

SAP BUSINESS TECHNOLOGY PLATFORM | EXTERNAL

Configuration Guide

Cancel Customer Invoice using SAP Build Process Automation or SAP Workflow Management

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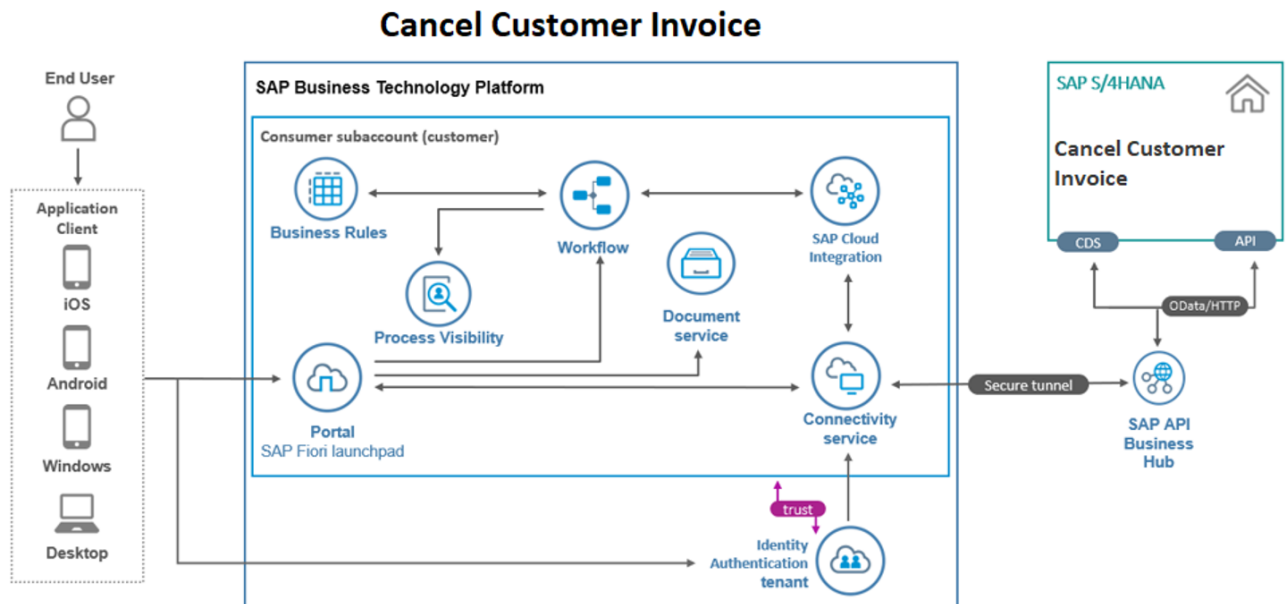
Overview

This document provides information about configuration steps to consume the live process package **Cancel Customer Invoice**. The main audience of this document are Sales Managers, Finance Managers, Developers and Product owners.

The Cancel Customer Invoice content package enables SAP S/4HANA customers to automate the approvals required for cancel customer invoice request using SAP Build Process Automation or SAP Workflow Management without additional development in SAP S/4HANA.

Salient features of this content package are:

- Plug and Play with SAP S/4HANA without any additional development.
- Process steps delivered to approve cancel customer invoice request.
- Automatic email notification to parties involved.
- Business Rules provide flexibility in determining approver determination strategy and approvers.
- Custom validation on cancel customer invoice request attributes using Business Rules.
- New variant of the process can be created using the pre-delivered process steps in a no-code / low-code approach.
- Out-of-the-box visibility into key process performance indicators of the cancel customer invoice request.



Live Process Artifacts

A package consists of process templates, process steps, decisions, and process visibility models. Please refer [help documentation](#) about these artifacts.

Process

A process template is a set of business activities and tasks that, once completed, fulfills an organization approval process. The **Cancel Customer Invoice** package contains the following process template:

Cancel Customer Invoice in SAP S/4HANA with a multilevel approval process. It includes start and end process steps for easy no-code/low-code configuration.

A business process can be broken down logically into smaller parts or steps. Each process step is a collection of activities to perform a specific task. For example, an approval process step can contain an activity to determine the approvers, an approval task itself, notifications activities, and handle the approval result. Table 1 represents the list of process steps available to be used in Cancel Customer Invoice.

Table 1. Process Steps

Process Steps	Cardinality	Detailed Description
Invoice Validation	0..1	Based on the company code, customer number, sales organization, distribution channel, division, document type, amount and currency. it will validate the cancel customer invoice request.
Approval for Cancel Customer Invoice	1.. N	This step initiates and completes one level of approval for the cancel customer invoice request. This step can occur multiple times in the process variant. Based on the number of approvals required, this step can be re-used multiple times. It is possible to rename the step to appropriate approval roles, for example, 'Approval for Sales Manager'. The approver is determined based on various conditions using a business rule. The requestor and the approver are automatically notified via mail about the decision and approval task, respectively.
Cancel Customer Invoice	1..1	Create cancel customer invoice request in SAP S/4HANA system after completion of all the configured approval steps. This step can occur only once, and it should be the last step in a process variant. If there is any success in cancel customer invoice request, notification mail will be triggered to the Initiator. If there is any error, admin task will be triggered to process admin, either admin can retry the invoice cancellation process or admin can abort the workflow process.

A process step can have customizable properties and they could determine the outcome of the process step. For example, the Approval step can be reused multiple times and based on these properties the approver is determined.

Approver can see cancel customer invoice request approval history based on cancel customer invoice request details. Please see Table 2 for more details

Table 2. Process Step Properties

Process Step	Properties	Detailed Description
Approval	Level Name	Based on the name of the approval level, the approver is determined using a business rule. Default value is Sales Manager, and it can be configured to any approval level, provided the same approval level name is configured in the business rule

The process has attributes, and these attributes are available in process visibility to search approval process instances and to define process performance indicators. Please see Table 3 for more details.

Table 3. Process Attributes.

Process Attributes	Detailed Description
companyCode	Company Code
customer	Customer Number
salesOrganization	Sales Organization
distributionChannel	Distribution Channel
division	Division
documentType	Document Type
amount	Amount
currency	Currency
ApprovalStatus	Approval Status
invoice	Invoice Number
initiatorUserId	Initiator User Id
initiatorEmail	Initiator Email Id

The following (sample) context with Start Conditions required to start the Cancel customer invoice request Workflow

```
{
  "InvoiceDetails": {
    "companyCode": "1710",
    "customerNumber": "17100006",
    "salesOrganization": "1710",
    "distributionChannel": "10",
    "division": "00",
    "documentType": "F2",
    "amount": 40,
    "currency": "USD"
  },
  "InvoiceCancellationDetails": {
    "companyCode": "1710",
    "disChanelDesc": "Direct Sales",
    "amount": 40,
    "salesDesc": "Dom. Sales Org US",
    "documentType": "F2",
    "companyDesc": "Company Code 1710",
    "postingDate": "25/11/2020",
    "customerDesc": "Domestic Customer US 6 (Returns)",
    "salesOrganization": "1710",
    "division": "00",
    "billingDate": "25/11/2020",
    "initiatorUserId": "xyz@abc.com",
    "Mail": false,
    "businessKey": "90000360",
    "requestDate": "2022-02-17T22:14:55.993Z",
    "divDesc": "Product Division 00",
  }
}
```

```

    "currency": "USD",
    "distributionChannel": "10",
    "invoiceNo": "90000360",
    "cancelReason": "test run",
    "isValidationStepExist": false,
    "isApproved": "",
    "initiatorEmail": "xyz@abc.com",
    "customer": "17100006"
  },
  "History": []
}

```

Sample Conditions to directly start a variant workflow

```

{
  "InvoiceDetails": {
    "companyCode": "1710",
    "customerNumber": "17100006",
    "salesOrganization": "1710",
    "distributionChannel": "10",
    "division": "00",
    "documentType": "F2",
    "amount": 40,
    "currency": "USD"
  }
}

```

Example:

The screenshot shows the 'Process Variant Properties' dialog with the 'Start Conditions' tab selected. The main instruction reads: 'Only start the variant if all of the following conditions are met:'. A single condition is defined: 'Invoice Cancellation Details.Company Code' is equal to '1710'. The condition is represented by three stacked input fields: the first contains the field name, the second contains the operator '=', and the third contains the value '1710'. To the right of the condition list is a blue 'X' icon for removal, and below it is a blue '+' icon for adding more conditions. At the bottom of the dialog is a button labeled 'Add Alternate Conditions'.

Process Variants

A process variant consists of multiple process steps configured by a line of business experts. It is possible to create multiple variants of the same process.

Please refer [help documentation](#) about how to import content packages and configure a process variant.

An example of Cancel Customer Invoice variant is given below. It is possible to configure multiple variants of this process.

The screenshot displays the SAP Build Process Automation interface for configuring a process variant. At the top, the title is "Cancel Customer Invoice For Billing Type CBD2". On the right, there are buttons for "Undo", "Redo", "Save", and "Activate".

On the left, under "Available Steps (3)", there are three steps:

- Approval for Cancel Customer...**: Approve the requested Cancel Customer Invoice Request for posting.
- Cancel Customer Invoice**: Proceed with processing the Cancel Customer Invoice.
- Cancel Customer Invoice...**: Validate requested Cancel Customer Invoice details before sending for approval...

The central flow diagram shows a sequence of steps: a start node (green circle) leads to "Invoice Validation", then "Approval", then "Cancel Customer Invoice", and finally an end node (red circle). The "Cancel Customer Invoice" step is marked as locked.

On the right, the "Process Variant Properties" panel is visible, showing fields for Name, Process, Description, Workflow Definition ID, and Leading Workflow Definition ID.

Import Cancel Customer Invoice and Configure Process Variants with SAP Build Process Automation

1. In the [SAP Build Process Automation Store](#), search for live process package Cancel Customer Invoice and import the same. This content package has one process template and process variant(s) for that template.
2. In the Application Development [Lobby](#), click to open the package with name Cancel Customer Invoice. This opens the package in a new tab/window.
3. Click the + icon next to the process template to create a new process variant.
4. Enter Name of the new Process Variant (ex, Two Step Approval).
5. Click the newly created Process Variant tile to save and activate the process variant.
6. The process variant has a default implementation with two steps and at least one level of approval.
7. It is possible to remove steps like "Approval for Cancel Customer Invoice" from a process variant only if there are multiple approvals. Please note that whether a step is mandatory or optional, and how many a times any step can be used within a variant, are dependent on the constraints defined on the process steps.
8. Save and activate the variant. A successful activation will create a new workflow definition in the account that can be viewed in the [Monitor Processes and Workflows app](#).

Import Cancel Customer Invoice and Configure Process Variants with SAP Workflow

Management

1. In Process Flexibility Cockpit app, search for content package Cancel Customer Invoice and import the same. Please refer the standard help document about [how to import a content package](#). This content package has one process template and process variant(s) for that template.
2. Open content package in Flexibility Cockpit and click Process Variants tile.
3. Click New Process Variant.
4. Enter Name of the new Process Variant (ex, default) and select “Cancel Customer Invoice” as Process.
5. Click the newly created Process Variant tile to save and activate the process variant.
6. The process variant has a default implementation with two steps and at least one level of approval.
7. It is possible to remove steps like “Approval for Cancel Customer Invoice” from a process variant only if there are multiple approvals. Please note that whether a step is mandatory or optional, and how many a times any step can be used within a variant, are dependent on the constraints defined on the process steps.
8. Save and activate the variant. A successful activation will create a new workflow definition in the account that can be viewed in the Monitor Workflows – Workflow Definition app in SAP Fiori Launchpad.

Decisions & Policies

Decisions allow to encapsulate the business logic from core applications and supports the reuse of business rules across different business processes. Decisions enable customers to adopt changes in processes without changing the underlying workflows or application logic. SAP Build Process Automation or SAP Workflow Management has business rules capabilities that enables customers to centrally manage all decisions. Please go through the [business rules capabilities](#) in SAP Workflow Management.

Manage Cancel customer invoice request process will enable the customers to flexibly configure decisions to gain the flexibility.

1. Determine Validations for Invoice Cancellation
2. Determine Approver
3. Approver Determination Strategy
4. Determine Process Administrator

Determine Validations for Invoice Cancellation

With this decision, it is possible to add any business-specific validation on Cancel customer invoice request. For Example, enable/disable the cloud application for a specific company code, customer number etc.

Rule Service Invoice Cancellation Validation

Input Data Object: Invoice Cancellation Record Details (Structure)

ATTRIBUTE	TYPE	DESCRIPTION
Company Code	String	Company Code of requested Invoice Cancellation
Customer Number	String	Customer Number of requested Invoice Cancellation
Sales Organization	String	Sales Organization of requested Invoice Cancellation
Distribution Channel	String	Distribution Channel of requested Invoice Cancellation
Division	String	Division of requested Invoice Cancellation
Document Type	String	Document Type of requested Invoice Cancellation
Amount	Number	Amount of requested Invoice Cancellation
Currency	String	Currency of requested Invoice Cancellation

Output: Validation Result (Structure)

ATTRIBUTE	TYPE	DESCRIPTION
Validation Message	String	Validation Message
Is Validated	Boolean	'True' if validation is successful and 'False' if validation failed.

Rule Definition

Rule service is used to add additional validation as per the business requirement. For example, you can exclude company code 5000 to use this application

Determine Approvers

Rule service used to identify the potential approvers based on different company policy. Approver will be determined depending on company code and Customer Number. In this business rules Due date will be this business rules determined by a text rule based on cancel customer Invoice details. Every approver will have their respective due date in their approval task.

Rule Service: Determine Approver

Input Data Object: Invoice Cancellation Record Details (Structure)

ATTRIBUTE	TYPE	DESCRIPTION
Company Code	String	Company Code of requested Invoice Cancellation
Customer Number	String	Customer Number of requested Invoice Cancellation
Sales Organization	String	Sales Organization of requested Invoice Cancellation
Distribution Channel	String	Distribution Channel of requested Invoice Cancellation
Division	String	Division of requested Invoice Cancellation
Document Type	String	Document Type of requested Invoice Cancellation

Amount	Number	Amount of requested Invoice Cancellation
Currency	String	Currency of requested Invoice Cancellation
Level Name	String	Approval Level Name for which specific approver will approve the request

Along with the above attributes the other attributes can also be added as input parameters in this business rule.

Output: Approver Details (Structure)

ATTRIBUTE	TYPE	DESCRIPTION
User Id	String	User ID of the individual approver.
Group ID	String	The user group who can approve the step-in workflow. .
Mail ID	String	Email address of the approver or approvers.
Is Approval Required	Boolean	Check if approval is required. True for required and false not required.
Unit of Time	String	Unit of time of due duration
Task Due Duration	Number	The task due duration target by which the user task needs to be completed
Due Duration Reference Event	String	Reference to an event in the workflow to determine the target of the user task

Rule Definition

Rule service used in the approval process step to identify the potential approvers based on different company policies

If Is Approval Required equal to “False” means it is automatically approved.

Due Date Determination Policy

Determine the due date duration for each approval step of the cancel customer invoice creation approval process. Based on the reference to determine the due date and the due duration, the approval task's deadline is calculated automatically.

Rule Name: Determine Task Due Date

Input Data Object: Invoice Cancellation Record Details (Structure)

ATTRIBUTE	TYPE	DESCRIPTION
Company Code	String	Company Code of requested Invoice Cancellation
Customer Number	String	Customer Number of requested Invoice Cancellation
Sales Organization	String	Sales Organization of requested Invoice Cancellation

Distribution Channel	String	Distribution Channel of requested Invoice Cancellation
Division	String	Division of requested Invoice Cancellation
Document Type	String	Document Type of requested Invoice Cancellation
Amount	Number	Amount of requested Invoice Cancellation
Currency	String	Currency of requested Invoice Cancellation
Level Name	String	Approval Level Name for which specific approver will approve the request

Output: Duration Due (Structure)

ATTRIBUTE	TYPE	DESCRIPTION
Duration Reference	String	Reference event in workflow that is used to determine the due date of user task
Unit of Time	String	Unit of Time
Duration	Number	Duration

Approver Determination Strategy

To identify the approver determination strategy below rule service will be used.

Rule Service: Approver Determination Strategy

Input Data Object: Invoice Cancellation Record Details (Structure)

ATTRIBUTE	TYPE	DESCRIPTION
Company Code	String	Company Code of requested Invoice Cancellation
Customer Number	String	Customer Number of requested Invoice Cancellation
Sales Organization	String	Sales Organization of requested Invoice Cancellation
Distribution Channel	String	Distribution Channel of requested Invoice Cancellation
Division	String	Division of requested Invoice Cancellation
Document Type	String	Document Type of requested Invoice Cancellation
Amount	Number	Amount of requested Invoice Cancellation
Currency	String	Currency of requested Invoice Cancellation
Level Name	String	Approval Level Name for which specific approver will approve the request

Output: Approver Determination Strategy (Structure)

ATTRIBUTE	TYPE	DESCRIPTION
Determination Strategy	String	Determination strategy can either "Business Rule" or "External Service" depending on Invoice details.

Rule Definition

Rule service used in the approval process step to identify the approver determination type. It can be 'Business Rules' based or 'External Service' based

Determine Process Administrator

Determine the process administrator to decide action.

Rule Service: Determine Process Administrator

Input: Invoice Cancellation Record Details (Structure)

ATTRIBUTE	TYPE	DESCRIPTION
Company Code	String	Company Code of requested Invoice Cancellation
Customer Number	String	Customer Number of requested Invoice Cancellation
Sales Organization	String	Sales Organization of requested Invoice Cancellation
Distribution Channel	String	Distribution Channel of requested Invoice Cancellation
Division	String	Division of requested Invoice Cancellation
Document Type	String	Document Type of requested Invoice Cancellation
Amount	Number	Amount of requested Invoice Cancellation
Currency	String	Currency of requested Invoice Cancellation
Level Name	String	Approval Level Name for which specific approver will approve the request

Output Process Administrator Details (Structure)

ATTRIBUTE	TYPE	DESCRIPTION
Administrator User IDs	String	User ID List (comma separated)
Administrator Group IDs	String	Group ID List (comma separated)
Administrator Email IDs	String	Email ID List (comma separated)

Rule Definition

Rule Service used to determine the Process Administrators that need to be notified to resolve any issue with the process

Invoice Cancellation Vocabulary

For Cancel Customer Invoice Workflow start condition or step condition a separate business rules project will be used, named as **invoice Cancellation Vocabulary**. Depending on invoice cancellation Vocabulary process variant will be determined.

Input: Invoice Cancellation Details (Structure)

ATTRIBUTE	TYPE	DESCRIPTION
Company Code	String	Company Code of requested Invoice Cancellation
Customer Number	String	Customer Number of requested Invoice Cancellation
Sales Organization	String	Sales Organization of requested Invoice Cancellation
Distribution Channel	String	Distribution Channel of requested Invoice Cancellation
Division	String	Division of requested Invoice Cancellation
Document Type	String	Document Type of requested Invoice Cancellation
Amount	Number	Amount of requested Invoice Cancellation
Currency	String	Currency of requested Invoice Cancellation

Approver Determination Strategy – External Service

The process content provides an option to determine approvers using an alternative strategy, i.e., External Service instead of Business Rule.

To leverage this strategy, the Approve Process step has a provision to call an iFlow with the following configuration. This iFlow needs to be implemented as per your business requirement.

Destination	CPI [Refer to Setup Guide]
CPI Adapter	HTTP
Endpoint	/http/InvoiceCancellationApproverDetermination
HTTP Method	POST
Request Payload Type	JSON(application/json)
Request Payload Structure	<pre>{ "InvoiceCancellationApproverPayload": { "CustomerNumber": "17100006", "LevelName": "Sales Manager", "DistributionChannel": "10", "SalesOrganization": "1710", "Division": "00", "CompanyCode": "1710" } }</pre>
Response Payload Structure	<pre>{ "Result": [{ "ApproverDetails": { "DueDurationReference": "Task", "UnitOfTime": "h", "UserID": "xyz@example.com", "DueDuration": 2, "IsApprovalRequired": true, </pre>

	<pre>"GroupID": "Approver_GroupId", "MailID": "xyz@example.com" } }] }</pre>
--	---

Process Visibility

Process Visibility capability in SAP Build Process Automation or SAP Workflow Management enables Process Owners and Process Operators to gain real time visibility on processes and key process performance indicators. It also enables customers gain out of the box process visibility into their deployed processes. Please refer [help documentation](#) for more details.

Cancel Customer Invoice process content package provides out of the box visibility on all the process variants in SAP Build Process Automation or SAP Workflow Management. Line of business expert will be able to enhance the visibility scenario to their requirements.

Configure Visibility Scenarios in SAP Build Process Automation

1. Go to the Application Development Lobby.
2. Select Cancel Customer Invoice Project.
3. Click to open **Cancel Customer Invoice** scenario.
4. Click Activate button.

Please go through the [help documentation](#) on how to configure the visibility scenario.

Configure Visibility Scenarios in SAP Workflow Management

1. Go to Process Visibility Cockpit.
2. Select Cancel Customer Invoice tile.
3. Click Visibility Scenarios tile.
4. Select **Cancel Customer Invoice** scenario and click Activate.

Please go through [help documentation](#) on how to configure a visibility scenario.

Access Process Workspace in SAP Build Process Automation

1. The process visibility scenario can be accessed using SAP Launchpad Service. Refer to the help document for [creating UI applications on central SAP Fiori Launchpad](#) for SAP Build Process Automation.
2. Once you have added the applications process Visibility Scenario Instances (with app ID com.sap.spa.pv.instances) and Visibility Scenario Dashboard (with app ID com.sap.spa.pv.ovp), follow the below steps to add a tile to access the Cancel Customer Invoice dashboard.
 - a. Navigate into “Visibility Scenario Dashboard”.
 - b. On the screen that opens, choose Create a Local Copy.
 - c. To use custom texts, choose Edit and adapt the texts in the General section.
 - d. You can use a custom title, description, and subtitle for the tile.
 - e. Choose the Navigation tab.
 - f. Under the Intent section, ensure that the value in the Action tab is unique for every application.
 - g. Under the Parameters section, provide the following:

Parameter Name	Parameter Value
Name	scenarioid
Default Value	com.sap.content.cnclinv
Required	Toggle to Yes
 - h. Choose Save.
 - i. Assign the local copy to a group and make sure that they're visible to users. For more information, see [Assign Apps to a Group and to a Catalog](#) and [Assign Content to a Role](#).
3. Once created, select app that corresponds to “Cancel Customer Invoice”.
4. User will see the process visibility dashboard.

Access Process Workspace in SAP Workflow Management

1. Go to Process Flexibility Cockpit
2. Select Cancel Customer Invoice
3. Click Live Process Insights Cancel Customer Invoice
4. User will see the process visibility dashboard below.

Please go through [help documentation](#) on how to access process workspace.

Standard

Not Filtered

