SAP Cloud Platform Integration

Technical Specification

Technical Specifications Document

Document Release Note

Document Name:	WA and TS Data Bulk Retrieval
Version:	1.0.0
Description:	Batch processing flow that retrieves and combines multiple work assignments with their corresponding timesheets. Optimized for bulk operations, this flow handles large volumes of records efficiently by processing them in batches and implementing appropriate delays for SF API rate limiting.
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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

Batch processing flow that retrieves and combines multiple work assignments with their corresponding timesheets. Optimized for bulk operations, this flow handles large volumes of records efficiently by processing them in batches and implementing appropriate delays for SF API rate limiting.

1.2 Development Unit Information

Module	SAP Cloud Platform
Sub Module	Hana Cloud Integration
iFlow Title	WA and TS Data Bulk Retrieval
Processing Type	Background Online
Execution Frequency	On-Demand (Batch Processing)

2. DETAILED DESIGN

2.1 Configuration Details

Package Name: SF-Nadec-WorkAssignment

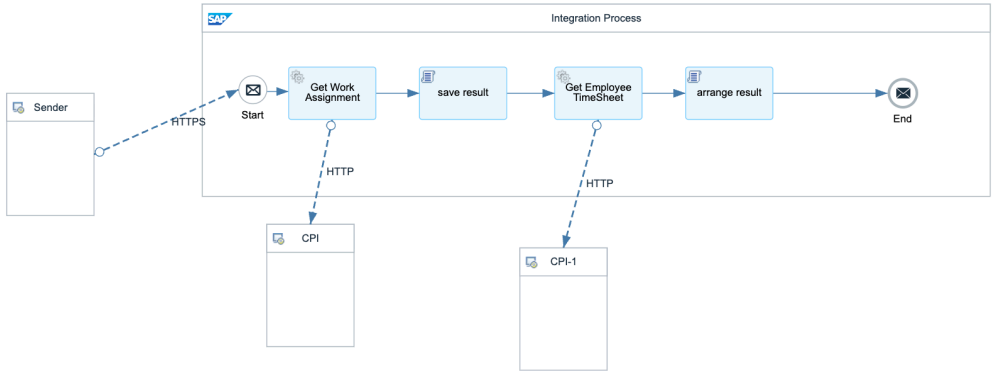
iFlow Name: WA and TS Data Bulk Retrieval

Technical Name: WA_TS_Combine_Bulk

Endpoint: /getWAAndTimesheetBulk

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. Accept multiple work assignment records as JSON array input
2. Convert JSON array to XML <Records> structure for processing
3. Extract and save work assignment data to message property
4. Fetch corresponding timesheet data for each work assignment
5. Combine work assignment XML with timesheet JSON
6. Apply 5-second delay for SF API rate limiting compliance
7. Return combined XML with all work assignments and timesheets

Groovy Scripts

Script Name	Description
JSON to XML Conversion	Converts input JSON array to XML <Records> structure
Extract WA Data	Extracts work assignment data and saves to message property 'workAssignmentData'
Combine Data	Merges work assignment XML with fetched timesheet JSON
Aggregate Results	Combines multiple WA-TS pairs into single payload

Script Name	Description
Format Output	Structures final XML output with <WorkAssignment> and <Timesheet> sections
Rate Limit Handler	Implements 5-second delay (Thread.sleep) between batch operations

2.3 Adapter Configuration (Sender & Receiver)

Receiver (SF): Multiple API calls - Work Assignment OData API - TimeEvent OData API
Authentication: Basic + OAuth Bearer

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
Bulk input with 100 work assignments	All records processed, combined with timesheets successfully
Work assignments with no matching timesheets	Returns WA data with empty timesheet sections
SF API rate limiting triggered	5-second delay prevents rate limit errors
Large payload > 10MB	Chunking mechanism handles large data volumes

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