



SAP Cloud Integration –

Integration Flow

SAP SOAP to UN-EDIFACT syntax version 3 -
Outbound



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1. Introduction

The SAP BTP includes the SAP Cloud Integration, which offers diverse approaches to connect your IT systems with other cloud or on-premise system landscapes. This makes cloud integration simple and reliable. Hence it is SAP's strategic integration platform for SAP Cloud customers. It provides out-of-the-box connectivity across cloud and on-premise solutions. Since the SAP Cloud Integration is operated by SAP, you don't need to worry about basic activities. Additionally, SAP is offering prepackaged integration content as reference templates, that allows customers to quickly realize new business scenarios. This drastically reduces integration project lead times and lowers resource consumption significantly.

This document gives an overview about the outbound SOAP to EDIFACT template flow of SAP Cloud Integration in combination with SAP Integration Advisor (IA). It is explained how exported runtime artifacts from IA can be imported into the flow and how the flow can be configured. This template flow can be used for the following EDI standards:

- UN/EDIFACT
- Any UN/EDIFACT subset (like GS1 EANCOM or Odette EDIFACT)
- ODETTE

We assume the reader is an integration developer and is familiar with SAP Cloud Integration.

2. Copyright Statement: UN/EDIFACT and SAP SE

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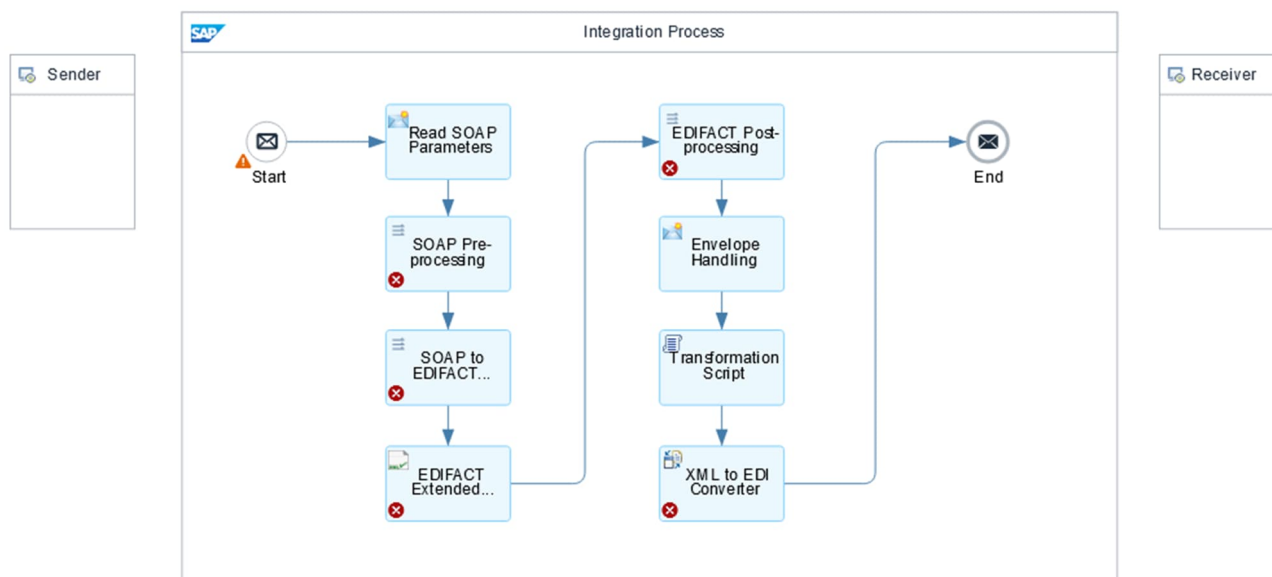
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3. Integration Flow

Integration Flow	
Name	SAP SOAP to EDIFACT s3 - Outbound
Description	SAP SOAP to EDIFACT s3 - Outbound Template



3.1 Basic Concepts

With the SAP Integration Advisor one can create MIG (message implementation guidelines) and MAG (mapping guidelines). These can be exported as SAP Cloud Integration runtime artifacts (zip file containing *.xslt and *.xsd files). The flow templates contain steps serving as containers for the exported runtime artifacts (where the runtime artifacts can be imported into). E.g. the runtime artifacts exported from the MIG and MAG of the SAP Integration Advisor can be used as follows: schemas (xsd) can be used in EDI Splitter, EDI to XML Converter, XML to EDI Converter, XML Validator (extended validation) ; stylesheet transformations (xslt files) in XSLT Mapping.

Furthermore, it is necessary to define and customize the communication adapters as well as the required information of the interchange envelope and header structures (e.g. in the content modifier).

3.2 Sender Channel

Sender channel is configured by the customer. In case of SOAP outbound scenario, an SOAP adapter should be used.

3.3 Start Event

The Start Message event is triggered by the sending system.

3.4 Read SOAP Parameters

Content Modifier

In the flow template, the Message Header is empty because the information which can be stored in header variables depends on the SOAP message. So in case you need to retrieve information from a

SOAP payload (different than the one we use in this example), please use a construct similar to the example shown here (for the SOAP message SupplierInvoiceRequest, present in the type system 'SAP S/4HANA Cloud SOAP' of the 'SAP Integration Advisor').

In this example we store in camel variables the values (from the input message) to be used later during the envelope handling (content modifier, 3.9.). In our example we used Xpath expressions from the SupplierInvoiceRequest message (from the SAP Cloud type system of the SAP Integration Advisor).

Content Modifier		<i>Description: From the source SOAP, parameters are extracted.</i>			
Message Header (this is only an example, the your Xpath expressions can be different depending on the SOAP message used).					
Action	Name	Type	Data Type	Value	Default
Create	Sender	XPath	java.lang.String	//MessageHeader/SenderParty/InternalID	
Create	Receiver	XPath	java.lang.String	//MessageHeader/RecipientParty/InternalID	

3.5 SOAP Pre-Processing

XSLT Mapping

Mapping	<i>In this step, the SOAP is preprocessed via an XSLT mapping.</i>
Name	<SourceMIGName>__preproc.xsl
Resource	<i>Runtime artifact from SAP IA. Located in the MIG source folder within the exported zip file.</i>
Type	XSLT Mapping
Output Format	XML

3.6 SOAP to EDIFACT Mapping

XSLT Mapping

Mapping	<i>Mapping step where the SOAP message is transformed into the UN-EDIFACT message via XSLT.</i>
Name	<MAGName>.xsl
Resource	<i>Runtime artifact from SAP IA. Located at the root folder of the exported zip file.</i>
Type	XSLT Mapping
Output Format	XML

3.7 EDIFACT Extended Validation (optional)

XML Validator

Mapping	<i>XML Validation step where the result of the XSLT mapping is validated against the EDIFACT extended validation XSD. Supports XSD 1.1 version.</i>
Name	<TargetMIGName>__RD.xsd

Resource	<i>Runtime artifact from SAP IA. Located in the MIG target folder within the exported zip file.</i>
Type	XSLT Mapping
Output Format	XML

This validation step is optional but recommended in case the generated payload needs to be validated against a xsd. E.g. for SG2.NAD.3035 qualified "II" (Issuer of Invoice), SG2.NAD.3207 (country name code) is restricted using a codelist only to value "DE" .

If you don't want to execute validation of the message, simply remove this flow step from your integration flow.

3.8 EDIFACT Post-processing

XSLT Mapping

Mapping	<i>The qualifiers within the target EDIFACT message are removed via an XSLT mapping.</i>
Name	<code><TargetMIGName>__postproc.xsl</code>
Resource	<i>Runtime artifact from SAP IA. Located in the MIG target folder within the exported zip file.</i>
Type	XSLT Mapping
Output Format	XML

3.9 Envelope Handling

Content Modifier

In the Exchange Properties, the different parameters have to be defined by the customer according to the UN-EDIFACT_Interchange_S3.xsd.

The body of the message is extracted into the header variable *ExtractedMessage*.

Example: The customer could to set the value for the XPath variable in the following format:

`//<TargetMessageType>`

Example values are provided here:

Content Modifier					
Exchange Property (example)					
Action	Name	Type	Data Type	Value	Default
Create	ExtractedMessage	XPath	org.w3c.dom.NodeList	//M_INVOIC	
or					
Create	ExtractedMessage	XPath	org.w3c.dom.NodeList	@* node()	

Example values for the EDIFACT Interchange header (UNB) are provided in the following table:

Content Modifier					
Exchange Property (example)					
Action	Name	Type	Data Type	Value	Remark
Create	InterchangeControlReference	Number Range		ICN_EDIFACT	Number Range Object
Create	PreparationTime	Expression		\${date:now:HHmm}	
Create	PreparationDate	Expression		\${date:now:yyyyMMdd}	
Message Body (example)					

In case the requirement is to generate a new Interchange Control Reference (Interchange Control Number) each time you are sending an Edifact message, you can use Number Ranges. To configure Number Ranges, navigate to Monitor->Manage Stores->Number Ranges. Example of a Number Range object: A number range can be used to insert unique sequence numbers.

Add Number Range

*Name:

Description:

*Minimum Value:

*Maximum Value:

Field Length:

Rotate

To rotate next value once it reaches the maximum value.

Each time an unique number is generated, the length will stay at 9 characters. This means 1 will become 000000001 .

OK Cancel

3.10 Transformation Script

We use a groovy script to adjust the Interchange Control Reference to the value set above with the Number Range (3.9).

Content of the script is:

```

Groovy Script

import com.sap.gateway.ip.core.customdev.util.Message;
import java.util.HashMap;
def Message processData(Message message) {
    //Body
    def body = message.getBody(new java.lang.String().getClass());

    //Properties
    def properties = message.getProperties();
    def interchangeControlReference = properties.get("InterchangeControlReference");
    def regex = (<D_0020>.*?</D_0020>/);

    def updatedBody = body.replaceAll(regex, "<D_0020>${interchangeControlReference}</D_0020>");
    message.setBody(updatedBody);

    return message;
}
    
```

3.11 XML To EDI Converter

Converter

XML To EDI Converter	
General	
Name	XML to EDI Converter
EDIFACT	
Source Encoding	e.g. UTF-8
EDI Schema Definition	Integration Flow
Schema Name	<i>UN-EDIFACT_<MessageType>_<ReleaseVersion>.xsd or UN-EDIFACT_<MessageType>_<ReleaseVersion>_<AssociationAssignedCode>.xsd or ODETTE_<MessageType>_<ReleaseVersion>.xsd</i>
	<i>Runtime artifact from SAP IA. Located in the MIG target folder within the exported zip file.</i>

3.12 End Event

The End Message event should be connected with the receiving system.

3.13 Receiver Channel

Receiver channel is configured by the customer.