



AvaTax for Communications

SaaS Pro – SOAP

Telecom Developer Manual

Release: 9.20.1905.1
Document: TM_00116_0053
Date: 4/24/2019

Avalara AvaTax for Communications SaaS Pro (SOAP) is in software maintenance mode. No new versions are planned after March 1, 2019. Tax rates and tax logic updates will continue to be updated as normal.

Avalara for Communications - Contact Information	
Address	Avalara, Inc. 512 South Mangum Street, Suite 100 Durham, North Carolina, 27701
Email	CommunicationSupport@avalara.com
Help Center	https://help.avalara.com/Avalara for Communications
Toll Free	(877) 780-4848
Corporate Web Site	http://communications.avalara.com/
Communications Customer Portal	https://communications.avalara.net

Document Revision History

The Revision History log lists the date and description of the most recent revisions or versions of the document.

Date	Version	Description
02/15/2018	0043	Updated definition for surcharge in Section 4.4 Custom Log Report Columns as well as in various tables throughout Section 13 Web Service Data Definitions .
7/25/2018	0044	Removed (deprecated) SOAP Utility Web methods GetOptionalFieldKeyDesc and UpdateOptionalFieldDesc . Made updates throughout Section 12. REST Interface APIs and Section 14. Web Service Enumeration Definitions .
8/24/2018	0045	Updated version and cover date.
9/25/2018	0046	Updated Avalara contact information. Updated version and cover date.
10/25/2018	0047	Updated version and cover date.
11/21/2018	0048	Removed Section 12. REST Interface APIs . Retitled the document to reflect SaaS Pro SOAP only.
12/21/2018	0049	Updated version and cover date.
1/25/2019	0050	Updated section 1.11 Test Environment . Updated version and cover date.
2/22/2019	0051	Made release number and version updates.
3/26/2019	0052	Made release number and version updates. Added note to cover page about AFC SaaS Pro Soap now being in software maintenance mode.
4/24/2019	0053	Made release number and version updates.

Table of Contents

1.	Introduction.....	1
1.1	Getting Started.....	2
1.1.1	Integration Requirements	2
1.1.2	Key Input Requirements	2
1.2	AFC Transaction and Service Types	3
1.3	Client Information	3
1.4	Transaction Date	3
1.5	Tax Types.....	4
1.6	Bundles	4
1.7	Overrides.....	5
1.8	Exclusions.....	5
1.9	Exemptions	5
1.9.1	Category Exemptions.....	5
1.9.2	Level Exemptions.....	6
1.9.3	Tax Type Exemptions.....	6
1.10	Compliance Files	7
1.11	Test Environment.....	8
1.12	Compliance Month.....	9
1.13	Tax Adjustments.....	9
1.14	Interstate/Intrastate Determination	9
1.15	Private Line	11
1.16	Proration	11
1.17	Tax Grouping.....	12
1.18	Specifying a Unique Identifier	14
1.19	Commit/Uncommit	14
1.20	Application of Tax Brackets and Limits.....	15
1.20.1	Tax Brackets	15
1.20.2	Tax Limits.....	15
2.	Specifying a Tax Jurisdiction.....	16
2.1	Getting the Right Tax Jurisdiction for Local Taxation	18

3.	Invoice Mode	20
3.1	Overview	20
3.2	Batch Transaction Submission.....	20
3.3	Single Transaction Submission	20
3.4	Taxing Jurisdiction Specification.....	21
3.5	API Results.....	21
3.6	Supported and Non-Supported Features	21
3.7	Tax Inclusive Transactions.....	22
3.7.1	Tax Inclusive - Batch Transaction Submission.....	22
3.7.2	Tax Inclusive - Single Transaction Submission	22
4.	Generating Custom Reports.....	24
4.1	Report Process Overview	24
4.2	Setting up ReportOptions.....	24
4.2.1	BaseReport	24
4.2.2	CreateNbaFile	24
4.2.3	CreateNcaFile	24
4.2.4	CustomLogFields	25
4.2.5	EmailAddress	25
4.2.6	FileExtension	25
4.2.7	FileName	25
4.2.8	IncludeHeaders.....	26
4.2.9	Precision	26
4.2.10	ReportType.....	26
4.2.11	StartDate, EndDate, and TimeSpan	27
4.3	Report Types	27
4.4	Custom Log Report Columns.....	28
4.5	Aggregation.....	30
4.5.1	Accessing the FTP Site	30
4.6	Sample Code	32
5.	Bridge Conferencing.....	34
6.	Optional Fields	35

6.1	Overview	35
6.2	Default Optional Fields.....	35
6.3	Extended Optional Fields	35
6.3.1	Setting Up an Extended Optional Field in a Transaction.....	36
6.3.2	UpdateOptionalFieldKeyDesc.....	36
6.3.3	GetOptionalFieldKeyDesc	37
7.	Zip Lookup Requests	37
7.1	Overview	37
7.2	Setting up a Request	37
7.2.1	Best Match	37
7.2.2	Location Data	38
7.2.3	Limit Results	38
7.3	Results.....	38
7.4	Examples	38
8.	Safe Harbor Overrides for Traffic Studies	40
9.	AFC SaaS Pro Telecom Web Service Programmer Reference.....	42
9.1	TaxService Endpoint.....	42
10.	SOAP Telecom Web Methods	44
10.1	CalcTaxesWithPCode.....	46
10.2	CalcTaxesWithNpaNxx	46
10.3	CalcTaxesWithZipAddress	47
10.4	CalcTaxesWithFipsCode	47
10.5	CalcAdjWithPCode	48
10.6	CalcAdjWithNpaNxx	48
10.7	CalcAdjWithZipAddress.....	49
10.8	CalcAdjWithFipsCode	49
10.9	CalcReverseTaxesWithPCode.....	50
10.10	CalcReverseTaxesWithFipsCode.....	51
10.11	CalcReverseTaxesWithZipAddress.....	51
10.12	CalcReverseTaxesWithNpaNxx.....	52
10.13	CalcReverseAdjWithPCode.....	52

10.14	CalcReverseAdjWithFipsCode	53
10.15	CalcReverseAdjWithZipAddress	54
10.16	CalcReverseAdjWithNpaNxx.....	55
10.17	CalcTaxInclusiveTaxesWithPCode	55
10.18	CalcTaxInclusiveTaxesWithFipsCode	56
10.19	CalcTaxInclusiveTaxesWithZipAddress	57
10.20	CalcTaxInclusiveTaxesWithNpaNxx	57
10.21	CalcTaxInclusiveAdjWithPCode	58
10.22	CalcTaxInclusiveAdjWithFipsCode.....	58
10.23	CalcTaxInclusiveAdjWithZipAddress.....	59
10.24	CalcTaxInclusiveAdjWithNpaNxx	60
10.25	BeginCustomerBatch.....	60
10.26	CalcCustTaxes.....	61
10.27	CalcCustAdj	61
10.28	ProcessCustomerBatch	62
10.29	ProcessCustomerBatchV2	62
10.30	CalcTaxesInCustMode	63
10.31	CalcTaxesInCustModeV2.....	63
10.32	CalcProRatedTaxes.....	64
10.33	CalcProRatedAdj.....	65
10.34	CalcJurisdiction	65
10.35	CalcTaxesWithOverrides	66
10.36	CalcAdjWithOverrides	67
10.37	CalcBridgeConferenceTaxes.....	67
10.38	CalcAdjBridgeConferenceTaxes.....	68
10.39	CommitTransactions	69
10.40	Error Messages Common to all Calculation Methods	70
11.	SOAP Utility Web Methods	71
11.1	GetAddress.....	71
11.2	GetTaxCategory.....	72
11.3	GetTaxDescription.....	72

11.4	GetTaxRates	73
11.5	FipsToPCode.....	73
11.6	PCodeToFips.....	74
11.7	ZipToPCode	74
11.8	NpaNxxToPCode.....	75
11.9	GetServerTime	75
11.10	GetVersion	76
11.11	GetEZtaxVersion.....	76
11.12	GetEZtaxDbVersion	76
11.13	CreateReport (SOAP only)	77
11.14	ZipLookup.....	78
12.	Web Service Data Definitions.....	79
	AddressData.....	81
	Nexus.....	81
	Exclusion.....	81
	TaxExemption	82
	TaxData.....	82
	TaxDataV2.....	83
	CustomerResults.....	84
	CustomerResultsV2.....	84
	CustomerTaxData	84
	ReverseTaxResults	85
	TaxInclusiveTaxResults.....	85
	TaxRateInfo.....	85
	TaxRateHistory.....	85
	ReportOptions	86
	CustomLogField	86
	TaxRateOverrideInfo	87
	CategoryExemption.....	87
	TaxLogDataV914.....	87
	OptionalField	88

OptionalKey	88
ZipLookup	88
ZipLookupResult.....	89
LocationData.....	89
SafeHarborOverride	89
CommitData.....	89
BridgeConferenceParticipant	92
BridgeConferenceResults	92
BridgeConferenceParticipantResult	92
13. Web Service Enumeration Definitions.....	92
13.1 Specifying Tax Level	92
TaxLevel.....	92
13.2 Specifying Calculation Type.....	93
CalculationType	93
13.3 Specifying Adjustment Method.....	93
AdjustmentMethod.....	93
13.4 Specifying Customer Type.....	93
CustomerType.....	93
13.5 Specifying Business Class	94
BusinessClass	94
13.6 Specifying Service Class.....	94
ServiceClass	94
13.7 Specifying Discount Type	94
DiscountType	95
13.8 Specifying Exemption Type	95
13.9 Specifying Lines	96
13.10 Specifying Sale Type	96
13.11 Specifying Incorporated	97
14. Monthly Update.....	98

1. Introduction

AvaTax for Communications (AFC) SaaS Pro is easily integrated into your application. Typically, integration efforts are measured in days, instead of the months required of other products. Avalara provides a complete sales and use taxation solution with its AFC SaaS Pro product. AFC SaaS Pro performs transaction processing for numerous types of products and services, from alcohol to prescription drugs, from general merchandise to software sales.

AFC SaaS Pro relieves or minimizes your organization of the following cost of doing business burdens:

- 1) Cost of research and maintenance of the continually changing tax data of approximately 70,000 communities capable of levying taxes in the United States as well as international taxes.
- 2) Tax compliance reduces liability and exposure to tax audits.
- 3) Cost of tracking, maintenance, and implementation of tax systems based upon the whim of federal, state, county, and/or local governments.
- 4) Cost of research and maintenance of nearly 400,000 tax rates and complex application rules including, but not limited to the following:
 - Over 200 tax types.
 - Federal, state, county, district and local taxes.
 - Taxing for eighty other countries.
 - Applicability to sale and/or resale
 - Applicability to different customer types
 - Taxes that are included in base taxable amount of other taxes
 - Maximum tax bases
 - Excess tax rates
 - Transit Taxes
 - State and county taxes that are replaced by county and /or local taxes
 - Special state and county rates based upon county or local jurisdiction
 - Determination of 1 of 10 different jurisdiction determination rules per tax
 - Maintenance of address to tax jurisdiction cross reference data
 - Application of taxes based upon transaction type
 - Application of taxes based upon service type
 - Application of taxes based upon attribute type

1.1 Getting Started

1.1.1 Integration Requirements

Please reference the links provided below for the most current and detailed integration requirements.

- Integration Checklist:
<https://developer.avalara.com/certification/communications/>
- Certification Use Cases:
<https://developer.avalara.com/certification/communications-certification/>

1.1.2 Key Input Requirements

The following items are required as input for AFC SaaS Pro:

- Transaction Date (Please reference [Transaction Date](#) for additional details).
- Jurisdiction information details: (Please reference [Specifying a Tax Jurisdiction](#) for additional details).
 - Address
 - Zip
 - Zip+4
 - FIPS Code
 - PCode
 - NPANXX
- Product Information/ Transaction and Service Types (Please reference [AFC Transaction and Service Types](#) for additional details.)
- Sale Type details: (Please reference [Transaction](#) for additional details).
 - Retail
 - Wholesale
- Customer Type Info (of who is being billed) details: (Please reference [CustomerType](#) for additional details).
 - Business
 - Residential
 - Industrial
 - Senior Citizen
- Business Class (of who is billing) details: (Please reference [BusinessClass](#) for additional details).
 - CLEC
 - ILEC
 - Other

- Service Class (of who is billing) details: (Please reference [ServiceClass](#) for additional details.)
 - Primarily Long Distance
 - Primarily Local
 - Other
- Other Company Info (of who is billing) details: (Please reference [Transaction](#) for additional details.)
 - Regulated: Y or N
 - Franchise: Y or N
 - Facilities: Y or N

*Certain Inputs can be set as defaults and do not have to be selectable options in the billing platform being utilized. This represents a selection of data elements. Additional features/functions may require additional elements.

1.2 AFC Transaction and Service Types

The AFC SaaS Pro software package provides a wide range of transaction and service types. The result is a complete taxation package. When passing a transaction to AFC SaaS Pro, the user must indicate the transaction and service type of the transaction. See **TM_00505_AFC Telecom Mapping Guidelines.pdf** for more details about the transaction and service types supported by AFC SaaS Pro.

1.3 Client Information

Many taxing jurisdictions apply taxes differently to different types of customers. In addition, many jurisdictions apply taxes differently depending upon the type of sale. For these reasons, it is necessary to indicate to AFC SaaS Pro the type of client the transaction occurred with. The client type will be “Business”, “Residential”, “Industrial” or “Senior Citizen”. Likewise, it is necessary to indicate the type of sale, “sale” or “resale”. Transactions that are performed with the end user of that product or service are “sale”. Products that are with a reseller (entity that intends to resell the product or service purchased) are “resale”. To have exempt taxes available for reporting, exemption type 3 (Sales For Resale) should be used in combination with Resale.

1.4 Transaction Date

AFC SaaS Pro maintains multiple tax rates for every tax contained in the system. One rate is the current tax rate and the others are the previous tax rates. When transactions are passed to AFC SaaS Pro for tax generation, the caller is required to specify a date. AFC SaaS Pro compares this date to the effective date of each tax that applies to the transaction. If the date passed to AFC SaaS Pro is "equal to" or "greater than" the effective tax date, the current tax rate is used. If the date passed to AFC SaaS Pro is prior to the effective date, AFC SaaS Pro will select the previous tax rate for the tax based on the effective date of the previous tax rate. If a transaction is passed to AFC SaaS Pro without a date (that is, the date is set to zero), AFC SaaS Pro will set the date to the current date.

The Date field is normally populated with the bill date, invoice date or call date (as applicable) and may appear in one of the following Standard Date and Time Format Strings for .NET Framework shown in the table below.

Date Format	Sample
mm/dd/yyyy	06/01/2016
m/d/yyyy	6/1/2016
mm-dd-yyyy	06-01-2016
m-d-yyyy	6-1-2016
yyyy-mm-dd	2016-06-01
yyyy-m-d	2016-6-1
yyyy-mm-ddThh:MM:ss	2016-06-01T13:45:30
yyyy-m-dThh:MM:ss	2016-6-1T13:45:30

A common question asked for some transactions is "What date should be used for taxing a transaction, the date it occurred or the billing date?" Normally this should be the billing date. Generally accepted accounting principles tell us we should record our liabilities when we record our revenues. In most cases neither of these are recorded (or even known) until billing occurs. Large organizations may have a different answer to this question. If you are running high volumes of transactions daily and record revenue as it occurs, then the tax should be recorded on the same basis (i.e. the transaction date should be used).

Note: The invoice date passed to the server in the transaction by default is preserved as is. It is recommended that clients not use time zone modifiers on the invoice date.

1.5 Tax Types

The application of taxes varies from location to location as well as the particular transaction and service provided. Different localities typically have different taxes and logic associated with the application of the taxes. For example, one locality may apply tax to medical equipment paid for by Medicare but not to equipment paid for by Medicaid. A neighboring locality may apply tax to both or neither. For the most current list of Tax Types, see the **TM_00505_AFC Telecom Mapping Guidelines.pdf** file in the most current Distribution/Update download. This document is under /support/docs.

1.6 Bundles

The Bundling feature allows the user to define multiple AFC SaaS Pro transaction/service type pairs as one unique "bundle" transaction/service pair type. AFC SaaS Pro processes all of the transaction/service type pairs in the bundle and stores the results in the file EZtax.bdl, the formatted text bundle definition file. This file must be created and edited by AFC Bundler, an optional utility program. The bundle (.bdl) file must be installed on our web server to be implemented. Email your zipped bundle file to communicationsupport@avalara.com for installation. We will contact you when it has been installed.

1.7 Overrides

Overrides allow the client to change the rate of a tax in the AFC Engine. Avalara markets the AFC Override Utility (a Graphic User Interface based Windows program that is sold separately) to support this activity. It steps the user through the process of creating an EZtax.ovr file.

WARNING

An override to exempt taxes OVERRIDES the tax information in Avalara's tax research database. This is not recommended for those that do not possess a full understanding of the tax ramifications and liabilities when doing so.

The override (.ovr) file must be installed on our web server to be implemented. Email your zipped override file to communicationsupport@avalara.com for installation. We will contact you when it has been installed.

Overrides on tax rates may also be performed for specific transactions.

1.8 Exclusions

The AFC SaaS Pro Telecom interface allows the client to specify the states where the client's company wants to exclude all taxes. There are two methods in which exclusions can be specified to AFC SaaS Pro:

- (1) Users can provide an exclusion file to be installed on our web service. The format of the exclusion file is either a state abbreviation or the country ISO code followed by a comma and the state abbreviation, one per line. Example: "AZ" or "USA,AZ" are both valid for excluding taxes in the state of Arizona. The exclusion file should be emailed to communicationsupport@avalara.com for installation. We will contact you when it has been installed.
- (2) Users can provide an array of Exclusion objects with each tax method call to the telecom interface. These exclusion objects modify the exclusion settings only for the current method call.

If both methods are utilized, the exclusions passed in via the API call will be used and the exclusion file will be ignored for that particular transaction.

Note: Excluded tax jurisdictions will either appear as unknown or will not be included in any Transaction Service Reports (TSRs) produced.

1.9 Exemptions

There are three types of exemptions allowed in AFC SaaS Pro.

1.9.1 Category Exemptions

Category Exemptions are exemptions applied by tax category. (Please reference the table below to view the current listing of tax categories. Users may also reference **Section 6 Category Definitions** in the **AFC Telecom Mapping Guidelines** document for a detailed overview of tax type assignment per tax category.)

Tax Categories	
Category ID	Name
0	No Category Description
1	Sales and Use Taxes
2	Business Taxes
3	Gross Receipts Taxes
4	Excise Taxes
5	Connectivity Charges
6	Regulatory Charges
7	E-911 Charges
8	Utility User Taxes
9	Right of Way Fees
10	Communications Services Tax
11	Cable Regulatory Fees
12	Reserved
13	Value Added Taxes

The Category ID number must be passed in order for exemptions to be applied appropriately. In addition to this, the Country Code or State Abbreviation or both values for the category exemption must be provided as well. Please reference the example provided using the following scenario.

Category	Country	State	Comments
1 – 13	USA		Provided categories will be exempted in all US jurisdictions.
	USA		Error message will be generated as Category is required field.
1 – 13	USA	KS	Provided categories will be exempted in all Kansas jurisdictions.
1 – 13		KS	Provided categories will be exempted in all Kansas jurisdictions by assuming "USA" as country.

1.9.2 Level Exemptions

The exemption level is the jurisdictional level of the taxing authority that defines the tax. It is used to exempt taxes at specific federal, state, county and/or local level taxes.

Note: Most Federal taxes are only exempted when selling to a reseller who is registered, reporting, and remitting to the regulating agency. For this reason, a wholesale exemption or a tax type exemption must be used to exempt taxes at the Federal level.

1.9.3 Tax Type Exemptions

Tax Type exemptions are used to specify a specific Tax Type at a specific Tax Level to be exempted for the current transaction. The exemption jurisdiction code specifies the jurisdiction for the tax exemption. If the jurisdiction code is not specified (i.e. set to zero), then all taxes of the Tax Type and Tax Level specified are considered exempt regardless of the jurisdiction they are calculated for. Typically the PCode should be specified as tax type exemptions are normally only effective for specific jurisdictions.

Another option allows the tax type to be set to zero, to indicate that all taxes of a specific tax level are exempt in the specific jurisdiction.

Note: To exempt a county or city for all taxes, apply a specified exemption for the county and/or city by entering the tax type as 0. This is the wildcard character for tax type when applying exemptions in AFC SaaS Pro.

1.10 Compliance Files

The web service automatically generate compliance files at the end of the month for the clients contracted for compliance services. These files contain a summary of the tax data generated for all transactions processed throughout the month. The format of the compliance files may be that of any of the available AFC SaaS Pro sorting and reporting utilities. The compliance files may be placed in an FTP site where they can be downloaded or they may be automatically emailed to a specific email account. AFC SaaS Pro Clients are required to contact communicationsupport@avalara.com in order to set up these preferences.

Sorting & Reporting Utilities

Method	Description	Example
Date Method 0	This method gathers all transactions that were sent to our server during the previous month by looking at start time field for each transaction and generate the compliance files from that data on the first of every month or requested date. AFC SaaS Pro uses date method 0 to generate compliance reports, unless specified by client.	<ul style="list-style-type: none"> • Reporting Scenario 1: Throughout the month of January 2013, you submit several transactions to the web service for taxation at the time each sale occurs. The system will generate the January 2013 compliance reports on February 1st, 2013 for all the transactions received in January, irrespective of invoice date.
Date Method 1	This method processes data based on invoice date. We gather all transactions that have an invoice date of the previous month and generate the compliance files from that data on the first day of every month.	<ul style="list-style-type: none"> • Reporting Scenario 2: Throughout the month of January 2013, you submit several transactions to the web service for taxation with an invoice date of January 2013. On February 1st, 2013, the system will gather all transactions with an invoice date of January 1st through January 31st 2013 and generate the compliance data. • Reporting Scenario 3: You send a transaction with an invoice date of January 15th past February 1st when AFC SaaS Pro runs your compliance reports, this transaction will never show up on any report. You will need to submit a request to our network services to rerun your data for January in order to capture January data sent past February. Additional charges apply to rerun, or provide subsequent compliance reports for the month. Alternatively, you may request your compliance reports to be generated on a specific day of the month in order to give you enough time to complete processing tax calculations for your billing cycle. Please contact communicationsupport@avalara.com in order to set up these preferences.

Method	Description	Example
Date Method 2	This method processes data based on an optional10 field. The client will fill in the optional10 field with the year and month (YYYYMM format) that they want the transaction to show up in their compliance files. When AFC SaaS Pro runs the compliance reports, it only includes transactions from the previous month, based upon optional10 field.	<ul style="list-style-type: none"> • Reporting Scenario 4: Throughout the month of January 2013, you submit several transactions to the web service for taxation at the time each sale occurs. Each transaction must include the value 201301 in the Optional10 field. The system will generate the January 2013 compliance reports on February 1st, 2013 and include the taxes for all transactions with a 201301 value in the Optional10 field. It is important to note that if you send transactions with 201301 in the optional10 field, after the compliance report is run on February 1, they will be provided in any compliance reports. In this case, you should record the transaction as 201302 or a future period for them to be reported upon. • Reporting Scenario 5: On February 1st 2013, you process a batch for all January 2013 transactions. Each transaction must have a 201301 value in the Optional10 field. You should request your reports to be generated on the 2nd day of the month beforehand. The system will generate your January 2013 compliance reports on the 2nd day of the month and include the taxes for all transactions with a 201301 value in the Optional10 field. • Reporting Scenario 6: On February 15th, you process an adjustment for a transaction that took place on January 15th 2013. The Date field of the transaction must have the date of the original transaction (January 15th) in order to get the appropriate tax adjustments back, but the Optional10 field of the transaction must have a value of 201302 since the adjustment was handled during February. The tax adjustment will be included in your February 2013 compliance reports.

To allow enough time to complete tax calculations for your billing cycle, Network Services will assist in establishing the correct date method depending on your transaction method and the appropriate date of the month for your compliance reports. Please contact communicationsupport@avalara.com to set up or establish the appropriate preferences.

1.11 Test Environment

Each client is provided with a three-character company code when signing up for the AFC SaaS Pro product. In order to run a live transaction, the client's company code must be placed in the CompanyIdentifier field of the Transaction to be processed using AFC SaaS Pro (see Transaction data definition). Only taxes for transactions that contain this code in the CompanyIdentifier field will be included in the monthly compliance files created by the AFC SaaS Pro Web Service. Leave the

CompanyIdentifier field blank or use a value other than the assigned company code in order to process transactions where the taxes generated are to be excluded from the monthly compliance reports such as test transactions or quotes.

There is a SOAP Sandbox that is a dedicated testing environment. The sandbox is for testing purposes only. Test data cannot be used in reporting.

There are two endpoints for testing the SOAP Sandbox -- one for Telecom taxes and one for Sales and Use taxes.

- Telecom: <https://afcprosoapsbx.avalara.net/EZTaxWebService/EZTaxWebService.svc>
- Sales and Use:
<https://afcprosoapsbx.avalara.net/EZTaxWebService/EZTaxWebServiceSAUSaleAttributesExplicit.svc>

Note: Data in the Sandbox will be purged periodically by Avalara.

1.12 Compliance Month

Optional10 field applies when Date Method 2 is used. The month for the billing cycle must be specified in the Optional10 field of the transaction by entering the year and month in YYYYMM format. This will allow the transaction and taxes to be reported in the appropriate compliance reports for the specified month.

1.13 Tax Adjustments

Tax adjustment functions are used for adjustment activities such as refunds, changing a customer's bill or writing off un-collectable accounts. Please apply the following general rules while passing tax adjustments via Web Service.

1. To calculate adjustments accurately:
 - a. Provide the correct web adjustment method (Please refer to [Telecom Web Methods](#) for more details).
 - b. Send positive values for charge, line, and locations.
 - c. Send the adjustment method (see [Adjustment Method Table](#)).
 - d. Send the discount type (see [Discount Type Table](#)).

1.14 Interstate/Intrastate Determination

The Interstate or Intrastate feature provides clients with the ability to apply interstate or intrastate charges appropriately when sending transaction messages to the AFC SaaS Pro service without specifying either the transaction type or the service type. To use this functionality, set the transaction type to '-1' and a valid service type listed in the below scenarios; conversely, set the transaction type to a valid transaction type listed in the below scenarios and the service type to '-1'. The AFC SaaS Pro service will determine the appropriate interstate or intrastate transaction or service and return the appropriate taxes.

This feature is enabled for the following APIs:

CalcTaxesWithZipAddress
 CalcTaxesWithFipsCode
 CalcTaxesWithPCode
 CalcTaxesWithNpaNxx
 CalcProRatedTaxes
 CalcAdjWithZipAddress
 CalcAdjWithFipsCode
 CalcAdjWithPCode
 CalcAdjWithNpaNxx
 CalcProRatedAdj
 CalcTaxesInCustMode
 CalcTaxesInCustModeV2
 ProcessCustomerBatch
 ProcessCustomerBatchV2

Note: This feature is only supported with use of the APIs listed above.

In addition, this feature is only applicable in each of the following scenarios:

- A) **Scenario A** – One of the following service types listed in the table below has been identified, but the transaction type needs to be determined. For example, a service type of '1' is entered for a toll service and '-1' is entered for the unknown transaction type. The web service will determine the correct transaction type and apply INTERSTATE (transaction type 1) or INTRASTATE (transaction type 2) based on the termination and origination data.

Service Type	Service Type Description
1	TOLL
2	TOLL FREE
3	WATS
4	PRIVATE LINE
14	LATE CHARGE
16	900
27	DATA
54	DIRECTORY ASSISTANCE
635	TOLL FREE NUMBER

- B) **Scenario B** – The following transaction type has been identified, but the service type is unknown. For example, '61' is entered for a VPN transaction and '-1' is entered for the unknown service type. The web service will determine if the service type is INTERSTATE MPLS (service type 585) or INTRASTATE MPLS (service type 586) based on the termination and origination data.

Transaction Type	Transaction Type Description
61	VPN

- C) **Scenario C** – One of the following transaction types listed in the table below has been identified, but the service type is unknown. For example, '19' is entered for a VOIP transaction and '-1' is entered for the unknown service type. The web service will determine if the service type is INTERSTATE USAGE (service type 49) or INTRASTATE USAGE (service type 50) based on the termination and origination data.

Transaction Type	Transaction Type Description
19	VOIP
20	VOIPA
21	PAYPHONE
59	VOIP NOMADIC

1.15 Private Line

The Private Line feature provides clients with the ability to obtain taxes for a private line transaction. Clients must call with one of the following APIs:

CalcTaxesWithPCode
CalcTaxesWithFipsCode
CalcTaxesWithNpaNxx
CalcTaxesWithZipAddress
CalcAdjWithPCode
CalcAdjWithFipsCode
CalcAdjWithNpaNxx
CalcAdjWithZipAddress
CalcTaxesInCustMode
CalcTaxesInCustModeV2
ProcessCustomerBatch
ProcessCustomerBatchV2

In addition, clients must specify that the transaction is for a private line and provide a number between 0 and 1 to indicate the percentage which applies to the origination point. Any remaining charges are then applied to the termination point.

Note: This feature is only supported with use of the eight APIs referenced. It is not supported for use with Tax Inclusive or Reverse APIs.

1.16 Proration

The Proration feature provides clients with the ability to calculate prorated taxes on a transaction that represents a partial month of service through use of the CalcProRatedTaxes API or the CalcProRatedAdj API. Percentage-based taxes are prorated by way of the charge amount passed. However, fixed and per line taxes are subject to special pro-rating rules and procedures. Some tax authorities allow sellers to pro-rate fixed and per line taxes for partial months, but many insist on receiving the full amount. AFC SaaS Pro will apply these rules automatically if the pro-rating feature is used. A number between 0 and 1 is passed to specify the percentage of the month the service was active. The pro-rating functionality

checks the logic of each tax in the appropriate jurisdiction to determine if prorating is allowed. If prorating is not allowed, the full amount is taxed. If pro-rating is allowed, the fixed or per line tax applicable to the service will be returned multiplied by the fraction supplied.

If the proration is being used for an adjustment credit rather than a partial charge, the ratio of the percentage applied should reflect the portion of the month in which the service was not active.

1.17 Tax Grouping

The following options determine how tax calculation results are returned after calling one of the tax calculation API functions. By changing this option, the taxes returned by the tax calculation API function may be grouped according to this setting.

NOTE: *This option will not modify the way that tax calculation results are logged into the AFC log data. Only the tax calculation results returned by either one of the tax calculation API will be group according to the values set for this option.*

Please contact communicationsupport@avalara.com in order to have tax grouping options set or activated.

General Rules

The following rules apply when using any value for this option:

1. Federal taxes may not be grouped. Each Federal tax will be returned individually.
2. Non-billable taxes may not be grouped.
3. Only rate-based taxes may be grouped. Taxes with a different calculation type (for example, fixed, per line, etc) will be returned individually.
4. Use taxes may be grouped with other use taxes only (for example, state and local use tax). Use taxes will not be grouped with other tax types.
5. When grouping taxes for different tax levels (for example, state and local taxes) the jurisdiction code for the lowest level jurisdiction will be returned.
6. Unincorporated taxes will be considered as County taxes when grouping taxes by tax level, and will be grouped accordingly.
7. The tax rates for all taxes being grouped into a single record will be added together.

Default Option:

- **groupresults=default (default)**
The default option indicates that the taxes returned in the tax table after processing a transaction with AFC will not be grouped. Each tax will be returned in an individual tax record.

Tax Level Options:

- **groupsamelevel**
This option will cause rate-based taxes at the same level to be grouped together. For example, if AFC returns a Local Sales Tax and a Local District Tax, these taxes will be grouped together since they have the same tax level (Local).
- **groupstate_groupcountyandlocal**

This option will cause all state taxes to be grouped together into a single record, and all county and local taxes to be grouped together into a separate record.

- **groupstatecountyandlocal**

This option will cause all state, county, and local taxes to be grouped together into a single record.

Sales Tax Options:

The following options may be used in combination with any of the tax level options specified above. These options may be used to group sales taxes separately from other taxes. This option must be appended to the EZTax.cfg file following the line for the tax level group option.

- **groupsales**

This option will group Sales Taxes (tax type 1) and Use Taxes (tax type 49) taxes into a separate record according to the tax level option being specified.

- **groupsalescategory**

When using this option, AFC will group any items that are considered Sales Taxes together. In addition to the Sales Tax (tax type 1) and Use Tax (tax type 49), some District and Transit taxes are also in the sales tax category.

Examples

- **groupstatecountylocal**

By entering the configuration option shown above into the EZTax.cfg file, all State, County, and Local taxes will be grouped together into a single record.

- **groupstatecountylocal**
- **groupsalescategory**

By entering these two options in the configuration file, all State, County, and Local sales category taxes will be grouped together into a single record. Any other State, County and Local taxes (if any) will be grouped into a separate record.

Tax Return Table

When grouping taxes together, the fields in the tax return table will contain the following values:

1. Jurisdiction Code. Jurisdiction Code (PCode) for the lowest level jurisdiction. For example, if Kansas state taxes and Overland Park local taxes were grouped together, the tax record will contain the jurisdiction code for Overland Park.
2. Tax level. When grouping State, County and Local taxes together, the tax record will contain a value of 6 in the tax level. When grouping only County and Local taxes together, the tax record will contain a value of 7 in the tax record. Constants are provided for these values in the appropriate file.

3. Tax type. When grouping different taxes together, the tax type in the tax record will contain a value of 0. If only Sales Taxes (tax type 1) or Use Taxes (tax type 49) are being grouped together, the tax record will contain the corresponding tax type.
4. Tax amount. This field will contain the sum of the tax amount for all taxes being grouped together.
5. Tax rate. This field will contain the sum of the tax rates for all taxes being grouped together.

NOTE: The remaining fields in the tax table will not contain any meaningful value. Grouping tax calculation results may serve as a way to simplify the tax information for display purposes only. If further detail is required for each tax being returned by AFC, this feature should not be used.

1.18 Specifying a Unique Identifier

AFC SaaS Pro does not provide in the response a unique identifier for a specific transaction. However, there are numerous reporting fields which can be used for the requesting application to populate a unique identifier. Reporting fields do not impact tax calculations. It is recommended that clients generate or construct the unique identifier in a way that is meaningful to their billing application and then proceed to provide that data to Avalara through one of the available reporting fields.

Reporting fields that can be used individually or in combination to represent a unique identifier are shown in the table below.

Reporting Fields	
Column Name	Description
Optional Optional4 Optional5 Optional6 Optional7 Optional8 Optional9 Optional10 InvoiceNumber ServiceLevelNumber	Unsigned int. Should be ≥ 0 . The max value is different for different platforms, but in general supports values at least up to 4294967295 ($2^{32} - 1$).
OptionalAlpha1 CustomerNumber	Alpha-numeric field. Supports up to 20 bytes.
OptionalFields	Alpha-numeric field. Supports up to 10 fields and up to 150 bytes per field.

1.19 Commit/Uncommit

The process to commit documents is optional and used to identify documents that should be included in the Compliance Reports for remittance to the Department of Revenue (DoR) for tax compliance reporting. This process is often used when not all taxes being calculated are considered final for compliance reporting. When a document is considered final, a commit can be sent to finalize the document. This also allows users to commit an entire invoice by using the document code instead of calculating the taxes again when the document is determined to be final.

Note: This feature is supported with the use of all tax calculations. Please reference the **AvaTax for Communications SaaS Pro Commit/Uncommit Process** document for additional information and details.

1.20 Application of Tax Brackets and Limits

1.20.1 Tax Brackets

Some jurisdictions will dictate a tax rate that changes as the taxable amount of the transaction increases. These break points at which the changes occur define the brackets (or steps) and are most commonly based on dollar amount ranges although other units of measure exist. The rate may increase or decrease according to usage levels.

AFC SaaS Pro supports these transactions with an unlimited number of tax brackets. The Avalara Tax Research department continually researches jurisdictions for specific tax practices, such as tax rate brackets, updating the AFC Engine monthly. These updates occur automatically and the user is not required to make changes to account for this.

As an example of applying tax brackets, if a jurisdiction has a general sales tax set at 2% for the first \$500 of a single transaction and set at 1% for that which is over \$500, the tax for a \$1200 sale would result in $(\$500 \times 2\%) = \10 plus $(\$700 \times 1\%) = \7 which is a total tax of \$17.00.

1.20.2 Tax Limits

Some jurisdictions have established tax rates that either take effect or cease to take effect at a specific threshold, defined as a currency value. The point at which this occurs is referred to as a cap or limit. AFC SaaS Pro supports these transactions and the user is not required to make changes to account for it.

As an example of applying tax limits, if a jurisdiction charges a 10% UTT on only the first \$10 of an invoice, the tax for a \$20 invoice would “cap” at the \$10 threshold, resulting in a $(\$10 \times 10\%) = \1 UTT fee.

As an example of the converse, if a jurisdiction does NOT tax the first \$25 of Internet Access usage, a \$35 charge would be reduced by the \$25 threshold “limit,” resulting in a $(\$35 - \$25 =) \$10$ taxed amount.

2. Specifying a Tax Jurisdiction

For AFC SaaS Pro to calculate taxes for transactions correctly, it must first determine the taxing jurisdiction for the transaction in question. The tax laws of various jurisdictions complicate this. AFC SaaS Pro currently supports multiple unique rules for determination of the correct tax jurisdiction. Jurisdiction determination is usually based upon three inputs to AFC SaaS Pro:

1. The Service Address or the Bill To Number (BTN).
2. The termination location of the transaction (for telephone calls only) to be taxed. The number called, also known as the "To Number" or the "Termination number" usually specifies this.
3. The origination location of the transaction to be taxed. For telephone calls this is usually specified by the number called from, also known as the "From Number" or Origination number.

The jurisdiction, for the majority of telecommunications taxes applied by AFC SaaS Pro, is determined by the Goldberg or "2 out of 3" rule. With this particular rule, the three jurisdiction inputs pointed out above are compared. If 2 of the 3 jurisdictions supplied match, that is the jurisdictions for which taxes are generated. It is slightly more complicated since there are four authority levels for which jurisdictions determination must be made (i.e. federal, state, county, and local), however; this brief discussion illustrates the concept. Remember, the Goldberg Rule although the most common, is only one of 10 rules specified for jurisdiction determination by taxing jurisdictions in the United States.

Jurisdiction information can be supplied to the system in different ways. It can be supplied using a permanent jurisdiction code (PCode), using a FIPS Code, using an NPANXX, or using zip code and address information. AFC SaaS Pro allows the user to identify the jurisdictions by any of these methods, thereby providing maximum flexibility. AFC SaaS Pro allows the specification of jurisdiction information using any combination of these methods during the same session.

PCode

PCodes are permanent jurisdiction codes that Avalara provides that allow AFC SaaS Pro software users to populate their databases with jurisdiction information. With PCodes, clients can populate their customer records with jurisdiction information and never worry about changes of jurisdiction codes. If a jurisdiction code changes, Avalara re-maps the PCodes so clients are not affected. This allows Avalara's clients to populate client records with a PCode.

NPANXX

When using NPANXXs to specify the jurisdiction, some special considerations must be addressed by the user. The first issue concerns toll free 800 and 888 numbers. The first 6 digits of these numbers do not constitute an NPANXX. Each 800/888 number is associated with a "ring to" number. The "ring to" number is the number that is actually reached when the 800/888 number is dialed. The NPANXX of the

“ring to” number should be used as the NPANXX for the 800 number. This replacement must be made before the information is passed to the AFC SaaS Pro system. These issues also arise with 900 numbers.

Another item that requires special attention is account codes. Many switches are capable of producing CDRs with account codes in place of a “Bill To” number. Once again, this number is not related to an actual NPANXX. The user is required to convert this number to the actual NPANXX using data from the billing system before interfacing with AFC SaaS Pro.

NPANXXs exist for the following countries U.S., Barbados, Canada, Guam, Mexico, Northern Mariana Islands, Puerto Rico, Trinidad, Tobago and U.S Virgin Islands. These countries are on the North American dialing plan.

FIPS Code

FIPS Codes are issued by the National Institute of Standards and Technology (NIST). AFC SaaS Pro provides internal translation tables from FIPS Codes to PCodes, so that using FIPS Codes is almost as fast and accurate as using PCodes. Some special taxing districts are not identified in separate FIPS codes, so there is some loss of accuracy, but the majority of transactions will produce the same tax results with FIP Codes as with PCodes.

ZIP Code

The accuracy of the ZIP code method depends upon the amount of data provided for the address as well as the user’s ability to choose the correct taxing jurisdiction zip code and address. AFC SaaS Pro databases contain numerous duplicate zip codes that cross not only taxing jurisdiction boundaries, but boundaries of localities as well. Providing a complete address along with the zip code insures the best match possible. When address information is missing, AFC SaaS Pro returns taxes based upon the first match of the provided input information.

It is appropriate to use the zip code interface or PCode methods for transactions where the jurisdiction can be positively identified by the calling application.

Note: For the United States, clients may enter various forms of the zip code plus 4 in the ZipCode and ZipP4 fields (with or without a dash or space). Please reference the table provided below for examples of the alternate formats which can be entered for US zip codes.

United States	
ZipCode Field	ZipP4 Field
12345	1234
12345 1234	
12345-1234	
123451234	

For Canada, clients may populate the 6-digit Postal Code in the ZipCode field (with or without a dash or space). Canadian Postal Codes may also be entered by populating the first three in the ZipCode field and the last three in the Zip plus 4 (ZipP4) field.

For example, the Canadian zip code A1A 0A0 may be entered in any of the formats featured in the table below.

Canada	
ZipCode Field	ZipP4 Field
A1A 0A0	
A1A-0A0	
A1A0A0	
A1A	040

Tax Jurisdiction

AFC SaaS Pro provides the ability to obtain the PCode of the tax jurisdiction for a transaction by passing jurisdiction and transaction/service pair information.

NOTE: The transaction/service pair is required and must be provided in order to determine the correct tax jurisdiction.

2.1 Getting the Right Tax Jurisdiction for Local Taxation

It is important to get the end users location correct for local taxation. People tend to know what they are charged for local taxes. These taxes also have a tendency to change from one neighborhood to the next.

Avalara provides a comma delimited ASCII file to aid with entry of customers in your system and to help insure the correct taxing jurisdiction is setup. The file is "all_adr.txt". This comma delimited ASCII files is provided to allow AFC SaaS Pro clients to populate database tables in their system with this information. The all address (all_adr.txt) file is a cross-reference of locations to PCodes. The format of the files is illustrated below.

The "all_adr.txt" file format and example follows:

Pcode,P/A,Country,State,County,City,"Zip code range start","Zip code range end"

.

```
3346800,0,USA,PA,LANCASTER,BART,17503,17503
3346900,0,USA,PA,LANCASTER,BAUSMAN,17504,17504
3347000,0,USA,PA,LANCASTER,BIRD IN HAND,17505,17505
3347100,0,USA,PA,LANCASTER,BOWMANSVILLE,17507,17507
3347200,0,USA,PA,LANCASTER,CHRISTIANA,17509,17509
3347300,0,USA,PA,LANCASTER,CHURCHTOWN,17555,17555
3347400,0,USA,PA,LANCASTER,CONESTOGA,17516,17516
3347500,0,USA,PA,LANCASTER,DRUMORE,17518,17518
3347600,0,USA,PA,LANCASTER,EAST EARL,17519,17519
```

3347700,0,USA,PA,LANCASTER,ELM,17521,17521
3347800,0,USA,PA,LANCASTER,GAP,17527,17527

3. Invoice Mode

3.1 Overview

AFC SaaS Pro applies Brackets and/or Limits on a per transaction basis unless operating in Invoice Mode. Invoice Mode is used to group transactions that apply to the same customer. When in Invoice Mode, AFC SaaS Pro maintains a history of the transactions and applies the Brackets and/or Limits to the entire group of transactions.

NOTE: Please reference [Application of Tax Brackets and Limits](#) for additional details, descriptions and examples of tax brackets and limits.

AFC SaaS Pro provides the ability to process up to 30,000 transactions within an invoice for a single transaction or up to 50,000 transactions within an invoice for a batch transaction in Invoice Mode. Tax calculation results will be summarized by jurisdiction and tax type. Optionally, the individual taxes for each line item can also be returned in the output, but be advised that the response size may be up to a couple megabytes and may take up to one minute to process depending on the number of transactions in the customer batch. In addition, it is recommended to increase the timeout of your web API calls to 10 minutes although response times are expected to be much shorter even on the largest batches.

NOTE: The Invoice Mode feature must be individually activated for each client. Please contact communicationsupport@avalara.com in order to access this functionality.

Also, it is recommended that transactions in Invoice Mode are contained within one monthly billing cycle.

3.2 Batch Transaction Submission

The CalcTaxesInCustMode APIs can be used for submitting a batch of telecom and/or sales and use transactions and adjustments within a single SOAP request in order to be processed using Invoice Mode. The steps for processing an invoice in using this method are the following:

1. Invoke the CalcTaxesInCustMode API to calculate taxes on all transactions that have been submitted. This API accepts a parameter indicating if the detailed taxes for each line item should be returned or if only the summarized taxes should be returned.

3.3 Single Transaction Submission

The following APIs can be used in order to submit each transaction within an individual SOAP request. The advantage of using this method is that each transaction can be validated prior to processing the entire batch. The steps for processing an invoice in using this method are the following:

1. Invoke the BeginCustomerBatch API to flag the beginning of a new customer transaction batch. AFC SaaS Pro will return a customer batch ID which will be used when submitting each transaction to the web service.

2. Submit each line item within the invoice by invoking one of the Invoice Mode APIs (CalcCustTaxes, CalcCustAdj, SAUCalcCustTaxes, or SAUCalcCustAdj) and pass the customer batch ID along with the telecom or sales and use transaction as parameters to the API call. The web service will not calculate taxes on the transaction at this point. It will simply keep track of each transaction in the batch.
3. Invoke the ProcessCustomerBatch API to calculate taxes on all transactions that have been submitted for that customer batch ID. This API accepts a parameter indicating if the detailed taxes for each line item should be returned or if only the summarized taxes should be returned.

After invoking ProcessCustomerBatch, the customer batch ID will no longer be valid.

Note: It is recommended that the batch transaction method be attempted first and that the single transaction method only be utilized if the batch transaction method does not work.

3.4 Taxing Jurisdiction Specification

Invoice Mode APIs accept either combination of PCodes, FIPS Codes, Zip Address, or NPANXX for the bill-to, origination, and termination. However, make sure that only one property is assigned for each location. For example, if setting a value in the BillToPCode field, leave the BillToFipsCode, BillToAddress, and BillToNpaNxx fields null.

3.5 API Results

The response from any of these batch mode APIs contain two fields:

- SummarizedTaxes. This is an array of CustomerTaxData objects containing the accumulated taxes grouped by tax type and jurisdiction.
- Taxes. This is an array of TaxData objects containing the individual tax calculation results for each transaction in the batch. This array is populated only if the returnDetail parameter for the Invoice Mode API parameter is set to true. It is recommended to place a unique identifier within one of the optional fields of the transaction in order to be able to match the taxes in this array to its corresponding line item. (Please see [Specifying a Unique Identifier](#) for additional details).

3.6 Supported and Non-Supported Features

Not all options for all features are supported in Invoice Mode. Invoice Mode only supports tax calculation methods. Please reference the table below for a high-level overview of supported features within this functionality.

Invoice Mode Supported Features
Standard Tax Calculation Features Supported
Tax calculations with FipsCode
Tax calculations with NpaNxx
Tax calculations with PCode
Tax calculations with ZipAddress
Additional Features Supported

Invoice Mode Supported Features
Standard Tax Calculation Features Supported
Adjustments
Exclusions
Exemptions
Extended Optional Fields
Private Line*
Safe Harbor Overrides for Traffic Studies
Tax Inclusive**

*Support for the Private Line feature DOES NOT include adjustments.

**The Tax Inclusive feature is supported only through use of the Tax Inclusive flag. It is not supported through use of the API.

Invoice Mode Non-Supported Features
Additional Features Not Supported
Bridge Conferencing
Interstate/Intrastate Determination
Overrides via APIs
Proration
Tax Inclusive APIs

3.7 Tax Inclusive Transactions

In order to process tax inclusive tax calculations in Invoice Mode, set the TaxInclusive property of the [Transaction](#) field to true. AFC SaaS Pro will determine the appropriate base sale amount required to arrive at the total desired charge. The calculated base sale amount will be included in the TransCharge field of the corresponding [TaxDataV2](#) objects returned for that transaction.

3.7.1 Tax Inclusive - Batch Transaction Submission

The CalcTaxesInCustModeV2 APIs can be used for submitting a batch of telecom and/or sales and use transactions and adjustments within a single SOAP request in order to be processed using Invoice Mode. The steps for processing an invoice in using this method are the following:

1. Invoke the CalcTaxesInCustModeV2 API to calculate taxes on all transactions that have been submitted. This API accepts a parameter indicating if the detailed taxes for each line item should be returned or if only the summarized taxes should be returned.

3.7.2 Tax Inclusive - Single Transaction Submission

The following APIs can be used in order to submit each transaction within an individual SOAP request. The advantage of using this method is that each transaction can be validated prior to processing the entire batch. The steps for processing an invoice in using this method are the following:

1. Invoke the BeginCustomerBatch API to flag the beginning of a new customer transaction batch. AFC SaaS Pro will return a customer batch ID which will be used when submitting each transaction to the web service.

2. Submit each line item within the invoice by invoking one of the Invoice Mode APIs (CalcCustTaxes, CalcCustAdj, SAUCalcCustTaxes, or SAUCalcCustAdj) and pass the customer batch ID along with the telecom or sales and use transaction as parameters to the API call. The web service will not calculate taxes on the transaction at this point. It will simply keep track of each transaction in the batch.
3. Invoke the ProcessCustomerBatchV2 API to calculate taxes on all transactions that have been submitted for that customer batch ID. This API accepts a parameter indicating if the detailed taxes for each line item should be returned or if only the summarized taxes should be returned.

After invoking ProcessCustomerBatchV2, the customer batch ID will no longer be valid.

Note: It is recommended that the batch transaction method be attempted first and that the single transaction method only be utilized if the batch transaction method does not work.

4. Generating Custom Reports

4.1 Report Process Overview

AFC SaaS Pro provides the ability to dynamically generate a custom report containing the transactional data available in the database for a specified timeframe. The general process is as follows:

1. Invoke the [CreateReport](#) API in the web service. The [ReportOptions](#) parameter specifies which data to include in the report.
2. The report is processed in the background. The resulting output file is placed in the designated client FTP folder where it can be downloaded. This process takes anywhere from 30-90 minutes to complete.
3. Once the report has been generated and is ready for download, an email notification is sent to the email address(s) included in the [ReportOptions](#).

Note: Prior to the first time executing the CreateReport API call, please notify communicationsupport@avalara.com. If not already established, an FTP account needs to be created and the FTP credentials provided.

4.2 Setting up ReportOptions

4.2.1 BaseReport

BaseReport specifies a report type to be used as a starting template for the customlog report. Additional columns can then be included or sorted upon using [CustomLogField](#). This field only needs to be set when the [ReportType](#) field is set to “customlog”. For further information, see [4.3 – Report Types](#) and [4.4 - Custom Log Report Columns](#).

The default value for this field is NULL.

4.2.2 CreateNbaFile

If set to TRUE, all non-billable amounts returned as part of the report request are placed in a separate .nba file. If set to FALSE, the non-billable rows are returned as part of the requested report and no additional .nba file is created. The filename and file extension for the NBA file are specified in the FileName and FileExtension fields.

The default value for this field is 0.

4.2.3 CreateNcaFile

If set to TRUE, all non-compliance amounts returned as part of the report request are placed in a separate .nca file. If set to FALSE, the non-compliance rows are returned as part of the requested report and no additional .nca file is created. The filename and file extension for the NCA file are specified in the FileName and FileExtension fields.

The default value for this field is 0.

4.2.4 CustomLogFields

CustomLogFields is a list of CustomLogField. Specify which column should be used using the Column property, if the Column should be included on the report using the Include property, and if the Column should be used for sorting using the Sort property. For further information about the columns, refer to [4.4 - Custom Log Report Columns](#).

Setting Include to TRUE includes the column in the output while setting it to FALSE removes the specified column from the output. Setting Sort to TRUE uses the specified column as part of the sort on the report while setting it to FALSE does not use the column in the sort.

For example:

- Setting both Include and Sort to TRUE returns the specified column as part of the output as well as sorts the report using this column.
- Setting Include to FALSE and Sort to TRUE does not include the column in the output, but will sort the report based on this column.
- Setting Include to TRUE and Sort to FALSE includes the column in the output, but does not sort the report based on this column.

Note: The sorting of a custom report is based upon the order in which the columns are passed to the API.

Note: Only transactions and taxes that include the 3-character company code for your account in the CompanyIdentifier field of the input TelecomTransaction or SalesUseTransaction will be included in the report.

4.2.5 EmailAddress

Multiple email addresses may be included and should be separated by a semicolon and space (;). When the report is available on the client FTP site, an email is sent to those addresses contained in the EmailAddress field notifying the recipient(s) that the file is ready for download.

This field is required.

4.2.6 FileExtension

The FileExtension field specifies the file extension for the output file. The period for the extension is not required. For example, "csv".

The default value for this field is csv.

4.2.7 FileName

The FileName field of the [ReportOptions](#) parameter specifies the name of the output file.

This field allows a date-time format using the following identifiers:

Identifier	Description
yy	Last two digits of year
yyyy	4-digit year
MM	Month
dd	Day of month
hh	Hour
mm	Minutes
ss	Seconds

If using these identifiers in the file name, they must be included within curly braces.

For example, a value of “MyCustomReport{yyyyMMdd}” generates an output file name similar to “MyCustomReport20160101”.

The default value for this field is <ReportType>-yyyyMMddhhmmss.

4.2.8 IncludeHeaders

Setting IncludeHeaders to TRUE includes the column headers as the first row of the returned report while setting the field to FALSE does not include a header row. This setting applies to the NBA and NCA files as well if generated.

The default value for this field is 0.

4.2.9 Precision

The Precision field defines the number of places a decimal shall return.

The default value for this field is 0.

4.2.10 ReportType

The ReportType field specifies whether to use a pre-defined Avalara report template or if the report shall be a custom report. For further information, see [4.3 – Report Types](#).

This field is required.

4.2.11 StartDate, EndDate, and TimeSpan

The data to be included in the report is mainly specified by the StartDate and EndDate fields of the [ReportOptions](#) parameter that is passed in to the [CreateReport](#) API. The dates are compared against the server date at the time when the transaction was submitted and processed by the web service.

The StartDate may not be more than 90 days in the past. The EndDate or TimeSpan may not be more than 31 days apart from the StartDate. The EndDate is non-inclusive, so only records with a timestamp smaller than the EndDate will be included in the report. For example, to include all the data for January 2016 in the report, set the StartDate to “01/01/2016” and the EndDate to “02/01/2016”.

StartDate must be set but either EndDate or TimeSpan may be used. If both EndDate and TimeSpan are set, CreateReport uses the TimeSpan value.

StartDate is a required field. Either EndDate or TimeSpan is required.

4.3 Report Types

The following report types are available. Note that each of the reports specified below will be generated as CSV files.

Report Type	Description
srtcomma20l	Generates report output similar to the srtcomma20l utility in AFC License. The columns included are: CountryIso, State, County, Locality, TaxType, TaxLevel, Rate, TaxAmount, SaleAmount, ExemptSaleAmount, RefundUncollect, NetTaxableMeasure, Minutes, and Lines. Please refer to TM_00523_srtcomma20l.pdf for additional information.
srtcomma20l-p	Generates report output similar to the srtcomma20l utility in AFC License using the -p option to output PCodes instead of the location names. The columns included are: PCode, TaxType, TaxLevel, Rate, TaxAmount, SaleAmount, ExemptSaleAmount, RefundUncollect, NetSaleAmount, Minutes, and Lines. Please refer to TM_00523_srtcomma20l.pdf for additional information.
srtcomma20ld	Generates report output similar to the srtcomma20ld utility in AFC License. The columns included are: CountryIso, State, County, Locality, TaxType, TaxDescription, TaxLevel, TaxLevelDesc, Rate, TaxAmount, GrossSales, ExemptSaleAmount, RefundUncollect, NetTaxableMeasure, Minutes, and Lines. Please refer to TM_00524_srtcomma20ld.pdf for additional information.
srtcommadetail	Generates report output similar to the srtcommadetail utility in AFC License. The columns included are: CountryIso, State, County, Locality, TaxType, TaxLevel, DiscountType, CalcType, Rate, TaxAmount, GrossSales, ExemptSaleAmount, RefundUncollect, NetSaleAmount, Minutes.

Report Type	Description
	Please refer to TM_00525_srtcommadetail.pdf for additional information.
customlog	A custom report containing the predefined columns of the report type specified in the BaseReport field of the ReportOptions and/or the fields specified in the CustomLogField array.

4.4 Custom Log Report Columns

The following columns are available when generating a report using the customlog ReportType. For each column, the Include and Sort properties must also be specified.

A Calculated column refers to data calculated within and returned from the AFC Engine.

Column Name	Description	Calculated
CountryISO	Three-character country code for taxing jurisdiction.	No
State	State abbreviation for taxing jurisdiction.	No
County	County name for taxing jurisdiction.	No
Locality	Locality name for taxing jurisdiction.	No
CompanyIdentifier	Input entered in the CompanyIdentifier field of the TelecomTransaction or SalesUseTansaction.	No
CustomerNumber	Input entered in the CustomerNumber field of the TelecomTransaction or SalesUseTansaction.	No
Date	Input entered in the Date field of the TelecomTransaction or SalesUseTansaction.	No
DiscountType	Input entered in the DiscountType field of the TelecomTransaction or SalesUseTansaction.	No
DiscountTypeDesc	Description for DiscountType field.	No
ExemptionType	Input entered in the ExemptionType field of the TelecomTransaction or SalesUseTansaction.	No
ExemptionTypeDesc	Description for ExemptionType field.	No
InvoiceNumber	Input entered in the InvoiceNumber field of the TelecomTransaction or SalesUseTansaction.	No
Optional	Input entered in the Optional field of the TelecomTransaction or SalesUseTansaction.	No
Optional4	Input entered in the Optional4 field of the TelecomTransaction or SalesUseTansaction.	No
Optional5	Input entered in the Optional5field of the TelecomTransaction or SalesUseTansaction.	No
Optional6	Input entered in the Optional6 field of the TelecomTransaction or SalesUseTansaction.	No
Optional7	Input entered in the Optional7 field of the TelecomTransaction or SalesUseTansaction.	No
Optional8	Input entered in the Optional8 field of the TelecomTransaction or SalesUseTansaction.	No
Optional9	Input entered in the Optional9 field of the TelecomTransaction or SalesUseTansaction.	No

Column Name	Description	Calculated
Optional10	Input entered in the Optional10 field of the TelecomTransaction or SalesUseTansaction.	No
OptionalAlpha1	Input entered in the OptionalAlpha1 field of the TelecomTransaction or SalesUseTansaction.	No
ServiceLevelNumber	Input entered in the ServiceLevelNumber field of the TelecomTransaction or SalesUseTansaction.	No
Billable	Billable flag for tax.	No
CalcType	Calculation type for tax.	No
CalcTypeDesc	Description for CalcType field.	No
CategoryID	Category ID for tax.	No
CategoryDesc	Category description for tax.	No
ExemptSaleAmount	Exempt sale amount from tax record.	No
Compliance	Compliance flag from tax record.	No
PCode	PCode for taxing jurisdiction	No
Rate	Rate for tax.	No
RefundUncollect	For adjustments, this is the refunded taxable measure from tax record.	Yes
ServiceType	Service Type used in the input transaction or derived out of the bundle if a bundle transaction was used.	No
Surcharge	FET taxable flag from tax record	No
TaxableMeasure	Taxable measure used for calculating the tax.	Yes
SaleAmount	Taxable measure plus exempt sale amount (typically the input sale amount entered in the transaction. This field is used for srtcomma20l and srtcomma20l-p reports.	Yes
GrossSales	Gross sale amount. This field is used for srtcomma20ld and srtcommadetail reports.	Yes
NetSaleAmount	Net sale amount. This field is used for srtcomma20ld and srtcommadetail reports.	Yes
NetTaxableMeasure	Net taxable measure. This field is used for srtcomma20l and srtcomma20l-p reports.	Yes
TaxAmount	Tax amount.	Yes
TaxLevel	Tax level identifier.	No
TaxLevelDesc	Description for tax level identifier.	No
TaxType	Tax type identifier.	No
TaxDescription	Description for tax type.	No
TransactionID	Transaction ID used in the input transaction or derived out of the bundle if a bundle transaction was used.	No
ServiceID	Service ID used in the input transaction or derived out of the bundle if a bundle transaction was used.	No
Lines	Number of lines used for calculating the tax in per-line taxes.	Yes
Locations	Number of locations	Yes
Minutes	Number of minutes used for calculating the tax in per-minute taxes.	Yes
TaxLogID	Primary key identifier for transaction.	No
ServerDate	Server date when the transaction was processed.	No
OptionalField1	Additional Extended Optional fields in which column headers are defined by the user upon creation of each one.	No
OptionalField2		

Column Name	Description	Calculated
OptionalField3		
OptionalField4		
OptionalField5		
OptionalField6		
OptionalField7		
OptionalField8		
OptionalField9		
OptionalField10		

4.5 Aggregation

Any records included in the report will be grouped together using any non-calculated fields that are included in the output. The non-calculated field values are aggregated. To avoid any grouping, include the TaxLogID column in the report output. For a list of calculated and non-calculated fields, see [4.3 - Custom Log Report Columns](#).

Output Files

The output files are compressed into a zip file with the name as specified in the FileName field. This zip file is then placed in the specific client FTP folder. The zip file may contain multiple files if the CreateNbaFile or CreateNcaFile options are set to true in the [ReportOptions](#).

4.5.1 Accessing the FTP Site

AFC SaaS Pro provides two ways to connect to the AFC FTP server - by using a secure file-transfer protocol (SFTP) or file-transfer protocol (FTP) connection through an existing account and typing 'ftp.billsoft.com' at the prompt within the FTP session or by connecting to the web interface at <https://ftp.billsoft.com>.

All client FTP sites must be set up properly and clients must have their username and password. Please contact communicationsupport@avalara.com to obtain this information or for assistance with accessing output files.

Note Concerning FTP Client Software

Please be aware that web browsers (Microsoft Internet Explorer, Firefox, etc.) cannot be used for uploading and downloading files via FTP to the AFC FTP site. A FTP client application must be used to transfer files to and from the AFC FTP site when using our service as FTP.

Windows users:

Microsoft does not currently include convenient FTP client software in its operating systems. It is assumed you either own a third-party FTP client application such as WS_FTP (a shareware version of which can be downloaded from <http://www.ipswitch.com>), or that you are comfortable accessing FTP sites using command-line syntax.

Linux users:

If using a Linux system to transfer your call-data files, you can use any number of free FTP clients to contact the AFC FTP site, such as WXFtp, or you can use command-line syntax.

4.5.1.1 Logging on to the FTP Site

To log on to the AFC FTP site, you will need the following information:

HOSTNAME/ADDRESS: 'ftp.billsoft.com' within a FTP session or via the web at <https://ftp.billsoft.com>

USER ID: Your User ID is created and provided to you. Please contact communicationsupport@avalara.com for your organization's assigned User ID.

PASSWORD: Your organization's login password is also provided by your Avalara technical support contact. For future reference, you may make note of your login details in spaced provided below.

User ID: _____

Password: _____

Company Code: _____

4.5.1.2 Downloading Files from the FTP Site

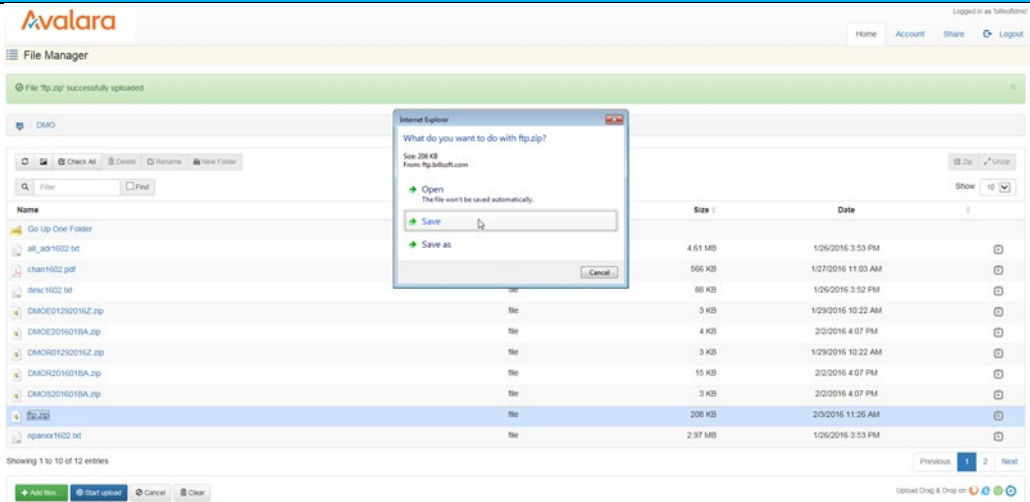
Once you are connected to the AFC FTP site, you should change to the directory that has the same name as your company's three-character code.

When the report is available, you can either download the output from the AFC FTP or get it from the <https://ftp.billsoft.com> site.

To download from the AMC FTP site, connect within a FTP session, open the folder with you company's three-character code, and select the file you wish to download. Transfer the selected file to your destination using the tool's transfer method.

To download from the <https://ftp.billsoft.com> web interface, follow the steps below:

Step	Action/Result
1	View the completed files processed and locate the file with appropriate date and timestamp.
2	Highlight or double-click the file you wish to open.

Step	Action/Result
	
3	<p>Select the Save or Save as option in the window.</p> <p>Note: The file must be saved. If the file is opened and closed without being saved, it will no longer be available on the FTP site to download and save for your records.</p>

4.6 Sample Code

```
// Create instance of web service client
var client = new EZTaxWebServiceClient("BasicHttpBinding_IEZTaxWebService");
client.ClientCredentials.UserName.UserName = "(MyUserName)";
client.ClientCredentials.UserName.Password = "(MyPassword)";

// Create a ReportOptions object to specify the options for the report
var reportOptions = new ReportOptions
{
    BaseReport = "srtcomma201",
    CreateNbaFile = true,
    CreateNcaFile = false,
    EmailAddress = "myemail@address.com",
    EndDate = new DateTime(2016, 5, 1),
    FileExtension = ".csv",
    FileName = "test-{yyyyMMdd}",
    IncludeHeaders = true,
    Precision = 6,
    ReportType = "customlog",
    StartDate = new DateTime(2016, 4, 1)
};

// For customlog reports, you may specify individual fields to be included
reportOptions.CustomLogFields = new[]
{
    new CustomLogField
    {
        Column = "PCode",
        Include = true,
        Sort = false
    },
    new CustomLogField
    {
        Column = "CategoryID",
        Include = true,

```

```

        Sort = true
    },
    new CustomLogField
    {
        Column = "CategoryDesc",
        Include = true,
        Sort = false
    }
};

try
{
    // Invoke the CreateReport API to submit the report for processing
    client.CreateReport(reportOptions);
    Console.WriteLine("Report submitted for processing.");
}
catch (FaultException ex)
{
    Console.WriteLine("An error occurred submitting the report: " + ex.ToString());
}

```

5. Bridge Conferencing

The Bridge Conferencing feature is currently in development at this time. Please refrain from using this feature as well as the proposed solutions and APIs until further notice.

6. Optional Fields

6.1 Overview

AFC SaaS Pro provides a number of optional fields for use in reports.

There are two types of Optional Fields available in AFC SaaS Pro- 9 default Optional Fields and up to 10 Extended Optional Fields. All Optional Fields are part of the [transaction](#).

Note: The Optional Fields do not impact taxation.

6.2 Default Optional Fields

There are 9 default Optional Fields.

Reporting Fields	
Column Name	Description
Optional	Unsigned int. Should be ≥ 0 . The max value is different for different platforms, but in general supports values at least up to 4294967295 ($2^{32} - 1$).
Optional4	
Optional5	
Optional6	
Optional7	
Optional8	
Optional9	
Optional10	
OptionalAlpha1	Alpha-numeric field. Supports up to 20 bytes.

Note: Please refer to Sections **1.9 Compliance Files** and **1.11 Compliance Month** for additional information about the Optional10 field.

6.3 Extended Optional Fields

AFC SaaS Pro has the ability to pass up to 10 additional Extended Optional Fields. The general process is as follows:

1. Add the Extended Optional Fields using the [OptionalField](#) property of the [Transaction](#).
2. Update the description of a specified Extended Optional Field by invoking the [UpdateOptionalFieldKeyDesc](#) API.
3. Display a list of all updated descriptions by invoking the [GetOptionalFieldKeyDesc](#) API.

The Extended Optional Fields are not currently supported in Single-Transaction Invoice Mode or Batch-Transaction Invoice Mode.

Note: The Extended Optional Fields passed as part of the Transaction are persisted until otherwise changed. For example, if the first [OptionalField](#) is used in a transaction and updated with a description of "Purchase Order Number", this field should continue to be utilized as a Purchase Order Number until at

least the end of the reporting cycle so that mixed data does not appear on the resulting Detail Log report or Custom Report.

6.3.1 Setting Up an Extended Optional Field in a Transaction

A Transaction containing one or more Extended Optional Fields is set up as usual with the addition of the [OptionalField](#) property. Each [OptionalField](#) specifies an `OptionalKeyNo` and an `OptionalValue`.

Field	Description
OptionalKeyNo	Optional field key number (integer values from 1 to 10). The <code>OptionalKeyNo</code> field is the key associated with the corresponding value.
OptionalValue	Value for optional field (up to 150 characters). The <code>OptionalValue</code> field is the value that will display in the body of the reports.

Note: To avoid possible issues with CSV reports, it is advised that the use of special characters, especially the comma (,) should be avoided.

6.3.2 UpdateOptionalFieldKeyDesc

The [UpdateOptionalFieldKeyDesc](#) API is used to update the description for each optional field key thereby indicating what each field in the [OptionalField](#) array of the [Transaction](#) is used for (e.g. invoice number, line item number, etc.). The values specified will be used when generating reports that contain these optional fields.

To update a description, pass the `OptionalKeyNo` that should be updated as well as the desired description in the `OptionalValue` field.

Field	Description
OptionalKeyNo	Optional field key number (integer values from 1 to 10). The <code>OptionalKeyNo</code> field is the key originally passed as part of the transaction.
OptionalValue	Value for the optional field description (up to 150 characters). The <code>OptionalValue</code> field is the value of the description of the specified Optional Field that will display on the reports.

Note: To avoid possible issues with CSV reports, it is advised that the use of special characters, especially the comma (,) should be avoided.

6.3.3 GetOptionalFieldKeyDesc

The [GetOptionalFieldKeyDesc](#) API returns the description for each optional field key in the [OptionalField](#) array of the [Transaction](#) that has been updated using the [UpdateOptionalFieldKeyDesc](#) API. The description values specified will be used when generating reports that contain these optional fields.

7. Zip Lookup Requests

7.1 Overview

Zip Lookup functionality returns all or multiple PCodes and jurisdiction details associated with the address input provided.

To use this functionality, invoke the [ZipLookup](#) API.

7.2 Setting up a Request

In order to call the API, the ZipLookup data structure needs to be populated. At least one location field is required. If Country is not specified, the default value is set to "USA".

7.2.1 Best Match

By default the ZipLookup algorithm requires an exact match of all fields provided with the following considerations:

1. Punctuation in city names will be ignored
2. Whitespace in city names will be ignored. For example, the city name LAND O' LAKES will match LAND O LAKES or LANDOLAKES as both the punctuation and spacing will be ignored for purposes of matching.

If Best Match is set to true, some limited variable search algorithms will be used to find the best match for the data provided.

Setting the **BestMatchFlag** to TRUE

- Best Match first attempts an exact match
- If and only if the exact match search fails, the best match algorithm will be applied to find matches based on variable search algorithms.

Setting the **BestMatchFlag** to FALSE produces exact matches only.

- Produces exact matches only

The results field **MatchTypeApplied** indicates whether Exact match or Best match was used.

7.2.2 Location Data

At least one location field is required. If Country is not specified, the default value is set to "USA".

Specify a location by providing one or more of the following fields: **City, Country, County, State, ZipCode**.

7.2.3 Limit Results

The **LimitResults** field is used to limit the number of matches returned.

The default value is 100 while the maximum limit is 1,000. If 0 is entered as a value, the default limit is used. If the value entered is greater than the maximum limit, the maximum limit is used.

7.3 Results

The [LocationData](#) structure is returned for each location found based on the provided input. All results are contained within the [ZipLookupResult](#) structure.

7.4 Examples

Examples using Manhattan in New York are as follows:

1. Sample Request with one exact match

Request 1 - Match exact on Country, State, County, City and Zip Code

Country	State	County	Locality	ZipCode	Best Match
USA	NY	New York	Manhattan	10001	FALSE

Result

PCode	Country	State	County	City
2604100	USA	NY	NEW YORK	MANHATTAN

2. Sample Request with multiple exact matches

Request 1 – Match exact on Country, State, County and Zip Code

Country	State	County	Locality	ZipCode	Best Match
USA	NY	New York		10001	FALSE

Request 2 – Match exact on Country and Zip Code (Blank Country defaults to USA)

Country	State	County	Locality	ZipCode	Best Match
				10001	FALSE

Result - Both match 5 addresses (All have same Country, State, County and Zip)

PCode	Country	State	County	City
2604100	USA	NY	NEW YORK	EMPIRE STATE

2604100	USA	NY	NEW YORK	GREELEY SQUARE
2604100	USA	NY	NEW YORK	ONE HUNDRED THIRTY EIGHTH
2604100	USA	NY	NEW YORK	MANHATTAN
2604100	USA	NY	NEW YORK	NEW YORK

3. Sample Request – Match exact on invalid address

Request 1 – Match exact on Country, State, County, City and Zip Code

Country	State	County	Locality	ZipCode	Best Match
USA	NY	Westchester	Manhattan	10001	FALSE

Result – No matches, not a valid address

PCode	Country	State	County	City

4. Sample Request – Best match on invalid address

Request 1 – Best match on Country, State, County, City and Zip Code

Country	State	County	Locality	ZipCode	Best Match
USA	NY	Westchester	Manhattan	10001	FALSE

Result – County is disregarded

PCode	Country	State	County	City
2604100	USA	NY	NEW YORK	MANHATTAN

8. Safe Harbor Overrides for Traffic Studies

The results of percentages from a traffic study can be applied by administering traffic study TAM overrides. The TAM values for Cellular, VoIP and Paging are adjusted to reflect the percentages in the traffic study.

Please contact communicationsupport@avalara.com in order to set the override at the account level versus transaction level.

1. Cellular Examples:

Original Cellular Safe Harbor: 37.1% Federal / 62.9% State											
State	City	Zip	Charge	Products	Tax Type	Level	Rate	TM	Tax	Charge	Exempt
NY	Manhattan	10001	100	Cellular/Access Charge	Fed USF Cellular	Federal	0.174	37.1	6.4554	100	62.9

Cellular Traffic Study Override: 15.0% Federal / 85.0% State											
State	City	Zip	Charge	Products	Tax Type	Level	Rate	TM	Tax	Charge	Exempt
NY	Manhattan	10001	100	Cellular/Access Charge	Fed USF Cellular	Federal	0.174	15	2.61	100	85

2. VoIP Examples:

Original VoIP Safe Harbor: 64.9% Federal / 35.1% State										
State	Zip	Charge	Products	Tax Type	Level	Rate	TM	Tax	Charge	Exempt
CA	90001	100	VoIP/Access Charge	Universal Lifeline Telephone Service Charge (VoIP)	State	0.055	35.1	1.9305	100	64.9
CA	90001	100	VoIP/Access Charge	CASF (VoIP)	State	0.00464	35.1	0.16286	100	64.9
CA	90001	100	VoIP/Access Charge	CA Teleconnect Fund (VoIP)	State	0.0108	35.1	0.37908	100	64.9
CA	90001	100	VoIP/Access Charge	CA High Cost Fund A (VoIP)	State	0.0035	35.1	0.12285	100	64.9
CA	90001	100	VoIP/Access Charge	TRS (VoIP)	State	0.005	35.1	0.1755	100	64.9
CA	90001	100	VoIP/Access Charge	E911 (VoIP)	State	0.0075	35.1	0.26325	100	64.9
CA	90001	100	VoIP/Access Charge	FUSF (VoIP)	Federal	0.174	64.9	11.2926	100	35.1
CA	90001	100	VoIP/Access Charge	FCC Regulatory Fee (VoIP)	Federal	0.00371	64.9	0.24078	100	35.1

VoIP Traffic Study Override: 25.0% Federal / 75.0% State										
State	Zip	Charge	Products	Tax Type	Level	Rate	TM	Tax	Charge	Exempt
CA	90001	100	VoIP/Access Charge	Universal Lifeline Telephone Service Charge (VoIP)	State	0.055	75	4.125	100	25
CA	90001	100	VoIP/Access Charge	CASF (VoIP)	State	0.00464	75	0.348	100	25
CA	90001	100	VoIP/Access Charge	CA Teleconnect Fund (VoIP)	State	0.0108	75	0.81	100	25
CA	90001	100	VoIP/Access Charge	CA High Cost Fund A (VoIP)	State	0.0035	75	0.2625	100	25
CA	90001	100	VoIP/Access Charge	TRS (VoIP)	State	0.005	75	0.375	100	25

VoIP Traffic Study Override: 25.0% Federal / 75.0% State										
State	Zip	Charge	Products	Tax Type	Level	Rate	TM	Tax	Charge	Exempt
CA	90001	100	VoIP/Access Charge	E911 (VoIP)	State	0.0075	75	0.5625	100	25
CA	90001	100	VoIP/Access Charge	FUSF (VoIP)	Federal	0.174	25	4.35	100	75
CA	90001	100	VoIP/Access Charge	FCC Regulatory Fee (VoIP)	Federal	0.00371	25	0.09275	100	75

9. AFC SaaS Pro Telecom Web Service Programmer Reference

The AFC SaaS Pro Telecom Web Service was developed using XML, SOAP 1.1, and WSDL so it can be integrated into virtually any application. To use the web service from your application, you will need to create a proxy stub for your programming language and platform. The proxy stub will encapsulate many of the details of communicating over the Internet between your application and the web service. The proxy stub will contain data types, classes and functions that you will use in your source code to invoke the methods on the web service.

Most programming languages have a toolkit or SDK for generating some or all of the proxy stub. The following is a list of some of the products that may be used to create the proxy stub.

Toolkit or Product Name	Programming Language	Platform
Visual Studio.NET	C# or Visual Basic.NET	Microsoft Windows
.NET Framework SDK	C# or Visual Basic.NET	Microsoft Windows
Systinet Server	Java or C++	See http://www.systinet.com
Apache Axis	Java or C++	See http://ws.apache.org/axis/
GSOAP	C/C++	See http://sourceforge.net/projects/gsoap2

9.1 TaxService Endpoint

[TaxService WSDL](#) (secured with user id and password in SOAP header) Avalara recommends using HTTPS when connecting to this endpoint. The URL for this endpoint is <http://EZtaxasp.billsoft.com/EZtaxWebService/EZtaxWebService.svc?wsdl>.

There will be two ways to access the service, either via https or http. The TaxService endpoint requires the user id and password to be passed in a custom SOAP header element. These are sent in clear text, so Avalara requires the client to use one of the security models to secure the password.

Common Properties

WSDL URL <https://eztaxasp.billsoft.com/EZTaxWebService/EZTaxWebService.svc?wsdl>

Namespace <http://tempuri.org/>

Binding Specific Properties

Binding	Endpoint	Soap Version
BasicHttpBinding_IETaxWebService	https://eztaxasp.billsoft.com/EZTaxWebService/EZTaxWebService.svc	SOAP 1.1
BasicHttpBinding_IETaxWebService1	https://eztaxasp.billsoft.com/EZTaxWebService/EZTaxWebService.svc/Soap11	SOAP 1.1

Binding	Endpoint	Soap Version
CustomBinding_IEZTaxWebService	https://eztaxasp.billsoft.com/EZTaxWebService/EZTaxWebService.svc/SSL	SOAP 1.2

Deprecated Binding

Binding	Endpoint	Soap Version
WSHttpBinding_IEZTaxWebService	http://eztaxasp.billsoft.com/EZTaxWebService/EZTaxWebService.svc	SOAP 1.2

The remainder of this document describes the web service methods and customer data types required to call AFC SaaS Pro from your application. With this interface, the applications pass the transaction data to AFC SaaS Pro as they are being sold or billed. AFC SaaS Pro calculates all required taxes and returns the tax information to the billing system per transaction. In addition, AFC SaaS Pro stores all tax data generated in a database. This data can then be used to generate reports used for tax compliance. AFC SaaS Pro is capable of generating files that can be electronically processed by Atlantax, Ernst & Young, and Tax Partners, Inc., for tax compliance filing. AFC SaaS Pro provides facilities to generate tax adjustments or refunds based upon un-collectable accounts or customer refunds. Adjustment information is returned to the application and is utilized to update tax data for report generation and compliance filing.

10.SOAP Telecom Web Methods

These methods process each transaction independently.

Any of these messages can produce an exception. Errors can occur in any of the calculation methods are listed in [Error Messages Common to all Calculation Methods](#). Messages that are specific to a particular method are shown with each method description.

Method Name	Summary
CalcTaxesWithPCode	Calculate taxes on supplied telecom transaction using PCodes
CalcTaxesWithNpaNxx	Calculate taxes on supplied telecom transaction using NpaNxx values
CalcTaxesWithZipAddress	Calculate taxes on supplied telecom transaction using Zip addresses
CalcTaxesWithFipsCode	Calculate taxes on supplied telecom transaction using FIPS Codes
CalcAdjWithPCode	Calculated adjustment on supplied transaction using PCodes
CalcAdjWithNpaNxx	Calculated adjustment on supplied transaction using NpaNxx values
CalcAdjWithZipAddress	Calculated adjustment on supplied transaction using Zip addresses
CalcAdjWithFipsCode	Calculated adjustment on supplied transaction using FIPS Codes
CalcReverseTaxesWithPCode*	Performs a tax inclusive calculation to arrive at the base sale amount and taxes for the desired total charge using PCodes.
CalcReverseTaxesWithFipsCode*	Performs a tax inclusive calculation to arrive at the base sale amount and taxes for the desired total charge using Fips Codes.
CalcReverseTaxesWithZipAddress*	Performs a tax inclusive calculation to arrive at the base sale amount and taxes for the desired total charge using Zip Address.
CalcReverseTaxesWithNpaNxx*	Performs a tax inclusive calculation to arrive at the base sale amount and taxes for the desired total charge using NPANXX.
CalcReverseAdjWithPCode*	Performs a tax inclusive adjustment to arrive at the base sale amount and taxes for the desired total charge using PCodes.
CalcReverseAdjWithFipsCode*	Performs a tax inclusive adjustment to arrive at the base sale amount and taxes for the desired total charge using Fips Codes.
CalcReverseAdjWithZipAddress*	Performs a tax inclusive adjustment to arrive at the base sale amount and taxes for the desired total charge using Zip Address.
CalcReverseAdjWithNpaNxx*	Performs a tax inclusive adjustment to arrive at the base sale amount and taxes for the desired total charge using NPANXX.
CalcTaxInclusiveTaxesWithPCode	Performs a tax inclusive calculation to arrive at the base sale amount and taxes for the desired total charge using PCodes.
CalcTaxInclusiveTaxesWithFipsCode	Performs a tax inclusive calculation to arrive at the base sale amount and taxes for the desired total charge using Fips Codes.
CalcTaxInclusiveTaxesWithZipAddress	Performs a tax inclusive calculation to arrive at the base sale amount and taxes for the desired total charge using Zip Address.
CalcTaxInclusiveTaxesWithNpaNxx	Performs a tax inclusive calculation to arrive at the base sale amount and taxes for the desired total charge using NPANXX.
CalcTaxInclusiveAdjWithPCode	Performs a tax inclusive adjustment to arrive at the base sale amount and taxes for the desired total charge using PCodes.
CalcTaxInclusiveAdjWithFipsCode	Performs a tax inclusive adjustment to arrive at the base sale amount and taxes for the desired total charge using Fips Codes.

Method Name	Summary
CalcTaxInclusiveAdjWithZipAddress	Performs a tax inclusive adjustment to arrive at the base sale amount and taxes for the desired total charge using Zip Address.
CalcTaxInclusiveAdjWithNpaNxx	Performs a tax inclusive adjustment to arrive at the base sale amount and taxes for the desired total charge using NPANXX.
BeginCustomerBatch	Flags the beginning of a customer transaction batch and returns a customer batch ID that can be used to submit each transaction and process the entire batch.
CalcCustTaxes	Submits a transaction for the specified customer batch.
CalcCustAdj	Submits an adjustment for the specified customer batch.
ProcessCustomerBatch	Processes a customer batch and returns the tax calculation results.
CalcTaxesInCustMode	Processes a batch of telecom and/or sales and use transactions and adjustments in Invoice Mode.
CalcProRatedTaxes	Accepts a pro-rated percentage that is used to calculate the taxable amount on the transaction and perform tax calculations.
CalcProRatedAdj	Accepts a pro-rated percentage that is used to calculate the taxable amount on the transaction and perform tax adjustments.
CalcJurisdiction	Determines the taxing jurisdiction for a transaction and returns the PCode at the lowest jurisdiction level.
CalcTaxesWithOverrides	Accepts transaction data and tax rate override data to perform tax calculations with provided override information.
CalcAdjWithOverrides	Accepts transaction data and tax rate override data to perform tax adjustment calculations with provided override information.
CalcBridgeConferenceTaxes	<p>Calculate taxes on supplied telecom transaction using sourcing rules for conferencing.</p> <p>Note: <i>The Bridge Conferencing feature is currently in development at this time. Please refrain from using this feature as well as the proposed solutions and APIs until further notice.</i></p>
CalcAdjBridgeConferenceTaxes	<p>Calculated adjustment on supplied transaction using sourcing rules for conferencing.</p> <p>Note: <i>The Bridge Conferencing feature is currently in development at this time. Please refrain from using this feature as well as the proposed solutions and APIs until further notice.</i></p>
CommitTransactions	Used to commit or uncommit a DocumentCode.

**It is recommended to begin using the newly renamed 'tax inclusive' APIs as the 'reverse' APIs will be deprecated in the future.*

10.1 CalcTaxesWithPCode

This method accepts transaction data and performs appropriate tax calculations. Origination, Termination, and Bill To information is passed using PCodes.

Return Type:

[TaxData\[\]](#) An array of [TaxData](#) objects that contain the information about the taxes applied.

Parameters:

[Transaction](#) Telecom transaction data

Errors:

- OriginationPCode must be set! – The OriginationPCode property of the Transaction was not set
- TerminationPCode must be set! – The TerminationPCode property of the Transaction was not set
- BillToPCode must be set! – The BillToPCode property of the Transaction was not set
- Transaction is null! – No Transaction passed in
- PCode not found. – One of the three PCode values passed in is not in AFC SaaS Pro

See also [Error Messages Common to all Calculation Methods](#)

Remarks:

None.

10.2 CalcTaxesWithNpaNxx

This method accepts transaction data and performs appropriate tax calculations. Origination, Termination, and Bill To information is passed using NpaNxx values.

Return Type:

[TaxData\[\]](#) An array of [TaxData](#) objects that contain the information about the taxes applied.

Parameters:

[Transaction](#) Telecom transaction data

Errors:

- OriginationNpaNxx must be set! – The OriginationNpaNxx property of the Transaction was not set
- TerminationNpaNxx must be set! – The TerminationNpaNxx property of the Transaction was not set
- BillToNpaNxx must be set! – The BillToNpaNxx property of the Transaction was not set
- Transaction is null! – No Transaction passed in
- NPANXX not found. – One of the three NpaNxx values passed in is not in AFC SaaS Pro

See also [Error Messages Common to all Calculation Methods](#)

Remarks:

None.

10.3 CalcTaxesWithZipAddress

This method accepts transaction data and performs appropriate tax calculations. Origination, Termination, and Bill To information is passed using Zip Addresses.

Return Type:

[TaxData\[\]](#) An array of [TaxData](#) objects that contain the information about the taxes applied.

Parameters:

[Transaction](#) Telecom transaction data

Errors:

- OriginationZipAddress must be set! – The OriginationZipAddress property of the Transaction was not set
- TerminationZipAddress must be set! – The TerminationZipAddress property of the Transaction was not set
- BillToZipAddress must be set! – The BillToZipAddress property of the Transaction was not set
- Transaction is null! – No Transaction passed in
- County/State/Zip not found. – One of the three ZipAddress values passed in is not in AFC SaaS Pro

See also [Error Messages Common to all Calculation Methods](#)

Remarks:

None.

10.4 CalcTaxesWithFipsCode

This method accepts transaction data and performs appropriate tax calculations. Origination, Termination, and Bill To information is passed using FIPS Code values.

Return Type:

[TaxData\[\]](#) An array of [TaxData](#) objects that contain the information about the taxes applied.

Parameters:

[Transaction](#) Telecom transaction data

Errors:

- OriginationFipsCode must be set! – The OriginationFipsCode property of the Transaction was not set.
- TerminationFipsCode must be set! – The TerminationFipsCode property of the Transaction was not set.
- BillToFipsCode must be set! – The BillToFipsCode property of the Transaction was not set.
- Transaction is null! – No Transaction passed in
- FIPS not found. – One of the three FipsCode values passed in is not in AFC SaaS Pro
- FIPS (to PCode) cross-reference database not open. – Indicates an error occurred on the server

See also [Error Messages Common to all Calculation Methods](#)

Remarks:

None.

10.5 CalcAdjWithPCode

This method accepts transaction data and performs appropriate tax adjustment calculations. Origination, Termination, and Bill To information is passed using PCodes.

Return Type:

[TaxData\[\]](#) An array of [TaxData](#) objects that contain the information about the taxes applied.

Parameters:

[Transaction](#) Telecom transaction data

Errors:

- OriginationPCode must be set! – The OriginationPCode property of the Transaction was not set
- TerminationPCode must be set! – The TerminationPCode property of the Transaction was not set
- BillToPCode must be set! – The BillToPCode property of the Transaction was not set
- Adjustment is null! – No Adjustment passed in
- PCode not found. – One of the three PCode properties passed in is not in AFC SaaS Pro

See also [Error Messages Common to all Calculation Methods](#)

Remarks:

Adjustment transactions are primarily used to process refunds or credits. They rely on the [AdjustmentMethod field](#).

Discounts can also be processed by setting the [DiscountType field](#) in the adjustment transaction.

10.6 CalcAdjWithNpaNxx

This method accepts transaction data and performs appropriate tax adjustment calculations. Origination, Termination, and Bill To information is passed using NpaNxx values.

Return Type:

[TaxData\[\]](#) An array of [TaxData](#) objects that contain the information about the taxes applied.

Parameters:

[Transaction](#) Telecom transaction data

Errors:

- OriginationNpaNxx must be set! – The OriginationNpaNxx property of the Transaction was not set.
- TerminationNpaNxx must be set! – The TerminationNpaNxx property of the Transaction was not set.
- BillToNpaNxx must be set! – The BillToNpaNxx property of the Transaction was not set.
- Adjustment is null! – No Adjustment passed in
- NPANXX not found. – One of the three NpaNxx properties passed in is not in AFC SaaS Pro

See also [Error Messages Common to all Calculation Methods](#)

Remarks:

Adjustment transactions are primarily used to process refunds or credits. They rely on the [AdjustmentMethod field](#).

Discounts can also be processed by setting the [DiscountType field](#) in the adjustment transaction.

10.7 CalcAdjWithZipAddress

This method accepts transaction data and performs appropriate tax adjustment calculations. Origination, Termination, and Bill To information is passed using Zip addresses.

Return Type:

[TaxData\[\]](#) An array of [TaxData](#) objects that contain the information about the taxes applied.

Parameters:

[Transaction](#) Telecom transaction data

Errors:

- OriginationZipAddress must be set! – The OriginationZipAddress property of the Transaction was not set.
- TerminationZipAddress must be set! – The TerminationZipAddress property of the Transaction was not set.
- BillToZipAddress must be set! – The BillToZipAddress property of the Transaction was not set.
- Adjustment is null! – No Adjustment passed in
- County/State/Zip not found. – One of the three ZipAddress values passed in is not in AFC SaaS Pro

See also [Error Messages Common to all Calculation Methods](#)

Remarks:

Adjustment transactions are primarily used to process refunds or credits. They rely on the [AdjustmentMethod field](#).

Discounts can also be processed by setting the [DiscountType field](#) in the adjustment transaction.

10.8 CalcAdjWithFipsCode

This method accepts transaction data and performs appropriate tax adjustment calculations. Origination, Termination, and Bill To information is passed using FIPS Codes.

Return Type:

[TaxData\[\]](#) An array of [TaxData](#) objects that contain the information about the taxes applied.

Parameters:

[Transaction](#) Telecom transaction data

Errors:

- OriginationFipsCode must be set! – The OriginationFipsCode property of the Transaction was not set.
- TerminationFipsCode must be set! – The TerminationFipsCode property of the Transaction was not set.
- BillToFipsCode must be set! – The BillToFipsCode property of the Transaction was not set.
- Adjustment is null! – No Adjustment passed in
- FIPS no found. – One of the three FIPS codes passed in is not in AFC SaaS Pro
- FIPS (to PCode) cross-reference database not open. – Indicates an error occurred on the server

See also [Error Messages Common to all Calculation Methods](#)

Remarks:

Adjustment transactions are primarily used to process refunds or credits. They rely on the [AdjustmentMethod](#) field.

Discounts can also be processed by setting the [DiscountType](#) field in the adjustment transaction.

10.9 CalcReverseTaxesWithPCode

**It is recommended to begin using the newly renamed ‘tax inclusive’ API, [CalcTaxInclusiveTaxesWithPCode](#), as the ‘reverse’ API will be deprecated in the future.*

This method accepts transaction data and performs a tax inclusive calculation in order to arrive at the base sale amount and taxes for the desired total charge. Origination, Termination, and Bill To information is passed using PCodes.

Return Type:

[ReverseTaxResults](#)

Contains the calculated base sale amount for the transaction and an array of [TaxData](#) objects that contain the information about the taxes applied.

Parameters:

[Transaction](#)

Telecom transaction data

Errors:

- OriginationPCode must be set! – The OriginationPCode property of the Transaction was not set
- TerminationPCode must be set! – The TerminationPCode property of the Transaction was not set
- BillToPCode must be set! – The BillToPCode property of the Transaction was not set
- Transaction is null! – No Transaction passed in
- PCode not found. – One of the three PCode values passed in is not in AFC SaaS Pro

See also [Error Messages Common to all Calculation Methods](#)

Remarks:

The desired total charge must be placed in the Charge field of the [Transaction](#).

10.10 CalcReverseTaxesWithFipsCode

**It is recommended to begin using the newly renamed 'tax inclusive' API, [CalcTaxInclusiveTaxesWithFipsCode](#), as the 'reverse' API will be deprecated in the future.*

This method accepts transaction data and performs a tax inclusive calculation in order to arrive at the base sale amount and taxes for the desired total charge. Origination, Termination, and Bill To information is passed using Fips Codes.

Return Type:

[ReverseTaxResults](#)

Contains the calculated base sale amount for the transaction and an array of [TaxData](#) objects that contain the information about the taxes applied.

Parameters:

[Transaction](#)

Telecom transaction data

Errors:

- OriginationFipsCode must be set! – The OriginationFipsCode property of the Transaction was not set.
- TerminationFipsCode must be set! – The TerminationFipsCode property of the Transaction was not set.
- BillToFipsCode must be set! – The BillToFipsCode property of the Transaction was not set.
- Transaction is null! – No Transaction passed in
- FIPS no found. – One of the three FIPS codes passed in is not in AFC SaaS Pro
- FIPS (to PCode) cross-reference database not open. – Indicates an error occurred on the server

See also [Error Messages Common to all Calculation Methods](#)

Remarks:

The desired total charge must be placed in the Charge field of the [Transaction](#).

10.11 CalcReverseTaxesWithZipAddress

**It is recommended to begin using the newly renamed 'tax inclusive' API, [CalcTaxInclusiveTaxesWithZipAddress](#), as the 'reverse' API will be deprecated in the future.*

This method accepts transaction data and performs a tax inclusive calculation in order to arrive at the base sale amount and taxes for the desired total charge. Origination, Termination, and Bill To information is passed using [ZipAddress](#) objects.

Return Type:

[ReverseTaxResults](#)

Contains the calculated base sale amount for the transaction and an array of [TaxData](#) objects that contain the information about the taxes applied.

Parameters:

[Transaction](#)

Telecom transaction data

Errors:

- OriginationZipAddress must be set! – The OriginationZipAddress property of the Transaction was not set.
- TerminationZipAddress must be set! – The TerminationZipAddress property of the Transaction was not set.
- BillToZipAddress must be set! – The BillToZipAddress property of the Transaction was not set.
- Transaction is null! – No Transaction passed in
- County/State/Zip not found. – One of the three ZipAddress values passed in is not in AFC SaaS Pro

See also [Error Messages Common to all Calculation Methods](#)

Remarks:

The desired total charge must be placed in the Charge field of the [Transaction](#).

10.12 CalcReverseTaxesWithNpaNxx

**It is recommended to begin using the newly renamed ‘tax inclusive’ API, [CalcTaxInclusiveTaxesWithNpaNxx](#), as the ‘reverse’ API will be deprecated in the future.*

This method accepts transaction data and performs a tax inclusive calculation in order to arrive at the base sale amount and taxes for the desired total charge. Origination, Termination, and Bill To information is passed using NPANXX numbers.

Return Type:

[ReverseTaxResults](#)

Contains the calculated base sale amount for the transaction and an array of [TaxData](#) objects that contain the information about the taxes applied.

Parameters:

[Transaction](#)

Telecom transaction data

Errors:

- OriginationNpaNxx must be set! – The OriginationNpaNxx property of the Transaction was not set.
- TerminationNpaNxx must be set! – The TerminationNpaNxx property of the Transaction was not set.
- BillToNpaNxx must be set! – The BillToNpaNxx property of the Transaction was not set.
- Transaction is null! – No Transaction passed in
- NPANXX not found. – One of the three NpaNxx properties passed in is not in AFC SaaS Pro

See also [Error Messages Common to all Calculation Methods](#)

Remarks:

The desired total charge must be placed in the Charge field of the [Transaction](#).

10.13 CalcReverseAdjWithPCode

**It is recommended to begin using the newly renamed ‘tax inclusive’ API, [CalcTaxInclusiveAdjWithPCode](#), as the ‘reverse’ API will be deprecated in the future.*

This method accepts transaction data and performs tax inclusive adjustments in order to arrive at the base sale amount and taxes for the desired total charge. Origination, Termination, and Bill To information is passed using PCodes.

Return Type:

[ReverseTaxResults](#)

Contains the calculated base sale amount for the transaction and an array of [TaxData](#) objects that contain the information about the taxes applied.

Parameters:

[Transaction](#)

Telecom transaction data

Errors:

- OriginationPCode must be set! – The OriginationPCode property of the Transaction was not set
- TerminationPCode must be set! – The TerminationPCode property of the Transaction was not set
- BillToPCode must be set! – The BillToPCode property of the Transaction was not set
- Adjustment is null! – No Adjustment passed in
- PCode not found. – One of the three PCode values passed in is not in AFC SaaS Pro

See also [Error Messages Common to all Calculation Methods](#)

Remarks:

The desired total charge must be placed in the Charge field of the [Transaction](#) as a positive number.

Adjustment transactions are primarily used to process refunds or credits. They rely on the [AdjustmentMethod](#) field.

Discounts can also be processed by setting the [DiscountType](#) field in the adjustment transaction.

10.14 CalcReverseAdjWithFipsCode

**It is recommended to begin using the newly renamed 'tax inclusive' API, [CalcTaxInclusiveAdjWithFipsCode](#), as the 'reverse' API will be deprecated in the future.*

This method accepts transaction data and performs tax inclusive adjustments in order to arrive at the base sale amount and taxes for the desired total charge. Origination, Termination, and Bill To information is passed using Fips Codes.

Return Type:

[ReverseTaxResults](#)

Contains the calculated base sale amount for the transaction and an array of [TaxData](#) objects that contain the information about the taxes applied.

Parameters:

[Transaction](#)

Telecom transaction data

Errors:

- OriginationFipsCode must be set! – The OriginationFipsCode property of the Transaction was not set.
- TerminationFipsCode must be set! – The TerminationFipsCode property of the Transaction was not set.
- BillToFipsCode must be set! – The BillToFipsCode property of the Transaction was not set.
- Adjustment is null! – No Adjustment passed in
- FIPS no found. – One of the three FIPS codes passed in is not in AFC SaaS Pro
- FIPS (to PCode) cross-reference database not open. – Indicates an error occurred on the server

See also [Error Messages Common to all Calculation Methods](#)

Remarks:

The desired total charge must be placed in the Charge field of the [Transaction](#) as a positive number.

Adjustment transactions are primarily used to process refunds or credits. They rely on the [AdjustmentMethod](#) field.

Discounts can also be processed by setting the [DiscountType](#) field in the adjustment transaction.

10.15 CalcReverseAdjWithZipAddress

**It is recommended to begin using the newly renamed 'tax inclusive' API, [CalcTaxInclusiveAdjWithZipAddress](#), as the 'reverse' API will be deprecated in the future.*

This method accepts transaction data and performs tax inclusive adjustments in order to arrive at the base sale amount and taxes for the desired total charge. Origination, Termination, and Bill To information is passed using [ZipAddress](#) objects.

Return Type:

[ReverseTaxResults](#)

Contains the calculated base sale amount for the transaction and an array of [TaxData](#) objects that contain the information about the taxes applied.

Parameters:

[Transaction](#)

Telecom transaction data

Errors:

- OriginationZipAddress must be set! – The OriginationZipAddress property of the Transaction was not set.
- TerminationZipAddress must be set! – The TerminationZipAddress property of the Transaction was not set.
- BillToZipAddress must be set! – The BillToZipAddress property of the Transaction was not set.
- Adjustment is null! – No Adjustment passed in
- County/State/Zip not found. – One of the three ZipAddress values passed in is not in AFC SaaS Pro

See also [Error Messages Common to all Calculation Methods](#)

Remarks:

The desired total charge must be placed in the Charge field of the [Transaction](#) as a positive number.

Adjustment transactions are primarily used to process refunds or credits. They rely on the [AdjustmentMethod field](#).

Discounts can also be processed by setting the [DiscountType field](#) in the adjustment transaction.

10.16 CalcReverseAdjWithNpaNxx

**It is recommended to begin using the newly renamed 'tax inclusive' API, [CalcTaxInclusiveAdjWithNpaNxx](#), as the 'reverse' API will be deprecated in the future.*

This method accepts transaction data and performs tax inclusive adjustments in order to arrive at the base sale amount and taxes for the desired total charge. Origination, Termination, and Bill To information is passed using [ZipAddress](#) objects.

Return Type:

[ReverseTaxResults](#)

Contains the calculated base sale amount for the transaction and an array of [TaxData](#) objects that contain the information about the taxes applied.

Parameters:

[Transaction](#)

Telecom transaction data

Errors:

- OriginationNpaNxx must be set! – The OriginationNpaNxx property of the Transaction was not set.
- TerminationNpaNxx must be set! – The TerminationNpaNxx property of the Transaction was not set.
- BillToNpaNxx must be set! – The BillToNpaNxx property of the Transaction was not set.
- Adjustment is null! – No Adjustment passed in
- NPANXX not found. – One of the three NpaNxx properties passed in is not in AFC SaaS Pro

See also [Error Messages Common to all Calculation Methods](#)

Remarks:

The desired total charge must be placed in the Charge field of the [Transaction](#) as a positive number. Adjustment transactions are primarily used to process refunds or credits. They rely on the [AdjustmentMethod field](#).

Discounts can also be processed by setting the [DiscountType field](#) in the adjustment transaction.

10.17 CalcTaxInclusiveTaxesWithPCode

This method accepts transaction data and performs a tax inclusive calculation in order to arrive at the base sale amount and taxes for the desired total charge. Origination, Termination, and Bill To information is passed using PCodes.

Return Type:

[TaxInclusiveTaxResults](#)

Contains the calculated base sale amount for the transaction and an array of [TaxData](#) objects that contain the information about the taxes applied.

Parameters:

[Transaction](#)

Telecom transaction data

Errors:

- OriginationPCode must be set! – The OriginationPCode property of the Transaction was not set
- TerminationPCode must be set! – The TerminationPCode property of the Transaction was not set
- BillToPCode must be set! – The BillToPCode property of the Transaction was not set
- Transaction is null! – No Transaction passed in
- PCode not found. – One of the three PCode values passed in is not in AFC SaaS Pro

See also [Error Messages Common to all Calculation Methods](#)

Remarks:

The desired total charge must be placed in the Charge field of the [Transaction](#).

10.18 CalcTaxInclusiveTaxesWithFipsCode

This method accepts transaction data and performs a tax inclusive calculation in order to arrive at the base sale amount and taxes for the desired total charge. Origination, Termination, and Bill To information is passed using Fips Codes.

Return Type:

[TaxInclusiveTaxResults](#)

Contains the calculated base sale amount for the transaction and an array of [TaxData](#) objects that contain the information about the taxes applied.

Parameters:

[Transaction](#)

Telecom transaction data

Errors:

- OriginationFipsCode must be set! – The OriginationFipsCode property of the Transaction was not set.
- TerminationFipsCode must be set! – The TerminationFipsCode property of the Transaction was not set.
- BillToFipsCode must be set! – The BillToFipsCode property of the Transaction was not set.
- Transaction is null! – No Transaction passed in
- FIPS no found. – One of the three FIPS codes passed in is not in AFC SaaS Pro
- FIPS (to PCode) cross-reference database not open. – Indicates an error occurred on the server

See also [Error Messages Common to all Calculation Methods](#)

Remarks:

The desired total charge must be placed in the Charge field of the [Transaction](#).

10.19 CalcTaxInclusiveTaxesWithZipAddress

This method accepts transaction data and performs a tax inclusive calculation in order to arrive at the base sale amount and taxes for the desired total charge. Origination, Termination, and Bill To information is passed using [ZipAddress](#) objects.

Return Type:

[TaxInclusiveTaxResults](#)

Contains the calculated base sale amount for the transaction and an array of [TaxData](#) objects that contain the information about the taxes applied.

Parameters:

[Transaction](#)

Telecom transaction data

Errors:

- OriginationZipAddress must be set! – The OriginationZipAddress property of the Transaction was not set.
- TerminationZipAddress must be set! – The TerminationZipAddress property of the Transaction was not set.
- BillToZipAddress must be set! – The BillToZipAddress property of the Transaction was not set.
- Transaction is null! – No Transaction passed in
- County/State/Zip not found. – One of the three ZipAddress values passed in is not in AFC SaaS Pro

See also [Error Messages Common to all Calculation Methods](#)

Remarks:

The desired total charge must be placed in the Charge field of the [Transaction](#).

10.20 CalcTaxInclusiveTaxesWithNpaNxx

This method accepts transaction data and performs a tax inclusive calculation in order to arrive at the base sale amount and taxes for the desired total charge. Origination, Termination, and Bill To information is passed using NPANXX numbers.

Return Type:

[TaxInclusiveTaxResults](#)

Contains the calculated base sale amount for the transaction and an array of [TaxData](#) objects that contain the information about the taxes applied.

Parameters:

[Transaction](#)

Telecom transaction data

Errors:

- OriginationNpaNxx must be set! – The OriginationNpaNxx property of the Transaction was not set.
- TerminationNpaNxx must be set! – The TerminationNpaNxx property of the Transaction was not set.
- BillToNpaNxx must be set! – The BillToNpaNxx property of the Transaction was not set.
- Transaction is null! – No Transaction passed in
- NPANXX not found. – One of the three NpaNxx properties passed in is not in AFC SaaS Pro

See also [Error Messages Common to all Calculation Methods](#)

Remarks:

The desired total charge must be placed in the Charge field of the [Transaction](#).

10.21 CalcTaxInclusiveAdjWithPCode

This method accepts transaction data and performs tax inclusive adjustments in order to arrive at the base sale amount and taxes for the desired total charge. Origination, Termination, and Bill To information is passed using PCodes.

Return Type:

[TaxInclusiveTaxResults](#) Contains the calculated base sale amount for the transaction and an array of [TaxData](#) objects that contain the information about the taxes applied.

Parameters:

[Transaction](#) Telecom transaction data

Errors:

- OriginationPCode must be set! – The OriginationPCode property of the Transaction was not set
- TerminationPCode must be set! – The TerminationPCode property of the Transaction was not set
- BillToPCode must be set! – The BillToPCode property of the Transaction was not set
- Adjustment is null! – No Adjustment passed in
- PCode not found. – One of the three PCode values passed in is not in AFC SaaS Pro

See also [Error Messages Common to all Calculation Methods](#)

Remarks:

The desired total charge must be placed in the Charge field of the [Transaction](#) as a positive number.

Adjustment transactions are primarily used to process refunds or credits. They rely on the [AdjustmentMethod](#) field.

Discounts can also be processed by setting the [DiscountType](#) field in the adjustment transaction.

10.22 CalcTaxInclusiveAdjWithFipsCode

This method accepts transaction data and performs tax inclusive adjustments in order to arrive at the base sale amount and taxes for the desired total charge. Origination, Termination, and Bill To information is passed using Fips Codes.

Return Type:

[TaxInclusiveTaxResults](#) Contains the calculated base sale amount for the transaction and an array of [TaxData](#) objects that contain the information about the taxes applied.

Parameters:

[Transaction](#)

Telecom transaction data

Errors:

- OriginationFipsCode must be set! – The OriginationFipsCode property of the Transaction was not set.
- TerminationFipsCode must be set! – The TerminationFipsCode property of the Transaction was not set.
- BillToFipsCode must be set! – The BillToFipsCode property of the Transaction was not set.
- Adjustment is null! – No Adjustment passed in
- FIPS no found. – One of the three FIPS codes passed in is not in AFC SaaS Pro
- FIPS (to PCode) cross-reference database not open. – Indicates an error occurred on the server

See also [Error Messages Common to all Calculation Methods](#)

Remarks:

The desired total charge must be placed in the Charge field of the [Transaction](#) as a positive number.

Adjustment transactions are primarily used to process refunds or credits. They rely on the [AdjustmentMethod field](#).

Discounts can also be processed by setting the [DiscountType field](#) in the adjustment transaction.

10.23 CalcTaxInclusiveAdjWithZipAddress

This method accepts transaction data and performs tax inclusive adjustments in order to arrive at the base sale amount and taxes for the desired total charge. Origination, Termination, and Bill To information is passed using [ZipAddress](#) objects.

Return Type:

[TaxInclusiveTaxResults](#)

Contains the calculated base sale amount for the transaction and an array of [TaxData](#) objects that contain the information about the taxes applied.

Parameters:

[Transaction](#)

Telecom transaction data

Errors:

- OriginationZipAddress must be set! – The OriginationZipAddress property of the Transaction was not set.
- TerminationZipAddress must be set! – The TerminationZipAddress property of the Transaction was not set.
- BillToZipAddress must be set! – The BillToZipAddress property of the Transaction was not set.
- Adjustment is null! – No Adjustment passed in
- County/State/Zip not found. – One of the three ZipAddress values passed in is not in AFC SaaS Pro

See also [Error Messages Common to all Calculation Methods](#)

Remarks:

The desired total charge must be placed in the Charge field of the [Transaction](#) as a positive number.

Adjustment transactions are primarily used to process refunds or credits. They rely on the [AdjustmentMethod](#) field.

Discounts can also be processed by setting the [DiscountType](#) field in the adjustment transaction.

10.24 CalcTaxInclusiveAdjWithNpaNxx

This method accepts transaction data and performs tax inclusive adjustments in order to arrive at the base sale amount and taxes for the desired total charge. Origination, Termination, and Bill To information is passed using [ZipAddress](#) objects.

Return Type:

[TaxInclusiveTaxResults](#)

Contains the calculated base sale amount for the transaction and an array of [TaxData](#) objects that contain the information about the taxes applied.

Parameters:

[Transaction](#)

Telecom transaction data

Errors:

- OriginationNpaNxx must be set! – The OriginationNpaNxx property of the Transaction was not set.
- TerminationNpaNxx must be set! – The TerminationNpaNxx property of the Transaction was not set.
- BillToNpaNxx must be set! – The BillToNpaNxx property of the Transaction was not set.
- Adjustment is null! – No Adjustment passed in
- NPANXX not found. – One of the three NpaNxx properties passed in is not in AFC SaaS Pro

See also [Error Messages Common to all Calculation Methods](#)

Remarks:

The desired total charge must be placed in the Charge field of the [Transaction](#) as a positive number.

Adjustment transactions are primarily used to process refunds or credits. They rely on the [AdjustmentMethod](#) field.

Discounts can also be processed by setting the [DiscountType](#) field in the adjustment transaction.

10.25 BeginCustomerBatch

Flags the beginning of a customer transaction batch and returns a customer batch ID that can be used to submit each transaction and process the entire batch.

Return Type:

long

A unique identifier for the customer batch.

Parameters:

None

10.26 CalcCustTaxes

Submits a single transaction to be processed for a customer batch.

Return Type:

bool Boolean indicating success or failure

Parameters:

Long Customer batch identifier
[Transaction](#) Telecom transaction data

Errors:

- Origination location not specified. – The origination location of the Transaction was not set.
- Termination location not specified. – The termination location of the Transaction was not set.
- Bill-To location not specified. – The bill-to location of the Transaction was not set.
- Transaction is null – No transaction passed in.
- Invalid customer batch identifier.
- Maximum number of customer transaction exceeded.

See also [Error Messages Common to all Calculation Methods](#)

Remarks:

Adjustment transactions are primarily used to process refunds or credits. They rely on the [AdjustmentMethod](#) field.

Discounts can also be processed by setting the [DiscountType](#) field in the adjustment transaction.

10.27 CalcCustAdj

Submits a single adjustment to be processed for a customer batch.

Return Type:

bool Boolean indicating success or failure

Parameters:

Long Customer batch identifier
[Transaction](#) Telecom transaction data

Errors:

- Origination location not specified. – The origination location of the Transaction was not set.
- Termination location not specified. – The termination location of the Transaction was not set.
- Bill-To location not specified. – The bill-to location of the Transaction was not set.
- Adjustment is null – No adjustment passed in.

- Invalid customer batch identifier.
- Maximum number of customer transaction exceeded.

See also [Error Messages Common to all Calculation Methods](#)

Remarks:

Adjustment transactions are primarily used to process refunds or credits. They rely on the [AdjustmentMethod](#) field.

Discounts can also be processed by setting the [DiscountType](#) field in the adjustment transaction.

10.28 ProcessCustomerBatch

Processes a customer batch and returns the tax calculation results.

Return Type:

[CustomerResults](#)

Data structure containing an array of [TaxData](#) objects for each individual transaction processed and [CustomerTaxData](#) array containing the summarized taxes for the customer batch.

Parameters:

long

Customer batch ID

bool

Boolean indicating if the detailed taxes for each individual line item should be returned in the results.

[Nexus](#) []

An array of [Nexus](#) objects. Can be null or an empty list.

[Exclusion](#) []

An array of [Exclusion](#) objects. Can be null or an empty list.

Errors:

- Invalid customer batch identifier – Customer batch ID is not valid.

See also [Error Messages Common to all Calculation Methods](#)

NOTE: This API does not support tax inclusive calls. Please see ProcessCustomerBatchV2 for tax inclusive transactions.

10.29 ProcessCustomerBatchV2

Processes a customer batch and returns the tax calculation results. Individual taxes returned use the [TaxDataV2](#) data structure which contains a TransCharge field for the calculated base sale amount for each corresponding transaction.

Return Type:

[CustomerResultsV2](#)

Data structure containing an array of [TaxDataV2](#) objects for each individual transaction processed and [CustomerTaxData](#) array containing the summarized taxes for the customer batch.

Parameters:

long

Customer batch ID

bool	Boolean indicating if the detailed taxes for each individual line item should be returned in the results.
Nexus []	An array of Nexus objects. Can be null or an empty list.
Exclusion []	An array of Exclusion objects. Can be null or an empty list.

Errors:

- Invalid customer batch identifier – Customer batch ID is not valid.

See also [Error Messages Common to all Calculation Methods](#)

NOTE: Use of this API does incorporate use of tax inclusive transactions.

10.30 CalcTaxesInCustMode

Processes a batch of telecom and/or sales and use transactions and adjustments in Invoice Mode.

Return Type:

CustomerResults	Data structure containing an array of TaxData objects for each individual transaction processed and CustomerTaxData array containing the summarized taxes for the customer batch.
---------------------------------	---

Parameters:

Transaction []	Telecom transaction array
Transaction []	Telecom transaction array to be processed as adjustments.
SalesUseTransaction[]	Sales and use transaction array to be processed as adjustments (See TM_00117_AFC SaaS Pro Sales and Use Developer Manual.pdf).
Nexus []	An array of Nexus objects. Can be null or an empty list. Nexus only applies Sales and Use transactions.
Exclusion []	An array of Exclusion objects. Can be null or an empty list.
bool	Boolean indicating if the detailed taxes for each individual line item should be returned in the results.

Errors:

See [Error Messages Common to all Calculation Methods](#)

NOTE: If a transaction in the batch generates an error, the entire batch will fail. Also, this API does not support tax inclusive calls. Please see ProcessCustomerBatchV2 for tax inclusive transactions.

10.31 CalcTaxesInCustModeV2

Processes a batch of telecom and/or sales and use transactions and adjustments in Invoice Mode. Individual taxes returned use the [TaxDataV2](#) data structure which contains a TransCharge field for the calculated base sale amount for each corresponding transaction.

Return Type:

CustomerResultsV2

Data structure containing an array of [TaxDataV2](#) objects for each individual transaction processed and [CustomerTaxData](#) array containing the summarized taxes for the customer batch.

Parameters:

[Transaction\[\]](#)

Telecom transaction array

[Transaction\[\]](#)

Telecom transaction array to be processed as adjustments.

[SalesUseTransaction\[\]](#)

Sales and use transaction array to be processed as adjustments (See [TM_00117_AFC SaaS Pro Sales and Use Developer Manual.pdf](#)).

[Nexus \[\]](#)

An array of [Nexus](#) objects. Can be null or an empty list.

Nexus only applies Sales and Use transactions.

[Exclusion \[\]](#)

An array of [Exclusion](#) objects. Can be null or an empty list.

[SafeHarborOverride\[\]](#) –

Array of [SafeHarborOverride](#) objects. Can be null or an empty list. These overrides are applied to all Telecom transactions in this batch. Overrides entered on the individual transactions are ignored.

bool

Boolean indicating if the detailed taxes for each individual line item should be returned in the results.

Errors:

See [Error Messages Common to all Calculation Methods](#)

NOTE: If a transaction in the batch generates an error, the entire batch will fail. Also, use of this API does incorporate use of tax inclusive transactions.

10.32 CalcProRatedTaxes

Accepts a pro-rated percentage that is used to calculate the taxable amount on the transaction and perform tax calculations. Bill-to, origination and termination may be entered as PCode, FIPS Codes, [ZipAddress](#) or NPANXX.

Return Type:

[TaxData\[\]](#)

An array of [TaxData](#) objects that contain the information about the taxes applied.

Parameters:

[Transaction](#)

Telecom transaction data

Double

Pro-rated percent specified as a decimal.

Errors:

- Origination location not specified. – The origination property of the transaction was not set
- Termination location not specified. – The termination property of the transaction was not set
- Bill-to location not specified. – The bill-to property of the transaction was not set
- Transaction is null! – No Transaction passed in
- PCode not found. – One of the three PCode values passed in is not in AFC SaaS Pro

- FIPS not found. – One of the three FipsCode values passed in is not in AFC SaaS Pro
- County/State/Zip not found. – One of the three ZipAddress values passed in is not in AFC SaaS Pro
- NPANXX not found. – One of the three NpaNxx values passed in is not in AFC SaaS Pro

See also [Error Messages Common to all Calculation Methods](#)

Remarks:

None.

10.33 CalcProRatedAdj

Accepts a pro-rated percentage that is used to calculate the taxable amount on the transaction and perform tax adjustments. Bill-to, origination and termination may be entered as PCode, FIPS Codes, [ZipAddress](#) or NPANXX.

Return Type:

[TaxData\[\]](#)

An array of [TaxData](#) objects that contain the information about the taxes applied.

Parameters:

[Transaction](#)

Telecom transaction data

Double

Pro-rated percent specified as a decimal.

Errors:

- Origination location not specified. – The origination property of the transaction was not set
- Termination location not specified. – The termination property of the transaction was not set
- Bill-to location not specified. – The bill-to property of the transaction was not set
- Transaction is null! – No Transaction passed in
- PCode not found. – One of the three PCode values passed in is not in AFC SaaS Pro
- FIPS not found. – One of the three FipsCode values passed in is not in AFC SaaS Pro
- County/State/Zip not found. – One of the three ZipAddress values passed in is not in AFC SaaS Pro
- NPANXX not found. – One of the three NpaNxx values passed in is not in AFC SaaS Pro

See also [Error Messages Common to all Calculation Methods](#)

Remarks:

None.

10.34 CalcJurisdiction

Determines the taxing jurisdiction for a transaction and returns the PCode at the lowest jurisdiction level.

Return Type:

uint

PCode for taxing jurisdiction.

Parameters:

[Transaction](#)

Telecom transaction data

Errors:

- Origination location not specified. – The origination property of the transaction was not set
- Termination location not specified. – The termination property of the transaction was not set
- Bill-to location not specified.– The bill-to property of the transaction was not set
- Transaction is null! – No Transaction passed in
- PCode not found. – One of the three PCode values passed in is not in AFC SaaS Pro
- FIPS not found. – One of the three FipsCode values passed in is not in AFC SaaS Pro
- County/State/Zip not found. – One of the three ZipAddress values passed in is not in AFC SaaS Pro
- NPANXX not found. – One of the three NpaNxx values passed in is not in AFC SaaS Pro

See also [Error Messages Common to all Calculation Methods](#)

Remarks:

None.

NOTE: The transaction/service pair is required and must be provided in order to determine the correct tax jurisdiction.

Also, please note if CalcJurisdiction is called along with an Exclusion, the Exclusion will not be applied.

10.35 CalcTaxesWithOverrides

Accepts transaction data and tax rate override data to perform tax calculations with provided override information. Bill-to, origination and termination may be entered as PCode, FIPS Codes, [ZipAddress](#) or NPANXX.

Return Type:

[TaxData](#)[]

An array of [TaxData](#) objects that contain the information about the taxes applied.

Parameters:

[Transaction](#)

Telecom transaction data

[TaxRateOverrideInfo](#)[]

Tax rate override data

Errors:

- Origination location not specified. – The origination property of the transaction was not set
- Termination location not specified. – The termination property of the transaction was not set
- Bill-to location not specified.– The bill-to property of the transaction was not set
- Transaction is null! – No Transaction passed in
- PCode not found. – One of the three PCode values passed in is not in AFC SaaS Pro
- FIPS not found. – One of the three FipsCode values passed in is not in AFC SaaS Pro
- County/State/Zip not found. – One of the three ZipAddress values passed in is not in AFC SaaS Pro
- NPANXX not found. – One of the three NpaNxx values passed in is not in AFC SaaS Pro
- This method cannot be used if you have override file in place. – Override file is in place.
- EZtax failed to insert the override. – Override data cannot be applied.

See also [Error Messages Common to all Calculation Methods](#)

Remarks:

This method cannot be used if the user already has an override file in place.

10.36 CalcAdjWithOverrides

Accepts transaction data and tax rate override data to perform tax adjustment calculations with provided override information. Bill-to, origination and termination may be entered as PCode, FIPS Codes, [ZipAddress](#) or NPANXX.

Return Type:

[TaxData](#)[] An array of [TaxData](#) objects that contain the information about the taxes applied.

Parameters:

[Transaction](#) Telecom transaction data
[TaxRateOverrideInfo](#)[] Tax rate override data

Errors:

- Origination location not specified. – The origination property of the transaction was not set
- Termination location not specified. – The termination property of the transaction was not set
- Bill-to location not specified. – The bill-to property of the transaction was not set
- PCode not found. – One of the three PCode values passed in is not in AFC SaaS Pro
- Transaction is null! – No Transaction passed in
- FIPS not found. – One of the three FipsCode values passed in is not in AFC SaaS Pro
- County/State/Zip not found. – One of the three ZipAddress values passed in is not in AFC SaaS Pro
- NPANXX not found. – One of the three NpaNxx values passed in is not in AFC SaaS Pro
- This method cannot be used if you have override file in place. – Override file is in place.
- EZtax failed to insert the override. – Override data cannot be applied.

See also [Error Messages Common to all Calculation Methods](#)

Remarks:

This method cannot be used if the user already has an override file in place.

Adjustments require application of the same override data that is used with CalcTaxesWithOverrides.

Adjustment transactions are primarily used to process refunds or credits. They rely on the [AdjustmentMethod](#) field.

Discounts can also be processed by setting the [DiscountType](#) field in the adjustment transaction.

10.37 CalcBridgeConferenceTaxes

Note: *The Bridge Conferencing feature is currently in development at this time. Please refrain from using this feature as well as the proposed solutions and APIs until further notice.*

This method will take a Billing address, Bridge Address, Host Address (Optional) and list of participants and perform the following by participant:

1. Determine whether Interstate or Intrastate taxes apply
2. Determine whether FUSF taxes apply
3. Calculate the taxes
4. Summarize the results

Return Type:

[BridgeConferenceResults](#)

Data structure containing an array of [BridgeConferenceParticipantResult](#) objects for each participant transaction processed and [TaxData](#) array containing the summarized taxes for the bridge conference calculation.

Parameters:

[BridgeConferenceTransaction](#)

Bridge conference transaction data structure. Includes an array of [BridgeConferenceParticipant](#) objects that define the list of participants.

Errors:

- Bridge conference data is invalid – Invalid transaction data received

See also [Error Messages Common to all Calculation Methods](#)

Remarks:

- To return individual participant results, the flag **ReturnParticipantTaxes** must be set to true. Summarized taxes are always returned.
- If **ProcessInvalidParticipant** is set to true, and an invalid participant jurisdiction is encountered, the processing will continue with the greatest tax liability applied for the participant.

10.38 CalcAdjBridgeConferenceTaxes

Note: The Bridge Conferencing feature is currently in development at this time. Please refrain from using this feature as well as the proposed solutions and APIs until further notice.

This method will take a Billing address, Bridge Address, Host Address (Optional) and list of participants and perform the following by participant:

1. Determine whether Interstate or Intrastate taxes apply
2. Determine whether FUSF taxes apply
3. Calculate the adjustment / credit
4. Summarize the results

Return Type:

[BridgeConferenceResults](#)

Data structure containing an array of [BridgeConferenceParticipantResult](#) objects for each participant

transaction processed and [TaxData](#) array containing the summarized taxes for the bridge conference calculation.

Parameters:

[BridgeConferenceTransaction](#)

Bridge conference transaction data structure. Includes an array of [BridgeConferenceParticipant](#) objects that define the list of participants.

Errors:

- Bridge conference data is invalid – Invalid transaction data received

See also [Error Messages Common to all Calculation Methods](#)

Remarks:

- To return individual participant results, the flag **ReturnParticipantTaxes** must be set to true. Summarized taxes are always returned.
- If **ProcessInvalidParticipant** is set to true, and an invalid participant jurisdiction is encountered, the processing will continue with the greatest tax liability applied for the participant.
- Adjustment transactions are primarily used to process refunds or credits. They rely on the [AdjustmentMethod field](#).

10.39 CommitTransactions

The CommitTransactions API is used to commit or uncommit a DocumentCode.

Return Type:

bool Boolean indicating success or failure

Note: Exception thrown with appropriate error message in case of failure.

Parameters:

[Transaction](#)

[CommitData](#)

Telecom transaction data

Required as a parameter in order to specify a valid DocumentCode and a Boolean indicating whether transactions with the specified DocumentCode should be committed or uncommitted. Any optional field values provided in this parameter are used when reports are generated in order to replace the corresponding values originally specified within the transaction at the time of tax calculation processing.

Errors:

- DocumentCode cannot be blank or null.
- DocumentCode not found.
- DocumentCode has been locked.
- DocumentCode cannot exceed 150 characters.

See also [Error Messages Common to all Calculation Methods](#)

Remarks:

None.

10.40 Error Messages Common to all Calculation Methods

These messages can be returned by any of the calculation methods:

- AdjustmentMethod is Invalid! – The Adjustment Method passed in is not valid
- DiscountType is Invalid! – The Discount Type passed in is not valid
- No Session Available! – Indicates that no sessions were available for your request. You may be making too many simultaneous requests to the web service or there is an issue that needs to be reported.
- Authorization Error – Indicates that your userid or password is not recognized.
- Not Authorized! – Indicates that you have called a method on the web service that your service agreement does not include.
- Server Fault! – Indicates an error occurred on the server.
- CustomerType is Invalid! – The Customer Type passed in is not valid
- BusinessClass is Invalid! – The Business Class passed in is not valid
- ServiceClass is Invalid! – The Service Class passed in is not valid
- Jurisdiction not found. – The jurisdiction does not exist in AFC SaaS Pro
- Invalid Transaction Date – The Transaction Date passed in is not valid
- Invalid transaction/service pair – The Transaction Type and Service Type combination is not valid
- Transaction/Service pair is not supported by the API call – The Transaction Type and Service Type combination cannot be used by the Telecom Interface
- Session not initialized – Indicates an error occurred on the server
- JCode database not open. – Indicates an error occurred on the server
- PCode database not open. – Indicates an error occurred on the server
- ZipCode database not open. – Indicates an error occurred on the server
- NPANXX database not open. – Indicates an error occurred on the server
- Address database not open. – Indicates an error occurred on the server
- Unable to start EZtax. – Indicates an error occurred on the server
- filelocs.txt configuration file not found. – Indicates an error occurred on the server
- Unable to read filelocs.txt configuration file – Indicates an error occurred on the server
- An EZtaxSession hasn't been specified for this transaction – Indicates an error occurred on the server
- The EZtaxSession object has been disposed. – Indicates an error occurred on the server
- Unable to return the log information – Indicates an error occurred on the server
- Split for private line transaction must be greater than or equal to 0 and less than or equal to 1.
- A valid Transaction Type or Service Type must be supplied.
- Supplied Service Type is invalid.
- Supplied Transaction Type is invalid.
- Cross country border transaction does not support transaction/service auto determination.
- Participants cannot be mixed jurisdiction types!
- PCode not found.
- Address not found.

11.SOAP Utility Web Methods

These methods provide a variety of information from the AFC SaaS Pro Web Service.

Method Name	Summary
GetAddress	Returns an array of addresses that correspond to a PCode
GetTaxCategory	Returns the tax category for a tax type
GetTaxDescription	Returns the tax description for a tax type
GetTaxRates	Returns the tax rate information for a jurisdiction
FipsToPCode	Returns the PCode that corresponds to a FIPS code
PCodeToFips	Returns the FIPS code that corresponds to a PCode
ZipToPCode	Returns the PCode that corresponds to a Zip Address
NpaNxxToPCode	Returns the PCode that corresponds to an NpaNxx value
GetServerTime	Returns the server time on the AFC SaaS Pro Web Service
GetVersion	Returns the version of the AFC SaaS Pro Web Service
GetEZtaxVersion	Returns the version of the underlying AFC engine
GetEZtaxDbVersion	Returns the version of the database used by the underlying AFC engine
CreateReport	Submits a request for generating a report based on transactions and taxes that have been processed in the web service.
GetOptionalFieldKeyDesc	Returns the description for each optional field key in the OptionalField array of the Transaction . The values specified will be used when generating reports that contain these optional fields.
UpdateOptionalFieldKeyDesc	Updates the description for each optional field key thereby indicating what each field in the OptionalField array of the Transaction is used for (e.g. invoice number, line item number, etc.). The values specified will be used when generating reports that contain these optional fields.
ZipLookup	Returns all or multiple PCodes and jurisdiction details associated with the address input provided by clients.

11.1 GetAddress

This method returns the addresses for the specified jurisdiction. If the jurisdiction is invalid the return will be NULL.

Return Type:

[AddressData](#)[]

An array of [AddressData](#) objects that contain the addresses for the jurisdiction specified by the supplied PCode.

Parameters:

uint

The PCode for the desired jurisdiction.

Errors:

- No Session Available! – Indicates that no sessions were available for your request. You may be making too many simultaneous requests to the web service or there is an issue that needs to be reported.
- Authorization Error – Indicates that your userid or password is not recognized.
- Not Authorized! – Indicates that you have called a method on the web service that your service agreement does not include.
- Server Fault! – Indicates an error occurred on the server.

Remarks:

None.

11.4 GetTaxRates

Determines the tax rate information for a jurisdiction identified by the input PCode.

Return Type:

[TaxRateInfo](#)

Tax Rate information for a jurisdiction.

Parameters:

uint PCode for taxing jurisdiction

Errors:

- PCode not found. – The PCode value passed in is not in AFC SaaS Pro.

See also [Error Messages Common to all Calculation Methods](#)

Remarks:

None.

11.5 FipsToPCode

This method returns the PCode for the specified FIPS code. If the FIPS Code is invalid or has no AFC jurisdiction the return will be NULL.

Return Type:

uint A nullable unsigned int for the PCode.

Parameters:

string The FIPS code.

Errors:

- No Session Available! – Indicates that no sessions were available for your request. You may be making too many simultaneous requests to the web service or there is an issue that needs to be reported.
- Authorization Error – Indicates that your userid or password is not recognized.

- Remarks:

11.8 NpaNxxToPCode

Return Type:

Parameters:

Errors:

- Remarks:

11.9 GetServerTime

Return Type:

Parameters:

Errors:

- AFC SaaS Pro Telecom Developer Manual | 75 of 103
Copyright © 2016 Avalara, Inc.

- Remarks:
None.

Parameters:

None

Errors:

- Authorization Error – Indicates that your userid or password is not recognized.
- Server Fault! – Indicates an error occurred on the server.

Remarks:

None.

11.13 CreateReport (SOAP only)

Submits a request for generating a custom report based on transactions and taxes that have been processed in the web service.

Return Type:

boolean

Boolean indicating success or failure.

Parameters:

[ReportOptions](#)

Data structure containing the options for the report.

Errors:

- reportOptions parameter must be specified.
- ReportType must be specified.
- StartDate for the report may not be a future date.
- StartDate for the report may not be prior than 91 days.
- TimeSpan cannot be greater than 31 days.
- TimeSpan or EndDate must be specified.
- EndDate cannot be more than 31 days apart from StartDate.
- EndDate must be greater than StartDate.
- Precision must be between 0 and 6.
- FileName may not exceed 100 characters
- FileExtension may not exceed 5 characters.
- EmailAddress cannot be longer than 100 characters.
- EmailAddress is not in a valid format.
- CustomLogFields must be specified if BaseReport is not used.

Remarks:

None.

Note: Only transactions and taxes that include the company's 3-character company code in the CompanyIdentifier field of the transaction will be included in the report.

11.14 ZipLookup

Returns all or multiple PCodes and jurisdiction details associated with the address input provided by clients.

Return Type:

[ZipLookupResult](#) The [ZipLookupResult](#) object.

Parameters:

[ZipLookup](#) The [ZipLookup](#) object.

Errors:

- No Session Available! – Indicates that no sessions were available for your request. You may be making too many simultaneous requests to the web service or there is an issue that needs to be reported.
- Authorization Error – Indicates that your userid or password is not recognized.
- Not Authorized! – Indicates that you have called a method on the web service that your service agreement does not include.
- Server Fault! – Indicates an error occurred on the server.
- No jurisdiction data set – Indicates the request had no valid jurisdiction data set (at a minimum, one jurisdiction field must be set).
- Address not found.

Remarks:

If Country is not specified, the default value is set to “USA”.

12. Web Service Data Definitions

Transaction			
Data Definition			
	Property Name	Type	Description
	CustomerType	int	One of the CustomerType enums
	BusinessClass	int	One of the BusinessClass enums
	Sale	bool	true = Sale, false = Resale (Wholesale)
	TransactionType	short	See the Transaction Mapping guidelines for valid transaction/service pairs
	ServiceType	short	
	ServiceClass	int?	One of the ServiceClass enums
	Date	DateTime	Date of transaction
	Charge	double	Amount to tax
	Incorporated	bool	true = address inside city limits false = unincorporated address
	FederalExempt	bool	true = exempt federal level taxes
	StateExempt	bool	true = exempt state level taxes
	CountyExempt	bool	true = exempt county level taxes
	LocalExempt	bool	true = exempt city/local taxes
	FederalPCode	uint	federal PCode to exempt
	StatePCode	uint	state PCode to exempt
	CountyPCode	uint	county PCode to exempt
	LocalPCode	uint	local PCode to exempt
	Exclusions	Exclusion []	Array of Exclusion objects to apply to this transaction
	Exemptions	TaxExemption []	Array of TaxExemption objects to apply to this transaction
	CategoryExemptions	CategoryExemption []	Array of CategoryExemption objects to apply this transaction
	ExemptionType	int	set to 0 - reserved for future use
	InvoiceNumber	uint	optional invoice or order number
	Optional	uint	optional field
	CustomerNumber	string	optional customer account number (up to 20 characters)
	CompanyIdentifier	string	optional company identifier (up to 20 characters)
	OptionalAlpha1	string	optional field up to 20 characters
	Optional4	uint	optional field
	Optional5	uint	optional field
	Optional6	uint	optional field
	Optional7	uint	optional field
	Optional8	uint	optional field
	Optional9	uint	optional field
	Optional10	uint	For live transactions, this field must indicate the billing cycle in YYYYMM format.
	AdjustmentMethod	int	for adjustments only (otherwise zero) One of the AdjustmentMethod enums
	OriginationAddress	ZipAddress	ZipAddress object for origination – required if using ZIP address calculations otherwise NULL

Transaction			
Data Definition			
	Property Name	Type	Description
	OriginationFipsCode	string	FIPS Code for origination – required if FIPS calculation, otherwise can be NULL
	OriginationPCode	uint?	PCode for origination – required if PCode calculation, otherwise can be NULL
	OriginationNpaNxx	uint?	NpaNxx for origination – required if NpaNxx calculation, otherwise can be NULL
	TerminationAddress	ZipAddress	ZipAddress object for termination – required if using ZIP address calculations otherwise NULL
	TerminationFipsCode	string	FIPS Code for termination – required if FIPS calculation, otherwise can be NULL
	TerminationPCode	uint?	PCode for termination – required if PCode calculation, otherwise can be NULL
	TerminationNpaNxx	uint?	NpaNxx for termination – required if NpaNxx calculation, otherwise can be NULL
	BillToAddress	ZipAddress	ZipAddress object for Bill To – required if using ZIP address calculations otherwise NULL
	BillToFipsCode	string	FIPS Code for Bill To – required if FIPS calculation, otherwise can be NULL
	BillToPCode	uint?	PCode for Bill To – required if PCode calculation, otherwise can be NULL
	BillToNpaNxx	uint?	NpaNxx for Bill To – required if NpaNxx calculation, otherwise can be NULL
	Lines	int	For tax calculations based on line counts, it is the number of lines used in the calculation to produce the tax. For Federal taxes, the line count always matches the lines input. For all other taxes, it is 0.
	Locations	int	Number of customer locations
	Minutes	double	For tax calculations based on minutes, it is the number of minutes used in the calculation to produce the tax. For all other taxes, it is 0.
	Debit	bool	true = debit (prepaid)
	DiscountType	int	One of the DiscountType enums
	FacilitiesBased	bool	true = facilities based
	Franchise	bool	true = franchise
	Lifeline	bool	true = lifeline customer
	Regulated	bool	true = regulated
	ServiceLevelNumber	uint	Optional field
	OptionalFields	OptionalField []	Array of optional alphanumeric values to associate with the transaction. Each entry in the array must have an appropriate key number from 1 to 10 indicating to which optional field key the value corresponds to.
	TaxInclusive	Bool	For use with Invoice Mode APIs only. Indicates if the charge amount of the transaction includes the tax amount.
	SafeHarborOverrides	SafeHarborOverride []	Array of SafeHarborOverride objects to apply to this transaction.

Transaction			
Data Definition			
	Property Name	Type	Description
	IsPrivateLine PrivateLineSplit		True/False; Percentage allocation specified as a decimal in the range 0 to 1.

ZipAddress			
Data Definition			
	Property Name	Type	Description
	CountryISO	string	3 character ISO abbreviation
	County	string	County name
	Locality	string	City name
	State	string	State Abbreviation
	ZipCode	string	ZIP Code (5 digit)
	ZipP4	string	ZIP Code extension (4 digit)

AddressData			
Data Definition			
	Property Name	Type	Description
	CountryISO	string	3 character ISO abbreviation
	County	string	County name
	Locality	string	City name
	State	string	State Abbreviation
	TaxLevel	int	one of the TaxLevel enums
	ZipBegin	string	First 5-digit ZIP Code in range
	ZipEnd	string	Last 5-digit ZIP Code in range
	ZipP4Begin	string	First 4-digit ZIP Code extension in range
	ZipP4End	string	Last 4-digit ZIP Code extension in range

Nexus			
Data Definition			
	Property Name	Type	Description
	CountryISO	string	3 character ISO abbreviation
	HasNexus	bool	true = has nexus in this state
	Locality	string	State Abbreviation

Exclusion			
Data Definition			
	Property Name	Type	Description
	CountryISO	string	3 character ISO abbreviation
	ExclusionOn	bool	true = exclude specified Country/State
	State	string	State Abbreviation

TaxExemption			
Data Definition			
	Property Name	Type	Description
	PCode	uint	PCode for jurisdiction to exempt
	TaxLevel	int	One of the TaxLevel enums (less than 5)
	TaxType	short	Valid AFC tax type

TaxData			
Data Definition			
	Property Name	Type	Description
	AdjustmentType	int	0 if not an adjustment, otherwise one of the DiscountType enums based on user input
	Billable	bool	true = billable
	CalculationType	Int	one of the CalculationType enums
	CategoryDescription	string	tax category description
	CategoryID	short	tax category id
	CompanyIdentifier	string	matches user input in transaction data
	Compliance	bool	true = reportable to jurisdiction
	CustomerNumber	string	matches user input in transaction data
	Description	string	tax description
	ExemptionType	int	set to 0 - reserved for future use
	ExemptSaleAmount	double	amount of sale not subject to tax
	InvoiceNumber	uint	matches user input in transaction data
	Lines	int	For tax calculations based on line counts, it is the number of lines used in the calculation to produce the tax. For Federal taxes, the line count always matches the lines input. For all other taxes, it is 0.
	Locations	int	number of locations in transaction data
	Minutes	int	For tax calculations based on minutes, it is the number of minutes used in the calculation to produce the tax. For all other taxes, it is 0.
	Optional	uint	matches user input in transaction data
	Optional4	uint	matches user input in transaction data
	Optional5	uint	matches user input in transaction data
	Optional6	uint	matches user input in transaction data
	Optional7	uint	matches user input in transaction data
	Optional8	uint	matches user input in transaction data
	Optional9	uint	matches user input in transaction data
	Optional10	uint	matches user input in transaction data
	OptionalAlpha1	string	matches user input in transaction data
	PCode	uint	PCode for the reporting jurisdiction
	Rate	double	Tax rate
	RefundUncollect	double	amount of sale refunded or written off
	ServiceLevelNumber	uint	matches user input in transaction data
	Surcharge	bool	true = tax considered FET taxable
	TaxableMeasure	double	amount of sale subject to tax
	TaxAmount	double	tax amount
	TaxLevel	int	one of the TaxLevel enums

TaxData			
Data Definition			
	Property Name	Type	Description
	TaxType	short	one of the Avalara tax types

TaxDataV2			
Data Definition			
	Property Name	Type	Description
	AdjustmentType	int	0 if not an adjustment, otherwise one of the DiscountType enums based on user input
	Billable	bool	true = billable
	CalculationType	Int	one of the CalculationType enums
	CategoryDescription	string	tax category description
	CategoryID	short	tax category id
	CompanyIdentifier	string	matches user input in transaction data
	Compliance	bool	true = reportable to jurisdiction
	CustomerNumber	string	matches user input in transaction data
	Description	string	tax description
	ExemptionType	int	set to 0 - reserved for future use
	ExemptSaleAmount	double	amount of sale not subject to tax
	InvoiceNumber	uint	matches user input in transaction data
	Lines	int	For tax calculations based on line counts, it is the number of lines used in the calculation to produce the tax. For Federal taxes, the line count always matches the lines input. For all other taxes, it is 0.
	Locations	int	number of locations in transaction data
	Minutes	int	For tax calculations based on minutes, it is the number of minutes used in the calculation to produce the tax. For all other taxes, it is 0.
	Optional	uint	matches user input in transaction data
	Optional4	uint	matches user input in transaction data
	Optional5	uint	matches user input in transaction data
	Optional6	uint	matches user input in transaction data
	Optional7	uint	matches user input in transaction data
	Optional8	uint	matches user input in transaction data
	Optional9	uint	matches user input in transaction data
	Optional10	uint	matches user input in transaction data
	OptionalAlpha1	string	matches user input in transaction data
	PCode	uint	PCode for the reporting jurisdiction
	Rate	double	Tax rate
	RefundUncollect	double	amount of sale refunded or written off
	ServiceLevelNumber	uint	matches user input in transaction data
	Surcharge	bool	true = tax considered FET taxable
	TaxableMeasure	double	amount of sale subject to tax
	TaxAmount	double	tax amount
	TaxLevel	int	one of the TaxLevel enums
	TaxType	short	one of the Avalara tax types

TaxDataV2			
Data Definition			
	Property Name	Type	Description
	TransCharge	double	For tax inclusive transactions, this is the base sale amount calculated by AFC SaaS Pro required in order to arrive at the total desired charge.

CustomerResults			
Data Definition			
	Property Name	Type	Description
	Taxes	TaxData []	Data structure containing an array of TaxData objects for each individual transaction processed.
	SummarizedTaxes	CustomerTaxData []	Data structure containing an array of CustomerTaxData objects with summarized taxes for all transactions processed.

CustomerResultsV2			
Data Definition			
	Property Name	Type	Description
	Taxes	TaxDataV2 []	Data structure containing an array of TaxData objects for each individual transaction processed.
	SummarizedTaxes	CustomerTaxData []	Data structure containing an array of CustomerTaxData objects with summarized taxes for all transactions processed.

CustomerTaxData			
Data Definition			
	Property Name	Type	Description
	PCode	uint	PCode for the reporting jurisdiction
	TaxType	int	one of the Avalara tax types
	TaxLevel	int	one of the TaxLevel enums
	CalculationType	int	enum
	Rate	double	one of the CalculationType enums
	TaxAmount	double	tax amount
	ExemptSaleAmount	double	amount of sale not subject to tax
	Lines	int	For tax calculations based on line counts, it is the number of lines used in the calculation to produce the tax. For Federal taxes, the line count always matches the lines input. For all other taxes, it is 0.
	Locations	int	sum of locations from customer input
	Minutes	int	For tax calculations based on minutes, it is the number of minutes used in the calculation to produce the tax. For all other taxes, it is 0.
	Description	string	tax description
	Surcharge	short	true = tax considered FET taxable

CustomerTaxData			
Data Definition			
	Property Name	Type	Description
	MaxBase	double	max amount to which tax is applied
	MinBase	double	min amount to which tax is applied
	ExcessTax	double	rate for amount above max base
	TotalCharge	double	sum of charges for this customer
	CategoryID	short	tax category id
	CategoryDescription	string	tax category description

ReverseTaxResults			
Data Definition			
	Property Name	Type	Description
	BaseSaleAmount	double	Base sale amount calculated by AFC SaaS Pro. This is the charge amount required in order to arrive at the total desired charge.
	Taxes	TaxData[]	Taxes returned for the transaction.

TaxInclusiveTaxResults			
Data Definition			
	Property Name	Type	Description
	BaseSaleAmount	double	Base sale amount calculated by AFC SaaS Pro. This is the charge amount required in order to arrive at the total desired charge.
	Taxes	TaxData[]	Taxes returned for the transaction.

TaxRateInfo			
Data Definition			
	Property Name	Type	Description
	TaxLevel	Short	Tax Level number
	TaxType	Short	Tax Type number
	RateHistory	List of TaxRateHistory	Tax Rate History

TaxRateHistory			
Data Definition			
	Property Name	Type	Description
	EffectiveDate	DateTime	Effect date of this tax rate
	LevelExemptible	Boolean	True or false indicate if it is level exemptible
	BracketInfo	List of TaxBracketInfo	List of tax Brackets

TaxBracketInfo			
Data Definition			
	Property Name	Type	Description
	CountyOverrideOn	Boolean	Indicate county override
	CountyOverrideTax	Double	County override tax rate

TaxBracketInfo			
Data Definition			
	Property Name	Type	Description
	StateOverrideOn	Boolean	Indicate State override
	StateOverrideTax	Double	State Override tax rate
	Rate	Double	Tax Rate normally 0 to less than 1
	MaxBase	Double	The cap for this tax Rate

ReportOptions			
Data Definition			
	Property Name	Type	Description
	StartDate	DateTime	Beginning of date range for data to be included in the report.
	EndDate	DateTime	End of date range for data to be included in the report. This field is not required if TimeSpan is specified.
	TimeSpan	TimeSpan	TimeSpan for the date range to be included in the report (e.g. number of days after StartDate). This field is not required if EndDate is specified.
	ReportType	String	Name of report to be generated.
	IncludeHeaders	Boolean	Indicates if the columns headers should be included in the first row of the report output.
	CreateNbaFile	Boolean	Indicates if non-billable amounts should be placed in a separate file.
	CreateNcaFile	Boolean	Indicates if non-compliance amounts should be placed in a separate file.
	FileName	String	Name for output file (up to 100 characters).
	FileExtension	String	Extension for output file (up to 5 characters).
	EmailAddress	String	Email address for receiving an email notification when the report has been generated (up to 100 characters).
	Precision	Int	Number of decimal places for computed values.
	BaseReport	String	When generating a “customlog” report, indicates which report type to use as a starting template.
	CustomLogFields	List of CustomLogField	List of columns to include in the report when using the “customlog” report type.

CustomLogField			
Data Definition			
	Property Name	Type	Description
	Column	String	Name of column. Refer to 4.4 – Custom Log Report Columns .
	Include	Boolean	Indicates if the column should be included in the output.
	Sort	Boolean	Indicates if the column should be used for sorting.

TaxRateOverrideInfo			
Data Definition			
	Property Name	Type	Description
	PCode	uint	PCode for the reporting jurisdiction
	Scope	Short	Override Scope
	TaxLevel	Short	Tax Level number
	TaxType	Short	Tax Type number
	LevelExemptible	Boolean	Make tax type level exemptible or not
	BracketInfo	List of TaxBracketInfo	List of Tax Brackets

CategoryExemption			
Data Definition			
	Property Name	Type	Description
	CountryISO	String	3 character ISO abbreviation
	State	String	State Abbreviation
	TaxCategory	short	Valid tax category ID

TaxLogDataV914			
Data Definition			
	Property Name	Type	Description
	AdjustmentType	int	0 if not an adjustment, otherwise one of the DiscountType enums based on user input
	Billable	bool	true = billable
	CalcType	Int	one of the CalculationType enums
	CategoryDescription	string	tax category description
	CategoryID	short	tax category id
	CompanyIdentifier	string	matches user input in transaction data
	Compliance	bool	true = reportable to jurisdiction
	CustomerNumber	string	matches user input in transaction data
	Description	string	tax description
	ExemptSaleAmount	double	amount of sale not subject to tax
	ExemptionType	int	set to 0 - reserved for future use
	InvoiceNumber	uint	matches user input in transaction data
	Lines	int	For tax calculations based on line counts, it is the number of lines used in the calculation to produce the tax. For Federal taxes, the line count always matches the lines input. For all other taxes, it is 0.
	Locations	int	number of locations in transaction data
	LogCounter	int	Does not apply for bridge conference. Will always be 0.
	Minutes	int	For tax calculations based on minutes, it is the number of minutes used in the calculation to produce the tax. For all other taxes, it is 0.
	Optional	uint	matches user input in transaction data
	Optional4	uint	matches user input in transaction data
	Optional5	uint	matches user input in transaction data

TaxLogDataV914			
Data Definition			
	Property Name	Type	Description
	Optional6	uint	matches user input in transaction data
	Optional7	uint	matches user input in transaction data
	Optional8	uint	matches user input in transaction data
	Optional9	uint	matches user input in transaction data
	Optional10	uint	matches user input in transaction data
	OptionalAlpha1	string	matches user input in transaction data
	PCode	uint	PCode for the reporting jurisdiction
	RefundUncollect	double	amount of sale refunded or written off
	SaleAmount	double	Taxable measure for transaction
	ServiceLevelNumber	uint	matches user input in transaction data
	SrvType	short	Service type used for transaction.
	Surcharge	bool	true = tax considered FET taxable
	Surcharge	bool	true = tax considered a surcharge
	TaxAmount	double	tax amount
	TaxLevel	int	one of the TaxLevel enums
	TaxRate	double	Tax rate
	TaxType	short	one of the Avalara tax types
	TransCharge	double	Charge for transaction
	TransType	short	Transaction type used for transaction.

OptionalField			
Data Definition			
	Property Name	Type	Description
	OptionalKeyNo	short	Optional field key number (values from 1 to 10)
	OptionalValue	string	Value for optional field (up to 150 characters)

OptionalKey			
Data Definition			
	Property Name	Type	Description
	OptionalKeyNo	short	Optional field key number (values from 1 to 10)
	OptionalKeyDesc	string	Description or label for optional field key.

ZipLookup			
Data Definition			
	Property Name	Type	Description
	Country	string	3 character ISO abbreviation
	County	string	County name
	City	string	City name
	State	string	State Abbreviation
	ZipCode	string	ZIP Code (5 digit)
	BestMatchFlag	Boolean	True = Best Match logic False = Exact Match
	LimitResults	Integer	Limit results for match to this value

ZipLookupResult			
Data Definition			
	Property Name	Type	Description
	InputMatchType	Best/Exact	Requested match type
	MatchCount	Integer	Number of matches returned
	MatchTypeApplied	Best/Exact	Match type used
	ResultsLimit	Integer	State Abbreviation
	LocationData	Object	Array of LocationData objects that match requested lookup

LocationData			
Data Definition			
	Property Name	Type	Description
	PCode	Long	PCode for location
	Country	string	3 character ISO abbreviation
	County	string	County name
	City	string	City name
	State	string	State Abbreviation

SafeHarborOverride			
Data Definition			
	Property Name	Type	Description
	OriginalFederalTam	double	TAM value specified as decimal between 0 and 1.
	NewFederalTam	double	TAM value specified as decimal between 0 and 1.
	SafeHarborType	short	TAM Override Type 1 = Cellular, 2 = VoIP, 4 = Paging

CommitData				
Data Definition				
	Property Name	Value	Type	Description
	DocumentCode	User-defined, 150 character limit, Alphanumeric	String	Document code for transactions to commit or uncommit.
	Committed	True False	bool	Indicates if document code should be committed or uncommitted.
	CustomerNumber	User-defined	String	Optional. 20 characters max.
	InvoiceNumber	User-defined	Nullable<int>	Optional
	Optional	User-defined	Nullable<int>	Optional
	Optional4	User-defined	Nullable<int>	Optional
	Optional5	User-defined	Nullable<int>	Optional
	Optional6	User-defined	Nullable<int>	Optional
	Optional7	User-defined	Nullable<int>	Optional
	Optional8	User-defined	Nullable<int>	Optional
	Optional9	User-defined	Nullable<int>	Optional

CommitData				
Data Definition				
	Property Name	Value	Type	Description
	Optional10	User-defined	Nullable<int>	Optional
	OptionalAlpha	User-defined	String	Optional. 20 characters max.
	OptionalFields	User-defined	OptionalField[]	Array of OptionalField objects.

Note: The Bridge Conferencing feature is currently in development at this time. Please refrain from using this feature as well as the proposed solutions and APIs until further notice.

BridgeConferenceTransaction			
Data Definition			
	Property Name	Type	Description
	CustomerType	int	One of the CustomerType enums
	BusinessClass	int	One of the BusinessClass enums
	Sale	bool	true = Sale, false = Resale (Wholesale)
	TransactionType	short	Not used. Can be 0/0.
	ServiceType	short	
	ServiceClass	int?	One of the ServiceClass enums
	Date	DateTime	Date of transaction
	Charge	double	Amount to tax per participant .
	Incorporated	bool	true = address inside city limits false = unincorporated address
	FederalExempt	bool	true = exempt federal level taxes
	StateExempt	bool	true = exempt state level taxes
	CountyExempt	bool	true = exempt county level taxes
	LocalExempt	bool	true = exempt city/local taxes
	FederalPCode	uint	federal PCode to exempt
	StatePCode	uint	state PCode to exempt
	CountyPCode	uint	county PCode to exempt
	LocalPCode	uint	local PCode to exempt
	Exclusions	Exclusion []	Array of Exclusion objects to apply to this transaction
	Exemptions	TaxExemption []	Array of TaxExemption objects to apply to this transaction
	CategoryExemptions	CategoryExemption []	Array of CategoryExemption objects to apply this transaction
	ExemptionType	int	set to 0 - reserved for future use
	InvoiceNumber	uint	optional invoice or order number
	Optional	uint	optional field
	CustomerNumber	string	optional customer account number (up to 20 characters)
	CompanyIdentifier	string	optional company identifier (up to 20 characters)
	OptionalAlpha1	string	optional field up to 20 characters
	Optional4	uint	optional field
	Optional5	uint	optional field

BridgeConferenceTransaction			
Data Definition			
	Property Name	Type	Description
	Optional6	uint	optional field
	Optional7	uint	optional field
	Optional8	uint	optional field
	Optional9	uint	optional field
	Optional10	uint	For live transactions, this field must indicate the billing cycle in YYYYMM format.
	AdjustmentMethod	int	for adjustments only (otherwise zero) One of the AdjustmentMethod enums
	BillingAddress	ZipAddress	ZipAddress object for Billing.
	BillingPCode	uint?	PCode for Billing.
	BillingNpaNxx	uint?	NpaNxx for Billing.
	BridgeAddress	ZipAddress	ZipAddress object for Bridge.
	BridgePCode	uint?	PCode for Bridge.
	BridgeNpaNxx	uint?	NpaNxx for Bridge.
	HostAddress	ZipAddress	ZipAddress object for Host. Optional.
	HostPCode	uint?	PCode for Host. Optional.
	HostNpaNxx	uint?	NpaNxx for Host. Optional.
	Participants	BridgeConferenceParticipant []	Array of BridgeConferenceParticipant objects to apply to this transaction.
	Lines	int	For tax calculations based on line counts, it is the number of lines used in the calculation to produce the tax. For Federal taxes, the line count always matches the lines input. For all other taxes, it is 0.
	Locations	int	Number of customer locations
	Minutes	double	For tax calculations based on minutes, it is the number of minutes used in the calculation to produce the tax. For all other taxes, it is 0.
	bool	Debit	true = debit (prepaid)
	DiscountType	int	One of the DiscountType enums
	FacilitiesBased	bool	true = facilities based
	Franchise	bool	true = franchise
	Lifeline	bool	true = lifeline customer
	Regulated	bool	true = regulated
	ServiceLevelNumber	uint	Optional field
	ProcessInvalidParticipant	bool	Flag indicating whether invalid participant jurisdiction should cause the transaction to fail (false) or whether the participant should be processed with greatest tax liability (true).
	ReturnParticipantTaxes	bool	Flag indicating whether detailed list of individual participant taxes should be returned along with the summarized taxes.

BridgeConferenceParticipant			
Data Definition			
	Property Name	Type	Description
	ParticipantAddress	ZipAddress	ZipAddress object for Participant – all participants must use ZipAddress values if any participant uses ZipAddress.
	ParticipantNpaNxx	uint?	NpaNxx for Participant – all Participants must use NpaNxx values if any participant uses NpaNxx.
	ParticipantPCode	uint?	PCode for Participant – all Participants must use PCode values if any participant uses PCode.
	ParticipantRef	string	Alpha-numeric reference that will tie participant in request to participant taxes in result, if ReturnParticipantTaxes is true. Max 127 bytes.

BridgeConferenceResults			
Data Definition			
	Property Name	Type	Description
	ParticipantResults	BridgeConferenceParticipantResult []	Array of BridgeConferenceParticipantResult objects for transaction. Only returned if ReturnParticipantTaxes is true.
	Taxes	TaxData []	An array of TaxData objects that contain the information about the summarized taxes applied for all participants.

BridgeConferenceParticipantResult			
Data Definition			
	Property Name	Type	Description
	ErrorCode	string	Error code for participant tax calculation (as applicable).
	ParticipantRef	string	Participant reference from request.
	ParticipantTaxes	TaxLogDataV914 []	An array of TaxLogDataV914 objects that contain the information about the taxes for each individual participant.
	TransactionType	short	Transaction type used for participant.
	ServiceType	short	Service type used for participant.

13. Web Service Enumeration Definitions

13.1 Specifying Tax Level

TaxLevel			
Data Definition			
	Name	Value	Description
	Federal	0	Federal level tax
	State	1	State level tax
	County	2	County level tax
	Local	3	Local (city) tax

TaxLevel			
Data Definition			
	Name	Value	Description
	Unincorporated	4	County unincorporated tax

13.2 Specifying Calculation Type

CalculationType			
Data Definition			
	Name	Value	Description
	Rate	1	tax based on charge amount
	Fixed	2	fixed tax
	PerMinute	3	tax based on minutes
	PerLine	4	tax based on number of access lines
	SelfTaxingRate	5	tax that taxes itself
	PerBracket	6	fixed tax with accumulated brackets
	FixedOnTier	7	fixed tax based on final bracket

13.3 Specifying Adjustment Method

In certain cases, when the rate of a tax will change based upon the charge or the number of lines in the transaction, clients may wish to make an adjustment at a different rate than would normally apply for the transaction.

For example, if the client purchased 20 lines at a rate of \$0.67 per line and the credit or adjustment is for 5 lines at a rate of \$1.25 per line, then usage of LEAST for the adjustment method would refund the 5 lines at the least favorable rate for the brackets making sure the client was not over compensated.

If unsure, use the value 0 - "Default".

AdjustmentMethod			
Data Definition			
	Name	Value	Description
	Default	0	tax brackets applied normally
	LeastFavorableRate	1	tax brackets applied to produce smallest tax refund
	MostFavorableRate	2	tax brackets applied to produce largest tax refund

13.4 Specifying Customer Type

This field is used to specify the type of customer involved in the transaction. The customer type is selected from one of the following four Customer Types.

CustomerType			
Data Definition			
	Name	Value	Description
	Residential	0	When transactions are made by a customer for home use.
	Business	1	When transactions are made at a place of business.

	SeniorCitizen	2	When transactions made by a customer meeting the jurisdiction requirements to be considered a senior citizen and qualify for senior citizen tax breaks.
	Industrial	3	When transactions are made at an industrial business.

13.5 Specifying Business Class

The Business Class Indicator field is used to specify if the business making the transaction is an Incumbent Local Exchange Company (ILEC - 0) or a Competitive Local Exchange Company (CLEC - 1). Applies to Customer.

This setting can also be viewed as “you are ILEC” or “you are not ILEC.” If neither class applies, use the default value “CLEC”.

The business class only impacts Telecom transactions in certain jurisdictions, such as Oregon.

BusinessClass			
Data Definition			
	Name	Value	Description
	ILEC	0	Incumbent Local Exchange Company
	CLEC	1	Competitive Local Exchange Company

13.6 Specifying Service Class

The Service Class Indicator is provided to delineate the Primary activity of an organization as either Long Distance or Local Service.

The service class only impacts Telecom transactions in certain jurisdictions, such as New York.

ServiceClass			
Data Definition			
	Name	Value	Description
	PrimaryLocal	0	Primary Local Service providers are carriers vending their services with over 50% of the gross business activities in Local Service revenue.
	PrimaryLongDistance	1	Primary Long Distance providers are carriers vending their services with over 50% of the gross business activities in Long Distance revenue.

13.7 Specifying Discount Type

AFC has an additional table that stores discount types by state with an “allow ability” indicator. The adjustment functions have arguments for the discount type which look up the discount type from the table to determine whether to apply taxes or not.

Discounts may or may not be taxed within each state. When a discount is taxed, the customer receives a tax benefit commensurate with the amount of the discount (i.e., if the customer gets \$5 off on a transaction subject to a 5% tax, the customer pays \$0.25 less in tax than they would have). When a

discount is not taxed, the customer receives non-tax benefit from the discount. Whether a discount is taxed or not depends on the type of discount and the rules in a particular tax jurisdiction.

Discount types only apply to adjustment transactions. Refer to **Section 4.7.1 Discount Adjustments in the AFC Telecom User Manual** for more information on calculating adjustments.

DiscountType			
Data Definition			
	Name	Value	Description
	None (Default)	0	Discount type not applicable. This should be the value used when the listed options do not apply. Note that choosing a value other than None can reduce the refund if the jurisdiction has determined that taxes are not refundable for the discount type specified.
	RetailProduct	1	An amount subtracted from the original price to arrive at a lower price.
	ManufacturerProduct	2	A discount of the total amount reimbursed to either the retailer or the customer by the manufacturer.
	AccountLevel	3	A stand alone discount that is not applied against any service but instead as a stand alone product.
	Subsidized	4	A discount caused exclusively in telephone service where the telephone provider provides a service to a lifeline eligible customer. The discount will be on the local exchange service.
	Goodwill	5	The total discount of a service that is recorded for accounting purposes but never billed to a customer.

13.8 Specifying Exemption Type

- Specifying the exemption type is for reporting purposes only and does not impact tax calculations.
- The numeric value is used. For example:
Non Profit Sales = 6
Fed Coupons WIC Vouchers = 4

ExemptionType		
Name	Value	Description
None (Default)	0	Exemption Type not applicable.
Fed Sales Supremacy	1	Sales to the Federal government exempt based on supremacy.
State Local Gov Sales	2	Sales to the State or Local government in the state that you operate in.
Sales for Resale	3	Sales that are designated for resale.
Fed Coupons WIC Vouchers	4	Sales at retail for which Federal government coupons or vouchers under the supplemental feeding for women, infants and children program are used as payment.
Reduced Food Rate	5	Tax imposed on food that is taxed at a reduced rate.

ExemptionType		
Name	Value	Description
Non Profit Sales	6	Sales made by or to not-for-profit civic, social, service or fraternal organizations.
Public School Sales	7	Sales made by or to all elementary and secondary schools operated at public expense in their educational functions and activities.
Religious Charitable Sales	8	Sales made by or to religious and charitable organizations and institutions in their religious, charitable or educational functions and activities.
Prescription Drug Sales	9	Drugs which may be legally dispensed by a licensed pharmacist only upon a lawful prescription of a practitioner licensed to administer those items.
Prosth Ortho Devices	10	Prosthetic or orthopedic devices as defined on January 1, 1980, by the Federal Medicare program pursuant to Title XVIII of the Social Security Act of 1965.
Insulin Sales	11	All sales of insulin.
Interstate Foreign Sales	12	Sales in commerce between various states or between any foreign country (Export Sales).
Ingredient Component Parts	13	Sale of ingredient or component parts.

13.9 Specifying Lines

When local service is provided, a transaction should be generated with the Lines field populated with the number of lines the customer subscribes to. AFC uses this information for generation of per line taxes usually associated with local E911 charges and local telecommunications relay service taxes and other assorted taxes.

Transaction Fields	
Column Name	Description
Lines	Numeric : integer >= 0

13.10 Specifying Sale Type

Sale should be used for retail transactions. Resale should be used for wholesale transactions. Telecommunication companies are taxed on transactions made by their clients, which in some cases can be passed on or “resold” to their customers in part or in total. Resale is used to indicate whether the product or service transaction is final or if it is to be resold.

To have exempt taxes available for reporting, exemption type 3 (Sales For Resale) should be used in combination with Resale.

Sale Type		
Value	Sale Type	Description
0	Sale (Default)	Standard taxes apply
1	Resale	Only Resale/Wholesale taxes apply
2	Consumed	SAU ONLY – Indicates that the item was consumed directly
3	Vendor Use	SAU ONLY – Indicates that the item is subject to vendor use tax.

13.11 Specifying Incorporated

The Incorp field is used to specify whether the customer involved in this transaction is inside or outside of the Local level designated as their location. The tax may or may not be affected by this designator depending, on whether the local level has taxes which would apply to the transaction/service type pair. Marking transactions as Incorporated = False will usually result in no local taxes returned. If not sure, the value True is the recommended setting to be used.

Incorporated Flag	
Value	Description
True (Default)	Jurisdiction is inside an incorporated location.
False	Jurisdiction is outside an incorporated location.

14. Monthly Update

The AFC SaaS Pro monthly update is available at approximately 4:00 PM Central time on the day before the last business day of each month. It contains updated tax information and database files and is available at the Avalara Support web site. The update contains changes resulting from ongoing research and development, providing the most current and efficient tax-rating engine available.

Note: Historical and current month tax rates are not impacted by the updates. Updates are reflected in the subsequent month's tax rates.