SAP Cloud Platform Integration

Technical Specification

Technical Specifications Document

Document Release Note

Document Name:	Get Employee Timesheet List
Version:	1.0.0
Description:	Retrieves timesheet events (C10 check-in and C20 check-out) from SuccessFactors, groups them by date, and pairs check-ins with check-outs for each employee. This flow processes time events and converts UTC timestamps to local time (Asia/Riyadh timezone).
Release Date:	2025-11-06

Revision History

Revision	Date	Description	Page	Rationale	Type
1.0	2025-11-06	Initial Draft	All	Initial Version	Add

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1. BUSINESS CONTEXT

1.1 Overview

Retrieves timesheet events (C10 check-in and C20 check-out) from SuccessFactors, groups them by date, and pairs check-ins with check-outs for each employee. This flow processes time events and converts UTC timestamps to local time (Asia/Riyadh timezone).

1.2 Development Unit Information

Module	SAP Cloud Platform
Sub Module	Hana Cloud Integration
iFlow Title	Get Employee Timesheet List
Processing Type	Background Online
Execution Frequency	On-Demand (Called by orchestrator flows)

2. DETAILED DESIGN

2.1 Configuration Details

Package Name: SF-Nadec-WorkAssignment

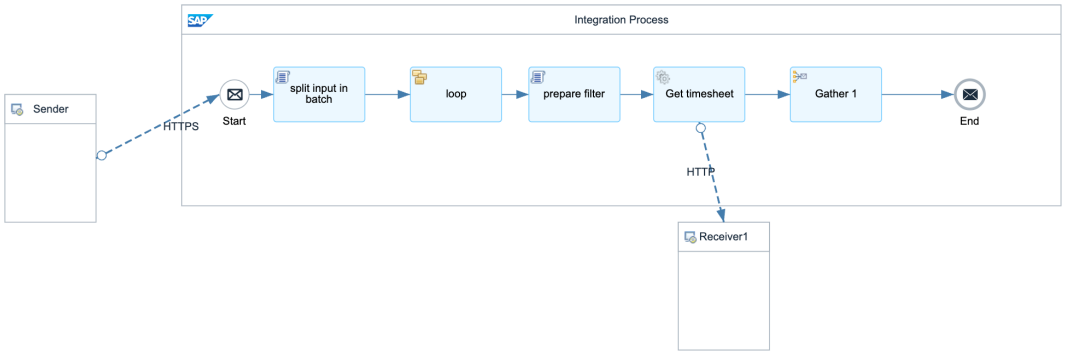
iFlow Name: Get Employee Timesheet List

Technical Name: SF_TimeEvent_GetByEmployeeDate

Endpoint: /timeEvent/getListOfEmployeeTimeSheet

2.2 SAP CPI iFlow Design

This is a custom-designed SAP CPI Integration flow for work assignment and timesheet conflict resolution.



Detailed Requirements:

1. Fetch TimeEvent data from SuccessFactors OData API
2. Filter events by employee ID and date range
3. Group time events by local date (handling timezone offsets)
4. Sort events by timestamp within each date
5. Pair first C10 (check-in) with last C20 (check-out) per day
6. Convert UTC timestamps to local time strings (HH:mm:ss format)
7. Return structured JSON with employeeId, date, checkIn/Out IDs and times

Groovy Scripts

Script Name	Description
Fetch Time Events	Calls SF OData API to retrieve TimeEvent records filtered by employee and date
Group by Date	Groups events by local date, handles timezone offsets (Asia/Riyadh)
Pair Check-ins/Outs	Sorts events and pairs first C10 with last C20 per day

Script Name	Description
Format Response	Converts UTC to local time, structures output JSON with paired events
Handle Edge Cases	Manages incomplete pairs, multiple check-ins/outs, and timezone conversions

2.3 Adapter Configuration (Sender & Receiver)

Receiver (SF): SuccessFactors OData v2 API for TimeEvent entity Authentication: OAuth Bearer Assertion (SF-Nadec-TimeEvent)

2.4 Error Handling

Standard CPI error handling applies. Errors are logged to message processing log. Failed messages are stored in error queue for manual intervention. Retry mechanism is configured for transient failures (3 attempts with 5-second delay).

3. TESTING

3.1 Test Conditions and Expected Results

Test Condition	Expected Result
Employee with normal check-in/check-out pairs	Returns paired events with correct local times
Employee with multiple check-ins on same day	Pairs first check-in with last check-out
Employee with no time events	Returns empty array for timesheet data
Cross-timezone date handling	Events grouped correctly by local date, not UTC date

3.2 Test Data Considerations

Test data should include: (1) Typical scenarios with standard work assignments and timesheets, (2) Edge cases with time zone boundaries, (3) Error scenarios with malformed data, (4) Load testing with bulk data volumes.

3.3 Performance Considerations

Expected processing time: <5 seconds for single record, <60 seconds for batch of 100 records. SF API rate limits: 5000 calls/hour. Memory usage: <500MB for typical batch operations.

4. APPENDIX

Additional technical documentation, API specifications, and code samples are available in the project repository: https://github.com/eco-nadec/SF-WA-CPI