

ONESOURCE™ US TAX INTEGRATION FOR SAP S/4 HANA CLOUD

SAP S/4 HANA CLOUD USER GUIDE

Document Version 1

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DOCUMENT HISTORY

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INTEGRATION OVERVIEW

This is an overview of the external sales and use tax calculation integration between SAP S/4 HANA Cloud (S/4HC) and ONESOURCE Indirect Tax Determination (Determination) for the United States.

This solution uses the SAP-delivered US tax procedure 0TXUSX. For this integration, SAP standard tax interface system is used to pass all necessary data to enable Determination to determine tax jurisdictions, calculate taxes and return the calculated results to SAP. Through the tax interface, tax files in Determination are also updated with the relevant tax information for legal reporting and compliance purposes.

In the US, sales and use tax calculation is executed for Sales and Distribution, Materials Management and Finance modules during order and invoice processing.

At a high level, the following processes are supported:

- Processing Purchase (Procure To Pay) or Sales (Order To Cash) Transactions
- Logistic Invoice Verification (LIV) with posting to A/P
- Processing Billing Document transactions with posting to A/R
- Finance Transactions (Incoming/ Outgoing Invoices and Credit Memos)
- Supporting address management to determine US jurisdiction codes

In SAP, pricing procedures and tax procedures are used as the basis for external tax calculation:

- Pricing procedure: SD
- Tax calculation procedure: 0TXUSX (SD, MM and FI)

PREREQUISITES AND STEPS

For a successful implementation of the ONESOURCE US Tax Integration for SAP S/4 HANA Cloud system, ensure you have procured the necessary systems and follow the implementation steps outlined below:

PREREQUISITES
Procurement of SAP CPI tenant
Procurement of SAP S/4 HANA Cloud
Procurement of ONESOURCE IDT Determination

STEPS	REFERENCE DOCUMENTATION
1. Configure Communication Scenario SAP_COM_0177 in SAP S/4HANA Cloud.	Configure Communication Scenario SAP COM_0177
2. Get the CPI iFlow Package from ONESOURCE	ONESOURCE US Tax Integration for SAP S/4 HANA Cloud iFlow Configuration Guide
3. Configuring FI, MM and SD in S/4HANA Cloud for tax relevant settings	FI Configurations ; MM Configurations ; SD Configurations
4. Maintaining Master Data	Maintaining Master Data
5. Developing Enhancements	Developing Enhancements
6. Setup ONESOURCE US Tax Integration for SAP S/4 HANA Cloud Configuration and Logging Settings	ONESOURCE IDT Integration

BENEFITS

Enabling Determination to generate tax results for your SAP transactions results in the following key benefits:

Seamless Integration

Once integrated, your tax professionals can continue to use SAP functionality without needing to learn new technology or processes. Determination automatically obtains a complete set of data

elements necessary to perform the appropriate sales and use tax calculations, then returns the results to SAP—all without the need for manual intervention.

Accurate Tax Calculation

Determination is the premier solution for your Sales, Use Tax and VAT needs. Determination is the only system to provide all of these features:

- Integrates worldwide tax calculation
- Enables global visibility and real-time transactions
- Gives control of the data and decision-making to the tax professional
- Eliminates or minimizes IT involvement as tax jurisdictions, rates, and rules change
- Provides a scalable, maintainable enterprise solution

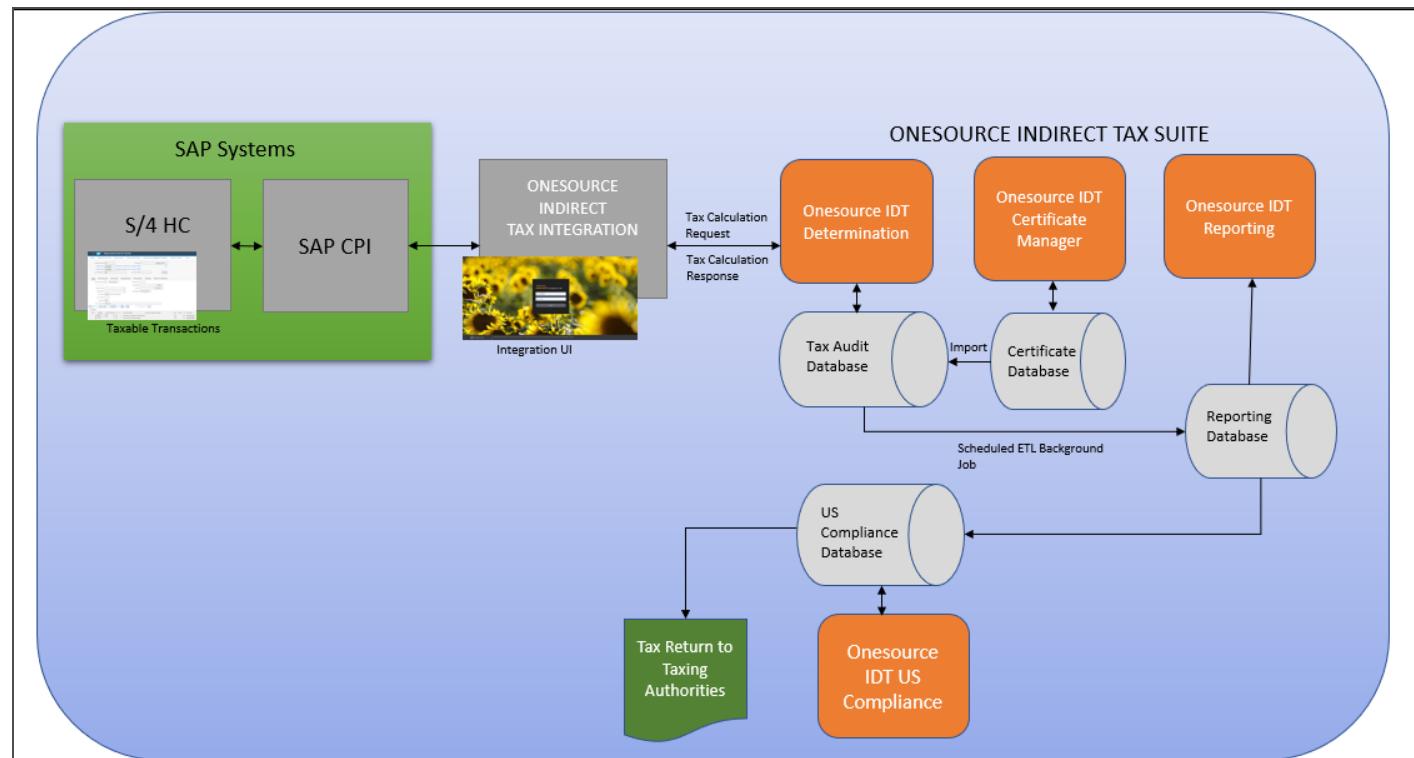
Using Determination as your global transaction tax management solution reduces costs, increases accuracy, and provides the flexibility needed to adapt to an ever-changing business and taxation environment.

Auditing/Reporting

Tax calculations that are processed using Determination are stored in Determination audit tables. From this audit data, you can generate standard or customized reports based on any user-defined criteria. For example, you can create tax-by-jurisdiction reports or any other desired reports needed to satisfy your company's needs.

ARCHITECTURE AND DESIGN OVERVIEW

The overall architecture and design of the ONESOURCE US Tax Integration for SAP S/4 HANA Cloud solution with the ONESOURCE IDT Suite of Products has multiple steps as explained in the following section.



The solution is comprised of the following components:

SAP Systems

S/4HC is connected to Determination via the SAP External Sales and Use Tax Communication Scenario (SAP_COM_0177) which comprises of six outbound services. The data passed through from these services are collected, organized and sent to Determination via associated integration flows (iFlows) in CPI.

The outbound services are listed below:

OUTBOUND SERVICE	DESCRIPTION
Determine Jurisdiction Codes	This outbound service is called when a master data or configuration item with an tax jurisdiction field is updated in the address section.
Calculate Taxes	This outbound service is called during order and invoice processing in FI, MM and SD transactions, to calculate sales and use tax.
Update Tax Documents	This outbound service is called immediately after a posting of an accounting document in order to update tax transaction data to support tax reporting in Determination.
Force Update Tax Documents	This outbound service is only called when there is a discrepancy between the tax amount in the audit file and the accounts posted in the G/L..
Mass Redefine Tax Jurisdiction Codes	Not available in the current integration release
Get Changed Jurisdiction Code List	Not available in the current integration release

In order to establish the connection between your S/4HC system and Determination, you will need to setup the Communication Scenarios in S/4HC and import the prepackaged ONESOURCE IDT iFlows in SAP Cloud Platform Integration (CPI). See the **ONESOURCE US Tax Integration for SAP S/4 HANA Cloud iFlow Configuration Guide** document for the iFlow Setup.

Integration

ONESOURCE Indirect Tax Integration seamlessly connects your ERP system to Determination for tax calculations and appropriate return of tax results to the ERP for invoice printing and posting to the General Ledger. Integrations are developed and maintained in-house by a team of Thomson Reuters Business Systems Analysts, Developers, and Quality Assurance employees providing the most advanced tax engine determination capability and compliance returns processing globally. Our solution can be fully assimilated into any of your existing businesses, e-commerce, or financial systems using our open integration architecture. Tax calculation calls can be easily inserted into existing system workflows and processes to deliver real-time or batch solutions with accurate tax results.

This integration comes with an all-new Web based user interface to configure Integration and logging settings, and a flexible log viewer for searching and displaying logs to quickly troubleshoot tax issues.

Determination

ONESOURCE Indirect Tax Determination enables companies to consolidate their global tax policy in one central location. All enterprise-wide applications can use a single scalable instance of Determination and still deliver business-specific tax policy across multiple-business systems. Fully integrated to all your financial applications, Determination enables the passing of transaction data from the financial system to the tax engine, and returns transaction taxes in real time for fast, reliable, and accurate indirect tax determination. We offer fully supported standard Oracle and SAP integrations, as well as custom integrations via our tax calculation web service.

Tax Certificate Manager

ONESOURCE Indirect Tax Certificate Manager is a solution for the precise tracking, validating, and governing of exemption certificates. As part of ONESOURCE, it provides integration to our Determination software that allows for the export of customers and exemption certificates. ONESOURCE Indirect Tax Certificate Manager improves efficiency in all aspects of the burdensome exemption certificate lifecycle by reducing operating costs, mitigating risk, and increasing accuracy. ONESOURCE Indirect Tax Certificate Manager reduces audit exposure and assessments while empowering you with full control of the exemption certificate process to maintain Sarbanes-Oxley compliance.

Reporting

ONESOURCE Indirect Tax Reporting software provides fast, accurate, and flexible reporting that's fully integrated with our ONESOURCE Indirect Tax global software suite to support your global compliance, reconciliation, and data analysis processes. An easy-to-use interface provides a library of over 40 production-ready reports that can deliver the most relevant data in a few simple clicks. Drill-down capabilities provide a way for you to quickly explore the underlying data details, all the way down to the lowest level individual authority taxes. Our summary-level or detail-level reports allow you to choose the type of report data that best meets your immediate tax data needs in the most efficient way possible.

Compliance for US

Regardless of location or industry, Sales & Use Tax Compliance has the forms required to meet your needs. It provides over 600 signature-ready state and local returns that are facsimiles of the official forms. Returns and schedules include sales, seller's use, consumer's use, and rental tax forms for all applicable states, as well as the District of Columbia. Industry-specific food and beverage returns are also included. In addition, more than 70 electronic returns are available and accepted in over 25 states. Sales & Use Tax Compliance is one of the market leaders in e-filing support. Thomson Reuters continues to work directly with state taxing authorities to ensure full compliance for each state's unique electronic filing requirements. The software also goes beyond borders to include the returns required for tax compliance in both Canada and Puerto Rico.

CONFIGURING S/4HC TO USE ONESOURCE INDIRECT TAX DETERMINATION FOR US

For the United States (US), SAP provides the tax procedure 0TXUSX. This tax procedure works in conjunction with the pricing procedure utilizing the 500/501 calculation routine. This is recommended since it allows max tax calculation by the Determination. Max tax calculations are not possible otherwise. This is another advantage of using Determination for your tax calculations.

There are three key SAP modules—FI, SD, and MM—where you need to make the configurations in the "Configure Your Solution" app in S/4HC. These changes will activate the tax interface so that it sends transactions from Order to Cash, Procure to Pay and FI to Determination. This guide describes the required configurations, as well as master data maintenance for jurisdiction code determination and condition type maintenance for tax code selection in SD and MM.

You may require additional configurations according to your business needs. To get the most accurate tax results, make sure that Determination and SAP have been configured to account for your specific business scenarios.

CONFIGURE COMMUNICATION SCENARIO SAP_COM_0177

S/4HC is connected to the ONESOURCE IDT prepackaged iFlows in CPI via the Communication Scenario SAP_COM_0177. Please ensure the services within the Communication Arrangement are properly mapped to the iFlows so that tax data is sent and received properly by Determination.

1. Login to the S/4HC system with role SAP_BR_BPC_EXPERT.
2. Search for the app **Communication Arrangements**.

3. Click on the New button to create a New Communication Arrangement. Under Scenario, enter or search for **SAP_COM_0177**. This is the communication scenario used by SAP to connect to an external US Sales and Use Tax system. Click on *Create*.

New Communication Arrangement

*Scenario:
SAP_COM_0177

Arrangement Name:
SAP_COM_0177 ONESOURCE IDT

Create Cancel

4. Under each of the current supported Outbound Services, enter the Path that corresponds to the iFlow settings. For example, if you configured path **/cxft/TaxCalc** in the Outbound Service for Calculate Tax, maintain the same settings in the corresponding iFlow in CPI.

SAP_COM_0177 External Tax CPI

External Sales and Use Tax Calculation Integration (SAP_COM_0177)

External Tax - Calculate Taxes

Service Status: Active

Application Protocol: SOAP

Port: 443

Path: /cxft/TaxCalc

Service URL: https://p250038-iflmap.hcispp.us3.hana.o...

Download WSDL Check Connection

5. Save your settings.

FI CONFIGURATIONS

FI configurations require successful completion of these procedures:

- Assigning the country to the tax procedure (calculation procedure)
- Specifying the structure for the tax jurisdiction code
- Assign tax codes for non-taxable transactions
- Import default tax rate transport

- Approve the use of external tax
- Review tax codes on sales and purchases

ASSIGNING THE COUNTRY TO THE TAX PROCEDURE (CALCULATION PROCEDURE)

In SAP, the tax calculation procedure defines the tax calculation and posting rules. The calculation procedure **0TXUSX** has been provided for external tax system processing for US.

This calculation procedure will need to be assigned to the country US to enable external tax calculation.

1. Login the S4HC system with role SAP_BR_BPC_EXPERT.
2. Search for the app **Manage Your Solution**. Within this app, enter the menu **Configure Your Solution**.
3. In the search field, enter the text *assign country*.
4. Choose the menu **Assign Country to Calculation Procedure** from the list
5. For country US, assign the procedure **0TXUSX**. Save your configuration.

Ctrl	Name	Proc.
US	USA	0TXUSX

SPECIFYING THE STRUCTURE FOR THE TAX JURISDICTION CODE

This configuration step specifies how the tax jurisdiction codes are structured per level to match the structure of the tax jurisdiction codes returned by Determination.

1. Login the S4HC system with role SAP_BR_BPC_EXPERT.
2. Search for the app **Manage Your Solution**. Within this app, enter the menu **Configure Your Solution**.
3. In the search field, enter the text *Tax Jurisdiction Code*.
4. Choose the menu **Specify Structure for Tax Jurisdiction Code** from the list.
5. Modify **0TXUSX** as shown here with jurisdiction structure 4-5-4-1. Save your configuration.

Schema	Name	Lg	Lg	Lg	Lg	Tx ln
0TXUSX	External US Tax Jurisdiction Code	4	5	4	1	<input checked="" type="checkbox"/>

ASSIGN TAX CODES FOR NON-TAXABLE TRANSACTIONS

This configuration step defines input and output tax codes corresponding to company codes for posting non-taxable transactions to tax-relevant accounts.

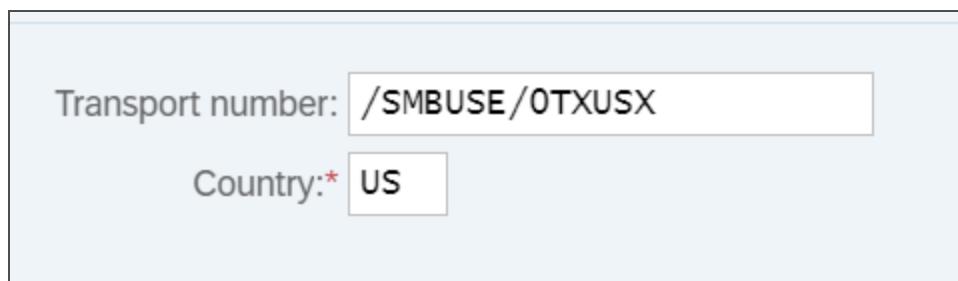
1. Login the S4HC system with role SAP_BR_BPC_EXPERT.
2. Search for the app **Manage Your Solution**. Within this app, enter the menu **Configure Your Solution**.
3. In the search field, enter the text *Tax Jurisdiction Code*.
4. Choose the menu **Assign Tax Codes for Non-Taxable Transactions** from the list.
5. Maintain the input and output tax codes for posting non-taxable transactions to tax-relevant accounts for each US company code.
6. Enter also a tax jurisdiction code for non-taxable transactions.
7. Save your configuration.

	CoCd	Company Name	City	Input ta...	Output ...	Jurisdict. Code
	1710	Company Code 1710	Palo Alto	I0	00	US00000000000000

IMPORT DEFAULT TAX RATE TRANSPORT

This configuration step is to import default tax rates in order for S/4HC system to ignore the internal tax rate when using the external tax calculation interface.

1. Login the S4HC system with role SAP_BR_BPC_EXPERT.
2. Search for the app **Import Tax Codes after Transport**.
3. Enter the country US and the Transport number /SMBUSE/0TXUSX. Then press Execute button.



Transport number:

Country:

APPROVE THE USE OF EXTERNAL TAX

This one-time item configuration step requires you to read and approve the disclaimer regarding 'Important information about US Tax Calculation using a Partner Software'.

After reading and acknowledging your acceptance of this disclaimer by clicking on the 'YES' dialog box, you will be able to proceed with using the external tax calculation interface.

REVIEW TAX CODES ON SALES AND PURCHASES

In S/4HC tax rate maintenance is only applicable for use with native SAP tax calculation procedure. You will however, be able to display the recommended tax codes and its properties for the external tax calculation procedure.

RECOMMENDED TAX CODES FOR US			
TAX CODE	DESCRIPTION	TAX TYPE	CATEGORY
O0	AR - Taxes, Exempt	A	0
O1	AR - Taxes	A	0
I0	AP - Taxes (Input), Exempt	V	0
I1	AP - Taxes (Input)	V	0
U1	AP - Taxes (Self Assessment)	V	1

For some authorities in the US and US Territories, only a sales tax rate has been defined. Therefore, anytime a purchase-based transaction is run, use tax will not calculate. This means that for the AP side, we need Determination to run the transaction as a seller when doing a vendor validation. By running the transaction as a seller we will capture the correct taxes.

Based on the properties of the tax code, Integration provides the following Company Role (Buyer or Seller) to Determination:

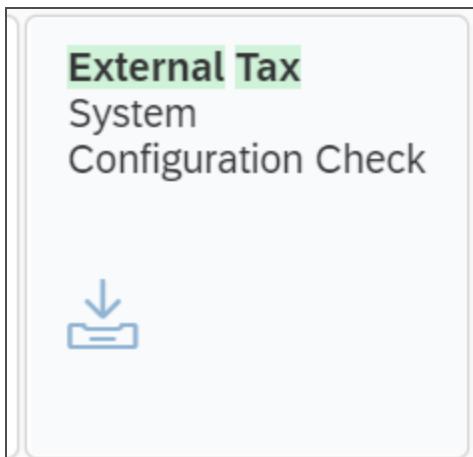
COMPANY ROLE BASED ON TAX TYPE			
TAX TYPE	DESCRIPTION	TAX CATEGORY	ONESOURCE INDIRECT TAX COMPANY ROLE
A	Output Tax	Must be 0 or Blank; no other flags are allowed.	S - Seller
V	Input Tax	If 0 or Blank	S - Seller

COMPANY ROLE BASED ON TAX TYPE			
TAX TYPE	DESCRIPTION	TAX CATEGORY	ONESOURCE INDIRECT TAX COMPANY ROLE
V	Input Tax	1	B - Buyer

CHECK THE EXTERNAL TAX CALCULATION INTEGRATION SOLUTION

In S/4HC, search for the app **External Tax System Configuration Check** to check the Process Status indicator next to each item. If the indicator is green against a process item, then the setting is correct for that item. If not, follow the instruction detailed in the information column to resolve the issue.

If all indicators are green, you are able to start posting tax-related transactions.



External Tax Configuration Check		
Process Stat...	MESSAGE TEXT	DETAILED I...
█	Calculation Procedure Successfully Assigned	
█	Logical Destination Successfully Assigned	
█	External Tax Calculation Destination Successfully Assigned	
█	Jurisdiction Code Structure Definition Successfully Assigned	
█	Tax Rate Successfully Assigned	
█	Disclaimer Calculation and Reporting Successfully Assigned	
█	Jurisdiction Code Length Structure Successfully Assigned	
█	CPI Connection Successfully Assigned	

MM CONFIGURATIONS

MM configurations require the following procedure:

SETTING THE TAX INDICATOR FOR MATERIALS

This configuration is to define a tax indicator on the purchasing view of material master. This flag will be used to automatically determine the tax code in purchasing.

1. Login the S4HC system with role SAP_BR_BPC_EXPERT.
2. Search for the app **Manage Your Solution**. Within this app, enter the menu **Configure Your Solution**.
3. In the search field, enter the text *taxes*.
4. Select the item **Taxes (Sourcing and Procurement: Operational Procurement)**
5. Choose the menu **Set Tax Indicator for Material** from the list.
6. On this screen assign the tax indicator as shown below to country US
7. Save your entries.

Dst.Cntry	Material	Description
US	0	Material 0%
US	1	Material 100%
US	2	Material 50% exempt

SD CONFIGURATIONS

SD configurations require several procedures:

- Maintaining the pricing procedure for tax calculation
- Determining pricing procedure (assigning pricing procedure)
- Maintaining jurisdiction codes on delivering plants

MAINTAINING THE PRICING PROCEDURE FOR TAX CALCULATION

In certain US tax jurisdictions, max tax calculation is required at sales document level across multiple line items. In order to setup the Sales Pricing Procedure to support this functionality, follow the sets below:

You may use a pre-delivered pricing procedure, e.g. Y17J01 as a reference.

1. Login to the S4HC system with role SAP_BR_BPC_EXPERT.
2. Search for the app **Manage Your Solution**. Within this app, enter the menu **Configure Your Solution**.
3. In the search field, enter the text Pricing Procedures.
4. Choose the menu **Set Pricing Procedures** from the list.
5. Select pricing procedure Y17J01 and click on the Copy As button to create a copy of the predefined pricing procedure.
6. Remove condition types JR1 to JR4.
7. Replace condition type UTXJ with UTXD.
8. On the subsequent row, add condition type UTXE.

9. Select the Required indicator for UTXD.
10. Select the Statistics indicator for both UTXD and UTXE.
11. Include Requirement 084 to both UTXD and UTXE.
12. Include Alt Calculation condition value formula 500 to UTXD.
13. Include Alt Calculation condition value formula 501 to UTXE.
14. Include Alt Condition base value formula 16 to UTXD and UTXE.

Save your setting.

Step	Cou...	Con...	Description	From...	To St...	Ma...	Re...	Stat...	Rel...	Print Ty...	Subtotal	Require...	Alt. Cal...	Alt. Cn...	Accoun...	Accruals
840	0	YZWR	Down Pay./Settlement			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	B		2	48		ERL	
849	0	DCD2	Cash Discount Net			<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		D	14		2		
850	0	UTXD	US Tax per document	800		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>			84	500	16		
851	0	UTXE	US Tax per document	800		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>			84	501	16		
855	0	XR1	Tax Jur Code Level 1			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	B			301	16		
856	0	XR2	Tax Jur Code Level 2			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	B			302	16		
857	0	XR3	Tax Jur Code Level 3			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	B			303	16		
858	0	XR4	Tax Jur Code Level 4			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	B			304	16		
859	0	XR5	Tax Jur Code Level 5			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	B			305	16		
860	0	XR6	Tax Jur Code Level 6			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	B			306	16		
899	0	DRD1	Rounding Off			<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			13	16	4	ERS	
900	0		Total Value			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		A		4			

DETERMINING PRICING PROCEDURE (ASSIGNING PRICING PROCEDURE)

You will now need to configure how the system chooses the correct pricing procedure to be used during the sales document creation. Five factors determine the pricing procedure in SD.

Those factors are:

- Sales Organization
- Distribution Channel
- Division
- Order Type
- Sold-To-Party

Order Type and Sold-To-Party have a pricing indicator assigned to them.

Make sure that your master data (Sold-To-Party) has the correct indicator in the Sold-To-Party Billing tab.

1. Login the S4HC system with role SAP_BR_BPC_EXPERT.
2. Search for the app **Manage Your Solution**. Within this app, enter the menu **Configure Your Solution**.
3. In the search field, enter the text *pricing*.
4. Select the item **Pricing (Sales - Price Management)**
5. Choose the menu **Set Pricing Procedure Determination** from the list
6. On this screen make sure that you have correctly configured your pricing procedure determination. Work with your SD Business Analyst to confirm all lines in this table are correct for all combinations of sales org, channel, etc. Multiple lines would need to be updated based on your pricing procedure structures.

Sales Organis...	Distrib...	Division	Doc...	Cus...	Pricing Proce...	Pricing Procedure	Con...	Condition Type for Fast Entry
1710	10	00	Y1	02	Z17J02	Materials (US) / Tax P	PPRO	Price
1710	10	00	Y1	Z1	Z17J02	Materials (US) / Tax P	PPRO	Price

MAINTAIN JURISDICTION CODES ON DELIVERING PLANTS

In SD, SAP uses plant as a ship-from location (by default). In MM, plant is used as a ship-to location for tax calculation. Therefore, make sure that every active plant in your company has been assigned a jurisdiction code.

Determination plays a key role in determining the tax jurisdiction code for any given address based on the City, ZIP and ZIP+4 address data.

1. Login the S4HC system with role SAP_BR_BPC_EXPERT.
2. Search for the app **Manage Your Solution**. Within this app, enter the menu **Configure Your Solution**.
3. In the search field, enter the text *organization*.
4. Select the item **Organization**.
5. Choose the menu **Plants** from the list. Select the applicable US plant and navigate to the address page for the plant.
6. Provide the address and Save. ONESOURCE Indirect Tax will return the jurisdiction code.
7. Repeat for all other applicable plants.

Note: It is recommended to provide the complete Postal Code, including the +4 portion, to get the unique jurisdiction code.

*Plant:	1710
*Name 1:	Plant 1710 - Address Name 1
Name 2:	
Name 3:	
Name 4:	
Street:	7632 Trout Court
House Number:	
Street 2:	
Street 3:	
Street 4:	
Street 5:	
Postal Code:	75835-0072
City:	Crockett
District:	Houston
*Country:	US
Region:	TX
Tax Jurisdiction:	USTX7583500720

MAINTAINING MASTER DATA

In S/4HC SAP has delivered pre-defined SD and MM with tax indicators, which you will need to assign to the material master and customer master.

In SD, based on these tax indicators, tax codes are determined in the pricing procedure. You also need to maintain the condition type UTXJ with the appropriate tax codes based on these indicators. UTXJ is the condition type used in the pricing procedure for tax code determination.

The following procedures describe how to assign tax indicators and maintain the condition type for tax code determinations:

- Assigning tax indicators in the material master sales organization view
- Assigning tax indicators in the material master purchasing view
- Assigning tax indicators in the customer master
- Maintaining jurisdiction codes
- Maintaining condition type UTXJ to determine the tax code
- Determining tax code through pricing for purchasing

ASSIGNING TAX INDICATORS IN THE MATERIAL MASTER SALES ORGANIZATION VIEW

SAP has provided pre-defined tax classification for each relevant tax category:

Tax Categ.	Description	Tax Class.	Description
UTXJ	Tax Jurisdict.Code	0	No tax
UTXJ	Tax Jurisdict.Code	1	Full tax
UTXJ	Tax Jurisdict.Code	2	Force Tax

To maintain the tax relevancy indicator in the material master, go to the app Change Material and enter material number. Select the view Sales: Sales Org Data 1, and enter information for the organization levels when prompted. Scroll to the section Tax Data, and maintain the tax classification indicator. ONESOURCE Indirect Tax recommends that you maintain every customer and material as taxable in SAP and let Determination decide taxability.

Save your entry.

ASSIGNING TAX INDICATORS IN THE MATERIAL MASTER PURCHASING VIEW

Based on tax indicators maintained in [MM Configurations](#), maintain the tax indicators in the material master.

Go to the app **Change Material** and enter material number. Select the view **Purchasing**, and enter information for the organization levels when prompted. Scroll to the section **General Data**, and maintain the tax indicator.

Save your entry and repeat this procedure for all of the plants extended to this material.

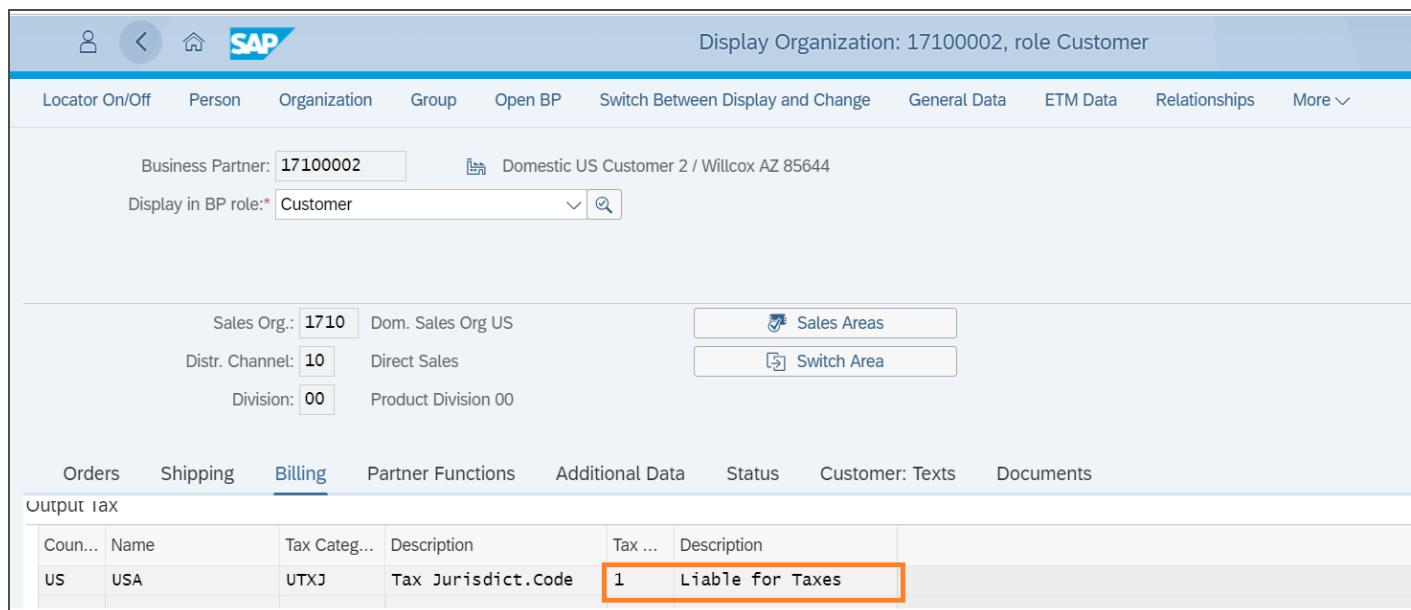
ASSIGNING TAX INDICATORS IN THE CUSTOMER MASTER

SAP has provided pre-defined tax classification for each relevant tax category.

Tax Categ.	Description	Tax Class.	Description
UTXJ	Tax Jurisdict.Code	0	Tax Exempt
UTXJ	Tax Jurisdict.Code	1	Liable for Taxes

To maintain the tax relevancy indicator in the customer master, go to the app **Maintain Business Partner** and enter the appropriate customer number. Choose the **BP Role: Customer**, and click on **Sales and Distribution** on the top navigation bar. Enter the sales area information for the customer. On the **Billing tab > Output Tax**, maintain the tax classification indicator. ONESOURCE Indirect Tax recommends that you maintain every customer and material as taxable in SAP and let Determination decide taxability.

Save your entry and repeat this process for all of the sales areas to which this customer has been extended.



The screenshot shows the SAP Business Partner maintenance interface. The top navigation bar includes icons for person, back, home, and SAP logo, followed by the text 'Display Organization: 17100002, role Customer'. Below the navigation bar are tabs for Locator On/Off, Person, Organization, Group, Open BP, Switch Between Display and Change, General Data, ETM Data, Relationships, and More. The 'Billing' tab is selected. Under the 'Billing' tab, the 'Output Tax' section is active. The table shows a single row with the following data:

Country	Name	Tax Category	Description	Tax Class	Description
US	USA	UTXJ	Tax Jurisdict.Code	1	Liable for Taxes

The 'Tax Class' column for the row with 'Liable for Taxes' is highlighted with a red box.

MAINTAINING JURISDICTION CODES

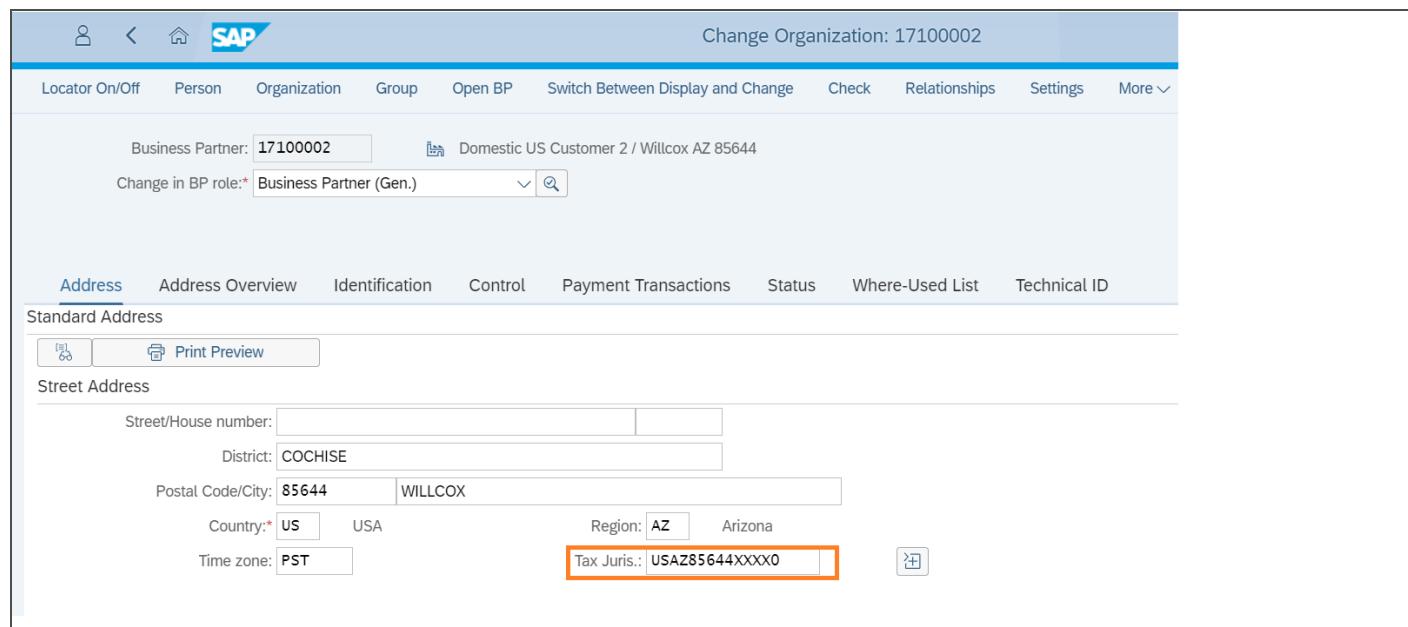
Any address location used for tax calculation must contain a jurisdiction code. The jurisdiction code determination iFlow is called when the address information is entered on the address screen. Based on the address maintained, Determination determines the jurisdiction code and returns it to the calling transaction. The minimum address information that must be maintained is the country (US), region (state) and postal code (zip code). If more than one jurisdiction code is returned by Determination based on these minimum data entered on the address screen, a pop-up window will display multiple choices by state, county and city. The user will then need to choose the most appropriate jurisdiction code.

Be sure to maintain the jurisdiction code on all the address elements in your transaction, such as plants, sales organizations, cost centers (or other cost objects), and business partners.

Example: Maintaining Jurisdiction Codes on Business Partners.

To maintain the tax relevancy indicator in the customer master, go to the app **Maintain Business Partner** and enter the appropriate customer number. Choose the **BP Role: Business Partner (General)**. On the **Address** tab, enter the complete address and hit Enter. ONESOURCE Indirect Tax will determine the jurisdiction code for you.

Save your entry.



The screenshot shows the SAP Maintain Business Partner application interface. The top navigation bar includes links for Locator On/Off, Person, Organization, Group, Open BP, Switch Between Display and Change, Check, Relationships, Settings, and More. The main title is "Change Organization: 17100002". The "Address" tab is selected. The "Business Partner" field contains "17100002" and shows "Domestic US Customer 2 / Willcox AZ 85644". The "Change in BP role" dropdown is set to "Business Partner (Gen.)". The "Standard Address" section contains fields for Street Address, Street/House number, District, Postal Code/City, Country, Region, and Time zone. The "Tax Juris." field contains "USAZ85644XXXX0" and is highlighted with an orange border. There are also "Print Preview" and "Save" buttons.

MAINTAINING CONDITION TYPE UTXJ TO DETERMINE THE TAX CODE

SAP determines the tax code in SD (A/R) transactions through the condition Type UTXD in the pricing procedure, using an access sequence of UTX1. UTXD refers to the UTXJ condition type; UTXJ has the same access sequence as UTXD (UTX1). Maintain your tax codes using the UTXJ condition type, with the access sequence UTX1.

If you are using SAP predefined access number 20, SAP delivers condition records for all combinations of customer tax classification and material tax classification.

For condition records used for US, go to the app **Set Material Prices**. Select the condition type **UTXJ**, maintain 100% for the Amount field per combination of customer tax classification and material tax classification.

Country: US USA
Valid On: 07/24/2019

Country/State/Customer Classif.1/Material Classification 1

Re...	Description	Amount	Unit	Valid From	Valid To	Tax ...	W/t...	Lic. no.	Lic. date	Del...
<input type="checkbox"/>	AK	0	USA	100.000	%	02/21/2019	12/31/9999	00				
<input type="checkbox"/>	AK	0	1	100.000	%	02/21/2019	12/31/9999	00				
<input type="checkbox"/>	AK	1	0	100.000	%	02/21/2019	12/31/9999	00				
<input type="checkbox"/>	AK	1	1	100.000	%	02/21/2019	12/31/9999	01				
<input type="checkbox"/>	AL	0	0	100.000	%	02/21/2019	12/31/9999	00				
<input type="checkbox"/>	AL	0	1	100.000	%	02/21/2019	12/31/9999	00				
<input type="checkbox"/>	AL	1	0	100.000	%	02/21/2019	12/31/9999	00				
<input type="checkbox"/>	AL	1	1	100.000	%	02/21/2019	12/31/9999	01				
<input type="checkbox"/>	AR	0	0	100.000	%	02/21/2019	12/31/9999	00				
<input type="checkbox"/>	AR	0	1	100.000	%	02/21/2019	12/31/9999	00				
<input type="checkbox"/>	AR	1	0	100.000	%	02/21/2019	12/31/9999	00				
<input type="checkbox"/>	AR	1	1	100.000	%	02/21/2019	12/31/9999	01				
<input type="checkbox"/>	AZ	0	0	100.000	%	02/21/2019	12/31/9999	00				

DETERMINING TAX CODE THROUGH PRICING FOR PURCHASING

In MM (A/P) transactions, the tax code can be determined through the pricing procedure. It must have a condition type with Access Sequence TTX1.

Use the app **Create Price Conditions** to maintain tax codes on Condition Type TTX1. Maintain the tax code as shown below and save your entries.

SAP

Change Non-Deductible Tax Condition (TTX1) : Overview

Header Data Details Additional Data Scales Validity Periods Free Goods Status Information... Conversion Factors.. Key... More ▾

Destination Country: **US** USA

Valid On: **08/12/2019**

Select Rule

* Tax ind.	Description	Amount	Unit	Valid From	Valid To	Tax ...	W/t...	Lic. no.	Lic. date	Del...
1	Material 100%	100.00		08/12/2019	12/31/9999	I1				

DEVELOPING ENHANCEMENTS

For accurate tax calculation based on customer-specific requirements, SAP enhancements may be required to the tax interface request data elements to Determination. This can be achieved by using the **Custom Fields and Logic** app to:

- a. Modify the data elements for the tax interface request by providing custom logic using the Preprocessing BAdI (FOT_EXT_CALC_PREPROCESS) and the Change Fields BAdI (FOT_EXT_CALC_CHANGE_FIELDS)

See [Custom Logic \(BAdIs\)](#)

- b. Enable custom attributes to append up to 40 additional fields to the tax interface for more accurate tax calculation

See [Enabling Custom Attributes](#)

CUSTOM LOGIC (BAdIS)

SAP has provided two Business Add-Ins to enable you to pass additional data elements to Determination for accurate tax calculation, the Preprocessing BAdI (FOT_EXT_CALC_PREPROCESS) and the Change Fields BAdI (FOT_EXT_CALC_CHANGE_FIELDS).

Firstly, to make the fields available in the Change Fields BAdI, implement the Preprocessing BAdI. This will pass fields as input parameters to the Change Fields BAdI in order for the populated values to be passed to Determination for tax calculation. Read the documentation provided in the BAdI for additional information.

Sample Code in BAdI

```
data cs_additional_fields like line of ct_additional_fields.
loop at it_additional_fields into data(is_additional_fields).
clear cs_additional_fields.
move-CORRESPONDING is_additional_fields to cs_additional_fields.

insert cs_additional_fields into table ct_additional_fields.

endloop.
```

Then implement the fields you require to be passed on to Determination in the Change Fields BAdI. Some of the recommended fields to be implemented are provided below. All of these changes depend on your organization's needs and processes. Please consult ONESOURCE Indirect Tax Professional Services for assistance if needed.

1. Provide freight amount of sales order to tax interface for accurate tax calculation

To derive the value in the field <FREIGHT_AM>, implement BADI FOT_EXT_CALC_CHANGE_FIELDS.

```
Sample Code in BAdI
*Freight Amount*
cs_user_changed_fields-freight_am = is_kzwi-kzwi4.
```

2. Derive Product Code Mapping from Material Group of the Material Master

To pass the Material Group value from the Material Master into the field <PROD_CODE>, implement BADI FOT_EXT_CALC_CHANGE_FIELDS.

```
Sample Code in BAdI
*Product Code*
data: lv_pg type i_product-productgroup.
select single productgroup from i_product into @lv_pg
where product = @is_tax_item_input-matnr.
if sy-subrc = 0.
cs_user_changed_fields-prod_code = lv_pg.
```

ENABLING CUSTOM ATTRIBUTES

The SAP Standard Tax Interface provides predefined structures containing fields sent to the external tax system for tax calculation. These fields are usually enough to calculate standard tax scenarios, but in certain cases, complex tax requirements may require custom rules to be implemented in ONESOURCE Indirect Tax using custom attributes from SAP.

To address this need, ONESOURCE Integration for SAP US Tax API provides 40 additional fields to be used in ONESOURCE Indirect Tax. The additional fields are mapped to Determination as Input XML Custom Attributes. ONESOURCE US Tax Integration for SAP S/4 Hana Cloud already includes the fields. This is a two step process:

1. First you must use the app **Custom Fields and Logic** to create custom extensibility fields.
2. Then you must map the custom fields to the target field using the app **Map Extensibility Fields**. This is to ensure the fields are included in the payloads to the Determination for tax calculation and reporting considerations.

In Determination, you could use TransEditors or Rule Qualifiers to either map the resulting Custom Attributes fields to relevant Input XML elements or trigger rule selection to ensure proper calculation.

This section below provides in greater detail how to create a custom extensibility field, append the field to the SAP Standard Tax Interface, and describes a use-case involving TransEditors and Rule Qualifiers.

- Create custom extensibility fields
- Mapping the extensibility fields in the SAP tax interface
- Populating data fields

Create Custom Extensibility Fields

In order to create custom extensibility fields to be included in your tax calculation payload, in S/4HC, go to the app **Custom Fields and Logic**.

Under the tab *Custom Fields*, click on the *Create* button.

New Field

Field Properties

*Business Context:	Sales: Pricing Communication Item
*Label:	YY1_MaterialNetWt_UOM
*Identifier:	YY1_ YY1_MaterialNetWt_
*Tooltip:	YY1_MaterialNetWt_UOM
*Type:	Text
*Length:	20
Business Context Capacity:	<div><div style="width: 100%;">10%</div></div>

Create Create and Edit Cancel

Enter the information for the field properties as follows:

FIELD PROPERTIES	DESCRIPTION
Business Context	<p>SAP has provided two source structures for Sales Pricing Communication at the Header or Item level</p> <ul style="list-style-type: none"> SDPRCOMHEAD_INCL_EEW_PS SDPRCOMITEM_INCL_EEW_PS <p>Choose from the dropdown either SDPRCOMHEAD_INCL_EEW_PS structure for fields at header level or SDPRCOMITEM_INCL_EEW_PS structure for fields at line item level</p>
Identifier	
Label	Enter a label for the field.
Length	Depending on the type selected, you may be required to enter a length for the data type
Tooltip	Maintain a relevant tooltip message.
Type	Choose the most appropriate data type for your field.

Click on the *Create* and *Edit* button to proceed with the next step.

Under the *Business Scenarios* tab, Enable the new field usage for the Scenarios *Billing Document to Pricing Communication* and *Sales Document to Pricing Communication*.

MaterialNetWt_UOM

Text (20) Published

YY1_MaterialNetWt_UOM
Sales: Billing Document Item

General Information UIs and Reports (10) Email Templates (0) Form Templates (57) **Business Scenarios (10)** OData APIs (2) SOAP APIs (3) BAPIs (0) IDocs (0)

Scenarios Available for Business Context Sales: Billing Document Item (10)

Description	Field Usage
> Billing Document to Sales Document on Item Level	Disabled Enable Usage
> Delivery to Billing Document from Header to Item Level	Disabled Enable Usage
> Delivery to Billing Document on Item Level	Disabled Enable Usage
> Sales Document to Billing Document from Header to Item Level	Disabled Enable Usage
> Sales Document to Billing Document on Item Level	Disabled Enable Usage

All Scenarios Selected for this Field (2)

Description	Field Usage
> Billing Document to Pricing Communication on Item Level	Enabled
> Sales Document to Pricing Communication on Item Level	Enabled

Click on *Save* and *Publish*. The new field will be ready for use when it has the status *Published*.

Label	Identifier	Business Context	Type	Status
MaterialNetWt_UOM	YY1_MaterialNetWt_UOM	Sales: Billing Document Item	Text	Published
MaterialNetWt_UOM	YY1_MaterialNetWt_UOM	Sales: Pricing Communication Item	Text	Published
MaterialNetWt_UOM	YY1_MaterialNetWt_UOM	Sales: Sales Document Item	Text	Published

Mapping the Extensibility Fields in the SAP Tax Interface

To map the newly created extensibility fields to the SAP Tax Interface, go to the app **Map Extensibility Fields**. Click on the *Edit* button.

You will be able to map to up 40 extension fields EXTENSION_FIELD001 to EXTENSION_FIELD040. These fields are mapped to USER_ELEMENT.ATTRIBUTE 1 to 40 in Determination respectively.

Determination USER_ELEMENT.ATTRIBUTE 41 to 50 is reserved for Thomson Reuters.

Target Field	Source Structure	Source Field
EXTENSION_FIELD001	SDPRCOMITEM_INCL_EEW_PS	YY1_MATERIALNETWT_UOM_PCI
EXTENSION_FIELD002		
EXTENSION_FIELD003		
EXTENSION_FIELD004		
EXTENSION_FIELD005		
EXTENSION_FIELD006		
EXTENSION_FIELD007		
EXTENSION_FIELD008		
EXTENSION_FIELD009		

For each extensibility field, on the Source Structure column, choose either SDPRCOMHEAD_INCL_EEW_PS for extensibility fields created on the Header Level or SDPRCOMITEM_INCL_EEW_PS for fields created on the Item Level.

Items	
	Table Name
	SDPRCOMHEAD_INCL_EEW_PS
	SDPRCOMITEM_INCL_EEW_PS

Then choose the field you have previously created. Repeat this step for all the fields. **Save** your entries.

Select: Source Field

Table Name:

Go

Hide Advanced Search

Items	
Table Name	Field Name
SDPRCOMITEM_INCL_EEW_PS	YY1_MATERIALNETWT_UOM_PCI

Populate Data Fields

Now that the custom fields have been defined in the SAP Standard Tax Interface, you can move content into the new fields. Determining what needs to be moved and mapped is based on your company's business process, tax requirements, and system configuration.

Use the *Custom Logic* feature in the app **Custom Fields and Logic** to modify the relevant BADI to populate data into your custom fields.

USAGE: EXAMPLE

Assume that a material's net weight is required for accurate tax determination in a given business scenario. The material weight is not part of the SAP Standard Tax Interface, so you must add it to the appended fields so it will be retrieved from the SAP Material Master tables in the user exit. Assume that the net weight was added as a new tax element to the SAP Standard Tax Interface.

The value was assigned to EXTENSION_FIELD001 in SAP by the mapping of the extensibility field. Now that the SAP BADI Enhancement has moved the net weight value to EXTENSION_FIELD001, Integration for SAP will map that value to <USER_ELEMENT>.<ATTRIBUTE1>. Therefore, the value is now available to Determination in this element.

There are several ways you may use this element:

- You can simply pass the value through to audit for reporting purposes.
- You can use a TransEditor to map the value of this element to another element. For example, you might use the value of this custom attribute to populate the <MASS> input XML element.
- You can use a Rule Qualifier to test for the presence of a value in this custom attribute. For example, a qualifier may test that the net weight is over a certain amount or the rule will not apply.

Please consult Determination Help for information on how to configure both TransEditors and Rule Qualifiers.

TAX JURISDICTION LEVELS

In the US, each taxation authority imposes the tax based on jurisdictions. Each jurisdiction is identified by a tax jurisdiction code, which provides the location for the transaction to be taxed.

Jurisdiction codes in the following master data/configuration settings influenced the tax rate and tax amount determination.

These jurisdiction codes are triggered when the address data is maintained on the master data or customization objects.

In general, for a **sales transaction**, jurisdiction codes are required from:

- Ship-to party (business partners ~ customers)
- Ship-from party (plant)

In general, for a **purchase transaction**, jurisdiction codes are required from:

- Ship-to party (plant, cost center, asset master, internal order, or WBS projects)
- Ship-from party (business partners ~ suppliers)

After taxes are determined for each jurisdiction from ONESOURCE Indirect Tax, it gets assigned to relevant tax jurisdiction code level (**XR1 - XR6**) in the iflow structure, which then is returned to the SAP's pricing procedure (SD) or tax procedure (MM/FI). SAP provides up to six condition types defined for six tax jurisdiction code levels.

Standard mapping relevant for the US

LEVEL	UNITED STATES
1	State Sales & Use Tax
2	County Sales & Use Tax
3	City Sales & Use Tax
4	Local Sales & Use Tax (County)
5	Local Sales & Use Tax (Others)
6	Not Used

DISPLAYING AND RESENDING DOCUMENTS TO DETERMINATION

In the SAP system, apps are provided to check and reconcile billing or invoicing documents sent to Determination during a tax audit update call.

a. Manage External Tax Postings

You may find that documents would need to be re-submitted to Determination due to the following reasons:

- Errors in CPI processing
- Inconsistency in the tax amounts sent to Determination triggering a Force Update Tax call to Determination
- Any other reasons which results in documents processed in SAP but not in Determination audit data base.

Use the app **Manage External Tax Postings** to check the status of the update and error messages (if any). If any documents are on-hold and pending submission to Determination, click on the *Activate Entire Queue* button.

b. Verify Tax Data In External Tax System

Use the app **Verify Tax Data In External Tax System** to display a list of documents sent to Determination.

APPENDIX 1: MAPPING

This chapter describes the mapping between SAP fields and Determination Input and Output XML.

Determination XML is organized hierarchically. A single XML data file may contain multiple batches, invoices, and distribution lines. An element value set at the batch level is passed down to the invoice and distribution line levels, unless overridden at a lower level.

The tables in this chapter describe:

- How SAP fields are mapped to Address Validation XML.
- How SAP fields are mapped to Invoice level Input XML.
- How SAP fields are mapped to Line level Input XML. Each line has a unique line ID within the invoice, allowing each invoice to specify line specific values (such as different Ship-To locations) for each line. This also includes custom attributes you created in the previous chapter.
- How SAP fields are mapped to Invoice level Output XML.
- How SAP fields are mapped to Line level Output XML.

Each table is displayed beneath the associated endpoint.

- MAPPING FOR DETERMINE_JURISDICTION endpoint
- MAPPING FOR CALCULATE_TAXES_DOC endpoint
- MAPPING FOR UPDATE_TAXES_DOC endpoint
- MAPPING FOR FORCE_TAXES_DOC endpoint

MAPPING IN INTEGRATION FOR TAX JURISDICTION ENDPOINT

ONESOURCE COMPONENT	SAP API FIELDS	COMMENT
INPUT XML		
COUNTRY	COUNTRY	

STATE	STATE	
COUNTY	COUNTY	
CITY	CITY	
POSTCODE	ZIPCODE	The first 5 digits of ZIP code are mapped to POSTCODE
GEOCODE	ZIPCODE	The last 4 digits of ZIPCODE are mapped to GEOCODE
N/A	TXJCD_L1	Filled with the length of the first level of the tax jurisdiction code
N/A	TXJCD_L2	Filled with the length of the second level of the tax jurisdiction code
N/A	TXJCD_L3	Filled with the length of the third level of the tax jurisdiction code
N/A	TXJCD_L4	Filled with the length of the fourth level of the tax jurisdiction code
N/A	TXJCD	
N/A	OUT_OF_CITY	
OUTPUT XML		
SEVERITY	RETCODE	<ul style="list-style-type: none"> A value of 0 indicates successful communication with Determination. A value of 1 indicates that an exception has occurred either in Integration itself or in its communication with Determination. A value of 2 indicates a severe error within Determination.
SEVERITY	ERRCODE	<ul style="list-style-type: none"> A value of 1 indicates that an exception has occurred either in Integration itself or in its communication with Determination. A value of 2 indicates a severe error within Determination.
MESSAGE_TEXT	ERRMSG	
COUNTRY	COUNTRY	
STATE	STATE	
COUNTY	COUNTY	
CITY	CITY	

POSTCODE	ZIPCODE	
GEOCODE	ZIPCODE	
N/A	TXJCD_L1	
N/A	TXJCD_L2	
N/A	TXJCD_L3	
N/A	TXJCD_L4	
N/A	TXJCD	This is the complete Jurisdiction Code returned from Determination which comprises the Country Code, State code, ZIPCode and OUT OF City Indicator
CITY	OUT_OF_CITY	If CITY = UNINCORPORATED set OUT_OF_CITY = X.
N/A	REF_INFO	
N/A	STREET_ADDRESS	

MAPPING IN INTEGRATION FOR TAX CALCULATION ENDPOINT

MAPPING FOR IFLOW External Tax – Calculate Taxes

ONESOURCE COMPONENT	SAP API FIELDS	COMMENT
INPUT XML ~ INVOICE LEVEL		
N/A	APP_SERVER	
N/A	SAP_VERSION	
N/A	INTERF_VERSION	
HOST_SYSTEM	SYST_NAME	

CALLING_SYSTEM_NUMBER	CLIENT	
EXTERNAL_COMPANY_ID	COMP_CODE	Company for which transaction is taking place.
CURRENCY_CODE	CURRENCY	Currency Code from Company.
N/A	CURR_DEC	Used to support decimal points on values.
N/A	TXJCD_L1	Based on length of the first level of the tax jurisdiction code
N/A	TXJCD_L2	Based on length of the second level of the tax jurisdiction code
N/A	TXJCD_L3	Based on length of the third level of the tax jurisdiction code
N/A	TXJCD_L4	Based on length of the fourth level of the tax jurisdiction code
IS_AUDIT_UPDATE	TAX_PER_ITEM	This flag is blank in Order to Cash SD transactions, in Procure to Pay Process, this flag is X.
N/A	NR_LINE_ITEMS	
INPUT XML ~ LINE ITEM LEVEL		
LINE.REGIME	ITEM_NO	Item number in the tax document.
LINE_NUMBER	POS_NO	Item number in the SAP document, for example, ITEM NUMBER in the Sales Order.
RELATED_LINE_NUMBER	GROUP_ID	Identifies that this line should have the same tax treatment as the product on the related line.
COUNTRY_OF_ORIGIN	COUNTRY	<p>This is the country of goods departure.</p> <ul style="list-style-type: none"> • In SD transactions, it is the country of the plant from which goods will be shipped. • In MM transactions it is the country of the company code in which AP transactions are created.
USER_ELEMENT.ATTRIBUTE50	DIVISION	

PART_NUMBER	MATNR	Material Number from line item on SAP document.
PRODUCT_CODE	PROD_CODE	Product Code can be mapped with material group. Use the FOT_EXT_CALC_FIELDS_CHANGE BADI to derive the PROD_CODE
USER_ELEMENT.ATTRIBUTE41	GROUP_PROD_CODE	
QUANTITY	QUANTITY	
SUPPLEMENTARY_UNIT and UNIT_OF_MEASURE	UNIT	
COMPANY_ROLE	APAR_IND	<ul style="list-style-type: none"> If APAR_IND = A and TAX Type - 0 or Blank, or 1, the Company Role = S (Seller) If APAR_IND = V and Tax Type = 0 or Blank, the Company Role = S (Seller) If APAR_IND = V and Tax Type = 1, then Company Role = B (Buyer)
TRANSACTION_TYPE	TAX_TYPE	<ul style="list-style-type: none"> SAP TAX_TYPE 0 or 1 , then TRANSACTION_TYPE = GS. TAX_TYPE = 2, then TRANSACTION_TYPE = DS. TAX_TYPE = 3, then TRANSACTION_TYPE = RR. All other TAX_TYPES error. <p>Tax Type is derived from the properties of Tax Code where it is maintained on the field called Tax Category Field.</p>
IS_EXEMPT.ALL	EXEMP_IND	<ul style="list-style-type: none"> If SAP EXEMP_IND is 'null' or 0, IS_EXEMPT.ALL is not set. If EXEMP_IND is 1, IS_EXEMPT.ALL is set to N, forcing no exemption. If EXEMP_IND is 2, IS_EXEMPT.ALL is set to Y, forcing an exemption.

INVOICE_DATE	TAX_DATE	Tax date in YYYYMMDD format. By default, this is the posting date, but it can be set to default to the document date via customizing.
SHIP_TO	TXJCD_ST	In SD transaction, this jurisdiction code comes from ship-to-customer location. In MM transaction, this jurisdiction code is derived from plant where goods will be received. In SD/FI transactions, this is always derived from the Customer number entered on the transaction. In MM/FI transactions, this is a jurisdiction code from cost object (Cost Center, Asset, Plant, Tax) entered on the line item of the transaction.
SHIP_FROM	TXJCD_SF	<ul style="list-style-type: none"> In SD transaction, this jurisdiction code comes from Plant from which goods will be shipped. In MM transaction, this jurisdiction code is derived from Vendor location.
ORDER_ACCEPTANCE	TXJCD_POA	<ul style="list-style-type: none"> In SD transaction, this jurisdiction code is derived from Plant. In MM transaction, this is derived from Vendor location. In SD/FI transactions, this is always derived from the Customer number entered on the transaction. In MM/FI transactions, this is a jurisdiction code from cost object (Cost Center, Asset, Plant, Tax) entered on the line item of the transaction.
ORDER_ORIGIN	TXJCD_POO	<ul style="list-style-type: none"> In SD Transaction, this jurisdiction code is derived from Ship-to Customer. In MM transaction, this is derived from Plant where goods will be received. In SD/FI transactions, this is always derived from the Customer number entered on the transaction. In MM/FI transactions, this is a jurisdiction code from cost object (Cost Center, Asset, Plant, Tax) entered on the line item of the transaction.
GROSS_AMOUNT	AMOUNT	<p>Net Value for Tax Calculation as determined by SAP.</p> <p>If FREIGHT_AM is > 0, then GROSS_AMOUNT = AMOUNT - FREIGHT_AM.</p>

USER_ELEMENT.ATTRIBUTE48	GROSS_AMOUNT	GROSS_AMOUNT is always equal to original AMOUNT value.
GROSS_AMOUNT	FREIGHT_AM	<p>Use the FOT_EXT_CALC_CHANGE_FIELDS BADI to fill the FREIGHT_AMT if the condition types for freight KZW1 – KZW4 is populated in the sales procedure.</p> <p>If FREIGHT_AM is not equal to 0, Integration creates two lines for tax calculation. In that case a special freight line will be created in Integration for tax calculation purposes.</p>
EXEMPT_AMOUNT-STATE	EXEMPT_AMT	Use the FOT_EXT_CALC_CHANGE_FIELDS BADI to fill the Exempt Amount field.
LINE.CUSTOMER_NUMBER or or LINE.VENDOR_NUMBER	ACCNT_NO	This mapping is based on APAR_IND. If APAR_IND = A, this represents the line ship-to Customer Number from SAP. If APAR_IND = V, this represents the Vendor Number from SAP.
USER_ELEMENT.ATTRIBUTE42	ACCNT_CLS	Use FOT_EXT_CALC_FIELDS_CHANGE BADI to fill the customer or vendor account classification item field
USER_ELEMENT.ATTRIBUTE43	COST_OBJECT	Use FOT_EXT_CALC_FIELDS_CHANGE BADI to fill the Cost Object field
POINT_OF_TITLE_TRANSFER	PTP_IND	
EXEMPT_CERTIFICATE-STATE	EXCERTIF	Use the FOT_EXT_CALC_FIELDS_CHANGE BADI to derive the customer tax exempt certification number maintained in SAP
EXEMPT_REASON-STATE	EXREASON	Use the FOT_EXT_CALC_FIELDS_CHANGE BADI to derive the tax-exempt reason code
N/A	USER_DATA	
INPUT XML ~ ITEM LEVEL ~ TAX_POPUP_FIELDS_S		

ACCOUNTING_CODE	ACC_ASS_GL_ACCOUNT	
N/A	ACC_ASS_COST_CENTER	Not mapped, as this can be represented in the field COST_OBJECT
N/A	DOC_DATE	Not mapped, as this can be represented in the field TAX_DATE
N/A	POS_DATE	
N/A	SHIP_TO_CUST	Not mapped, as this can be represented in the field ACCNT_NO
USER_ELEMENT.ATTRIBUTE44	SOLD_TO_CUST	
N/A	SERV_DATE	Not mapped, as this can be represented in the field TAX_DATE
USER_ELEMENT.ATTRIBUTE45	PURCHASE_DOC	
USER_ELEMENT.ATTRIBUTE46	SALES_DOC	
N/A	SALES_DOC_CATEGORY	
USER_ELEMENT.ATTRIBUTE47	BILLED_AMOUNT	Represents a previously billed amount from a service document to support document level max tax calculation
Maps on a 1:1 basis to USER_ELEMENT.ATTRIBUTE1 - 40	EXTENSION_FIELD001..FIELD040	USER_ELEMENT.ATTRIBUTE 1 - 40 are Char 200 fields.
OUTPUT XML ~ INVOICE LEVEL		

	API_VERSION	Integration Version.
	SYST_VERSION	Determination Version.
	DB_VERSION	Tax interface version
SEVERITY	RETCODE	<ul style="list-style-type: none"> • A value of 0 indicates successful communication with Determination. • A value of 1 indicates that an exception has occurred either in Integration itself or in its communication with Determination. • A value of 2 indicates a severe error within Determination.
N/A	ERROR_LINE	
SEVERITY	ERRORCODE	
MESSAGE_TEXT	ERRMSG	
OUTPUT XML ~ LINE LEVEL		
LINE_REGIME	ITEM_NO	
	TXJCD_IND	
	TAXPCOV	
TOTAL_TAX_AMOUNT	TAXAMOV	
	EXMATFLAG	
	EXCUSFLG	
TAX_EXEMPT_CERTIFICATE	EXT_EXCERTIF	
TAX_EXEMPT_REASON	EXT_EXREASON	
	NR_JUR_LEVELS	

OUTPUT XML ~ JURISDICTION LEVEL		
LINE.REGIME	ITEM_NO	
TAX_AUTHORITY_TYPE	TXJLV	
TAX_RATE	TAXPCT	
TAX_AMOUNT	TAXAMT	
TAX_TAXABLE_BASIS	TAXBAS	
TAX_EXEMPT_AMOUNT	EXAMT	
TAX_EXEMPT_REASON	EXCODE	

MAPPING IN INTEGRATION FOR UPDATE TAX ENDPOINT

This is an incremental list to the mappings for Calculate Tax.

ONESOURCE COMPONENT	SAP API FIELDS	COMMENT
INPUT XML ~ INVOICE LEVEL		
N/A	TID	
INVOICE_NUMBER	DOC_NUMBER	This represents the FI document number for the update and force update transactions.
IS_AUDIT_UPDATE	TAX_PER_ITEM	<p>This indicator indicates whether the entire invoice was passed or if a line at a time was being taxed.</p> <p>For SD Transactions, this field is always blank; for MM transactions, this field is always X since SAP makes a call on the line level for tax calculation. If it is X, then IS_AUDIT_UPDATE = Y.</p>
IS_AUDITED	N/A	If the CALL is UPDATE or FORCE, then IS_AUDITED = Y.
CALCULATION_DIRECTION	N/A	For UPDATE, the calculation direction is set to = F (Forward)

INPUT XML ~ LINE LEVEL		
FISCAL_DATE	REP_DATE	REP_DATE represents the posting date.
N/A	CREDIT_IND	<ul style="list-style-type: none"> If CREDIT_IND = 0, the sign is positive for GROSS_AMOUNT and IS_CREDIT = N. If CREDIT_IND = 1, the sign is negative for GROSS_AMOUNT and IS_CREDIT = Y.
N/A	STORE_CODE	
N/A	USER_REPT_DATA	
OUTPUT XML ~ INVOICE LEVEL		
	API_VERSION	
	SYST_VERSION	
	DB_VERSION	
	TID	
SEVERITY	RETCODE	<ul style="list-style-type: none"> A value of 0 indicates successful communication with Determination. A value of 1 indicates that an exception has occurred either in Integration itself or in its communication with Determination. A value of 2 indicates a severe error within Determination.

USER_ELEMENT.ATTRIBUTE49	ERROR_LINE	First line found with an error.
SEVERITY	ERRCODE	<ul style="list-style-type: none"> A value of 0 indicates successful communication with Determination. A value of 1 indicates that an exception has occurred either in Integration itself or in its communication with Determination. A value of 2 indicates a severe error within Determination.
MESSAGE_TEXT	ERRMSG	Message up to 200 characters

MAPPING IN INTEGRATION FOR FORCE UPDATE ENDPOINT

This is an incremental list to the mappings for Calculate Tax.

ONESOURCE COMPONENT	SAP API FIELDS	COMMENT
INPUT XML ~ INVOICE LEVEL		
N/A	TID	
INVOICE_NUMBER	DOC_NUMBER	This represents the FI document number for the update and force update transactions.
IS_AUDIT_UPDATE	TAX_PER_ITEM	<p>This indicator indicates whether the entire invoice was passed or if a line at a time was being taxed.</p> <p>For SD Transactions, this field is always blank; for MM transactions, this field is always X since SAP makes a call on the line level for tax calculation. If it is X, then IS_AUDIT_UPDATE = Y.</p>

IS_AUDITED	N/A	If the CALL is UPDATE or FORCE, then IS_AUDITED = Y.
CALCULATION_DIRECTION	N/A	For FORCE, the calculation direction is set to = R (Reverse From Tax)
INPUT XML ~ LINE LEVEL		
FISCAL_DATE	REP_DATE	REP_DATE represents the posting date.
N/A	CREDIT_IND	<ul style="list-style-type: none"> If CREDIT_IND = 0, the sign is positive for GROSS_AMOUNT and IS_CREDIT = N. If CREDIT_IND = 1, the sign is negative for GROSS_AMOUNT and IS_CREDIT = Y.
N/A	STORE_CODE	
N/A	USER_REPT_DATA	
N/A	TXJCD_IND	
N/A	TAXPCOV	Calculated within Integration as an effective rate.
TAX_AMOUNT	TAXAMOV	
N/A	EXMATFLAG	
N/A	EXCUSFLG	
N/A	EXT_EXCERTIF	
N/A	EXT_EXREASON	
	NR_JUR_LEVELS	
INPUT XML ~ ITEM_JUR		
LINE.REGIME	ITEM_NO	
N/A	TXJLV	

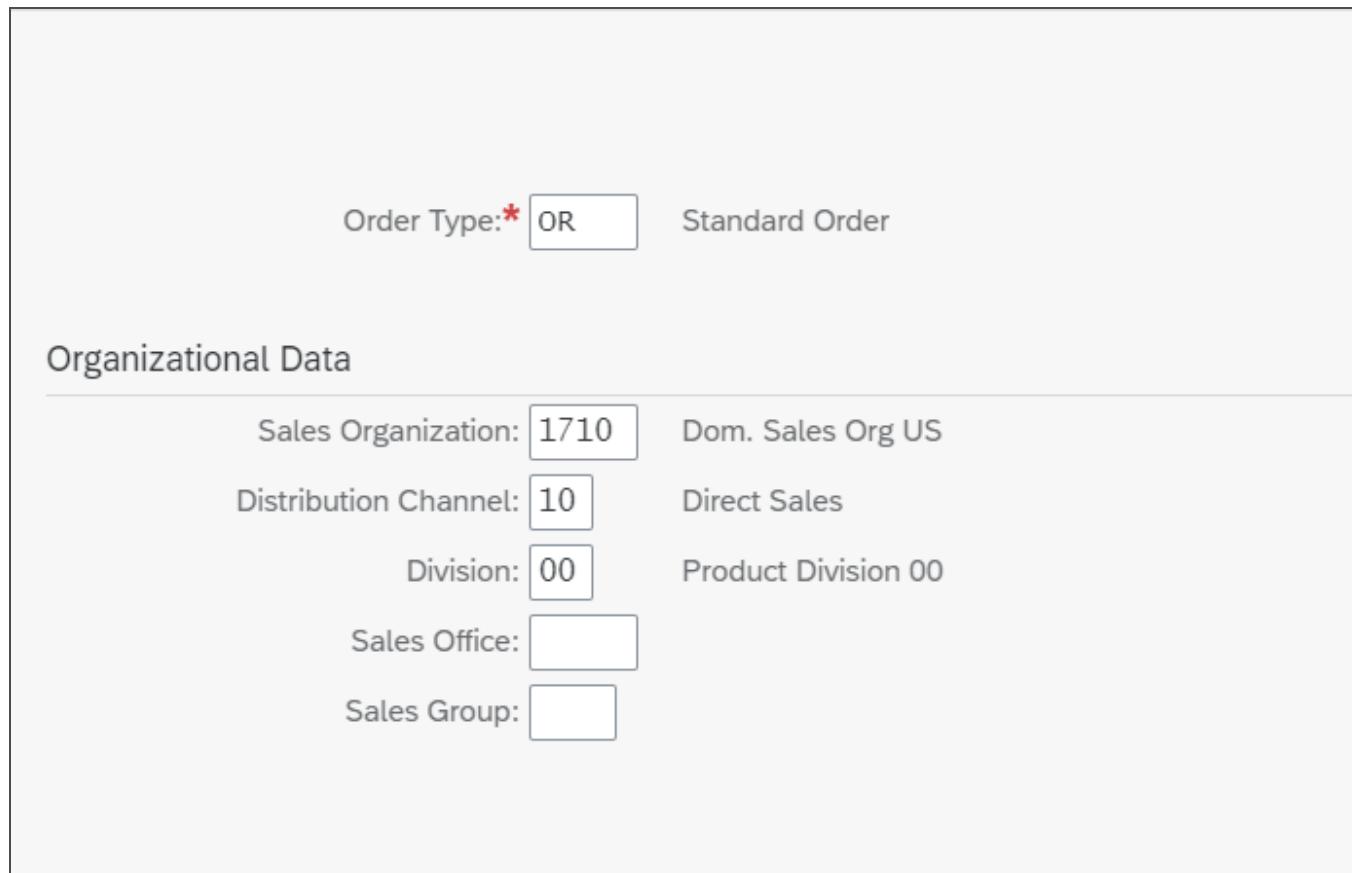
N/A	TAXPCT	
OVERRIDE_AMOUNT	TAXAMT	
N/A	TAXBAS	
EXEMPT_AMOUNT	EXAMT	
EXEMPT_REASON	EXCODE	
OUTPUT XML ~ INVOICE LEVEL		
	API_VERSION	
	SYST_VERSION	
	DB_VERSION	
	TID	
SEVERITY	RETCODE	<ul style="list-style-type: none"> A value of 0 indicates successful communication with Determination. A value of 1 indicates that an exception has occurred either in Integration itself or in its communication with Determination. A value of 2 indicates a severe error within Determination.
USER_ELEMENT.ATTRIBUTE49	ERROR_LINE	First line found with an error.
SEVERITY	ERRCODE	<ul style="list-style-type: none"> A value of 0 indicates successful communication with Determination. A value of 1 indicates that an exception has occurred either in Integration itself or in its communication with Determination. A value of 2 indicates a severe error within Determination.
MESSAGE_TEXT	ERRMSG	Message up to 200 characters

APPENDIX 2 - SAMPLE ORDER TO CASH SCENARIO

This section provides a simple example of the complete Order-to-Cash process in SAP with integration Determination

Processing a Sales Order

1. Go to the app Create Sales Order. Enter the Order Type, and Sales Area information.



The screenshot shows the SAP Create Sales Order interface. At the top, there is a radio button group for 'Order Type' with 'OR' selected, labeled 'Standard Order'. Below this, there is a section titled 'Organizational Data' containing the following fields:

Sales Organization:	1710	Dom. Sales Org US
Distribution Channel:	10	Direct Sales
Division:	00	Product Division 00
Sales Office:		
Sales Group:		

2. Enter the Sold-to Party, Material and Quantity.

MAPPING IN INTEGRATION FOR FORCE UPDATE ENDPOINT

The screenshot shows the SAP Create Standard Order: Overview screen. At the top, there are fields for 'Standard Order' (100.00 USD), 'Sold-To Party' (17100002, Domestic US Customer 2 / Wilcox AZ 85644), 'Ship-To Party' (17100002, Domestic US Customer 2 / Wilcox AZ 85644), 'Cust. Reference' (SO23456), and 'Cust. Ref. Date'. Below this, the 'Sales' tab is selected, showing delivery details like 'Req. Deliv.Date' (08/28/2019), 'Delivery Block' (0004 As of End of Month), and 'Pty Terms' (0004 As of End of Month). The 'Item Overview' tab shows a single item (10 TG13) with a quantity of 10 PC. The 'Item Detail' tab shows the item description 'Trad.Good 13,Reorder Point,Thrd Par'.

3. Select Display Header Details > Conditions. From here, a tax call is made to Determination and taxes are returned. You can view the taxes calculated by the system at header and item level.

The screenshot shows the SAP Create Standard Order: Header Data screen. The 'Conditions' tab is selected, showing 'Net' (100.00 USD) and 'Tax' (9.10). Below this, the 'Pricing Elements' table is displayed, showing various tax components and their values. The table includes columns for I..., CnTy, Description, Amount, Crcy, per, UoM, Condition Value, Curr., Status, ATO/MTS Component, Condition Value, CdCur, and Stat.

I...	CnTy	Description	Amount	Crcy	per	UoM	Condition Value	Curr.	Status	ATO/MTS Component	Condition Value	CdCur	Stat
<input type="checkbox"/>	<input checked="" type="checkbox"/> PPRO	Price					100.00	USD			0.00		
<input type="checkbox"/>		Gross Value					100.00	USD			0.00		
<input type="checkbox"/>		Sum Surcharges/Disco					0.00	USD			0.00		
<input type="checkbox"/>		Net Value 1					100.00	USD			0.00		
<input type="checkbox"/>		Stat.Value without F					100.00	USD			0.00		
<input type="checkbox"/>		Net Value 2					100.00	USD			0.00		
<input type="checkbox"/>	<input checked="" type="checkbox"/> YZwR	Down Pay/ Settlement					0.00	USD			0.00		
<input type="checkbox"/>	<input checked="" type="checkbox"/> UTXD	US Tax per document	100.000	%			100.00	USD			0.00		
<input type="checkbox"/>	<input checked="" type="checkbox"/> UTXE	US Tax per document	0.000	%			0.00	USD			0.00		
<input type="checkbox"/>	<input checked="" type="checkbox"/> XR1	Tax Jur Code Level 1					5.60	USD			0.00		
<input type="checkbox"/>	<input checked="" type="checkbox"/> XR2	Tax Jur Code Level 2					0.50	USD			0.00		
<input type="checkbox"/>	<input checked="" type="checkbox"/> XR3	Tax Jur Code Level 3					3.00	USD			0.00		
<input type="checkbox"/>	<input checked="" type="checkbox"/> XR4	Tax Jur Code Level 4					0.00	USD			0.00		
<input type="checkbox"/>	<input checked="" type="checkbox"/> XR5	Tax Jur Code Level 5					0.00	USD			0.00		
<input type="checkbox"/>	<input checked="" type="checkbox"/> XR6	Tax Jur Code Level 6					0.00	USD			0.00		
		Total Value					109.10	USD			0.00		

4. Click Save to create a Sales Order



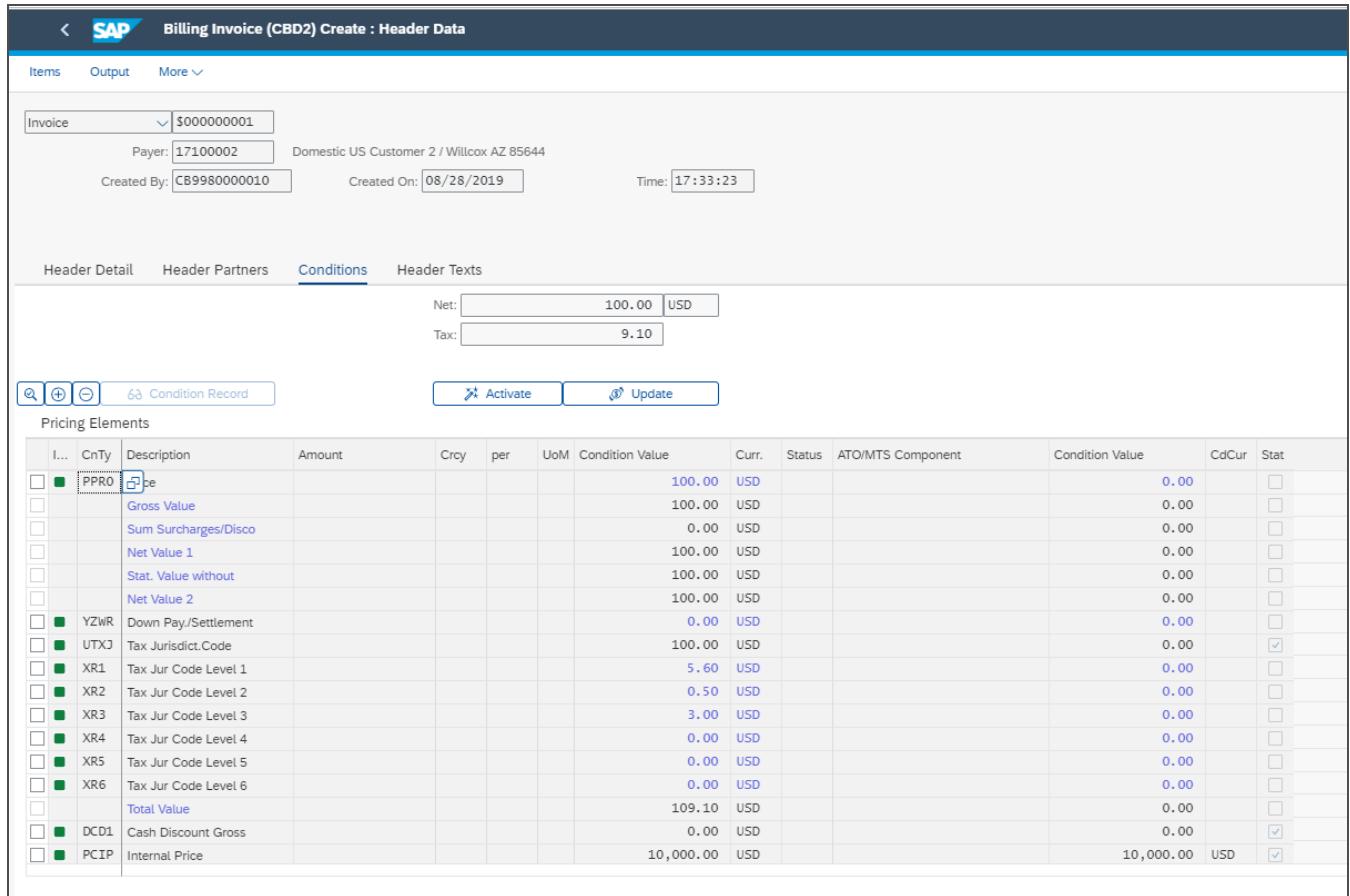
Processing a Billing Document

1. Go to the app Create Billing Documents. Enter the Sales Order number, and hit Execute.

A screenshot of the SAP Fiori Create Billing Document application. The header bar is dark blue with the SAP logo and the title "Create Billing Document". Below the header are several navigation links: "Change", "Display", "Billing Due List", "Billing Documents Overview", "Selection Date", "More Documents", and "More". The main content area is titled "Default Data" and contains four input fields: "Billing Type" (set to "CBD2 Invoice"), "Serv. Rendered" (empty), "Billing Date" (empty), and "Pricing Date" (empty). Below this is a section titled "Docs to Be Processed" containing a table with one row. The table has columns for "Document" (value "236"), "Item" (empty), "SD Document Category" (value "Order"), "Processing Status" (value "Fully Invoiced"), and two empty columns for "Billi..." and "Canceld Bill.Dc".

Document	Item	SD Document Category	Processing Status	Billi...	Canceld Bill.Dc
236		Order	Fully Invoiced		

2. Enter More> Goto> Header> Pricing Conditions Header. Here, a tax call is made to Determination and taxes are returned. You can view the taxes calculated by the system at header and item level.



The screenshot shows the SAP Billing Invoice (CBD2) Create : Header Data screen. The top navigation bar includes 'Items', 'Output', and 'More'. The main header section displays 'Invoice' number \$00000001, 'Payer' 17100002 (Domestic US Customer 2 / Wilcox AZ 85644), 'Created By' CB9980000010, 'Created On' 08/28/2019, and 'Time' 17:33:23. Below this, tabs for 'Header Detail', 'Header Partners', 'Conditions' (which is selected), and 'Header Texts' are visible. The 'Conditions' tab shows a table of Pricing Elements. The table has columns for I..., CnTy, Description, Amount, Crcy, per, UoM, Condition Value, Curr., Status, ATO/MTS Component, Condition Value, CdCur, and Stat. The table lists various tax components like PPRO, YZWR, UTXJ, etc., with their respective values and status. Buttons for 'Condition Record', 'Activate', and 'Update' are located at the bottom of the table.

3. Click Save to create a billing document



Displaying Accounting Document

1. Go to the app Display Billing Documents. Enter the billing document number and click on the Accounting button.

The screenshot shows the SAP Fiori 'Display Billing Documents' application. The top navigation bar includes the SAP logo, a back arrow, and the page title 'Display Billing Documents'. Below the title is a horizontal menu bar with links: 'Change', 'Items', 'Accounting', 'Revenue Accounts', 'Display Document Flow', and 'More'. The main content area contains a search form. The first field is 'Billing Document' with the value '900000117'. Below it is a section titled 'More Search Criteria' with four input fields: 'Document Number', 'Company Code', 'Fiscal Year', and 'Reference'. At the bottom of the form is a blue 'Search' button with a magnifying glass icon.

2. Select the accounting document by double clicking it.

List of Documents in Accounting X

Documents in Accounting	
Doc. Number	Object type text
9400000107	Accounting document
A00000Y700	Controlling Document

SAP Display Document: Data Entry View

Display Another Document Select Individual Object Display Document Header Taxes Display Currency General Ledger View Services for Object More

Data Entry View

Document Number:	9400000107	Company Code:	1710	Fiscal Year:	2019
Document Date:	08/28/2019	Posting Date:	08/28/2019	Period:	8
Reference:	0090000117	Cross-Comp.No.:		Ledger Group:	
Currency:	USD	Texts exist:	<input type="checkbox"/>		

Item Key ... Account Description Amount Curr. Tx

1710	1 01	17100002	Domestic US Customer 2	109.10	USD	O1
	2 50	41000000	Rev Domestic Prod	100.00-	USD	O1
	3 50	22001000	Sales Tax Accrued	5.60-	USD	O1
	4 50	22002000	Sales Tax Accrued	0.50-	USD	O1
	5 50	22003000	Sales Tax Accrued	3.00-	USD	O1