# ONESOURCE INDIRECT TAX INTEGRATION FOR SAP

## INSTALL AND PROGRAMMERS GUIDE

PRODUCT VERSION 6.3.0.0

Document Version 1

THOMSON REUTERS

# DOCUMENT HISTORY

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| v1 | July 31, 2015 | First version of this guide for ONESOURCE Indirect Tax Integration for SAP 6.3.0.0 |

# 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 consult the Quality Assurance Testing Guide for a list of tested platforms by Thomson Reuters.
- 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. |
| *Platform Support Guide* | This guide describes the supported combinations of operating systems, databases, and application servers/web containers. |
| *Product Support Lifecycle Guide* | This guide lists the end-of-life dates for products in the ONESOURCE Indirect Tax Suite. |
| *Quality Assurance Testing Guide* | Consult this guide to see which combinations of software we test with Integrations. |
| *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. |
| *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.

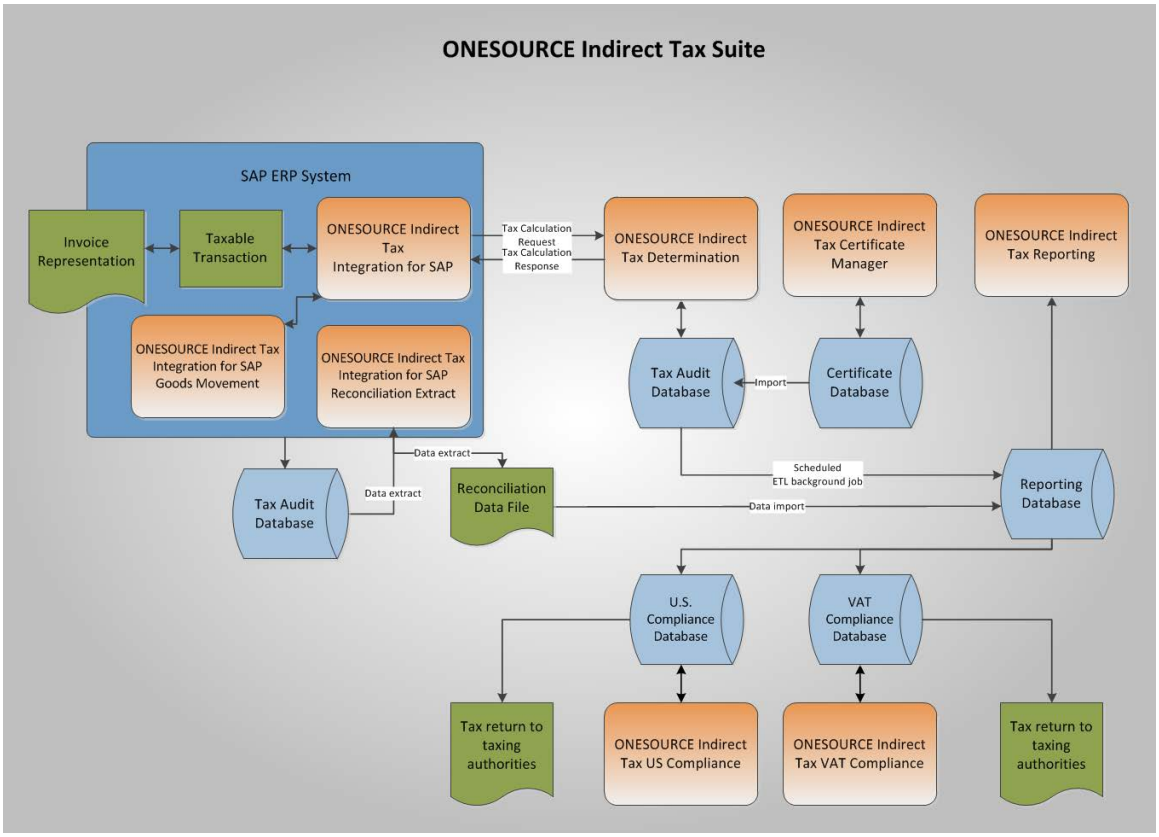
# USER PROCESSES THAT TRIGGER DETERMINATION TAX CALCULATIONS

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.

**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:

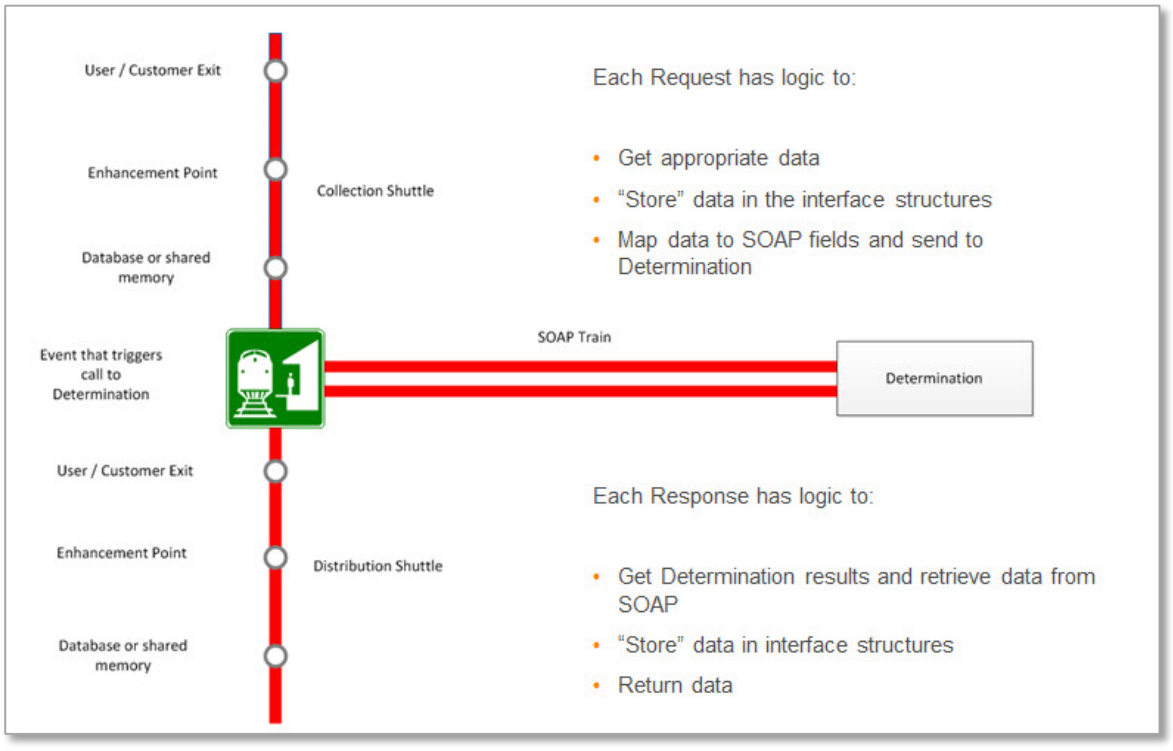
| Term | Meaning |
|---|---|
| SOAP (Simple Object Access Protocol) | SOAP is a way to build connections between software applications across networks including the internet. It works very much like a Yahoo search, where you pass in a request and get a response from a server. SOAP requests and responses 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 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.




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.

# 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:

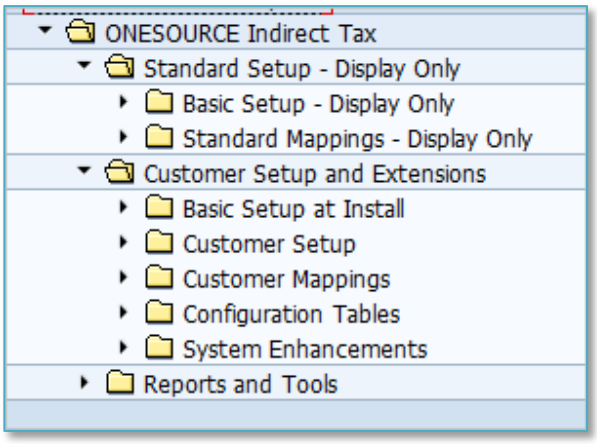
| Transport | Content |
|---|---|
| DO4K900833 | Thomson Reuters ONESOURCE IDT Integration 6.3.0.0 – Code |
| DO4K900813 | Thomson Reuters ONESOURCE IDT Integration 6.3.0.0 - Configuration |
| DO4K900683 | Thomson Reuters ONESOURCE IDT Integration 6.3.0.0 – BTE |
| DO4K900686 | Thomson Reuters ONESOURCE IDT Integration 6.3.0.0 – Roles |

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.

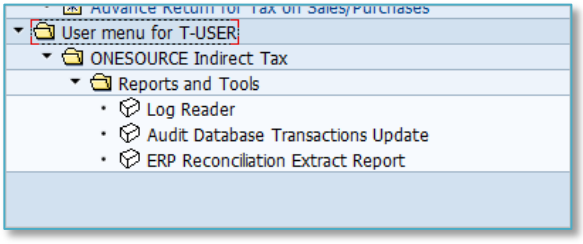
## ADDING USER MENU TO A ROLE

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.

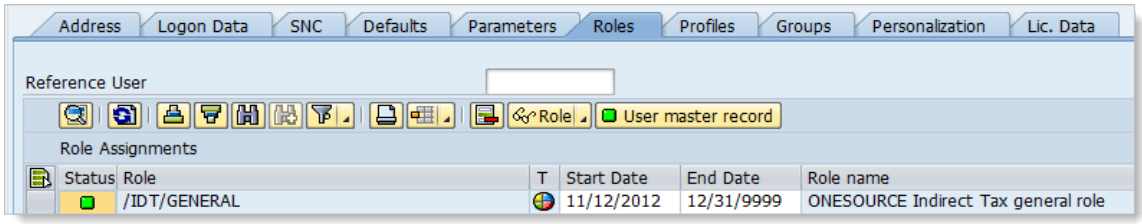
**/IDT/GENERAL** contains all of the IDT transactions codes and the full ONESOURCE User Menu. This would normally be given to users that are in charge of management of the system, configuration, and mapping,




**/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.

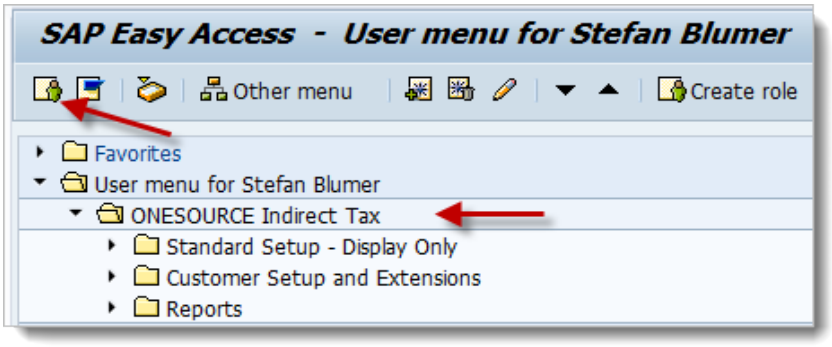



To assign the role to a user go to Transaction Code **SU01**. On the **Roles Tab**, insert the new role name, beginning and ending dates as shown below.




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.




# ADDING INCLUDE STATEMENTS

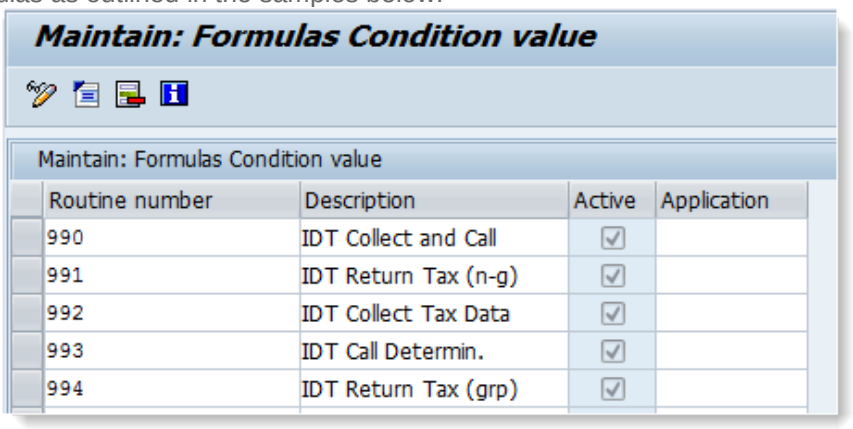
To connect our tax interface with SAP business processes, code has to be added in several areas of the SAP system, mainly in formulas, user-exits, BAdI, and other methods further described in this section. In each case you will add a statement of code that then calls the Thomson Reuters delivered interface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

# CREATING CONDITION VALUE FORMULAS

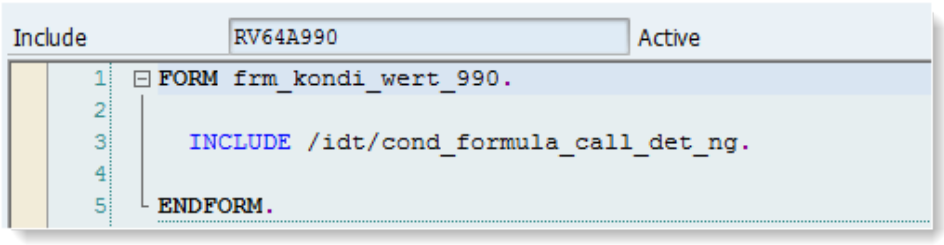
Use the next available formula in your system. The examples shown here are examples only. Once the formulas are created and generated you will be able to assign them to our Integration via configuration. See the *Configuration Guide -> ONESOURCE Route Configuration* for more details on this follow-up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

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



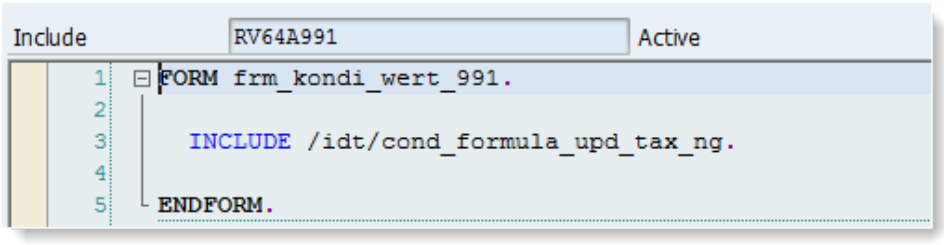

1. Collecting data and calling Determination (non-group process) [RV64A990]

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



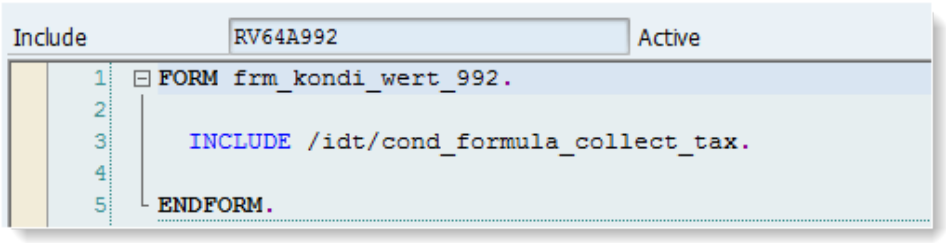

2. Update tax condition with tax data (non-group process) [RV64A991]

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



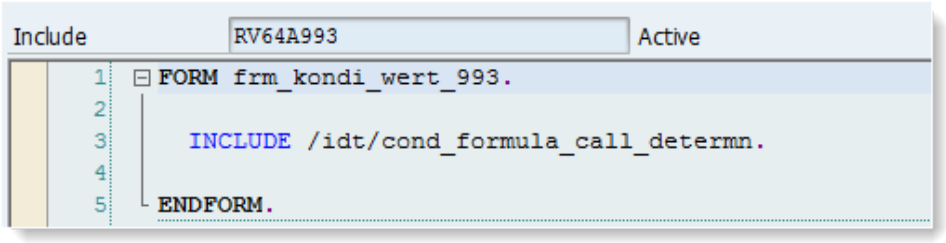
3. Collecting line tax data (group process) [RV64A992]

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



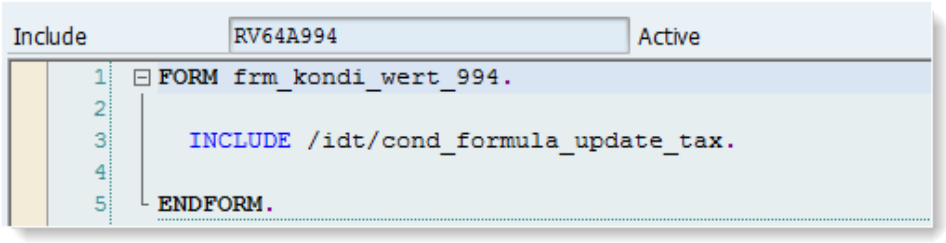

4. Calling Determination (group process) [RV64A993]

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




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

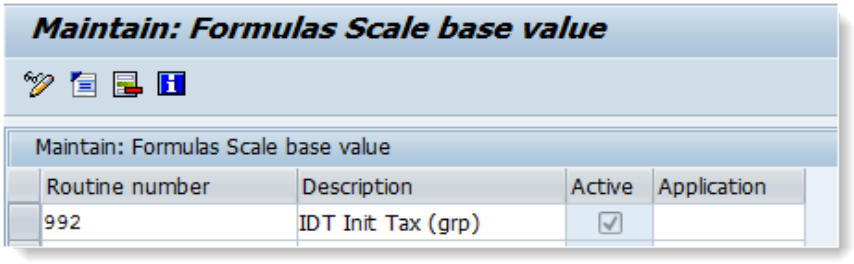
```
INCLUDE /IDT/COND_FORMULA_UPDATE_TAX.
```



# CREATING SCALE BASED FORMULA

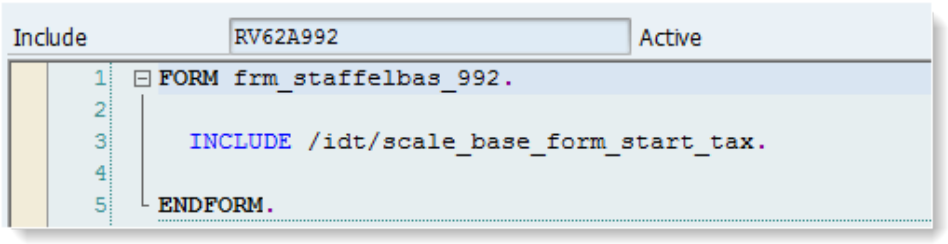
Use the next available formula in your system. The examples shown here are examples only. Once the formulas are created and generated you will be able to assign them to our Integration via configuration. See the *Configuration Guide -> ONESOURCE Route Configuration* for more details on this follow-up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

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




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

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



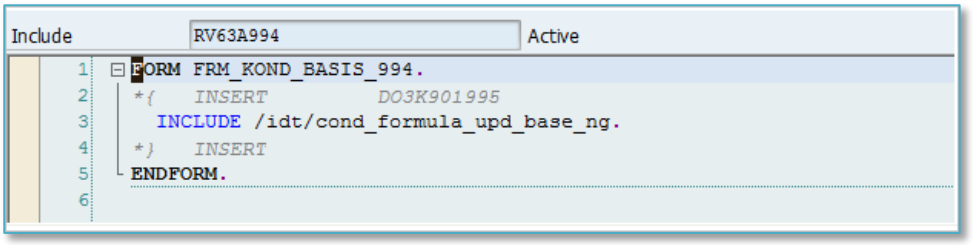
# CONDITION BASE VALUE

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.
```




# 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.
```

## Tax Jurisdiction Check for Brazil

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.
```

## 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.
```

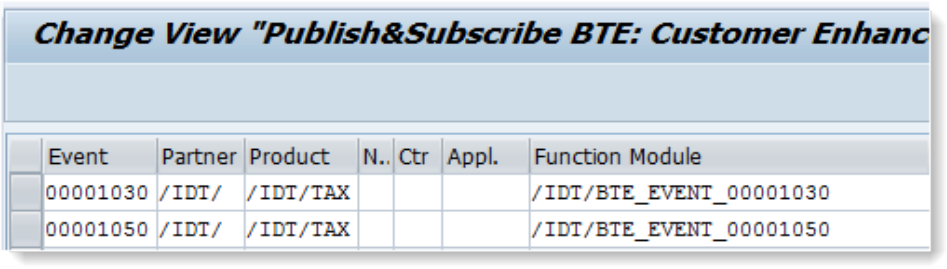
### LIV Nota Fiscal Taxes and Tax Laws

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.
```

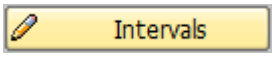
# REVIEWING BTE EVENTS

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**.

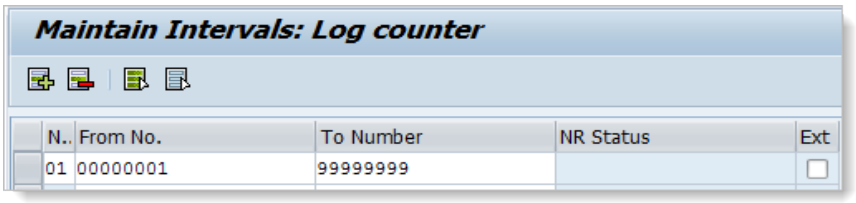



# CREATING A LOG NUMBER RANGE

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 

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.




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.

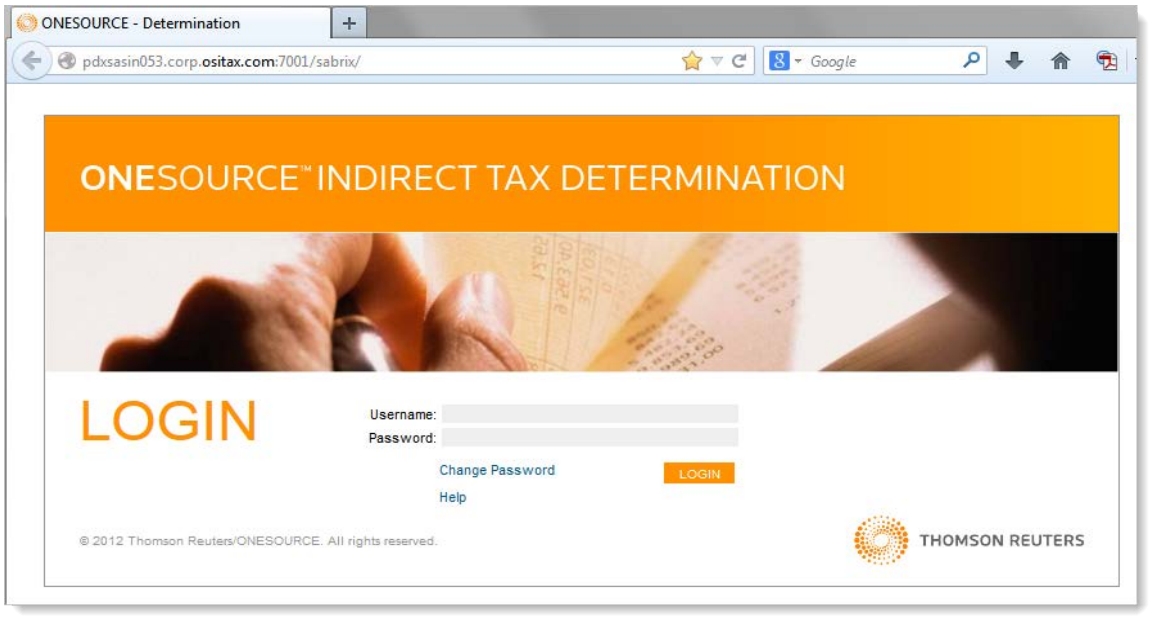
## HOSTED CUSTOMERS CONNECTIVITY

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.




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

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 access the system first.

# SETTING UP THE SOAP INTERFACE PROXY

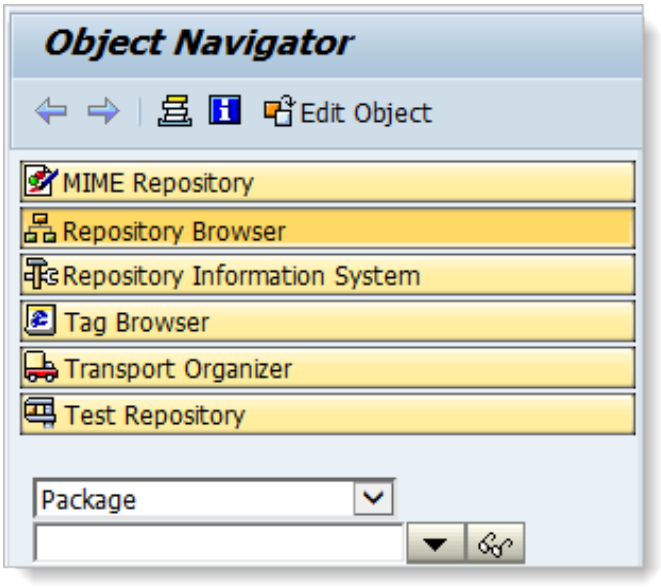
In the following steps we will configure an SAP Proxy and then configure a communication between SAP and Determination using SAP's SOA Manager.

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.

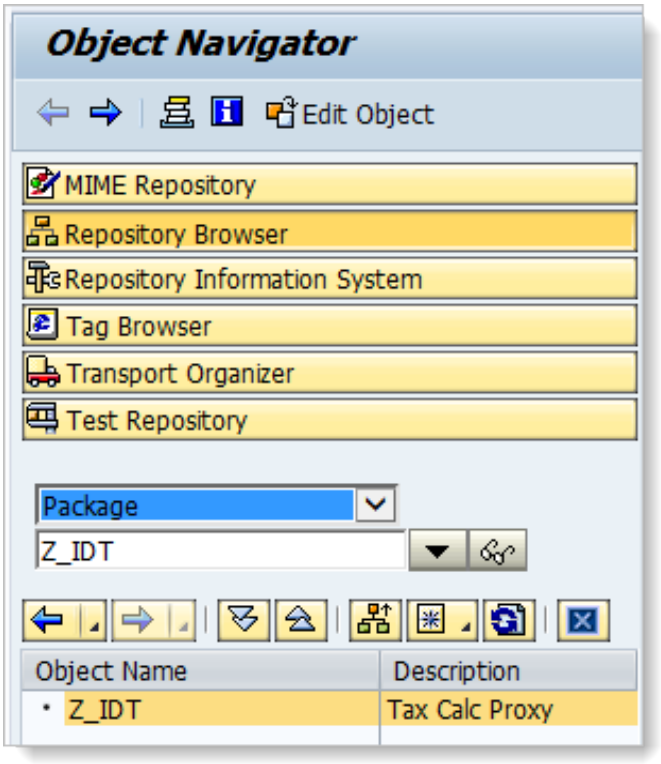
## CREATING AN SAP PROXY

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

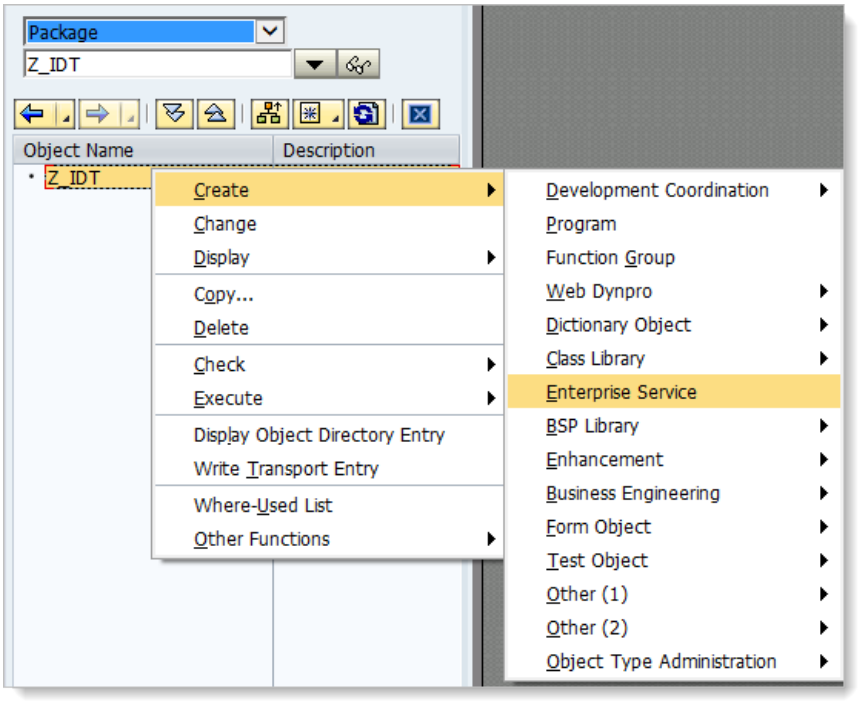
1. Go to Transaction Code **SE80** and select the "Package" setting.



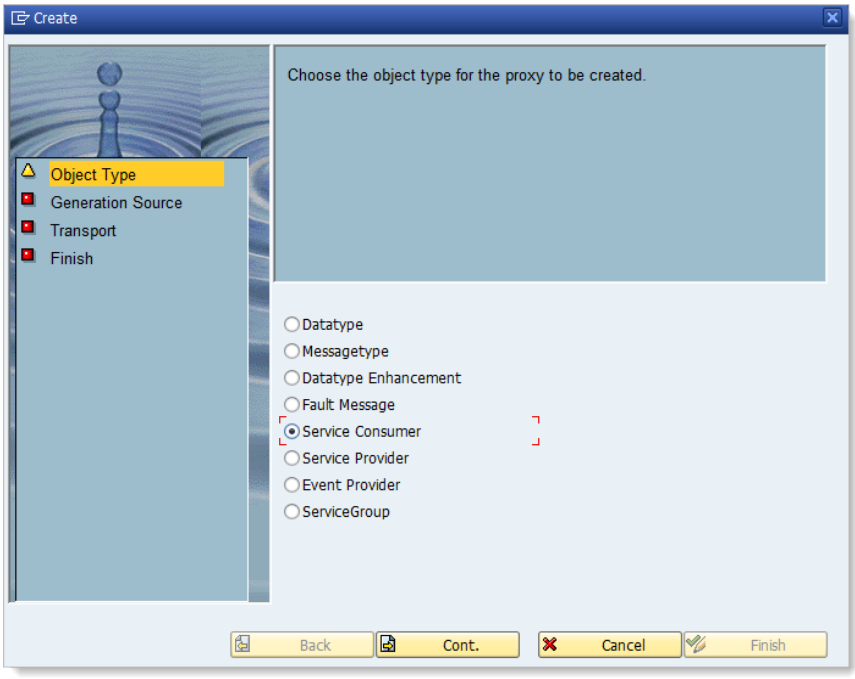

2. Enter the package you want the proxy to be in and press enter. (You may need to create the package at this point and add it to a transport.)



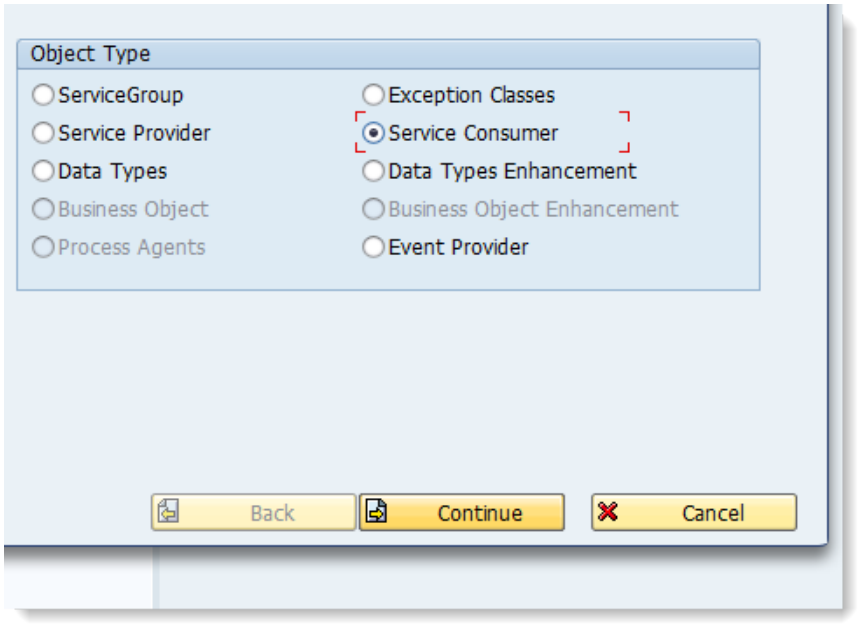

3. Select the package root and right-click. Select Create->Enterprise Service.



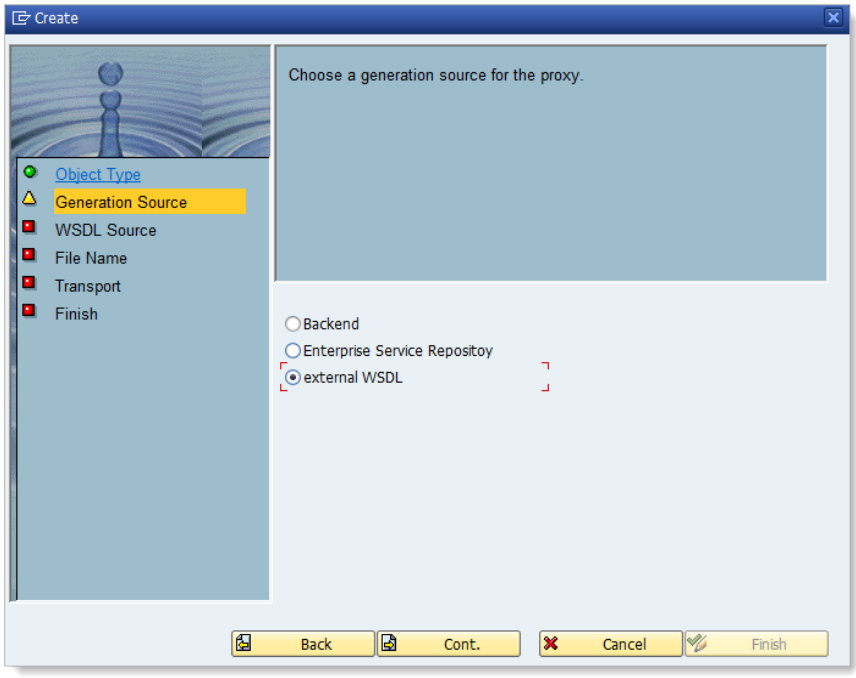

This should take you to something like below picture (this might be slightly different depending on the NetWeaver version used).



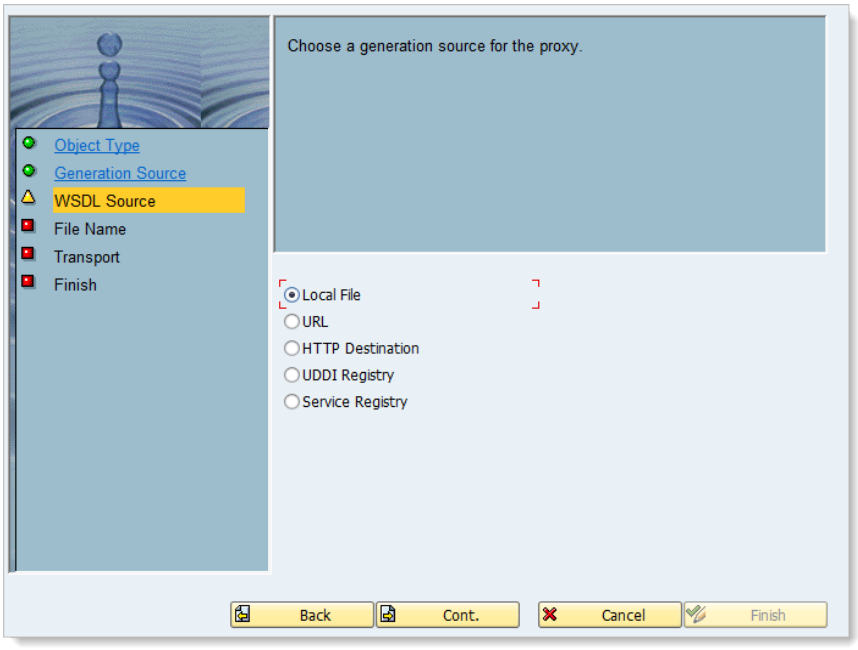

4. Select “Service Consumer”.

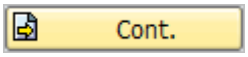


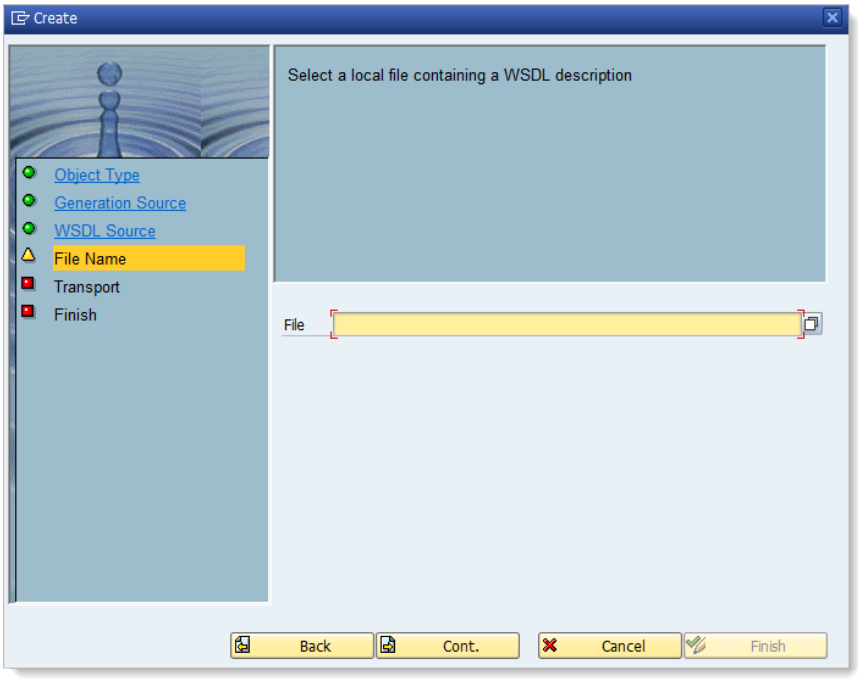

5. Then press Cont. which should take you to something like the screen below.



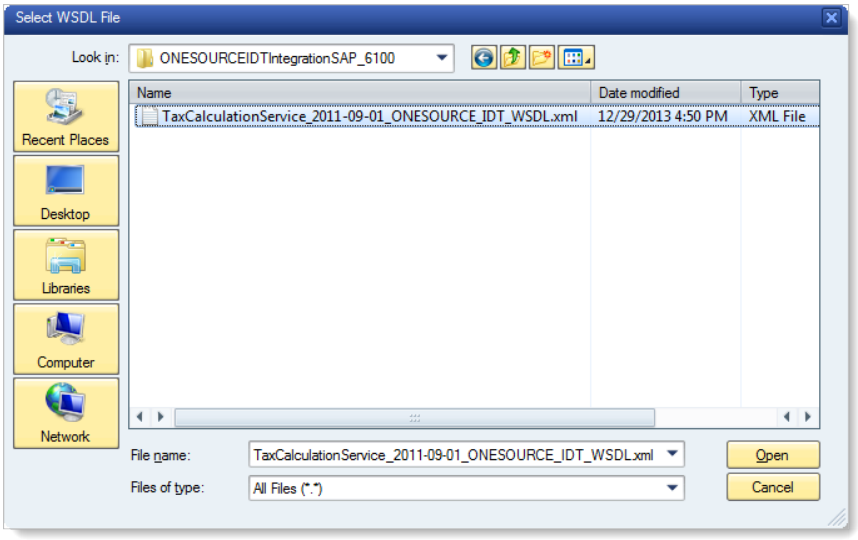

6. Select **external WSDL** and press Cont., then select “Local File”.



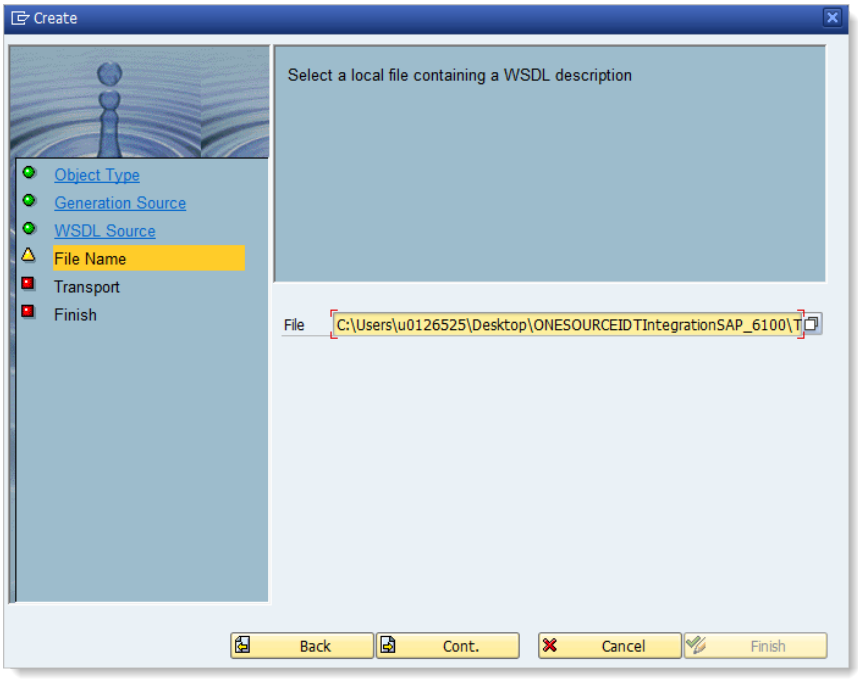

7. Then press  which displays a file selection option.

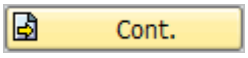




8. Browse to the *TaxCalculationService_2011-09-01_ONESOURCE_IDT_WSDL.xml* file found in the **Code** folder at the location you placed it during the Downloading the Software steps.

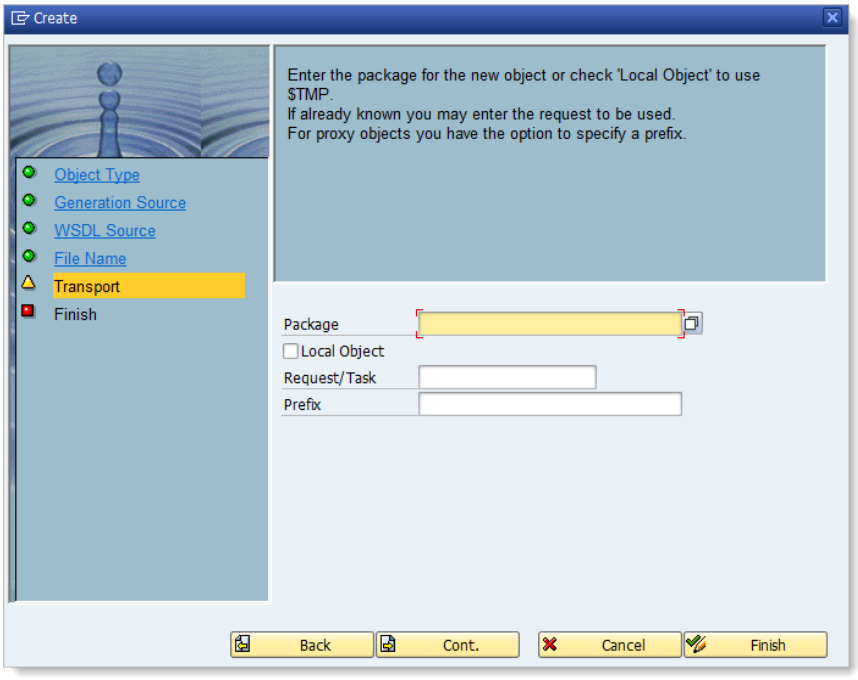



9. Press “Open” to get the file selected.

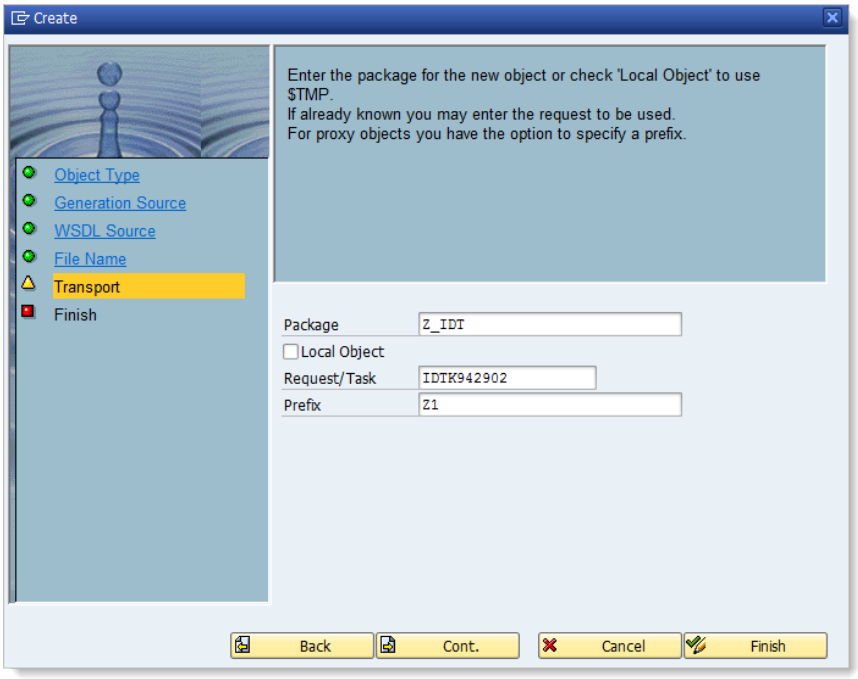



10. Then press 

which takes you to Transport step.

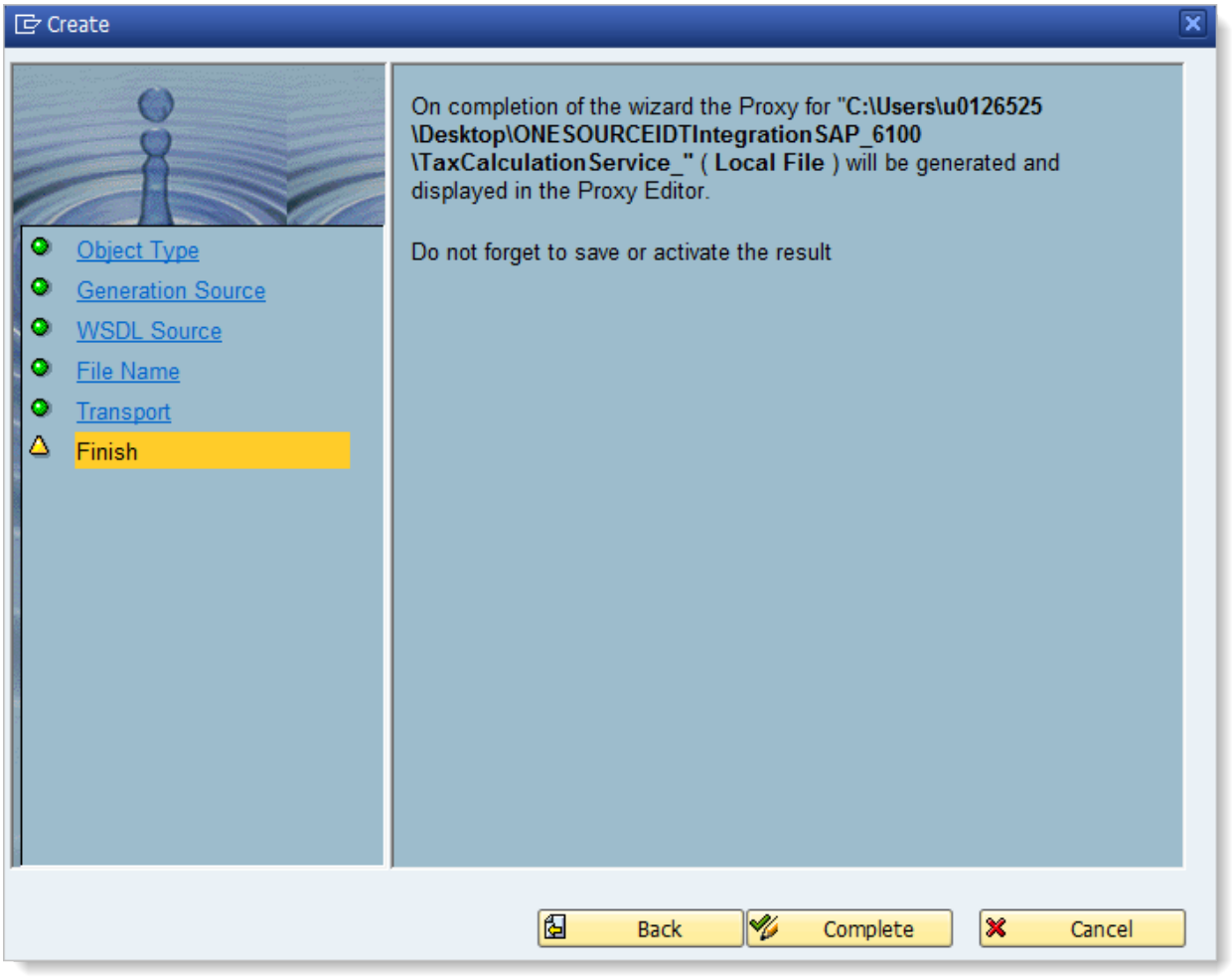


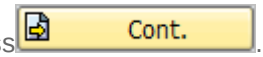

1. Enter the package you are using in the **Package** field. The prefix can be something like Z1 (The prefix can be up to 3 characters in length). The Request/Task could be the transport you are currently using (With <F4> you can see what transports are available.).



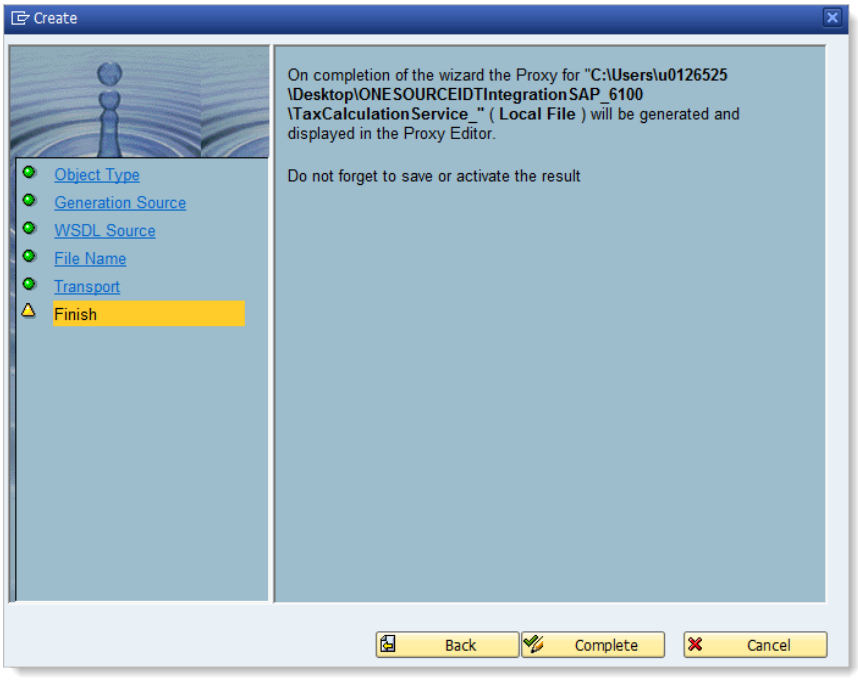

2. Then press 

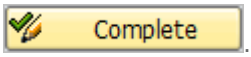
which should take you to a confirmation screen.




3. Next press 

. You will receive a confirmation message.

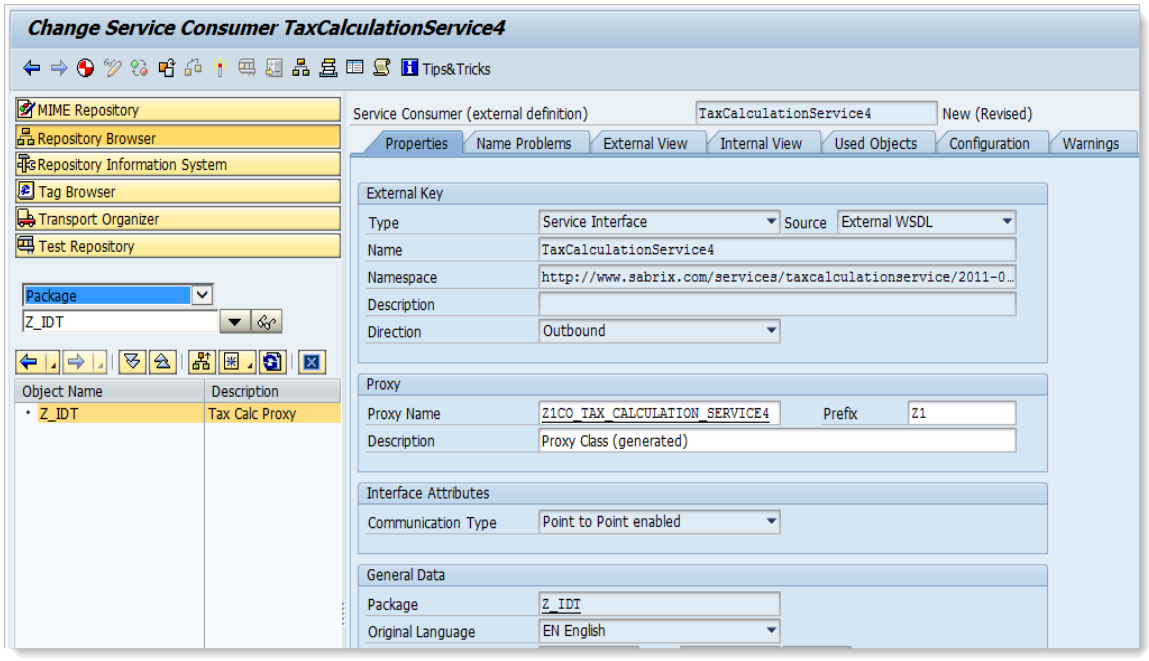



To finish setting up the proxy select 

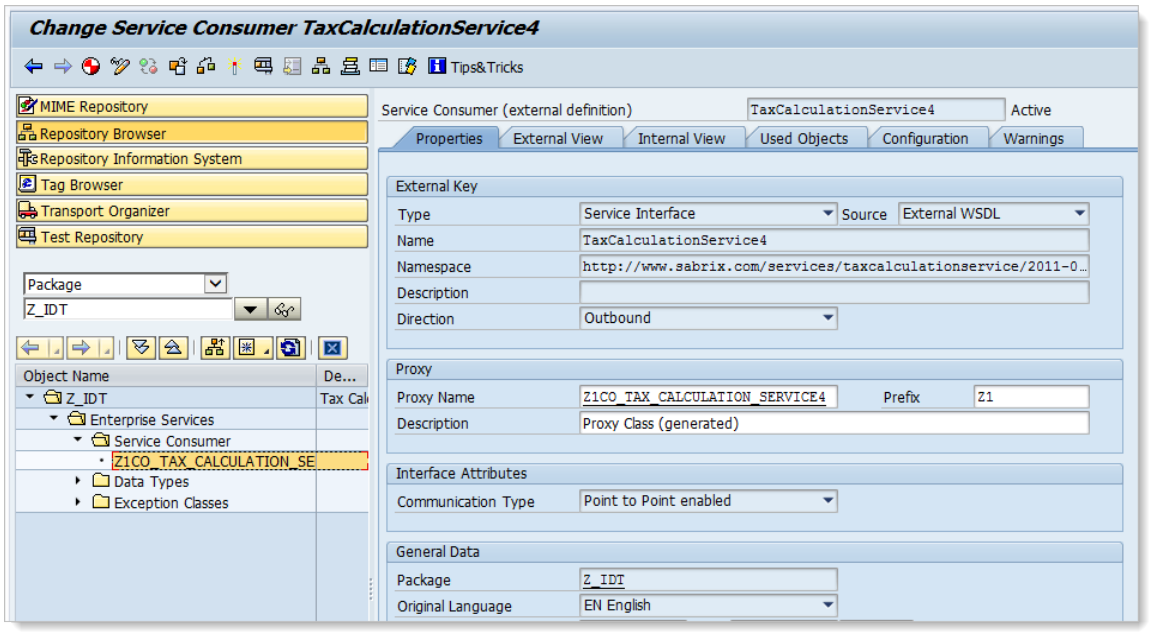
.

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.




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



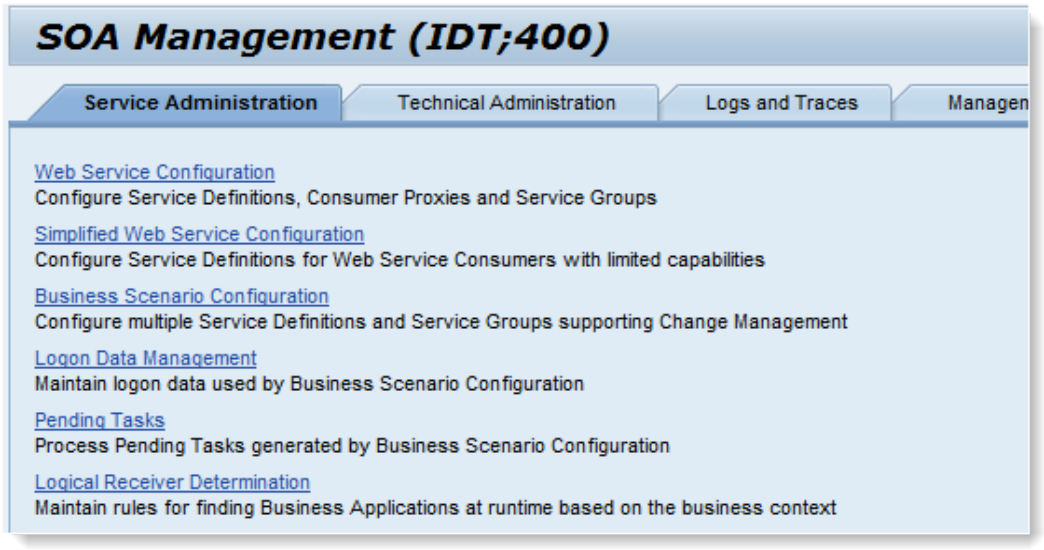

Write down the **Proxy Name** (in this case *Z1CO_TAX_CALCULATION_SERVICE4*) and the Service Consumer (in this case *TaxCalculationService4*).

# SETTING UP SOAMANAGER

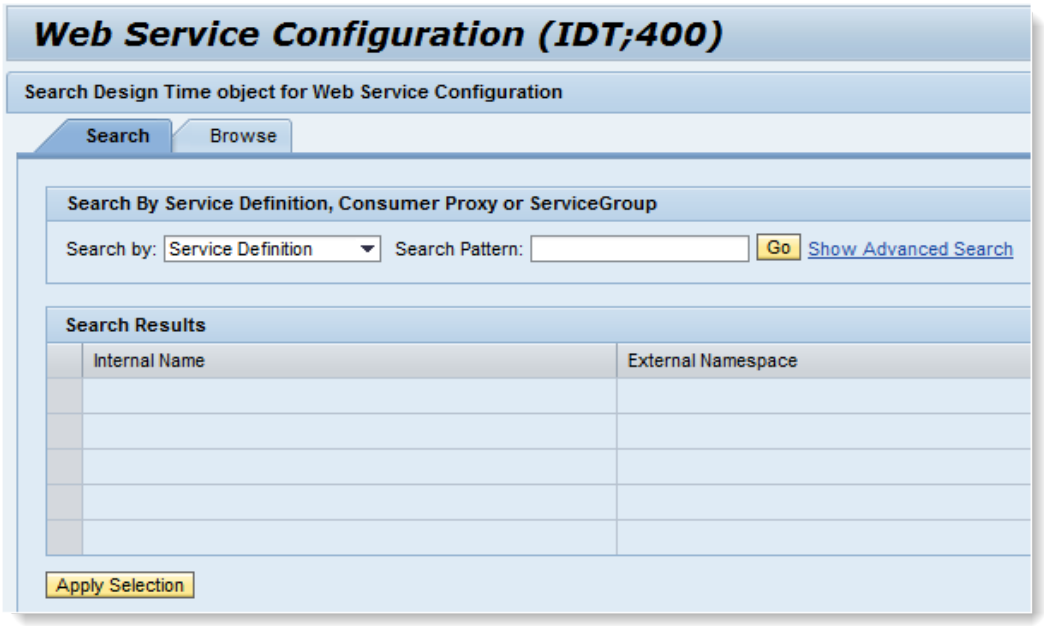
In the next steps we will setup a communication between SAP and Determination via SOAP. This is done in the SOA Management console.

Transaction Code **SOAMANAGER**

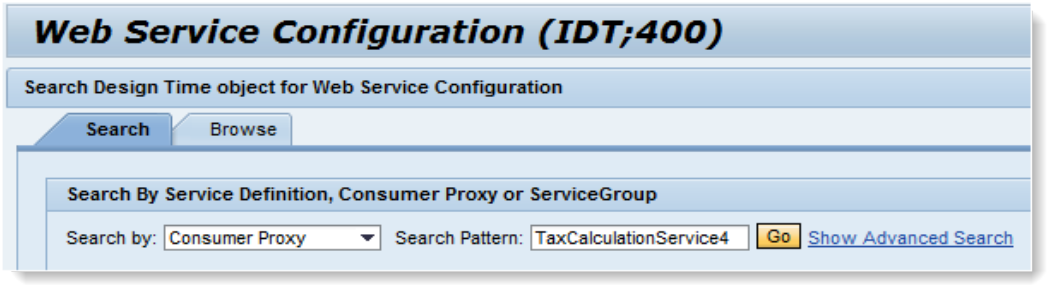
1. Logon to the web portal.




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

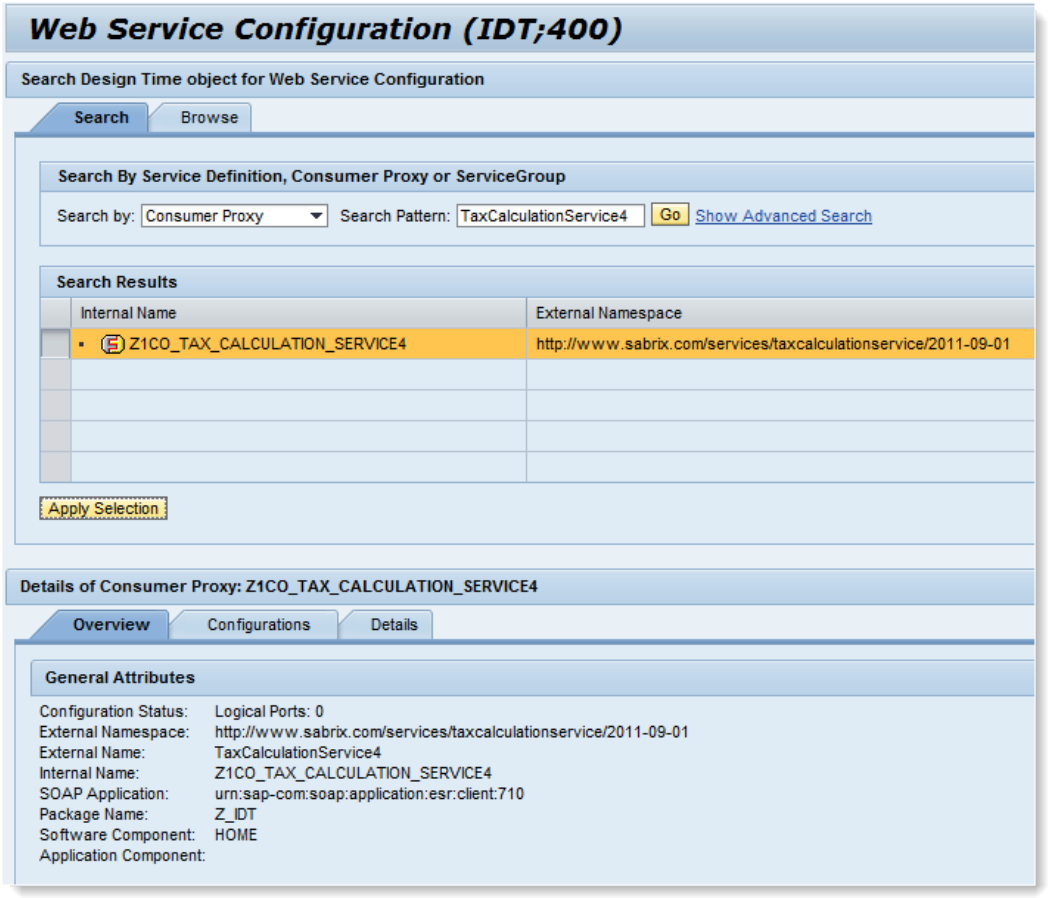


3. In the **Search by:** drop-down select *Consumer Proxy*. Then enter in the **Search Pattern:** field the Service Consumer name created in the prior section (in this example *TaxCalculationService4*). Select **Go**.

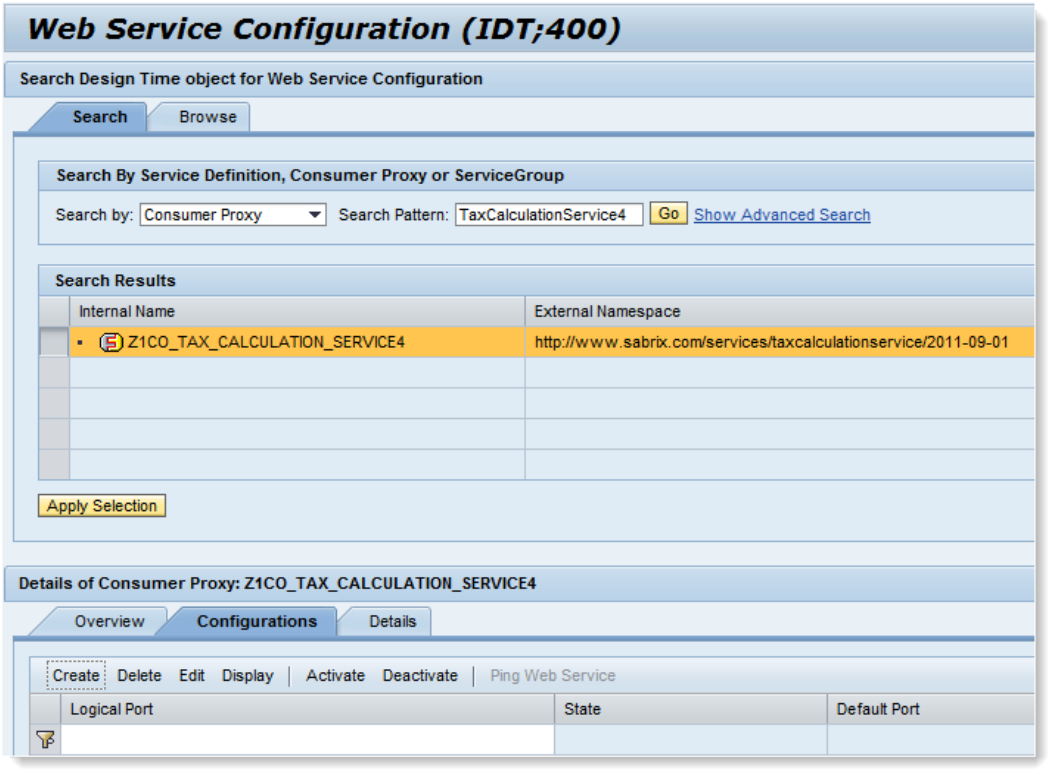



You should see a results list like the screen shot below.


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

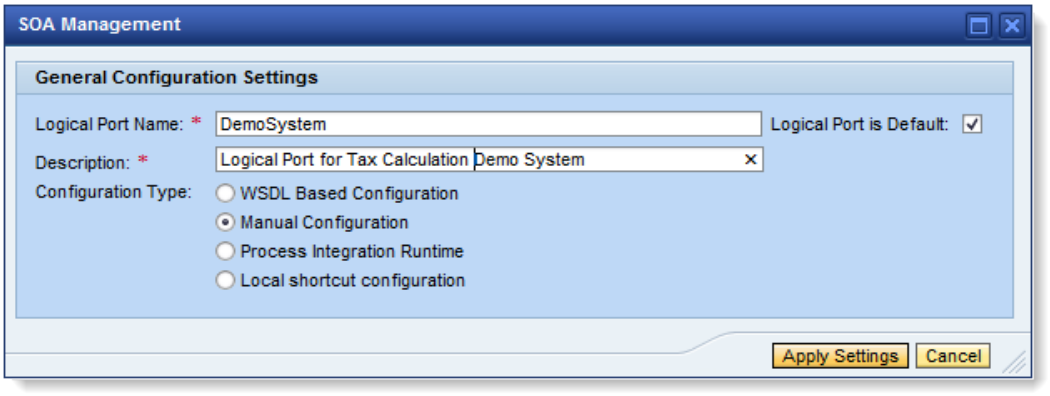



5. Move to the **Configurations** tab.

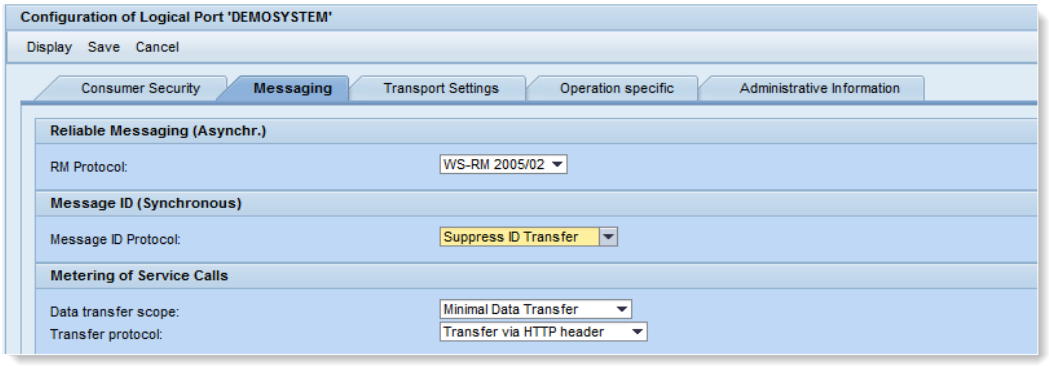



6. Select **Create**. A new pop-up will be displayed. Fill in the following values:

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

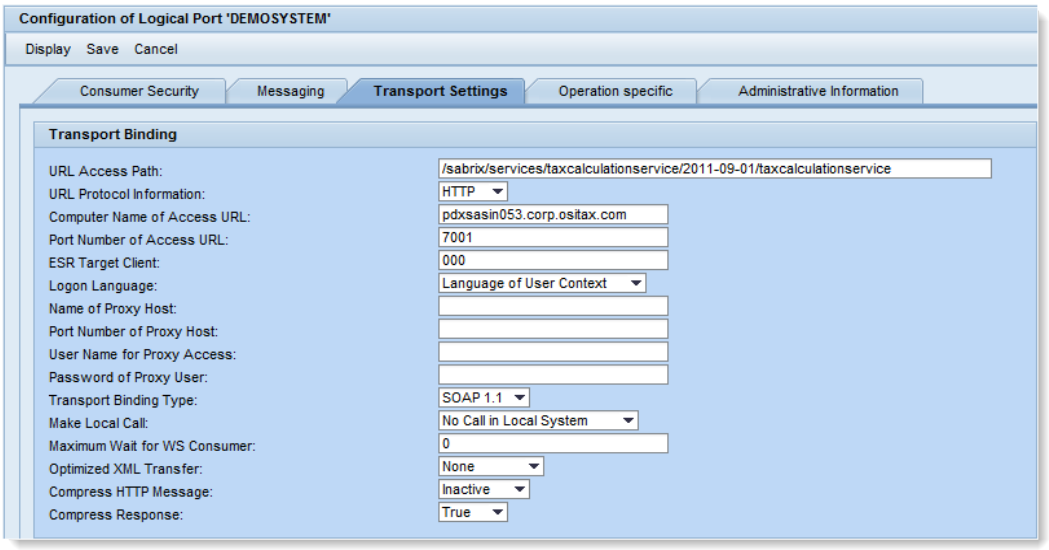



7. **Apply Settings.** You will be taken back to the Web Service Configuration Screen. In the bottom panel select the **Messaging** tab and switch the *Message ID Protocol:* to **Suppress ID Transfer**.

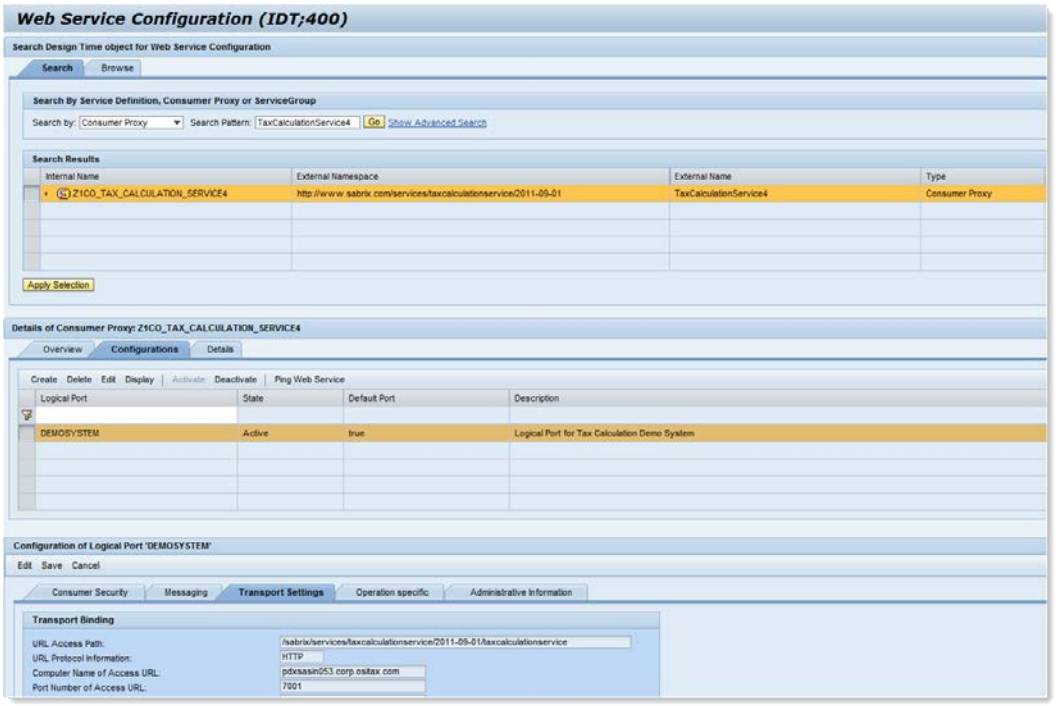



8. Go to the **Transport Settings** tab and enter the following values:

| | |
|---|---|
| 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> |




9. **Save** your setup. A confirmation message will be displayed. Your Web Service Configuration should look something like the screen shot below.



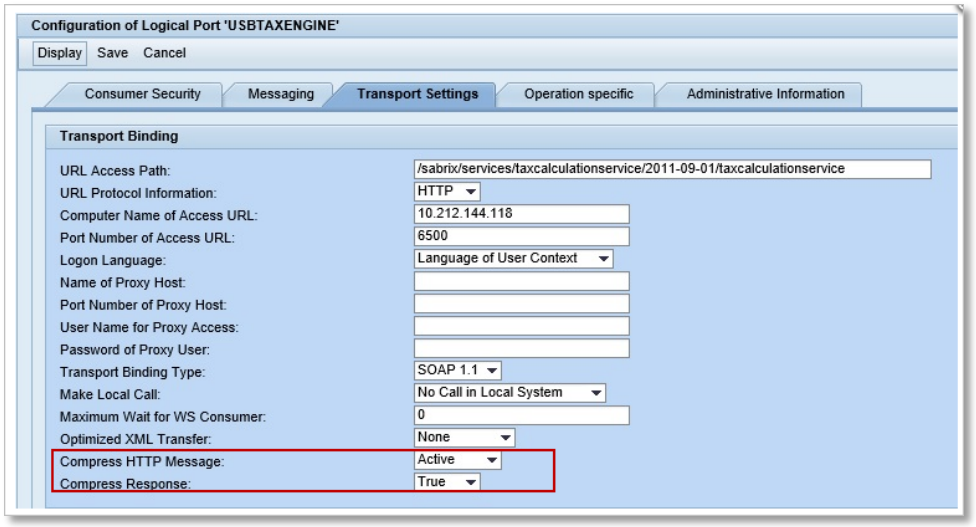

# WS SECURITY CONSIDERATIONS ON THE PROXY FOR A HOSTED ENVIRONMENT

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”.

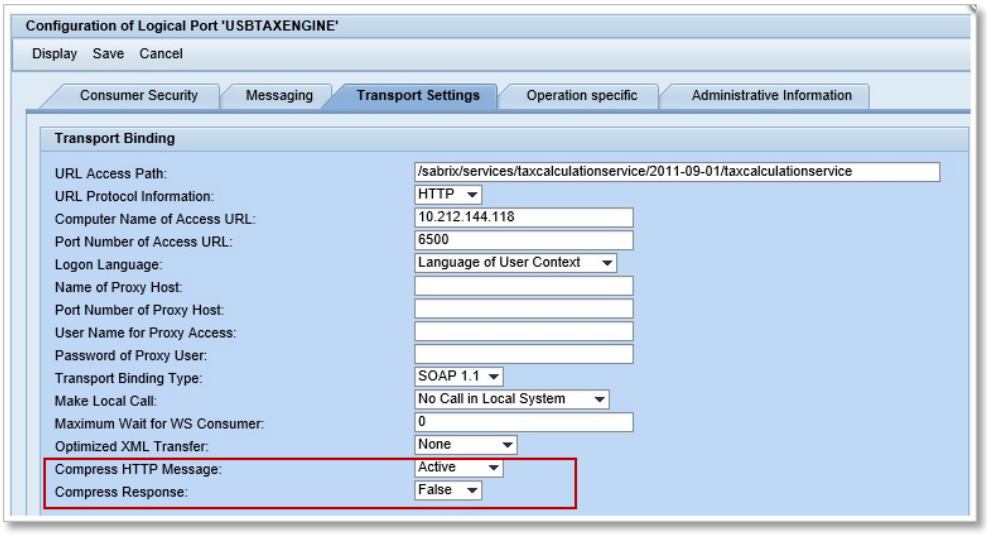
Option 1: Using the compression on both the message and the response

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



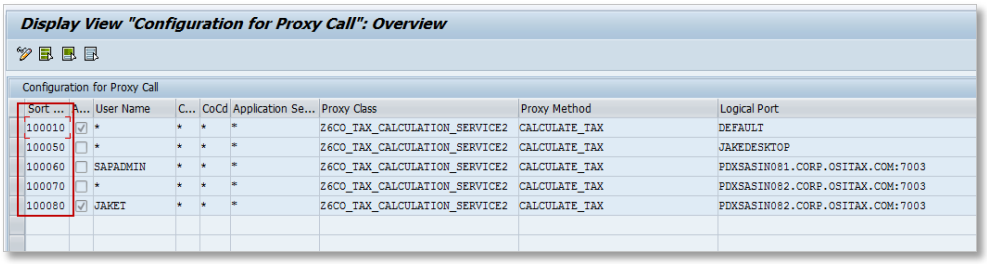

Option 2: Using the compression only on the message

Example of screen shot is shown below:

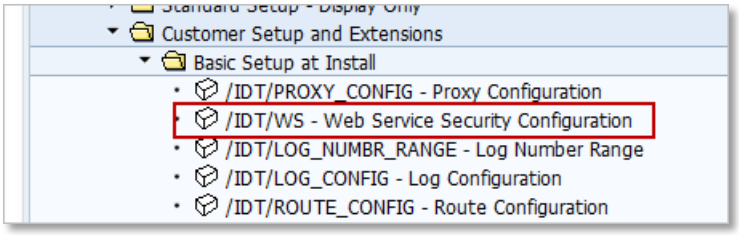



A new transaction code: **/N/IDT/WS** has also been created in order for the user to establish the special user name and password for each line on the Proxy Configuration table based on the sort order number of the proxy configuration line. The data in the transaction is obfuscated and placed in table /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.

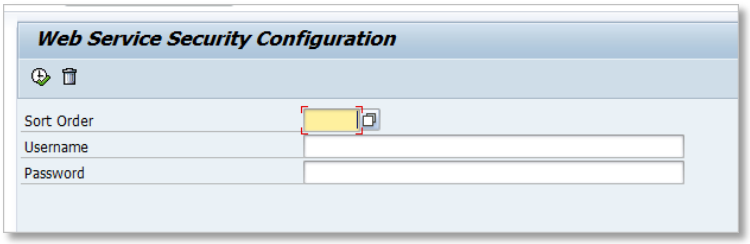
Below is an example of the Proxy Configuration table.




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:




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




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.

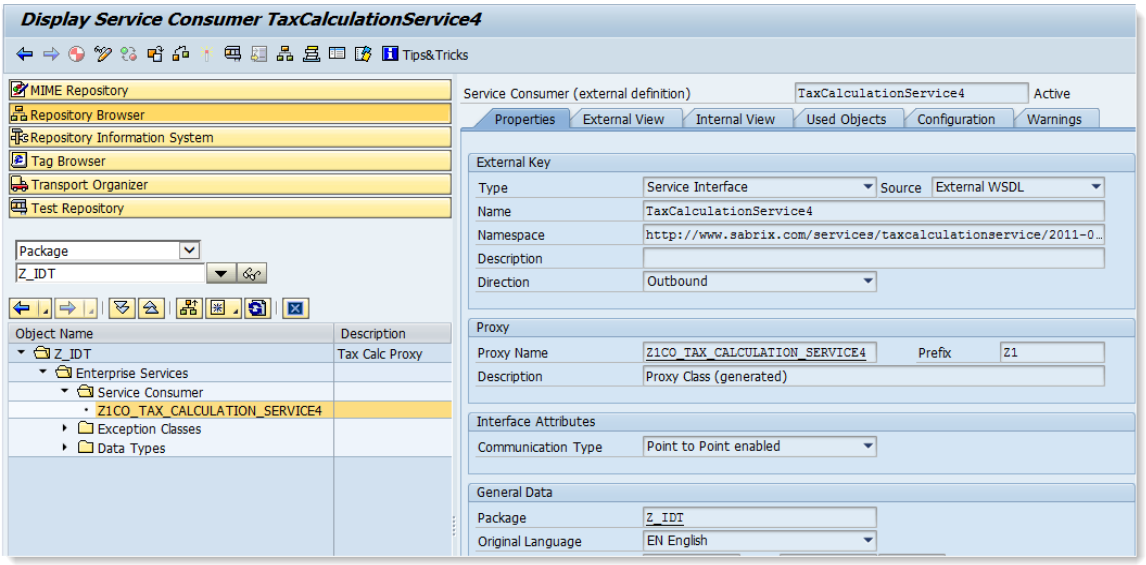
# SOAP TAX CALCULATION TEST

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.

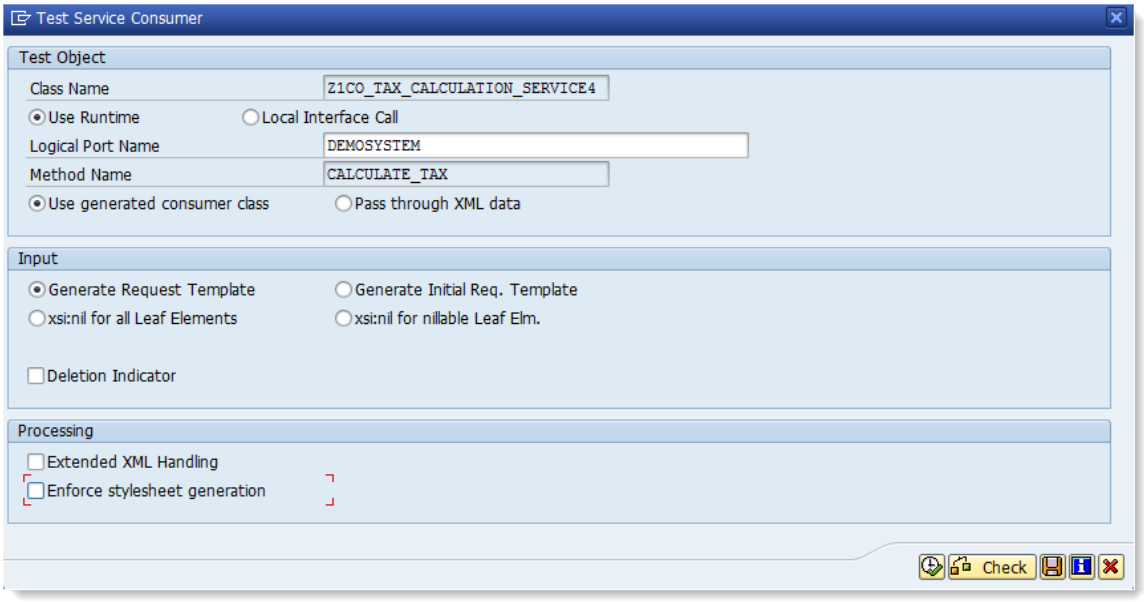
## SOAP TESTING

Transaction Code **SE80**

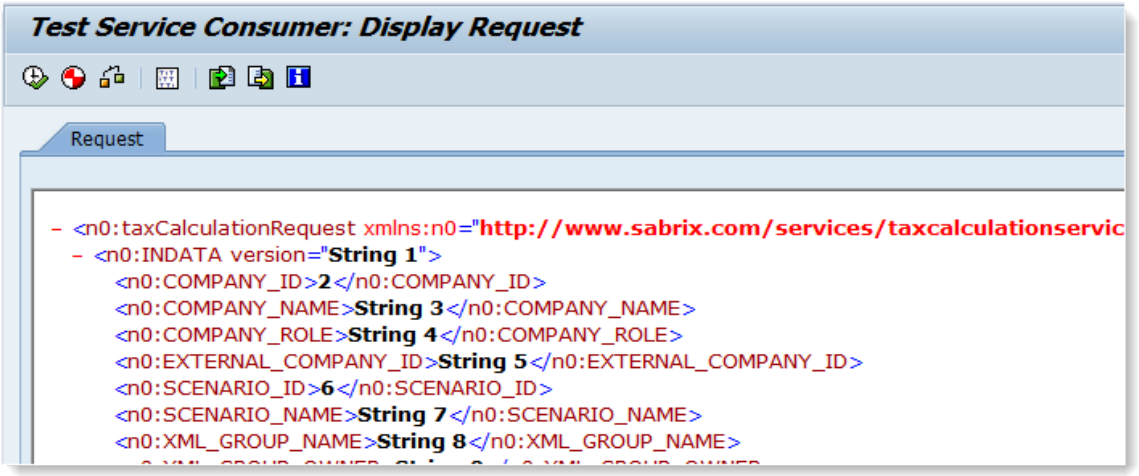
1. Select the Package name you created during the SAP Proxy setup (Z_IDT in this example), then drill down to **Enterprise Service → Service Consumer** to see your consumer proxy. Then double click the proxy.



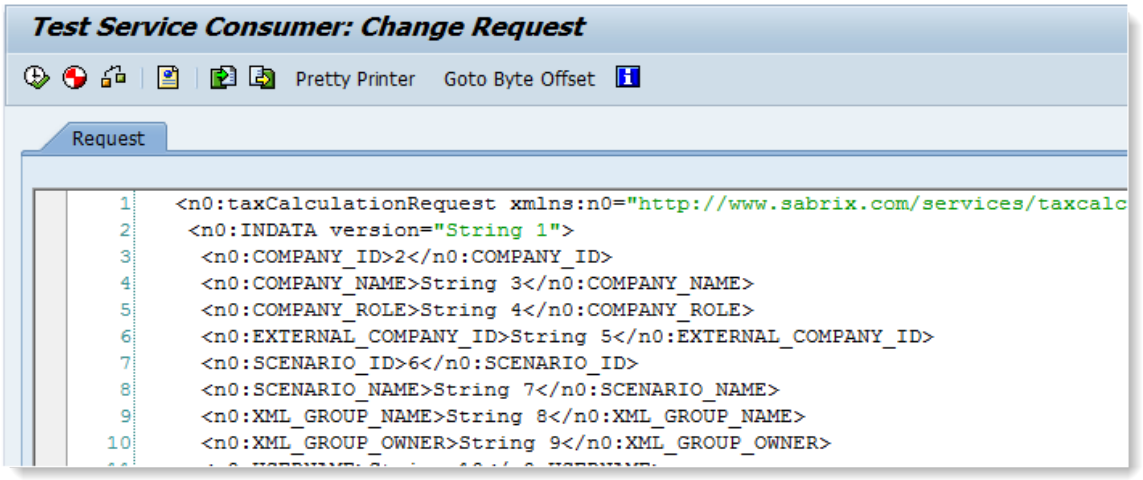

2. Press the **Test** icon  . On the pop-up select the **Logical Port** you created in prior steps.




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




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

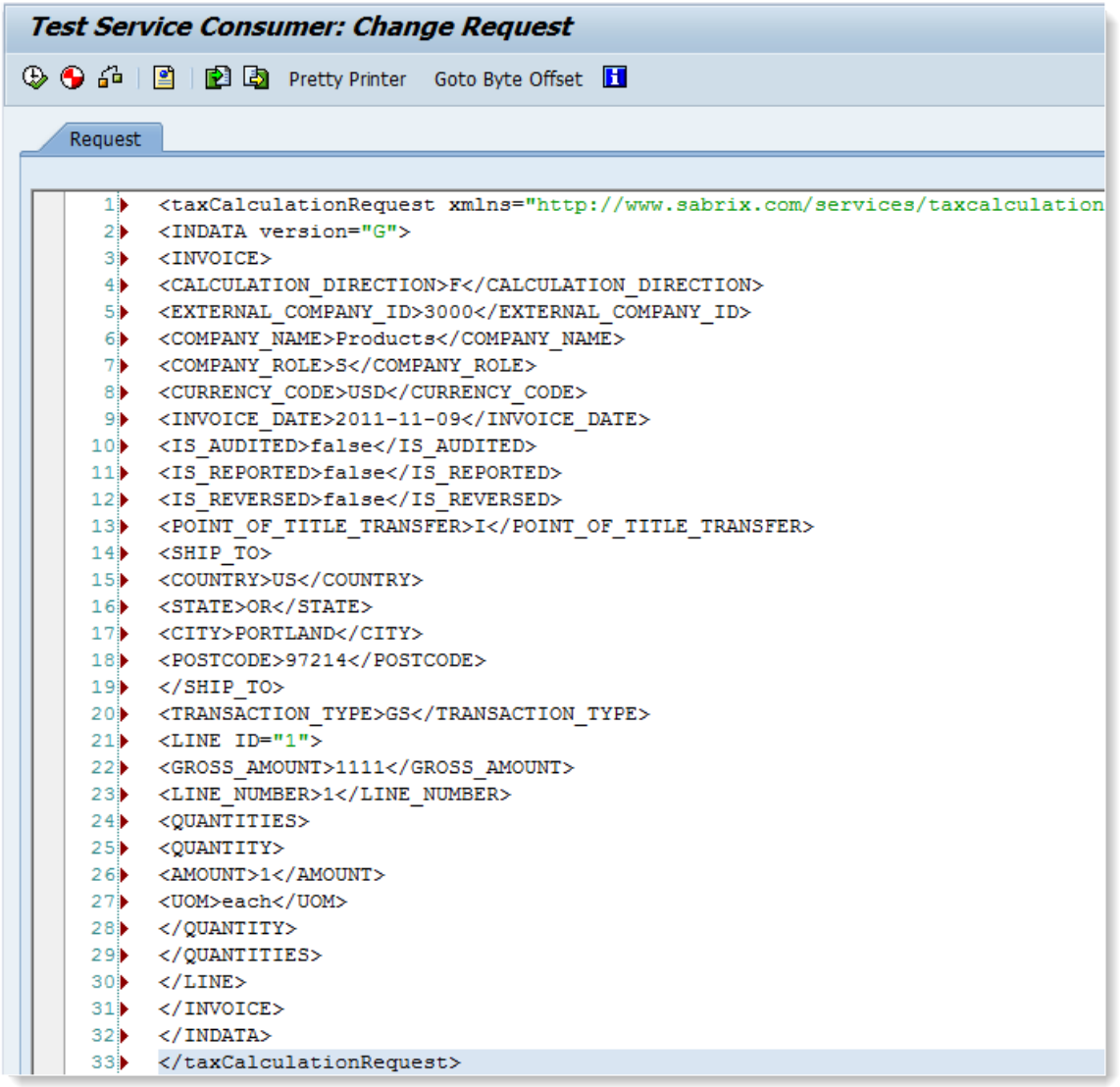



5. Use **Ctrl+A** to select all data, then delete the test data defaulted by SAP. You should have an empty screen now.

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

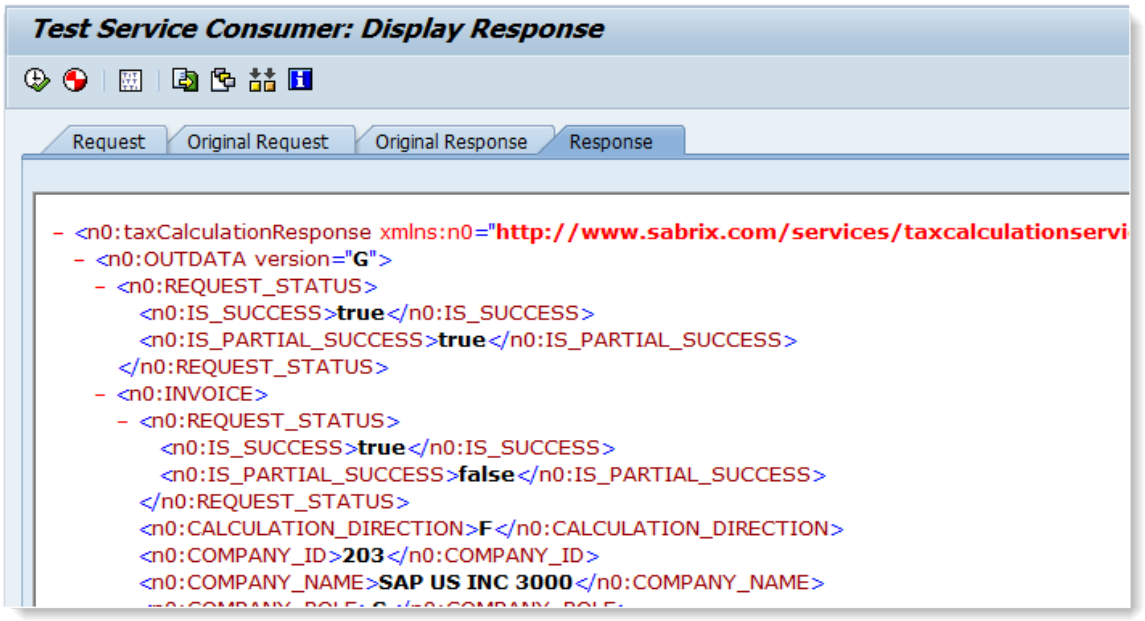
```
<TAXCALCULATIONREQUEST
XMLNS="HTTP://WWW.SABRIX.COM/SERVICES/TAXCALCULATIONSERVICE/
2011-09-01">
<INDATA VERSION="G">
<INVOICE>
<CALCULATION_DIRECTION>F</CALCULATION_DIRECTION>
<EXTERNAL_COMPANY_ID>YOURCOMPANY</EXTERNAL_COMPANY_ID>
<COMPANY_NAME>PRODUCTS</COMPANY_NAME>
<COMPANY_ROLE>S</COMPANY_ROLE>
<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).




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**. 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*.

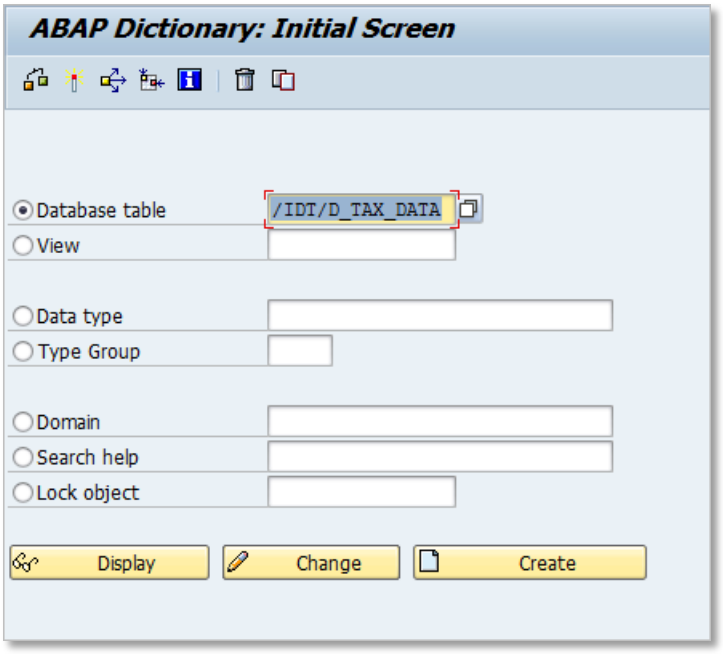
# PROGRAMMER GUIDE

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.

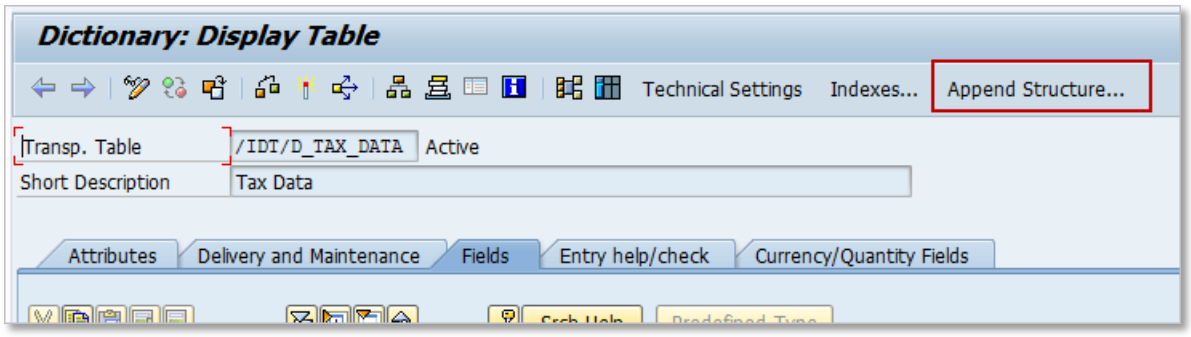
## ADDING CUSTOM FIELDS TO /IDT/D_TAX_DATA TABLE

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 below:

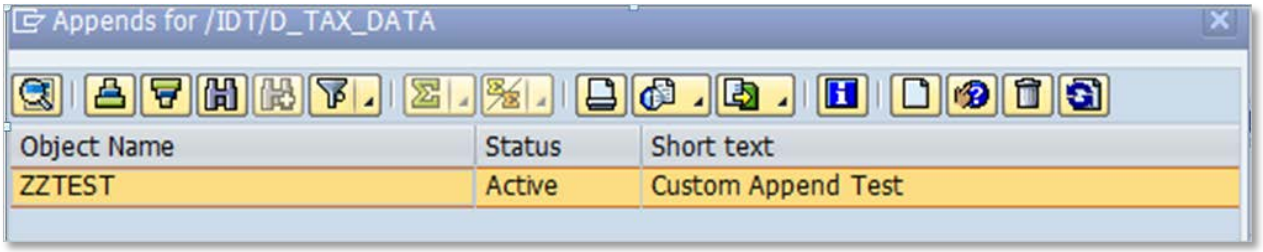
Transaction: **SE11**



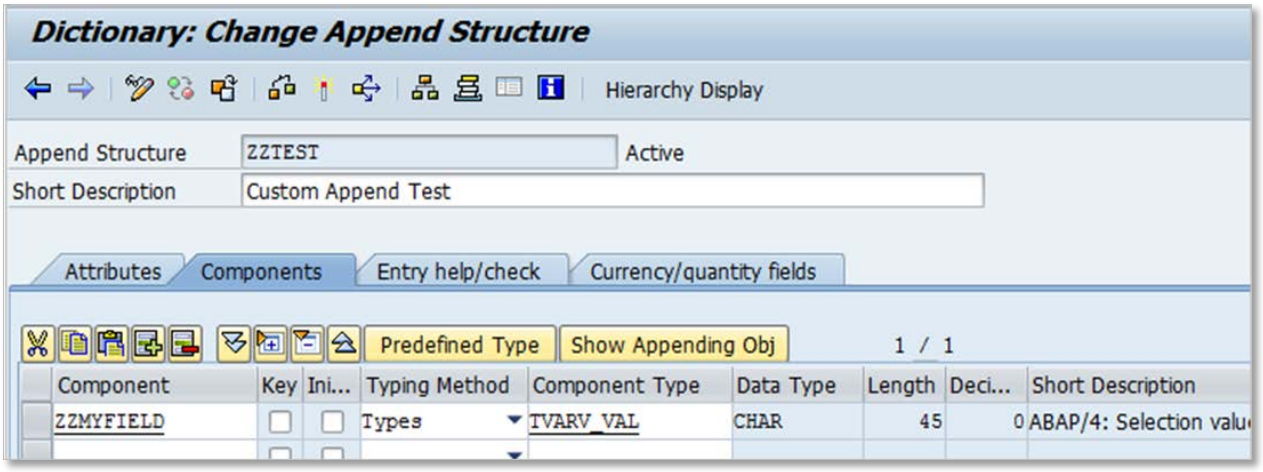

Select “Display”. Once in the table, use the “Append Structure (F5)” menu option.




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




Add custom fields as desired:




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 example below:

| 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.

Other example for operands listed above:

| 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 this sample:

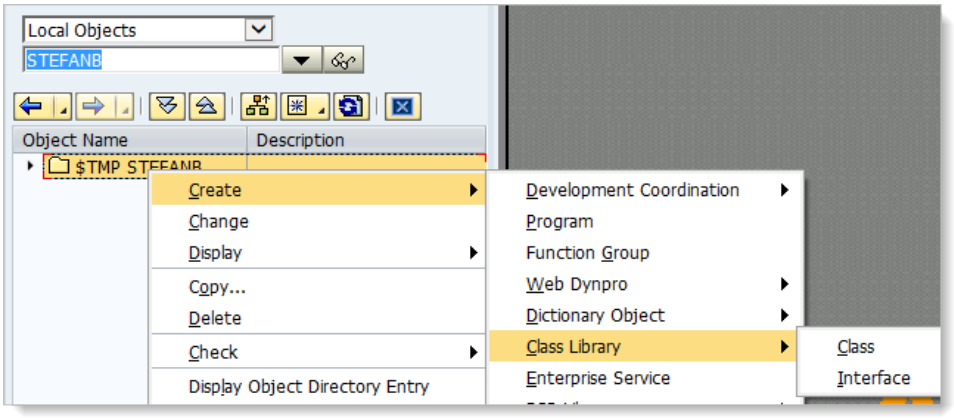

As you can see in above sample the Source Field has been replaced with an ABAP Class. This class has to be created first, and then assigned in the field mapping to the appropriate line. The class name has to be pre-pended with a **colon** (:).

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.

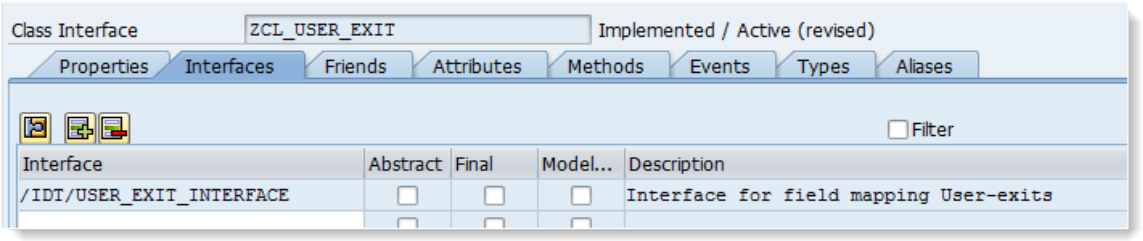
Creating a user-exit based mapping requires a few simple steps of coding. The actual code logic within the user-exit might be complex however depending on the use case.

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

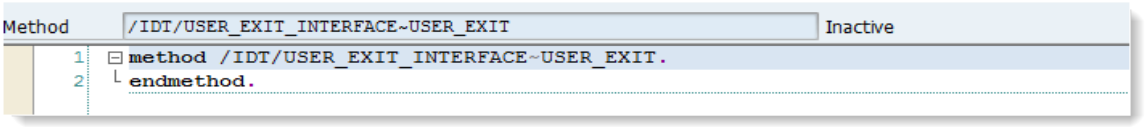
1. Create your class.



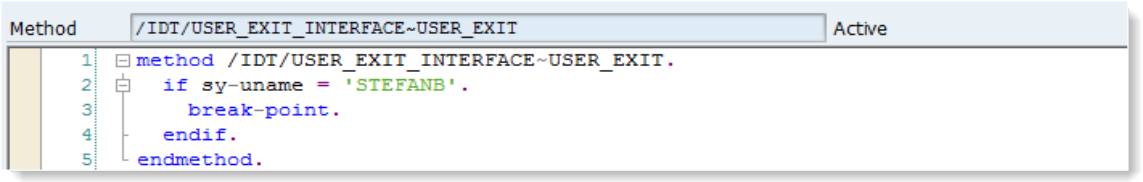

2. **Save** your class. You will be taken to the new class. Navigate to the **Interfaces** tab. Here you will need to include the predefined interface */IDT/USER_EXIT_INTERFACE* for the Field Mapping which inherits all the necessary data for the mapper.




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

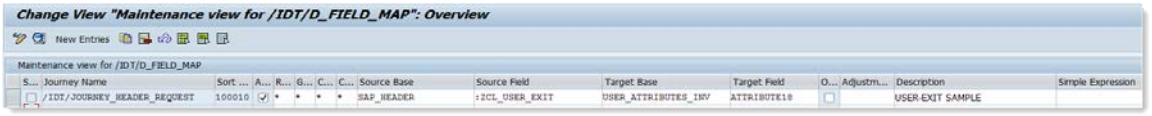



4. Add your custom code in this method (this is just a sample).




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.




## 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:

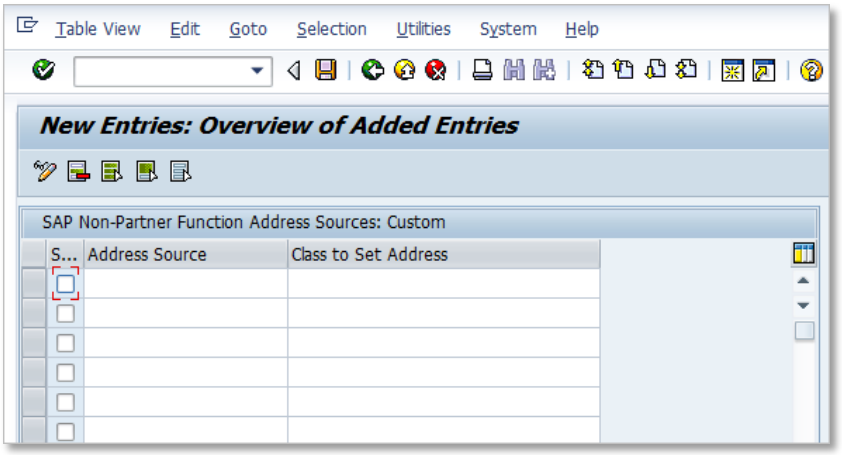
```
DATA : M_REF_UTIL_ITEMS TYPE REF TO /IDT/REFERENCE_UTILITY,
       M_REF_UTIL_ITEM  TYPE REF TO /IDT/REFERENCE_UTILITY,
       MV_VARIABLE            TYPE STRING.

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.
```

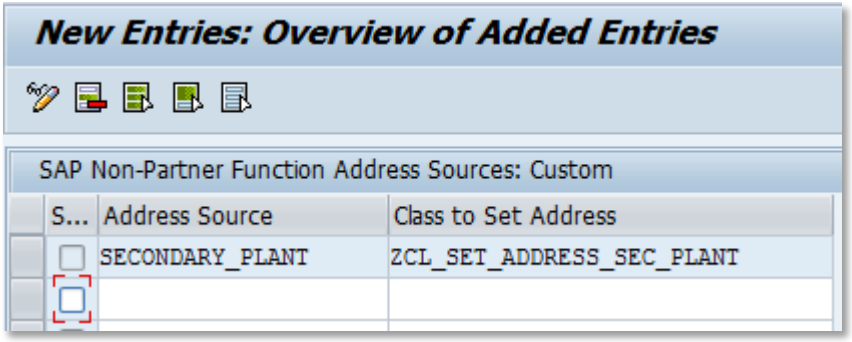
# CUSTOM ADDRESS SOURCE

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.




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.

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**

Class Browser

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 |

New Selection

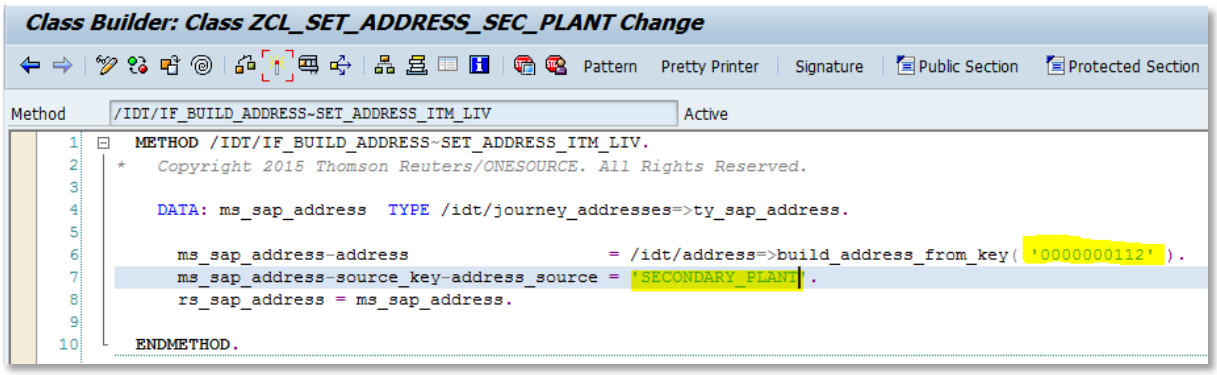
Or, the class can be created by using existing interface - /IDT/IF_BUILD_ADDRESS.

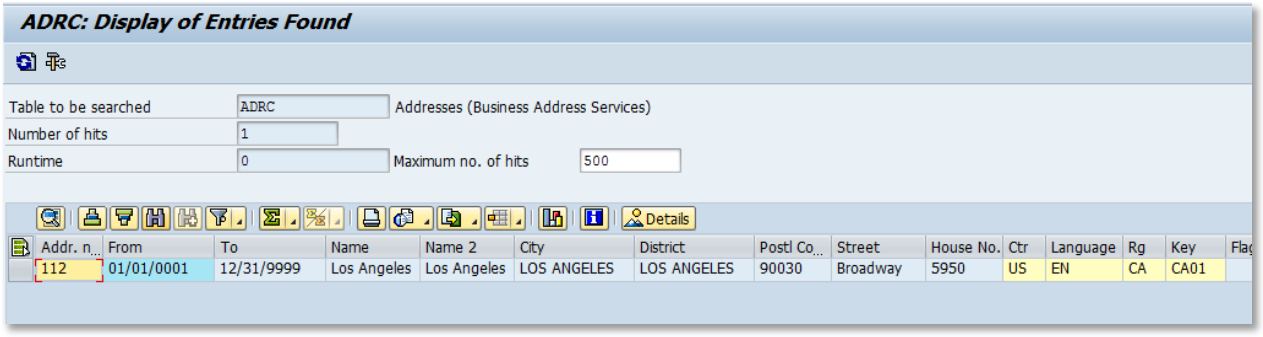
As an example – we have copied class /IDT/SET_ADDRESS_PLANT to create ZCL_SET_ADDRESS_SEC_PLANT.

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

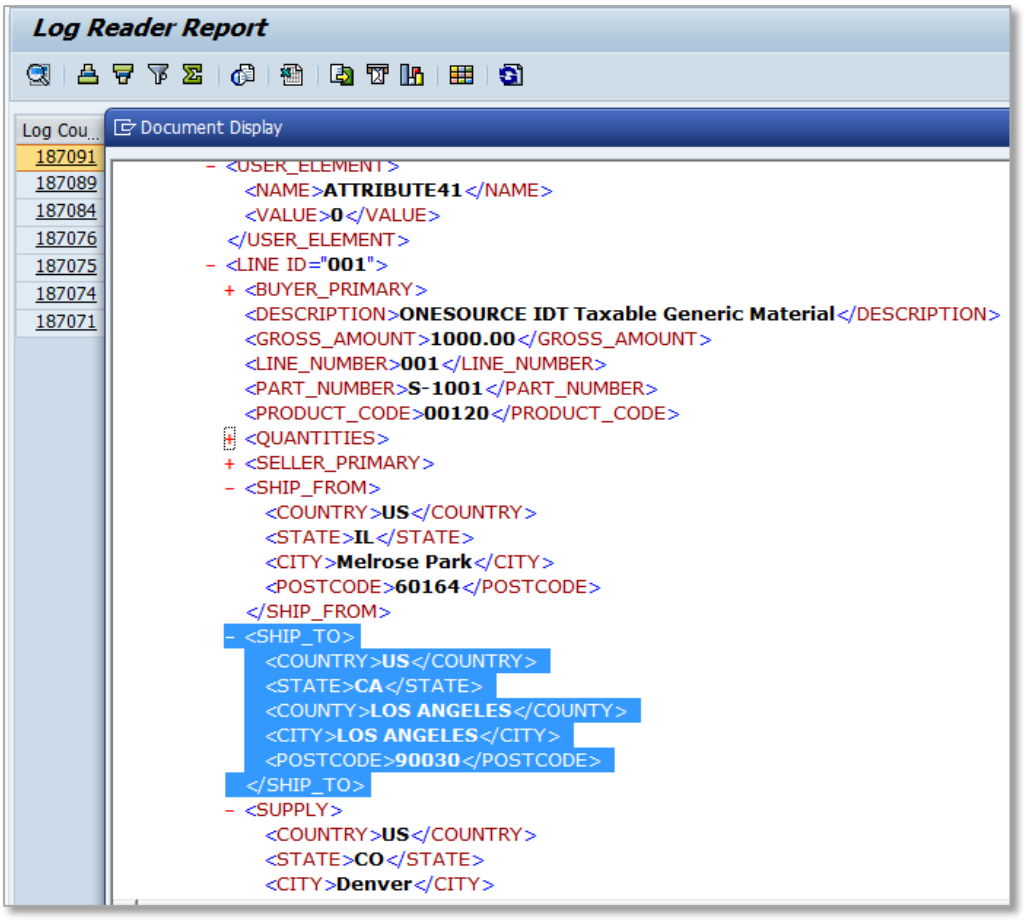
4. Now code your logic to populate address in respective method. For example if you need address to be populated at the line item level of MIRO/LIV, then code the logic in the method SET_ADDRESS_ITM_LIV. Or if you need at sales order header level, then code your logic in the method SET_ADDRESS_HDR_SALES.

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.



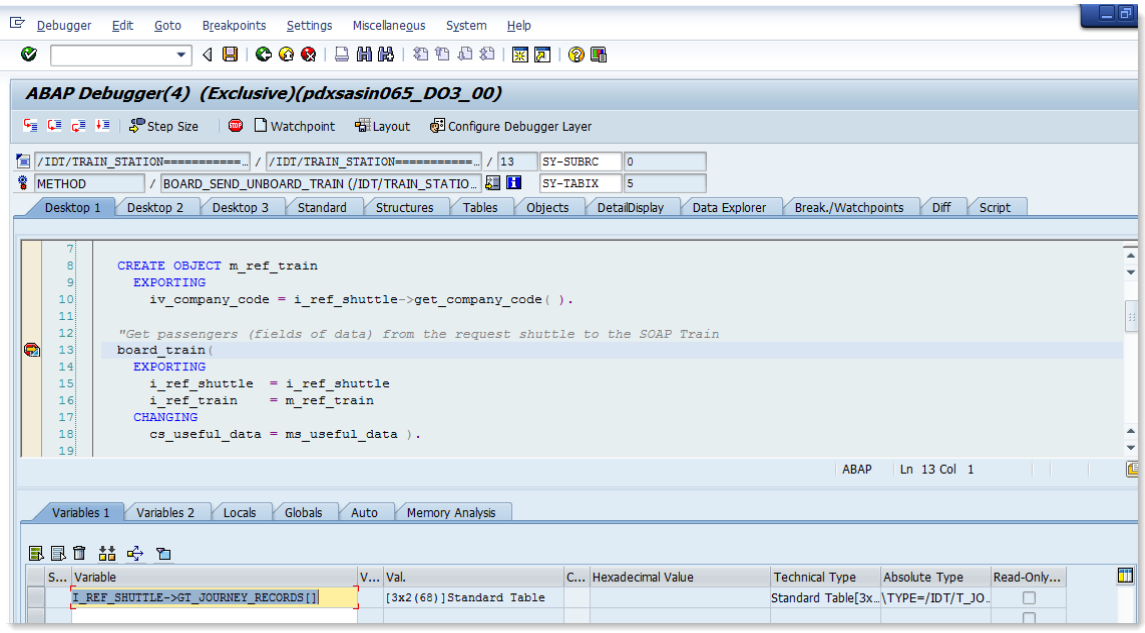




5. Activate the code and you are done. Create a MIRO document and check logs to confirm if it is populating the correct address for “ship_to” at line item level.

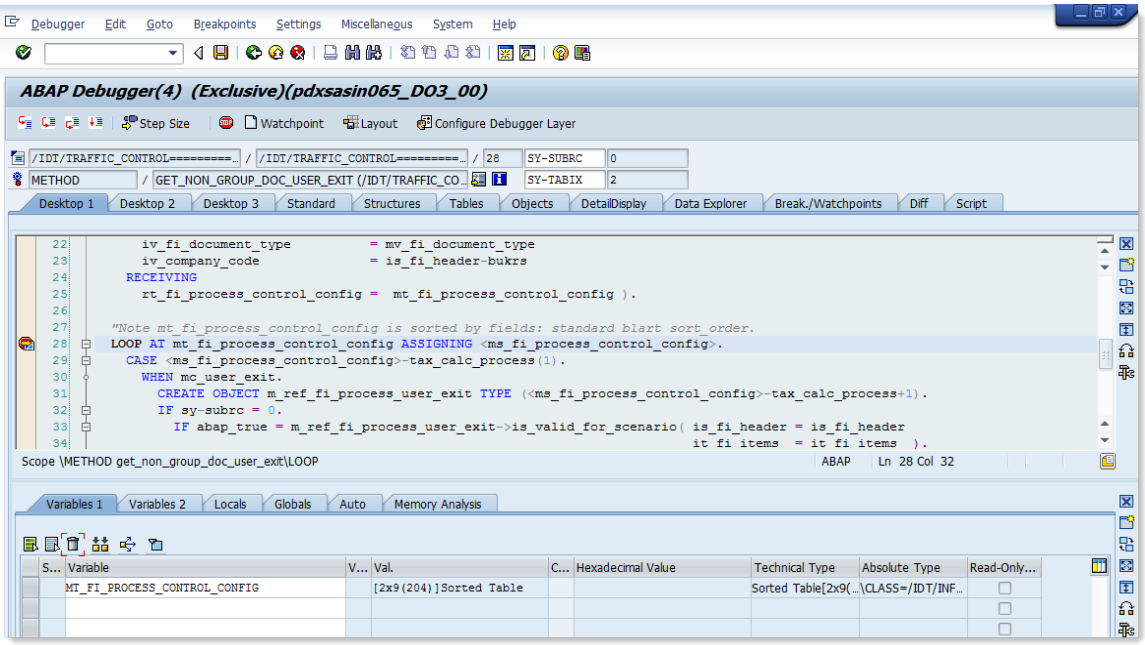



# DEBUGGING

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( )`.




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( )`.



# OPTIONAL BADI 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.*

# 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_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_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 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_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.<br>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 |

| Journey | Description |
|---|---|
| | 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 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 |

| Journey | Description |
|---|---|
| | /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_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.<br>NOTE: Customers most likely will not use this in the field mappings; the default is delivered by Thomson Reuters. |
| /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.<br>NOTE: This journey is not used in the field mappings. |
| /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.<br>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_SERV_ENT_RESPONSE | This Journey is to handle the complexity of the transactions with service entry sheets. |

# 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_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 with deferred tax. |
| /IDT/ROUTE_NON_GROUP_DOC_FB5 | This Route is to handle the complexity of the transactions that can have cash discounts. |

| Route | Description |
|---|---|
| /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:<br>BKPF, EKKO, KNA1, LFA1, T001, T005, T001Z T180, TVAK, TVAP, TVFK, TVKO, TVTA, VBAK, VBKD, VBUK, VBRK, KOMK, CALC_HDR*,J_1BBRANCH, J_1IMOVEND, J_1IMOCUST, J_1IMOCOMP, | /IDT/JOURNEY_HEADER_REQUEST |
| | BKPF (FI/LIV)<br>VBRK (SD)<br>T001 for both processes | /IDT/JOURNEY_AUDIT_UPD_DB_GL<br>/IDT/JOURNEY_AUDIT_UPD_DB_BILL |
| SAP_ITEM | Fields from the following SAP document **item** tables:<br>BSEG, 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<br><br>**Header fields:**<br>Any field listed in the SAP_HEADER section above, use prefix HDR-> when mapping a header table at line level | /IDT/JOURNEY_ITEM_REQUEST<br>/IDT/JOURNEY_NG_ITEM_REQUEST |
| | BKPF (FI/LIV)<br>VBRK (SD) | /IDT/JOURNEY_AUDIT_UPD_DB_GL<br>/IDT/JOURNEY_AUDIT_UPD_DB_BILL |
| SAP_FIELD | SYST<br>GC_XS_FALSE – translates an SAP check box value to a XSD true/false value<br>GC_VERSION – represents the XSD version supported, set to “G” as a constant | All |
| DET_TAX | All fields in the Tax level of the Determination response (OUTDATA) message | /IDT/JOURNEY_STANDARD_RESPONSE<br>/IDT/JOURNEY_TAX_TAB_RESPONSE |

| Source Bases | | |
|---|---|---|
| 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 the header table to be mapped at the item level. | /IDT/JOURNEY_ITEM_REQUEST, /IDT/JOURNEY_NG_ITEM_REQUEST, /IDT/JOURNEY_FB05_RESPONSE |
| 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 | /IDT/JOURNEY_TAX_TAB_RESPONSE /IDT/JOURNEY_STANDARD_RESPONSE /IDT/JOURNEY_FB05_RESPONSE |

| Special Purpose Operands | | |
|---|---|---|
| | would be used to map from Invoice level field in the tax data level.<br>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. | |
| 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.<br>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 |
| 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_REL | Tax Code Relevancy |
| /IDT/D_TAX_TYPE | Determine condition types for taxes |
| /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 |
| /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 |

| Table | Description |
|---|---|
| /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" |
| 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 |

| Attribute | Used for |
|---|---|
| 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.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 |
| /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 |

| Transaction code | Used for |
|---|---|
| /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/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<br>LIV: RBKP-BELNR<br>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 /<br>BSEG-LIFNR |
| Vendor number (AP transactions) | BSEG-KUNNR / | KNA1-NAME1 /<br>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<br>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 |
| Document currency | Document currency key | BKPF-WAERS |
| Optional UDF 1 | Custom field based on custom BAPI implementation | |
| Optional UDF 2 | | |
| Optional UDF 3 | | |

| Output field name | SAP field name | Table-fieldname |
|---|---|---|
| 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 |
| 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.

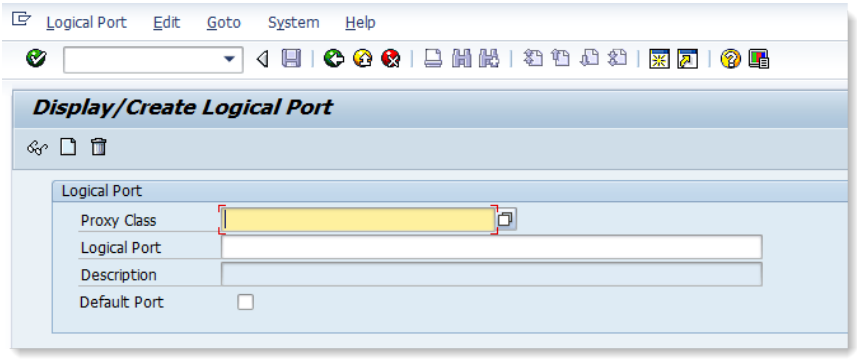
A BAdI **/IDT/BADIRECON_EXTRACT** has been provided as part of the SAP Reconciliation Report which can be implemented by the customers. The BAdI method returns the 5 UDF's in the structure /IST/EXTRACT_UDF.

# APPENDIX 2: LOGICAL PORT

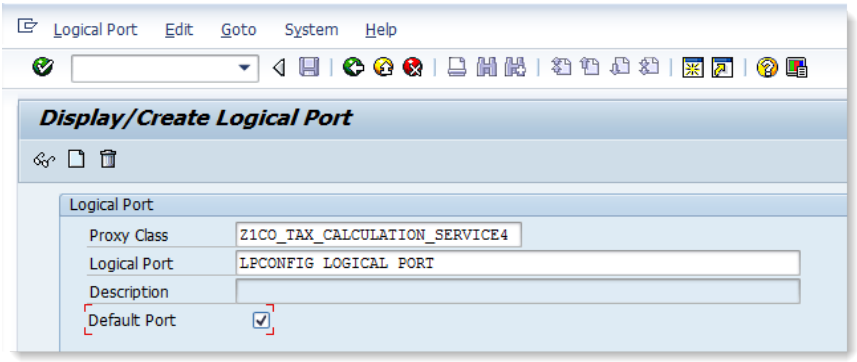
An alternate way of configuring the communication between SAP and Determination is using the logical port configuration. This option might be used if there is no J2EE layer enabled in the SAP environment Integration is deployed in.

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**



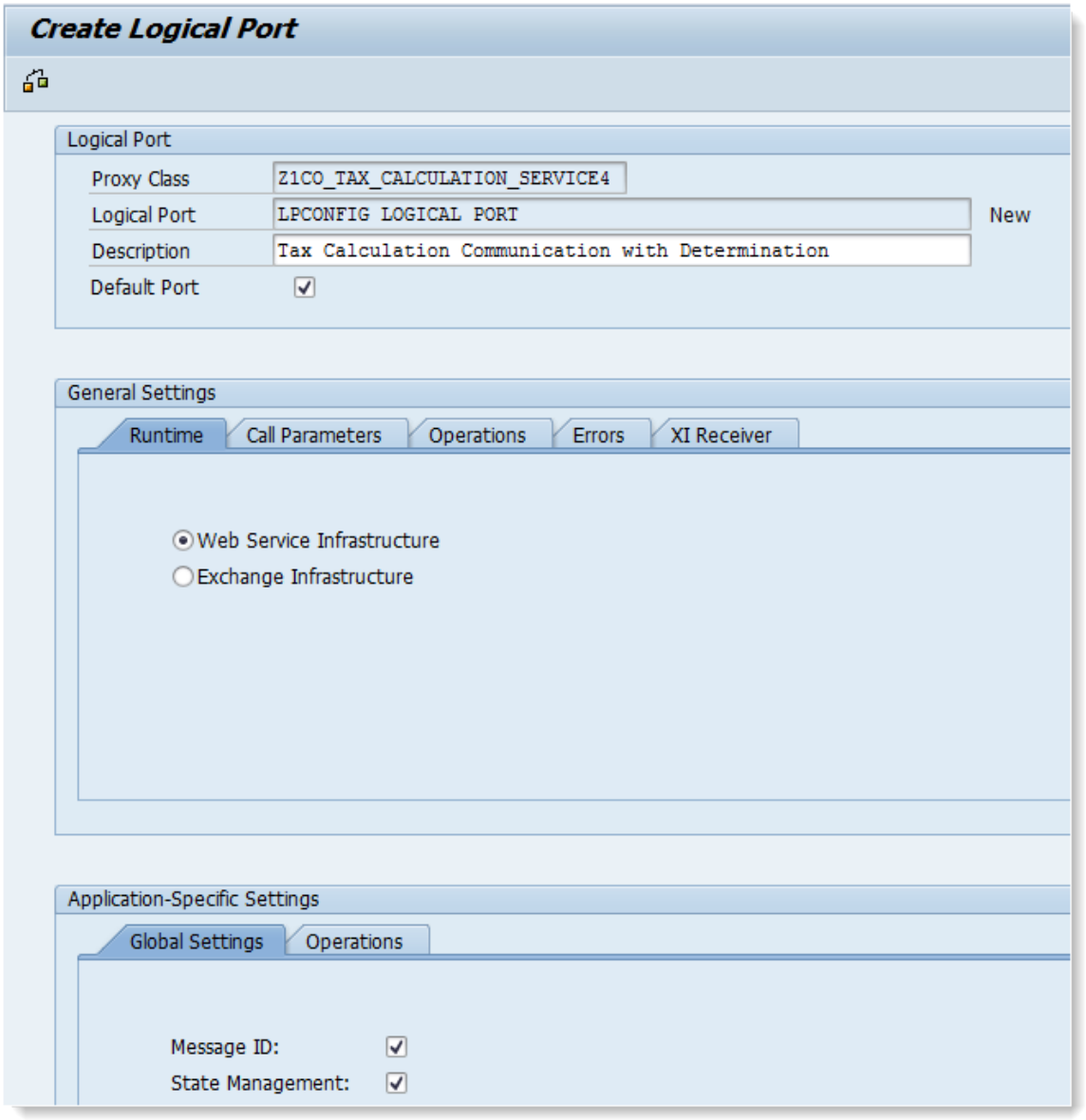

2. Use the Proxy Name from Creating an SAP Proxy section and create a Logical Port Name. Then Check "Default Port".




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

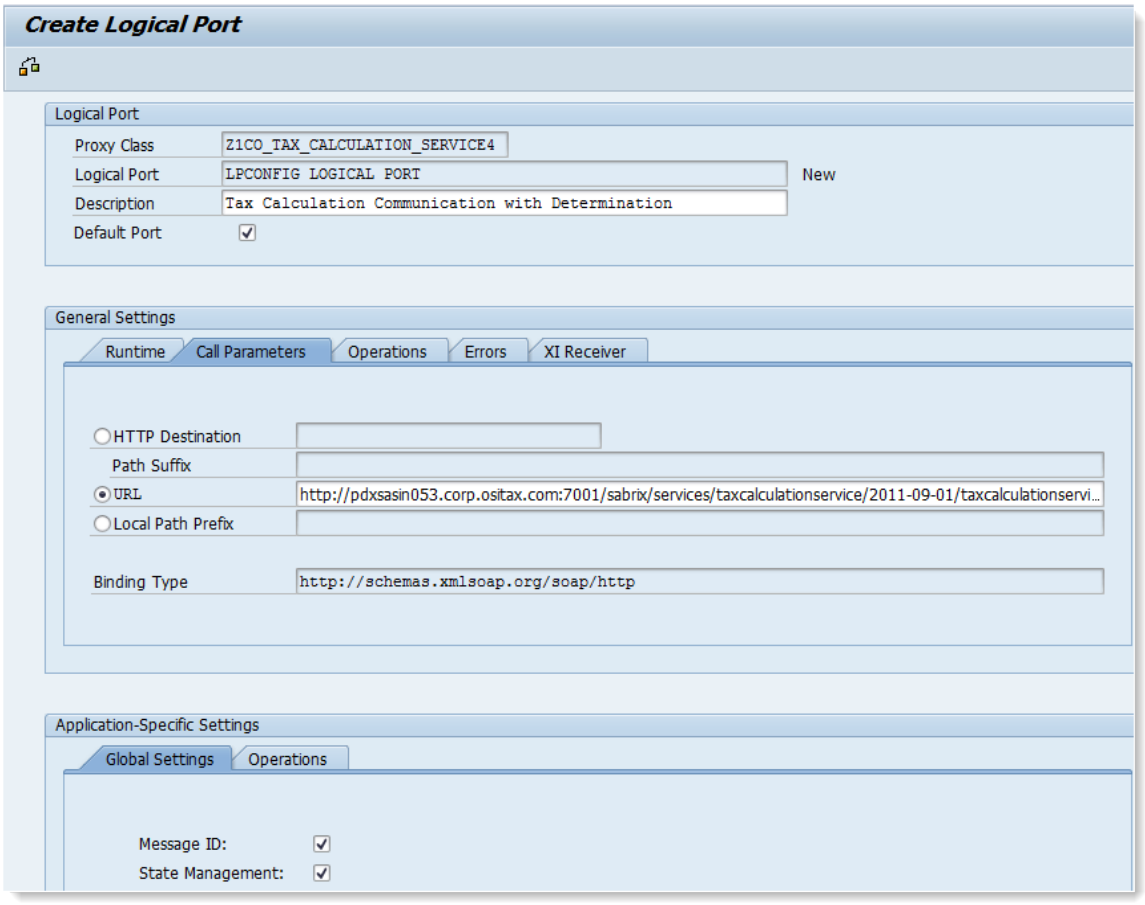
| | |
|---|---|
| Logical Port Name: | Name of the port you want to create |
| Description: | Text explaining to use of the port |
| Default Port: | Needs to be **checked** |

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




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




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

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.