

Displaying Follow-On Documents in HR

Use

You can display follow-on documents created in the HR System from the system where the Time Sheet is located.

The HR System call is synchronous.

Procedure

1. Choose the entry.
2. Choose *Follow-on document*. The status of the selected entry is displayed.
3. Select the data record.

Result

The infotype data record created in the HR System is displayed.

Interfaces

Import via this BAPI is synchronous.

Business Object

PTManagerExtTimeSpec

Method

Display (Display External Data in the Infotype)

GetStatus (Status of Record in the Interface Table)

Recording Trip Costs

Recording Trip Costs

Use

You can use the Time Sheet to record trip costs. Here, the system where the Time Sheet is located calls the system where *Trip Costs Accounting* is located. There, a corresponding data record is created.

The data record created in the *Trip Costs Accounting* system can then be displayed in the Time Sheet. The system where the Time Sheet is located again calls the system where *Trip Costs Accounting* is located.

Interfaces

Business Object

EmployeeTrip

Method

CreateInteractive (Create Trip Online (Receipt Entry))

ChangeInteractive (Change a Trip (Interactive))

GetStatus (Determining Status of a Trip)

Loosely Coupled Systems

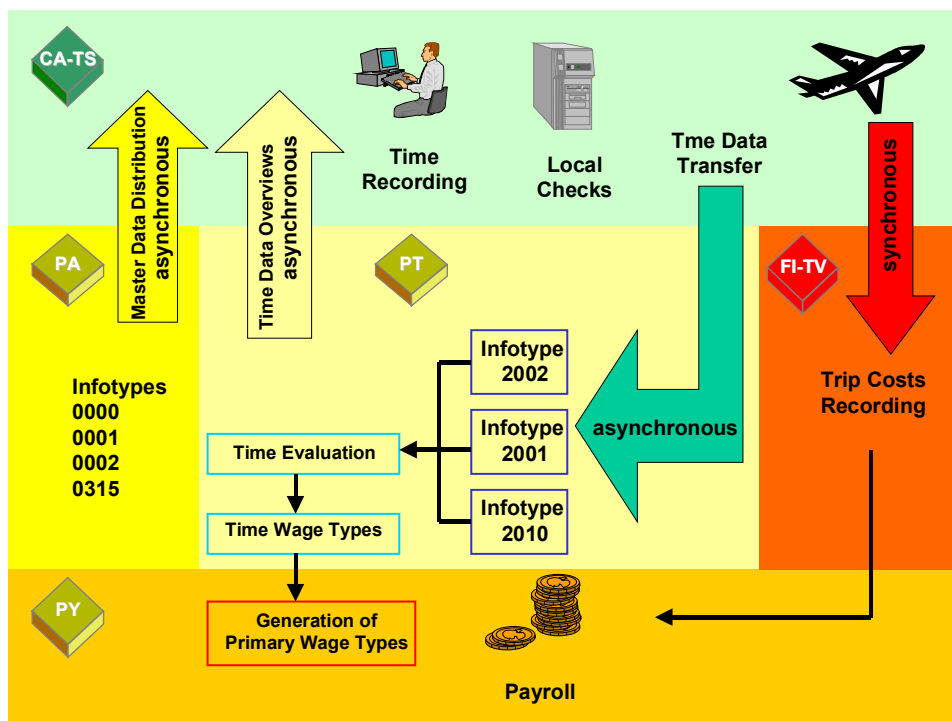
Use

In a loosely coupled system, the data required is first distributed from the HR System to the system where the time sheet is located. Most of the checks then run in the system where the Time Sheet is located.



To ensure better performance, use a loosely coupled system.

Integration



In certain situations, however, synchronous access to the data in the HR System is necessary. If, for example, the time data overviews can not be distributed in the system where the Time Sheet is located, then a synchronous call is required from the HR System.

Loosely Coupled HR Systems and Time Sheet Systems

Loosely Coupled HR Systems and Time Sheet Systems

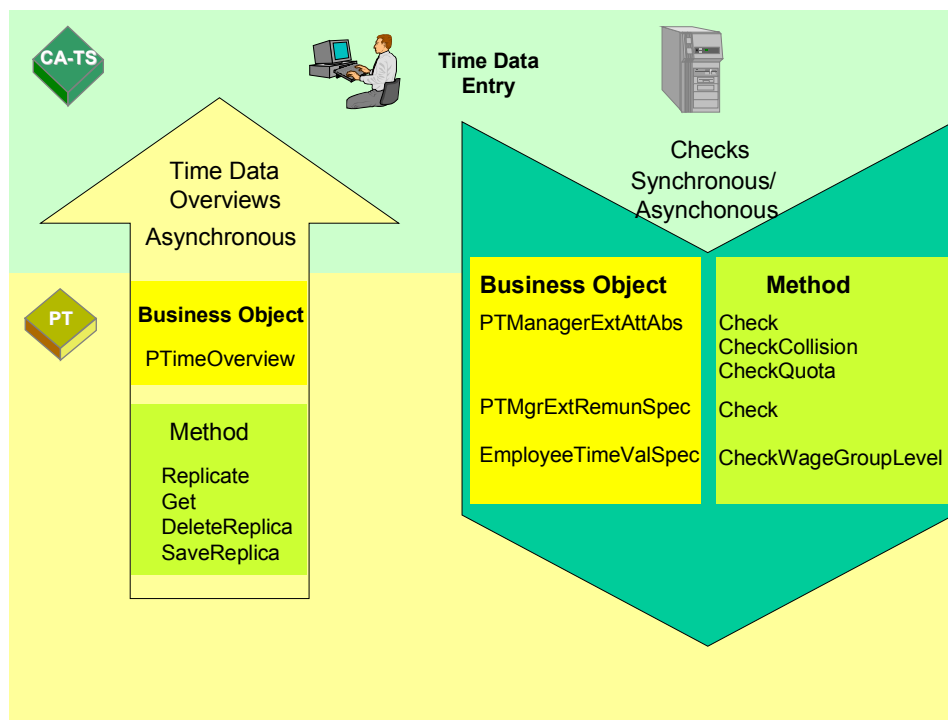
Purpose

Communication between the Time Sheet system and a loosely coupled HR System is detailed in this section.

Prerequisites

HR master data must already be available in the system where the Time Sheet is located.

Process Flow



Time data overviews are created by this variant in the HR System and then transferred to the system where the Time Sheet is located. The checks are usually carried out locally in the system where the Time Sheet is located. However, for certain checks, the HR System has to be called up synchronously.

To do so, the applicable business objects and methods in the ALE Distribution Model must be entered.

To check [Attendances/Absences \[Page 13\]](#), you need the Business Object **PTManagerExtAttAbs** as well as the **CheckCollision** and **CheckQuota** methods.

To check [Different Payment \[Page 26\]](#), you need the Business Object **EmployeeTimeValSpec** as well as the **Check** and **GetCurrency** methods.

Loosely Coupled HR Systems and Time Sheet Systems

To check [Employee Remuneration Info \[Page 13\]](#), you need the Business Object PTMgrExtRemunSpec as well as the method **Check**.

For [Global Checks \[Page 27\]](#), you need the Business Object **PTManagerExtAttAbs** and the method **Check**.

Distribute Time Data Overviews

Distribute Time Data Overviews

Use

Time data overviews can be displayed in each employee's time sheet. From the time data overviews, you can specify the number of hours for which you want to use as guide values in the Time Sheet to record time data. If recording takes place using hours, then the actual times are checked for the time data overviews.

Procedure

Asynchronous distribution is started by the report **RPTIMEOVERVIEW_REPLICATE** (*Trigger Distribution of Employee Time Data Overview*).



The report can be carried out in the HR System (Push Method) or in the system where the Time Sheet is located (Pull Method).

Then, time data overviews are created and then transferred as IDocs to the Time Sheet system. Data in the tables PTIMEOV1 and PTIMEOV2 are stored in the Time Sheet. By calling the time data overviews in the Time Sheet, the system checks whether these tables contain data.



If the tables PTIMEOV1 and PTIMEOV2 do not contain data, then the time data is created synchronously in the HR System and then stored in the Time Sheet in a buffer table.

If you want to delete distributed time data overviews in the target system, start the report **RPTIMEOVERVIEW_DELREPLICA** (*Delete Employee Time Data Overviews in the Target System*).

Interfaces

Import via this BAPI is asynchronous.

Business Object

PTimeOverview

Method

Replicate (Trigger Distribution of Employee Time Overview)

Get (Specify Employee Time Overview)

DeleteReplica (Delete Distributed Employee Time Overviews)

SaveReplica (Distribute Employee Time Overviews)

Record Attendances/Absences and Employee Remuneration Info.

Use

Time data can be entered in the Time Sheet as clock times or as attendance/absence hours.

When recording clock times, the attendance/absence hours are determined from the employee's daily work schedule.

A check of the recorded time data occurs synchronously in the HR System.



If you record time data for *SAP Logistics* as clock times, but do not want to enter attendance/absence types, the difference between the start and end times is determined. Remember that scheduled breaks from the HR System are not taken into account in the distributed systems.



If wage types are assigned when time data is entered in the Time Sheet, then data records are created in the *EE Remuneration Info* infotype (2010) when the data is transferred to *SAP Time Management*.

Interfaces

Import via this BAPI is synchronous.

Business Object

PTManagerExtAttAbs

Method

Check

Recording Different Payments

Recording Different Payments

Use

You can record information regarding a different payment in the Time Sheet. This takes place when a different pay scale group or level is entered.

In distributed systems, you can carry out checks on the data entered in the Time Sheet against the entries in the HR System.

These checks include:

- Checks of pay scale groups and levels
- Checks of bonus types and values
- Checks positions

The checks are carried out synchronously in the HR System.

Interfaces

Import via this BAPI is synchronous.

Business Object

EmployeeTimeValSpec

Method

CheckWageGroupLevel

Performing Global Checks Against HR Data

Use

Global checks are basically used to perform collision checks on the existing data in the HR System and to simulate quota deduction.

These checks occur prior to the transfer of data to the HR System.

Collision Checks

Here, the time data entered in the Time Sheet is checked to see if data records for the same time period in the HR System.

Simulation of Quota Deduction

Here, the attendances and absences entered in the Time Sheet are checked to see if enough remaining quota exists in the HR System.

Interfaces

Import via this BAPI is synchronous.

Business Object

PTManagerExtAttAbs

Method

CheckCollision (Collision Check)

CheckQuota (Check Quota Deduction)

Transfer Time Data to HR Systems

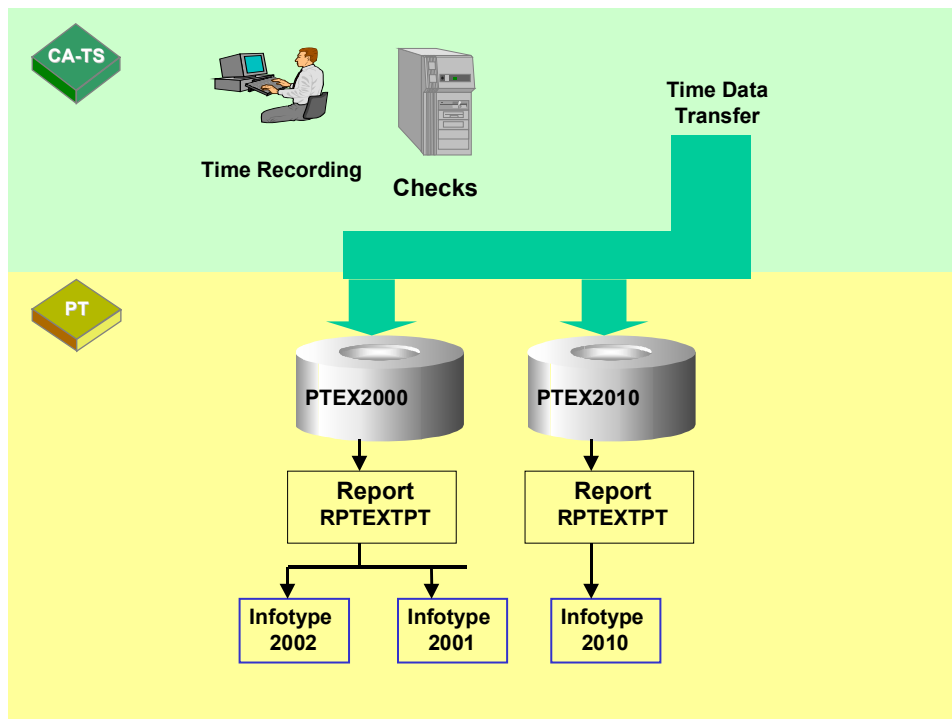
Transfer Time Data to HR Systems

Use

You can transfer time data recorded in the Time Sheet to the HR System.

The transfer is always asynchronous.

Procedure



4. Save the time data recorded in the Time Sheet.
An IDoc outbound process is triggered automatically when you save your data.
5. In the HR System, the time data is stored in the interface table PTEX2000 for attendances/absences and in the interface table PTEX2010 for employee remuneration information.
6. The report **RPTEXTPT** (*External Transfer → Time Management*) reads the time data from the interface tables and then creates data records in the *Attendances* (2002), *Absences* (2001), or *EE Remuneration Info* (2010) infotypes.

Interfaces

Export via this BAPI is asynchronous.

Transferring Attendances/Absences

Business Object

PTManagerExtAttAbs

Method

InsertWithCostAssignment (Insert Attendance/Absence with Cost Assignment)

Transferring Employee Remuneration Information

Business Object

PTMgrExtRemunSpec

Method

InsertWithCostAssignment (Insert External EE Remuneration Info in Table with Cost Assignment)

Displaying Follow-On Documents in HR

Displaying Follow-On Documents in HR

Use

You can display follow-on documents created in the HR System from the system where the Time Sheet is located.

The HR System call is synchronous.

Procedure

4. Choose the entry.
5. Choose *Follow-on document*. The status of the selected entry is displayed.
6. Select the data record.

Result

The infotype data record created in the HR System is displayed.

Interfaces

Import via this BAPI is synchronous.

Business Object

PTManagerExtTimeSpec

Method

Display (Display External Data in the Infotype)

GetStatus (Status of Record in the Interface Table)

Recording Trip Costs

Use

You can use the Time Sheet to record trip costs. Here, the system where the Time Sheet is located calls the system where *Trip Costs Accounting* is located. There, a corresponding data record is created.

The data record created in the *Trip Costs Accounting* system can then be displayed in the Time Sheet. The system where the Time Sheet is located again calls the system where *Trip Costs Accounting* is located.

Interfaces

Business Object

EmployeeTrip

Method

CreateInteractive (Create Trip Online (Receipt Entry))

ChangeInteractive (Change a Trip (Interactive))

GetStatus (Determining Status of a Trip)