ONESOURCE INDIRECT TAX INTEGRATION FOR SAP

INSTALL AND PROGRAMMERS GUIDE

PRODUCT VERSION 6.4.0.1

Document Version 1

THOMSON REUTERS™

DOCUMENT HISTORY

Version Number	Version Date	Summary
v1	April 1, 2016	First version of this guide for ONESOURCE Indirect Tax Integration for SAP 6.4.0.1

Table of Contents

INTRODUCTION

WELCOME TO ONESOURCE INDIRECT TAX INTEGRATION FOR SAP

Corporations using SAP as their Enterprise Resource Planning (ERP) system can simplify their worldwide Indirect Tax requirements by implementing ONESOURCE Indirect Tax Suite. The suite includes Determination, Integration for SAP, Reporting, and Compliance. The benefits provided by ONESOURCE Indirect Tax Suite are:

- Fast, accurate sales, use, consumer's use tax, and VAT results.
- Monthly tax rate and rules updates for over 175 countries.
- Integrated tax calculation with SAP minimizing user decisions and tax errors.
- Removal of the need to change SAP tax codes each time a rate/rule changes, eliminating business interruptions, and running out of tax codes in SAP.
- Complete audit database from which you can generate both standard and custom reports as well as returns.

ONESOURCE Indirect Tax Integration for SAP 6 is a totally new interface designed, built, and maintained by Thomson Reuters. It's a new global tax integration solution designed from the ground up with integration pointing into SAP ECC application modules as desired. It consists of a data collector, tax interface, and return process of tax results to the calling application with G/L integration in support of downstream SAP processes such as standard VAT reports and returns processing. It makes use of the SOAP (Simple Object Access Protocol) provided by SAP to communicate with ONESOURCE Indirect Tax Determination. The new Integration enables worldwide tax calculations, including VAT, US Sales and Use Tax, and other country-specific taxation.

The interface is entirely built within the SAP Development Workbench, including a user menu for all interface related configurations, setups, and reports. The interface has a new field mapping solution allowing a Tax Business Analyst to map SAP data to Determination and vice versa via a customization table, eliminating most of the user-exit coding of the past. Tax calculation logs can be accessed via a transaction with a search function from within SAP greatly simplifying tax setup, analysis, and troubleshooting.

WHO SHOULD READ THIS GUIDE?

If you are responsible for overseeing setting up ONESOURCE Indirect Tax Integration for SAP, you will need to coordinate help from the following people:

- SAP Business Systems Analyst
- SAP Configuration Consultant
- SAP Technical Resource (ABAP Programmer)
- SAP Security Contact
- Tax Professional

Make this guide available to each of these contributors to ensure you have a successful installation.

PREREQUISITES

For a seamless and successful deployment of Integration for SAP we highly recommend that you follow this sequence of documents:

1. User Guide
2. Installation and Programmers Guide
3. Configuration Guide

When working on Integration for SAP you must have a deep knowledge of the SAP tax features, covering all aspects of FI, MM, and SD and have spent significant time either as an expert configurator or consultant in these areas. Because the setup of tax integration with ONESOURCE Indirect Tax also includes technical work in the ABAP Workbench, such as data dictionary changes and ABAP coding, you must be able to understand and interpret these changes as well. We recommend that you assemble a team to implement this product because it requires both functional and technical input. Your team should include someone who thoroughly understands business requirements and processes, as well as someone who can implement the required software changes.

Please take the following into account before setting up of the Integration for SAP:

- This guide assumes a fresh install of the Integration for SAP. Customers who are upgrading from a prior 5.x version of Integration should contact Thomson Reuters Indirect Tax.
- Minimum SAP system version must be ECC 6.0, EHP 5. Please see tested platforms by Thomson Reuters in Platform Information section.
- It is assumed that the persons who install, configure, and use the tax interface in SAP have some basic understanding of the overall ONESOURCE Indirect Tax Suite of products and how they interact with each other.

RESOURCES

Resource	Description
Customer Support	Look for answers in the Knowledge Base, or to open a support ticket.
User Guide	This is an overview of the architecture, basic business processes and touch points as they relate to Sales and Use tax, as well as VAT scenarios in FI, SD, and MM. The target audiences are the Business Systems Analysts, Consultants, and Tax Professionals who setup the tax processes in SAP.
Installation and Programmers Guide	This guide instructs on how to install the Integration for SAP. The target audience is the Basis person that will process the application of the transports to the SAP system and the ABAP programmers that will perform the required include statements within the user exits and other coding blocks. There is also discussion in this manual for the ABAP programmer regarding customization logic and how custom additions to the programs should be added to the system if needed in the future. This guide describes the supported combinations of operating systems, databases, and application servers/web containers. This guide lists the end-of-life dates for ONESOURCE Indirect Tax Integrations for SAP. Consult this guide to see which combinations of software we test with Integrations.
Configuration Guide SAP tables	This guide instructs how to configure and setup SAP tables and processes to enable tax calculations to meet your unique requirements.
Configuration Guide ONESOURCE tables	This guide instructs how to configure and setup our ONESOURCE Indirect Tax tables and processes to enable tax calculations to meet your unique requirements.
Configuration Guide for Special Functions	This guide instructs how to configure and setup SAP and Integration tables and processes to enable tax calculations to meet your unique requirements for special functions within SAP such as Plants Abroad, Down Payments, Cash Discounts, Deferred Taxes, Service Entry Sheets, etc.

SUPPORT PROTOCOL

The ONESOURCE Indirect Tax Integration for SAP is built, maintained, and owned by Thomson Reuters Tax & Accounting Indirect Tax. The business unit has a dedicated group of SAP Business Systems Analysts, ABAP Programmers, and Quality Assurance people who have built this product. We follow SAP best practices, development standards, and strive to minimize the impact this solution will have on your SAP environment. With any 3rd party Add-On in SAP, the vendor providing the solution is responsible for support of that Add-On. In the case of an issue with the ONESOURCE Indirect Tax Integration for SAP please follow these simple steps to open a support ticket with Thomson Reuters:

1. Identify the potential issue and gather all necessary facts (log files, scenarios, configurations, screen prints).
2. Provide steps to reproduce the scenario leading to the issue.
3. Provide system environment information such as your SAP Version, EHP and SP level, as well as the Integration version.
4. Open a support ticket with Indirect Tax at https://www.onesourceidtsupport.com.

STYLE CONVENTIONS

Style conventions are a guide to how to interpret information.

Bold text indicates most user interface elements, such as:

- Data you are expected to enter, such as in a text field
- Pages, buttons, tabs, and field names
- Dialog boxes, drop-down lists, selections within lists, and check box titles
- Windows
- Menu items

Italic text indicates the following:

- File and folder names
- Software programming terminology and executable files
- Document titles

CAPITALIZED text indicates keyboard commands, such as ENTER, or database components.

`Courier` text indicates command-line input/output.

<brackets> indicate user entry. For example, <host> indicates you should replace the text and angle brackets with your server name.

Book titles are shown in italics and sections within a book are in quotation marks, such as “Tips and Tricks” in the *ONESOURCE Indirect Tax User Guide*.

✎ Indicates suggestions or additional, detailed information.

⚠ Indicates important text that should be carefully reviewed before proceeding.

INTEGRATION OVERVIEW

WHAT IS INTEGRATION FOR SAP VERSION 6?

Integration version 6 is a brand new interface designed to significantly improve the user experience and dynamically expand current and future system capabilities for indirect tax calculations, reporting, and data mapping. The new platform moves away from the use of the SAP Standard Tax Interface and SAP JCo adapter to new functionality based on ABAP coding directly within ONESOURCE Indirect Tax's SAP registered namespace. Users are no longer limited by jurisdiction code based calculations and design originally written for the US and Canada sales tax structure. This provides far greater flexibility to meet challenging and ever changing global tax requirements and simplifies US and Canadian tax.

The new interface is designed with the global customer in mind and closely to SAP's structure and logic for global VAT processing. Users can take advantage of many standard SAP functions that are only made available with a non-jurisdiction based configuration. As future SAP features and functions become available to customers, the new design will likely avoid costly modifications to Integration programs.

Tax code usage within the new interface provides static assignment of tax codes based on downstream reporting and compliance needs without the requirement of assigning a tax rate, eliminating setup of different tax codes when tax rates change. This new logic allows the use of SAP standard reports and functions and avoids running out of possible tax code assignments. Support of a large number of global taxing authorities and historical rate changes are not an issue.

Users can now take advantage of standard VAT reports, plants abroad configuration, and many other standard SAP features that were a challenge or impossible with the prior jurisdiction code based interface. Exciting improvements have also been made to remove limitations on the summarization of taxing authorities, number of fields mapped to Determination requests and responses, and other key elements required for meeting current and future global tax challenges.

Below is a reference table of some of the many new features and functions that are now available with the new Integration design. Throughout the guides we will discuss in more detail each of the new features listed and further explain what opportunities are now available to the system user.

QUICK VIEW OF NEW FEATURES

Function	Description
All configuration within SAP tables	All configuration is now located in a separate ONESOURCE Indirect Tax SAP partner namespace of /IDT/.
New ONESOURCE user menu within SAP	New user menu allows access to Integration configuration tables, functions, logs, and reports directly within SAP.
Authorization objects for users and general administrator	SAP transaction codes now allow for access control to setup and configuration settings. Access to tax calculation logs and reports are secured by IDT authorization objects. This allows access control based on a company's own security protocol.

Function	Description
New flexible field and address mapping	New mapping is put in place to allow users to map request attributes and response fields from Determination directly with the use of tables. This simplifies the data mapping process and reduces the requirement of extensive ABAP coding.
Tax data storage for all business transactions	A new table has been created to store data from Determination in SAP for downstream processes for all business processes calculating tax. This limits and ultimately will avoid appends to SAP KONV table. Tax details are stored for SD, MM, and FI transactions.
New tax code and account assignment using Determination Tax Code Qualifier	Tax code and account key logic used by SAP to assign the G/L account number are now established via Determination's Tax Code Qualifier function and the use of specific condition logic to assign the correct codes and G/L account based on reporting needs.
New log report and configurable logging methodology	Multi-level log configuration is now available within SAP and can be maintained by user, transaction code, and other conditions. Changes can be made on the fly without taking down Integration and stopping tax calculation. New flexible log viewer is provided for searching and displaying tax calculation logs to quickly troubleshoot taxing issues.
New log file delete/archive process	Menu option has been added to allow management of the log entries by deletion or download to zip file.
New audit report	New audit report tracks and identifies any tax entries that have been posted to SAP General Ledger but have not updated the tax audit database. Report can also submit missing items for repost to audit.
Flexible use between modules of SAP i.e.: SD, MM, AR, AP, FI	SAP users on ECC 6.0 EHP5 or greater can now take advantage of SD, MM, and FI tax calculations. Ability to configure some or all modules as needed as well as combine usage of ONESOURCE Indirect Tax and SAP native tax calculation methods by module.
Removal of limit on number of tax codes	Use of multiple tax codes according to their taxing authority and reporting needs but still retain the rate structure changes within Determination without having to create additional codes for rate changes.
Removal of jurisdiction code method	Taxability now controlled by the address of the taxable entity and not by the assignment of a jurisdiction code.
Removal of limit on attribute mapping	Users are no longer limited by the number of fields they can map from SAP to the Determination request and the response from Determination back to SAP. Ability to map 40 attributes at both header and again at line item level.
Dynamic creation of tax lines removing limitation of 10 jurisdiction levels	External tax interface was limited to 10 jurisdiction levels for the summarization of tax authority information by level. This is now a dynamic process resulting in an unlimited possible number of separately returned taxing authorities to the line item tax calculation.
Separate tax lines for freight	Ability to have separate tax authority lines on the

Function	Description
	conditions tab of documents for freight handling separate from the related expense line.
Authority text now displays on conditions tab	The name of the tax authority now displays on the conditions tab of the documents.
Per document calculation in all modules	Per document calculation in SD, MM, and FI allows for proper calculation of max tax scenarios common on US Sales Tax calculations.
Use of calculation schema in Purchasing	Use of the calculation schema in Purchasing provides document level calculation for max tax and other conditions as required.
Ability to use standard VAT reports	Removal of jurisdictional calculation method now provides the access and usability of many native SAP tax reports.
Standard SAP functionality now available with removal of jurisdictional method of calculation of tax.	Native SAP functions that are limited to non-jurisdictional calculations can now be made available for external tax calculations.
Improved cash discount processing	Improved transaction logic for calculation of tax on cash discounts taken at time of payment
Plants Abroad functionality	Ability to use Plants Abroad configuration with SAP standard configuration.
Tax Codes can be marked as non-tax relevant	Ability to mark certain tax codes as not relevant and prevent a call to Determination if desired.
New SOAP interface replacing SAP's External Tax Interface	The JCo Server and External Tax Interface have been replaced with SAP's Internet Communications Framework using SOAP and Determination's WSDL/XSD definition.
Down Payments processing	Ability to utilize the down payment process in SAP for both customer side and vendor side transaction including the request for down payment, down payment application, and transfer of the down payment to the customer/vendor open A/R and A/P accounts.
Tax based on entry of gross amount	FB00 entry to set tax based on entry of the gross amount has been reviewed and issues adjusted with calculation and return to audit.
Evaluated Receipt Settlement process	Tax calculation on MRRL and MRRS for creation of invoice in LIV based on the goods receipt transaction is now available using standard SAP processes.
Service Entry Sheets	Using Service Entry Sheets on purchase orders is now supported for tax calculation based on the Service Entry Sheet line items and transaction ML81N.
Deferred Tax Transfer	Ability to run the RFUMSV25 program with SAP standard configuration.
US Tax Report	US Tax Report which is clone of standard SAP US Report broken with Integration being non-jurisdictional is now available for use on US company codes within the

Function	Description
	Reports and Tools Menu.

New logic can be added to the Integration with greater ease and less ABAP programming due to the structures, methodologies, and dynamic table offerings. This will aid system users and ABAP programmers in meeting your specific requirements that are not currently part of this release, and provide a platform and process for incorporating these needs into standard product updates in the future.

BENEFITS OF USING ONESOURCE INDIRECT TAX

Enabling Determination to calculate tax 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 tax calculations, and 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. ONESOURCE Indirect Tax Determination provides 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 authorities, rates, and rules change
- Provides a scalable, maintainable enterprise solution

Using ONESOURCE Indirect Tax as your global transaction tax management solution reduces costs, increases accuracy, and provides the flexibility you need to adapt to an ever-changing business 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-authority reports or any other desired reports needed to satisfy your company’s needs.

USER PROCESSES THAT TRIGGER DETERMINATION TAX CALCULATIONS

The *Installation and Configuration Guides* provide procedures needed to install and configure Integration to enable end-to-end tax calculation with Determination.
Once Determination is fully integrated with SAP, you can automatically generate correct tax results during the following actions:

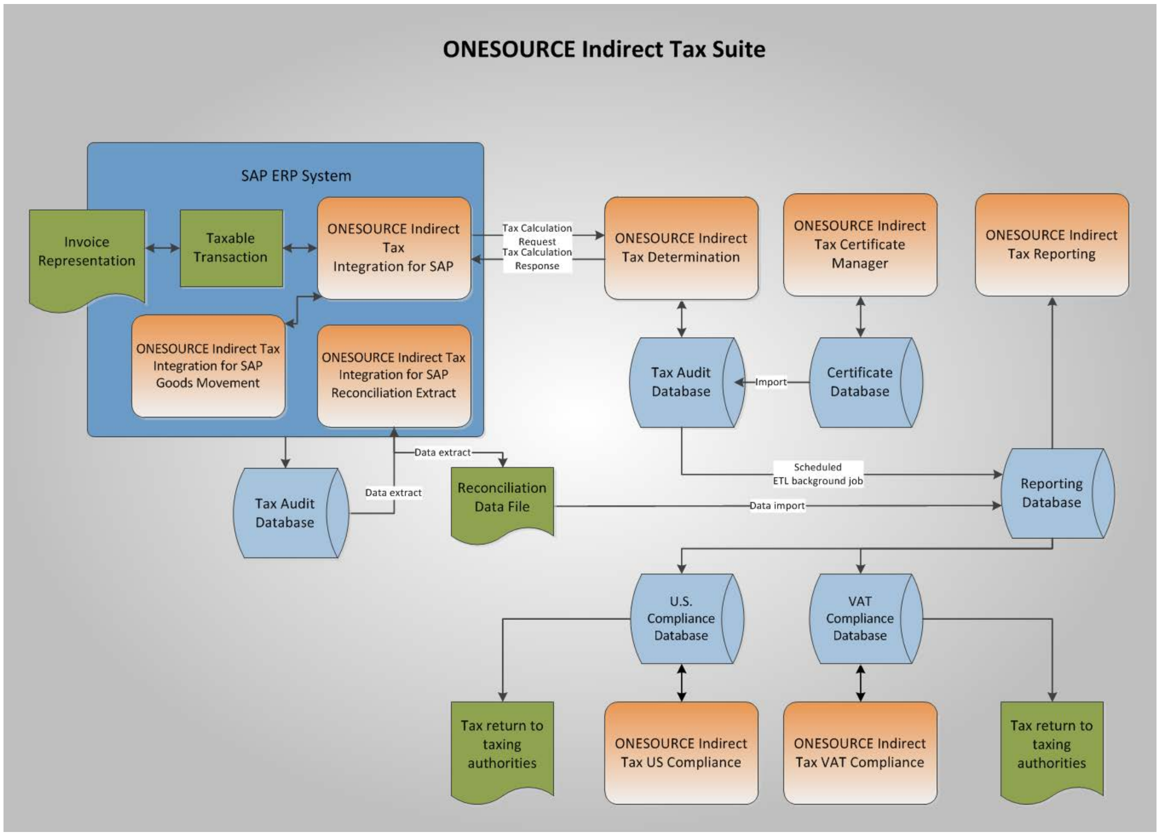
- Procure to Pay; Purchase Orders, Logistic Invoice Verification with posting to AP
- Order to Cash; Sales Order to Billing with posting to AR
- Processing FI module adjusting entries

ARCHITECTURE AND DESIGN OVERVIEW

THE ONESOURCE INDIRECT TAX SUITE

ONESOURCE Indirect Tax Suite of products is made up of the following components:

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.


ONESOURCE Indirect Tax Suite
SAP ERP System
Invoice Representation
Taxable Transaction
ONESOURCE Indirect Tax Integration for SAP
ONESOURCE Indirect Tax Integration for SAP Goods Movement
ONESOURCE Indirect Tax Integration for SAP Reconciliation Extract
Tax Calculation Request
Tax Calculation Response
ONESOURCE Indirect Tax Determination
ONESOURCE Indirect Tax Certificate Manager
ONESOURCE Indirect Tax Reporting
Tax Audit Database
Import
Certificate Database
Data extract
Data extract
Tax Audit Database
Reconciliation Data File
Scheduled ETL background job
Data import
Reporting Database
U.S. Compliance Database
VAT Compliance Database
Tax return to taxing authorities
ONESOURCE Indirect Tax US Compliance
ONESOURCE Indirect Tax VAT Compliance
Tax return to taxing authorities

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 ONESOURCE Indirect Tax 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.

Compliance for VAT:
ONESOURCE Indirect Tax's flexibility accommodates your distinct VAT compliance requirements, while maintaining a robust risk management framework. It enables automated data collection and entry in a number of ways to ensure data integrity from numerous data sources. We maintain and update the latest tax rules, which enable you to focus on your indirect tax compliance rather than the implications of changing regulations using our solution maps and your company's unique in-house knowledge into the compliance process. We can reduce risk and assist with succession planning. Our VAT compliance solution has in-built and maintained VAT logic, automated VAT returns from data taken directly from financial systems and has detailed exception reporting embedded in the ONESOURCE software. It has a full audit trail of data from the return back to the source, and HMRC-approved XML e-filing capability.

Goods Movement:
Newly updated Goods Movement product is now written within the Integration as an add-on for all of your US sales tax material and goods movement use tax accrual needs. The new version uses all of the table

tables and SOAP interface technology that was provided as part of Integration Version 6. This new menu driven version takes advantage of our entire new table mapping and menu features in order for you to batch process your goods movement entries as part of your month end accrual process. Tables allow you to configure all transaction movement types you desire to accrue as well as the use of the field mapping logic for adding additional data elements to the response and request data for the Goods Movement routes and journey paths.

GLOSSARY

The following terms may be helpful when implementing Integration:

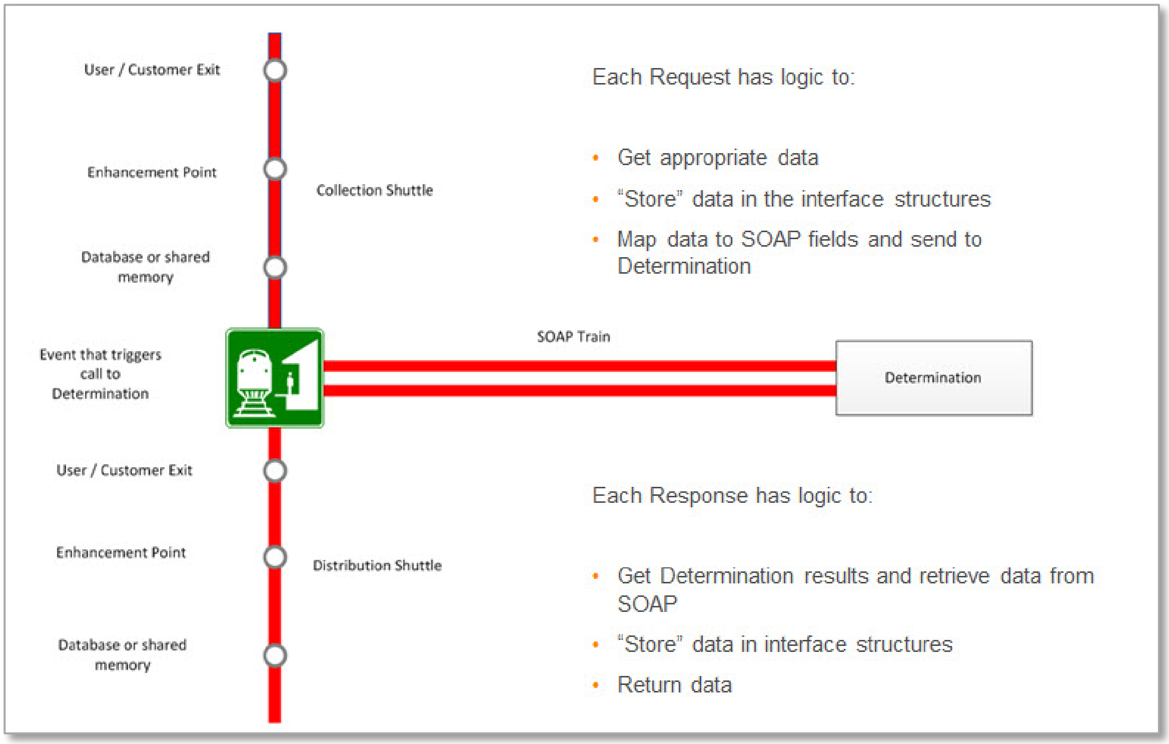
Term	Meaning
SOAP (Simple Object Access Protocol)	SOAP is a way to build connections between software applications across networks including the internet. It works very much like a Yahoo search, where you pass in a request and get a response from a server. SOAP requests and responses are in the form of XML messages.
WSDL (Web Services Description Language)	A WSDL describes a way to send messages to a software application and how to read the corresponding response.
XML (Extensible Markup Language):	XML is a messaging language that is relatively easy to read for both people and software.
Proxy	Within an SAP environment, a proxy is a representation of an outside application. Proxies can be generated from a WSDL. The proxy acts as if it is the outside application to the rest of the SAP environment. Any messages sent to the proxy are forwarded on to the outside application and responses from the outside application are returned through the proxy.
Pricing Procedure / Calculation Schema / Tax Procedure	A pricing procedure, calculation schemas, and tax procedures contain a list of conditions that form the spine of the pricing process. It must be correctly configured for the tax calculation process to work correctly.
Pricing Conditions / Tax Conditions	Pricing conditions are the vertebrae of the pricing procedure in SD and the calculation schema in Purchasing. Likewise, tax conditions are the vertebrae of the tax procedure as used by Logistics Invoice Verification and FI-AP/AR. Each pricing condition represents a step in the pricing process. Four pricing conditions must be correctly configured for the tax calculation process to work correctly in SD and Purchasing; a line item data collector condition, a Determination calling condition, and two conditions to place calculated tax data into the prices. For the tax procedure only the two conditions to place the calculated tax data into the system is required.
Group Conditions	Group conditions are pricing conditions that work at a whole document level instead of at a line item level as the other pricing conditions do. For this reason they are very useful in calculating whole document taxes as required by many tax laws.
Condition Value Formulas / Scale Base Formulas	These are a type of user-exit that is part of a condition of a pricing procedure, tax procedure, or calculation schema.

THE DATA INTEGRATION MODEL: THE TRAIN STATION ANALOGY

In order to visualize the movement of data between SAP and Determination we have come up with the below noted diagram that uses the analogy of a train station and shuttle bus transportation system. Some of the new terminology that you hear us use within this analogy will become familiar to you as we use them again in describing various steps within the configuration processes and field mapping of the ONESOURCE Indirect Tax Integration for SAP.

The **Train Station** is the point at which the request data has been gathered and is ready to be sent to Determination on a **Train**, as well as the point where response data from Determination is being sent back and is ready for distributing to SAP transactions and tables. The Train Station is the event that triggers a SOAP call to and from Determination. The double red line represents the flow of the data to and from Determination (the Train).

The single red line on the top in the following image, represents the path or **Collection Shuttle** that is used to gather data from the SAP system's various modules into the Determination request. Along the shuttle's route there are various points or shuttle stops that are executed to pick up data to go to Determination on the Train. These can include user/customer exits within ABAP programs, program enhancement points, or areas within the database or shared memory within SAP.



Each Request has logic to:

- Get appropriate data
- "Store" data in the interface structures
- Map data to SOAP fields and send to Determination

Each Response has logic to:

- Get Determination results and retrieve data from SOAP
- "Store" data in interface structures
- Return data

Likewise on the **Distribution Shuttle** line, data is being returned to various points or shuttle stops that are executed to return data from the Determination Train. These can include user/customer exits within ABAP programs, program enhancement points, or areas within the database or SAP tables. The data points are “picked up” or “dropped off” via the shuttle. How the data points are mapped (or assigned a seat on the shuttle) relates to the logic and procedures within the various Journeys and Routes.

A **Journey** is an object that handles the complexity inherent to a specific set of data that is sent to or received from Determination. A Journey includes logic to: pass data to/from SAP transactions, store the data, and move data from/to specific fields or seats on the Train. For a list of all of the journeys and their use see the *Installation Guide* section on additional information on Journeys.

A **Route** is an object that handles the complexity inherent to a group of transactions. Think of it as the bus route that a shuttle takes from a given “side of town” to/from the Train Station. There can be many different routes to get to the Train Station. Sales, Group Billing, Group Purchasing are routes that handle the complexity specific to the SD Sales, SD Billing, and MM-Purchasing transactions, and user-exits. Other routes include Non-Group-Doc-AP, and Non-Group-Doc-AR, and Non-Group-Doc-LIV which handle the complexity inherent to a group of transactions in Accounts Payable, Accounts Receivable, and Logistics Invoice Verification. For a list of all of the routes and their use see the *Installation Guide* section on additional information on routes.

PLATFORM INFORMATION

	SAP Version 6.1.x.x – 6.4.x.x	SAP Enhanced Version 5.2.x.x
Dependencies		
	TaxCalculationService 2011-09-01 Requires Determination 5.5 or greater	XML Schema Version G
ERP Version		
	ECC 6.0 EHP 5 or higher (No SAP Certification)	ECC 6.0 (No SAP Certification)
SAP-JCo, SRM/EBP		
	Uses SAP Internet Communication Framework with SOAP CRM/SRM/EBP/HANA not supported	JVM 1.5, 1.6 SAP-JCo 3.0.7, 3.0.8, and 3.0.9 CRM/SRM/EBP not supported

PRE-INSTALLATION STEPS

Before you can start with the actual installation and configuring of Integration you will need to perform some preparations. This chapter outlines these steps.

DOWNLOADING THE SOFTWARE

To download and install Integration, retrieve the *ONESOURCEIDTIntegrationSAP_xxxx.zip* file from the Customer Center:

1. Open **Microsoft Internet Explorer** and navigate to Customer Center.
2. Log on using the **Username** and **Password** assigned by Customer Support.
3. Find Integration for SAP (Enhanced Global) in the Available Products list and verify that Installed Version is set to "**None**".
4. Click **Download** for Integration for SAP (Enhanced Global).
5. Save the file.
6. Unzip the *ONESOURCEIDTIntegrationSAP_xxxx.zip* file.

DOWNLOADING THE DOCUMENTATION

The latest documentation files are available in the Thomson Reuters Knowledge Base.

1) Open **Microsoft Internet Explorer** and navigate to the Knowledge Base.
2) Log on using the **Username** and **Password** assigned by Customer Support.
3) Select the document file(s) relevant to your task and save them locally to your system.

It might be best to create a new directory *ONESOURCEIDTIntegrationSAP_<version>*, where version is the release number of the product documentation downloaded. Then save all documents into that one folder.

SYSTEM PREPARATIONS

Before you import the provided SAP transports make sure you have an SAP system dedicated for installation of Integration. It is highly recommended to do the first import into a Sandbox or Development system. Never import directly into a Production system.

To successfully install Integration and test communication with a tax engine, Determination has to be installed as well. Make sure you have Determination installed and configured.

Consult the Platform Support Guide to installation to make sure you have the proper version prerequisites met.

INSTALLING INTEGRATION

IMPORTING TRANSPORT OBJECTS

Thomson Reuters provided transports will need to be imported into the clients Development system to setup ONESOURCE Indirect Tax Integration for SAP. All of our objects are in the Thomson Reuters Indirect Tax name space /IDT/. We don’t change any customer owned objects.

All Thomson Reuters delivered code and objects are in the /IDT/ name space. None of our transports will directly update SAP owned objects, user-exits, or similar. Once the transports have been successfully imported into your SAP system you will need to perform some manual steps to add coding blocks into SAP objects to call the Thomson Reuters delivered tax interface code.

This install document assumes a fresh install of Integration. If you are a customer who received a pre General Release version please contact Thomson Reuters Customer Support. If you are installing this new version into an environment with our prior version 5.x Integration already installed please contact Thomson Reuters Professional Services to assist you in the upgrade.

Import the provided transports in the following order:

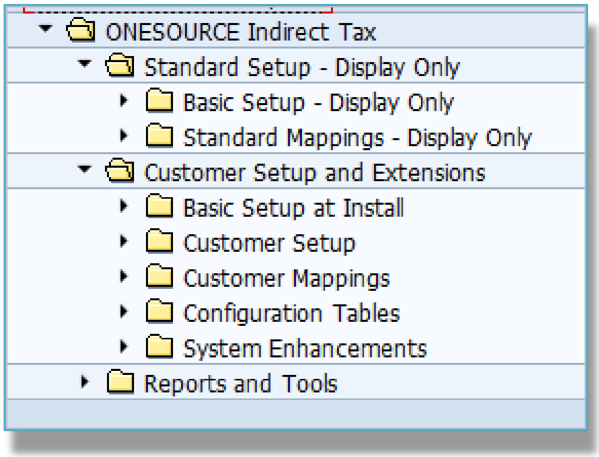
Transport	Content
QO4K900190	Thomson Reuters ONESOURCE IDT Integration 6.4.0.1 – Code
QO4K900191	Thomson Reuters ONESOURCE IDT Integration 6.4.0.1 - Configuration
QO4K900192	Thomson Reuters ONESOURCE IDT Integration 6.4.0.1 - BTE
QO4K900193	Thomson Reuters ONESOURCE IDT Integration 6.4.0.1 - Role

Generation of some of the ABAP objects imported might take some time. Please make sure to check successful import of each transport before proceeding to the next one in the list.

ADDING USER MENU TO A ROLE

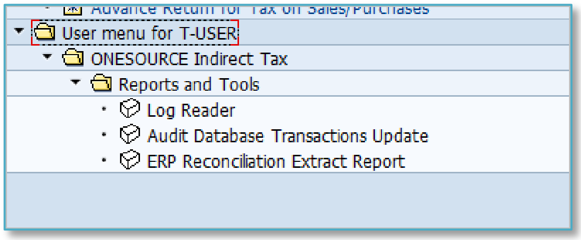
For users to be able to access the new ONESOURCE Indirect Tax for SAP setup, configurations, and reports we delivered an SAP User Menu. For users to be able to access the User Menu they would need to be given access to the /IDT/GENERAL or /IDT/USER role.

/IDT/GENERAL contains all of the IDT transactions codes and the full ONESOURCE User Menu. This would normally be given to users that are in charge of management of the system, configuration, and mapping, The following image shows the Indirect Tax menu and the selections for Standard Setup, Customer Setup, and Reports and Tools.



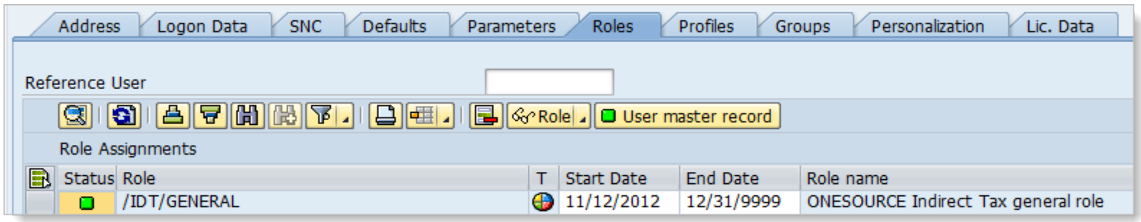
- ONESOURCE Indirect Tax
  - Standard Setup - Display Only
    - Basic Setup - Display Only
    - Standard Mappings - Display Only
  - Customer Setup and Extensions
    - Basic Setup at Install
    - Customer Setup
    - Customer Mappings
    - Configuration Tables
    - System Enhancements
  - Reports and Tools

/IDT/USER contains three menu options within the **Reports and tools** menu and would normally be used by a system user that needs to review log reports, extract data for the reconciliation report, and update or review the audit database at month end for any transactions that posted to the G/L but did not go to the audit database.



- Advance Return for Tax on Sales/Purchases
- User menu for T-USER
  - ONESOURCE Indirect Tax
    - Reports and Tools
      - Log Reader
      - Audit Database Transactions Update
      - ERP Reconciliation Extract Report

To assign the role to a user go to Transaction Code **SU01**. On the **Roles Tab**, insert the new role name, beginning and ending dates as shown below.



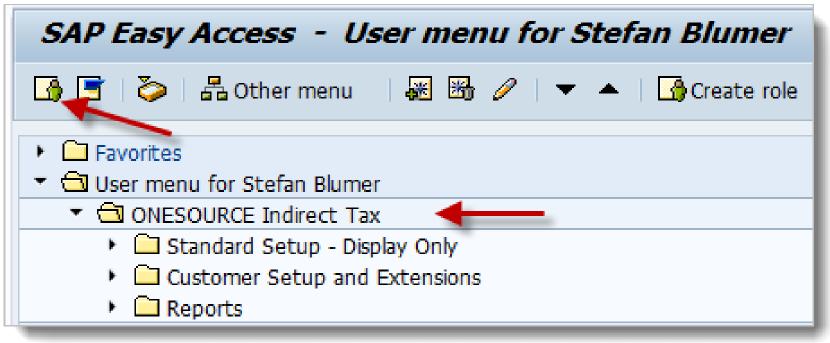
Reference User

Role Assignments

Status	Role	T	Start Date	End Date	Role name
🟩	/IDT/GENERAL	●	11/12/2012	12/31/9999	ONESOURCE Indirect Tax general role

Only one or the other role needs to be assigned, not both.

Once the role has been assigned a user can access the User Menu from the main SAP start screen as follows by selecting the User Menu icon or Ctrl+F10.


SAP Easy Access - User menu for Stefan Blumer
Other menu
Create role
Favorites
User menu for Stefan Blumer
ONESOURCE Indirect Tax
Standard Setup - Display Only
Customer Setup and Extensions
Reports

ADDING INCLUDE STATEMENTS

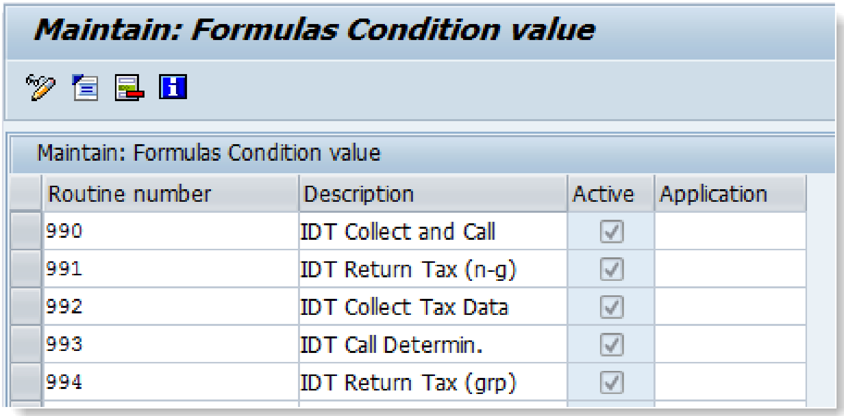
To connect our tax interface with SAP business processes, code has to be added in several areas of the SAP system, mainly in formulas, user-exits, BAdI, and other methods further described in this section. In each case you will add a statement of code that then calls the Thomson Reuters delivered interface code.

Each customer's environment is different. When adding code to user-exits we don't know what other code has been implemented in the same area of the user-exit. It is the customers responsibility to review their code and determine the best place within the other custom code to add our include statement. In most cases it is probably **best to add our include at the end of other code**, unless prior code will skip our code or we have specified otherwise in these instructions.

CREATING CONDITION VALUE FORMULAS

Use the next available formula in your system. The examples shown here are examples only. Once the formulas are created and generated you will be able to assign them to our Integration via configuration. See the *Configuration Guide -> ONESOURCE Route Configuration* for more details on this follow-up step.

Transaction Code **VOFM → Formulas → Condition value**
Create the formulas as outlined in the samples below:



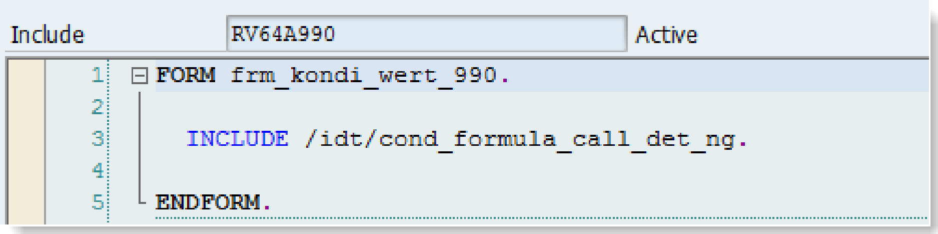
Maintain: Formulas Condition value

Maintain: Formulas Condition value

Routine number	Description	Active	Application
990	IDT Collect and Call	☑	
991	IDT Return Tax (n-g)	☑	
992	IDT Collect Tax Data	☑	
993	IDT Call Determin.	☑	
994	IDT Return Tax (grp)	☑	

1. Collecting data and calling Determination (non-group process) [RV64A990]

```
INCLUDE /IDT/COND_FORMULA_CALL_DET_NG.
```

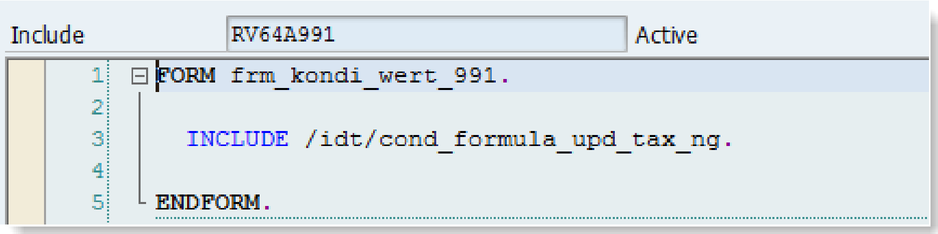


Include RV64A990 Active

```
FORM frm_kondi_wert_990.

  INCLUDE /idt/cond_formula_call_det_ng.

ENDFORM.
```

2. Update tax condition with tax data (non-group process) [RV64A991]

```
INCLUDE /IDT/COND_FORMULA_UPD_TAX_NG.
```

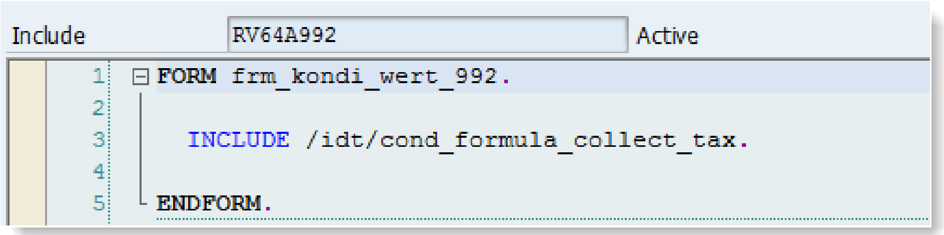


Include RV64A991 Active

```
FORM frm_kondi_wert_991.

  INCLUDE /idt/cond_formula_upd_tax_ng.

ENDFORM.
```

3. Collecting line tax data (group process) [RV64A992]

```
INCLUDE /IDT/COND_FORMULA_COLLECT_TAX.
```

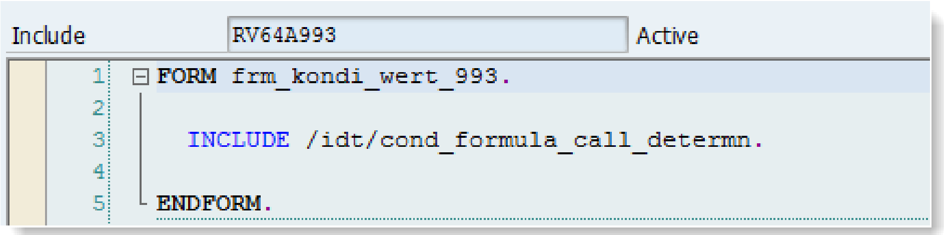


Include RV64A992 Active

```
FORM frm_kondi_wert_992.

  INCLUDE /idt/cond_formula_collect_tax.

ENDFORM.
```

4. Calling Determination (group process) [RV64A993]

```
INCLUDE /IDT/COND_FORMULA_CALL_DETERMN.
```

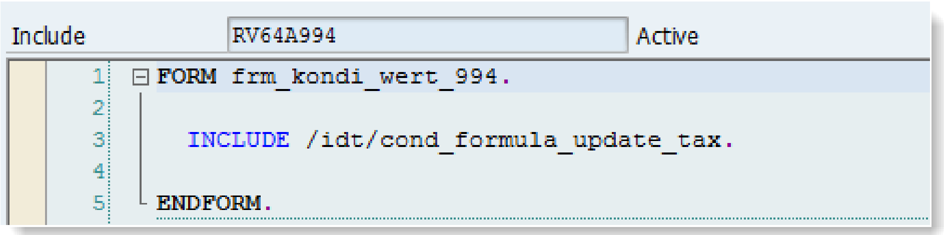


Include RV64A993 Active

```
FORM frm_kondi_wert_993.

  INCLUDE /idt/cond_formula_call_determn.

ENDFORM.
```

5. Update tax condition with tax data (group process) [RV64A994]

```
INCLUDE /IDT/COND_FORMULA_UPDATE_TAX.
```



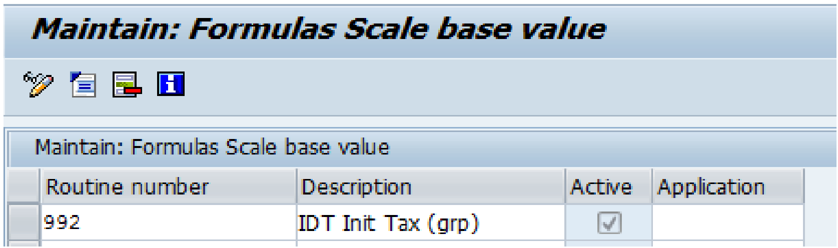
Include RV64A994 Active

```
FORM frm_kondi_wert_994.

  INCLUDE /idt/cond_formula_update_tax.

ENDFORM.
```

CREATING SCALE BASED FORMULA

Use the next available formula in your system. The examples shown here are examples only. Once the formulas are created and generated you will be able to assign them to our Integration via configuration. See the *Configuration Guide -> ONESOURCE Route Configuration* for more details on this follow-up step.

Transaction Code **VOFM → Formulas → Scale base**
Create the formula as outlined in the samples below:



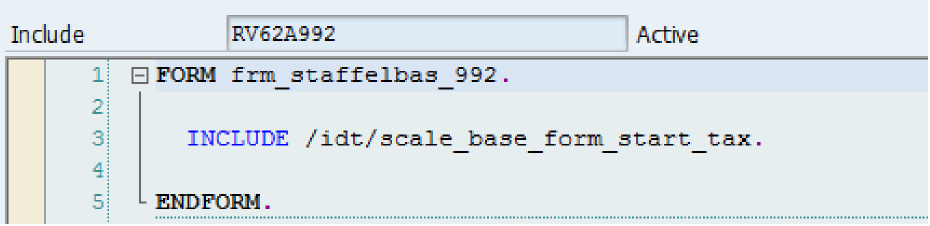
Maintain: Formulas Scale base value

Maintain: Formulas Scale base value

Routine number	Description	Active	Application
992	IDT Init Tax (grp)	☑	

1. Triggering the start of pricing (group process) [RV62A992]

```
INCLUDE /IDT/SCALE_BASE_FORM_START_TAX.
```



Include RV62A992 Active

```
FORM frm_staffelbas_992.

  INCLUDE /idt/scale_base_form_start_tax.

ENDFORM.
```

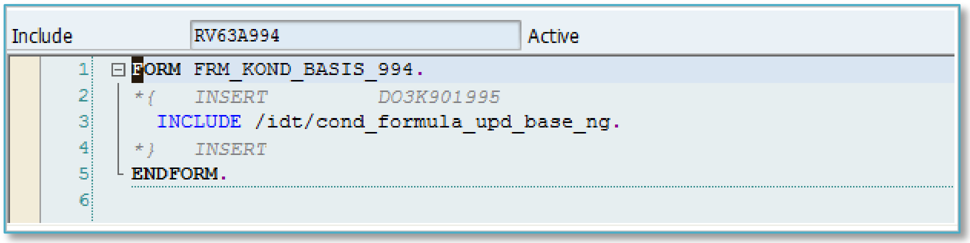
CONDITION BASE VALUE

Use the next available formula in your system. The examples shown here are examples only. Once the formulas are created and generated you will be able to assign them to our Integration via configuration. See the *Configuration Guide -> ONESOURCE Route Configuration* for more details on this follow-up step.

Transaction Code **VOFM → Formulas → Condition Base Value**
Create the formula as outlined in the samples below:

1. Updating the tax base value (non-group process)

    INCLUDE /IDT/COND_FORMULA_UPD_BASE_NG.



Include RV63A994 Active

```
FORM FRM_KOND_BASIS_994.
*{   INSERT         D03K901995
  INCLUDE /idt/cond_formula_upd_base_ng.
*}   INSERT
ENDFORM.
```

SD USER EXIT CODE

Implement the following user-exit code in support of address data collection for the tax interface, collecting transaction data for use in the field mapper, as well as updating the log with the sales document number once a document is saved in SAP.

MV45AFZZ

1. USEREXIT_PRICING_PREPARE_TKOMK

```
INCLUDE /IDT/PRICE_PREP_TKOMK_SALES.
```

2. USEREXIT_PRICING_PREPARE_TKOMP

```
INCLUDE /IDT/PRICE_PREP_TKOMP_SALES.
```

3. USEREXIT_SAVE_DOCUMENT

```
INCLUDE /IDT/UE_SAVE_DOCUMENT.
```

RV60AFZZ

1. USEREXIT_PRICING_PREPARE_TKOMK

```
INCLUDE /IDT/PRICE_PREP_TKOMK_BILLING.
```

2. USEREXIT_PRICING_PREPARE_TKOMP

```
INCLUDE /IDT/PRICE_PREP_TKOMP_BILLING.
```

3. USEREXIT_SAVE_DOCUMENT_PREPARE

```
INCLUDE /IDT/BILLING_SAVE_DOC_PREPARE.
```

⚠ If the user-exit /IDT/BILLING_SAVE_DOC_PREPARE can't be found in RV60AFZZ please review SAP Note 1449861 and follow instructions on how to implement this exit first.

⚠ Customers on an earlier version of 6.x will need to remove the include in user-exit EXIT_SAPLV60B_008.

PURCHASING USER EXIT CODE

The following code insertions need to be done in the MM area to enable tax calls on Purchase and Logistics Invoicing documents. They collect header and line information for the tax interface and field mapper, as well as update the logs with the document number during document save.

BADI ME_PO_PRICING_CUST

1. Method PROCESS_KOMK.

```
INCLUDE /IDT/PURCHASING_BADI_KOMK.
```

2. Method PROCESS_KOMP.

```
INCLUDE /IDT/PURCHASING_BADI_KOMP.
```

BADI ME_PROCESS_PO_CUST

1. Method POST.

```
INCLUDE /IDT/PURCHASING_BADI_POST.
```

BADI EXTENSION_US_TAXES

1. Method MM_ITEM_TAX_MODIFY of BAdI EXTENSION_US_TAXES should have the following include. This code is used to collect LIV transaction data.

```
INCLUDE /IDT/BADI_LIV_EX_US_TAX_ITEM.
```

2. Method MS_TAX_DATA_SERVICES of BAdI EXTENSION_US_TAXES should have the following include. This will make standard SAP call taxes every time when something is changed at line item level for SES.

```
INCLUDE /IDT/BADI_SES_EX_US_TAX.
```

BADI LE_SHP_PRICING

1. Method CHANGE_INPUT_HEADER_AND_ITEMS

```
INCLUDE /IDT/PRICE_PREP_DELIVERY.
```

Internal Procedure Call

No coding is needed for this, but for documentation we list this internal call made within our Integration:

1. Method /IDT/ROUTE_GROUP_PURCHASING → HANDLE_ERROR_MESSAGE calls macro MMPUR_MESSAGE_FORCED from include MM_MESSAGES_MAC. This code is to issue error messages within the purchasing transactions.

PRICE CONDITION USER EXIT CODE

To enable the tax details to be available in the pricing screens of SAP the following insertions need to be made in the price condition user-exit areas:

RV61AFZB

These user-exits make sure that the XKOMV /IDT/* fields are not overwritten in various condition screens, as well as are used to make sure that the condition lines have the correct header condition counter in the condition screens.

1. USEREXIT_XKOMV_ERGAENZEN_MANU

```
INCLUDE /IDT/UE_XKOMV_ERGAENZEN_MANU.
```

2. USEREXIT_XKOMV_FUELLEN_O_KONP

```
INCLUDE /IDT/UE_XKOMV_FUELLEN_O_KONP.
```

3. USEREXIT_XKOMV_ERGAENZEN

```
INCLUDE /IDT/UE_XKOMV_ERGAENZEN.
```

LV69AFZZ

These user-exits are used to populate the authority names in the condition types by overriding the default name of the condition with the authority name returned from Determination.

1. USEREXIT_FIELD_MODIFIC_KOPF

```
INCLUDE /IDT/UE_FIELD_MODIFIC_KOPF.
```

2. USEREXIT_FIELD_MODIFICATION

```
INCLUDE /IDT/UE_FIELD_MODIFICATION.
```

EXIT_SAPLMLSP_030 / EXIT_SAPLMLSP_010

The below mentioned includes in the /IDT/ namespace are to be included in the user exit as shown below. These exits are part of the SAP enhancement – SRVESLL – Item level and SRVESSR – Header level. In ML81N these hooks are intended to pass transactions header and line item data to custom structures and tables which are used to populate data while calling Determination. A new project needs to be created and activated in CMOD and it should include the two enhancements SRVESLL and SRVESSR.

1. EXIT_SAPLMLSP_030

```
INCLUDE /IDT/SERVICE_ENTRY_SHEET_ITEM
```

2. EXIT_SAPLMLSR_010

```
INCLUDE /IDT/SERVICE_ENTRY_SHEET_HDR
```

IMPLICIT ENHANCEMENTS

The following implicit enhancements are required to enable updating the tax code in the SAP transaction with the one returned by the Determination Tax Code Qualifier.

CALCULATE_TAX_DOCUMENT

At the end of the function module, right before the "ENDFUNCTION." insert the include statement:

```
INCLUDE /IDT/CALCULATE_TAX_DOCUMENT.
```

MR_CALCULATE_TAX_DOCUMENT

At the end of the function module, right before the "ENDFUNCTION." insert the include statement:

```
INCLUDE /IDT/MR_CALCULATE_TAX_DOCUMENT.
```

NDVAT_ADJUSTMENT

At the end of the function module, right before the "ENDFUNCTION." insert the include statement:

```
INCLUDE /IDT/ADJUST_REV_EXP_TAX_DATA.
```

Include Program: LKONTF01

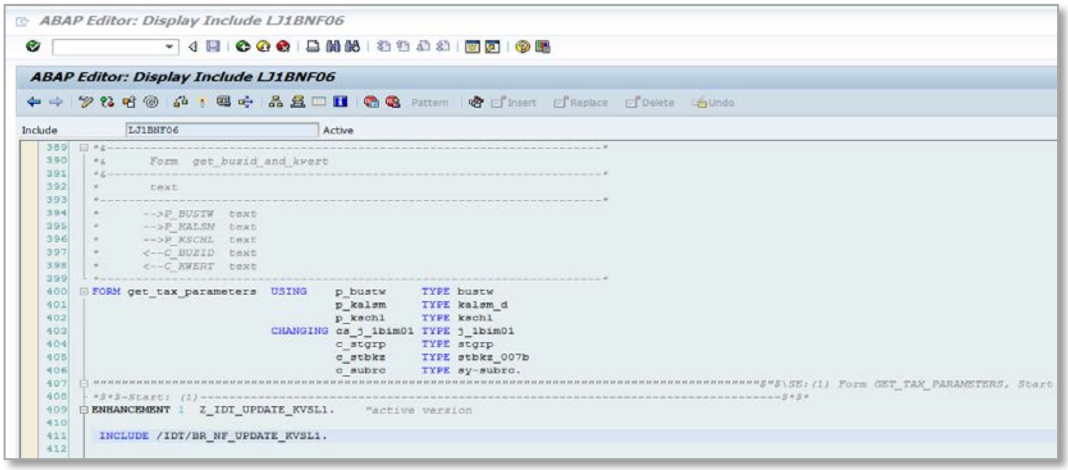
An implicit enhancement is to be created and the include /IDT/YBSEG_CREATE is to be placed at the end of form YBSEG_CREATE in include LKONTF01.This is used to link the DRSEG and BSEG tables during the LIV processing.

```
INCLUDE /IDT/YBSEG_CREATE.
```

⚠ Important: The following Brazil includes and hooks should only be added to the system if you are planning to use the Integration 6.4 Brazil enablement logic. If you have elected to leave Brazil on the Integration 5.x old interface then by adding these hooks the program will create short dumps in your system. You can either elect to not add these includes into the programs or comment them out so as to not invoke them with the Brazil configuration if you are continuing to use the old Integration for Brazil. If you have multiple company codes for Brazil you must keep them all on the same version to avoid this error.

Update Account Key when Brazil NF taxes are getting created

Include program /IDT/BR_NF_UPDATE_KVSL1 is expected to update the account key when NF taxes are getting created in Brazil.
 This include gets called as part of implicit enhancement in include LJ1BNF06
as part of function module J_1B_IM_TX_CALCULATE_TAX_NEW at the start of the form get_tax_param eters.
Please refer to the following screen shot for this hook.



ABAP Editor: Display Include LJ1BNF06

ABAP Editor: Display Include LJ1BNF06

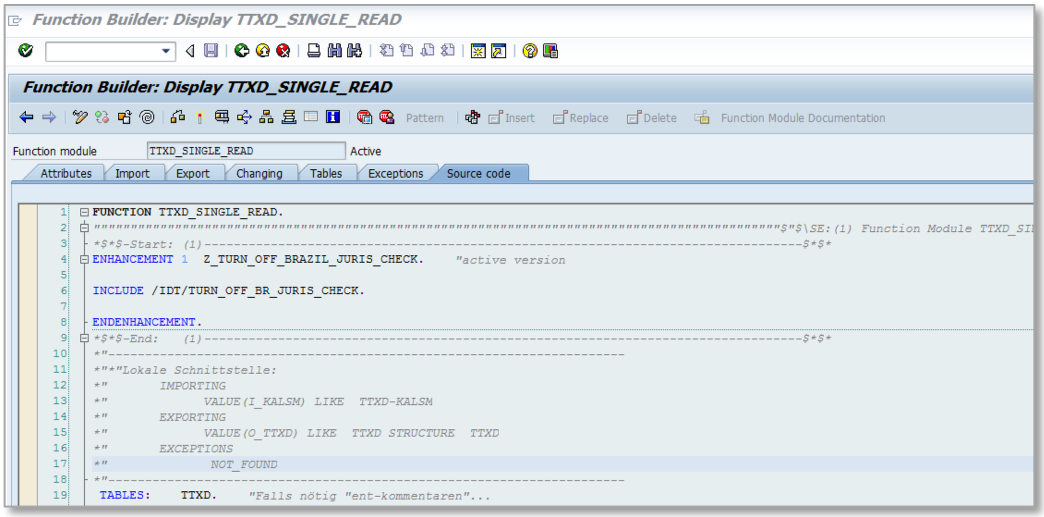
Include LJ1BNF06 Active

```
*&---------------------------------------------------------------------*
*&      Form  get_buzid_and_kvert
*&---------------------------------------------------------------------*
*       text
*----------------------------------------------------------------------*
*      -->P_BUSTW  text
*      -->P_KALSM  text
*      -->P_KSCHL  text
*      <--C_BUZID  text
*      <--C_KWERT  text
*----------------------------------------------------------------------*
FORM get_tax_parameters  USING    p_bustw      TYPE bustw
                                  p_kalsm      TYPE kalsm_d
                                  p_kschl      TYPE kschl
                         CHANGING cs_j_1bim01 TYPE j_1bim01
                                  c_stgrp      TYPE stgrp
                                  c_stbkz      TYPE stbkz_007b
                                  c_subrc      TYPE sy-subrc.
""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""$"$\SE:(1) Form GET_TAX_PARAMETERS, Start
*$*$-Start: (1)-----------------------------------------------------------------------------------$*$*
ENHANCEMENT 1  Z_IDT_UPDATE_KVSL1.    "active version

 INCLUDE /IDT/BR_NF_UPDATE_KVSL1.

```

Tax Jurisdiction Check for Brazil

1. Create a new Implicit Enhancement at the start of the function module TTXD_SINGLE_READ. Include program /IDT/TURN_OFF_BR_JURIS_CHECK needs to be added.

```
INCLUDE /IDT/TURN_OFF_BR_JURIS_CHECK.
```



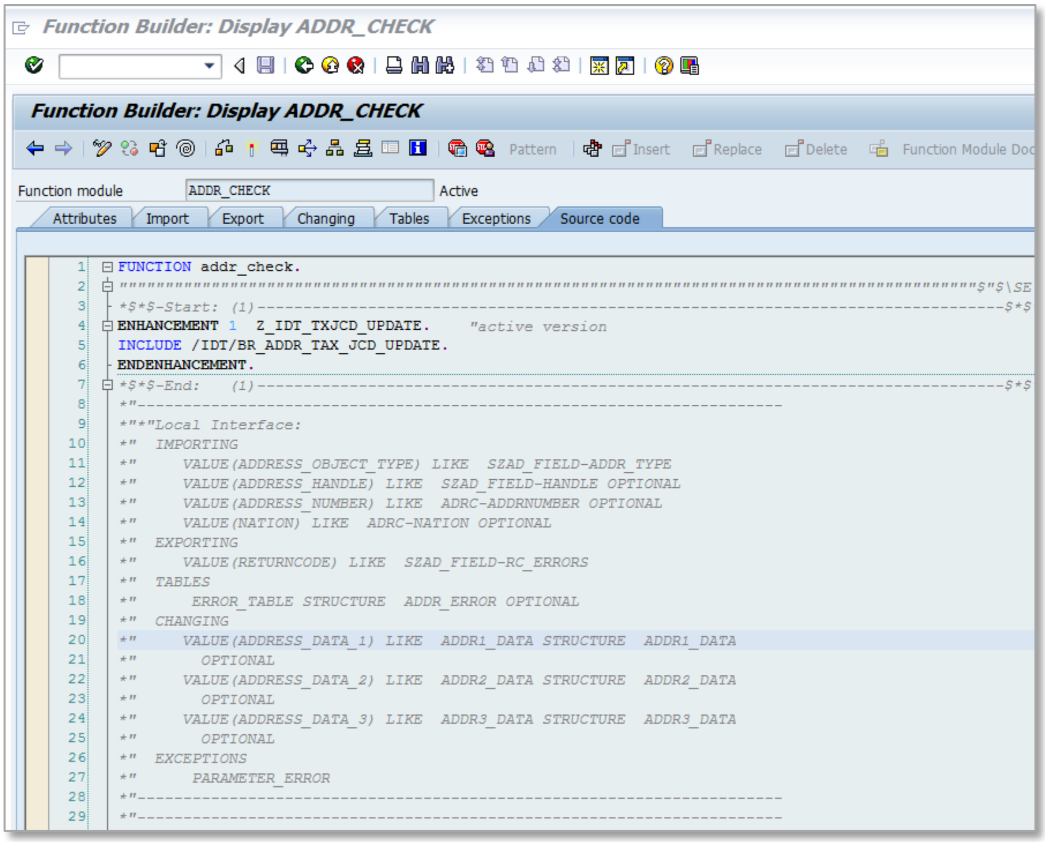
Function Builder: Display TTXD_SINGLE_READ

Function Builder: Display TTXD_SINGLE_READ

Function module TTXD_SINGLE_READ Active

```
FUNCTION TTXD_SINGLE_READ.
""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""$"$\SE:(1) Function Module TTXD_SI
*$*$-Start: (1)---------------------------------------------------------------------------------$*$*
ENHANCEMENT 1  Z_TURN_OFF_BRAZIL_JURIS_CHECK.    "active version

INCLUDE /IDT/TURN_OFF_BR_JURIS_CHECK.

ENDENHANCEMENT.
*$*$-End:   (1)---------------------------------------------------------------------------------$*$*
*"----------------------------------------------------------------------
*"*"Lokale Schnittstelle:
*"       IMPORTING
*"             VALUE(I_KALSM) LIKE  TTXD-KALSM
*"       EXPORTING
*"             VALUE(O_TTXD) LIKE  TTXD STRUCTURE  TTXD
*"       EXCEPTIONS
*"              NOT_FOUND
*"----------------------------------------------------------------------
 TABLES:    TTXD.    "Falls nötig "ent-kommentaren"...
```

2. INCLUDE “/IDT/BR_ADDR_TAX_JCD_UPDATE” at the start of the function module ADDR_CHECK.

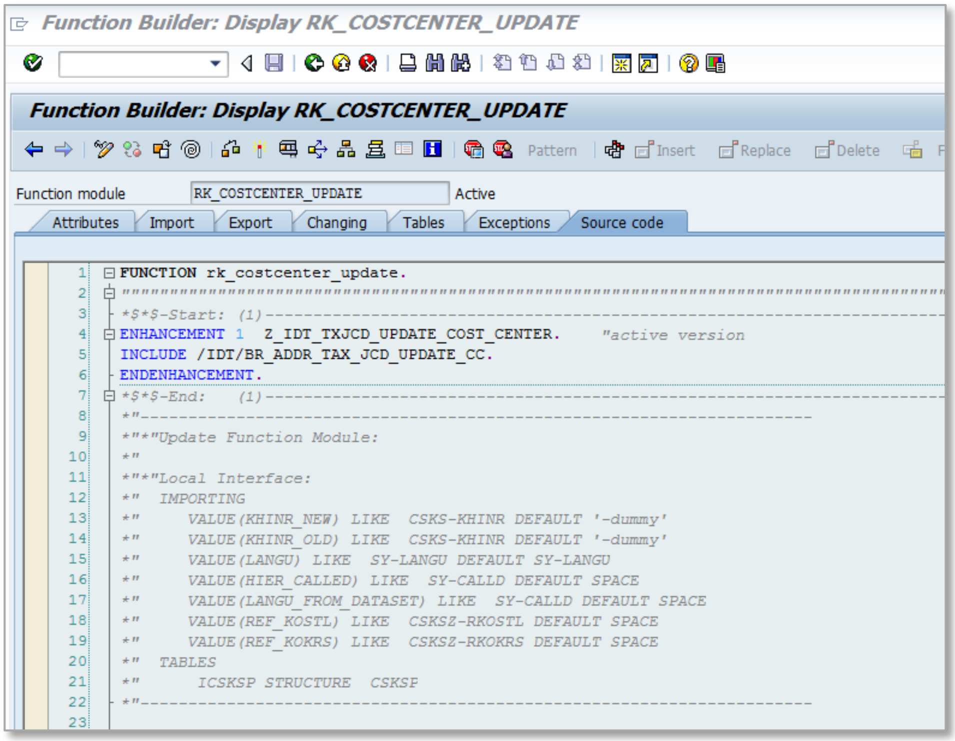


Function module ADDR_CHECK Active

```
FUNCTION addr_check.
""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""$"$\SE
*$*$-Start: (1)-------------------------------------------------------------------------------$*$
ENHANCEMENT 1  Z_IDT_TXJCD_UPDATE.    "active version
INCLUDE /IDT/BR_ADDR_TAX_JCD_UPDATE.
ENDENHANCEMENT.
*$*$-End:   (1)-------------------------------------------------------------------------------$*$
*"----------------------------------------------------------------------
*"*"Local Interface:
*"  IMPORTING
*"     VALUE(ADDRESS_OBJECT_TYPE) LIKE  SZAD_FIELD-ADDR_TYPE
*"     VALUE(ADDRESS_HANDLE) LIKE  SZAD_FIELD-HANDLE OPTIONAL
*"     VALUE(ADDRESS_NUMBER) LIKE  ADRC-ADDRNUMBER OPTIONAL
*"     VALUE(NATION) LIKE  ADRC-NATION OPTIONAL
*"  EXPORTING
*"     VALUE(RETURNCODE) LIKE  SZAD_FIELD-RC_ERRORS
*"  TABLES
*"      ERROR_TABLE STRUCTURE  ADDR_ERROR OPTIONAL
*"  CHANGING
*"     VALUE(ADDRESS_DATA_1) LIKE  ADDR1_DATA STRUCTURE  ADDR1_DATA
*"       OPTIONAL
*"     VALUE(ADDRESS_DATA_2) LIKE  ADDR2_DATA STRUCTURE  ADDR2_DATA
*"       OPTIONAL
*"     VALUE(ADDRESS_DATA_3) LIKE  ADDR3_DATA STRUCTURE  ADDR3_DATA
*"       OPTIONAL
*"  EXCEPTIONS
*"      PARAMETER_ERROR
*"----------------------------------------------------------------------
*"----------------------------------------------------------------------
```

Adding Include Statements

3. INCLUDE “/IDT/BR_ADDR_TAX_JCD_UPDATE_CC” at the start of the function module RK_COSTCENTER_UPDATE. This is required only if the TXJCD is to be determined for Cost Center.

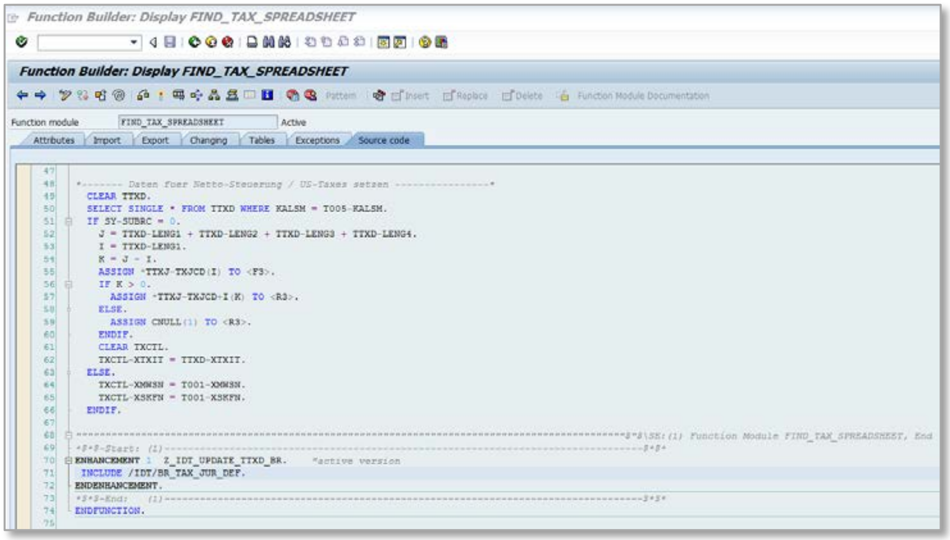


Function Builder: Display RK_COSTCENTER_UPDATE

Function module: RK_COSTCENTER_UPDATE Active

```
FUNCTION rk_costcenter_update.
""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""
*$*$-Start: (1)----------------------------------------------------------------------
ENHANCEMENT 1  Z_IDT_TXJCD_UPDATE_COST_CENTER.    "active version
INCLUDE /IDT/BR_ADDR_TAX_JCD_UPDATE_CC.
ENDENHANCEMENT.
*$*$-End:   (1)----------------------------------------------------------------------
*"----------------------------------------------------------------------
*"*"Update Function Module:
*"
*"*"Local Interface:
*"  IMPORTING
*"     VALUE(KHINR_NEW) LIKE  CSKS-KHINR DEFAULT '-dummy'
*"     VALUE(KHINR_OLD) LIKE  CSKS-KHINR DEFAULT '-dummy'
*"     VALUE(LANGU) LIKE  SY-LANGU DEFAULT SY-LANGU
*"     VALUE(HIER_CALLED) LIKE  SY-CALLD DEFAULT SPACE
*"     VALUE(LANGU_FROM_DATASET) LIKE  SY-CALLD DEFAULT SPACE
*"     VALUE(REF_KOSTL) LIKE  CSKSZ-RKOSTL DEFAULT SPACE
*"     VALUE(REF_KOKRS) LIKE  CSKSZ-RKOKRS DEFAULT SPACE
*"  TABLES
*"      ICSKSP STRUCTURE  CSKSP
*"----------------------------------------------------------------------
```

4. INCLUDE “/IDT/BR_TAX_JUR_DEF” at the end of the function module FIND_TAX_SPREADSHEET. This is required to by-pass the Brazil TTXD table level data checks at some instances in SAP transactions (Eg: Service Entry Sheet, STO etc.).



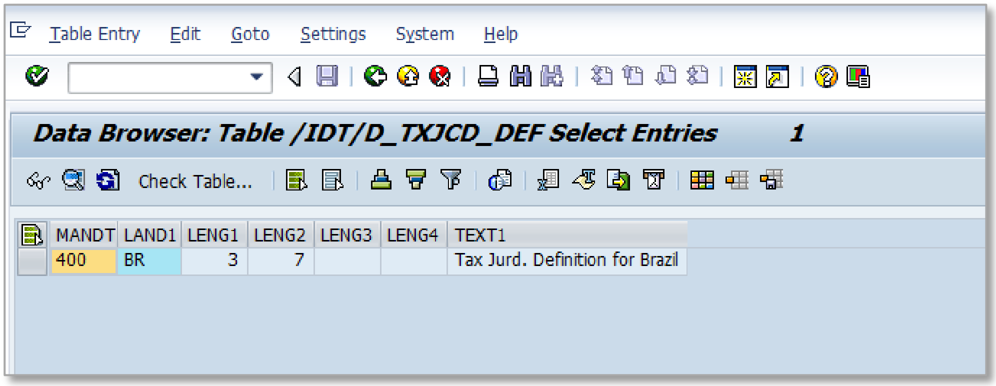
Function Builder: Display FIND_TAX_SPREADSHEET

Function module: FIND_TAX_SPREADSHEET Active

```

*------- Daten fuer Netto-Steuerung / US-Taxes setzen ----------------*
  CLEAR TTXD.
  SELECT SINGLE * FROM TTXD WHERE KALSM = T005-KALSM.
  IF SY-SUBRC = 0.
    J = TTXD-LENG1 + TTXD-LENG2 + TTXD-LENG3 + TTXD-LENG4.
    I = TTXD-LENG1.
    K = J - I.
    ASSIGN *TTXJ-TXJCD(I) TO <F3>.
    IF K > 0.
      ASSIGN *TTXJ-TXJCD+I(K) TO <R3>.
    ELSE.
      ASSIGN CNULL(1) TO <R3>.
    ENDIF.
    CLEAR TXCTL.
    TXCTL-XTXIT = TTXD-XTXIT.
  ELSE.
    TXCTL-XMWSN = T001-XMWSN.
    TXCTL-XSKFN = T001-XSKFN.
  ENDIF.

"""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""$*$\SE:(1) Function Module FIND_TAX_SPREADSHEET, End
*$*$-Start: (1)--------------------------------------------------------------$*$*
ENHANCEMENT 1  Z_IDT_UPDATE_TTXD_BR.    "active version
 INCLUDE /IDT/BR_TAX_JUR_DEF.
ENDENHANCEMENT.
*$*$-End:   (1)--------------------------------------------------------------$*$*
ENDFUNCTION.

```

New Table for Brazil

New Table /IDT/D_TXJCD_DEF is part of the configuration transport and this table will hold the Tax Jurisdiction Code Definition for Brazil. An entry on this table can be seen from the screen-shot below. This table can be maintained with the transaction code /IDT/D_TXJCD_DEF.



Data Browser: Table /IDT/D_TXJCD_DEF Select Entries 1

MANDT	LAND1	LENG1	LENG2	LENG3	LENG4	TEXT1
400	BR	3	7			Tax Jurd. Definition for Brazil

Tax Jurisdiction Code for Brazil is determined from the address and the address will need the Country, Region and correct Postal Code to be filled in. The SAP table J_1BTREG_CITY will be used to get the Tax Jurisdiction Code value from the address data and it needs to be populated with the valid.

Tax Region Determination for Brazil SD

Create a new Implicit Enhancement at the start of the function module J_1B_READ_DYNAMIC_TABLE. Include program /IDT/SD_REGION_BR_JURD_CODE needs to be added.

```
INCLUDE /IDT/SD_REGION_BR_JURD_CODE.
```

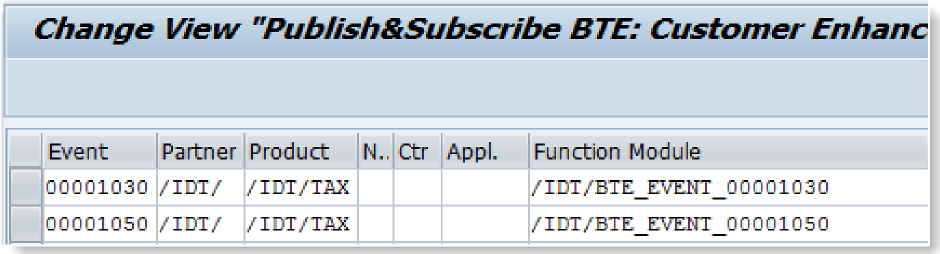
LIV Nota Fiscal Taxes and Tax Laws

Create a new Implicit Enhancement at the start of the function module J_1B_PROCESS_TKOMV. Include program /IDT/MM_IV_ADD_NF_TAXES needs to be added.

```
INCLUDE /IDT/MM_IV_ADD_NF_TAXES.
```

REVIEWING BTE EVENTS

Business Transaction Event (BTE) 1030 and 1050 are used to mark the end of a G/L document posting process, update the document numbers in the logs, and to update the audit database. Functions /IDT/BTE_EVENT_00001030 and /IDT/BTE_EVENT_00001050 have been delivered via the earlier imported transports as Partner managed BTE's. There is no need to do anything manually, but for completeness they are listed here. To view the BTE's go to Transaction Code **FIBF**.



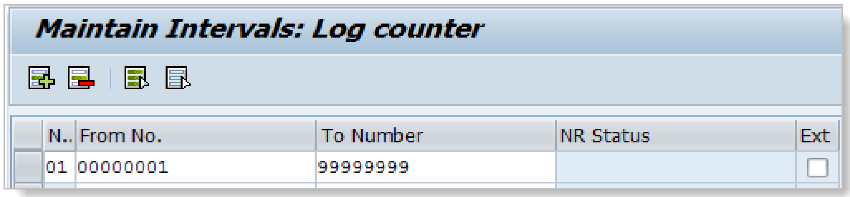
Change View "Publish&Subscribe BTE: Customer Enhanc

Event	Partner	Product	N..	Ctr	Appl.	Function Module
00001030	/IDT/	/IDT/TAX				/IDT/BTE_EVENT_00001030
00001050	/IDT/	/IDT/TAX				/IDT/BTE_EVENT_00001050

CREATING A LOG NUMBER RANGE

The SOAP request and response can be logged in SAP in XML format. Logging can be configured within the Integration setup, and logs can be searched and viewed in SAP using a provided transaction. Consult the *User Guide* for more details on logging. For logs to be stored with SAP a log number range for Object **/IDT/LOG** needs to be setup:

1. Transaction Code **/N/IDT/LOG_NUMBR_RANGE**
2. Press Intervals to create a new number range interval.
3. Press ⊞ to insert a new line.
4. Make sure that you use a value of 01 for the Number range number. Currently we only support one number range of value 01.
5. Fill out the From Number and To Number. We recommend opening the number range as wide as possible.



Maintain Intervals: Log counter

N..	From No.	To Number	NR Status	Ext
01	00000001	99999999		□

6. SAVE the log number range.

CONNECTING SAP AND DETERMINATION

The ONESOURCE Indirect Tax Integration for SAP uses SAP's Internet Communication Framework to send tax calculation request to Determination and receive tax results back from Determination using the SOAP format. This new transmission process will no longer utilize the RFC based SAP Standard External Tax Interface.

Within an SAP environment, a proxy is a representation of an outside application which includes an internal interface layer within SAP and can be easily accessed from ABAP programs. Proxies can be generated based on another parties' WSDL definitions. Some WSDL features are not supported by SAP proxies such as the <union> tag and recursive element definitions. See OSS note 944029 for more details. Hence Thomson Reuters packages an SAP specific WSDL file for the proxy generation.

Due to above mentioned limitations an SAP specific WSDL for the Tax Calculation Service in Determination has been packaged with this release. Do not point to the web service URL for importing the WSDL into an SAP Proxy.

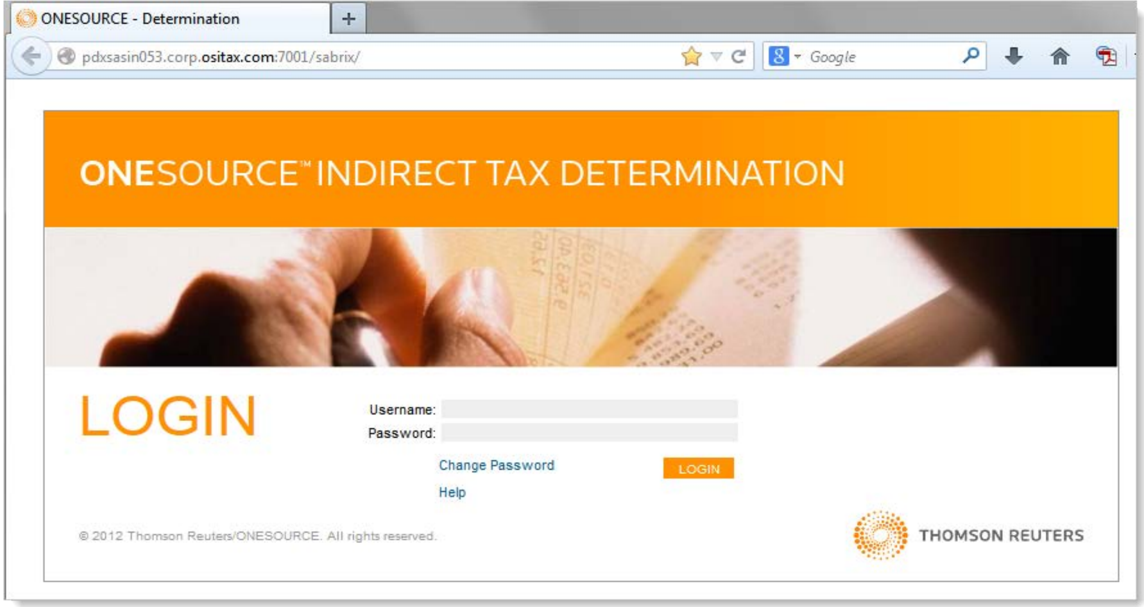
HOSTED CUSTOMERS CONNECTIVITY

A separate Knowledge Base Article 1374 is published out on our customer web site that has additional instructions needed to install for HTTPS hosted connections. This KB article includes information on:

1. Location/link for customers to download certificates to be installed on SAP server.
2. Steps to install the certificates in SAP via transaction STRUST.
3. Required expertise in ICM Configuration Expertise as a per-requisite to do the configuration.

ACCESSING DETERMINATION UI

It is recommended to first test direct access to the Determination UI by using a browser. Enter the Determination URL. You should see the logon screen.



ONESOURCE - Determination

pdxsasin053.corp.ositax.com:7001/sabrix/

Google
ONESOURCE™ INDIRECT TAX DETERMINATION
LOGIN
Username:
Password:
Change Password
LOGIN
Help
© 2012 Thomson Reuters/ONESOURCE. All rights reserved.
THOMSON REUTERS

The Determination URL is http://<host>:<port>/sabrix (replace <host> with the the computer hosting the application server and replace <port> with the).

If you can't access the Determination logon screen as outlined above do not proceed contact a Determination System Administrator to make sure you can

SETTING UP THE SOAP INTERFACE PROXY

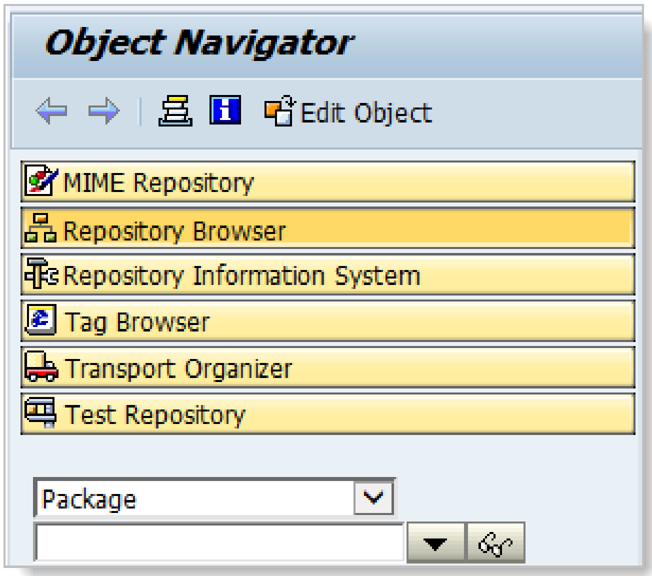
In the following steps we will configure an SAP Proxy and then configure a communication between SAP and Determination using SAP's SOA Manager.

Screens and steps shown in below illustrations are mainly from an SAP ECC 6.0 EHP6. Due to SAP's frequent changes in this area of the system, your specific screens might look slightly different.

CREATING AN SAP PROXY

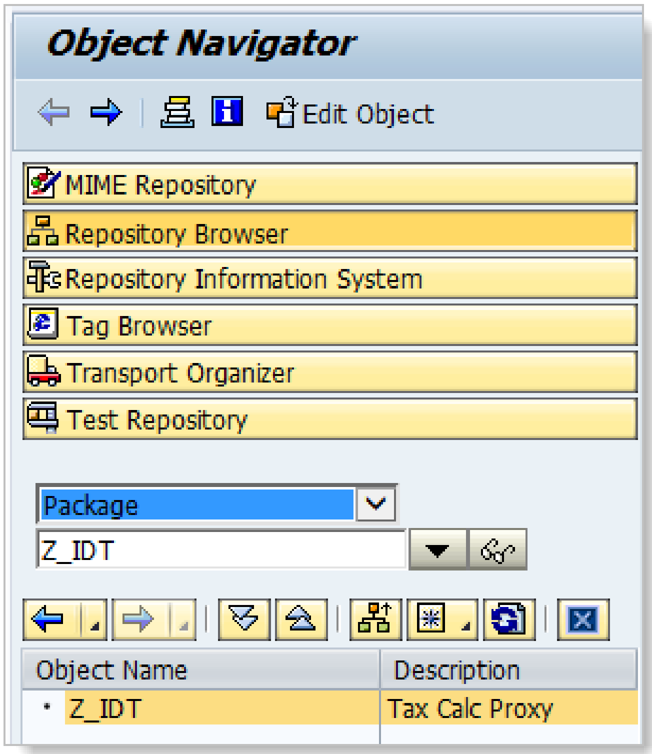
The steps below require a developer's key and access to the correction and transport system.

1. Go to Transaction Code **SE80** and select the "Package" setting.



Package

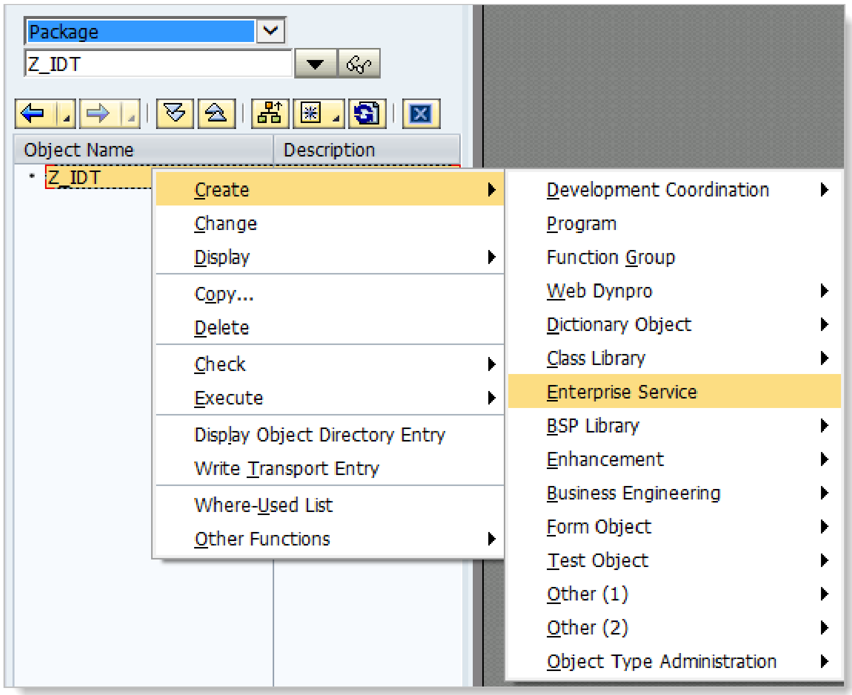
2. Enter the package you want the proxy to be in and press enter. (You may need to create the package at this point and add it to a transport.)



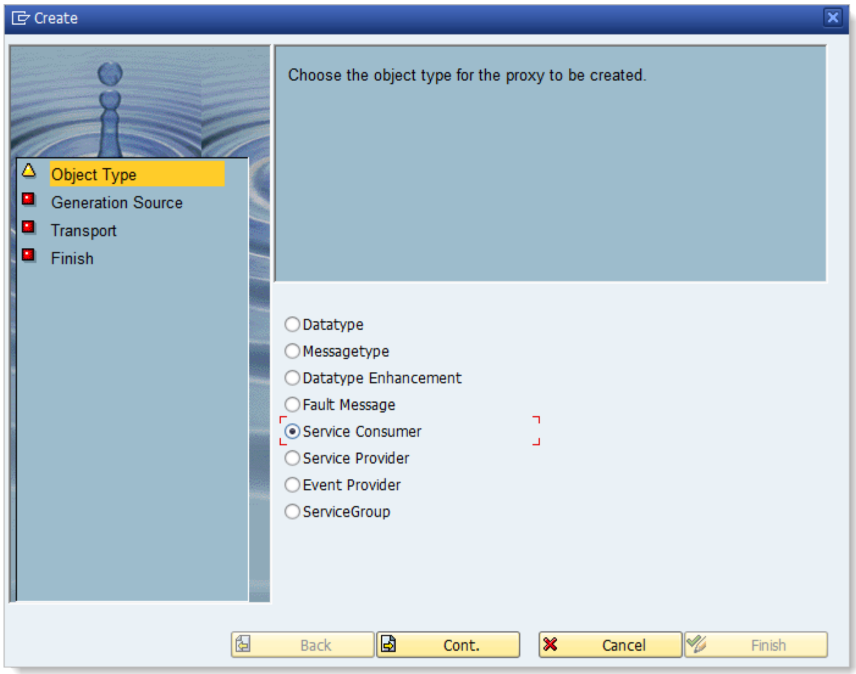
Package
Z_IDT

Object Name	Description
• Z_IDT	Tax Calc Proxy

3. Select the package root and right-click. Select Create->Enterprise Service.



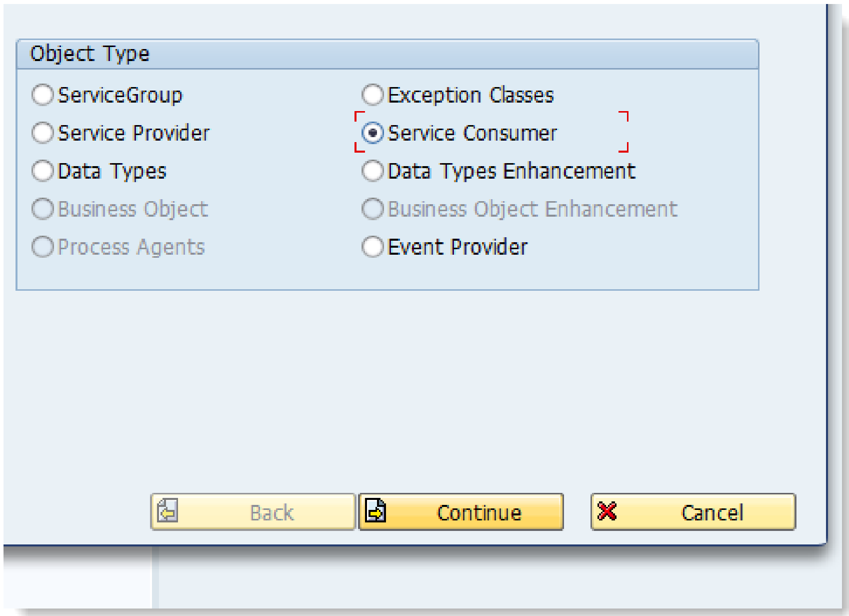
This should take you to something like the following picture (this might be slightly different depending on the NetWeaver version used).



Choose the object type for the proxy to be created.

○ Datatype
○ Messagetype
○ Datatype Enhancement
○ Fault Message
● Service Consumer
○ Service Provider
○ Event Provider
○ ServiceGroup

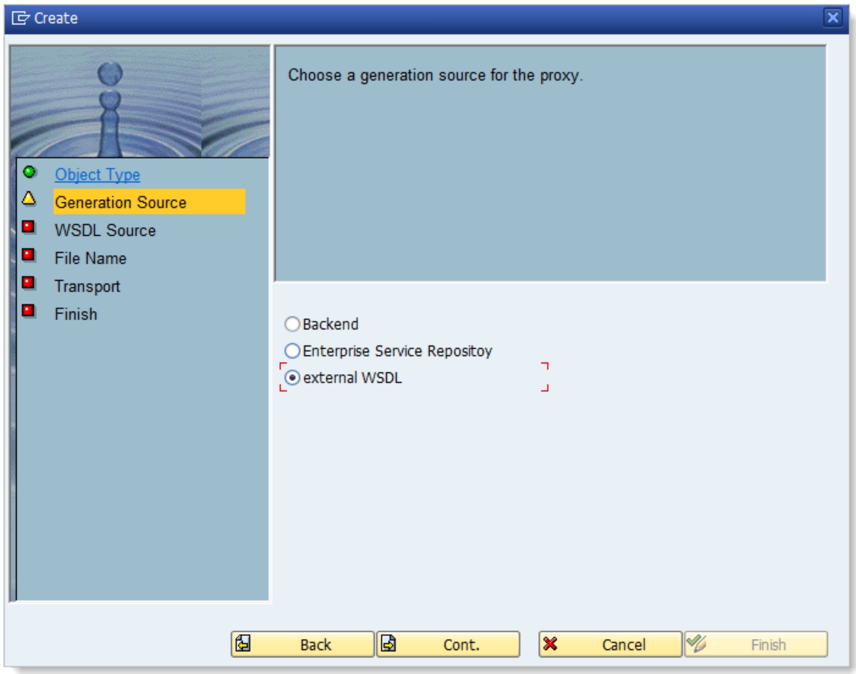
4. Select “Service Consumer”.



Object Type

○ ServiceGroup
○ Service Provider
○ Data Types
○ Business Object
○ Process Agents
○ Exception Classes
● Service Consumer
○ Data Types Enhancement
○ Business Object Enhancement
○ Event Provider

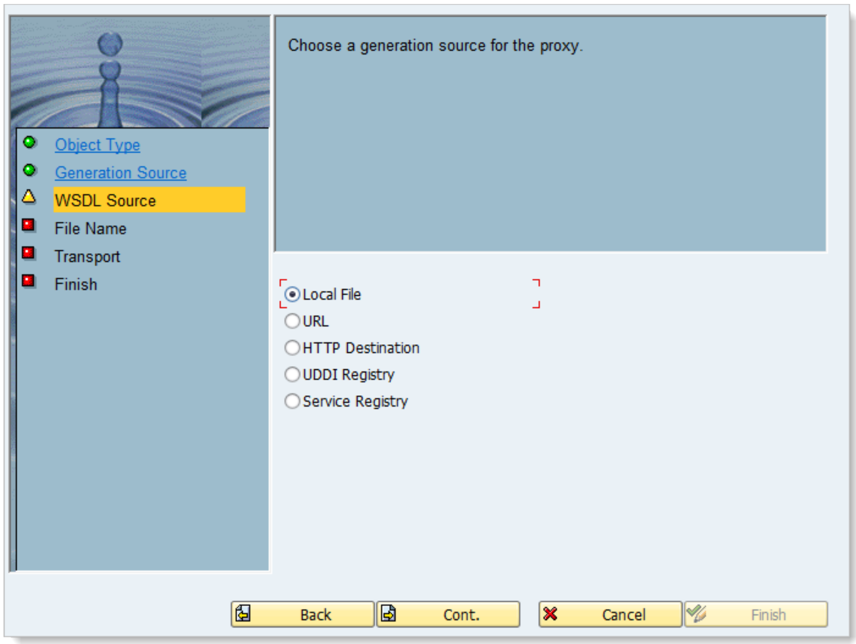
5. Then press Cont. which should take you to something like the screen below.



Choose a generation source for the proxy.

○ Backend
○ Enterprise Service Repositoy
● external WSDL

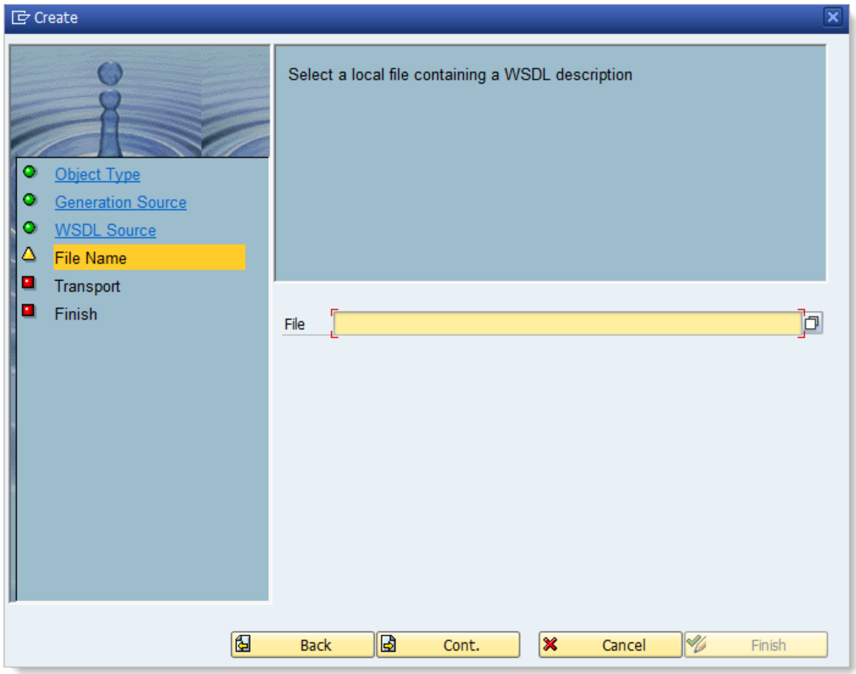
6. Select **external WSDL** and press Cont. ., then select “Local File”.



Choose a generation source for the proxy.

- ● Local File
- ○ URL
- ○ HTTP Destination
- ○ UDDI Registry
- ○ Service Registry

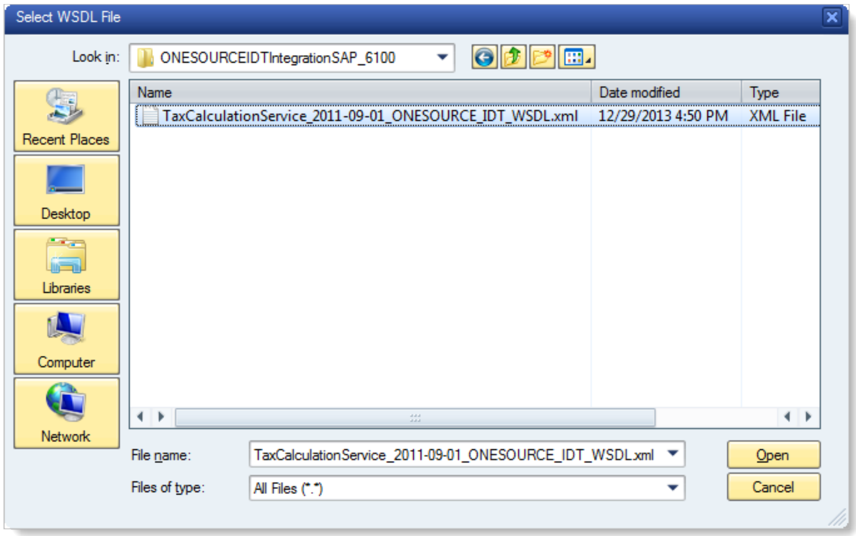
7. Then press Cont. which displays a file selection option.



Select a local file containing a WSDL description

File

8. Browse to the *TaxCalculationService_2011-09-01_ONESOURCE_IDT_WSDL.xml* file found in the **Code** folder at the location you placed it during the Downloading the Software steps.



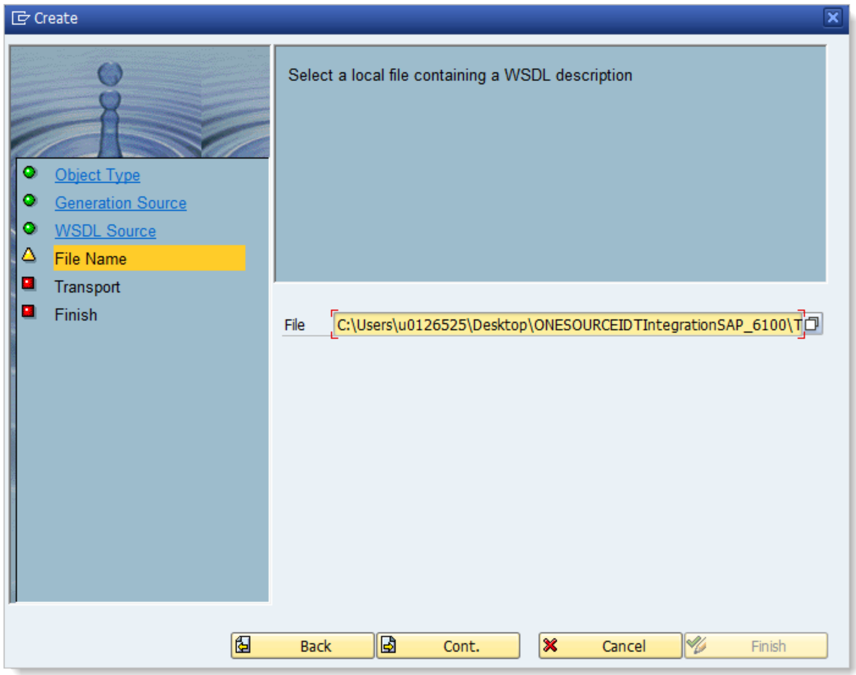
Look in: ONESOURCEIDTIntegrationSAP_6100

Name	Date modified	Type
TaxCalculationService_2011-09-01_ONESOURCE_IDT_WSDL.xml	12/29/2013 4:50 PM	XML File

File name: TaxCalculationService_2011-09-01_ONESOURCE_IDT_WSDL.xml

Files of type: All Files (*.*)

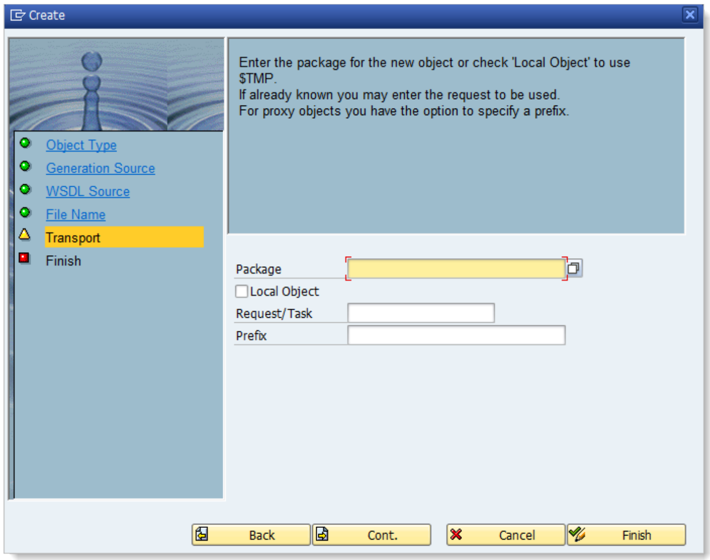
9. Press “Open” to get the file selected.



Select a local file containing a WSDL description

File C:\Users\u0126525\Desktop\ONESOURCEIDTIntegrationSAP_6100\T

10. Then press Cont. which takes you to Transport step.

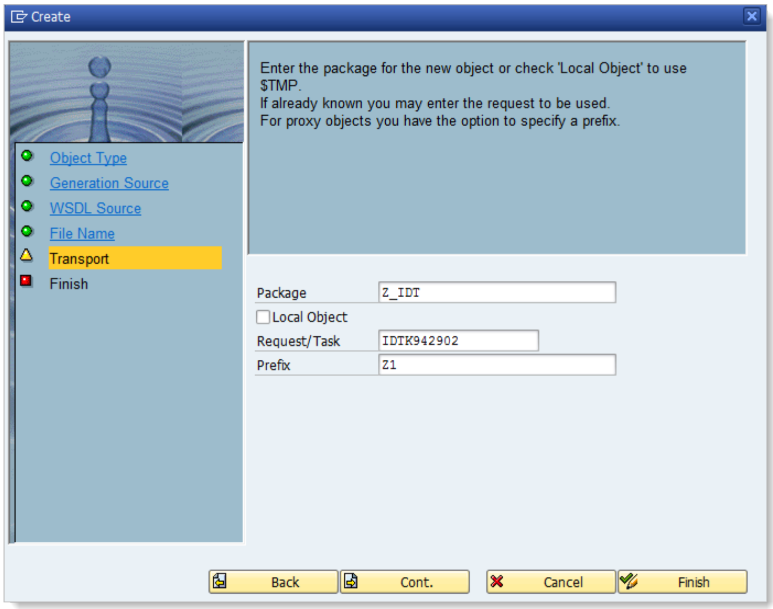


Enter the package for the new object or check 'Local Object' to use $TMP.
If already known you may enter the request to be used.
For proxy objects you have the option to specify a prefix.

Package
☐ Local Object
Request/Task
Prefix

1. Enter the package you are using in the **Package** field. The prefix can be something like Z1 (The prefix can be up to 4 characters in length). The Request/Task could be the transport you are currently using (With <F4> you can see what transports are available.).

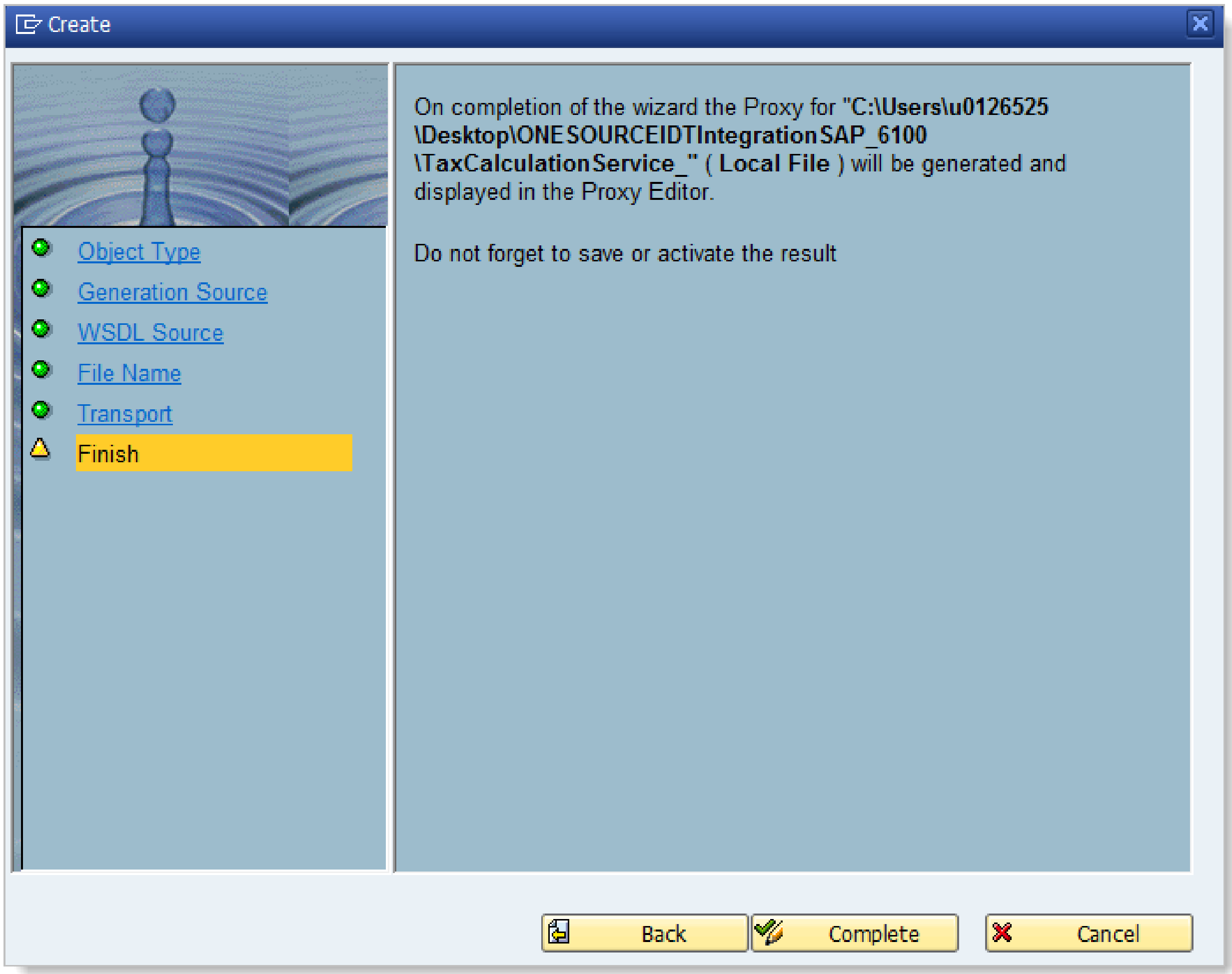
Important: Do not use more than 4 characters in the prefix! What we have found is that using more than four characters may screws up the proxy and you start getting strange and incorrect XML log line identifiers within the XML logs. Errors may occur if you use more characters.



Enter the package for the new object or check 'Local Object' to use $TMP.
If already known you may enter the request to be used.
For proxy objects you have the option to specify a prefix.

Package Z_IDT
☐ Local Object
Request/Task IDTK942902
Prefix Z1

2. Then press Cont. which should take you to a confirmation screen.

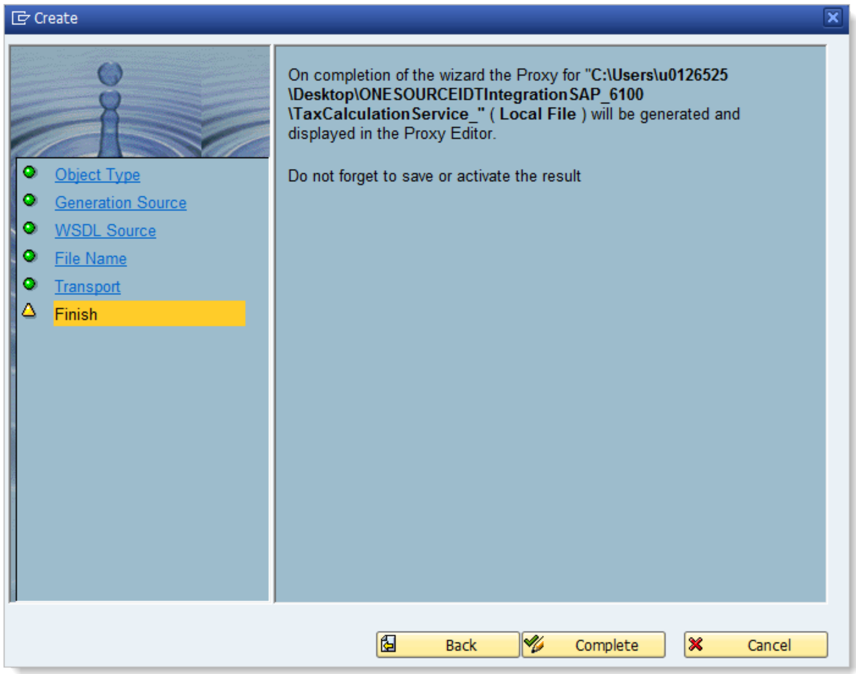


On completion of the wizard the Proxy for **"C:\Users\u0126525 \Desktop\ONESOURCEIDTIntegrationSAP_6100 \TaxCalculationService_"** (**Local File**) will be generated and displayed in the Proxy Editor.

Do not forget to save or activate the result

3. Next press Cont.. You will receive a confirmation message.

To finish setting up the proxy select ✓ Complete.

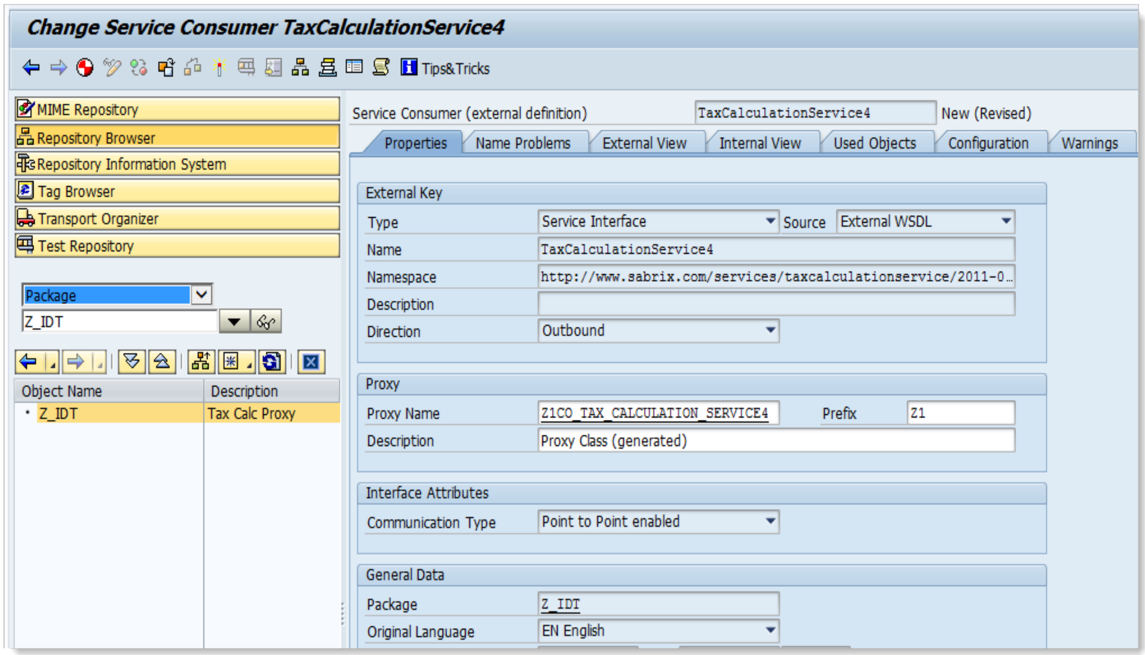


On completion of the wizard the Proxy for "**C:\Users\u0126525 \Desktop\ONESOURCEIDTIntegrationSAP_6100 \TaxCalculationService_**" (**Local File**) will be generated and displayed in the Proxy Editor.

Do not forget to save or activate the result

⚠ You might receive a warning message by SAP that the system is trying to access a local file, confirm and proceed.

After successful import and creation of the proxy you will be taken back to the Enterprise Service overview page. SAP has assigned a **Proxy Name** for you.



Change Service Consumer TaxCalculationService4

Tips&Tricks

MIME Repository
Repository Browser
Repository Information System
Tag Browser
Transport Organizer
Test Repository

Package
Z_IDT

Object Name	Description
Z_IDT	Tax Calc Proxy

Service Consumer (external definition) TaxCalculationService4 New (Revised)

Properties | Name Problems | External View | Internal View | Used Objects | Configuration | Warnings

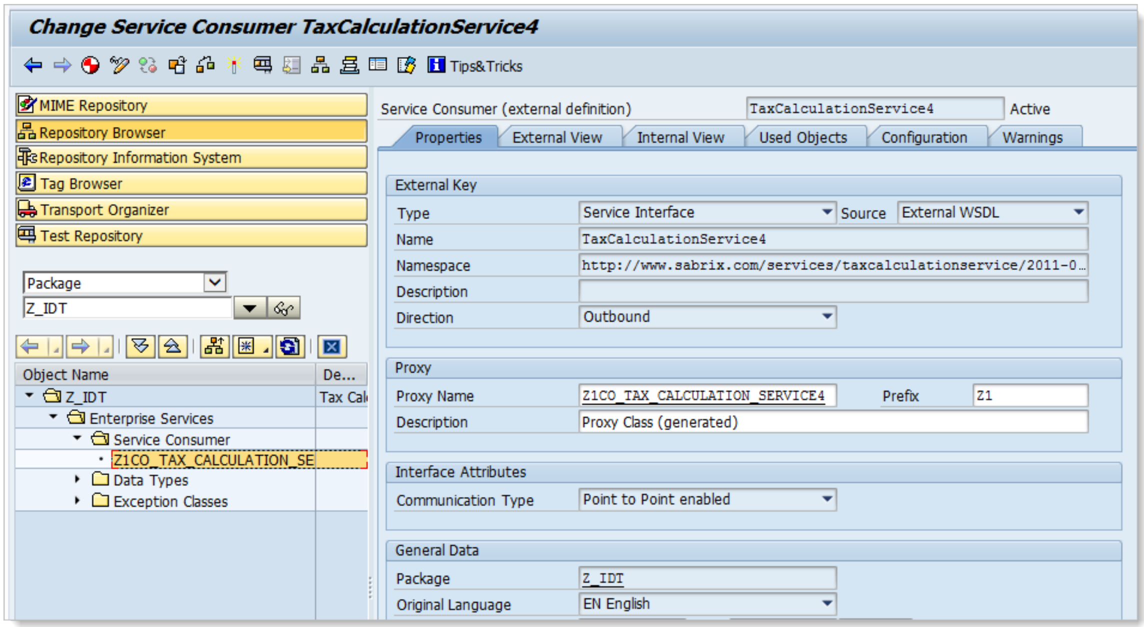
External Key
Type: Service Interface Source: External WSDL
Name: TaxCalculationService4
Namespace: http://www.sabrix.com/services/taxcalculationservice/2011-0…
Description:
Direction: Outbound

Proxy
Proxy Name: Z1CO_TAX_CALCULATION_SERVICE4 Prefix: Z1
Description: Proxy Class (generated)

Interface Attributes
Communication Type: Point to Point enabled

General Data
Package: Z_IDT
Original Language: EN English

4. **SAVE** and/or **ACTIVATE** the Proxy (this might take several minutes).



Change Service Consumer TaxCalculationService4

Tips&Tricks

MIME Repository
Repository Browser
Repository Information System
Tag Browser
Transport Organizer
Test Repository

Package
Z_IDT

Object Name	De...
Z_IDT	Tax Cal
Enterprise Services	
Service Consumer	
Z1CO_TAX_CALCULATION_SE	
Data Types	
Exception Classes	

Service Consumer (external definition) TaxCalculationService4 Active

Properties | External View | Internal View | Used Objects | Configuration | Warnings

External Key
Type: Service Interface Source: External WSDL
Name: TaxCalculationService4
Namespace: http://www.sabrix.com/services/taxcalculationservice/2011-0…
Description:
Direction: Outbound

Proxy
Proxy Name: Z1CO_TAX_CALCULATION_SERVICE4 Prefix: Z1
Description: Proxy Class (generated)

Interface Attributes
Communication Type: Point to Point enabled

General Data
Package: Z_IDT
Original Language: EN English

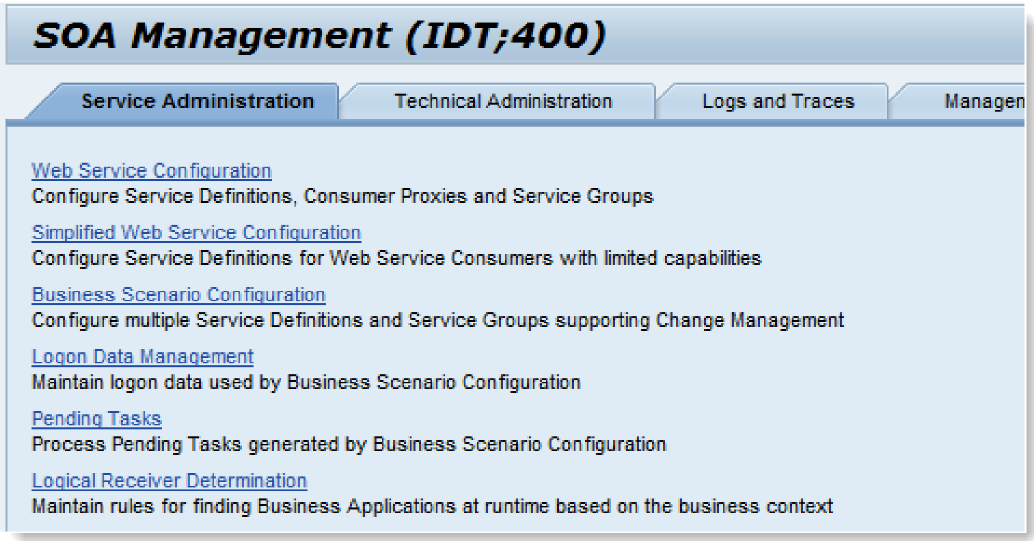
Write down the **Proxy Name** (in this case *Z1CO_TAX_CALCULATION_SERVICE4*) and the Service Consumer (in this case *TaxCalculationService4*).

SETTING UP SOAMANAGER

In the next steps we will setup a communication between SAP and Determination via SOAP. This is done in the SOA Management console.

Transaction Code **SOAMANAGER**

1. Logon to the web portal.



SOA Management (IDT;400)

Web Service Configuration
Configure Service Definitions, Consumer Proxies and Service Groups

Simplified Web Service Configuration
Configure Service Definitions for Web Service Consumers with limited capabilities

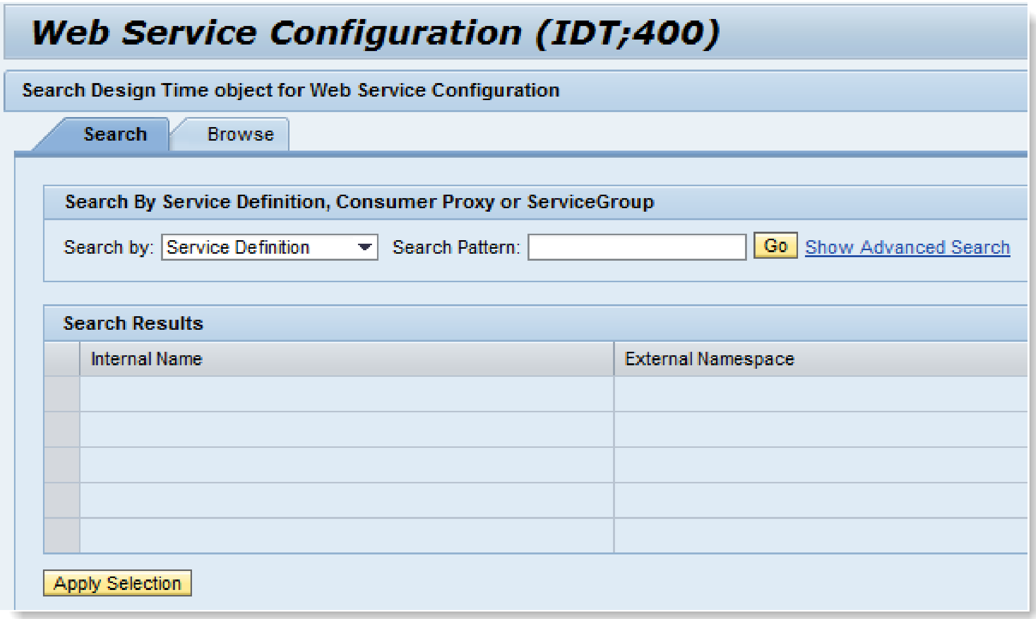
Business Scenario Configuration
Configure multiple Service Definitions and Service Groups supporting Change Management

Logon Data Management
Maintain logon data used by Business Scenario Configuration

Pending Tasks
Process Pending Tasks generated by Business Scenario Configuration

Logical Receiver Determination
Maintain rules for finding Business Applications at runtime based on the business context

2. Go to the **Service Administration** tab, select **Web Service Configuration**.



Web Service Configuration (IDT;400)

Search Design Time object for Web Service Configuration

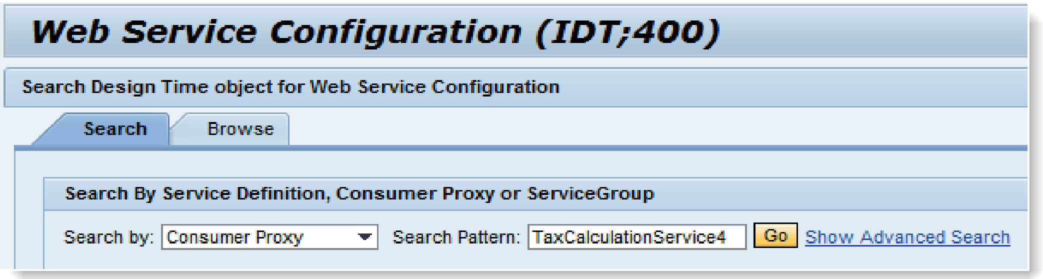
Search By Service Definition, Consumer Proxy or ServiceGroup

Search by: Service Definition Search Pattern:

Search Results

Internal Name	External Namespace

3. In the **Search by:** drop-down select *Consumer Proxy*. Then enter in the **Search Pattern:** field the Service Consumer name created in the prior section (in this example *TaxCalculationService4*). Select **Go**.



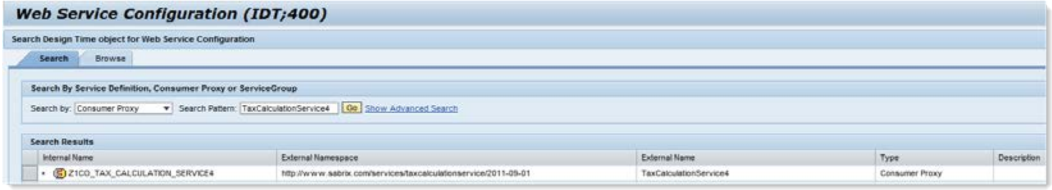
Web Service Configuration (IDT;400)

Search Design Time object for Web Service Configuration

Search By Service Definition, Consumer Proxy or ServiceGroup

Search by: Consumer Proxy Search Pattern: TaxCalculationService4

You should see a results list like the screen shot below.



Web Service Configuration (IDT;400)

Search Design Time object for Web Service Configuration

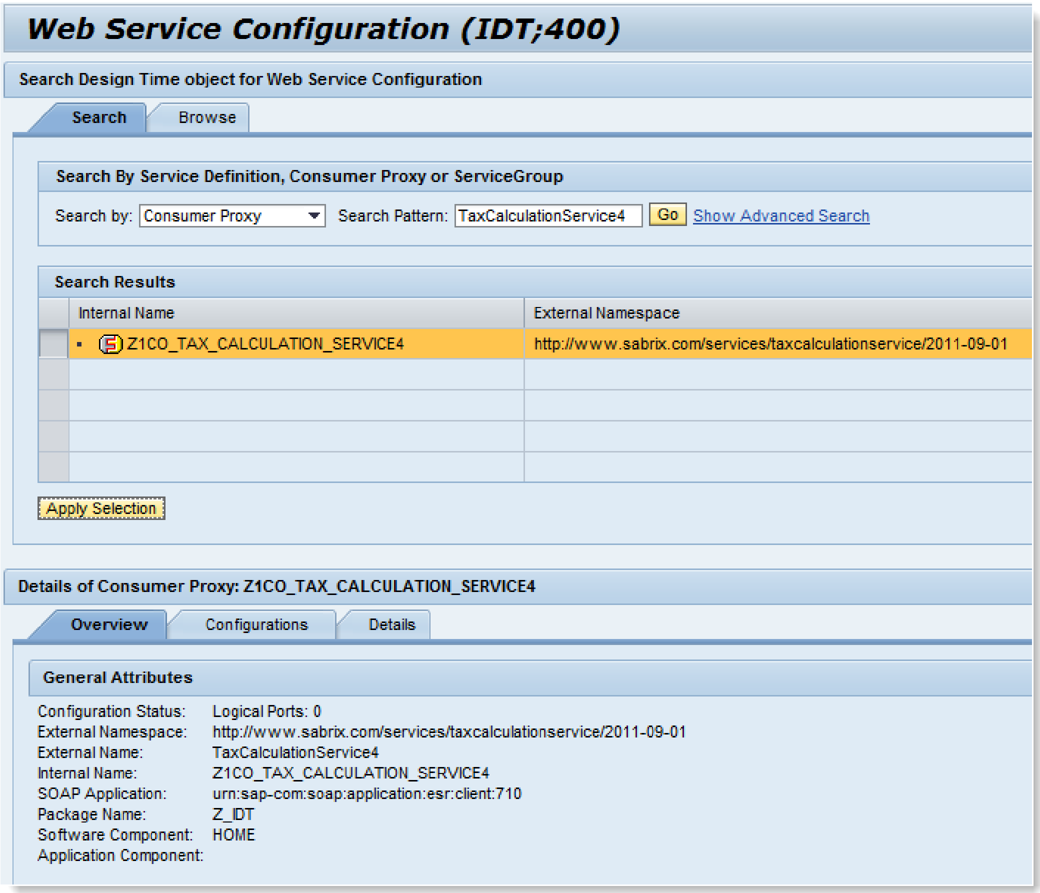
Search By Service Definition, Consumer Proxy or ServiceGroup

Search by: Consumer Proxy Search Pattern: TaxCalculationService4

Search Results

Internal Name	External Namespace	External Name	Type	Description
Z1CO_TAX_CALCULATION_SERVICE4	http://www.sabrix.com/services/taxcalculationservice/2011-09-01	TaxCalculationService4	Consumer Proxy	

4. **Select** the entry that matches your Internal Name of the proxy, and then click on **Apply Selection**.



Web Service Configuration (IDT;400)

Search Design Time object for Web Service Configuration

Search By Service Definition, Consumer Proxy or ServiceGroup

Search by: Consumer Proxy Search Pattern: TaxCalculationService4

Search Results

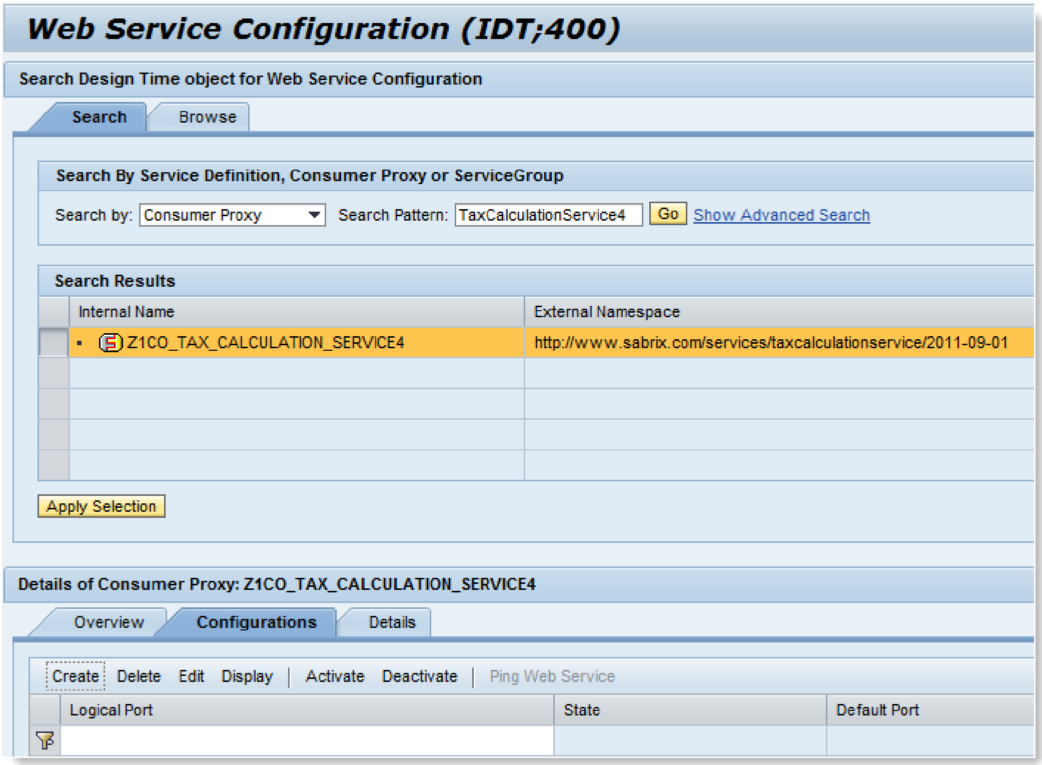
Internal Name	External Namespace
Z1CO_TAX_CALCULATION_SERVICE4	http://www.sabrix.com/services/taxcalculationservice/2011-09-01

Details of Consumer Proxy: Z1CO_TAX_CALCULATION_SERVICE4

General Attributes

Configuration Status:	Logical Ports: 0
External Namespace:	http://www.sabrix.com/services/taxcalculationservice/2011-09-01
External Name:	TaxCalculationService4
Internal Name:	Z1CO_TAX_CALCULATION_SERVICE4
SOAP Application:	urn:sap-com:soap:application:esr:client:710
Package Name:	Z_IDT
Software Component:	HOME
Application Component:	

5. Move to the **Configurations** tab.



Web Service Configuration (IDT;400)

Search Design Time object for Web Service Configuration

Search By Service Definition, Consumer Proxy or ServiceGroup

Search by: Consumer Proxy Search Pattern: TaxCalculationService4

Search Results

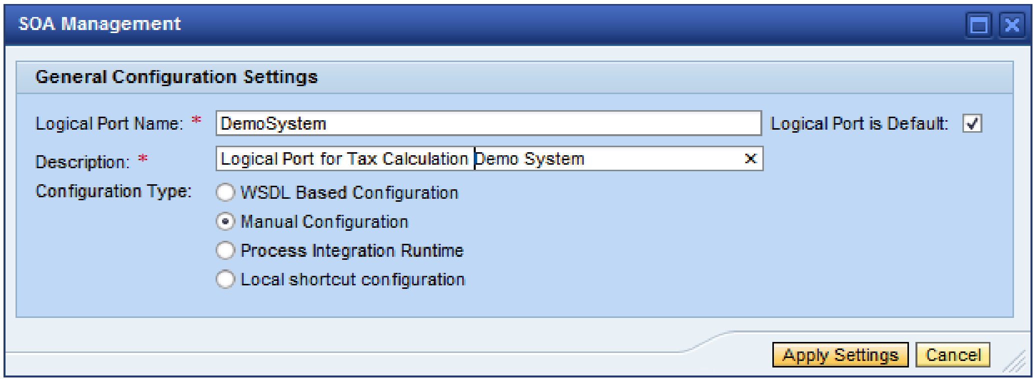
Internal Name	External Namespace
Z1CO_TAX_CALCULATION_SERVICE4	http://www.sabrix.com/services/taxcalculationservice/2011-09-01

Details of Consumer Proxy: Z1CO_TAX_CALCULATION_SERVICE4

Logical Port	State	Default Port

6. Select **Create**. A new pop-up will be displayed. Fill in the following values:

Logical Port Name:	Name of the port you want to create
Description:	Text explaining the use of the port
Configuration Type:	Select **Manual Configuration**



SOA Management

General Configuration Settings

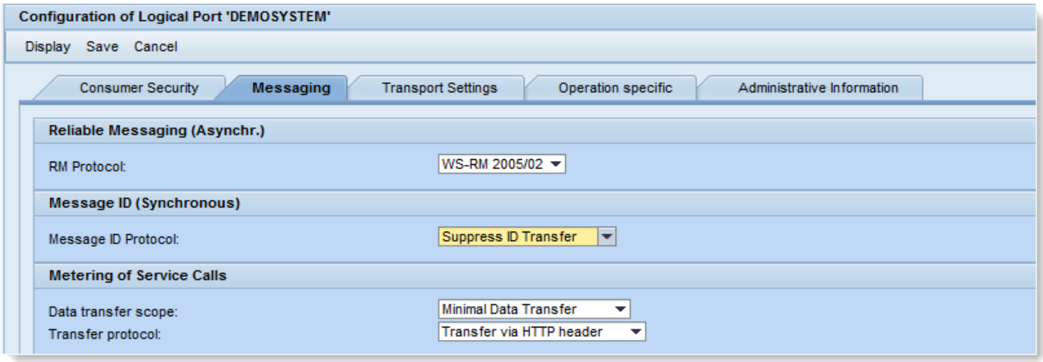
Logical Port Name: * DemoSystem Logical Port is Default: ☑

Description: * Logical Port for Tax Calculation Demo System

Configuration Type:
○ WSDL Based Configuration
● Manual Configuration
○ Process Integration Runtime
○ Local shortcut configuration

7. **Apply Settings.** You will be taken back to the Web Service Configuration Screen.

In the bottom panel select the **Messaging** tab and switch the *Message ID Protocol:* to **Suppress ID Transfer**.



Configuration of Logical Port 'DEMOSYSTEM'

Reliable Messaging (Asynchr.)

RM Protocol: WS-RM 2005/02

Message ID (Synchronous)

Message ID Protocol: Suppress ID Transfer

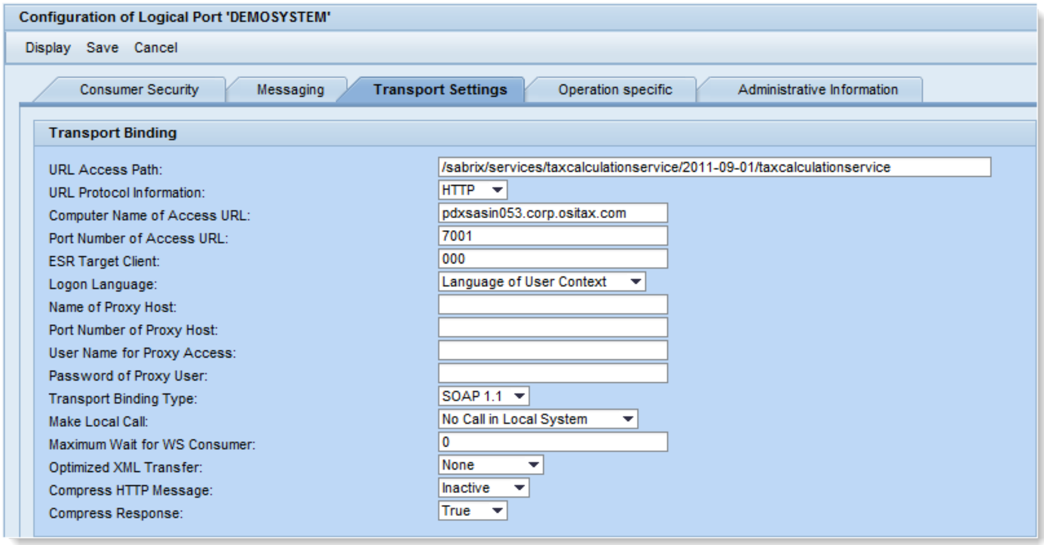
Metering of Service Calls

Data transfer scope: Minimal Data Transfer

Transfer protocol: Transfer via HTTP header

8. Go to the **Transport Settings** tab and enter the following values:

URL Access Path:	/sabrix/services/taxcalculationservice/2011-09-01/taxcalculationservice
Computer Name of Access URL:	<name of determination server on the network>
Port Number of Access URL:	<port of determination server on the network>



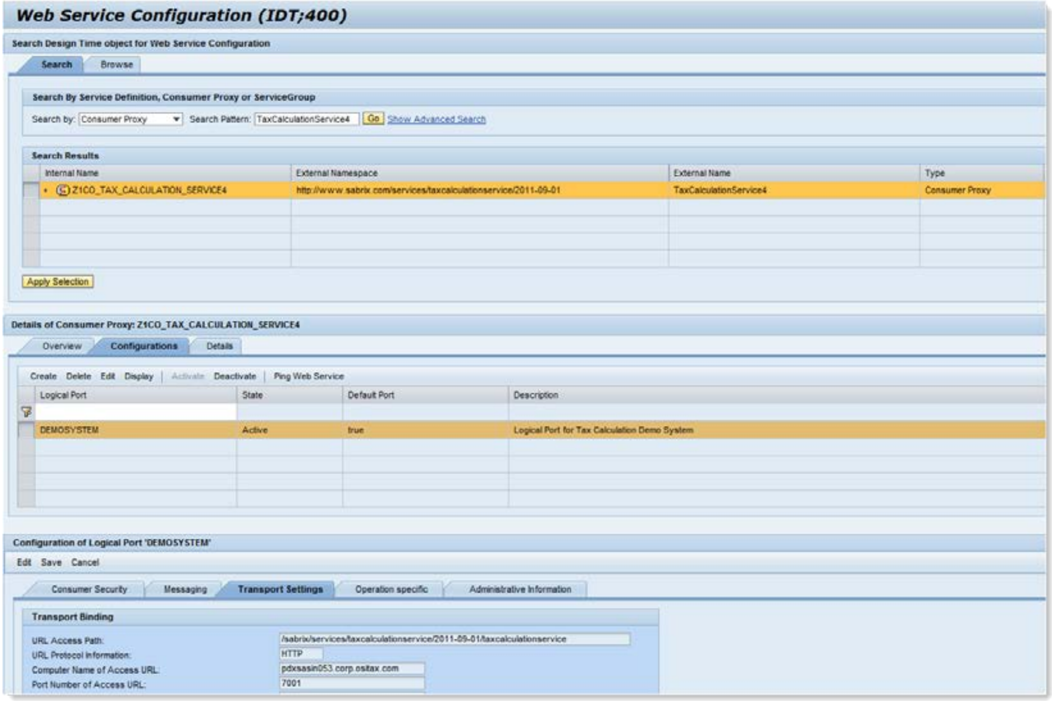
Configuration of Logical Port 'DEMOSYSTEM'

Transport Binding

URL Access Path:	/sabrix/services/taxcalculationservice/2011-09-01/taxcalculationservice
URL Protocol Information:	HTTP
Computer Name of Access URL:	pdxsasin053.corp.ositax.com
Port Number of Access URL:	7001
ESR Target Client:	000
Logon Language:	Language of User Context
Name of Proxy Host:	
Port Number of Proxy Host:	
User Name for Proxy Access:	
Password of Proxy User:	
Transport Binding Type:	SOAP 1.1
Make Local Call:	No Call in Local System
Maximum Wait for WS Consumer:	0
Optimized XML Transfer:	None
Compress HTTP Message:	Inactive
Compress Response:	True

9. **Save** your setup. A confirmation message will be displayed.

Your Web Service Configuration should look something like the screen shot below.



Web Service Configuration (IDT;400)

Search Design Time object for Web Service Configuration

Search By Service Definition, Consumer Proxy or ServiceGroup

Search by: Consumer Proxy Search Pattern: TaxCalculationService4

Search Results

Internal Name	External Namespace	External Name	Type
Z1CO_TAX_CALCULATION_SERVICE4	http://www.sabrix.com/services/taxcalculationservice/2011-09-01	TaxCalculationService4	Consumer Proxy

Details of Consumer Proxy: Z1CO_TAX_CALCULATION_SERVICE4

Logical Port	State	Default Port	Description
DEMOSYSTEM	Active	true	Logical Port for Tax Calculation Demo System

Configuration of Logical Port 'DEMOSYSTEM'

Transport Binding

URL Access Path: /sabrix/services/taxcalculationservice/2011-09-01/taxcalculationservice
URL Protocol Information: HTTP
Computer Name of Access URL: pdxsasin053.corp.ositax.com
Port Number of Access URL: 7001

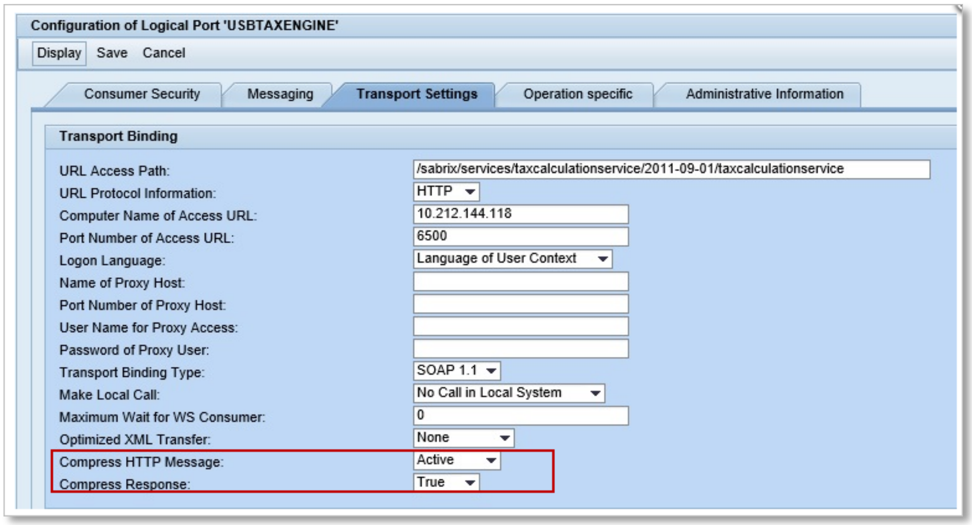
WS SECURITY CONSIDERATIONS ON THE PROXY FOR A HOSTED ENVIRONMENT

The above Proxy Configuration steps may need to be adjusted if you wish to use HTTPS and add security measures to the Proxy. As part of our offering we have created a BAdI that can be instantiated and used by the customer to add a security name and password to the proxy communication between Integration and Determination SOAP calls.   This will likely be critical for hosted environments.

In this section we refer to step 8 in the above configuration as well as steps to activate and use the new BAdI for your specific security needs. If you wish to utilize GZIP for the compression of the HTTP message there are two different options available at the bottom of the screen: “Compress HTTP Message” and “Compress Response”.

Option 1: Using the compression on both the message and the response

Example screen shot shown below for Proxy Configuration from step 8 on the prior page:



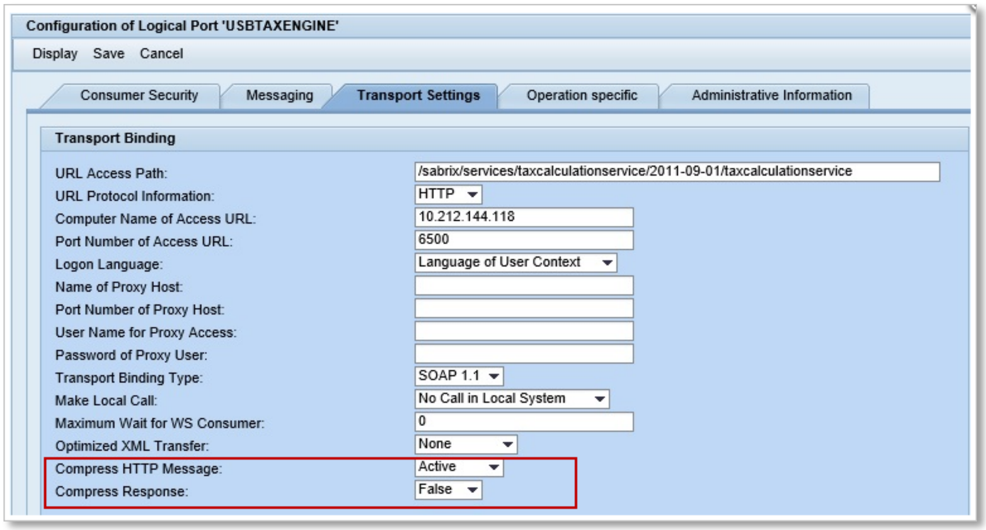
Configuration of Logical Port 'USBTAXENGINE'

Transport Binding

URL Access Path: /sabrix/services/taxcalculationservice/2011-09-01/taxcalculationservice
URL Protocol Information: HTTP
Computer Name of Access URL: 10.212.144.118
Port Number of Access URL: 6500
Logon Language: Language of User Context
Name of Proxy Host:
Port Number of Proxy Host:
User Name for Proxy Access:
Password of Proxy User:
Transport Binding Type: SOAP 1.1
Make Local Call: No Call in Local System
Maximum Wait for WS Consumer: 0
Optimized XML Transfer: None
Compress HTTP Message: Active
Compress Response: True

Option 2: Using the compression only on the message

Example of screen shot is shown below:



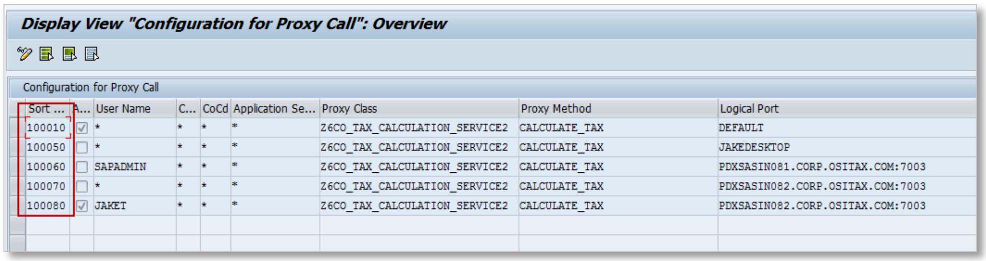
Configuration of Logical Port 'USBTAXENGINE'

Transport Binding

URL Access Path: /sabrix/services/taxcalculationservice/2011-09-01/taxcalculationservice
URL Protocol Information: HTTP
Computer Name of Access URL: 10.212.144.118
Port Number of Access URL: 6500
Logon Language: Language of User Context
Name of Proxy Host:
Port Number of Proxy Host:
User Name for Proxy Access:
Password of Proxy User:
Transport Binding Type: SOAP 1.1
Make Local Call: No Call in Local System
Maximum Wait for WS Consumer: 0
Optimized XML Transfer: None
Compress HTTP Message: Active
Compress Response: False

A new transaction code: **/N/IDT/WS** has also been created in order for the user to establish the special user name and password for each line on the Proxy Configuration table based on the sort order number of the proxy configuration line. The data in the transaction is obfuscated and placed in table /IDT/D_WS. This is an optional configuration step that is utilized by the new Security BAdI on the proxy. If the table is not populated then that BAdI will ignore the security check. We recommend that you also review the Determination documentation on setting up the security on the Determination side as these two functions must work together.

Below is an example of the Proxy Configuration table.

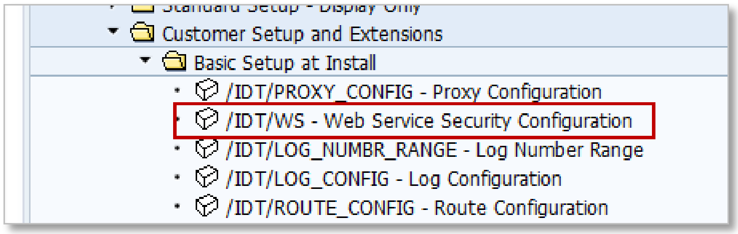


Display View "Configuration for Proxy Call": Overview

Configuration for Proxy Call

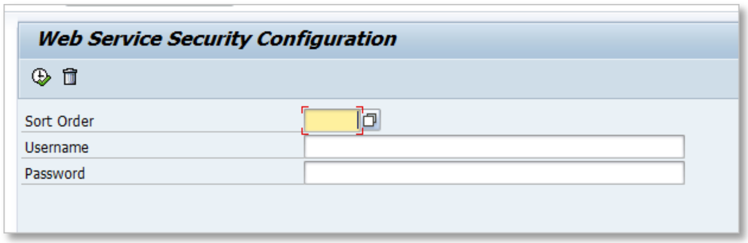
Sort ...	A...	User Name	C...	CoCd	Application Se...	Proxy Class	Proxy Method	Logical Port
100010	☑	*	*	*	*	Z6CO_TAX_CALCULATION_SERVICE2	CALCULATE_TAX	DEFAULT
100050	□	*	*	*	*	Z6CO_TAX_CALCULATION_SERVICE2	CALCULATE_TAX	JAKEDESKTOP
100060	□	SAPADMIN	*	*	*	Z6CO_TAX_CALCULATION_SERVICE2	CALCULATE_TAX	PDXSASIN081.CORP.OSITAX.COM:7003
100070	□	*	*	*	*	Z6CO_TAX_CALCULATION_SERVICE2	CALCULATE_TAX	PDXSASIN082.CORP.OSITAX.COM:7003
100080	☑	JAKET	*	*	*	Z6CO_TAX_CALCULATION_SERVICE2	CALCULATE_TAX	PDXSASIN082.CORP.OSITAX.COM:7003

Note the sort order field in the table as you will need to use the new transaction code to insert a new user name and password for this line on the Proxy Configuration table. This is part of the Customer set up menu as shown below:



Standard Setup - Display Only
Customer Setup and Extensions
Basic Setup at Install
/IDT/PROXY_CONFIG - Proxy Configuration
/IDT/WS - Web Service Security Configuration
/IDT/LOG_NUMBR_RANGE - Log Number Range
/IDT/LOG_CONFIG - Log Configuration
/IDT/ROUTE_CONFIG - Route Configuration

Transaction Code: **/N/IDT/WS**



Web Service Security Configuration

Sort Order	
Username	
Password	

Enter the sort order number from the Proxy table for the connection that you wish to use the security logic and then add USER NAME and PASSWORD that the system will use to verify the connection. **EXECUTE** to save the new setup to table /IDT/D_WS. Since the USER NAME and PASSWORD that you enter for this security check are saved in an encrypted form, the original amount you enter is not readable or able to be deleted via SE16.

OPTIONAL WS SECURITY BADI FOR THE PROXY

/IDT/BADI_ADJUST_PROXY

This BAdI is provided with the install and can be used if you wish to utilize the security process outlined above. This BAdI can be used for the proxy security steps as outlined here or may be also utilized by the customer for other possible ABAP programming for security options as needed for your specific environment.

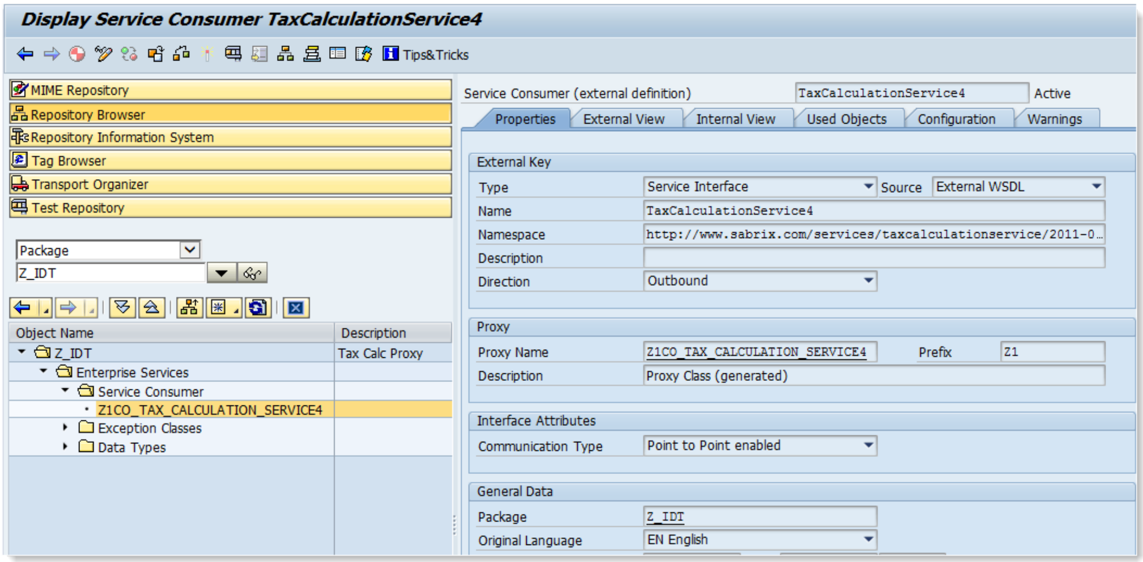
SOAP TAX CALCULATION TEST

In this section we will make a SOAP test call to Determination using the Proxy we setup above. This will confirm communication between SAP and Determination. It is a prerequisite for a later successful tax calculation from SAP business transactions that the communication layer between the two systems works.

SOAP TESTING

Transaction Code **SE80**

1. Select the Package name you created during the SAP Proxy setup (Z_IDT in this example shown below), then drill down to **Enterprise Service → Service Consumer** to see your consumer proxy. Then double click the proxy.



Display Service Consumer TaxCalculationService4

Package: Z_IDT

Object Name	Description
Z_IDT	Tax Calc Proxy
Enterprise Services	
Service Consumer	
Z1CO_TAX_CALCULATION_SERVICE4	
Exception Classes	
Data Types	

Service Consumer (external definition) TaxCalculationService4 Active

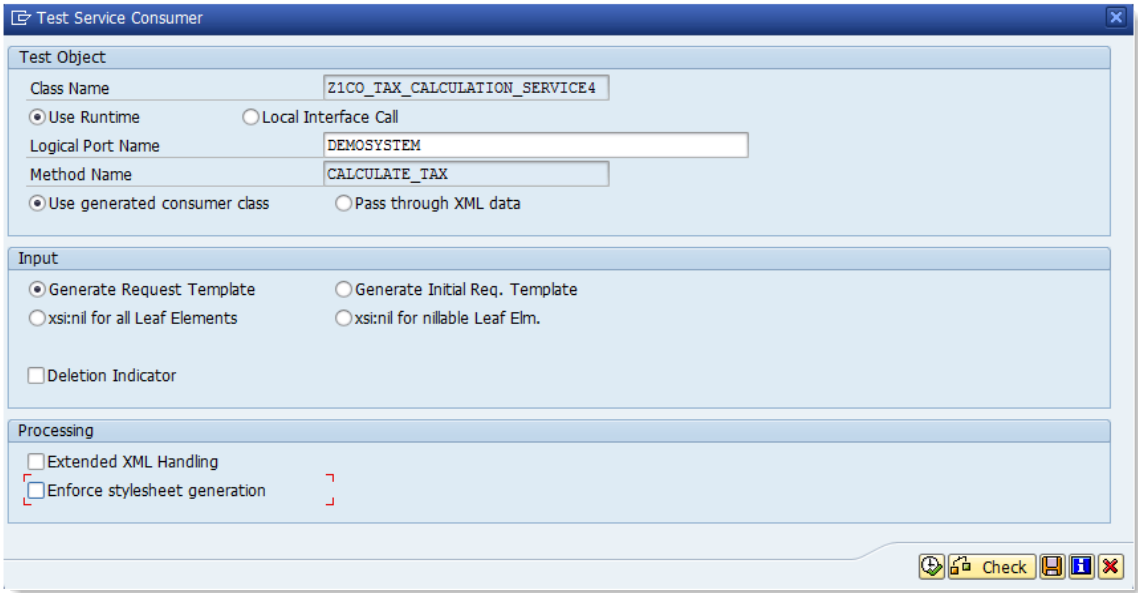
External Key
Type: Service Interface
Source: External WSDL
Name: TaxCalculationService4
Namespace: http://www.sabrix.com/services/taxcalculationservice/2011-0…
Description:
Direction: Outbound

Proxy
Proxy Name: Z1CO_TAX_CALCULATION_SERVICE4
Prefix: Z1
Description: Proxy Class (generated)

Interface Attributes
Communication Type: Point to Point enabled

General Data
Package: Z_IDT
Original Language: EN English

2. Press the **Test** icon . On the pop-up select the **Logical Port** you created in prior steps.



Test Service Consumer

Test Object

Class Name	Z1CO_TAX_CALCULATION_SERVICE4
● Use Runtime	○ Local Interface Call
Logical Port Name	DEMOSYSTEM
Method Name	CALCULATE_TAX
● Use generated consumer class	○ Pass through XML data

Input

● Generate Request Template	○ Generate Initial Req. Template
○ xsi:nil for all Leaf Elements	○ xsi:nil for nillable Leaf Elm.

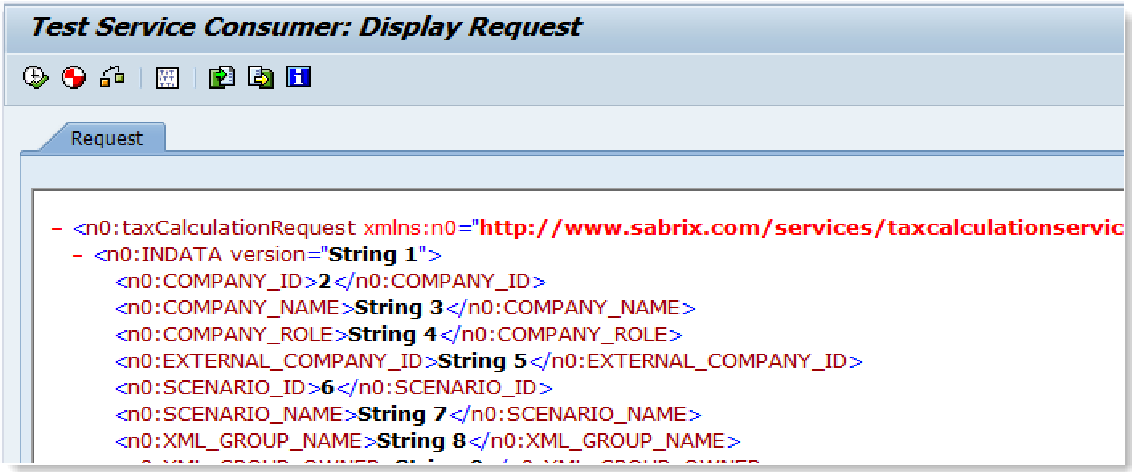
□ Deletion Indicator

Processing

□ Extended XML Handling

□ Enforce stylesheet generation

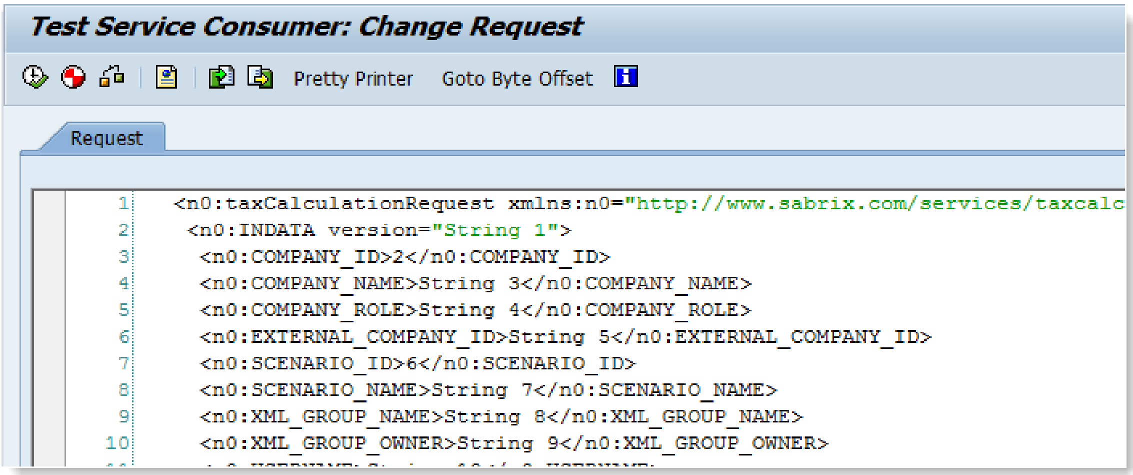
3. Select the **Execute** icon which will take you to the Test Service Consumer screen.



Test Service Consumer: Display Request

```
- <n0:taxCalculationRequest xmlns:n0="http://www.sabrix.com/services/taxcalculationservic
  - <n0:INDATA version="String 1">
      <n0:COMPANY_ID>2</n0:COMPANY_ID>
      <n0:COMPANY_NAME>String 3</n0:COMPANY_NAME>
      <n0:COMPANY_ROLE>String 4</n0:COMPANY_ROLE>
      <n0:EXTERNAL_COMPANY_ID>String 5</n0:EXTERNAL_COMPANY_ID>
      <n0:SCENARIO_ID>6</n0:SCENARIO_ID>
      <n0:SCENARIO_NAME>String 7</n0:SCENARIO_NAME>
      <n0:XML_GROUP_NAME>String 8</n0:XML_GROUP_NAME>
```

4. Select the **XML Editor** icon to change the request data.



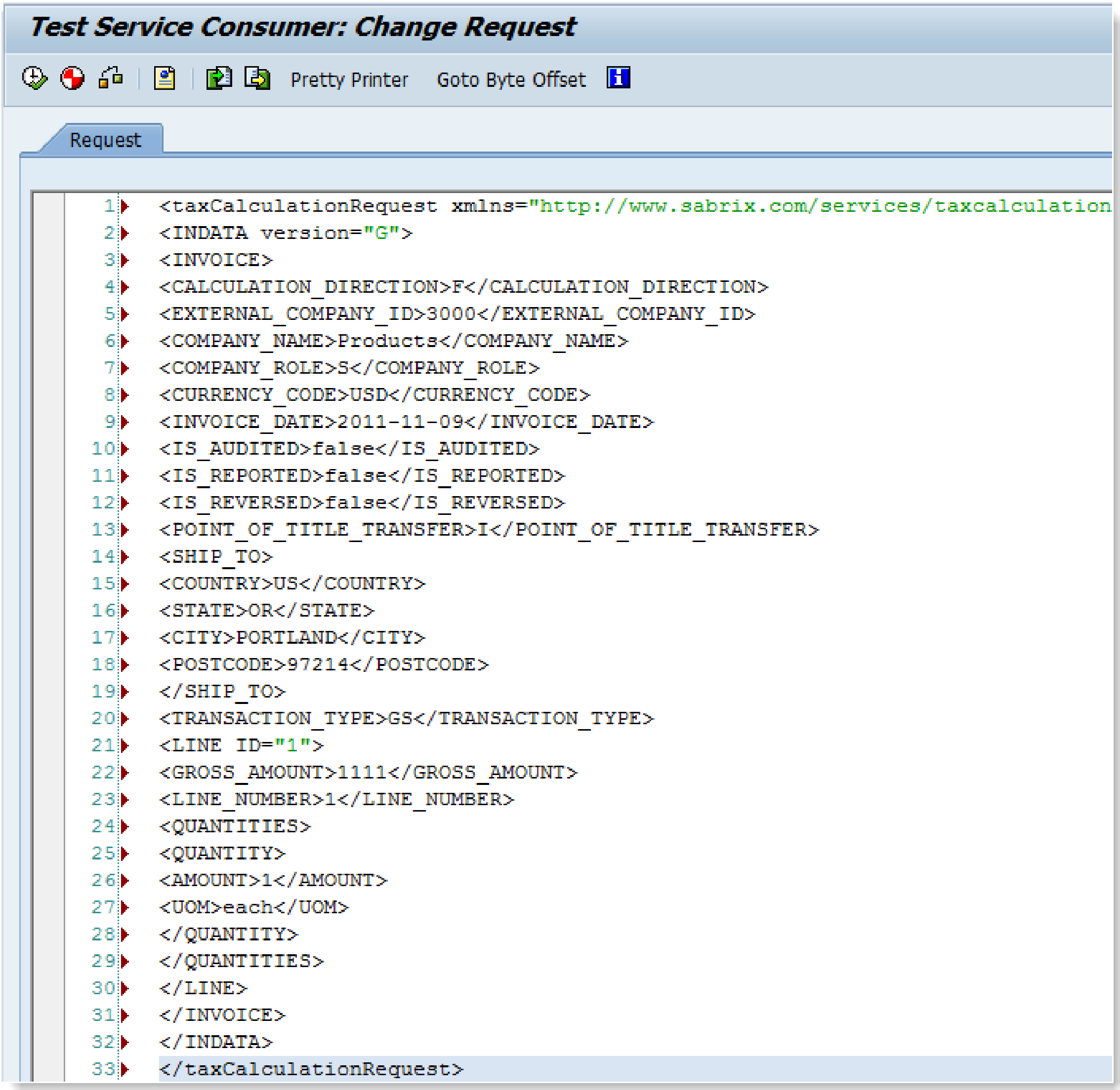
```
<n0:taxCalculationRequest xmlns:n0="http://www.sabrix.com/services/taxcalc
 <n0:INDATA version="String 1">
  <n0:COMPANY_ID>2</n0:COMPANY_ID>
  <n0:COMPANY_NAME>String 3</n0:COMPANY_NAME>
  <n0:COMPANY_ROLE>String 4</n0:COMPANY_ROLE>
  <n0:EXTERNAL_COMPANY_ID>String 5</n0:EXTERNAL_COMPANY_ID>
  <n0:SCENARIO_ID>6</n0:SCENARIO_ID>
  <n0:SCENARIO_NAME>String 7</n0:SCENARIO_NAME>
  <n0:XML_GROUP_NAME>String 8</n0:XML_GROUP_NAME>
  <n0:XML_GROUP_OWNER>String 9</n0:XML_GROUP_OWNER>
```

5. Use **Ctrl+A** to select all data, then delete the test data defaulted by SAP. You should have an empty screen now.

Copy and paste the below sample calculation request into the SOAP test screen:

```
<TAXCALCULATIONREQUEST
XMLNS="HTTP://WWW.SABRIX.COM/SERVICES/TAXCALCULATIONSERVICE/
2011-09-01">
<INDATA VERSION="G">
<INVOICE>
<CALCULATION_DIRECTION>F</CALCULATION_DIRECTION>
<EXTERNAL_COMPANY_ID>YOURCOMPANY</EXTERNAL_COMPANY_ID>
<COMPANY_NAME>PRODUCTS</COMPANY_NAME>
<COMPANY_ROLE>S</COMPANY_ROLE>
<CURRENCY_CODE>USD</CURRENCY_CODE>
<INVOICE_DATE>2011-11-09</INVOICE_DATE>
<IS_AUDITED>FALSE</IS_AUDITED>
<IS_REPORTED>FALSE</IS_REPORTED>
<IS_REVERSED>FALSE</IS_REVERSED>
<POINT_OF_TITLE_TRANSFER>I</POINT_OF_TITLE_TRANSFER>
<SHIP_TO>
<COUNTRY>US</COUNTRY>
<STATE>OR</STATE>
<CITY>PORTLAND</CITY>
<POSTCODE>97214</POSTCODE>
</SHIP_TO>
<TRANSACTION_TYPE>GS</TRANSACTION_TYPE>
<LINE ID="1">
<GROSS_AMOUNT>1111</GROSS_AMOUNT>
<LINE_NUMBER>1</LINE_NUMBER>
<QUANTITIES>
<QUANTITY>
<AMOUNT>1</AMOUNT>
<UOM>EACH</UOM>
</QUANTITY>
</QUANTITIES>
</LINE>
</INVOICE>
</INDATA>
</TAXCALCULATIONREQUEST>
```

7. Change the value for <EXTERNAL_COMPANY_ID> to a valid value (see your Determination expert if you do not know a value).



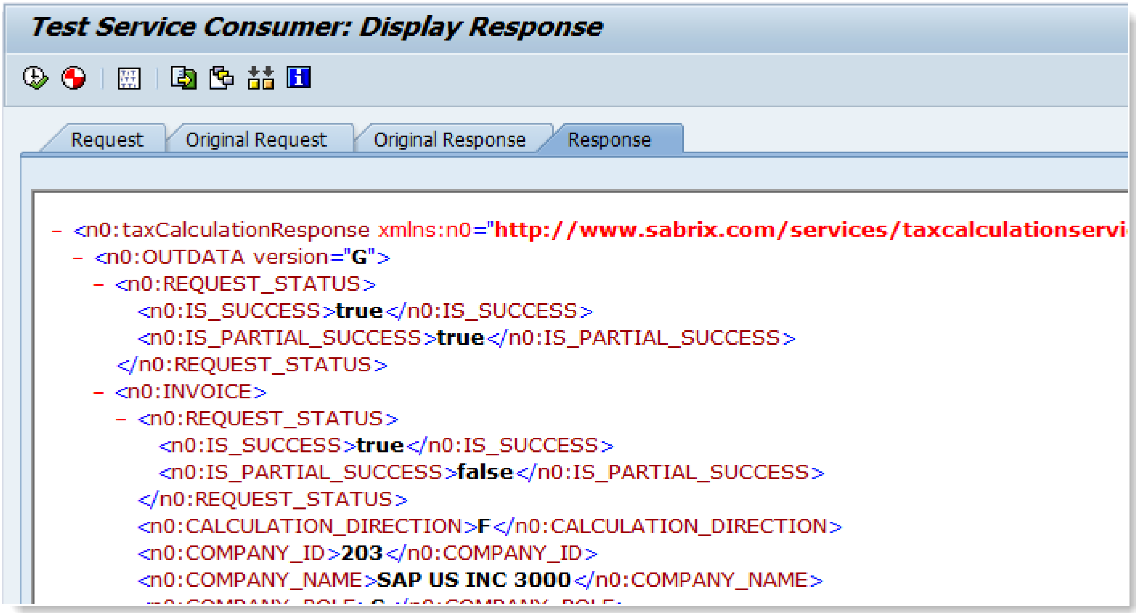
```
<taxCalculationRequest xmlns="http://www.sabrix.com/services/taxcalculation
<INDATA version="G">
<INVOICE>
<CALCULATION_DIRECTION>F</CALCULATION_DIRECTION>
<EXTERNAL_COMPANY_ID>3000</EXTERNAL_COMPANY_ID>
<COMPANY_NAME>Products</COMPANY_NAME>
<COMPANY_ROLE>S</COMPANY_ROLE>
<CURRENCY_CODE>USD</CURRENCY_CODE>
<INVOICE_DATE>2011-11-09</INVOICE_DATE>
<IS_AUDITED>false</IS_AUDITED>
<IS_REPORTED>false</IS_REPORTED>
<IS_REVERSED>false</IS_REVERSED>
<POINT_OF_TITLE_TRANSFER>I</POINT_OF_TITLE_TRANSFER>
<SHIP_TO>
<COUNTRY>US</COUNTRY>
<STATE>OR</STATE>
<CITY>PORTLAND</CITY>
<POSTCODE>97214</POSTCODE>
</SHIP_TO>
<TRANSACTION_TYPE>GS</TRANSACTION_TYPE>
<LINE ID="1">
<GROSS_AMOUNT>1111</GROSS_AMOUNT>
<LINE_NUMBER>1</LINE_NUMBER>
<QUANTITIES>
<QUANTITY>
<AMOUNT>1</AMOUNT>
<UOM>each</UOM>
</QUANTITY>
</QUANTITIES>
</LINE>
</INVOICE>
</INDATA>
</taxCalculationRequest>
```

You might want to save your test data in SAP for later use. You can do so by selecting the **Save Variant** icon , and then give it a name. You will be able to reload that test data later via the **Get Variant** icon.

8. Now run your test via the **Execute** icon. You should get a response shown in the **Response** tab.

Success of a tax calculation is indicated by the IS_SUCCESS and IS_PARTIAL_SUCCESS set to **true which you can see in the following code in the image**. In this case you should also see tax details in the <TAX> block of the response.

The last step is to configure the tax interface to use the SOAP Proxy and Logical Port during SAP business transactions. You do this via transaction code **/N/IDT/PROXY_CONFIG**. You can find details on how to do this setup in the *Configuration Guide* section of *ONESOURCE Proxy Configuration*.



Test Service Consumer: Display Response

```
– <n0:taxCalculationResponse xmlns:n0="http://www.sabrix.com/services/taxcalculationservi
  – <n0:OUTDATA version="G">
    – <n0:REQUEST_STATUS>
        <n0:IS_SUCCESS>true</n0:IS_SUCCESS>
        <n0:IS_PARTIAL_SUCCESS>true</n0:IS_PARTIAL_SUCCESS>
      </n0:REQUEST_STATUS>
    – <n0:INVOICE>
      – <n0:REQUEST_STATUS>
          <n0:IS_SUCCESS>true</n0:IS_SUCCESS>
          <n0:IS_PARTIAL_SUCCESS>false</n0:IS_PARTIAL_SUCCESS>
        </n0:REQUEST_STATUS>
        <n0:CALCULATION_DIRECTION>F</n0:CALCULATION_DIRECTION>
        <n0:COMPANY_ID>203</n0:COMPANY_ID>
        <n0:COMPANY_NAME>SAP US INC 3000</n0:COMPANY_NAME>
```

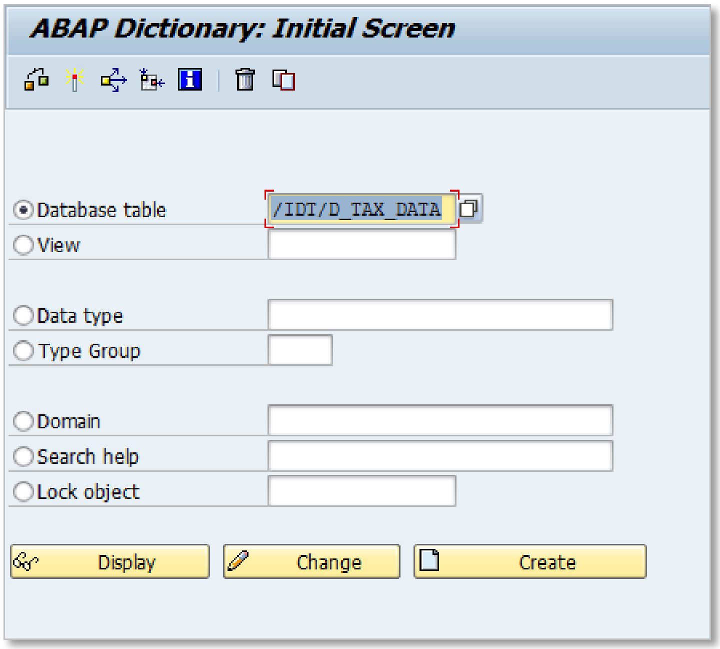
PROGRAMMER GUIDE

The Integration has been designed and built with extensibility and maintainability in mind. There are several areas the code can be enhanced by Thomson Reuters, Partners, or you our customers. Generally our Professional Services team can assist in assessing your needs and determining if the provided framework allows meeting the need directly or if custom code should be developed. This section covers the most common needs customers have for creating custom code; user-exit based field mappings and custom address sources.

ADDING CUSTOM FIELDS TO /IDT/D_TAX_DATA TABLE

A system user may have need to add other fields to the /IDT/D_TAX_DATA table for reporting or reconciliation processes. They can append the table with their own custom field and then use the field mapping table feature to be able to populate the new field per their needs. A simple procedure of appending the table is outlined in the following image:

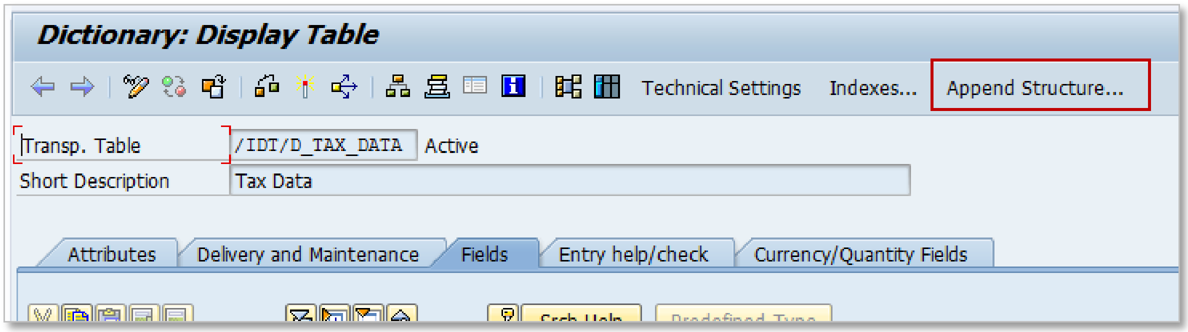
Transaction: **SE11**



ABAP Dictionary: Initial Screen

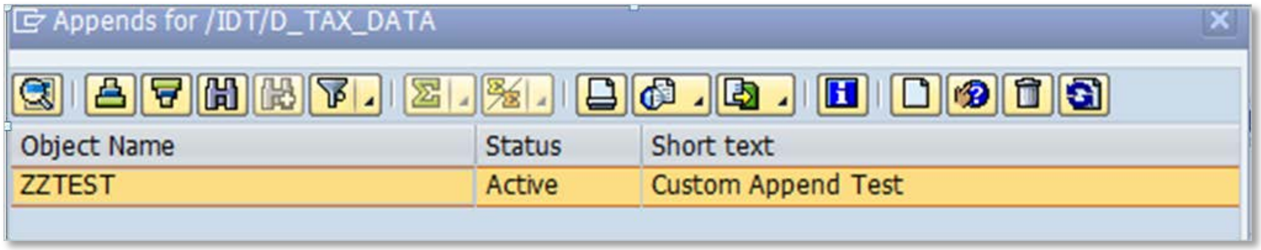
● Database table /IDT/D_TAX_DATA
○ View
○ Data type
○ Type Group
○ Domain
○ Search help
○ Lock object

Select “Display”. Once in the table, use the “Append Structure (F5)” menu option illustrated in the following image..



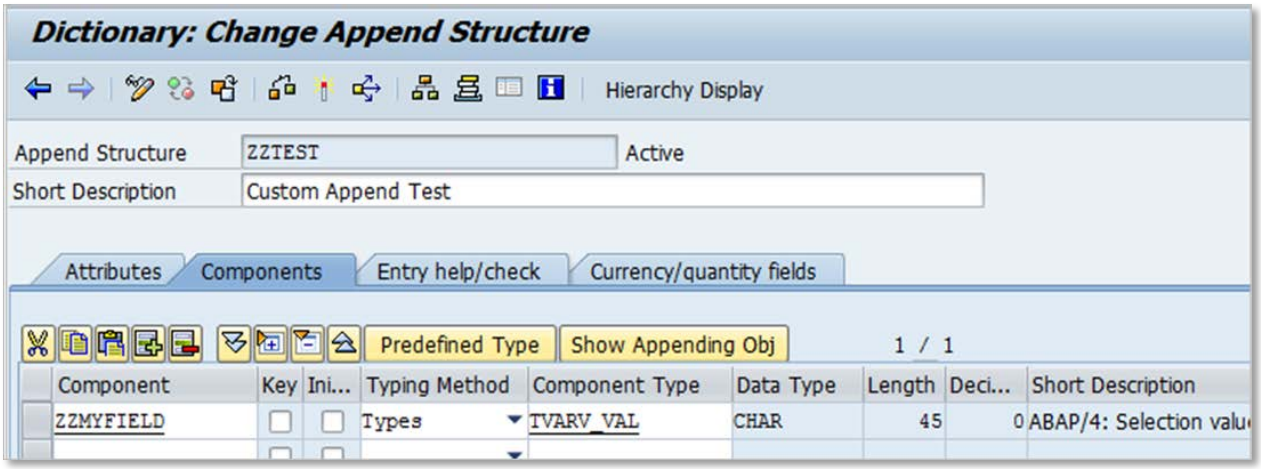
Transp. Table	/IDT/D_TAX_DATA	Active
Short Description	Tax Data	

Create a new append in the customer name space or using ZZ* naming convention. Include the change in a transport:



Object Name	Status	Short text
ZZTEST	Active	Custom Append Test

Add custom fields as desired:



Append Structure	ZZTEST	Active
Short Description	Custom Append Test	

Component	Key	Ini...	Typing Method	Component Type	Data Type	Length	Deci...	Short Description
ZZMYFIELD	☐	☐	Types	TVARV_VAL	CHAR	45	0	ABAP/4: Selection valu
	☐	☐						

Save and activate the changes.

The newly added fields now can be used in the Global Next Flexible Field Mapper to map data to.

SIMPLE EXPRESSIONS

Simple expressions are just like a line of code, but they are added to the field mapping line as a qualifier, only if the expression is fulfilled the mapping will be taken into account.

The syntax of a simple expression is as follows:

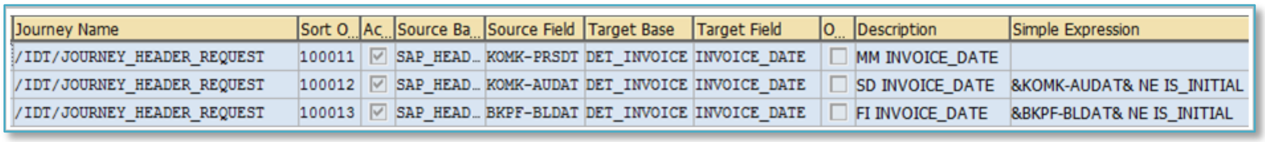
```
SOURCE FIELD | OPERAND | CHECK VALUE (FIELD)
```

Some requirements are:

- SAP table-field names must always be wrapped with ampersands (&)
- Values must always be wrapped with single quotes (‘)
- Operations can be stringed together by AND or OR commands
- Supported operands are:

EQ, =	Equal To
NE, <>, ><	Not Equal To
LT, <	Less Than
LE, <=	Less Than or Equal To
GT, >	Greater Than
GE, >=	Greater than or Equal To
CO	Contains Only
CN	Contains Not only
CA	Contains Any
NA	Contains Not Any
CS	Contains String
NS	Contains No String
CP	Matches Pattern
NP	Does Not Match Pattern
IS_INITIAL	Field is initial value

IS_INITIAL is a special command that can be used with EQ or NE in order to further delineate if a field has been populated or if it has been set to the initial value of blank for this transaction. See the following example:



Journey Name	Sort O...	Ac...	Source Ba...	Source Field	Target Base	Target Field	O...	Description	Simple Expression
/IDT/JOURNEY_HEADER_REQUEST	100011	☑	SAP_HEAD...	KOMK-PRSDT	DET_INVOICE	INVOICE_DATE	□	MM INVOICE_DATE	
/IDT/JOURNEY_HEADER_REQUEST	100012	☑	SAP_HEAD...	KOMK-AUDAT	DET_INVOICE	INVOICE_DATE	□	SD INVOICE_DATE	&KOMK-AUDAT& NE IS_INITIAL
/IDT/JOURNEY_HEADER_REQUEST	100013	☑	SAP_HEAD...	BKPF-BLDAT	DET_INVOICE	INVOICE_DATE	□	FI INVOICE_DATE	&BKPF-BLDAT& NE IS_INITIAL

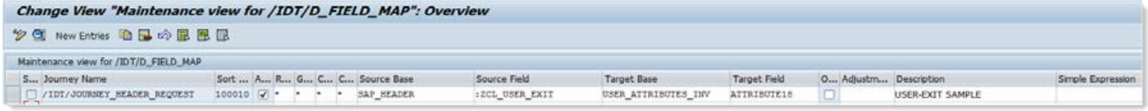
In this example the IS_INITIAL is used in the simple expression after “NE” to populate the invoice date if it has been set in this transaction and is not equal to the initial value of blank.

Expression	Explanation
&KOMK-VKBUR& = '1030'	Only maps the field if the Sales Office value is 1030.
&VBAK-ERDAT& NE &SY-DATUM&	Only uses the mapping if the system date isn't the same as the documents create date.
(&KOMK-WAERK& = 'USD' and &VBAK-ERDAT& = &SY-DATUM&) or &SY-TCODE& CP 'VA'	Maps the field if the Document Currency is USD and the Document Create date is the system date OR of the transaction code starts with the letters "VA"
'NL_RC_TR_ZE_ZC' CS &TAX_TYPE&	Only uses the mapping of the Tax Type contains any of these values: NL, RC, TR, ZE, or ZC.

USER-EXIT IN FIELD MAPPER

The Field Mapping (**/N/IDT/FIELD_MAPPINGS**) allows for dynamic mapping of SAP source fields to Determination and vice versa. In most cases the options of doing mappings by journey, routes, route groups, country groups, or company code are enough to meet most customer requirements, especially in combination with the Simple Expression feature that allows for some ABAP syntax to be added in the mapper directly. However, in some complex situations, or when the Thomson Reuters provided source bases aren't covering a table required for a custom mapping, a customer might implement a user-exit based mapping.

Such mappings are still added to the Field Mapping table, but are linked to a unique ABAP class which will contain the code in support of that mapping. The end result would look something like the following sample image:



Change View "Maintenance view for /IDT/D_FIELD_MAP": Overview

Maintenance view for /IDT/D_FIELD_MAP

S...	Journey Name	Sort ...	A...	R...	G...	C...	C...	Source Base	Source Field	Target Base	Target Field	O...	Adjustm...	Description	Simple Expression
☐	/IDT/JOURNEY_HEADER_REQUEST	100010	☑	*	*	*	*	SAP_HEADER	:ZCL_USER_EXIT	USER_ATTRIBUTES_INV	ATTRIBUTE18	☐		USER-EXIT SAMPLE	

As you can see in above sample the Source Field has been replaced with an ABAP Class. This class has to be created first, and then assigned in the field mapping to the appropriate line. The class name has to be pre-pended with a **colon** (:).

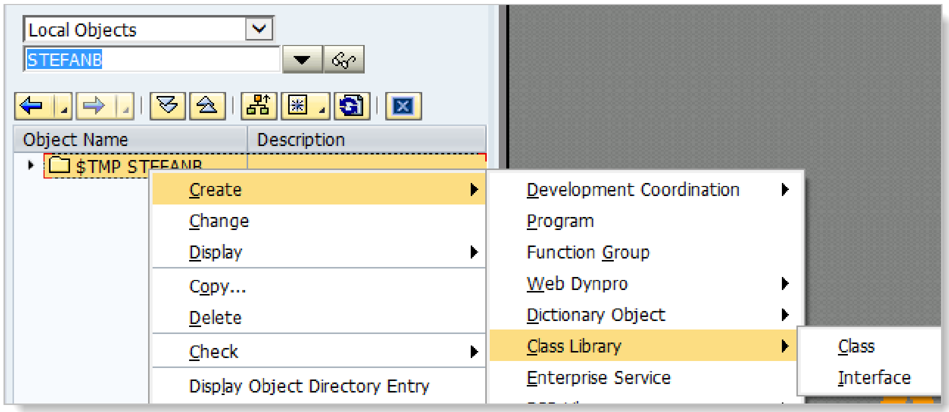
A user-exit based mapping can be combined with allowed Adjustments as well as with Simple Expressions and any other table field like country group, etc.

Creating a user-exit based mapping requires a few simple steps of coding. The actual code logic within the user-exit might be complex however depending on the use case.

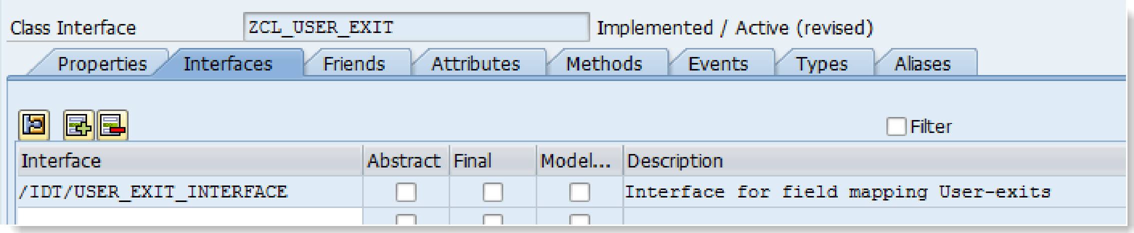
To create your own ABAP Class based user-exit, go to Transaction Code **SE80**.

1. Create your class.

The following image shows the menu navigation Create, Class Library, Class.



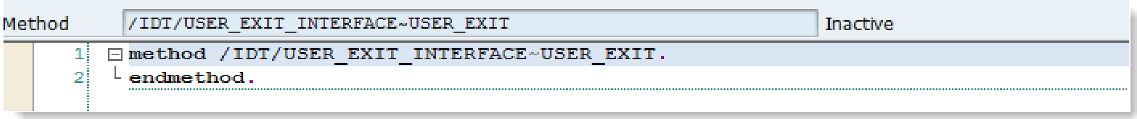
2. **Save** your class. You will be taken to the new class. Navigate to the **Interfaces** tab. Here you will need to include the predefined interface */IDT/USER_EXIT_INTERFACE* for the Field Mapping which inherits all the necessary data for the mapper.



Class Interface ZCL_USER_EXIT Implemented / Active (revised)

Interface	Abstract	Final	Model...	Description
/IDT/USER_EXIT_INTERFACE	□	□	□	Interface for field mapping User-exits

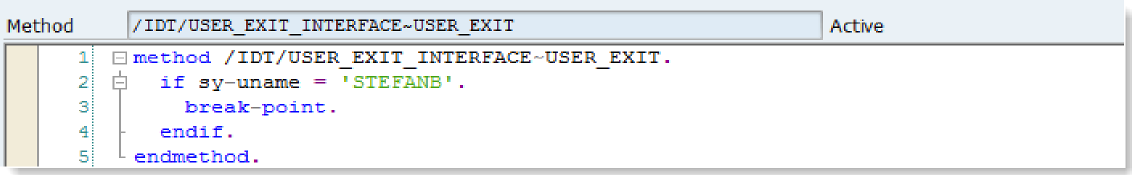
3. Now switch over to the **Methods** tab, double click on the predefined method and you will be taken into the code as shown in the following image.



Method /IDT/USER_EXIT_INTERFACE~USER_EXIT Inactive

```
method /IDT/USER_EXIT_INTERFACE~USER_EXIT.
endmethod.
```

4. Add your custom code in this method (this image is just a sample).

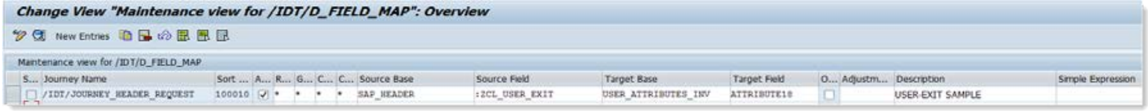


Method /IDT/USER_EXIT_INTERFACE~USER_EXIT Active

```
method /IDT/USER_EXIT_INTERFACE~USER_EXIT.
  if sy-uname = 'STEFANB'.
    break-point.
  endif.
endmethod.
```

5. Once coding is done **Activate** your class.

6. Now you can go and assign your newly created class to the relevant line in the Field Mapper. Test your mapping by activating the line and executing a test transaction.



Change View "Maintenance view for /IDT/D_FIELD_MAP": Overview

Maintenance view for /IDT/D_FIELD_MAP

S...	Journey Name	Sort ...	A...	R...	G...	C...	C...	Source Base	Source Field	Target Base	Target Field	O...	Adjustm...	Description	Simple Expression
□	/IDT/JOURNEY_HEADER_REQUEST	100010	☑	*	*	*	*	SAP_HEADER	:ZCL_USER_EXIT	USER_ATTRIBUTES_INV	ATTRIBUTE18	□		USER-EXIT SAMPLE	

Item Data Now Available in Header and Item User Exits

As an example this feature could be used in the following two scenarios:

1. If you need to determine at the header level a field that is stored at the line item level in order to pass that to the request.
2. If you want to look at a line that is a consequence of another line like a freight charge or surcharge and you need to refer to the parent line to get some information needed to properly calculate tax on the related child line.

In order to accomplish either of these scenarios via ABAP programming, you can use this new field in the header called “Items”. This Items field is a pointer that allows you to get the item data needed for the above two purposes. It increases the function of the user exit and simple expressions to use for some fringe cases where this may be needed. You may never need this but it is available if needed.
Code example of how to use this:

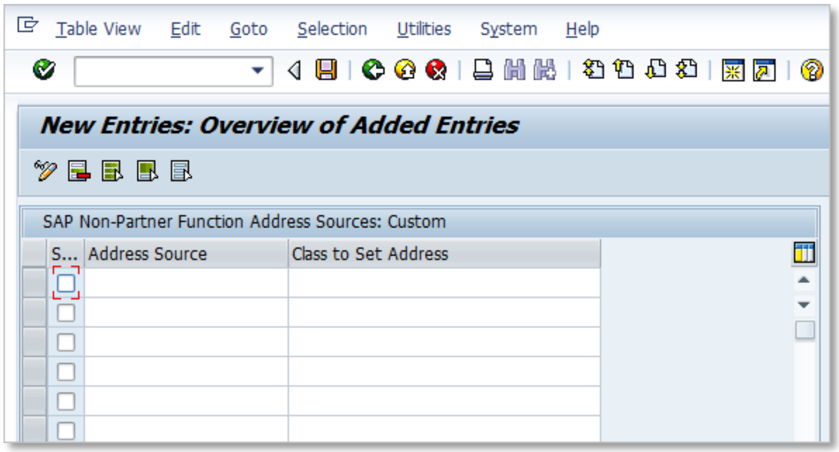
```
DATA : M_REF_UTIL_ITEMS TYPE REF TO /IDT/REFERENCE_UTILITY,
       M_REF_UTIL_ITEM  TYPE REF TO /IDT/REFERENCE_UTILITY,
       MV_VARIABLE            TYPE STRING.

M_REF_UTIL_ITEMS  = I_REF_UTIL_SOURCE_DATA->PATH(‘HDR-
>ITEMS’).

DO M_REF_UTIL_ITEMS->COUNT( ) TIMES.

       M_REF_UTIL_ITEM   = M_REF_UTIL_ITEMS->ROW( SY-INDEX
).

       “GET FIELD
       MV_VARIABLE = M_REF_UTIL_ITEM->PATH(‘EKPO-?????’)-
>GET_VALUE_AS_STRING( ).

ENDDO.
```

CUSTOM ADDRESS SOURCE

Thomson Reuters provides an extensive list of address sources which can be used in the Address Mapping for tax calculations. In some cases the provided sources might not meet the unique business requirements you might have. You will be able to create your own address source, add code to a user-exit to gather the address data from your source, and then add it to the mapping for use.

All code samples provided below are for reference purposes only to give an experienced ABAP developer some directions on how to code your own solution. They are not intended to work when copied as is.

1. Transaction Code **/N/IDT/ADDRESS_SOURCES** to create a new Address Source. Name your address source depending on your business needs.

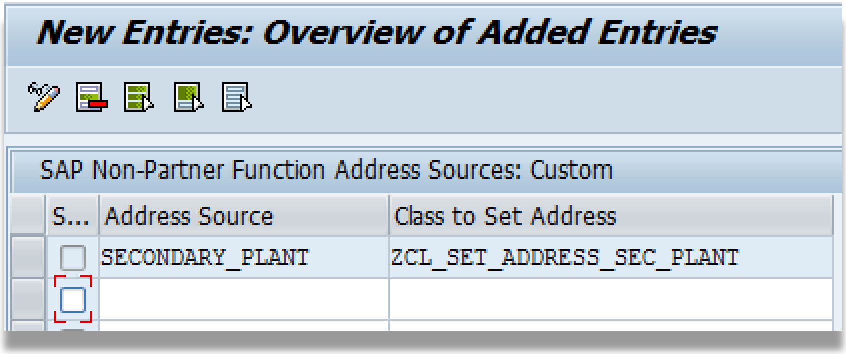


New Entries: Overview of Added Entries

SAP Non-Partner Function Address Sources: Custom

S...	Address Source	Class to Set Address
□		
□		
□		
□		
□		
□		

Create the class which will have methods to have logic to populate secondary plant address. Step 3 explains more about class creation procedure and example.

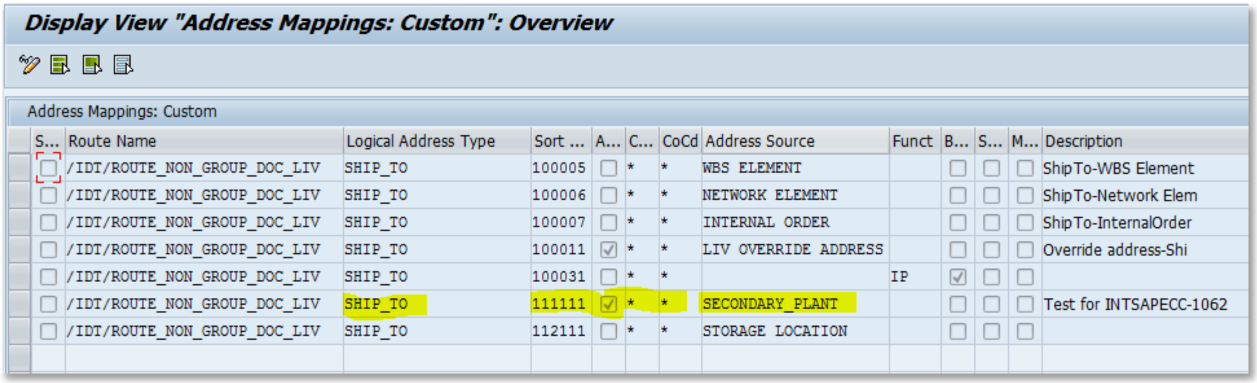


New Entries: Overview of Added Entries

SAP Non-Partner Function Address Sources: Custom

S...	Address Source	Class to Set Address
□	SECONDARY_PLANT	ZCL_SET_ADDRESS_SEC_PLANT
□		

2. Configure transaction /N/IDT/ADDRESS_MAPPING to map the new address source to an address type.

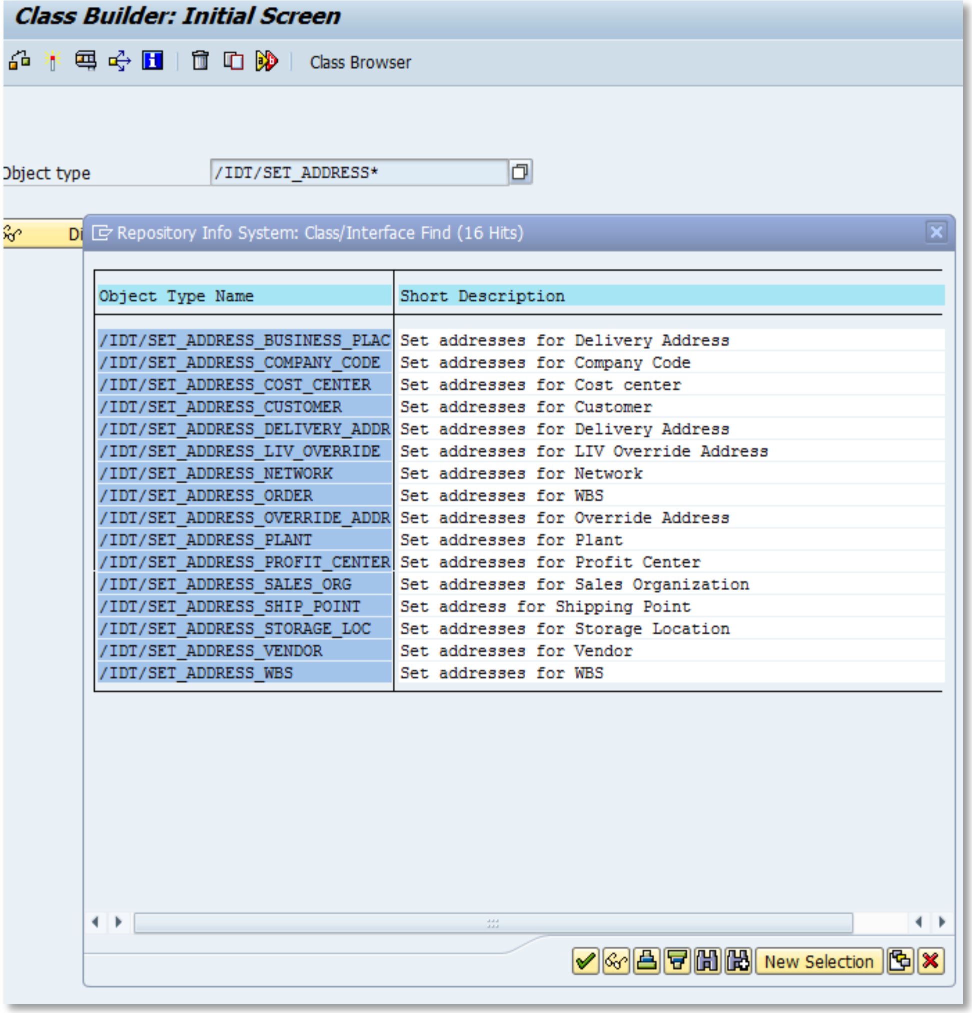


Display View "Address Mappings: Custom": Overview

Address Mappings: Custom

S...	Route Name	Logical Address Type	Sort ...	A...	C...	CoCd	Address Source	Funct	B...	S...	M...	Description
□	/IDT/ROUTE_NON_GROUP_DOC_LIV	SHIP_TO	100005	□	*	*	WBS ELEMENT		□	□	□	ShipTo-WBS Element
□	/IDT/ROUTE_NON_GROUP_DOC_LIV	SHIP_TO	100006	□	*	*	NETWORK ELEMENT		□	□	□	ShipTo-Network Elem
□	/IDT/ROUTE_NON_GROUP_DOC_LIV	SHIP_TO	100007	□	*	*	INTERNAL ORDER		□	□	□	ShipTo-InternalOrder
□	/IDT/ROUTE_NON_GROUP_DOC_LIV	SHIP_TO	100011	☑	*	*	LIV OVERRIDE ADDRESS		□	□	□	Override address-Shi
□	/IDT/ROUTE_NON_GROUP_DOC_LIV	SHIP_TO	100031	□	*	*		IP	☑	□	□	
□	/IDT/ROUTE_NON_GROUP_DOC_LIV	SHIP_TO	111111	☑	*	*	SECONDARY_PLANT		□	□	□	Test for INTSAPECC-1062
□	/IDT/ROUTE_NON_GROUP_DOC_LIV	SHIP_TO	112111	□	*	*	STORAGE LOCATION		□	□	□	

3. Class ZCL_SET_ADDRESS_SEC_PLANT can be created by copying any existing /IDT/SET_ADDRESS* class.



Class Builder: Initial Screen

Object type /IDT/SET_ADDRESS*

Repository Info System: Class/Interface Find (16 Hits)

Object Type Name	Short Description
/IDT/SET_ADDRESS_BUSINESS_PLAC	Set addresses for Delivery Address
/IDT/SET_ADDRESS_COMPANY_CODE	Set addresses for Company Code
/IDT/SET_ADDRESS_COST_CENTER	Set addresses for Cost center
/IDT/SET_ADDRESS_CUSTOMER	Set addresses for Customer
/IDT/SET_ADDRESS_DELIVERY_ADDR	Set addresses for Delivery Address
/IDT/SET_ADDRESS_LIV_OVERRIDE	Set addresses for LIV Override Address
/IDT/SET_ADDRESS_NETWORK	Set addresses for Network
/IDT/SET_ADDRESS_ORDER	Set addresses for WBS
/IDT/SET_ADDRESS_OVERRIDE_ADDR	Set addresses for Override Address
/IDT/SET_ADDRESS_PLANT	Set addresses for Plant
/IDT/SET_ADDRESS_PROFIT_CENTER	Set addresses for Profit Center
/IDT/SET_ADDRESS_SALES_ORG	Set addresses for Sales Organization
/IDT/SET_ADDRESS_SHIP_POINT	Set address for Shipping Point
/IDT/SET_ADDRESS_STORAGE_LOC	Set addresses for Storage Location
/IDT/SET_ADDRESS_VENDOR	Set addresses for Vendor
/IDT/SET_ADDRESS_WBS	Set addresses for WBS

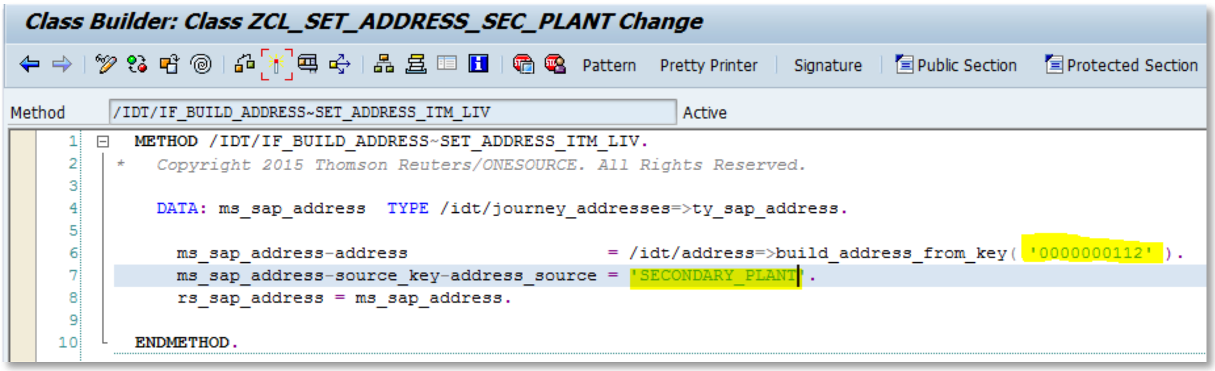
Or, the class can be created by using existing interface - /IDT/IF_BUILD_ADDRESS.

As an example – we have copied class /IDT/SET_ADDRESS_PLANT to create ZCL_SET_ADDRESS_SEC_PLANT.

Make sure to delete existing code from the methods of the newly created class if it is copied from existing one.

4. Now code your logic to populate address in respective method. For example if you need address to be populated at the line item level of MIRO/LIV, then code the logic in the method SET_ADDRESS_ITM_LIV. Or if you need at sales order header level, then code your logic in the method SET_ADDRESS_HDR_SALES.

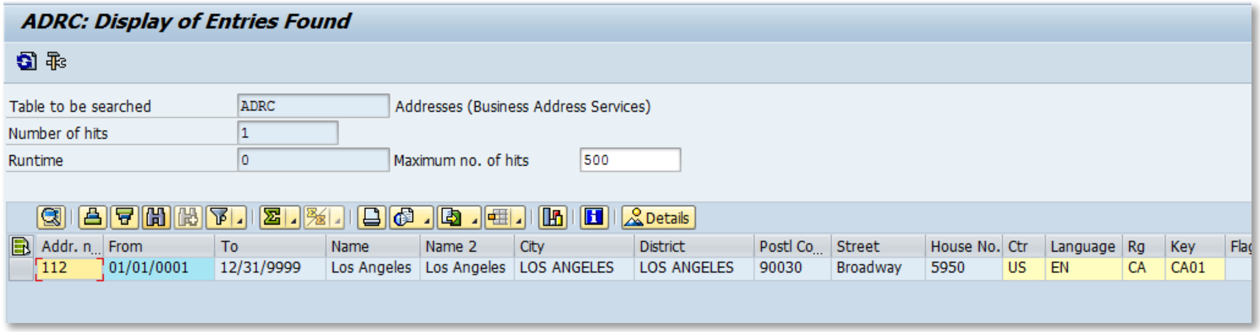
In our example we are having code for LIV at item level. We have hard-coded value 112expecting item level “ship-to” as LA, California.



Class Builder: Class ZCL_SET_ADDRESS_SEC_PLANT Change

Method /IDT/IF_BUILD_ADDRESS~SET_ADDRESS_ITM_LIV Active

```
METHOD /IDT/IF_BUILD_ADDRESS~SET_ADDRESS_ITM_LIV.
*   Copyright 2015 Thomson Reuters/ONESOURCE. All Rights Reserved.

    DATA: ms_sap_address  TYPE /idt/journey_addresses=>ty_sap_address.

      ms_sap_address-address                   = /idt/address=>build_address_from_key( '0000000112' ).
      ms_sap_address-source_key-address_source = 'SECONDARY_PLANT'.
      rs_sap_address = ms_sap_address.

ENDMETHOD.
```



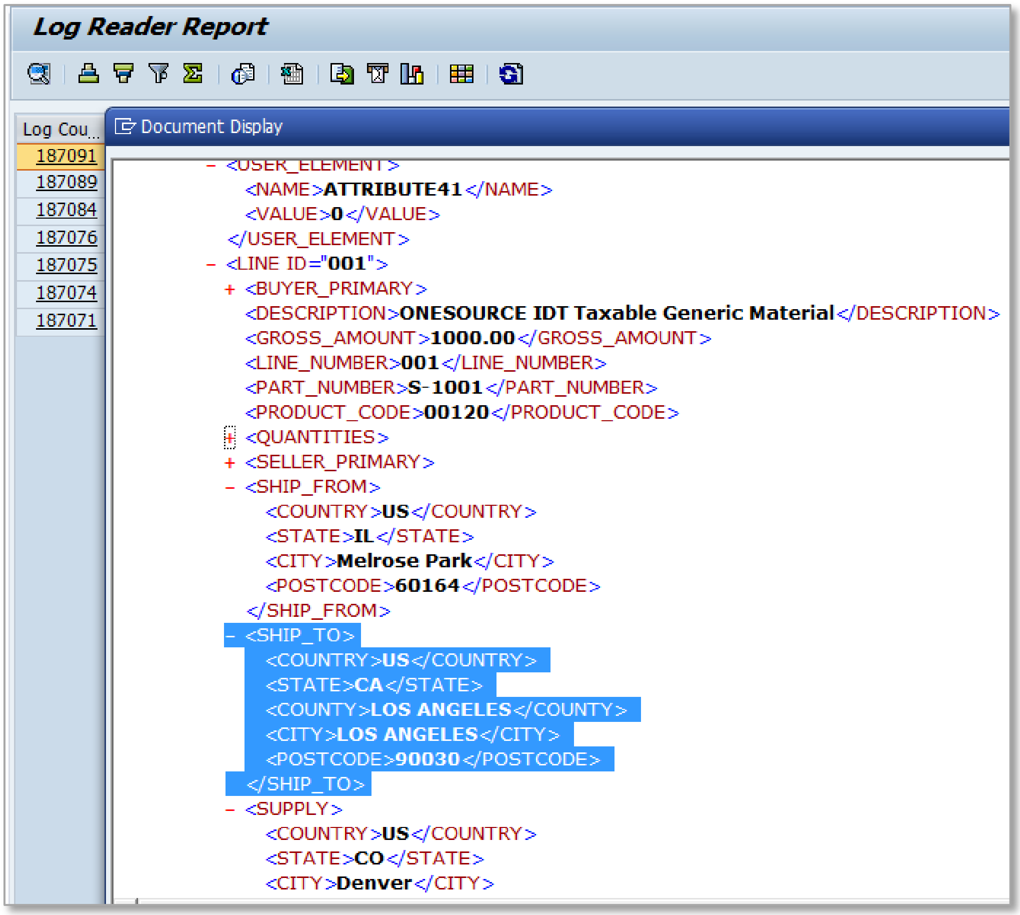
ADRC: Display of Entries Found

Table to be searched	ADRC	Addresses (Business Address Services)
Number of hits	1	
Runtime	0	Maximum no. of hits 500

Addr. n...	From	To	Name	Name 2	City	District	Postl Co...	Street	House No.	Ctr	Language	Rg	Key	Flag
112	01/01/0001	12/31/9999	Los Angeles	Los Angeles	LOS ANGELES	LOS ANGELES	90030	Broadway	5950	US	EN	CA	CA01	

5. Activate the code and you are done. Create a MIRO document and check logs to confirm if it is populating the correct address for “ship_to” at line item level.

The following image shows the Ship To in the code.



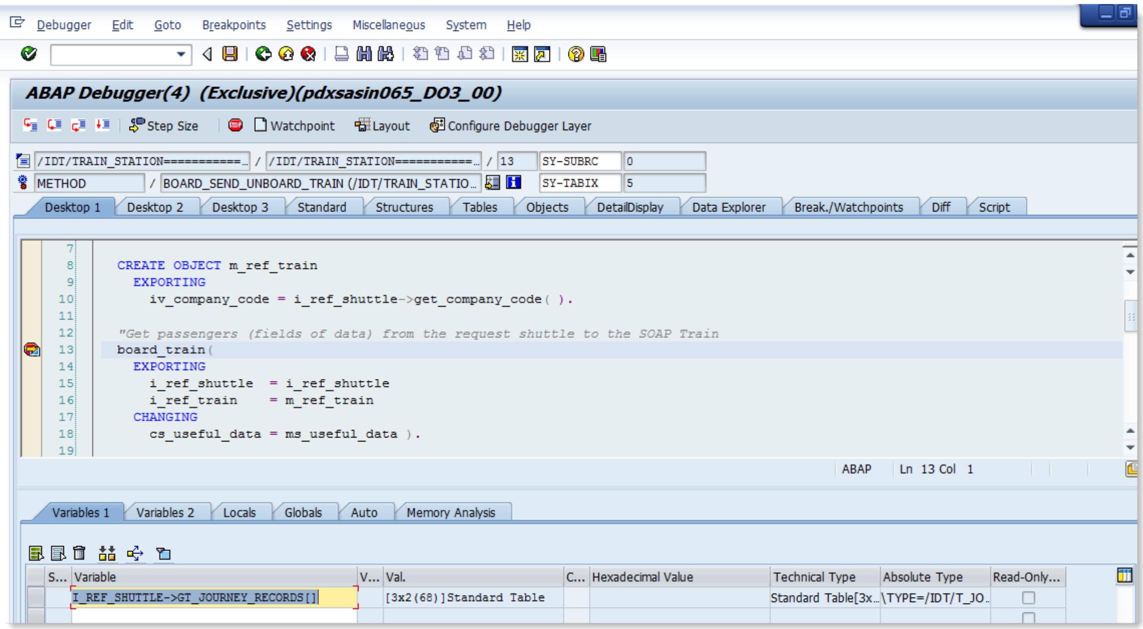
Log Cou...
187091
187089
187084
187076
187075
187074
187071

```
 - <USER_ELEMENT>
     <NAME>ATTRIBUTE41</NAME>
     <VALUE>0</VALUE>
   </USER_ELEMENT>
 - <LINE ID="001">
   + <BUYER_PRIMARY>
     <DESCRIPTION>ONESOURCE IDT Taxable Generic Material</DESCRIPTION>
     <GROSS_AMOUNT>1000.00</GROSS_AMOUNT>
     <LINE_NUMBER>001</LINE_NUMBER>
     <PART_NUMBER>S-1001</PART_NUMBER>
     <PRODUCT_CODE>00120</PRODUCT_CODE>
   + <QUANTITIES>
   + <SELLER_PRIMARY>
   - <SHIP_FROM>
       <COUNTRY>US</COUNTRY>
       <STATE>IL</STATE>
       <CITY>Melrose Park</CITY>
       <POSTCODE>60164</POSTCODE>
     </SHIP_FROM>
   - <SHIP_TO>
       <COUNTRY>US</COUNTRY>
       <STATE>CA</STATE>
       <COUNTY>LOS ANGELES</COUNTY>
       <CITY>LOS ANGELES</CITY>
       <POSTCODE>90030</POSTCODE>
     </SHIP_TO>
   - <SUPPLY>
       <COUNTRY>US</COUNTRY>
       <STATE>CO</STATE>
       <CITY>Denver</CITY>
```

DEBUGGING

To know what Route/Journeys have been used, put a break-point at `/IDT/TRAIN_STATION=>BOARD_SEND_UNBOARD_TRAIN( )`. From there you can see the actual list of Journeys for boarding and/or unboarding in methods `BOARD_TRAIN( )` and `UNBOARD_TRAIN( )`.

Image of the debug screen.



ABAP Debugger(4) (Exclusive)(pdxsasin065_DO3_00)

/IDT/TRAIN_STATION===========… / /IDT/TRAIN_STATION===========… / 13 SY-SUBRC 0

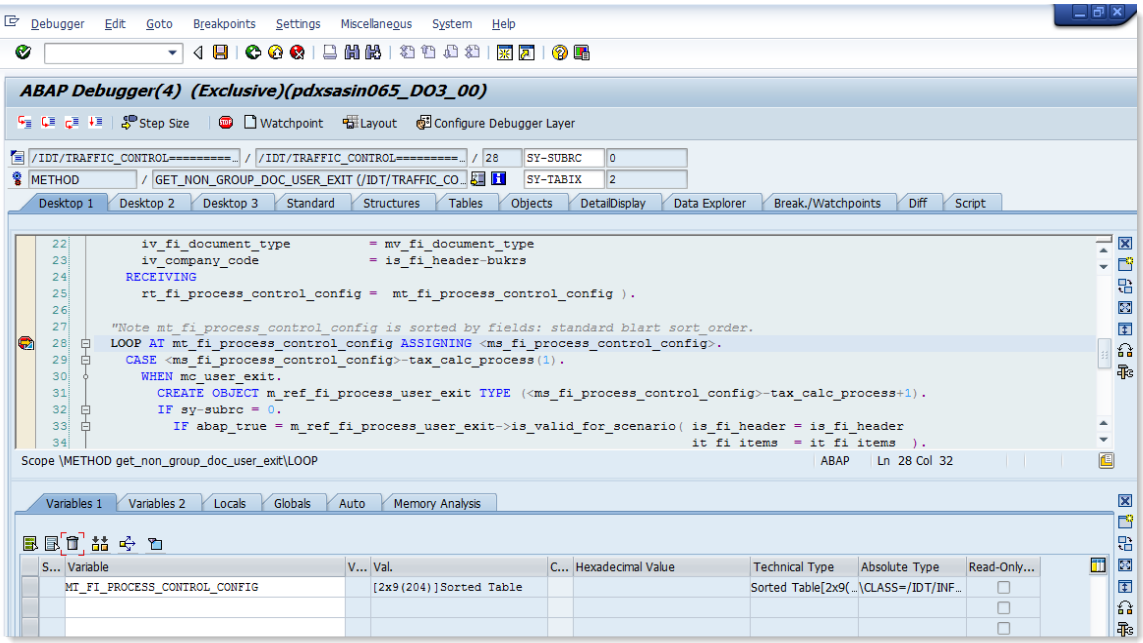
METHOD / BOARD_SEND_UNBOARD_TRAIN (/IDT/TRAIN_STATIO… SY-TABIX 5

```

  CREATE OBJECT m_ref_train
    EXPORTING
      iv_company_code = i_ref_shuttle->get_company_code( ).

  "Get passengers (fields of data) from the request shuttle to the SOAP Train
  board_train(
    EXPORTING
      i_ref_shuttle  = i_ref_shuttle
      i_ref_train    = m_ref_train
    CHANGING
      cs_useful_data = ms_useful_data ).

```

ABAP Ln 13 Col 1

S...	Variable	V...	Val.	C...	Hexadecimal Value	Technical Type	Absolute Type	Read-Only...
	I_REF_SHUTTLE->GT_JOURNEY_RECORDS[]		[3x2(68)]Standard Table			Standard Table[3x…	\TYPE=/IDT/T_JO…	□
								□

To debug the process where an exit is chosen in an FI transaction, put a break-point in the `/IDT/TRAFFIC_CONTROL=>GET_NON_GROUP_DOC_USER_EXIT( )`.



ABAP Debugger(4) (Exclusive)(pdxsasin065_DO3_00)

/IDT/TRAFFIC_CONTROL=========… / /IDT/TRAFFIC_CONTROL=========… / 28 SY-SUBRC 0

METHOD / GET_NON_GROUP_DOC_USER_EXIT (/IDT/TRAFFIC_CO… SY-TABIX 2

```
        iv_fi_document_type          = mv_fi_document_type
        iv_company_code              = is_fi_header-bukrs
      RECEIVING
        rt_fi_process_control_config =  mt_fi_process_control_config ).

    "Note mt_fi_process_control_config is sorted by fields: standard blart sort_order.
    LOOP AT mt_fi_process_control_config ASSIGNING <ms_fi_process_control_config>.
      CASE <ms_fi_process_control_config>-tax_calc_process(1).
        WHEN mc_user_exit.
          CREATE OBJECT m_ref_fi_process_user_exit TYPE (<ms_fi_process_control_config>-tax_calc_process+1).
          IF sy-subrc = 0.
            IF abap_true = m_ref_fi_process_user_exit->is_valid_for_scenario( is_fi_header = is_fi_header
                                                                               it fi items  = it fi items  ).
```

Scope \METHOD get_non_group_doc_user_exit\LOOP ABAP Ln 28 Col 32

S...	Variable	V...	Val.	C...	Hexadecimal Value	Technical Type	Absolute Type	Read-Only...
	MT_FI_PROCESS_CONTROL_CONFIG		[2x9(204)]Sorted Table			Sorted Table[2x9(…	\CLASS=/IDT/INF…	□
								□
								□

OPTIONAL BADI OR FUNCTIONS THAT CAN BE INSTANTIATED

/IDT/BADI_ADJUST_TAX_SUMMATION

This BAdI is used as part of the summarization of line items in table /IDT/V_TAX_SUM_C to be able to add additional logic for summarization and override the configuration for specific documents based on any document characteristic.   This allows the system user to control dynamically the various features for summarization based on need.   Often this would be used on large documents that may hit the 1000 line limit in SAP. A user could with this BAdI control when summarization is used based on the number of lines, the document type, etc.

For our example below we show the code required within the BAdI to turn off summarization on documents if there are less than 100 expense lines in the document:

```
METHOD /idt/adjust_tax_summation~adjust_tax_summation.

DATA : mv_line_count TYPE i,
mt_summarization_fields TYPE /idt/tab_idt_tax_sum_grp.

mt_summarization_fields = it_summarization_fields.

DESCRIBE TABLE it_fi_items LINES mv_line_count.

IF mv_line_count => 100.
"Let config be unchanged
ELSE.
CLEAR mt_summarization_fields.
ENDIF.

et_summarization_fields = mt_summarization_fields.

ENDMETHOD.
```

Special note: For LIV the number of lines will be one off of what is expected because LIV treats the vendor line differently than FB60 does.

/IDT/BADI_ADJUST_PROXY

This BAdI is used to add security to the proxy for HTTPS communication with Determination. The proxy will require a special user name and password to be created in order for the additional security check to work as designed. See section above *WS Security Considerations on the Proxy for a Hosted Environment.* *We have noted this BAdI in this optional section but it is currently part of the standard installation of the system. It is not optionally instantiated; however it is not used if the WS security is not configured. A user may have other security protocol requirements based on their environment. Optional security programming may be done by the user's ABAP team within this BAdI to address these needs.*

ADDING IDT ADDRESS FIELD TO INVOICE LINE ITEM ENTRY SCREENS

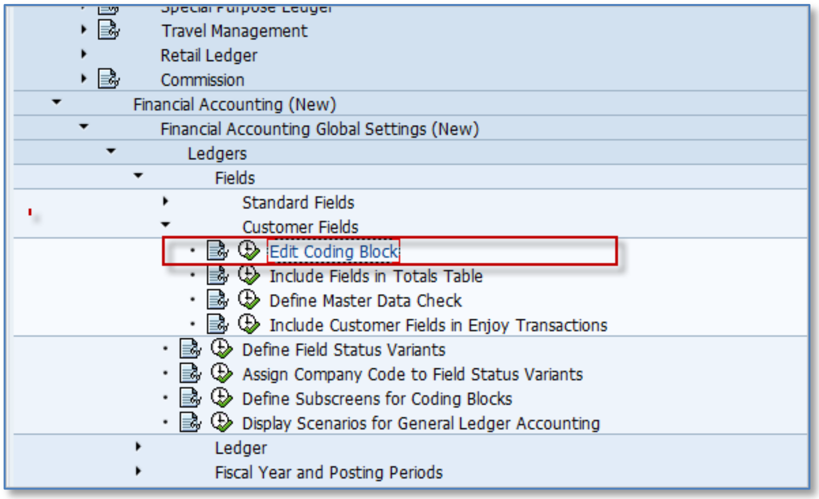
Within the User Guide we discussed a new feature "Changing Ship-To Address at Invoice" where a user could change the default ship to address at time of invoice on transactions FB60, FB65, FB70, FB75, FB01, and MIRO General Ledger tab. The following instructions show you how you can add the new **IDT ADDRESS** field to the line item detail section of the invoice entry. This will save you a step on the FB** transaction rather than having to double click on the line item to get to the more data screen. Instead the new address field can be displayed as one of the columns in the line item entry section of the transaction. For the LIV MIRO transaction this will be a requirement as the transaction does not use the more data tab for additional code block fields. The new address field will have to be displayed in MIRO in the General Ledger tab for detail data entry.

To add the address field to the MIRO PO Reference tab for use on invoice entry there is an entirely different process as this is part of MM rather than FI module and requires a different approach. Section below talks about this process and OSS note to use to add a new tab to the line item entry section of the MIRO transaction.

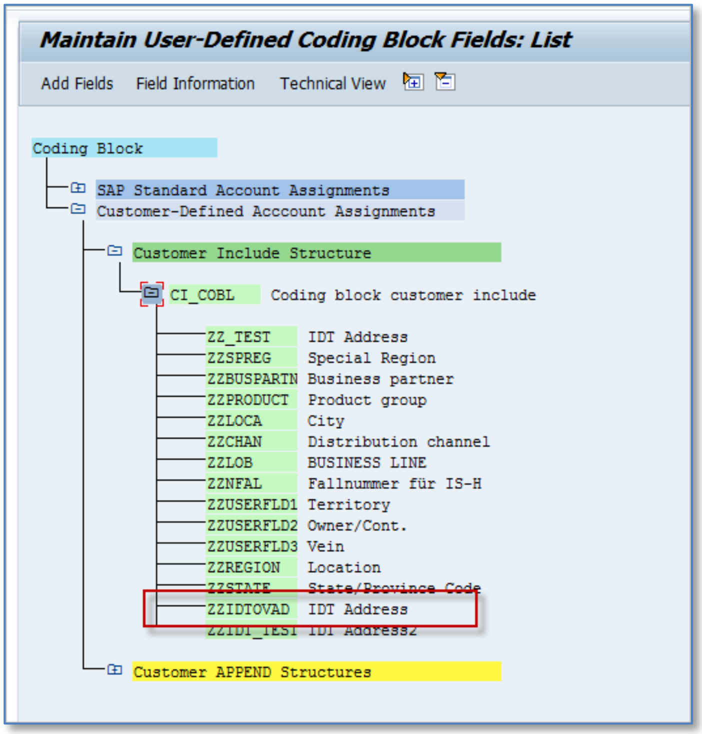
Note that this is not a simple process and will need to be done by an experience ABAP programmer that is familiar with adding custom fields to the code block and screen variants. There are a total of 5 customer fields that are provided by SAP within the coding block. If your company has already used these five then other decisions will need to be made as to your possible options including the use of modifications, substitution of an unused custom field, etc.

1) **Add field to coding block:** Follow steps in "**Edit Coding Block**" instructions. Use field name **ZZIDTOVAD** and data element **ZZIDTOVAD**. Use the expert mode per the instructions on Edit Coding Block.

Transaction: **SPRO** navigate to **> FINANCIAL ACCOUNTING (NEW) > LEDGERS > FIELDS > CUSTOMER FIELDS > EDIT CODING BLOCK**

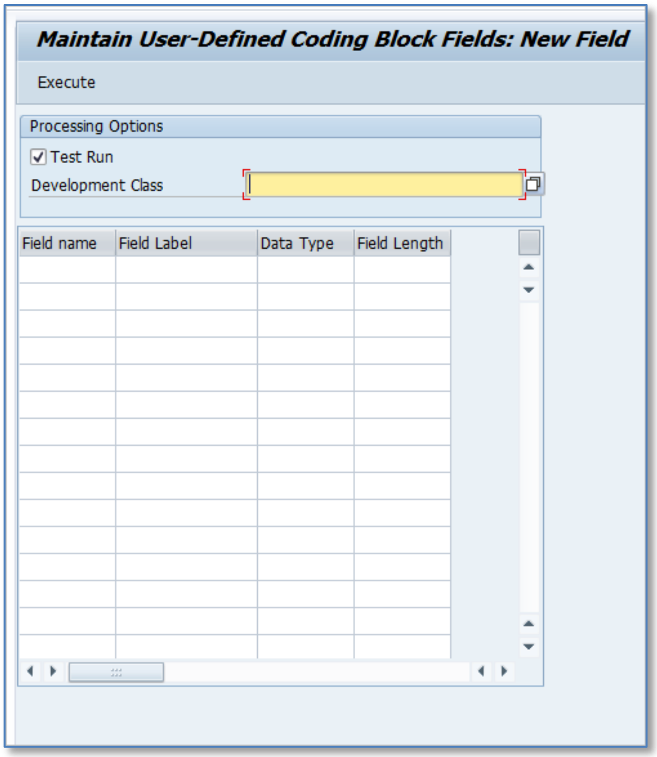

Special Purpose Ledger
Travel Management
Retail Ledger
Commission
Financial Accounting (New)
Financial Accounting Global Settings (New)
Ledgers
Fields
Standard Fields
Customer Fields
Edit Coding Block
Include Fields in Totals Table
Define Master Data Check
Include Customer Fields in Enjoy Transactions
Define Field Status Variants
Assign Company Code to Field Status Variants
Define Subscreens for Coding Blocks
Display Scenarios for General Ledger Accounting
Ledger
Fiscal Year and Posting Periods

Expand menu to get to Customer Include Structure and then follow the expert mode instructions that are provided for this step. Step 2 and 3 of these instructions are already provided by our system transport and can be skipped.



```
Coding Block
  SAP Standard Account Assignments
  Customer-Defined Acccount Assignments
    Customer Include Structure
      CI_COBL     Coding block customer include
        ZZ_TEST     IDT Address
        ZZSPREG     Special Region
        ZZBUSPARTN  Business partner
        ZZPRODUCT   Product group
        ZZLOCA      City
        ZZCHAN      Distribution channel
        ZZLOB       BUSINESS LINE
        ZZNFAL      Fallnummer für IS-H
        ZZUSERFLD1  Territory
        ZZUSERFLD2  Owner/Cont.
        ZZUSERFLD3  Vein
        ZZREGION    Location
        ZZSTATE     State/Province Code
        ZZIDTOVAD   IDT Address
        ZZIDT_TEST  IDT Address2
    Customer APPEND Structures
```

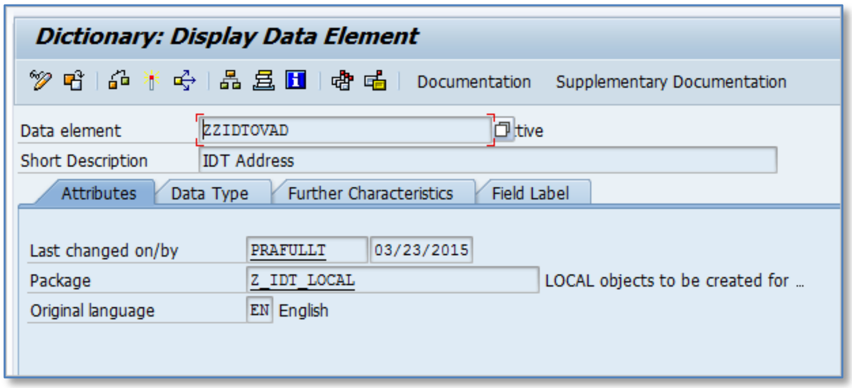
This image shows the Maintain User-Defined Coding Block Fields for a new field.



☑ Test Run

Development Class

- Development class: **(per your system)**
- Field Name: **ZZIDTOVAD**
- Field Label; **IDT Address**
- Data Type: **CHAR**
- Field Length: **10**



Data element ZZIDTOVAD

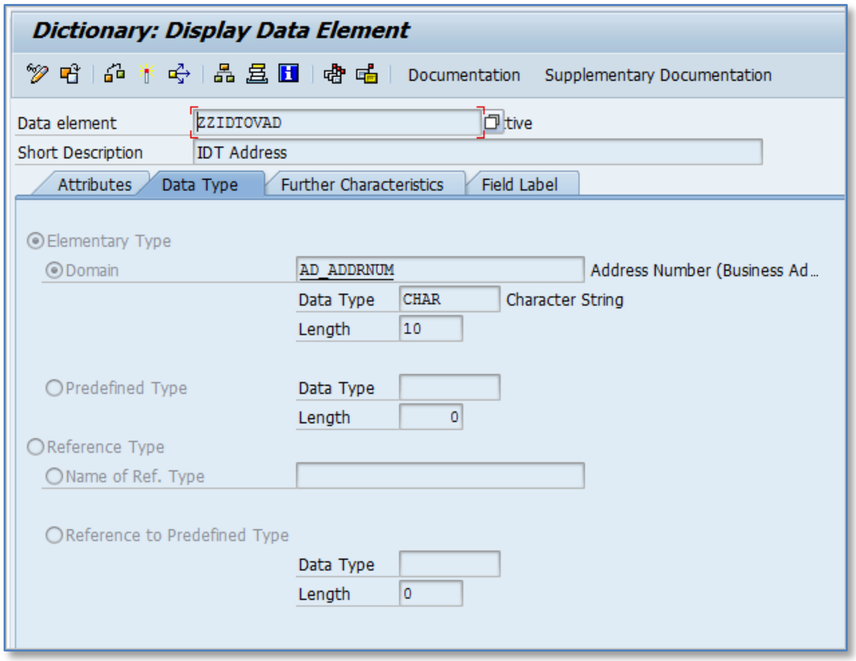
Short Description IDT Address

Last changed on/by PRAFULLT 03/23/2015

Package Z_IDT_LOCAL LOCAL objects to be created for …

Original language EN English

This image shows the Dictionary: Display Data Element.



Dictionary: Display Data Element

Data element: ZZIDTOVAD tive

Short Description: IDT Address

● Elementary Type

● Domain: AD_ADDRNUM Address Number (Business Ad...

Data Type: CHAR Character String

Length: 10

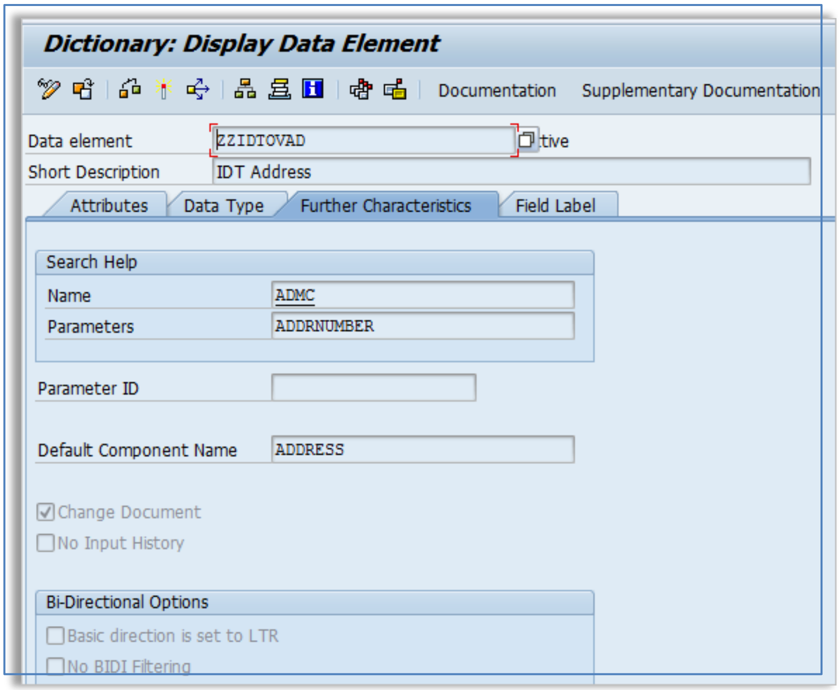
○ Predefined Type Data Type: Length: 0

○ Reference Type

○ Name of Ref. Type:

○ Reference to Predefined Type Data Type: Length: 0

This image shows the Further Characteristics fields.



Dictionary: Display Data Element

Data element: ZZIDTOVAD tive

Short Description: IDT Address

Search Help

Name: ADMC

Parameters: ADDRNUMBER

Parameter ID:

Default Component Name: ADDRESS

☑ Change Document

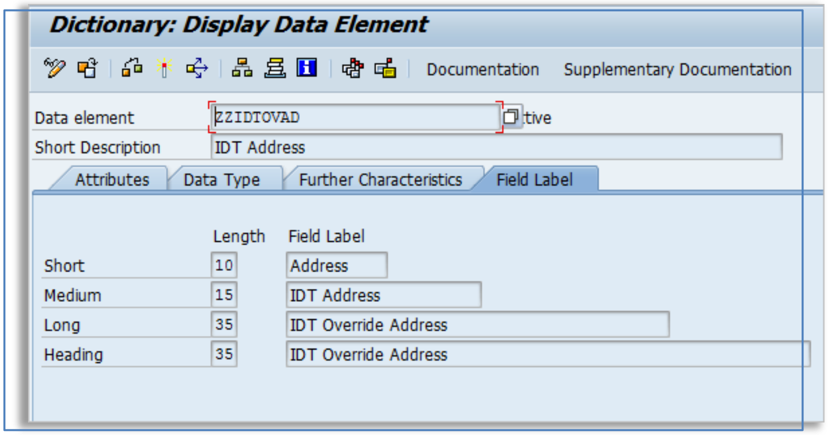
□ No Input History

Bi-Directional Options

□ Basic direction is set to LTR

□ No BIDI Filtering

2) In “**Include Customer Fields in Enjoy Transactions**”, select your screen variant and assign field **ZZIDTOVAD** to a number 1 to 5. (This example **links ZZIDTOVAD** to **ACGL_ITEM_GEN-GEN_CHAR2.)** Your variant name will be different. Screen shots below are just an example.



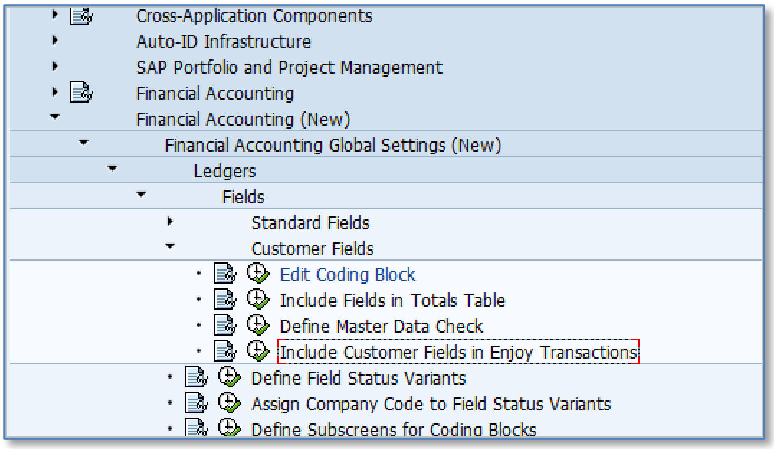
Dictionary: Display Data Element

Data element ZZIDTOVAD tive

Short Description IDT Address

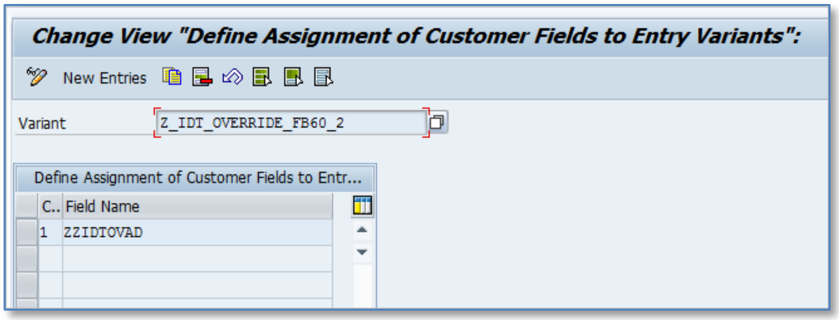
	Length	Field Label
Short	10	Address
Medium	15	IDT Address
Long	35	IDT Override Address
Heading	35	IDT Override Address

Transaction: **SPRO** navigate to **> FINANCIAL ACCOUNTING (NEW) > LEDGERS > FIELDS > CUSTOMER FIELDS >INCLUDE CUSTOMER FIELDS IN ENJOY TRANSACTIONS**



- Cross-Application Components
- Auto-ID Infrastructure
- SAP Portfolio and Project Management
- Financial Accounting
- Financial Accounting (New)
  - Financial Accounting Global Settings (New)
    - Ledgers
      - Fields
        - Standard Fields
        - Customer Fields
          - Edit Coding Block
          - Include Fields in Totals Table
          - Define Master Data Check
          - Include Customer Fields in Enjoy Transactions
        - Define Field Status Variants
        - Assign Company Code to Field Status Variants
        - Define Subscreens for Coding Blocks

Your variant name will be different.



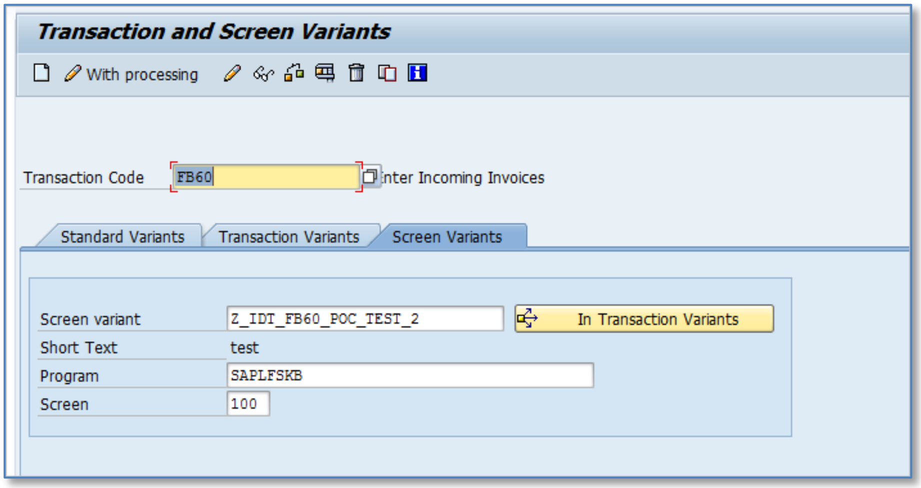
Change View "Define Assignment of Customer Fields to Entry Variants":

Variant: Z_IDT_OVERRIDE_FB60_2

Define Assignment of Customer Fields to Entr...

C..	Field Name
1	ZZIDTOVAD

3) You may need to use transaction **SHD0** to make the new field visible to the transaction.

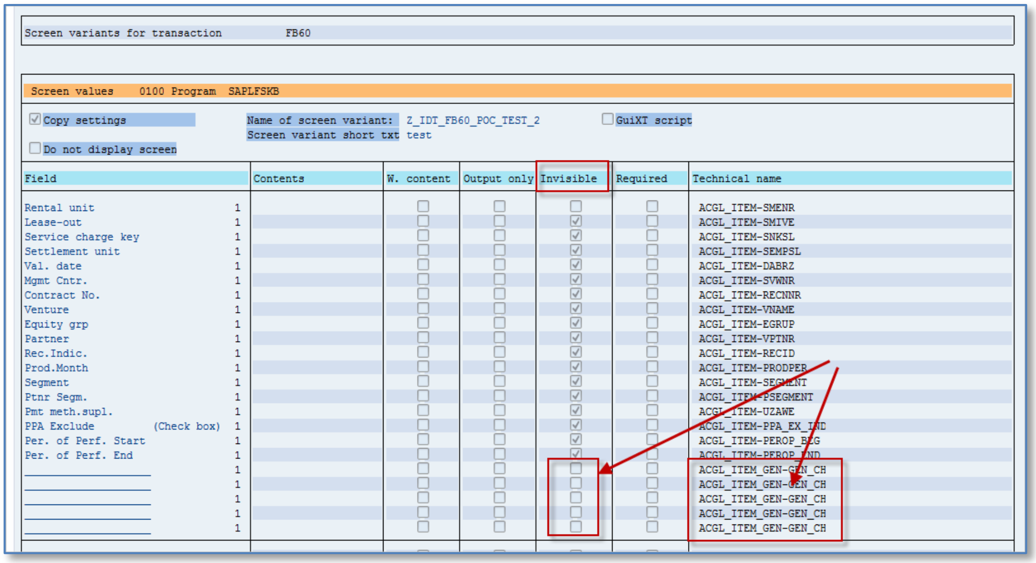


Transaction and Screen Variants

Transaction Code: FB60 Enter Incoming Invoices

Screen variant: Z_IDT_FB60_POC_TEST_2
Short Text: test
Program: SAPLFSKB
Screen: 100

Once inside SHD0 on the screen variants tab you will want to make sure that the lines at the bottom for **ACGL_ITEM_GEN_GEN_CH** are not checked as invisible.



Screen variants for transaction FB60

Screen values 0100 Program SAPLFSKB

☑ Copy settings

□ Do not display screen

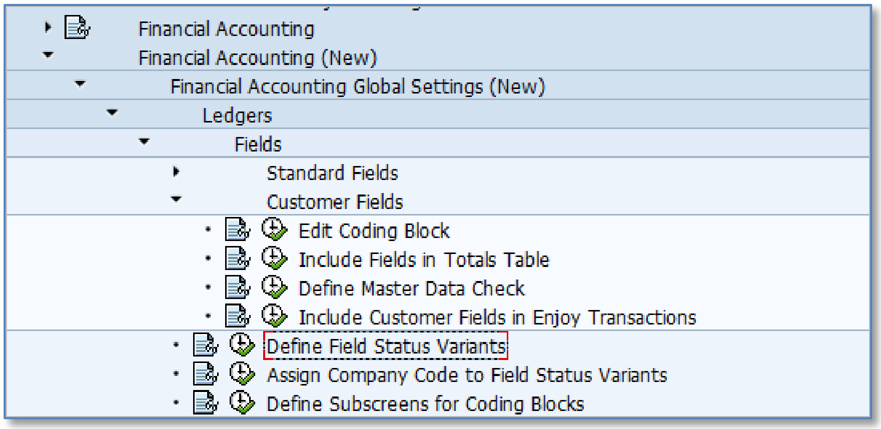
Name of screen variant: Z_IDT_FB60_POC_TEST_2

Screen variant short txt test

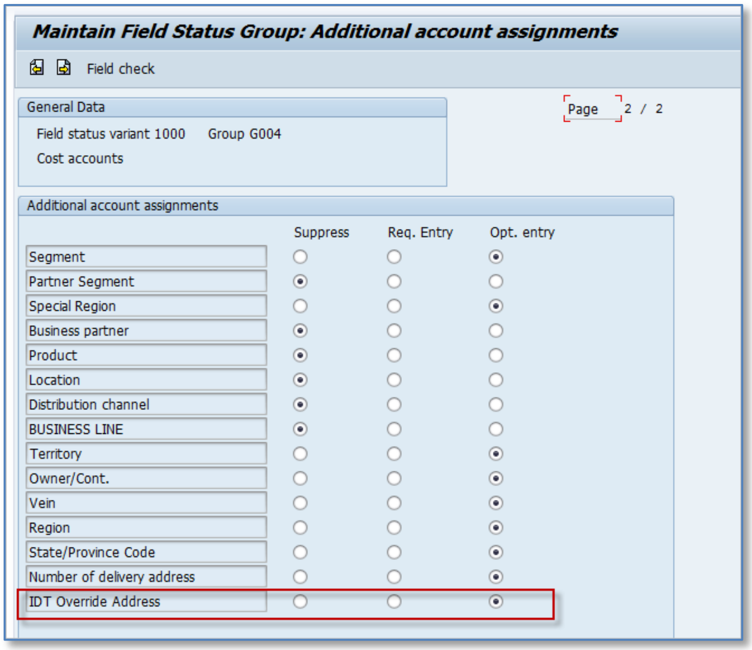
□ GuiXT script

Field		Contents	W. content	Output only	Invisible	Required	Technical name
Rental unit	1		□	□	□	□	ACGL_ITEM-SMENR
Lease-out	1		□	□	☑	□	ACGL_ITEM-SMIVE
Service charge key	1		□	□	☑	□	ACGL_ITEM-SNKSL
Settlement unit	1		□	□	☑	□	ACGL_ITEM-SEMPSL
Val. date	1		□	□	☑	□	ACGL_ITEM-DABRZ
Mgmt Cntr.	1		□	□	☑	□	ACGL_ITEM-SVWNR
Contract No.	1		□	□	☑	□	ACGL_ITEM-RECNNR
Venture	1		□	□	☑	□	ACGL_ITEM-VNAME
Equity grp	1		□	□	☑	□	ACGL_ITEM-EGRUP
Partner	1		□	□	☑	□	ACGL_ITEM-VPTNR
Rec.Indic.	1		□	□	☑	□	ACGL_ITEM-RECID
Prod.Month	1		□	□	☑	□	ACGL_ITEM-PRODPER
Segment	1		□	□	☑	□	ACGL_ITEM-SEGMENT
Ptnr Segm.	1		□	□	☑	□	ACGL_ITEM-PSEGMENT
Pmt meth.supl.	1		□	□	☑	□	ACGL_ITEM-UZAWE
PPA Exclude (Check box)	1		□	□	☑	□	ACGL_ITEM-PPA_EX_IND
Per. of Perf. Start	1		□	□	☑	□	ACGL_ITEM-PEROP_BEG
Per. of Perf. End	1		□	□	☑	□	ACGL_ITEM-PEROP_END
	1		□	□	□	□	ACGL_ITEM_GEN-GEN_CH
	1		□	□	□	□	ACGL_ITEM_GEN-GEN_CH
	1		□	□	□	□	ACGL_ITEM_GEN-GEN_CH
	1		□	□	□	□	ACGL_ITEM_GEN-GEN_CH
	1		□	□	□	□	ACGL_ITEM_GEN-GEN_CH

4) Use “**Define Field Status Variants**” to make “**IDT Override Address**” field editable for relevant “Field status” and “field status group”


Financial Accounting
Financial Accounting (New)
Financial Accounting Global Settings (New)
Ledgers
Fields
Standard Fields
Customer Fields
Edit Coding Block
Include Fields in Totals Table
Define Master Data Check
Include Customer Fields in Enjoy Transactions
Define Field Status Variants
Assign Company Code to Field Status Variants
Define Subscreens for Coding Blocks

The image shows the Maintain Field Status Group: Additional account assignments.



Maintain Field Status Group: Additional account assignments

Field check

Page 2 / 2

General Data

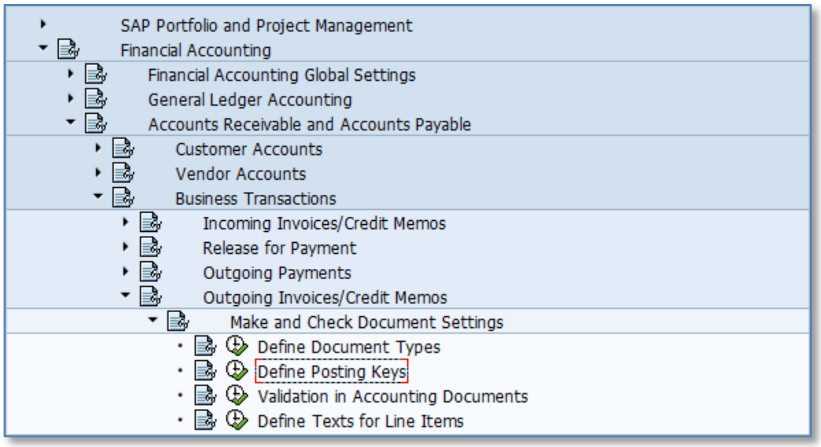
Field status variant 1000 Group G004

Cost accounts

Additional account assignments

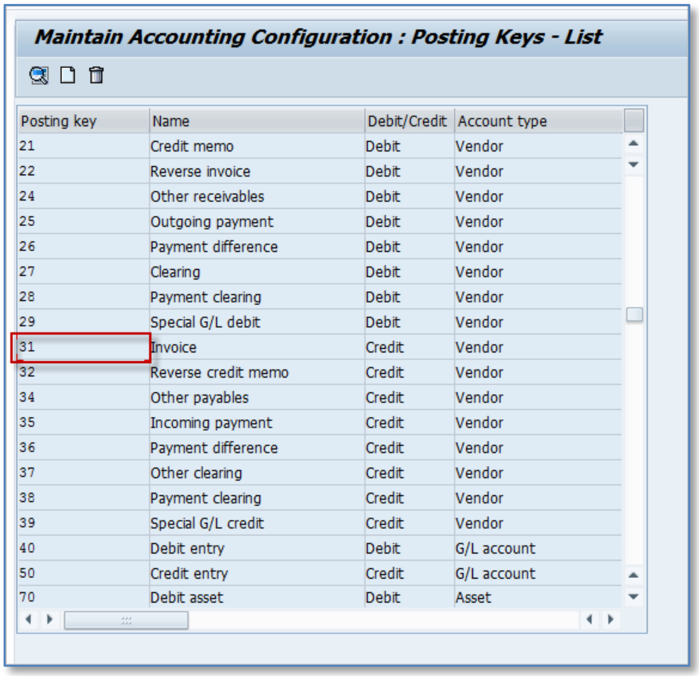
	Suppress	Req. Entry	Opt. entry
Segment	○	○	●
Partner Segment	●	○	○
Special Region	○	○	●
Business partner	●	○	○
Product	●	○	○
Location	●	○	○
Distribution channel	●	○	○
BUSINESS LINE	●	○	○
Territory	○	○	●
Owner/Cont.	○	○	●
Vein	○	○	●
Region	○	○	●
State/Province Code	○	○	●
Number of delivery address	○	○	●
IDT Override Address	○	○	●

5) Use “**Define Posting Keys**” to make “**IDT Override Address**” field editable for relevant “Posting Keys”



- SAP Portfolio and Project Management
- Financial Accounting
  - Financial Accounting Global Settings
  - General Ledger Accounting
  - Accounts Receivable and Accounts Payable
    - Customer Accounts
    - Vendor Accounts
    - Business Transactions
      - Incoming Invoices/Credit Memos
      - Release for Payment
      - Outgoing Payments
      - Outgoing Invoices/Credit Memos
        - Make and Check Document Settings
          - Define Document Types
          - Define Posting Keys
          - Validation in Accounting Documents
          - Define Texts for Line Items

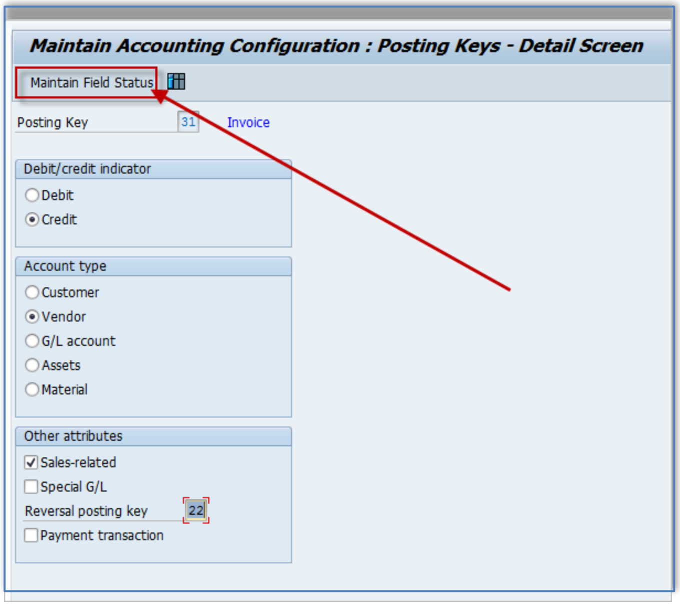
This image shows the Posting Keys list.



Maintain Accounting Configuration : Posting Keys - List

Posting key	Name	Debit/Credit	Account type
21	Credit memo	Debit	Vendor
22	Reverse invoice	Debit	Vendor
24	Other receivables	Debit	Vendor
25	Outgoing payment	Debit	Vendor
26	Payment difference	Debit	Vendor
27	Clearing	Debit	Vendor
28	Payment clearing	Debit	Vendor
29	Special G/L debit	Debit	Vendor
31	Invoice	Credit	Vendor
32	Reverse credit memo	Credit	Vendor
34	Other payables	Credit	Vendor
35	Incoming payment	Credit	Vendor
36	Payment difference	Credit	Vendor
37	Other clearing	Credit	Vendor
38	Payment clearing	Credit	Vendor
39	Special G/L credit	Credit	Vendor
40	Debit entry	Debit	G/L account
50	Credit entry	Credit	G/L account
70	Debit asset	Debit	Asset

This is an image of the Posting Keys - Detail screen



Maintain Accounting Configuration : Posting Keys - Detail Screen

Posting Key 31 Invoice

Debit/credit indicator

○ Debit
● Credit

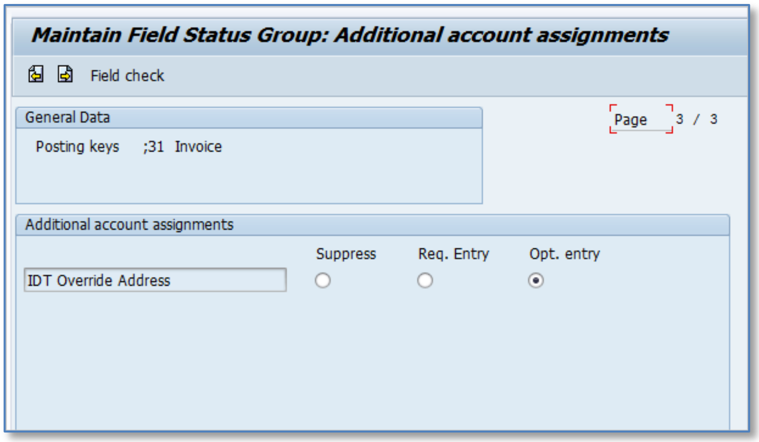
Account type

○ Customer
● Vendor
○ G/L account
○ Assets
○ Material

Other attributes

☑ Sales-related
□ Special G/L
Reversal posting key 22
□ Payment transaction

This is an image of the Additional account assignments dialogue.



Maintain Field Status Group: Additional account assignments

General Data

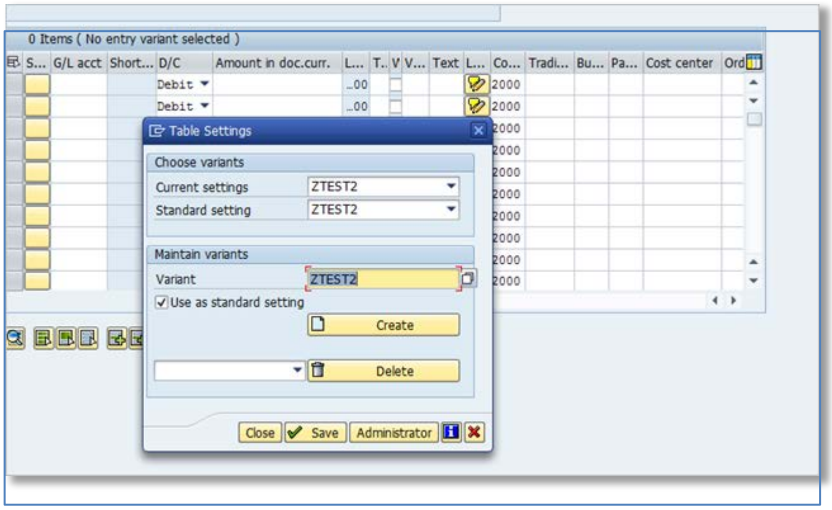
Posting keys ;31 Invoice

Page 3 / 3

Additional account assignments

	Suppress	Req. Entry	Opt. entry
IDT Override Address	○	○	●

6) In transaction **FB60**, you may want to change the table control configuration to show the field better.



0 Items (No entry variant selected)

S... G/L acct Short... D/C Amount in doc.curr. L... T.. V V... Text L... Co... Tradi... Bu... Pa... Cost center Ord
Debit
..00
2000

Table Settings

Choose variants

Current settings: ZTEST2

Standard setting: ZTEST2

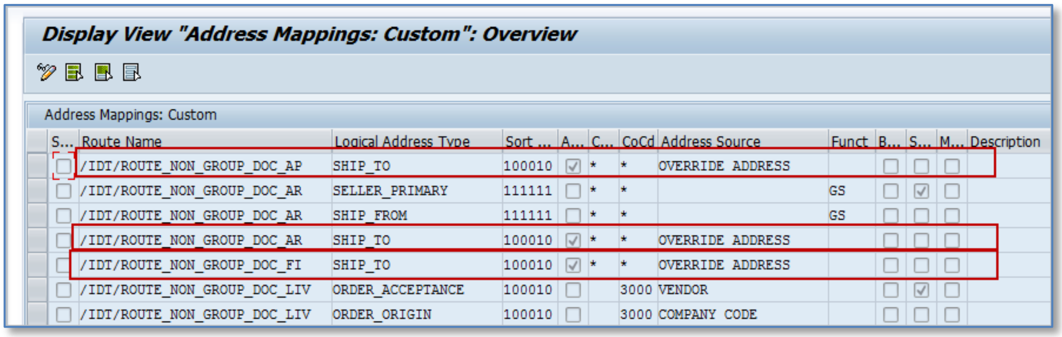
Maintain variants

Variant: ZTEST2

☑ Use as standard setting

Create
Delete
Close
Save
Administrator

7) In transaction **/IDT/ADDRESS_MAPPING**, add a line like this. (If you used field name **ZZIDTOVAD** and data element **ZZIDTOVAD** then address source "**OVERRIDE ADDRESS**" should work automatically.



Display View "Address Mappings: Custom": Overview

Address Mappings: Custom

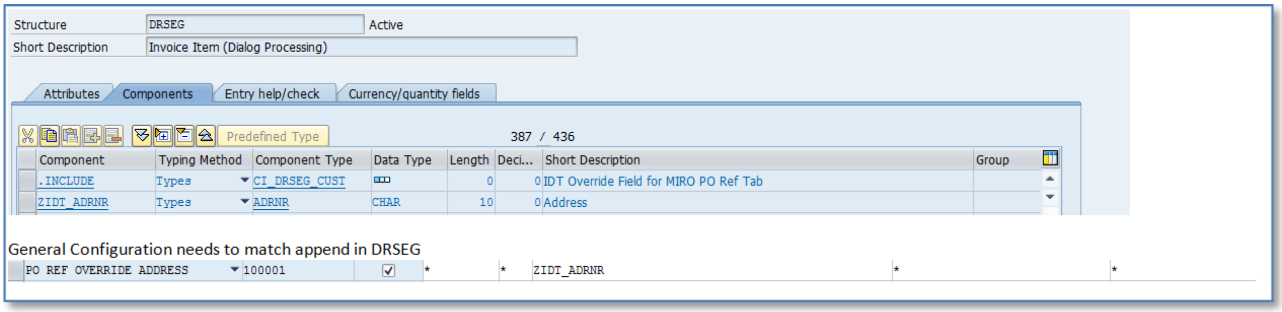
S...	Route Name	Logical Address Type	Sort ...	A...	C...	CoCd	Address Source	Funct	B...	S...	M...	Description
□	/IDT/ROUTE_NON_GROUP_DOC_AP	SHIP_TO	100010	☑	*	*	OVERRIDE ADDRESS		□	□	□	
□	/IDT/ROUTE_NON_GROUP_DOC_AR	SELLER_PRIMARY	111111	□	*	*		GS	□	☑	□	
□	/IDT/ROUTE_NON_GROUP_DOC_AR	SHIP_FROM	111111	□	*	*		GS	□	□	□	
□	/IDT/ROUTE_NON_GROUP_DOC_AR	SHIP_TO	100010	☑	*	*	OVERRIDE ADDRESS		□	□	□	
□	/IDT/ROUTE_NON_GROUP_DOC_FI	SHIP_TO	100010	☑	*	*	OVERRIDE ADDRESS		□	□	□	
□	/IDT/ROUTE_NON_GROUP_DOC_LIV	ORDER_ACCEPTANCE	100010	□		3000	VENDOR		□	☑	□	
□	/IDT/ROUTE_NON_GROUP_DOC_LIV	ORDER_ORIGIN	100010	□		3000	COMPANY CODE		□	□	□	

Note that in this configuration set up we have addressed the set-up of a ship to address option to change the ship to at time of invoice. This same process can also be implemented with the ship from address if desired.

ADDING THE ZZIDTOVAD FIELD TO THE MIRO PO REFERENCE TAB

If you wish to use the IDT Address field within the MIRO invoice PO Reference tab in order to change the ship to address at time of invoice, there is an entirely different process than what is outlined above due to the fact that the PO Reference tab on the MIRO document is tied to the MM processes rather than the G/L tab which is tied to FI module processes. The two tabs within MIRO work differently. System users have several options before them as to how to add the field to the PO Reference tab depending on their IT policies and programming procedures used. Instructions on how to do this would be cumbersome to document in entirety here. We recommend that you refer to SAP OSS note number 1156325 as this is the recommend process by SAP in order to add a new custom tab to the MIRO screen using **BAdI MRM_ITEM_CUSTFIELDS.** The instructions also refer to several other LIV BAdI that can be used and recommended procedures to implement.

You will have to also append the **DRSEG** table to add the new field to this table. The following two screens below will aid you in this process. The following image shows the Components screen.



Structure DRSEG Active
Short Description Invoice Item (Dialog Processing)

Component	Typing Method	Component Type	Data Type	Length	Deci...	Short Description	Group
.INCLUDE	Types	CI_DRSEG_CUST		0	0	IDT Override Field for MIRO PO Ref Tab	
ZIDT_ADRNR	Types	ADRNR	CHAR	10	0	Address	

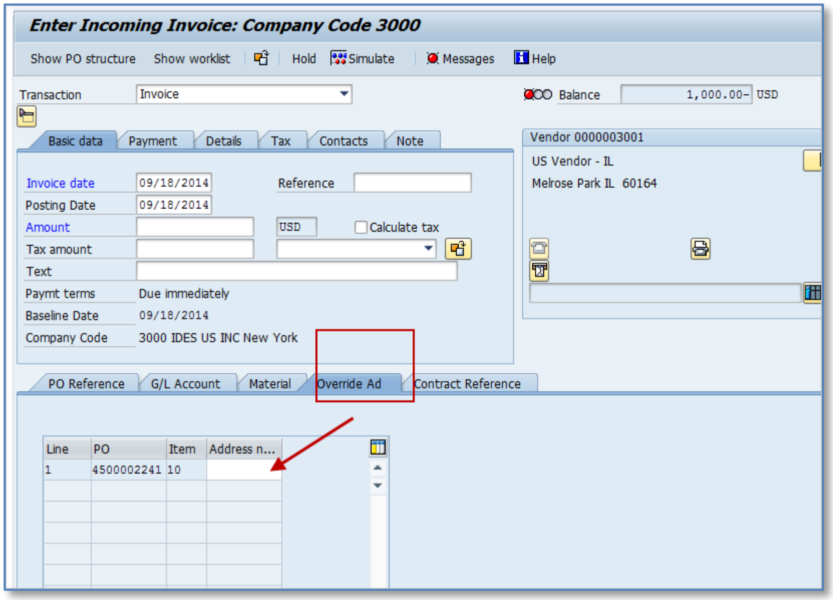
General Configuration needs to match append in DRSEG

PO REF OVERRIDE ADDRESS	100001	☑	*	*	ZIDT_ADRNR	*	*

You will need to append the table with the new field name along with adding this line of configuration to the General Configuration table using transaction **/IDT/GEN_CONFIG_VALS**.

After following this recommend procedure by SAP you will have an additional tab on the LIV line item entry screen that can be titled as desired. We have added the new custom tab in the following example which has a new tab labeled “Override Ad”.

On this tab you can specify the line item on the PO and add an alternate address number to override the ship to at time of payment.



Enter Incoming Invoice: Company Code 3000

Transaction: Invoice
Balance: 1,000.00- USD

Invoice date: 09/18/2014
Reference:
Posting Date: 09/18/2014
Amount: USD
□ Calculate tax
Tax amount:
Text:
Paymt terms: Due immediately
Baseline Date: 09/18/2014
Company Code: 3000 IDES US INC New York

Vendor 0000003001
US Vendor - IL
Melrose Park IL 60164

Line	PO	Item	Address n...
1	4500002241	10	

Note that in this configuration set up we have addressed the set-up of a ship to address option to change the ship to at time of invoice. This same process can also be implemented with the ship from address if desired.

ADDING ADDRESS FIELD TO UNPLANNED DELIVERY FUNCTION IN MIRO DETAILS TAB

As in this prior section we noted in the User Guide details about the use of a new address field within the Details Tab of the MIRO transaction for use with Unplanned Delivery Charges (UDC). This new address field is optional and can be added by the system user via the instructions listed below.

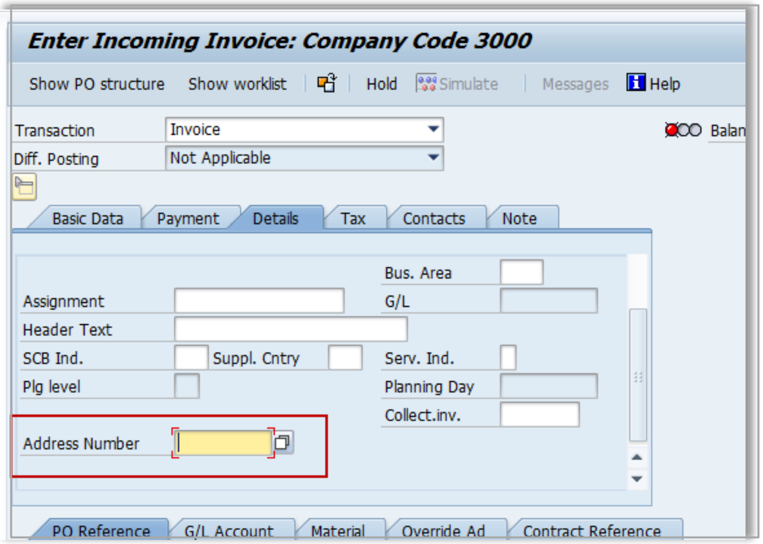
With Integration release version 6.4.0.0, we are supporting tax calculation on UDC entered at the MIRO details tab. If UDC is entered at the details tab (header level), it can be created as a new line addition to the P.O. lines and G/L lines to a separate account number, or it can be split into PO lines by using standard configuration within SAP to set the function of G/L posting for UDC charges.

The system will apply the address of the header ship-to unless overridden by line items ship-to addresses. If the system is configured to use a separate G/L account for posting of the unplanned delivery cost, then the user has the additional option of overriding the header level ship to address with a separate address number that is used in a custom field within the details tab. Below instructions show how to add this optional field to the details tab for this purpose. If the user elects to configure the unplanned delivery charges based on the various line items on the order then this field will not be used and the line item ship to addresses will prevail within the standard SAP allocation logic.

MIRO details tab needs to be enhanced to provide ship-to address number as a custom field for entry. See example below:

Note that this is not a simple process and will need to be done by an experience ABAP programmer that is familiar with adding custom fields to the code block and screen variants.

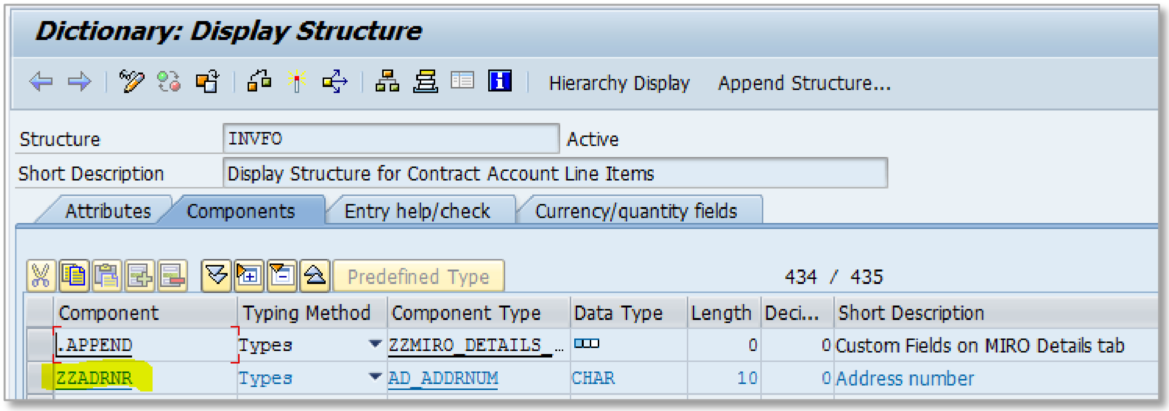
Notice that in this image the new Address Number field including a search function is added at the bottom of the details tab screen. One must scroll down using the right scroll bar to the bottom of the tab to view and input an address number for this function. The field is not apparent at first view of the tab without scrolling to the bottom.



Transaction: Invoice

Diff. Posting: Not Applicable

1) Enhance standard structures by adding the new field through append structure shown in the following image.
INVFO, RBKP, RBKP_V, ACMM_VENDOR_COMP.



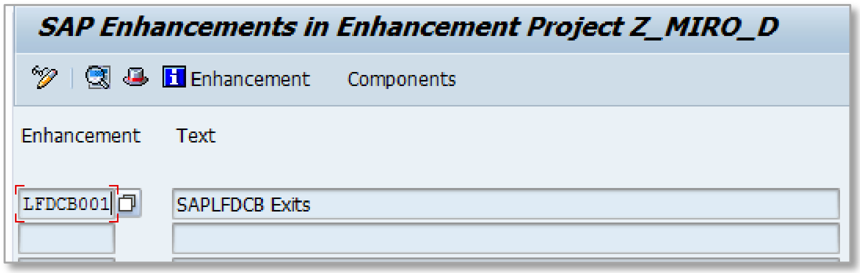
Structure: INVFO Active

Short Description: Display Structure for Contract Account Line Items

434 / 435

Component	Typing Method	Component Type	Data Type	Length	Deci...	Short Description
.APPEND	Types	ZZMIRO_DETAILS_...		0	0	Custom Fields on MIRO Details tab
ZZADRNR	Types	AD_ADDRNUM	CHAR	10	0	Address number

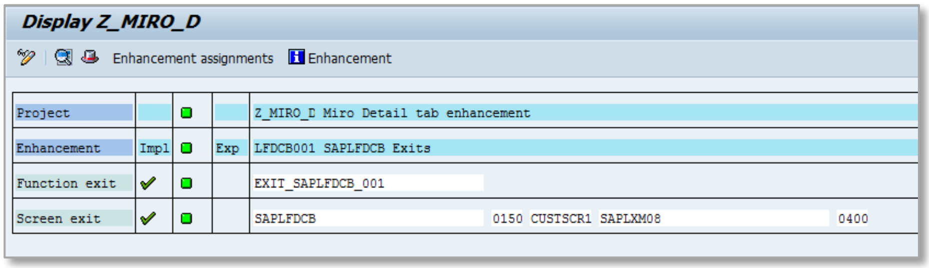
2) User exit LFDCB001 to enhance Details tab screen to add new field for address.



SAP Enhancements in Enhancement Project Z_MIRO_D

Enhancement	Text
LFDCB001	SAPLFDCB Exits

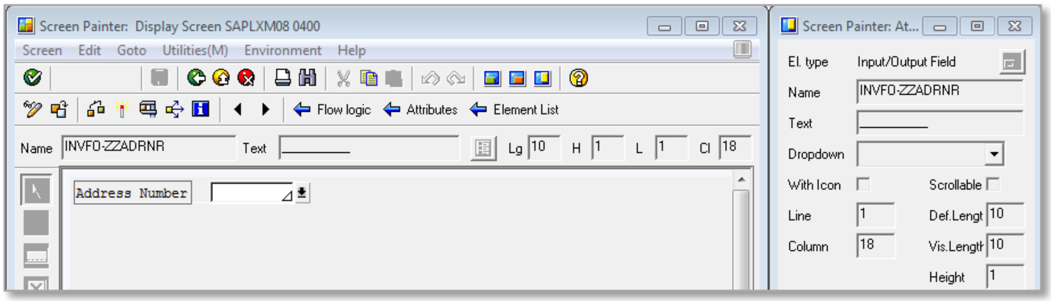
3) Create a Subscreen SAPLXM08-0400.



Display Z_MIRO_D

Project		🟩		Z_MIRO_D Miro Detail tab enhancement
Enhancement	Impl	🟩	Exp	LFDCB001 SAPLFDCB Exits
Function exit	✓	🟩		EXIT_SAPLFDCB_001
Screen exit	✓	🟩		SAPLFDCB 0150 CUSTSCR1 SAPLXM08 0400

4) Put address field on the screen.

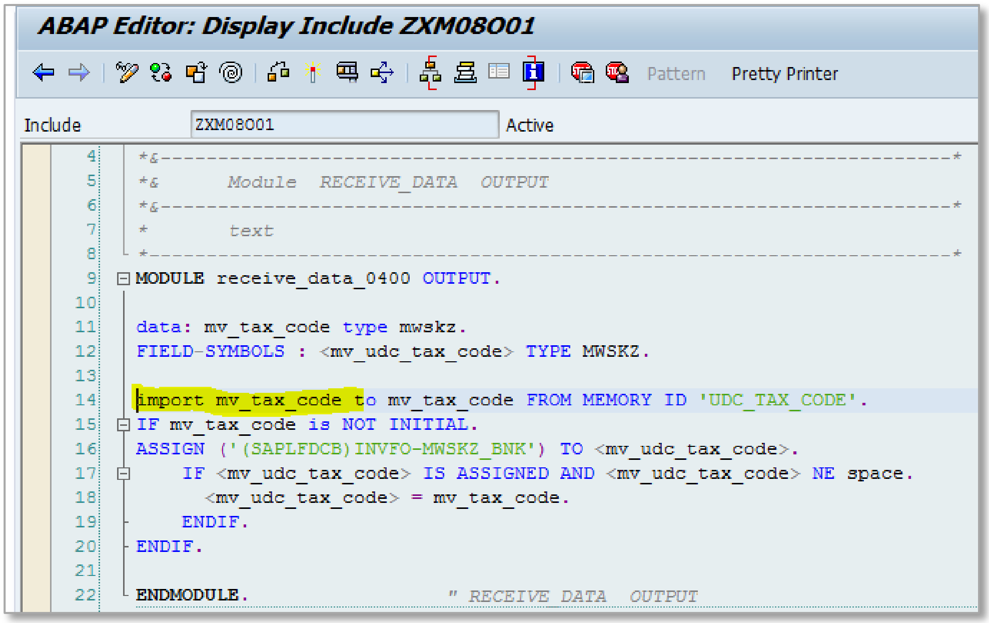


Name INVFO-ZZADRNR Text Lg 10 H 1 L 1 Cl 18

El. type Input/Output Field
Name INVFO-ZZADRNR
Text
Dropdown
With Icon □ Scrollable □
Line 1 Def.Lengt 10
Column 18 Vis.Lengtl 10
Height 1

5) In the PBO of this screen below import statement is very useful as this is required to display target tax code on the MIRO details tab screen.

This image shows the dialogue Display Include ZXM08001

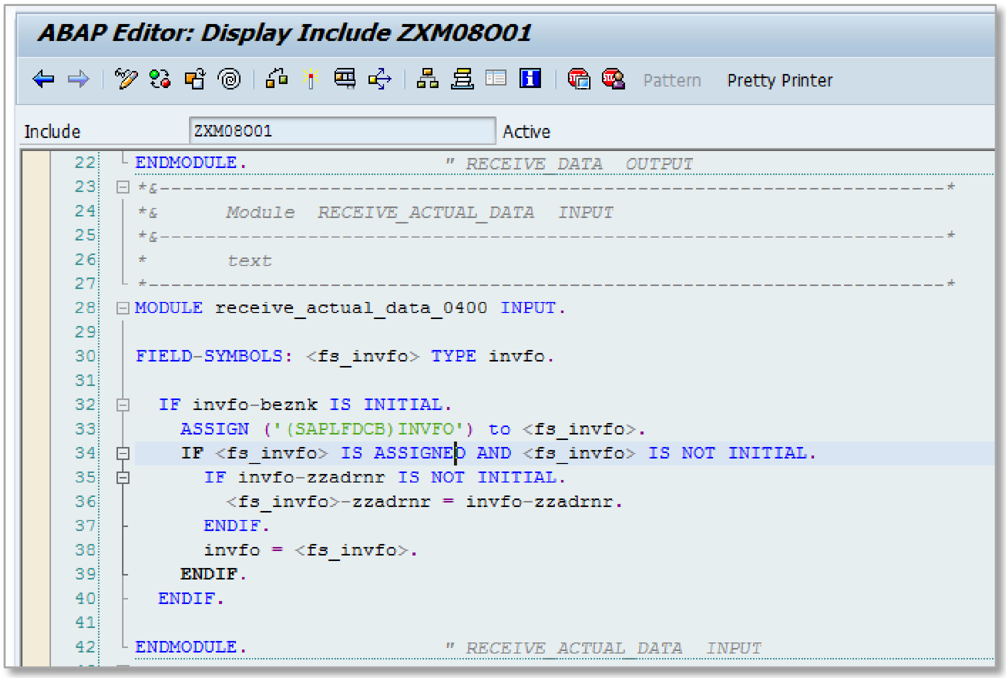


ABAP Editor: Display Include ZXM08001

Include ZXM08001 Active

```
*&---------------------------------------------------------------------*
*&      Module  RECEIVE_DATA  OUTPUT
*&---------------------------------------------------------------------*
*       text
*----------------------------------------------------------------------*
MODULE receive_data_0400 OUTPUT.

data: mv_tax_code type mwskz.
FIELD-SYMBOLS : <mv_udc_tax_code> TYPE MWSKZ.

import mv_tax_code to mv_tax_code FROM MEMORY ID 'UDC_TAX_CODE'.
IF mv_tax_code is NOT INITIAL.
ASSIGN ('(SAPLFDCB)INVFO-MWSKZ_BNK') TO <mv_udc_tax_code>.
    IF <mv_udc_tax_code> IS ASSIGNED AND <mv_udc_tax_code> NE space.
      <mv_udc_tax_code> = mv_tax_code.
    ENDIF.
ENDIF.

ENDMODULE.                 " RECEIVE_DATA  OUTPUT
```

6) In the PAI method pass address number.

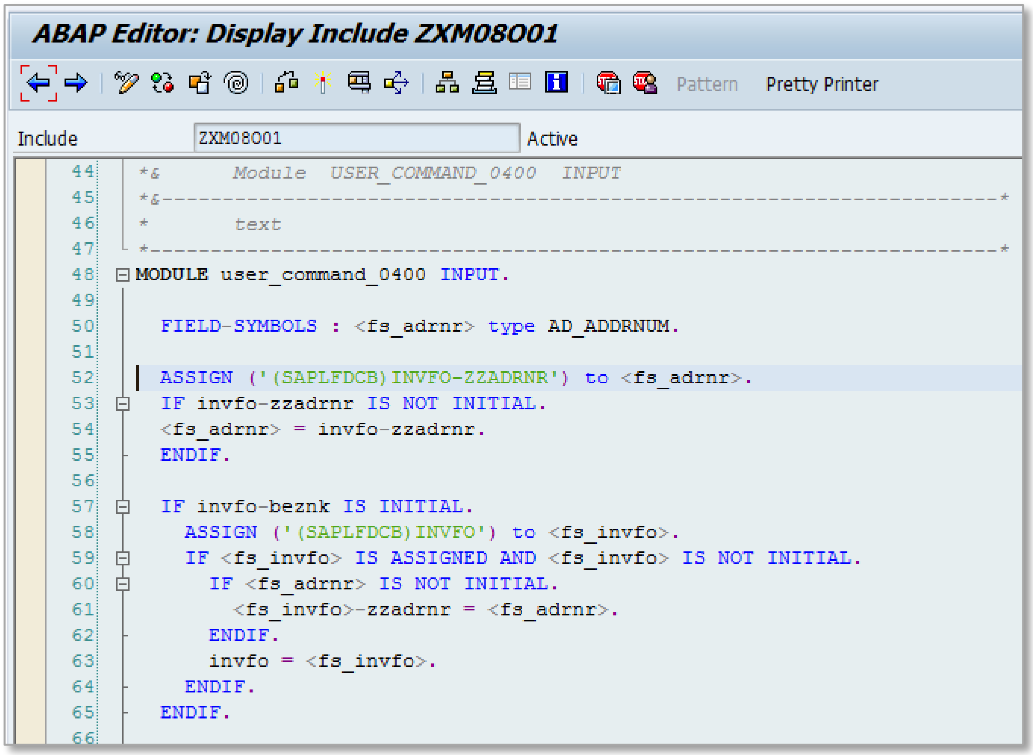


ABAP Editor: Display Include ZXM08001

Include ZXM08001 Active

```
ENDMODULE.                 " RECEIVE_DATA  OUTPUT
*&---------------------------------------------------------------------*
*&      Module  RECEIVE_ACTUAL_DATA  INPUT
*&---------------------------------------------------------------------*
*       text
*----------------------------------------------------------------------*
MODULE receive_actual_data_0400 INPUT.

FIELD-SYMBOLS: <fs_invfo> TYPE invfo.

  IF invfo-beznk IS INITIAL.
    ASSIGN ('(SAPLFDCB)INVFO') to <fs_invfo>.
    IF <fs_invfo> IS ASSIGNED AND <fs_invfo> IS NOT INITIAL.
      IF invfo-zzadrnr IS NOT INITIAL.
        <fs_invfo>-zzadrnr = invfo-zzadrnr.
      ENDIF.
      invfo = <fs_invfo>.
    ENDIF.
  ENDIF.

ENDMODULE.                 " RECEIVE_ACTUAL_DATA  INPUT
```

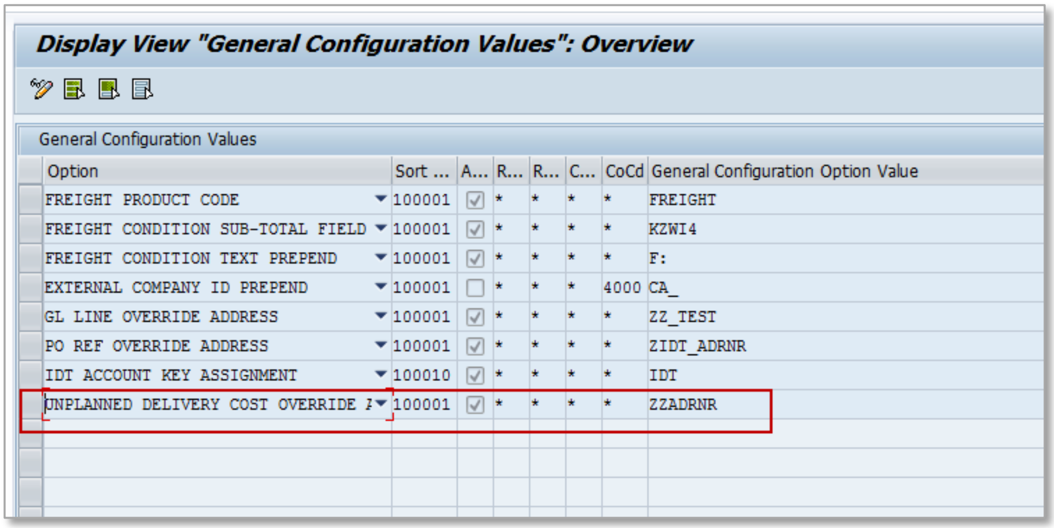
7) Put below code in user command module.



```
*&       Module  USER_COMMAND_0400  INPUT
*&---------------------------------------------------------------------*
*        text
*----------------------------------------------------------------------*
MODULE user_command_0400 INPUT.

  FIELD-SYMBOLS : <fs_adrnr> type AD_ADDRNUM.

  ASSIGN ('(SAPLFDCB)INVFO-ZZADRNR') to <fs_adrnr>.
  IF invfo-zzadrnr IS NOT INITIAL.
  <fs_adrnr> = invfo-zzadrnr.
  ENDIF.

  IF invfo-beznk IS INITIAL.
    ASSIGN ('(SAPLFDCB)INVFO') to <fs_invfo>.
    IF <fs_invfo> IS ASSIGNED AND <fs_invfo> IS NOT INITIAL.
      IF <fs_adrnr> IS NOT INITIAL.
        <fs_invfo>-zzadrnr = <fs_adrnr>.
      ENDIF.
      invfo = <fs_invfo>.
    ENDIF.
  ENDIF.
```

Even if business does not need to have a custom address number on MIRO details tab, above enhancement is required to change tax code to target tax code on details tab. This is performed by the code mentioned in PBO module of above screen enhancement.

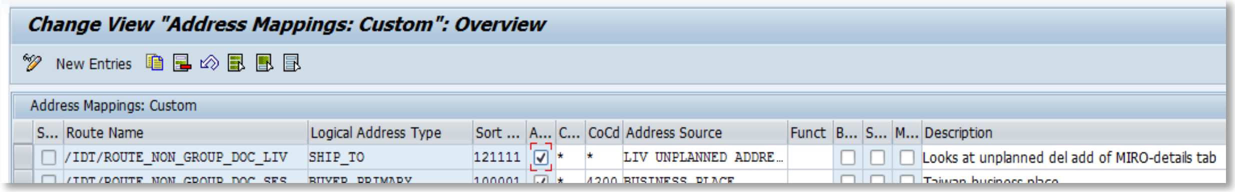
8) If custom address field is added through above screen enhancement then the field name should be configured in the configuration table through transaction /IDT/GEN_CONFIG_VALS.



General Configuration Values

Option	Sort ...	A...	R...	R...	C...	CoCd	General Configuration Option Value
FREIGHT PRODUCT CODE	100001	☑	*	*	*	*	FREIGHT
FREIGHT CONDITION SUB-TOTAL FIELD	100001	☑	*	*	*	*	KZWI4
FREIGHT CONDITION TEXT PREPEND	100001	☑	*	*	*	*	F:
EXTERNAL COMPANY ID PREPEND	100001	☐	*	*	*	4000	CA_
GL LINE OVERRIDE ADDRESS	100001	☑	*	*	*	*	ZZ_TEST
PO REF OVERRIDE ADDRESS	100001	☑	*	*	*	*	ZIDT_ADRNR
IDT ACCOUNT KEY ASSIGNMENT	100010	☑	*	*	*	*	IDT
UNPLANNED DELIVERY COST OVERRIDE A	100001	☑	*	*	*	*	ZZADRNR

If business needs to have separate ship-to address for UDC then global next can support a ship to address to be populated by using below configuration in the custom view of the address mapping table.



Change View "Address Mappings: Custom": Overview

Address Mappings: Custom

S...	Route Name	Logical Address Type	Sort ...	A...	C...	CoCd	Address Source	Funct	B...	S...	M...	Description
□	/IDT/ROUTE_NON_GROUP_DOC_LIV	SHIP_TO	121111	☑	*	*	LIV UNPLANNED ADDRE…		□	□	□	Looks at unplanned del add of MIRO-details tab
□	/IDT/ROUTE_NON_GROUP_DOC_SES	BUYER_PRIMARY	100001	☑	*	4200	BUSINESS_PLACE		□	□	□	Taiwan business place

ADDING IDT ADDRESS FIELD TO SERVICE ENTRY SHEET LINE ITEM

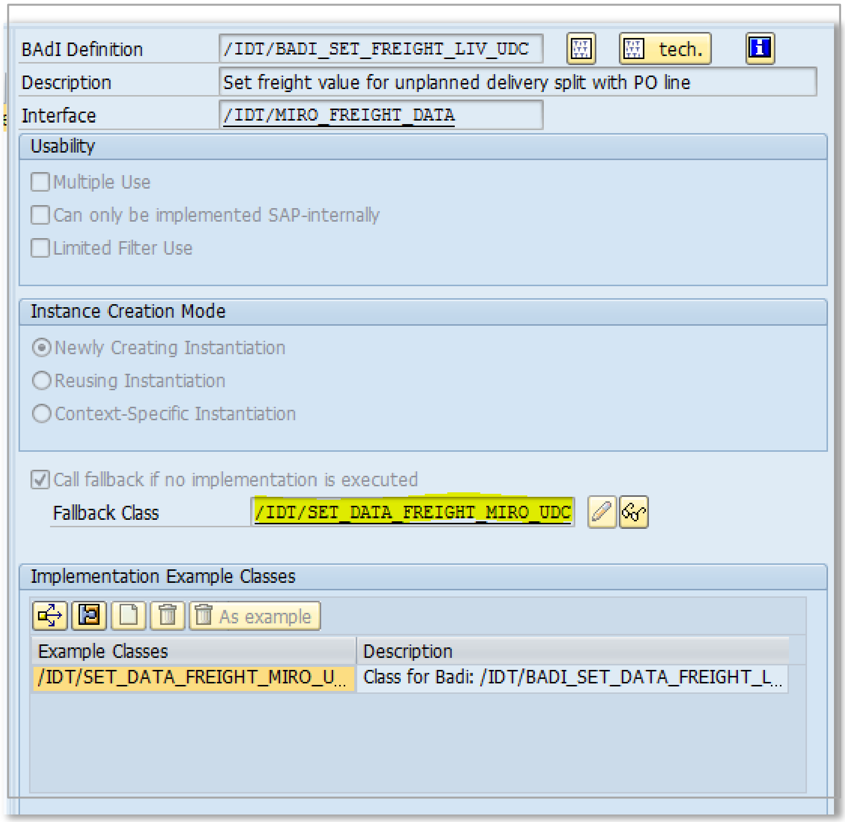
/IDT/BADI_SET_FREIGHT_LIV_UDC

The purpose of the BAdI is to determine freight value only when it is entered at the MIRO details tab as an unplanned delivery charge and system configuration is set to option 0 or 1 which splits it up and includes it as part of the PO line item amount. Every business may have different logic to determine freight value or ratio to its corresponding line item. The method of the BAdi is provided to have that logic which will override the default logic provided in the fallback class method. This BAdi is **not required** to determine freight value if it comes from original PO line item or by changing freight value in MIRO condition directly.

With the determined freight value a new line for the Determination tax call will be created as freight can have different tax rules than its corresponding main line item. This BAdi uses interface /IDT/MIRO_FREIGHT_DATA and its method SET_ATTRIBUTE_MIRO_FREIGHT. The method has input parameter as IS_SAP_ITEM which holds all required data for the PO e.g. EKKO, EKPO, DRSEG, BSEG….so on.

As part of the product, this BAdi has a fallback class which will be executed if there is no implementation done from the customer. Method 'SET_ATTRIBUTE_MIRO_FREIGHT' uses below logic to extract the freight value which is entered at MIRO details tab (i.e. header level) and splits among PO line items – Freight_vaue = bseg-wrbtr – drseg-wrbtr.

Please note this is just an example and this logic can be overridden by creating a new implementation of this BAdi in the customer's namespace.



BAdI Definition /IDT/BADI_SET_FREIGHT_LIV_UDC

Description Set freight value for unplanned delivery split with PO line
Interface /IDT/MIRO_FREIGHT_DATA

Usability
□ Multiple Use
□ Can only be implemented SAP-internally
□ Limited Filter Use

Instance Creation Mode
● Newly Creating Instantiation
○ Reusing Instantiation
○ Context-Specific Instantiation

☑ Call fallback if no implementation is executed
Fallback Class /IDT/SET_DATA_FREIGHT_MIRO_UDC

Implementation Example Classes

Example Classes	Description
/IDT/SET_DATA_FREIGHT_MIRO_U...	Class for Badi: /IDT/BADI_SET_DATA_FREIGHT_L...

ADDING MIRO MULTIPLE ACCOUNT ASSIGNMENT ADDRESS OVERRIDES

When PO line item is utilizing multiple account assignment functionality, Integration now creates related lines and tax blocks as per quantity/percentage distribution in the POs account assignment tab. The ship-to addresses could be different due to different cost centers or other cost object assignments. Some customers may elect to include MIRO functionality to override these addresses at time of invoice with an address number from the ADRC address table much like the options we have also provided for line level as well as G/L account tab address override logic.

Information and code sample below is provided so that your programmer can add MIRO enhancements for multiple account assignment override address.

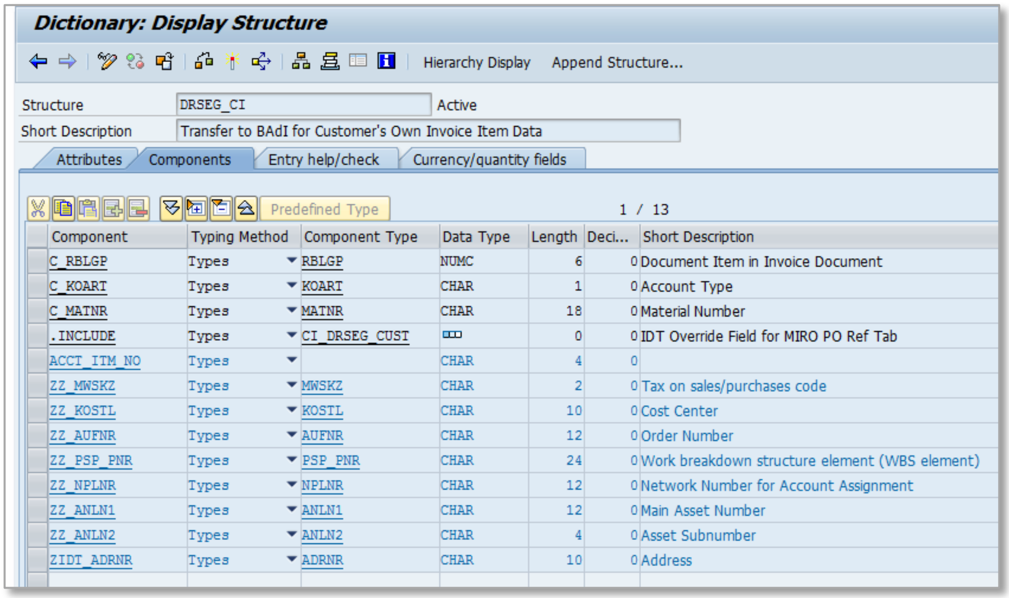
To display multiple account assignment address override fields in MIRO, you will need to perform the below noted tasks:

- Enhance/Create structures
- Implement BAdI MRM_ITEM_CUSTFIELDS
- Create the Subscreen
- Write code in the PAI/PBO modules of the screen. (Sample code is attached.)

Enhance/Create Structures

This is done to display required fields on MIRO account assignment tab.

1. DRSEG (DRSEG_CI).



Dictionary: Display Structure

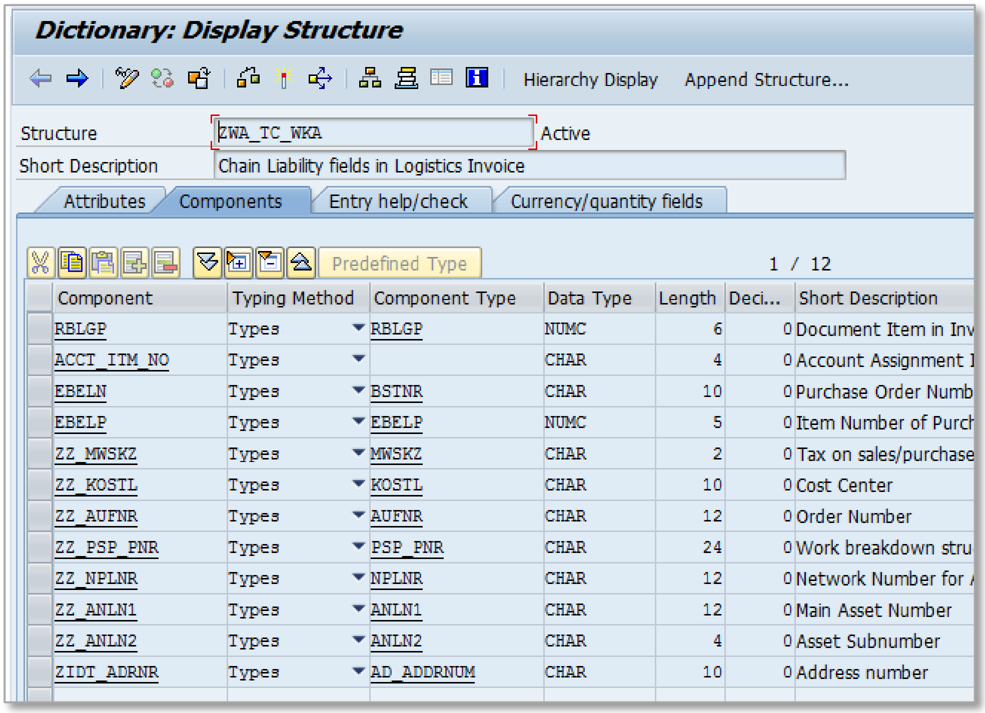
Structure: DRSEG_CI Active

Short Description: Transfer to BAdI for Customer's Own Invoice Item Data

1 / 13

Component	Typing Method	Component Type	Data Type	Length	Deci...	Short Description
C_RBLGP	Types	RBLGP	NUMC	6	0	Document Item in Invoice Document
C_KOART	Types	KOART	CHAR	1	0	Account Type
C_MATNR	Types	MATNR	CHAR	18	0	Material Number
.INCLUDE	Types	CI_DRSEG_CUST	▭	0	0	IDT Override Field for MIRO PO Ref Tab
ACCT_ITM_NO	Types		CHAR	4	0	
ZZ_MWSKZ	Types	MWSKZ	CHAR	2	0	Tax on sales/purchases code
ZZ_KOSTL	Types	KOSTL	CHAR	10	0	Cost Center
ZZ_AUFNR	Types	AUFNR	CHAR	12	0	Order Number
ZZ_PSP_PNR	Types	PSP_PNR	CHAR	24	0	Work breakdown structure element (WBS element)
ZZ_NPLNR	Types	NPLNR	CHAR	12	0	Network Number for Account Assignment
ZZ_ANLN1	Types	ANLN1	CHAR	12	0	Main Asset Number
ZZ_ANLN2	Types	ANLN2	CHAR	4	0	Asset Subnumber
ZIDT_ADRNR	Types	ADRNR	CHAR	10	0	Address

2. ZWA_TC_WKA – This display structure has been used in screen enhancement code.



Dictionary: Display Structure

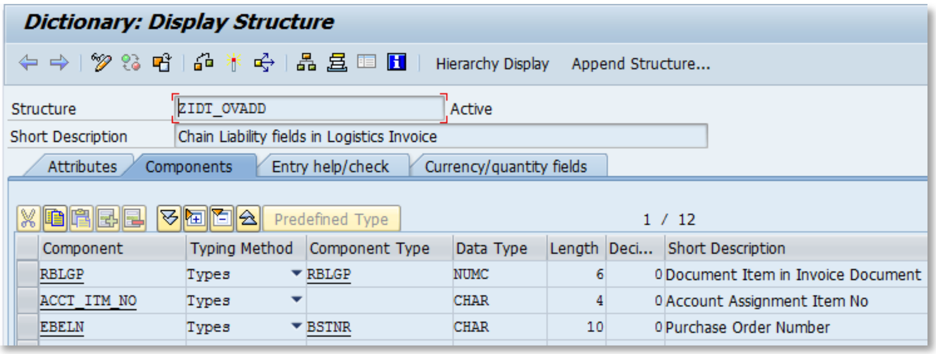
Structure: ZWA_TC_WKA Active

Short Description: Chain Liability fields in Logistics Invoice

1 / 12

Component	Typing Method	Component Type	Data Type	Length	Deci...	Short Description
RBLGP	Types	RBLGP	NUMC	6	0	Document Item in Inv
ACCT_ITM_NO	Types		CHAR	4	0	Account Assignment I
EBELN	Types	BSTNR	CHAR	10	0	Purchase Order Numb
EBELP	Types	EBELP	NUMC	5	0	Item Number of Purch
ZZ_MWSKZ	Types	MWSKZ	CHAR	2	0	Tax on sales/purchase
ZZ_KOSTL	Types	KOSTL	CHAR	10	0	Cost Center
ZZ_AUFNR	Types	AUFNR	CHAR	12	0	Order Number
ZZ_PSP_PNR	Types	PSP_PNR	CHAR	24	0	Work breakdown stru
ZZ_NPLNR	Types	NPLNR	CHAR	12	0	Network Number for /
ZZ_ANLN1	Types	ANLN1	CHAR	12	0	Main Asset Number
ZZ_ANLN2	Types	ANLN2	CHAR	4	0	Asset Subnumber
ZIDT_ADRNR	Types	AD_ADDRNUM	CHAR	10	0	Address number

3. Create a very similar structure with the name - ZIDT_OVADD



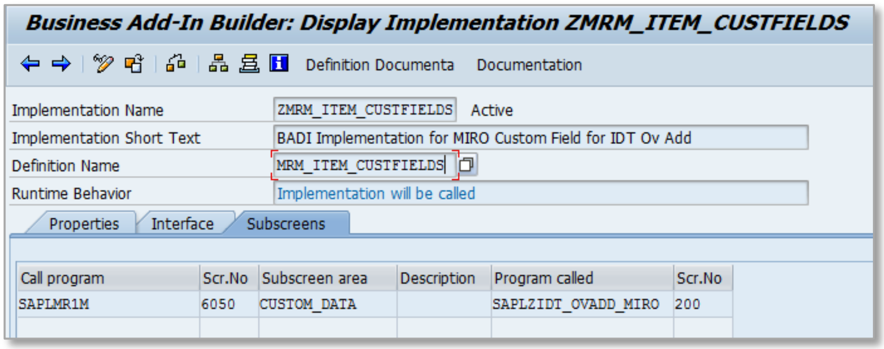
Dictionary: Display Structure

Structure: ZIDT_OVADD Active
Short Description: Chain Liability fields in Logistics Invoice

1 / 12

Component	Typing Method	Component Type	Data Type	Length	Deci...	Short Description
RBLGP	Types	RBLGP	NUMC	6	0	Document Item in Invoice Document
ACCT_ITM_NO	Types		CHAR	4	0	Account Assignment Item No
EBELN	Types	BSTNR	CHAR	10	0	Purchase Order Number

Implement BAdI MRM_ITEM_CUSTFIELDS

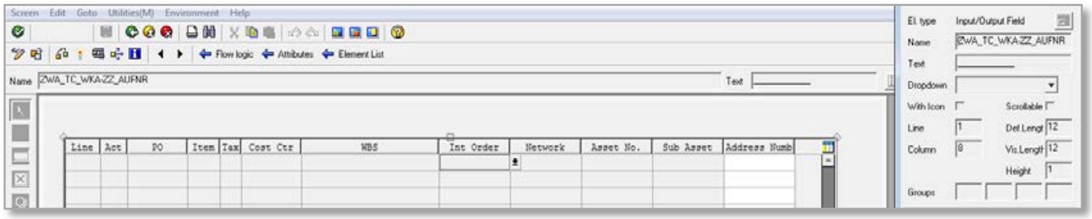


Business Add-In Builder: Display Implementation ZMRM_ITEM_CUSTFIELDS

Implementation Name: ZMRM_ITEM_CUSTFIELDS Active
Implementation Short Text: BADI Implementation for MIRO Custom Field for IDT Ov Add
Definition Name: MRM_ITEM_CUSTFIELDS
Runtime Behavior: Implementation will be called

Call program	Scr.No	Subscreen area	Description	Program called	Scr.No
SAPLMR1M	6050	CUSTOM_DATA		SAPLZIDT_OVADD_MIRO	200

Screen 200



Name: ZWA_TC_WKA-ZZ_AUFNR
Text:

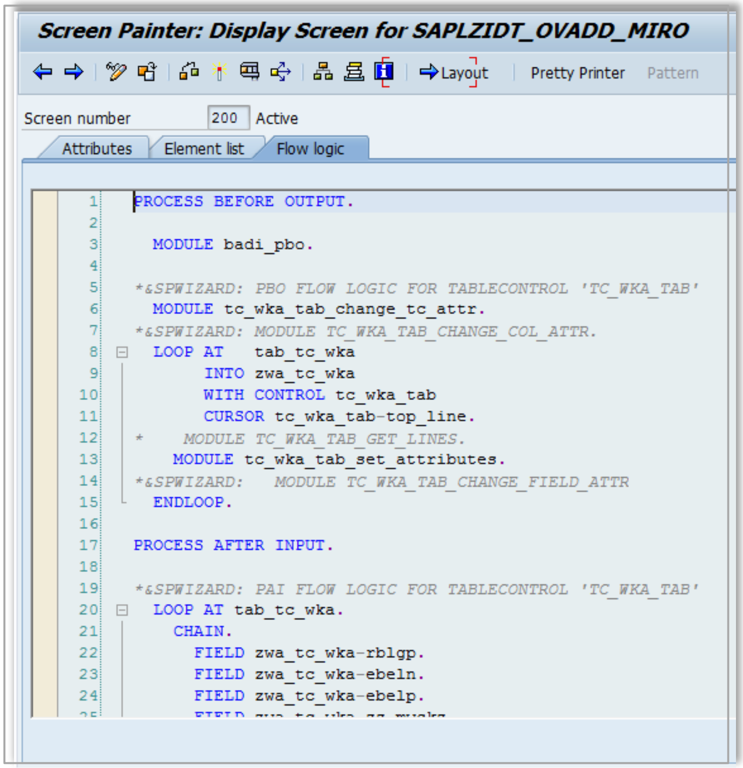
Line	Act	PO	Item	Tax	Cost Ctr	WBS	Int Order	Network	Asset No.	Sub Asset	Address Numb

El. type: Input/Output Field
Name: ZWA_TC_WKA-ZZ_AUFNR
Text:
Dropdown:
With Icon ☐ Scrollable ☐
Line: 1 Def.Lengt: 12
Column: 8 Vis.Lengt: 12
Height: 1
Groups:

Create the Subscreen

Module pool code for this screen is attached in this example –

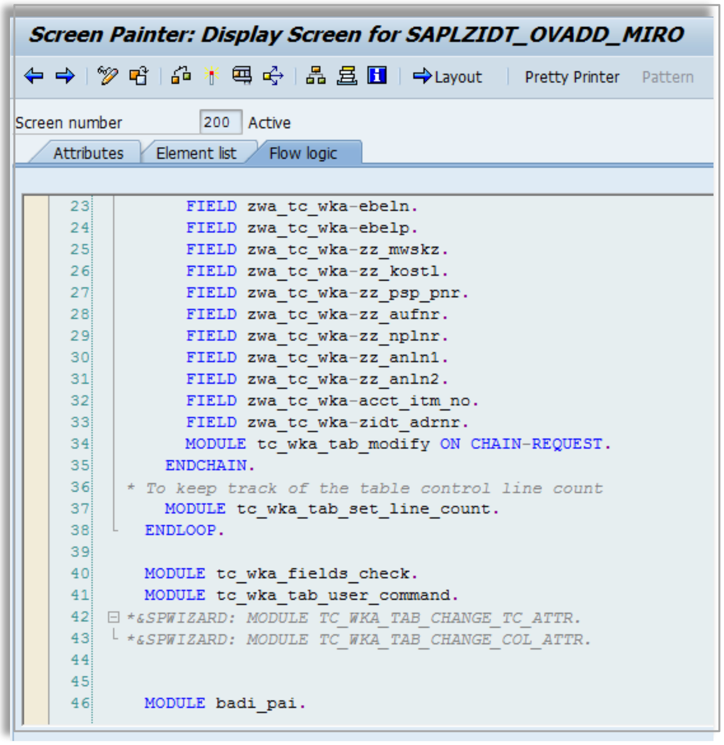
Screen 200 – Code Flow Logic –



Screen number 200 Active

```
PROCESS BEFORE OUTPUT.

  MODULE badi_pbo.

*&SPWIZARD: PBO FLOW LOGIC FOR TABLECONTROL 'TC_WKA_TAB'
  MODULE tc_wka_tab_change_tc_attr.
*&SPWIZARD: MODULE TC_WKA_TAB_CHANGE_COL_ATTR.
  LOOP AT   tab_tc_wka
       INTO zwa_tc_wka
       WITH CONTROL tc_wka_tab
       CURSOR tc_wka_tab-top_line.
*     MODULE TC_WKA_TAB_GET_LINES.
    MODULE tc_wka_tab_set_attributes.
*&SPWIZARD:   MODULE TC_WKA_TAB_CHANGE_FIELD_ATTR
  ENDLOOP.

PROCESS AFTER INPUT.

*&SPWIZARD: PAI FLOW LOGIC FOR TABLECONTROL 'TC_WKA_TAB'
  LOOP AT tab_tc_wka.
    CHAIN.
      FIELD zwa_tc_wka-rblgp.
      FIELD zwa_tc_wka-ebeln.
      FIELD zwa_tc_wka-ebelp.
```

This screen shows the display for the flow logic.



Screen number 200 Active

```
      FIELD zwa_tc_wka-ebeln.
      FIELD zwa_tc_wka-ebelp.
      FIELD zwa_tc_wka-zz_mwskz.
      FIELD zwa_tc_wka-zz_kostl.
      FIELD zwa_tc_wka-zz_psp_pnr.
      FIELD zwa_tc_wka-zz_aufnr.
      FIELD zwa_tc_wka-zz_nplnr.
      FIELD zwa_tc_wka-zz_anln1.
      FIELD zwa_tc_wka-zz_anln2.
      FIELD zwa_tc_wka-acct_itm_no.
      FIELD zwa_tc_wka-zidt_adrnr.
      MODULE tc_wka_tab_modify ON CHAIN-REQUEST.
    ENDCHAIN.
* To keep track of the table control line count
    MODULE tc_wka_tab_set_line_count.
  ENDLOOP.

  MODULE tc_wka_fields_check.
  MODULE tc_wka_tab_user_command.
*&SPWIZARD: MODULE TC_WKA_TAB_CHANGE_TC_ATTR.
*&SPWIZARD: MODULE TC_WKA_TAB_CHANGE_COL_ATTR.


  MODULE badi_pai.
```

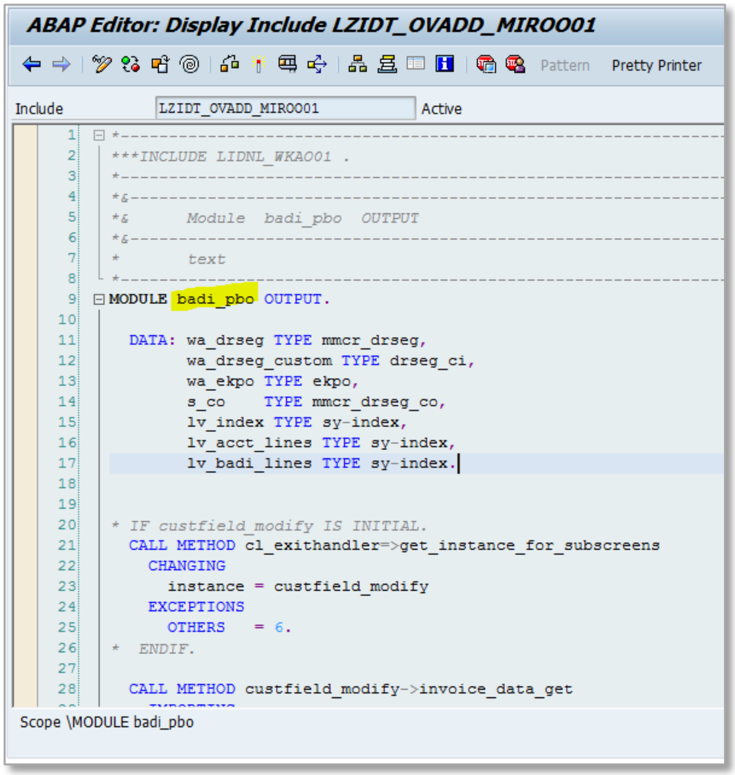
PROCESS BEFORE OUTPUT

```
  MODULE BADI_PBO.

*&SPWIZARD: PBO FLOW LOGIC FOR TABLECONTROL 'TC_WKA_TAB'
  MODULE TC_WKA_TAB_CHANGE_TC_ATTR.
*&SPWIZARD: MODULE TC_WKA_TAB_CHANGE_COL_ATTR.
  LOOP AT   TAB_TC_WKA
       INTO ZWA_TC_WKA
       WITH CONTROL TC_WKA_TAB
       CURSOR TC_WKA_TAB-TOP_LINE.
*    MODULE TC_WKA_TAB_GET_LINES.
    MODULE TC_WKA_TAB_SET_ATTRIBUTES.
*&SPWIZARD:   MODULE TC_WKA_TAB_CHANGE_FIELD_ATTR
  ENDLOOP.

PROCESS AFTER INPUT.

*&SPWIZARD: PAI FLOW LOGIC FOR TABLECONTROL 'TC_WKA_TAB'
  LOOP AT TAB_TC_WKA.
    CHAIN.
      FIELD ZWA_TC_WKA-RBLGP.
      FIELD ZWA_TC_WKA-EBELN.
      FIELD ZWA_TC_WKA-EBELP.
      FIELD ZWA_TC_WKA-ZZ_MWSKZ.
      FIELD ZWA_TC_WKA-ZZ_KOSTL.
      FIELD ZWA_TC_WKA-ZZ_PSP_PNR.
      FIELD ZWA_TC_WKA-ZZ_AUFNR.
      FIELD ZWA_TC_WKA-ZZ_NPLNR.
      FIELD ZWA_TC_WKA-ZZ_ANLN1.
      FIELD ZWA_TC_WKA-ZZ_ANLN2.
      FIELD ZWA_TC_WKA-ACCT_ITM_NO.
      FIELD ZWA_TC_WKA-ZIDT_ADRNR.
      MODULE TC_WKA_TAB_MODIFY ON CHAIN-REQUEST.
    ENDCHAIN.
* TO KEEP TRACK OF THE TABLE CONTROL LINE COUNT
    MODULE TC_WKA_TAB_SET_LINE_COUNT.
  ENDLOOP.

  MODULE TC_WKA_FIELDS_CHECK.
  MODULE TC_WKA_TAB_USER_COMMAND.
*&SPWIZARD: MODULE TC_WKA_TAB_CHANGE_TC_ATTR.
*&SPWIZARD: MODULE TC_WKA_TAB_CHANGE_COL_ATTR.
```

Write code in the PAI/PBO modules of the screen

MODULE BAdI_PAI

PBO module



Include LZIDT_OVADD_MIRO001 Active

```
*----------------------------------------------------------------------
***INCLUDE LIDNL_WKAO01 .
*----------------------------------------------------------------------
*&---------------------------------------------------------------------
*&      Module  badi_pbo  OUTPUT
*&---------------------------------------------------------------------
*       text
*----------------------------------------------------------------------
MODULE badi_pbo OUTPUT.

  DATA: wa_drseg TYPE mmcr_drseg,
        wa_drseg_custom TYPE drseg_ci,
        wa_ekpo TYPE ekpo,
        s_co    TYPE mmcr_drseg_co,
        lv_index TYPE sy-index,
        lv_acct_lines TYPE sy-index,
        lv_badi_lines TYPE sy-index.


* IF custfield_modify IS INITIAL.
  CALL METHOD cl_exithandler=>get_instance_for_subscreens
    CHANGING
      instance = custfield_modify
    EXCEPTIONS
      OTHERS   = 6.
*  ENDIF.

  CALL METHOD custfield_modify->invoice_data_get
```

Scope \MODULE badi_pbo

Module BAdI_PBO

```
MODULE BADI_PBO OUTPUT.

  DATA: WA_DRSEG TYPE MMCR_DRSEG,
        WA_DRSEG_CUSTOM TYPE DRSEG_CI,
        WA_EKPO TYPE EKPO,
        S_CO    TYPE MMCR_DRSEG_CO,
        LV_INDEX TYPE SY-INDEX,
        LV_ACCT_LINES TYPE SY-INDEX,
        LV_BADI_LINES TYPE SY-INDEX.


  CALL METHOD CL_EXITHANDLER=>GET_INSTANCE_FOR_SUBSCREENS
    CHANGING
      INSTANCE = CUSTFIELD_MODIFY
    EXCEPTIONS
      OTHERS   = 6.


  CALL METHOD CUSTFIELD_MODIFY->INVOICE_DATA_GET
    IMPORTING
      E_TRANSACTION_TYPE = AKT_TYP
      ES_RBKPV           = RBKPV
      ET_DRSEG           = T_DRSEG
      ET_DRSEG_CUST      = T_DRSEG_CUSTOM.

  CLEAR: ZWA_TC_WKA, TAB_TC_WKA.
  REFRESH: TAB_TC_WKA.

  LOOP AT T_DRSEG INTO WA_DRSEG.
    CLEAR LV_INDEX.
    MOVE WA_DRSEG-RBLGP TO ZWA_TC_WKA-RBLGP.
    MOVE WA_DRSEG-EBELN TO ZWA_TC_WKA-EBELN.
    MOVE WA_DRSEG-EBELP TO ZWA_TC_WKA-EBELP.

    IF WA_DRSEG-CO IS INITIAL.

      MOVE WA_DRSEG-KOSTL      TO ZWA_TC_WKA-ZZ_KOSTL.
      MOVE WA_DRSEG-AUFNR      TO ZWA_TC_WKA-ZZ_AUFNR.
      MOVE WA_DRSEG-PS_PSP_PNR TO ZWA_TC_WKA-ZZ_PSP_PNR.
      MOVE WA_DRSEG-NPLNR      TO ZWA_TC_WKA-ZZ_NPLNR.
      MOVE WA_DRSEG-ANLN1      TO ZWA_TC_WKA-ZZ_ANLN1.
      MOVE WA_DRSEG-ANLN2      TO ZWA_TC_WKA-ZZ_ANLN2.

      CALL FUNCTION 'CONVERSION_EXIT_ABPSP_OUTPUT'
        EXPORTING
          INPUT  = ZWA_TC_WKA-ZZ_PSP_PNR
        IMPORTING
          OUTPUT = ZWA_TC_WKA-ZZ_PSP_PNR.


      IF WKA_START IS INITIAL.
        IF NOT WA_DRSEG-BELNR IS INITIAL.
          MOVE-CORRESPONDING WA_DRSEG TO ZWA_TC_WKA.
        ELSE.
          SELECT SINGLE *  FROM EKPO INTO WA_EKPO
                  WHERE EBELN EQ ZWA_TC_WKA-EBELN
                    AND EBELP EQ ZWA_TC_WKA-EBELP.
          IF SY-SUBRC IS INITIAL.
            MOVE-CORRESPONDING WA_EKPO TO ZWA_TC_WKA.
            ZWA_TC_WKA-RBLGP = WA_DRSEG-RBLGP.
          ENDIF.
        ENDIF.
      ELSE.
        READ TABLE T_DRSEG_CUSTOM INTO WA_DRSEG_CUSTOM
               WITH KEY C_RBLGP = WA_DRSEG-RBLGP
                        C_KOART = WA_DRSEG-KOART.
        IF SY-SUBRC IS INITIAL AND WA_DRSEG_CUSTOM-ACCT_ITM_NO IS
INITIAL.
```

```
          MOVE-CORRESPONDING WA_DRSEG_CUSTOM TO ZWA_TC_WKA.
          MOVE WA_DRSEG-ZIDT_ADRNR TO ZWA_TC_WKA-ZIDT_ADRNR.
        ELSE.
          IF AKT_TYP = 'A'.
            MOVE-CORRESPONDING WA_DRSEG TO ZWA_TC_WKA.
          ELSE.
            CLEAR ZWA_TC_WKA-ZIDT_ADRNR.
          ENDIF.
        ENDIF.
      ENDIF.
      MOVE WA_DRSEG-MWSKZ TO ZWA_TC_WKA-ZZ_MWSKZ.
      CLEAR ZWA_TC_WKA-ACCT_ITM_NO.
      APPEND ZWA_TC_WKA TO TAB_TC_WKA.
    ELSE.


      CLEAR LV_ACCT_LINES.
      DESCRIBE TABLE WA_DRSEG-CO LINES LV_ACCT_LINES.
      CLEAR LV_BADI_LINES.
      LOOP AT T_DRSEG_CUSTOM INTO WA_DRSEG_CUSTOM WHERE C_RBLGP =
WA_DRSEG-RBLGP.
        ADD 1 TO LV_BADI_LINES.
      ENDLOOP.
      CLEAR WA_DRSEG_CUSTOM.
      LOOP AT WA_DRSEG-CO INTO S_CO." WHERE SELKZ IS NOT INITIAL.
        ADD 1 TO LV_INDEX.

        IF WKA_START IS INITIAL.
          IF NOT WA_DRSEG-BELNR IS INITIAL.
            CLEAR S_CO.
            READ TABLE WA_DRSEG-CO INTO S_CO INDEX LV_INDEX.
            MOVE S_CO-ZIDT_ADRNR TO ZWA_TC_WKA-ZIDT_ADRNR.
          ELSE.
            SELECT SINGLE *  FROM EKPO INTO WA_EKPO
                    WHERE EBELN EQ ZWA_TC_WKA-EBELN
                      AND EBELP EQ ZWA_TC_WKA-EBELP.
            IF SY-SUBRC IS INITIAL.
              MOVE-CORRESPONDING WA_EKPO TO ZWA_TC_WKA.
              ZWA_TC_WKA-RBLGP = WA_DRSEG-RBLGP.
            ENDIF.
          ENDIF.
        ELSE.
          READ TABLE T_DRSEG_CUSTOM INTO WA_DRSEG_CUSTOM
                 WITH KEY C_RBLGP     = WA_DRSEG-RBLGP
                          C_KOART     = WA_DRSEG-KOART
                          ACCT_ITM_NO = LV_INDEX.
          IF SY-SUBRC IS INITIAL AND ( LV_ACCT_LINES =
LV_BADI_LINES ).
            MOVE-CORRESPONDING WA_DRSEG_CUSTOM TO ZWA_TC_WKA.
          ELSE.
            IF AKT_TYP = 'A'.
              ZWA_TC_WKA-ZIDT_ADRNR = S_CO-ZIDT_ADRNR.
            ELSE.
              CLEAR ZWA_TC_WKA-ZIDT_ADRNR.
            ENDIF.
          ENDIF.
        ENDIF.

        MOVE S_CO-KOSTL      TO ZWA_TC_WKA-ZZ_KOSTL.
        MOVE LV_INDEX        TO ZWA_TC_WKA-ACCT_ITM_NO.
        MOVE S_CO-AUFNR      TO ZWA_TC_WKA-ZZ_AUFNR.
        MOVE S_CO-PS_PSP_PNR TO ZWA_TC_WKA-ZZ_PSP_PNR.
        MOVE S_CO-ANLN1      TO ZWA_TC_WKA-ZZ_ANLN1.
        MOVE S_CO-ANLN2      TO ZWA_TC_WKA-ZZ_ANLN2.
        MOVE S_CO-NPLNR      TO ZWA_TC_WKA-ZZ_NPLNR.


        CALL FUNCTION 'CONVERSION_EXIT_ABPSP_OUTPUT'
          EXPORTING
            INPUT  = ZWA_TC_WKA-ZZ_PSP_PNR
          IMPORTING
            OUTPUT = ZWA_TC_WKA-ZZ_PSP_PNR.


        MOVE WA_DRSEG-MWSKZ TO ZWA_TC_WKA-ZZ_MWSKZ.


        APPEND ZWA_TC_WKA TO TAB_TC_WKA.


      ENDLOOP.


    ENDIF.
  ENDLOOP.
  WKA_START = 'X'.

ENDMODULE.                 " BADI_PBO  OUTPUT
```

Module TC_WKA_TAB_CHANGE_TC_ATTR

```
MODULE TC_WKA_TAB_CHANGE_TC_ATTR OUTPUT.

  DESCRIBE TABLE TAB_TC_WKA LINES TC_WKA_TAB-LINES.

  IF AKT_TYP = C_TRTYP_A.

    LOOP AT TC_WKA_TAB-COLS INTO COL.
      IF COL-SCREEN-NAME EQ 'ZWA_TC_WKA-ZIDT_ADRNR'.
        COL-SCREEN-INPUT = 0.
        MODIFY TC_WKA_TAB-COLS FROM COL.
      ENDIF.
    ENDLOOP.
  ENDIF.

ENDMODULE.                   "TC_WKA_TAB_CHANGE_TC_ATTR
OUTPUT
```

Module TC_WKA_TAB_SET_ATTRIBUTES

```
MODULE TC_WKA_TAB_SET_ATTRIBUTES OUTPUT.

  REFRESH CONTROL 'TC_WKA_TAB' FROM SCREEN '200'.   "DEFAULT

ENDMODULE.                   " TC_WKA_TAB_SET_ATTRIBUTES  OUTPUT
```

Module TC_WKA_TAB_MODIFY

```
MODULE TC_WKA_TAB_MODIFY INPUT.
  MODIFY TAB_TC_WKA
    FROM ZWA_TC_WKA
    INDEX TC_WKA_TAB-CURRENT_LINE.
ENDMODULE.
```

Module TC_WKA_TAB_SET_LINE_COUNT

```
MODULE TC_WKA_TAB_SET_LINE_COUNT INPUT.
TC_WKA_TAB-LINES = SY-LOOPC.
ENDMODULE.                   " TC_WKA_TAB_SET_LINE_COUNT  INPUT
```

Module TC_WKA_FIELDS_CHECK

```
MODULE TC_WKA_FIELDS_CHECK INPUT.

LOOP AT TAB_TC_WKA INTO ZWA_TC_WKA.
    IF ZWA_TC_WKA-ZIDT_ADRNR IS NOT INITIAL.
      DATA V_ADRNR TYPE ADRC.
      SELECT SINGLE * FROM ADRC INTO V_ADRNR
                      WHERE ADDRNUMBER = ZWA_TC_WKA-
ZIDT_ADRNR.

      IF SY-SUBRC <> 0.
        MESSAGE 'INVALID ADDRESS NUMBER' TYPE 'E'.
      ENDIF.
    ENDIF.
```

```
  ENDLOOP.

ENDMODULE.                " TC_WKA_FIELDS_CHECK  INPUT
```

Module TC_WKA_TAB_USER_COMMAND

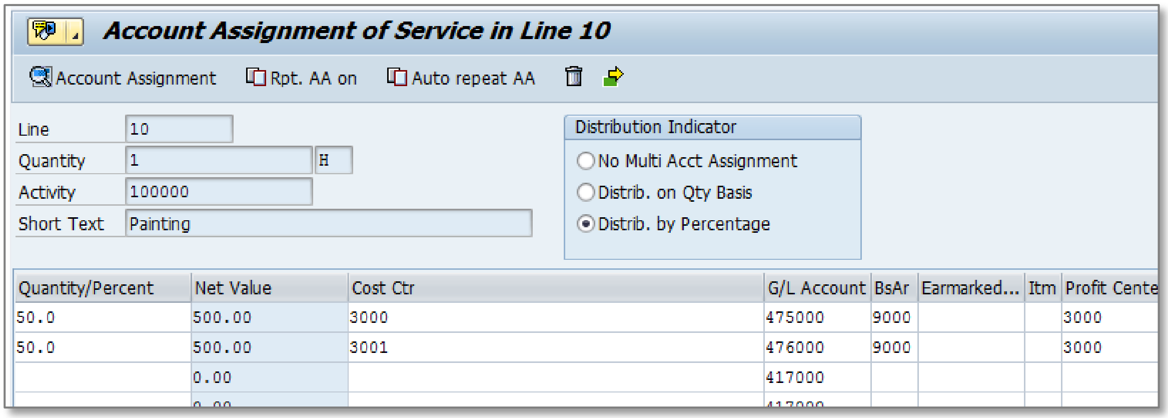
```
MODULE TC_WKA_TAB_USER_COMMAND INPUT.
  OK_CODE = SY-UCOMM.
  PERFORM USER_OK_TC USING    'TC_WKA_TAB'
                                'TAB_TC_WKA'
                                ' '
                       CHANGING OK_CODE.
  SY-UCOMM = OK_CODE.
ENDMODULE.
```

Module BAdI_PAI

```
MODULE BADI_PAI INPUT.

DATA: H_SORT TYPE BOOLE-BOOLE,
        LV_INDEX1 TYPE SY-INDEX.

  IF NOT ( AKT_TYP = C_TRTYP_A ).

    CLEAR: T_DRSEG_CUSTOM.
    REFRESH T_DRSEG_CUSTOM.



    LOOP AT T_DRSEG INTO WA_DRSEG.
      CLEAR LV_INDEX1.
      IF WA_DRSEG-CO IS INITIAL.

        CLEAR WA_DRSEG_CUSTOM.
        MOVE-CORRESPONDING WA_DRSEG TO WA_DRSEG_CUSTOM.
        READ TABLE TAB_TC_WKA INTO ZWA_TC_WKA
                          WITH KEY RBLGP = WA_DRSEG-RBLGP.
        IF SY-SUBRC EQ 0.
          MOVE-CORRESPONDING ZWA_TC_WKA TO WA_DRSEG_CUSTOM.
          WA_DRSEG_CUSTOM-C_RBLGP = WA_DRSEG-RBLGP.
        ENDIF.
        CLEAR WA_DRSEG_CUSTOM-ACCT_ITM_NO.
        APPEND WA_DRSEG_CUSTOM TO T_DRSEG_CUSTOM.
      ELSE.
        LOOP AT WA_DRSEG-CO INTO S_CO." WHERE SELKZ IS NOT
INITIAL.
          ADD 1 TO LV_INDEX1.
          CLEAR WA_DRSEG_CUSTOM.
          MOVE-CORRESPONDING WA_DRSEG TO WA_DRSEG_CUSTOM.
          READ TABLE TAB_TC_WKA INTO ZWA_TC_WKA WITH KEY
RBLGP = WA_DRSEG-RBLGP ACCT_ITM_NO = LV_INDEX1.
          IF SY-SUBRC EQ 0. "AND ZWAA_TC_WKA-RBLGP =
WA_DRSEG-RBLGP.
            MOVE-CORRESPONDING ZWA_TC_WKA TO
WA_DRSEG_CUSTOM.
            WA_DRSEG_CUSTOM-C_RBLGP = WA_DRSEG-RBLGP.
          ENDIF.
          APPEND WA_DRSEG_CUSTOM TO T_DRSEG_CUSTOM.
        ENDLOOP.

      ENDIF.

    ENDLOOP.

    CALL METHOD CUSTFIELD_MODIFY->CUSTOM_DATA_TRANSFER
      EXPORTING
        I_SORT        = H_SORT
        IT_DRSEG_CUST = T_DRSEG_CUSTOM
        I_CHANGE      = 'X'.

  ENDIF.

ENDMODULE.                 " BADI_PAI  INPUT
```

SUPPORT OF MULTIPLE ACCOUNT ASSIGNMENT (MAA) IN ML81N

The hook mentioned in the following screen shot is applicable to those customers who will be using MAA in ML81N and will have taxes calculated on cost object. This hook is introduced because standard SAP distributes taxes as per the percentage given in MAA in account assignment of services window.



Account Assignment of Service in Line 10

Line	10	
Quantity	1	H
Activity	100000	
Short Text	Painting	

Distribution Indicator

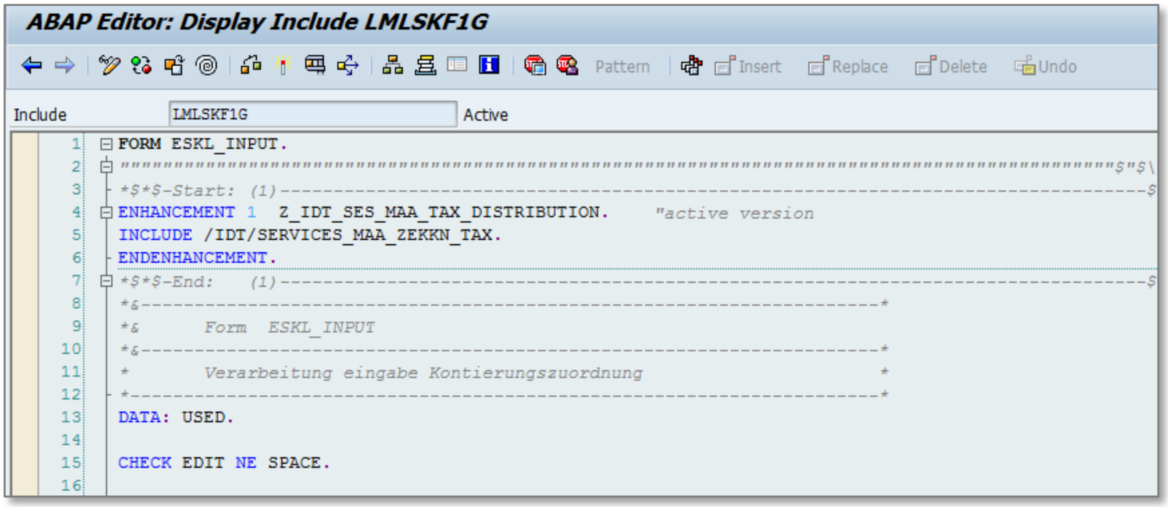
○ No Multi Acct Assignment
○ Distrib. on Qty Basis
● Distrib. by Percentage

Quantity/Percent	Net Value	Cost Ctr	G/L Account	BsAr	Earmarked...	Itm	Profit Cente
50.0	500.00	3000	475000	9000			3000
50.0	500.00	3001	476000	9000			3000
	0.00		417000				
	0.00		417000				

But in such cases both the lines will have different tax amounts due to different cost centers, but standard SAP distributes total tax amount for that service with the percentage provided in above window which would be wrong. Hence the following implicit enhancement is created to distribute the taxes correctly.

Include - `LMLSKF1G`
Form name - `ESKL_INPUT`

Create enhancement at the beginning of this routine and include the program - `/IDT/SERVICES_MAA_ZEKKN_TAX`.



ABAP Editor: Display Include LMLSKF1G

Include LMLSKF1G Active

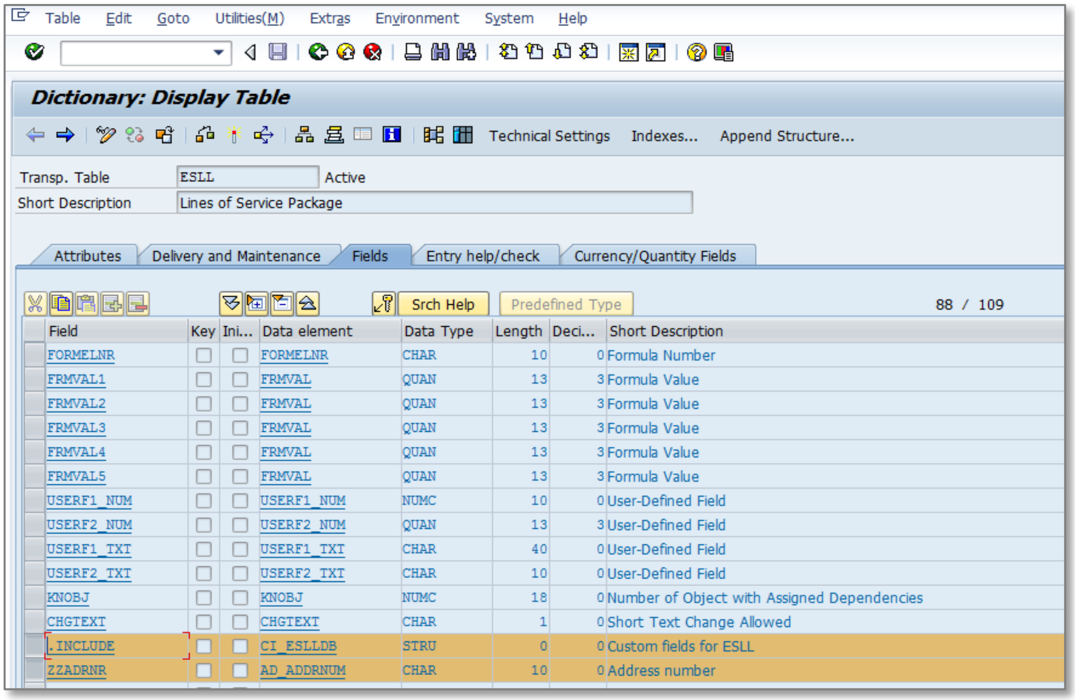
```
FORM ESKL_INPUT.
""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""$"$\
*$*$-Start:  (1)------------------------------------------------------------------------------$
ENHANCEMENT 1  Z_IDT_SES_MAA_TAX_DISTRIBUTION.    "active version
INCLUDE /IDT/SERVICES_MAA_ZEKKN_TAX.
ENDENHANCEMENT.
*$*$-End:    (1)------------------------------------------------------------------------------$
*&---------------------------------------------------------------------*
*&      Form  ESKL_INPUT
*&---------------------------------------------------------------------*
*       Verarbeitung eingabe Kontierungszuordnung                      *
*----------------------------------------------------------------------*
DATA: USED.

CHECK EDIT NE SPACE.
```

SUPPORT OF OVERRIDE ADDRESS - ADDRESS NUMBER AT SERVICE LEVEL IN PO AND ML81N

When PO line item is utilizing Service Entry Sheet functionality with multiple account assignment, Integration now creates related lines and tax blocks as per quantity/percentage distribution in the POs SES account assignment tab. The ship-to addresses could be different due to different cost centers or other cost object assignments. Some customers may elect to include **ME21N** and **ML81N** functionality to override these addresses at time of entry with an address number from the ADRC address table much like the options we have also provided for line level as well as G/L account tab address override logic.

The new tab on the screen will be common for both PO and SES transactions. Override address entered on the PO will get carried over to the SES when the same PO is used as a reference. Users will have the option to change this address if required and the new address will be used based on the mapping. Sample Code to be implemented for Adding the Override Address in ME21N and ML81N is shown for reference.

1. Add the new address number field ZZADRNR to the append structure CI_ESLLDB that is part of ESLL table (Example shown below for reference)



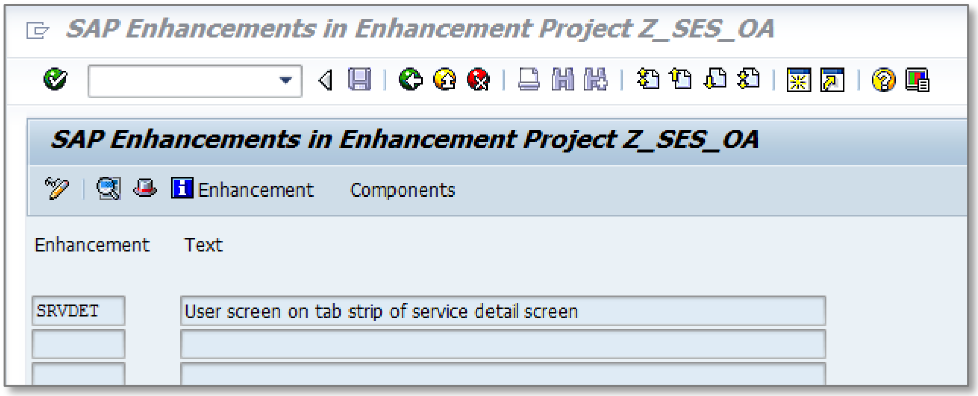
Dictionary: Display Table

Transp. Table ESLL Active
Short Description Lines of Service Package

88 / 109

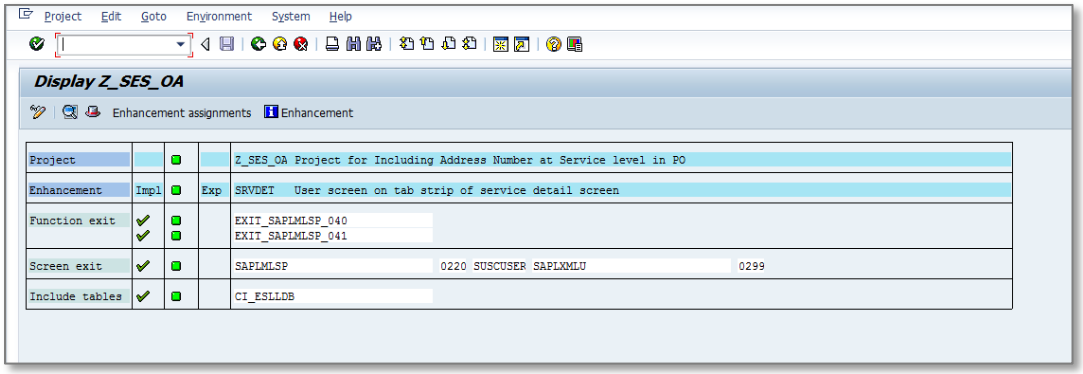
Field	Key	Ini...	Data element	Data Type	Length	Deci...	Short Description
FORMELNR	☐	☐	FORMELNR	CHAR	10	0	Formula Number
FRMVAL1	☐	☐	FRMVAL	QUAN	13	3	Formula Value
FRMVAL2	☐	☐	FRMVAL	QUAN	13	3	Formula Value
FRMVAL3	☐	☐	FRMVAL	QUAN	13	3	Formula Value
FRMVAL4	☐	☐	FRMVAL	QUAN	13	3	Formula Value
FRMVAL5	☐	☐	FRMVAL	QUAN	13	3	Formula Value
USERF1_NUM	☐	☐	USERF1_NUM	NUMC	10	0	User-Defined Field
USERF2_NUM	☐	☐	USERF2_NUM	QUAN	13	3	User-Defined Field
USERF1_TXT	☐	☐	USERF1_TXT	CHAR	40	0	User-Defined Field
USERF2_TXT	☐	☐	USERF2_TXT	CHAR	10	0	User-Defined Field
KNOBJ	☐	☐	KNOBJ	NUMC	18	0	Number of Object with Assigned Dependencies
CHGTEXT	☐	☐	CHGTEXT	CHAR	1	0	Short Text Change Allowed
.INCLUDE	☐	☐	CI_ESLLDB	STRU	0	0	Custom fields for ESLL
ZZADRNR	☐	☐	AD_ADDRNUM	CHAR	10	0	Address number

2. Create a new Project in CMOD and include the enhancement SRVDET for getting this to screen at service level.


SAP Enhancements in Enhancement Project Z_SES_OA
SAP Enhancements in Enhancement Project Z_SES_OA
Enhancement
Components

Enhancement	Text
SRVDET	User screen on tab strip of service detail screen

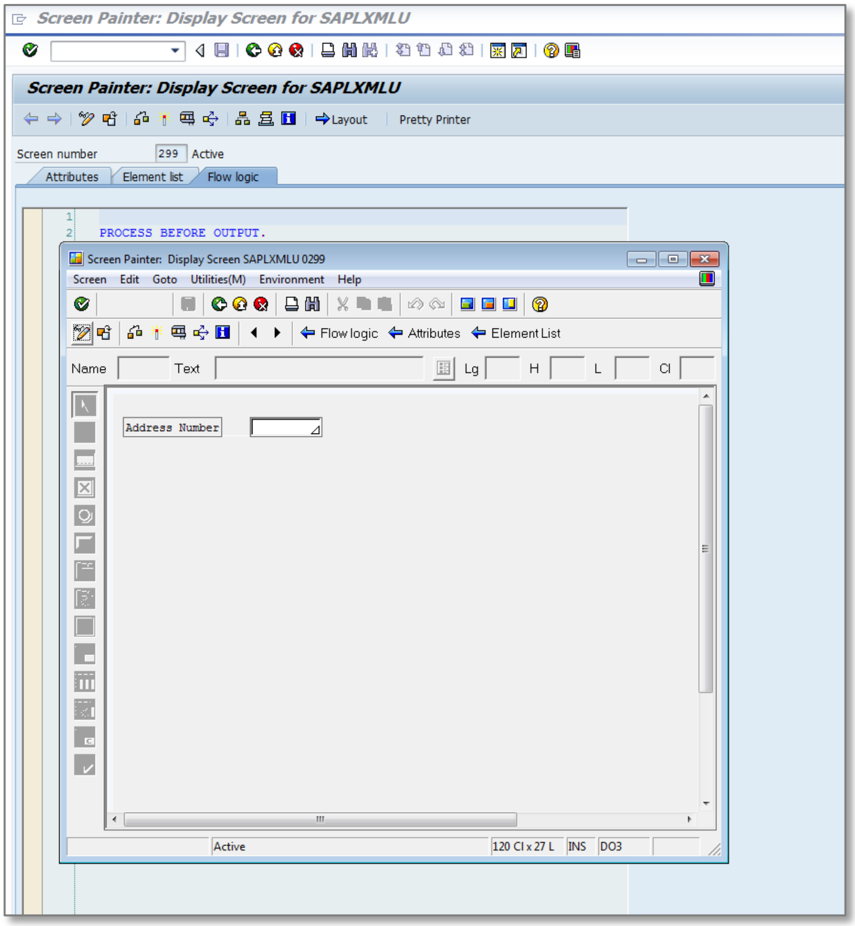
3. Implement the following exits within the enhancement. This includes the screen changes to add the custom field for override address. Sample code changes are also provided below to show how this works as a reference. This can be implemented in different ways too according to customer needs.



Project		🟩		Z_SES_OA Project for Including Address Number at Service level in PO
Enhancement	Impl	🟩	Exp	SRVDET User screen on tab strip of service detail screen
Function exit	✓ ✓	🟩 🟩		EXIT_SAPLMLSP_040 EXIT_SAPLMLSP_041
Screen exit	✓	🟩		SAPLMLSP 0220 SUSCUSER SAPLXMLU 0299
Include tables	✓	🟩		CI_ESLLDB

Support of Override Address - Address Number at Service Level in PO and ML81N

Sample code changes and implementation.

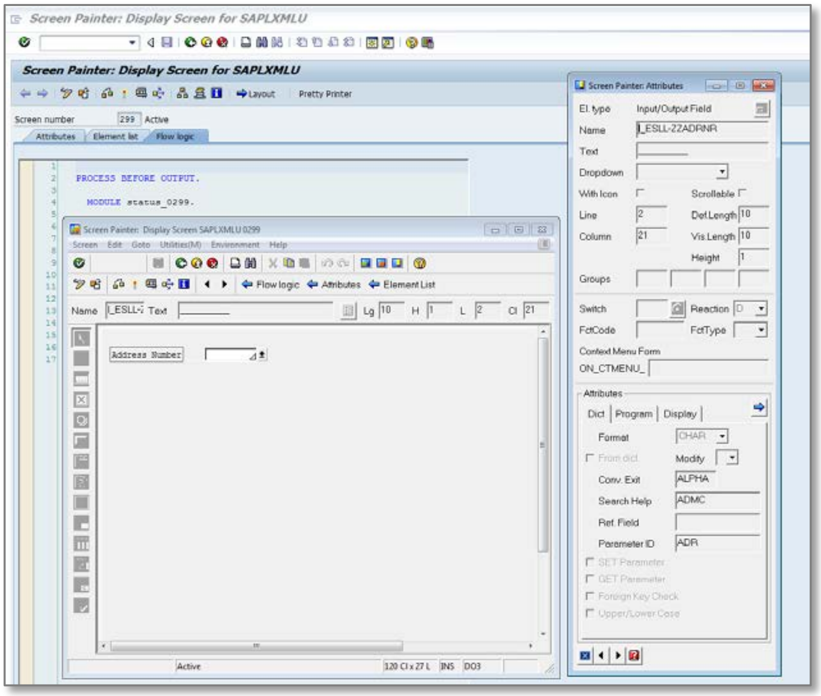


Screen number 299 Active

```
PROCESS BEFORE OUTPUT.
```

Active | 120 Cl x 27 L | INS | DO3

Sample code changes and implementation.



Screen number 299 Active

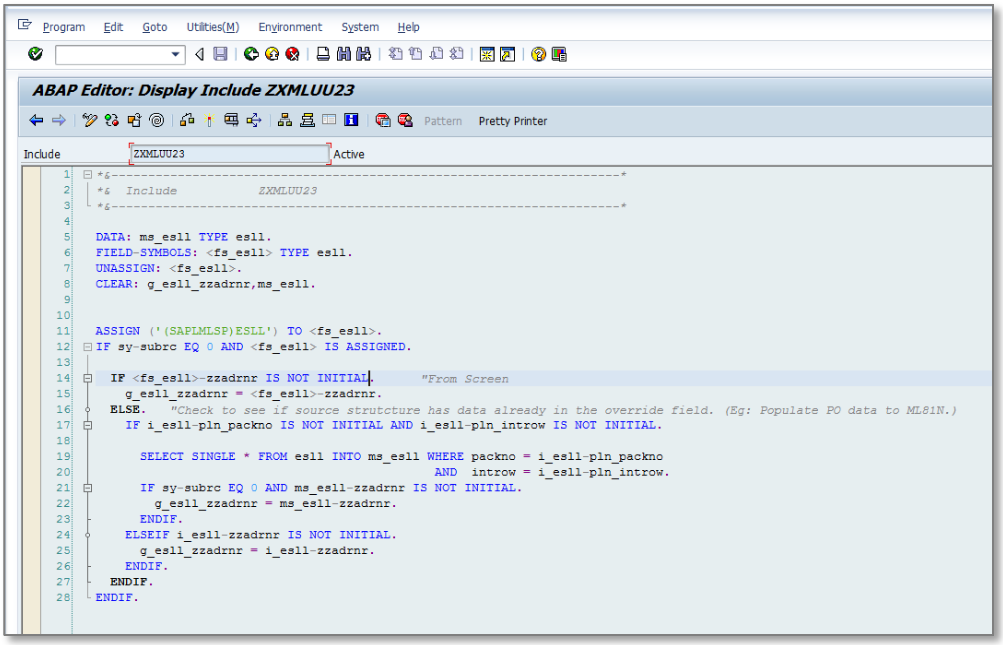
```
PROCESS BEFORE OUTPUT.

  MODULE status_0299.
```

Name I_ESLL-Z Text Lg 10 H 1 L 2 Cl 21

El. type Input/Output Field
Name I_ESLL-ZZADRNR
Text
Dropdown
With Icon □ Scrollable □
Line 2 Def.Length 10
Column 21 Vis.Length 10
Height 1
Groups
Switch Reaction D
FctCode FctType
Context Menu Form
ON_CTMENU_

Format CHAR
□ From dict Modify
Conv. Exit ALPHA
Search Help ADMC
Ref. Field
Parameter ID ADR
□ SET Parameter
□ GET Parameter
□ Foreign Key Check
□ Upper/Lower Case

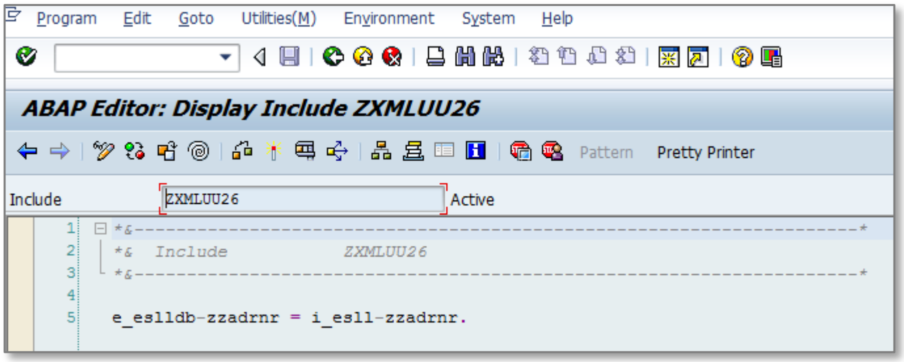
Sample code inside EXIT_SAPLMLSP_040 in include ZXMLUU23



Include ZXMLUU23 Active

```
*&---------------------------------------------------------------------*
*&  Include           ZXMLUU23
*&---------------------------------------------------------------------*

DATA: ms_esll TYPE esll.
FIELD-SYMBOLS: <fs_esll> TYPE esll.
UNASSIGN: <fs_esll>.
CLEAR: g_esll_zzadrnr,ms_esll.


ASSIGN ('(SAPLMLSP)ESLL') TO <fs_esll>.
IF sy-subrc EQ 0 AND <fs_esll> IS ASSIGNED.

  IF <fs_esll>-zzadrnr IS NOT INITIAL.       "From Screen
    g_esll_zzadrnr = <fs_esll>-zzadrnr.
  ELSE.   "Check to see if source strutcture has data already in the override field. (Eg: Populate PO data to ML81N.)
    IF i_esll-pln_packno IS NOT INITIAL AND i_esll-pln_introw IS NOT INITIAL.

      SELECT SINGLE * FROM esll INTO ms_esll WHERE packno = i_esll-pln_packno
                                             AND  introw = i_esll-pln_introw.
      IF sy-subrc EQ 0 AND ms_esll-zzadrnr IS NOT INITIAL.
        g_esll_zzadrnr = ms_esll-zzadrnr.
      ENDIF.
    ELSEIF i_esll-zzadrnr IS NOT INITIAL.
      g_esll_zzadrnr = i_esll-zzadrnr.
    ENDIF.
  ENDIF.
ENDIF.
```

Sample code inside EXIT_SAPLMLSP_041 on include ZXMLUU26

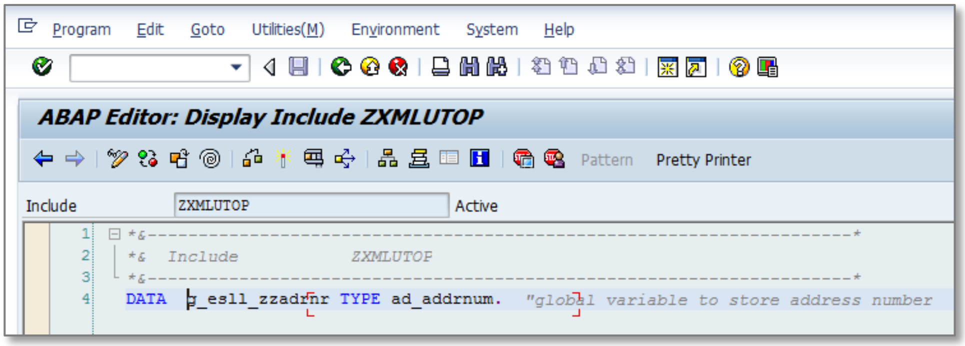


ABAP Editor: Display Include ZXMLUU26

Include ZXMLUU26 Active

```
*&---------------------------------------------------------------------*
*&  Include           ZXMLUU26
*&---------------------------------------------------------------------*

e_eslldb-zzadrnr = i_esll-zzadrnr.
```

Code inside include ZXMLUTOP for declaring the global variable.

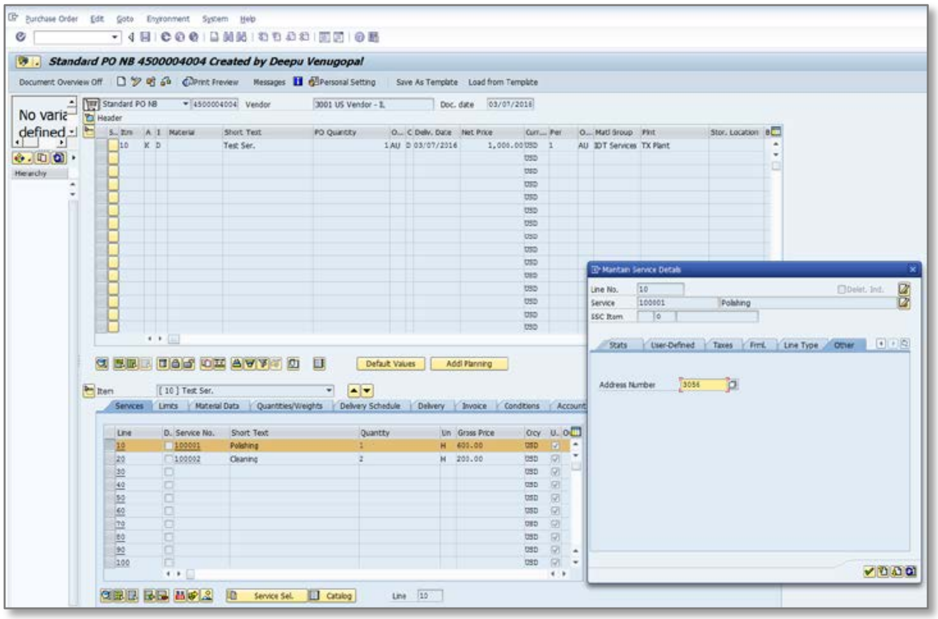


ABAP Editor: Display Include ZXMLUTOP

Include ZXMLUTOP Active

```
*&---------------------------------------------------------------------*
*&  Include           ZXMLUTOP
*&---------------------------------------------------------------------*
DATA  g_esll_zzadrnr TYPE ad_addrnum.   "global variable to store address number
```

4. Create a new tab at the Service Level Detail screen (Eg: Tab Named Other) and add the address number to the screen.



Standard PO NB 4500004004 Created by Deepu Venugopal

Standard PO NB 4500004004 Vendor 3001 US Vendor - 1 Doc. date 03/07/2016

Itm	A	I	Short Text	PO Quantity	O...	C	Deliv. Date	Net Price	Curr...	Per	O...	Matl Group	Plnt
10	K	D	Test Ser.	1	AU	D	03/07/2016	1,000.00	USD	1	AU	IDT Services	TX Plant

Item [10] Test Ser.

Line	Service No.	Short Text	Quantity	Un	Gross Price	Crcy
10	100001	Polishing	1	H	600.00	USD
20	100002	Cleaning	2	H	200.00	USD

Maintain Service Details

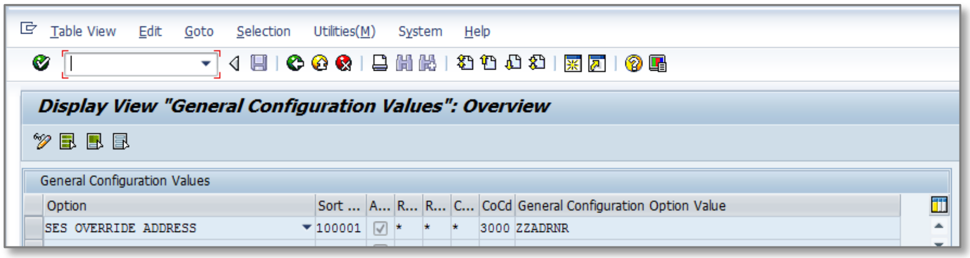
Line No. 10

Service 100001 Polishing

SSC Item 0

Address Number 3056

5. An entry for the new override address field for SES also needs to be added to the /IDT/D_GENERAL table as shown below.

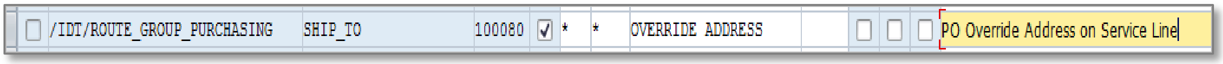


Display View "General Configuration Values": Overview

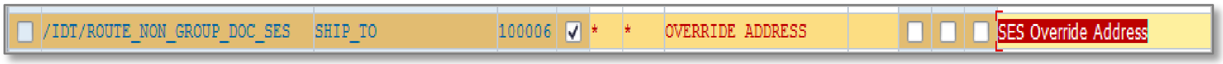
General Configuration Values

Option	Sort ...	A...	R...	R...	C...	CoCd	General Configuration Option Value
SES OVERRIDE ADDRESS	100001	☑	*	*	*	3000	ZZADRNR

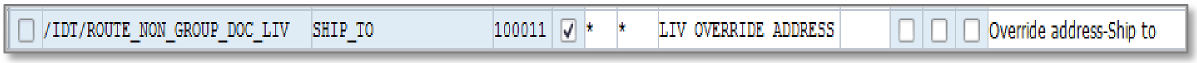
6. The override address can be used as part of the mapping as shown below in the example.



□	/IDT/ROUTE_GROUP_PURCHASING	SHIP_TO	100080	☑	*	*	OVERRIDE ADDRESS		□	□	□	PO Override Address on Service Line



□	/IDT/ROUTE_NON_GROUP_DOC_SES	SHIP_TO	100006	☑	*	*	OVERRIDE ADDRESS		□	□	□	SES Override Address



□	/IDT/ROUTE_NON_GROUP_DOC_LIV	SHIP_TO	100011	☑	*	*	LIV OVERRIDE ADDRESS		□	□	□	Override address-Ship to

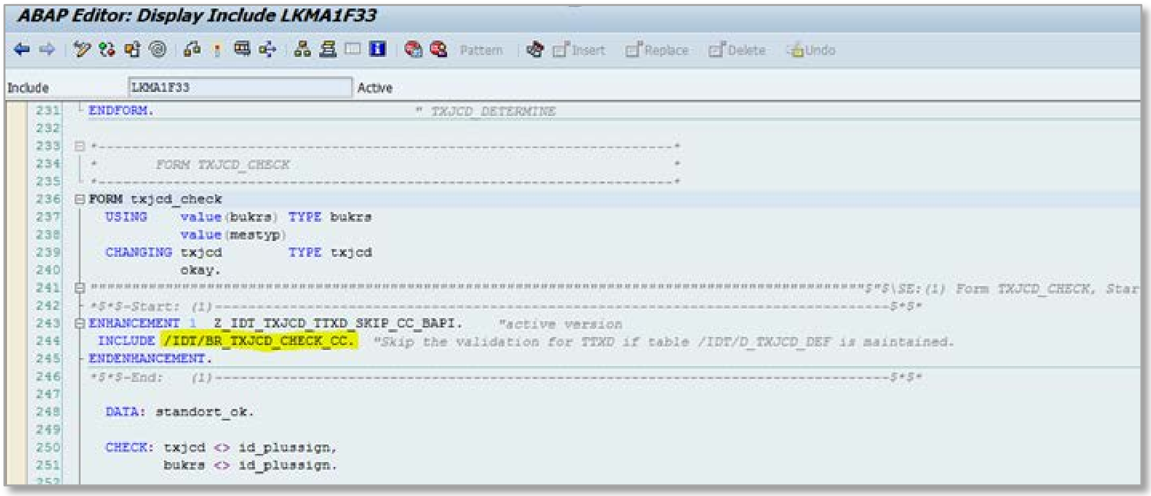
There is standard IDT code inside the class /IDT/SET_ADDRESS_OVERRIDE_ADDR within the methods SET_ADDRESS_ITM_PURCHASING and SET_ADDRESS_ITM_SES to pass this to the used for address in tax calculations.

TAX JURISDICTION CODE FOR COST CENTER IN BRAZIL CREATED THROUGH BAPI

This is an optional enhancement point that a user can elect to implement in order to insert functionality to update the tax jurisdiction code for cost center addresses when cost centers are created using this BAPI. Manual entry of cost centers for Brazil have already been addressed with an include statement as part of our new jurisdiction code usage for the Nota Fiscal, however if user elects to use this BAPI the current modification is not called and needs to also be inserted within this BAPI for use in batch entry. See notes below on this optional include:

A new implicit enhancement is required in the include LKMA1F33 to handle the BAPI call K_COSTCTR_BAPI_CREATEMULTIPLE.

This looks at TTXD table for an entry and if it doesn't find one it will look at /IDT/D_TXJCD_DEF table. If an entry is available then it skips the TXJCD validation.



ABAP Editor: Display Include LKMA1F33

Include LKMA1F33 Active

```
ENDFORM.                                " TXJCD_DETERMINE

*---------------------------------------------------------------------*
*       FORM TXJCD_CHECK                                              *
*---------------------------------------------------------------------*
FORM txjcd_check
  USING     value(bukrs)  TYPE bukrs
            value(mestyp)
  CHANGING txjcd          TYPE txjcd
            okay.
"""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""$"$\SE:(1) Form TXJCD_CHECK, Star
*$*$-Start: (1)--------------------------------------------------------------------------------$*$*
ENHANCEMENT 1  Z_IDT_TXJCD_TTXD_SKIP_CC_BAPI.    "active version
 INCLUDE /IDT/BR_TXJCD_CHECK_CC.  "Skip the validation for TTXD if table /IDT/D_TXJCD_DEF is maintained.
ENDENHANCEMENT.
*$*$-End:   (1)--------------------------------------------------------------------------------$*$*

  DATA: standort_ok.

  CHECK: txjcd <> id_plussign,
         bukrs <> id_plussign.
```

APPENDIX 1: REFERENCES

This section lists all customer facing Journeys, Routes, Bases and Tables with an explanation of their purpose and use.

LIST OF JOURNEYS

Most Journeys are used in the field mapping process to assist in determining for which business process what fields should be used for taxability determination. Some Journeys are used internally for unique treatment of a process, like Freight and Plants Abroad for example, these are mostly likely not used in the field mapping.

Journey	Description
/IDT/JOURNEY_HEADER_REQUEST	This Journey manages header data going from SAP to Determination. In field mappings this Journey passes data to link specific header SAP fields to corresponding invoice level XML elements of Determination.
/IDT/JOURNEY_HEADER_REQUEST_GM	This Journey manages header data going from SAP to Determination for the Goods Movement product transactions. In field mappings this Journey passes data to link specific header SAP fields to corresponding invoice level XML elements of Determination for materials movement transactions in MM.
/IDT/JOURNEY_HEADER_REQ_BR_GM	This Journey manages the header data going from SAP to Determination for the Brazil material transaction MBOA for receiving inbound transaction on Intra Co STO process.
/IDT/JOURNEY_GET_CONDITION_DTL	This journey is used internally and gets the relevant tax data from the KONV table and uses that for getting the taxes on the NF document when a PGI is done on the delivery document. Brazil function only.
/IDT/JOURNEY_ITEM_REQUEST	This Journey manages header and item data going from SAP to Determination. In field mappings this Journey passes data to link specific header and item SAP fields to corresponding line level XML elements of Determination.
/IDT/JOURNEY_ITEM_REQ_BR_GM	This Journey manages the item data going from SAP to Determination for the Brazil material transaction MBOA for receiving inbound transaction on Intra Co STO process.
/IDT/JOURNEY_ITEM_REQUEST_GM	This Journey manages header and item data going from SAP to Determination for the Goods Movement product transactions. In field mappings this Journey passes data to link specific header and item SAP fields to corresponding line level XML elements of Determination for materials movement transactions in MM.
/IDT/JOURNEY_NG_ITEM_REQUEST	This Journey manages header and item data going from non-group transactions of SAP to Determination. In field mappings this Journey passes data to link specific

Journey	Description
	header and item SAP fields to corresponding line level XML elements of Determination.
/IDT/JOURNEY_NG_ITEM_SERV_ENTR	This Journey manages item level data going from SAP to Determination for the specific data in Service Entry Sheets within MM PO process. In field mappings this Journey passes data to line specific line item SAP fields to corresponding line level XML elements of Determination for Service Entry Sheet charges.
/IDT/JOURNEY_MULTI_ACC_SERVICE	This journey manages the multi account assignment as it is used on a service entry sheet line item.
/IDT/JOURNEY_TAX_TAB_RESPONSE	This Journey manages data coming from Determination to SAP. It collects the tax calculation results from the XML and will use the configurable field mappings to link specific Determination fields to corresponding fields in table /IDT/D_TAX_DATA for later use in downstream processes such as invoice printing and reporting.
/IDT/JOURNEY_STANDARD_RESPONSE	This Journey manages data coming from Determination to SAP. It collects the tax calculation results from the XML and distributes them in condition value formulas where needed. It will use the configurable field mappings to link specific Determination fields to corresponding SAP fields in table KONV. NOTE: This mapping is provided for backwards compatibility and should not be used.
/IDT/JOURNEY_AUDIT_UPD_DB_BILL	This Journey manages the update to the Determination audit database for Billing documents. At time of SAP finishing posting to the General Ledger account a call will be made to Determination for persisting the tax liability in audit. The process will use the latest calculation done and sets the IS_AUDITED flag to TRUE, the FISCAL_DATE to the posting date of the Billing document, the INVOICE_NUMBER and UNIQUE_INVOICE_NUMBER and the GROSS_AMOUNT in company code currency. It also may set the IS_CREDIT flag to TRUE/FALSE to negate amounts and make the audit reports add up correctly. NOTE: In some cases a certain value isn't known till the document has been posted to the G/L, i.e. the legal document number required in some countries. This Journey can be used to write the value to audit, but it would not be recommended to use such a value for taxability rules as the value would not be available during calculations.
/IDT/JOURNEY_AUDIT_UPD_DB_GL	This Journey manages the update to the Determination audit update database for G/L documents when there is no billing document. It is using the route /IDT/ROUTE_UPDATE_AUDIT_DB and is used to add information to the update to audit table and report for noting that status of an entry that may not have been posted yet to the audit database.
/IDT/JOURNEY_AUDIT_SAVE_FRM_GL	This Journey manages the update to the Determination

Journey	Description
	audit database for G/L (LIV/FI) documents. At time of SAP finishing posting to the General Ledger account a call will be made to Determination for persisting the tax liability in audit. The process will use the latest calculation done and sets the IS_AUDITED flag to TRUE, the FISCAL_DATE to the posting date of the G/L document, the INVOICE_NUMBER and UNIQUE_INVOICE_NUMBER and the GROSS_AMOUNT in company code currency. It also may set the IS_CREDIT flag to TRUE/FALSE to negate amounts and make the audit reports add up correctly. NOTE: In some cases a certain value isn't known till the document has been posted to the G/L, i.e. the legal document number required in some countries. This Journey can be used to write the value to audit, but it would not be recommended to use such a value for taxability rules as the value would not be available during calculations.
/IDT/JOURNEY_AUDIT_SAVE_TAX_UP	This journey manages the update to the audit database and will be used for all manual tax scenarios (calculate tax = " ") and down payments. To update the audit database, this will use the last tax calculation make changes to a few fields like override amount and then send that to audit.
/IDT/JOURNEY_AUDIT_RESPONSE	This Journey manages the response of the update to the Audit Database. It determines if an update to the Audit Database is successful from the response message and passes a flag with that information to be stored in table /IDT/D_AUDIT_STA.
/IDT/JOURNEY_AUDIT_SAVE	This Journey saves the data of the last tax calculation call at the time of saving the invoice document in table /IDT/D_AUDIT_REC for later use in the audit update call, cancellations, and other processes. This journey assumes calculate tax = X
/IDT/JOURNEY_BRAZIL_SD_ADJUST	This Journey adjusts the Brazil SD document and process when use to set the application area from TX to V. This was done to allow the system to utilize the standard Nota Fiscal mapping logic in SD for Brazil
/IDT/JOURNEY_CHECK_AUDIT_MESS	This Journey checks the audit message and adjusts the call to audit. It does a double check to make sure the call is for a final invoice.
/IDT/JOURNEY_GM_RESPONSE	This Journey manages the response of the update to the Audit Database for Goods Movement transactions in the Goods Movement product.
/IDT/JOURNEY_US_SPECIAL_LOGIC2	This Journey manages the AP logic for countries like US, and PR by switching the company role for the Vendor Charged Tax and offsetting the tax lines for Self-Accrual taxes. NOTE: Customers most likely will not use this in the field mappings; the default is delivered by Thomson Reuters.

Journey	Description
/IDT/JOURNEY_FREIGHT	This Journey manages the Freight logic based on the configurable Freight condition sub-total. It will create a shadow line as a related line to the product line. See the *Configuration Guide* for more details. NOTE: This journey is not used in the field mappings.
/IDT/JOURNEY_FREIGHT_LIV	This Journey manages the Freight logic based on the configurable Freight condition sub-total specifically for functions that are different within the MIRO transaction. It will create a shadow line as a related line to the product line.
/IDT/JOURNEY_PLANTS_ABROAD	This Journey manages the logic for Plants Abroad based on the billing types maintained in table /IDT/D_PLNTS_ABD. For these billing types a Seller and Buyer call is made for the one SD Invoice. Billing type WIA has been added as a default. NOTE: This journey is not used in the field mappings.
/IDT/JOURNEY_FB05_RESPONSE	This Journey is to handle the complexity of the transactions that can have cash discounts.
/IDT/JOURNEY_NG_ITEM_FB05	This Journey manages header and item data going from non-group cash discount transactions of SAP to Determination. In field mappings this Journey passes data to link specific header and item SAP fields to corresponding line level XML elements of Determination.
/IDT/JOURNEY_FB05_COMPANY_ROLE	This Journey manages the company role for the FB05 transaction logic.
/IDT/JOURNEY_NG_ITEM_DOWN_PAYM	This Journey is to handle the complexity of the down payment transactions.
/IDT/JOURNEY_NG_ITEM_SERV_ENTR	This Journey is to handle the complexity of the transactions with service entry sheets.
/IDT/JOURNEY_MULTI_ACC_ASSIGN	This journey is used to handle the complexity of the logic needed for multiple account assignment within a single PO line item.

LIST OF ROUTES

Routes can be basically split into two categories; Group and Non-Group. Group Routes are based on transactions which use pricing procedures (SD) or calculation schemas (PO), where Non-Group Routes are based on transactions which use tax procedures (LIV/FI). Routes can be used in the field mapping if desired.

Route	Description
/IDT/ROUTE_GROUP_SALES	This Route handles the complexity of calculating tax unique to SD sales transactions.
/IDT/ROUTE_GROUP_BILLING_GEN	This Route handles the complexity of calculating tax unique to SD billing transactions.
/IDT/ROUTE_GROUP_DELIVERY	This Route handles the complexity of calculating tax unique to delivery transactions. This was added to support Brazil STO process for Nota Fiscal based on the delivery document.
/IDT/ROUTE_GROUP_BILLING_PA	This Route handles the complexity of calculating tax unique to SD Plants Abroad billing transactions. Table /IDT/D_PLNTS_ABD needs to be maintained with the relevant Billing Types for Plants Abroad, billing type WIA has been added as a default.
/IDT/ROUTE_GROUP_PURCHASING	This Route handles the complexity of calculating tax unique to purchasing transactions using a calculation schema.
/IDT/ROUTE_NON_GROUP_DOC_DNF	This Route handles the complexity of calculating tax unique to the delivery documents for Brazil Nota Fiscal.
/IDT/ROUTE_NON_GROUP_DOC_LIV	This Route handles the complexity of calculating tax unique to LIV transactions.
/IDT/ROUTE_NON_GROUP_DOC_PUR	This Route is in support of the TAXES button at the item details in the PO and to assign group tax results back to the PO lines.
/IDT/ROUTE_NON_GROUP_DOC_AP	This Route handles the complexity of calculating tax unique to FI AP transactions.
/IDT/ROUTE_NON_GROUP_DOC_AR	This Route handles the complexity of calculating tax unique to FI AR transactions.
/IDT/ROUTE_NON_GROUP_DOC_FI	This Route handles the complexity of calculating tax unique to FI processes where there is no Vendor or Customer in the transaction.
/IDT/ROUTE_NON_GROUP_DOC_GM_BR	This Route handles the complexity of calculation tax unique to Brazil STO material receiving transaction using MBOA transaction for inbound process Nota Fiscal data
/IDT/ROUTE_UPDATE_AUDIT_DB	This Route handles the complexity of updating the Audit Database. It initiates asynchronous update process (V2) after a G/L document posting has been successfully done in SAP and will trigger the audit call.
/IDT/ROUTE_NON_GROUP_DOC_DT	This Route is to handle the complexity of transactions

Route	Description
	with deferred tax.
/IDT/ROUTE_NON_GROUP_DOC_FB5	This Route is to handle the complexity of the transactions that can have cash discounts.
/IDT/ROUTE_NON_GROUP_DOC_A_GL	This Route is to handle the logic for audit updated based on the amounts in the G/L document in SAP.
/IDT/ROUTE_NON_GROUP_DOC_DP	This Route is to handle the complexity of transaction with Down payments.
/IDT/ROUTE_NON_GROUP_DOC_SES	This Route is to handle the complexity of transactions with service entry sheets.

LIST OF BASES

Bases represent a source or target in the field mapping of a tax request and response. They either represent an entity in SAP or a Determination XML structure such as Batch, Invoice, Line, or Tax. Some complex XML structures like User Attributes, Quantities, Registrations, Currency Conversions, etc. require special processing described at the end of this section. Not all of the sources are available for all Journeys.

Source Bases

Base	Description	Journey supported
SAP_HEADER	Fields from the following SAP document **header** tables: BKPF, EKKO, ESSR, KNA1, LFA1, T001, T001Z, T180, TVAK, TVAP, TVFK, TVKO, TVTA, VBAK, VBKD, VBUK, VBRK, KOMK, CALC_HDR*,J_1BBRANCH, J_1IMOVEND, J_1IMOCUST, J_1IMOCOMP, MKPF, MSEG, T156, DM07M, VM07M	/IDT/JOURNEY_HEADER_REQUEST /IDT/JOURNEY_HEADER_REQ_BR_GM
	BKPF (FI/LIV) VBRK (SD) T001 for both processes	/IDT/JOURNEY_AUDIT_UPD_DB_GL /IDT/JOURNEY_AUDIT_UPD_DB_BILL
	MKPF, BKPF, KOMK, KOMP, MSEG, EKKO, LFA1, CALC_HDR	/IDT/JOURNEY_HEADER_REQ_BR_GM
SAP_ITEM	Fields from the following SAP document **item** tables: BSEG, CSKS, DRSEG, EINA, EINE, EKKNU, EKPO, KOMP, KOMV_INDEX, MAKT, MARA, MARC, MARD, MBEW, MT06E, MVKE, PRICE_COND, T001W, T001Z ,TVAP, VBAP, VBAPF, VBRP, VBUP, CALC_ITEM*,J_1BBRANCH, J_1IMOVEND, J_1IMOCUST, J_1IMOCOMP, , MKPF, MSEG, T156, DM07M, VM07M **Header fields:** Any field listed in the SAP_HEADER section above, use prefix HDR-> when mapping a header table at line level	/IDT/JOURNEY_ITEM_REQUEST /IDT/JOURNEY_NG_ITEM_REQUEST /IDT/JOURNEY_ITEM_REQ_BR_GM
	BKPF (FI/LIV) VBRK (SD)	/IDT/JOURNEY_AUDIT_UPD_DB_GL /IDT/JOURNEY_AUDIT_UPD_DB_BILL
	MKPF, MSEG, EKPO, KOMP, LFA1, MBEW, J_1BBRANCH, LIKP	/IDT/JOURNEY_ITEM_REQ_BR_GM
SAP_FIELD	SYST GC_XS_FALSE – translates an SAP check box value to a XSD true/false value	All

Source Bases

	GC_VERSION – represents the XSD version supported, set to “G” as a constant	
DET_TAX	All fields in the Tax level of the Determination response (OUTDATA) message	/IDT/JOURNEY_STANDARD_RESPONSE /IDT/JOURNEY_TAX_TAB_RESPONSE
CONSTANT	Any constant value	All

Target Bases

Base	Description	Journey supported
DET_BATCH	All fields in Batch level of Determination request (INDATA) message	/IDT/JOURNEY_HEADER_REQUEST
DET_INVOICE	All fields in Invoice level of Determination request (INDATA) message	/IDT/JOURNEY_HEADER_REQUEST
DET_LINE	All fields in the Item level of the Determination request (INDATA) message	/IDT/JOURNEY_ITEM_REQUEST, /IDT/JOURNEY_NG_ITEM_REQUEST,
SAP_TAX_LINE	All fields in table /IDT/D_TAX_DATA, including custom appended fields	/IDT/JOURNEY_TAX_TAB_RESPONSE /IDT/JOURNEY_FB05_RESPONSE
	All fields of the SAP pricing lines as defined in structure KOMV_INDEX NOTE: used for backwards compatibility only	/IDT/JOURNEY_STANDARD_RESPONSE

Special Purpose Operands

Operand	Description	Journey supported
CALC_HDR	ROLE, EXTERNAL_COMPANY_ID, UNIQUE_INVOICE_NUMBER, TAX_CATEGORY	/IDT/JOURNEY_HEADER_REQUEST
CALC_ITEM	DET_TAX_CODE, IS_EXEMPT, AMOUNT, QUANTITY, IS_CREDIT	/IDT/JOURNEY_ITEM_REQUEST, /IDT/JOURNEY_NG_ITEM_REQUEST,
PARTNER_TAB	Used to reference a partner address in field mappings. Can be used in combination with partner function type.	/IDT/JOURNEY_HEADER_REQUEST, /IDT/JOURNEY_ITEM_REQUEST, /IDT/JOURNEY_NG_ITEM_REQUEST
HDR->	Pointer use in Item level request mapping to indicate that the field used is at header level, i.e. HDR->T001W-WERKS would indicate the plant from	/IDT/JOURNEY_ITEM_REQUEST, /IDT/JOURNEY_NG_ITEM_REQUEST, /IDT/JOURNEY_FB05_RESPONSE

Special Purpose Operands

	the header table to be mapped at the item level.	
ANCESTOR->	Pointer used in response mapping to indicate that the field used is at a higher level in the structure, i.e. ANCESTOR->ANCESTOR->CALLING_SYSTEM_NUMBER would be used to map from Invoice level field in the tax data level. NOTE: At this time we don't support mapping from the BATCH level of the Determination XML, all fields are available on the INVOICE level too.	/IDT/JOURNEY_TAX_TAB_RESPONSE /IDT/JOURNEY_STANDARD_RESPONSE /IDT/JOURNEY_FB05_RESPONSE
ITEMS->	Pointer used to determine at the header level a field that is stored at the line item level in order to pass that to the request.	/IDT/JOURNEY_HEADER_REQUEST

XSD Tables

Table	Description	Journey supported
USER_ELEMENT	A custom field in the XSD comprised of the XML element USER_ELEMENT and field ATTRIBUTE#, where # is any number between 1-40 at Invoice or Item level. NOTE: Attributes 41-50 are reserved by Thomson Reuters.	IDT/JOURNEY_HEADER_REQUEST, IDT/JOURNEY_ITEM_REQUEST, /IDT/JOURNEY_NG_ITEM_REQUEST, /IDT/JOURNEY_STANDARD_RESPONSE, /IDT/JOURNEY_TAX_TAB_RESPONSE
REGISTRATIONS	A structure of registration numbers for different roles; SELLER_ROLE, BUYER_ROLE, MIDDLEMAN_ROLE.	DT/JOURNEY_HEADER_REQUEST, IDT/JOURNEY_ITEM_REQUEST, /IDT/JOURNEY_NG_ITEM_REQUEST,
QUANTITIES	A complex structure to represent a list of quantities and unit of measures.	/IDT/JOURNEY_ITEM_REQUEST, /IDT/JOURNEY_NG_ITEM_REQUEST,
CURRENCY_CONVERSION	Represents a result set of one or two currency conversion steps in the TAX block of the tax response.	/IDT/JOURNEY_STANDARD_RESPONSE, /IDT/JOURNEY_TAX_TAB_RESPONSE

Special Purpose Operands in Tables

Operand	Description
NAME	A field value within a table like NAME=ATTRIBUTE1
ROW	A field value to point to a specific place in a table i.e. ROW=3 would point to the third row
ADD	An action, i.e. to add a row to the table

Special Purpose Operands in Tables	
CREATE_IF_NOT_EXIST	A control flag to only add the mapping if none already exists

LIST OF DELIVERED TABLES

For reference below table lists all Thomson Reuters delivered SAP tables.

CONFIGURATION TABLES

Most of the configuration tables are accessible via the User Menu provided with a few exceptions which are noted.

Table	Description
/IDT/C_DET_TAX_T	Determination Tax Code
/IDT/C_FI_CONTRL	FI Control Process: Custom
/IDT/C_LOG_CONFI	Log Configuration: Custom
/IDT/C_PROXIES	Configuration for Proxy Call
/IDT/C_ROLE_OVER	AP Company Role Override and Special Logic
/IDT/C_TAX_REL	Tax Code Relevancy
/IDT/C_TAX_TYPE	Determine condition types for taxes
/IDT/D_ADDR_SURC	Non partner function address sources
/IDT/D_ADDR_TYPE	Logical address types for ONESOURCE Tax Determination
/IDT/D_ADDRESSES	Match address sources to logical addresses types
/IDT/D_AUTO_JRNY	Automatically processed Journeys for each Route
/IDT/D_BASE_MAP	Base Maps
/IDT/D_CASH_DISC	Match SAP tax code to Determination Tax Code for Cash Discounts at time of payment calculations. Note this table is not in standard menu yet. Use sm30 transaction to maintain at this point.
/IDT/D_CG_ASSIGN	Country group assignment
/IDT/D_COUNTRY_G	Country groups
/IDT/D_DET_TAX_T	Determination Tax Type
/IDT/D_FI_CONTRL	FI process control configuration
/IDT/D_FIELD_MAP	Configurable field mappings
/IDT/D_GENERAL	General configuration option values table
/IDT/D_GRP_BUKRS	List company codes that should use non-grouped tax calc
/IDT/D_IS_EXEMPT	Configure exempt transactions
/IDT/D_LOG_CONFI	Log configuration
/IDT/D_NEG_TTYP	Tax scenarios to negate the tax values
/IDT/D_PART_SA	Partial Self-Assessment table

Table	Description
/IDT/D_PLNTS_ABD	Billing documents types that signify a plants abroad process
/IDT/D_PROXIES	Configuration for Proxy Call
/IDT/D_ROLE_OVER	AP company role override
/IDT/D_ROUTE_GRP	Route - Route Group index
/IDT/D_ROUTES	Configuration to switch on Routes
/IDT/D_SEL_ROUTE	Select route for SD and purchasing
/IDT/D_TAX_FILTERS	Tax Filters
/IDT/D_TAX_REL	Tax Code Relevancy
/IDT/D_TAX_TYPE	Determine condition types for taxes
/IDT/D_TXJCD_DEF	Tax Jurisdiction Code Definitions for Country
/IDT/D_VERSION	IDT Integration Version
/IDT/D_WSDL	WSDL Data of the Proxy Structure
/IDT/GM_MVMTTYPE	Maintain Internal Goods Movement Types
/IDT/S_FI_CONTRL	FI Control Process: Standard
/IDT/S_LOG_CONFI	Log Configuration: Standard
/IDT/TAX_SUM_GRP	IDT Tax Summarization Table
/IDT/V_ADDR_SURC	SAP Non-Partner Function Address Sources: Custom
/IDT/V_ADDR_TYPE	Determination Address Types: Standard
/IDT/V_ADDRESSES	Address Mappings: Custom
/IDT/V_ADR_PRIVA	Address Mappings: Standard
/IDT/V_AJ_PRIVAT	Auto Processed Journeys for Route: Standard
/IDT/V_AS_PRIVAT	SAP Non-Partner Function Address Sources: Standard
/IDT/V_AUTO_JRNY	Auto Processed Journeys for Route: Custom
/IDT/V_BASE_MAP	Base Mappings: Standard
/IDT/V_CG_ASSIGN	Country Group Assign Standard
/IDT/V_COUNTRY_G	Country Group Standard
/IDT/V_FM_PRIVAT	Field Mappings: Standard
/IDT/V_GENERAL	General Configuration Values
/IDT/V_GM_MVTYPE	Goods Movement types
/IDT/V_NEG_TTYP	Negate Tax Types: Standard
/IDT/V_NEG_TTYPE	Negate Tax Types: Custom
/IDT/V_PLNTS_ABD	Plants Abroad Billing Type

Table	Description
/IDT/V_RG_PRIVAT	Route Groups: Standard
/IDT/V_ROUTE_GRP	Route Groups: Custom
/IDT/V_ROUTES	Configuration to Switch on Routes
/IDT/V_SEL_ROUTE	Select Route for SD and Purchasing Configuration
/IDT/V_TAX_SUM_C	IDT Tax Summarization Configuration View
/IDT/D_VERSION	IDT Integration Version
/IDT/D_WS	WS Security Configuration for Proxy

TRANSACTION TABLES

Transaction tables can hold a considerable amount of data depending on your business processes and system configurations. You should monitor growth of these tables and manage them as part of your archiving and/or purging process.

Route	Description
/IDT/D_AUDIT_REC	Record of last Determination calculation request messages for document for later use in the audit update call, cancellations, and other processes. Archiving should be tied to your document retention process.
/IDT/D_AUDIT_STA	Status of messages for audit DB. Archiving can be managed as part of month end close process.
/IDT/D_LOG	Log for tax calculations based on log configuration settings. Archiving can be managed as part of month end close process.
/IDT/D_TAX_DATA	Table that holds additional Tax Data information for a given document in support of invoice printing and downstream processes. This table is tied to the transaction document and should be managed for archiving based on the leading documents archiving.

RESERVED ATTRIBUTES

Thomson Reuters reserved attributes 41-50 of the **Invoice** and **Line** fields for internal use. The following table is a list of the standard attributes that are already mapped. Customers can’t make use of Attributes 41-50.

Attribute	Used for
INVOICE.USER_ELEMENT.ATTRIBUTE41	TAX CATEGORY OF 0 OR 1
INVOICE.USER_ELEMENT.ATTRIBUTE50	PLANTS ABROAD - CONSTANT "PA"

Attribute	Used for
LINE.USER_ELEMENT.ATTRIBUTE42	G/L ACCOUNT NUMBER
LINE.USER_ELEMENT.ATTRIBUTE43	COST CENTER
LINE.USER_ELEMENT.ATTRIBUTE44	CREDIT/DEBIT FLAG (S,H)/ GM - Used in Goods Movement Program
LINE.USER_ELEMENT.ATTRIBUTE45	ROUTE NAME
LINE.USER_ELEMENT.ATTRIBUTE46	SAP TAX CODE for Item and NG_Item Journey/ TAX CODE OF ORIGINAL DOCUMENT FOR CASH DISCOUNTS AT TIME OF PAYMENT CALCULATION
LINE.USER_ELEMENT.ATTRIBUTE47	US-specific configuration that applies to the line.
LINE.USER_ELEMENT.ATTRIBUTE49	Used for (Sequential Number of Account Assignment) for item request journey for SES - /IDT/JOURNEY_NG_ITEM_SERV_ENTR.
LINE.USER_ELEMENT.ATTRIBUTE50	DIVISION/ BUSINESS AREA (depending on module)

LIST OF TRANSACTION CODES

Below is a list of the transaction codes added to the system for the IDT integration tables and processes. This list can be used by security personnel in order to assign transactions to roles for security authorizations.

Transaction code	Used for
/IDT/SELECT_ROUTE_V	Select Route for SD and Purchasing View Only
/IDT/AUTO_JOURNEYS_V	Automatically Processed Journeys View Only
/IDT/ROUTE_GROUP_V	Route Groups View Only
/IDT/ADDRESS_TYPES_V	Address Types View Only
/IDT/ADDRESS_SOURC_V	Address Sources View Only
/IDT/LOG_CONFIG_V	Log Configuration View Only
/IDT/NEG_TAX_TYPE_V	Negate Direction of Tax Types View Only
/IDT/FI_CONTROL_V	FI Process Control Configuration View Only
/IDT/COUNTRY_G_V	Country Groups View
/IDT/CG_ASSIGN_V	Country Group Assignment View
/IDT/BASE_MAPPING_V	Base Mappings View Only
/IDT/FIELD_MAPPING_V	Field Mappings View Only
/IDT/ADDRESS_MAP_V	Address Mapping View Only

Transaction code	Used for
/IDT/PROXY_CONFIG	ONESOURCE Proxy Configuration
/IDT/LOG_NUMBR_RANGE	Log Number Range
/IDT/WS	Web Service Security Configuration
/IDT/LOG_CONFIG	Configure Logs
/IDT/ROUTE_CONFIG	Route Configuration
/IDT/DETER_COND_TYPE	Determine Condition Type for Taxes
/IDT/ROUTE_GROUP	Route Groups
/IDT/NEG_TAX_TYPE	Negate Direction of Tax Types
/IDT/FI_CONTROL	FI Process Control Configuration
/IDT/FIELD_MAPPINGS	Field Mappings
/IDT/ADDRESS_MAPPING	Address Mapping
/IDT/COUNTRY_GROUPS	Country Groups
/IDT/CNTRY_GRP_ASSIG	Country Group Assignment
/IDT/TAX_SUM_CONFIG	Configuration for Tax Summarization
/IDT/EXEMPT_SETTINGS	Tax Exemption Settings
/IDT/GEN_CONFIG_VALS	General Configuration Values
/IDT/DET_TAX_CODE	SAP Tax Code/Det Tax Code Index
/IDT/CASH_DISCOUNT	Cash Discount/Det Tax Code Index
/IDT/US_LOGIC	US Specific Logic
/IDT/OFFSET_CONFIG	Offset tax line configuration
/IDT/PLANTS_ABROAD	Plants Abroad Billing Types
/IDT/TAX_CODE_REL	Tax Code Relevancy
/IDT/AUTO_JOURNEYS	Automatically Processed Journeys
/IDT/ADDRESS_SOURCES	Address Sources
/IDT/LOG	Log Reader
/IDT/LOG_ARCHIVE	Log Archival – Delete/Export to ZIP File (used for both foreground and background processing)
/IDT/AUDIT_DATABASE	Audit Database Transactions Update used for foreground processing
/IDT/RECON_EXTRACT	ERP Reconciliation Extract Report
/IDT/US_TAX_REPORT	Copy of US Tax Report
/IDT/TAX_FILTERS	Tax Filters Configuration
/IDT/VERSION	Global Next Product Version
/IDT/WS	Web Service Security Configuration

RECONCILIATION EXTRACT PROGRAM REFERENCES

RECONCILIATION EXTRACT MAPPED FROM SAP

This shows the mapping from SAP to ONESOURCE Indirect Tax Reconciliation Extract Output.

Output field name	SAP field name	Table-fieldname
External Company ID	SAP company code	BKPF-BUKRS
Host System	SAP system name (e.g. CO3)	SY-SYSID
Calling System	SAP client number	SY-MANDT
Company Role	Buyer (B) / Seller (S)	
ERP Transaction ID	Reference key of SAP Accounting document	BKPF-AWKEY
Document Number	Accounting document number	FI: BKPF-BELNR LIV: RBKP-BELNR SD: VBRK-VBELN
Document Type	Accounting document type	BKPF-BLART
Document Description	Accounting document header text	BKPF-BKTXT
Document partner number	Customer number (AR transactions) /	BSEG-KUNNR / BSEG-LIFNR
Vendor number (AP transactions)	BSEG-KUNNR /	KNA1-NAME1 / LFA1- NAME1
ERP Period	Fiscal Period	BKPF-MONAT
Document Date	Document date in format : DD-MON-YYYY, E.g. 12-Aug-2012	ETXDCI-ZZINVDATE if not NULL, else ETXDCI-TAX_DATE
Fiscal Date	Posting Date Date Format : DD-MON-YYYY	BKPF-BUDAT
Gross Amount	Tax Base Amount in Local (Company code) Currency	BSET-HWBAS
Tax Amount	Tax Amount in Local (Company code) Currency	BSET-HWSTE

Output field name	SAP field name	Table-fieldname
Document currency	Document currency key	BKPF-WAERS
Optional UDF 1	Custom field based on custom BAPI implementation	
Optional UDF 2		
Optional UDF 3		
Optional UDF 4		
Optional UDF 5		

EXTRACT SELECTION SCREEN FIELD DEFINITION

The table below shows in detail each of the selection screens available at runtime of the Reconciliation Extract:

Description	Field Name	Type	Optional / Required	Default value
Company Code	BKPF-BUKRS	Parameter	R	
Fiscal Year	BKPF-GJAHR	Parameter	R	
Posting Date	BKPF-BUDAT	Select options	O	
Posting Period	BKPF-MONAT	Select options	O	
Tax Code	BSEG-MWSKZ	Select options	O	
Select Zero/Exempt tax records		Check Box	O	X
Application / Local server path		Radio Buttons	O	Application server
Application Server	RLGRAP-FILENAME	Parameter	O	TVARV variable value
Presentation Server	RLGRAP-FILENAME	Parameter	O	User parameter value

Description	Field Name	Type	Optional / Required	Default value
Company Code Prepend		Parameter	O	
Package Size		Parameter	R	10000

ONESOURCE INDIRECT TAX TRANSPORT OBJECTS

This section lists the technical objects delivered with the Reconciliation Extract Report transport provided:

Object Name	Object Type	Description of Object
/IDT/	Name space	Container for all objects delivered by Thomson Reuters
/IDT/RECON_EXTRACT	Package	Package containing all report development objects
/IDT/RECEXT	Transaction code	Transaction code to run the Reconciliation extract report
/IDT/RECON_EXTRACT	Report program	Main program
/IDT/RECON_EXTRACT_TOP	Include	Include contains global types and data declaration
/IDT/RECON_EXTRACT_SEL	Include	Selection screen is defined under this include
/IDT/RECON_EXTRACT_FORM	Include	Include contains form routines
/IDT/BADIRECON_EXTRACT	BAdI definition	BAdI definition to add logic for 5 user defined fields
/IDT/EXTRACT_OUTPUT	Structure	Output file structure
/IDT/INT_RECON_EXTRACT	Interface	BAdI Interface
/IDT/CL_RECON_EXTRACT	Class	Class implementing the BAdI interface
/ IDT/EXTRACT_UDF	Structure	BAdI return data structure
/ IDT/APP_SERVER_PATH	TVARV global variable	Variable in TVARV table to maintain Application server path
/IDT/LCLFILEPATH	Parameter ID	User parameter to maintain default Presentation server path

ENABLING CUSTOM FIELDS

The file format of the Reconciliation Report allows for five (5) user defined fields (UDF) as pass through elements. Companies wishing to use these fields can use custom code to set a value from SAP and extract it into one of the UDF's. These values then will be imported into the Reporting reconciliation tables and show in the Reconciliation Report process.

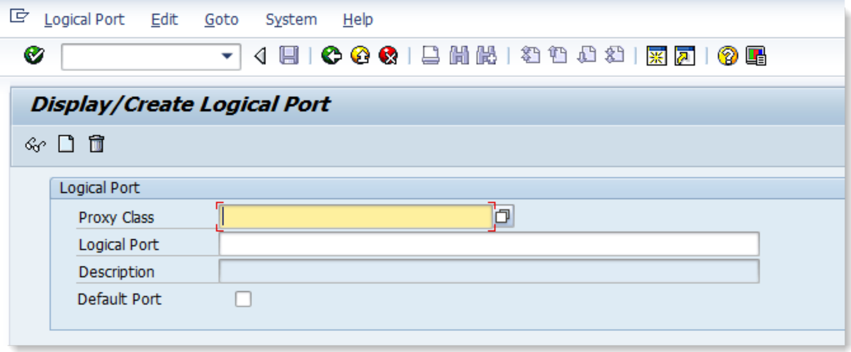
A BAdI **/IDT/BADIRECON_EXTRACT** has been provided as part of the SAP Reconciliation Report which can be implemented by the customers. The BAdI method returns the 5 UDF's in the structure /IST/EXTRACT_UDF.

APPENDIX 2: LOGICAL PORT

An alternate way of configuring the communication between SAP and Determination is using the logical port configuration. This option might be used if there is no J2EE layer enabled in the SAP environment Integration is deployed in.

We have not extensively tested this method, but provide below setup screens as a courtesy in case you would like to use this alternate way of setup. We don't recommend using it as a production setup.

1. Transaction Code: **LPCONFIG** The following image shows the Create Logical Port dialogue.



Display/Create Logical Port

Logical Port

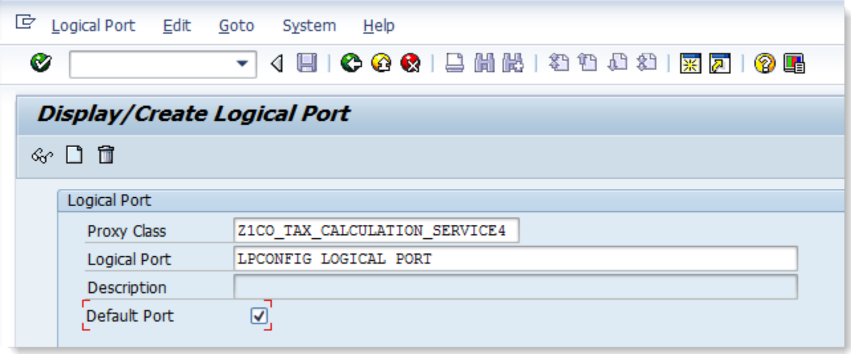
Proxy Class

Logical Port

Description

Default Port ☐

2. Use the Proxy Name from [Creating an SAP Proxy]() section and create a Logical Port Name as shown in the screen shot. . Then Check "Default Port".



Display/Create Logical Port

Logical Port

Proxy Class Z1CO_TAX_CALCULATION_SERVICE4

Logical Port LPCONFIG LOGICAL PORT

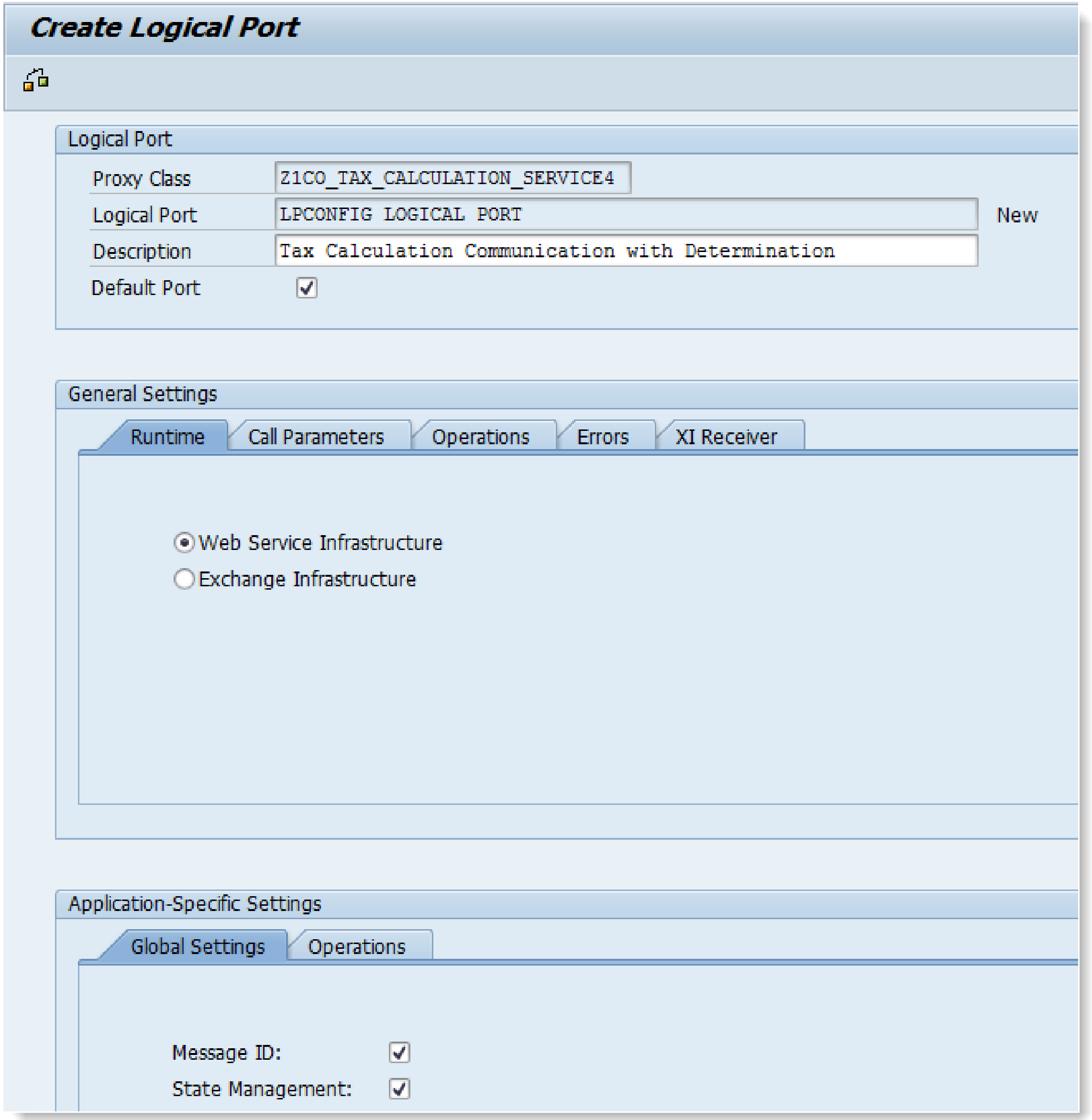
Description

Default Port ☑

3. Press to **Create** the logical port. Fill in the following values:

Logical Port Name:	Name of the port you want to create
Description:	Text explaining to use of the port
Default Port:	Needs to be **checked**

On the **Runtime** tab select *Web Service Infrastructure* and in the **Global Settings** tab make sure both ***Message ID*** and ***State Management*** are **checked**.



Create Logical Port

Logical Port

Proxy Class: Z1CO_TAX_CALCULATION_SERVICE4

Logical Port: LPCONFIG LOGICAL PORT New

Description: Tax Calculation Communication with Determination

Default Port: ☑

General Settings

● Web Service Infrastructure

○ Exchange Infrastructure

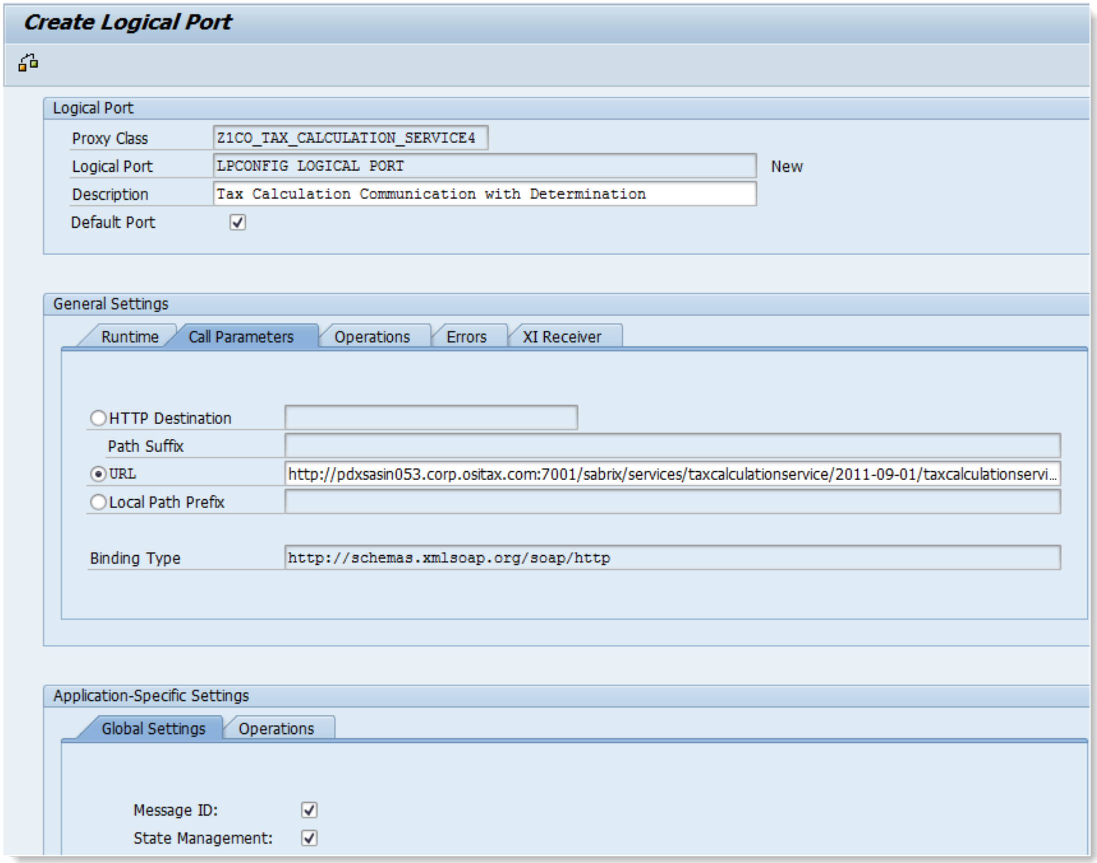
Application-Specific Settings

Message ID: ☑

State Management: ☑

4. Click on the **Call Parameters** tab, check the *URL* and then enter the calculation URL as follows:

http://<HOSTNAME>:<PORT>/sabrix/services/taxcalculationservice/2011-09-01/taxcalculationservice



Create Logical Port

Logical Port

Proxy Class	Z1CO_TAX_CALCULATION_SERVICE4	
Logical Port	LPCONFIG LOGICAL PORT	New
Description	Tax Calculation Communication with Determination	
Default Port	☑	

General Settings

○ HTTP Destination	
Path Suffix	
● URL	http://pdxsasin053.corp.ositax.com:7001/sabrix/services/taxcalculationservice/2011-09-01/taxcalculationservi...
○ Local Path Prefix	
Binding Type	http://schemas.xmlsoap.org/soap/http

Application-Specific Settings

Message ID:	☑
State Management:	☑

Replace <host> with the name of the computer hosting the application server and replace <port> with the port number. http://<HOSTNAME>:<PORT>/sabrix/ should

5. **Save** your logical port and then **Activate** it.

6. You can follow steps outlined in the SOAP Tax Calculation Test section to test your logical port.