Vertex Tax Links for S/4HANA Cloud – Configuration Guide

March 2018
v. 1.0.0
Copyright and legal notices

Copyright © 2018 Vertex Global Tax Solutions Ireland Holdings. All rights reserved.

This documentation may not be reproduced, displayed, distributed, modified, posted, republished, or transmitted in any form or by any means, without the prior written consent of Vertex Global Tax Solutions Ireland Holdings or its affiliates (collectively, “Vertex”), except as otherwise specified in a valid, current Vertex license agreement or allowed by law.

Disclaimers

The information contained in this documentation is designed to help users in regard to the subject matter covered. Some of it may be based upon interpretations of federal, state, foreign and other tax laws and regulations. Each entity is responsible for making its own determination of how such laws and regulations apply to its own circumstances and for evaluating the capabilities of, and all data and results generated by, any product that is described in this documentation. Vertex is not engaged in providing legal, tax or accounting advice or services and the information contained in this documentation or in any product cannot replace the advice of competent legal counsel. Further, the information in this documentation is subject to change without notice and is not warranted to be error-free. If you find any errors, please report them to us in writing.

Trademarks and Service Marks

The trademarks, logos and service marks (“marks”) displayed in this documentation are the property of Vertex or third parties. Users are not permitted to use these marks without the prior written consent of Vertex or the third party that may own the mark.

Third Party Products

Copies of the licenses for some third-party products included with a Vertex product may be found in or with the installation materials for that product.
Table of Contents
Purpose .......................................................................................................................................................... 4
Overview ...................................................................................................................................................... 4
Prerequisites ................................................................................................................................................ 4
integration flow configuration ...................................................................................................................... 5
Changing logging level for more log detail ................................................................................................. 9
Viewing log files ......................................................................................................................................... 11
PURPOSE

The purpose of this document is to describe the general configuration steps required to manually set up the integration for SAP S/4HANA Cloud with Vertex. It also covers how to configure logging and view log files.

This document supplements the SAP S/4HANA Integration Guide which covers the steps needed to import the Vertex package as well as configure your S/4HANA Cloud system to call the Vertex Tax Integration Flows.

OVERVIEW

The Vertex integration flows are designed to integrate SAP S/4HANA Cloud with Vertex solutions for tax calculation, posting and jurisdiction determination.

This package runs on the SAP Cloud Platform Integration tenant.

Transactions flow from SAP S/4HANA Cloud through the Vertex integration flows to the Vertex tax solutions using the SOAP protocol.

PREREQUISITES

Before configuring the Vertex Tax Integration Flows, please make sure the following prerequisites have been met:

1. The SAP HANA Cloud Platform Integration has been delivered.
   a. SAP HANA Cloud Platform Integration -
      https://cloudplatform.sap.com/index.html

2. A Vertex tax solution has been acquired.
   a. Vertex Cloud –
      https://www.vertexinc.com/vertex-cloud
   b. Vertex Indirect Tax –
INTEGRATION FLOW CONFIGURATION

The following steps cover how to configure the integration flows to connect with the Vertex tax solutions:

1. Refer to the SAP integration guide to import the Vertex package and configure SAP.

2. Access the WEB UI URL on your SAP Cloud Platform Integration tenant:
   - It should be in the format
     https://<HCI_Tenant>.hci.us1.hana.ondemandcd.com/itspaces

3. Access the Design tab (content packages) on the left side in the navigation bar.

4. Click on the Vertex Cloud Integration with SAP S/4HANA Cloud Package.

5. Click on the ARTIFACTS link.

6. Next to each iFlow, click the Actions icon and select Configure. This will need to be done on all iFlows.
7. Under the Receiver tab, enter the web service addresses below.

- Vertex - Calculate Taxes, Vertex - Post SAP Calculated Taxes, Vertex - Post Vertex Calculated taxes - 
  [https://s4hanaconnect.vertexsmb.com/vertex-ws/services/CalculateTax70](https://s4hanaconnect.vertexsmb.com/vertex-ws/services/CalculateTax70)
- Vertex - Determine Jurisdiction Code - 
  [https://s4hanaconnect.vertexsmb.com/vertex-ws/services/LookupTaxAreas70](https://s4hanaconnect.vertexsmb.com/vertex-ws/services/LookupTaxAreas70)

8. Create a credential artifact

1. Access the Monitor tab (Operations view) on the left side in the navigation bar.
3. Select Add (Security Material) on the top right of the screen and select User Credentials in the list.
4. Add the following and click Deploy when finished:

<table>
<thead>
<tr>
<th>Name</th>
<th>vertexinc_qa (or vertex_prd, depending on iFlow)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Vertex Web Service Credentials</td>
</tr>
<tr>
<td>User</td>
<td>Vertex Cloud trusted id, provided by Vertex</td>
</tr>
<tr>
<td>Password</td>
<td>(leave blank)</td>
</tr>
<tr>
<td>Repeat password</td>
<td>(leave blank)</td>
</tr>
<tr>
<td>SuccessFactors</td>
<td>Leave unchecked</td>
</tr>
</tbody>
</table>

**NOTE: The name vertexinc_*** must be in lower case**

You are now ready to test the integration
INTEGRATION ENDPOINTS

There are 8 Vertex iFlows supplied, 4 for QA/Test and 4 for PROD. These will need to be entered during the SAP S/4HANA configuration steps for the communication arrangement outlined in SAP Note 2598888:

<table>
<thead>
<tr>
<th>Outbound Services</th>
<th>Download WSDL</th>
<th>Check Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Determine Tax Jurisdiction Codes</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service Status:</td>
<td>active</td>
<td></td>
</tr>
<tr>
<td>Application Protocol:</td>
<td>SOAP</td>
<td></td>
</tr>
<tr>
<td>Port:</td>
<td>442</td>
<td></td>
</tr>
<tr>
<td>Path:</td>
<td>/soap/Vertex/DetermineTaxJurisdictionQA</td>
<td></td>
</tr>
<tr>
<td>Service URL:</td>
<td><a href="https://ifmap.bobt.uc1.hana.ondemand">https://ifmap.bobt.uc1.hana.ondemand</a></td>
<td></td>
</tr>
<tr>
<td><strong>Calculate Taxes</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service Status:</td>
<td>active</td>
<td></td>
</tr>
<tr>
<td>Application Protocol:</td>
<td>SOAP</td>
<td></td>
</tr>
<tr>
<td>Port:</td>
<td>443</td>
<td></td>
</tr>
<tr>
<td>Path:</td>
<td>/soap/Vertex/CalculateTaxQA</td>
<td></td>
</tr>
<tr>
<td>Service URL:</td>
<td><a href="https://ifmap.bobt.uc1.hana.ondemand">https://ifmap.bobt.uc1.hana.ondemand</a></td>
<td></td>
</tr>
<tr>
<td><strong>Update Tax Documents</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service Status:</td>
<td>active</td>
<td></td>
</tr>
<tr>
<td>Application Protocol:</td>
<td>SOAP</td>
<td></td>
</tr>
<tr>
<td>Port:</td>
<td>442</td>
<td></td>
</tr>
<tr>
<td>Path:</td>
<td>/soap/Vertex/UpdateTaxQA</td>
<td></td>
</tr>
<tr>
<td>Service URL:</td>
<td><a href="https://ifmap.bobt.uc1.hana.ondemand">https://ifmap.bobt.uc1.hana.ondemand</a></td>
<td></td>
</tr>
<tr>
<td><strong>Force Update Tax Documents</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service Status:</td>
<td>active</td>
<td></td>
</tr>
<tr>
<td>Application Protocol:</td>
<td>SOAP</td>
<td></td>
</tr>
<tr>
<td>Port:</td>
<td>443</td>
<td></td>
</tr>
<tr>
<td>Path:</td>
<td>/soap/Vertex/ForceTaxUpdateQA</td>
<td></td>
</tr>
<tr>
<td>Service URL:</td>
<td><a href="https://ifmap.bobt.uc1.hana.ondemand">https://ifmap.bobt.uc1.hana.ondemand</a></td>
<td></td>
</tr>
</tbody>
</table>

The example above shows the configuration for the QA system. The Production system would have PRD at the end of each path.
**CHANGING LOGGING LEVEL FOR MORE LOG DETAIL**

The default Log Level for integrations flows is set to Info. This will give the least detail but provide the fastest performance.

If more detail is required Vertex recommends setting the Log Level to Debug. This will allow the Message Processing Log (MPL) to capture more information from the Vertex iFlows. Processing steps, error locations and other logging tasks are not visible until the Debug level is chosen. This aids in troubleshooting failed or erroring requests and provides Vertex Support more information to help determine where the issue may be located.

The following steps detail how to change the Log Level for the Vertex iFlows to Debug:

1. Access the WEB UI URL on your SAP Cloud Platform Integration tenant:
   - It should be in the format
     https://<HCI_Tenant>.hci.us1.hana.ondemand.com/itspaces

2. Access the Monitor tab (Operations view) on the left side in the navigation bar.

3. Select the 1st “All Integration Flows” tile under Manage Integration Content:

   ![Manage Integration Content](image)

4. Select each of the 4 or 8 integrations and change the Log Level to Debug:

   ![Log Level Configuration](image)
If the information contained in the debug logs is not enough, there is still one more log level to use, Trace. This level gets every detail about a transaction including the payload throughout the call. Trace will only be enabled for 10 minutes and should not be set in a production system unless absolutely required. Processing times and tenant log storage will be affected by this log level.

THE FOLLOWING STEPS DETAIL HOW TO CHANGE THE LOG LEVEL FOR THE VERTEX IFLOWS TO TRACE:

1. Access the WEB UI URL on your SAP Cloud Platform Integration tenant:
   - It should be in the format
     https://<HCI_Tenant>.hci.us1.hana.ondemand.com/itspaces

2. Access the Monitor tab (Operations view) on the left side in the navigation bar.

3. Select the 1st “All” tile under Manage Integration Content:

4. Select the integration required and set the log level to Trace:
VIEWING LOG FILES

The vertex iFlows are configured with standard and enhanced logging. Standard logging includes information about the transaction as it flows through the iFlow process. Enhanced logging is available in the Message Processing Log and can only be seen when the Log Level has been set to Debug.

In order to view the Vertex Tax Links for S/4HANA Cloud logs, follow the steps below:

1. Access the WEB UI URL on your SAP Cloud Platform Integration tenant:
   - It should be in the format
     https://<HCI_Tenant>.hci.us1.hana.ondemand.com/itspaces

2. Access the Monitor tab (Operations view) on the left side in the navigation bar.

3. Select one of the tiles below (your numbers will vary):

4. Use one, or all, of the filters above to produce the transactions you want to view. Those transactions will appear on the left side.
5. **Option 1:** Select one of the transactions on the left and go to the LOGS section to view the Message Processing Log (MPL). Click Open Text View on the right to view the log:

![Vertex - Calculate Taxes QA](image)

- If support is needed, please download the log file and have it ready to be sent. To download the log file, click the Download link in the top right of the log page:
6. **Option 2:** Select one of the transactions on the left and go to the LOGS section to view the Message Processing Log (MPL). Click the Log Level (Debug/Trace) to access an interactive log. This will show execution times as well as individual tasks.

   - To view an individual task, click on the View step details icon on the right.
   - From here you can view the properties and message content:

       ![Image](image_url)

       - The Key and Value columns show what headers and properties were set during this step
- If viewing the message content, you can also download the payload by using the Download link on the right.

<table>
<thead>
<tr>
<th>Properties</th>
<th>Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Message Content (Before)</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Header**
- **Name**: connection
- **Value**: keep-alive
- **Date**: Tue, 27 Mar 2018 15:31:19 GMT

**Response/Context**
- **SOAP/MessageProcessingLogId**: A2f6f7d180645bf7ef7e95cfe652e
- **soapFile**: log.txt
- **soapFile.Type**: groovy
- **Server**: Vertex
- **Vary**: Accept-Encoding

**Payload**

```xml
  <Password/>
  <Login/>
  <QuoteResponse documentDate="2018-06-01" returnGeneratedLineItemRemitIndicator="true" transactionType="SALE"><Currency isoCurrencyCodeAlpha="USD" isoCurrencyCode="USD"/>
</QuoteResponse>
</vertexEnvelope>
```

- The Header section contains the headers during that particular step.
- The Payload section will contain the message payload, or in our case above, the XML request to Vertex.