# Avalara Geo for Communications

# Data Reference Manual

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## 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 |
|---|---|---|
| 03/24/2016 | 0003 | Avalara branding updates to reflect the transition to the new company and product names have been incorporated into this document. Please see Appendix A – Avalara Product Names for specific changes in product references and descriptions. |

# Table of Contents

# 1. Overview

This document describes the input and output data used with Avalara, Inc.'s Avalara Geo for Communications (AFC Geo) product. AFC Geo is a class library developed using the Java programming language. Because of this, AFC Geo does not impose any specific file format as different applications will have different requirements for retrieving and storing this information.

# 2. AFC Geo Input Data

This section describes the input data used by AFC Geo to geocode and address and identify the tax jurisdiction. This includes the input address and additional parameters that control the options used to locate the address. The address can be specified as a single line address with the street address and ZIP code, a two line address with an array of two strings or by using the individual address components: street address, city, state and ZIP code.

## 2.1 Secondary Unit

The secondary unit part of the street address. This may be an apartment, suite or any other unit type in USPS publication 28.

### 2.1.1 Address Line

The street address line of the input address. This may also include the secondary unit if one exists for the address.

### 2.1.2 City State Zip

Input city, state and ZIP specified as a single string. The city and state are separated by a comma. The state and ZIP are separated by a space.

The individual components can be accessed directly using the City, State and Zip properties.

### 2.1.3 Address

The input location specified as an array of 2 strings. The individual components of the address can be accessed by using the Street Address, City, State and Zip properties.

[0] address number and street name. This will include the secondary unit if one has been specified.

[1] city, state abbreviation, ZIP code of a street address or an intersection * comma delimited

### 2.1.4 City

The city part of the input address

### 2.1.5 State

The state abbreviation part of the input address

### 2.1.6 Zip

The ZIP code of the input address. For U.S. addresses, this will be the standard 5-digit zip code. If the ZIP+4 is specified, it must be separated by a hyphen.

### 2.1.7 Minimum Score (double)

The minimum confidence score of the candidate address or intersection that will be considered a match for the input data.

Range 0 - 1.0. Default is .65

### 2.1.8 Cass Certify (Boolean)

The flag that indicates if CASS Certification should be performed. Default is false. True if the address will be validated using CASS. Otherwise false.

Subjects this location, BEFORE it had been geocoded, to a verification for compliance with Coding Accuracy Support System (CASS), and uses this information for the location input address.

# 3. Output Data

This section describes the data that is returned by AFC Geo. The data in section 2.1 is always returned. The data in section 2.2 is only returned if CASS validation has been enabled.

## 3.1 AFC Geo Output Data

This section describes the output data returned by AFC Geo after an address has been geocoded.

### 3.1.1 Score (double)

Returns the score of the match. The score indicates the likelihood that the address returned is a correct match for the input data. A value between 0.0 and 1.0

### 3.1.2 Incorporated (Boolean)

Indicates if the location is in an incorporated area. True if the location is in an incorporated area; False if the location is in an unincorporated area

### 3.1.3 FIPS Place Name

The FIPS place name the location is located in.

### 3.1.4 County

The name of the county the location is located within.

### 3.1.5 FeatureID (int)

The Geographic Names Information System (GNIS) feature id is a unique, permanent geographic feature identifier assigned by the U.S. Board on Geographic Names.

### 3.1.6 FIPS Code (long)

The FIPS Code for this location expressed as a number. FIPS codes are 10 digit numbers in the format of SSCCCPPPPP where SS = State Code , CCC = County Code and PPPPP = Place Code. If the state code has a

leading zero, that will be lost. If the location is in a Special Tax District the FIPS code returned will be a Avalara, Inc. assigned FIPS that maps to our PCodes. Any FIPS codes that start with a "99" in the state location are Avalara, Inc. codes for special tax jurisdictions. This FIPS code or the PCode can be used in the Avalara, Inc. AvaTax for Communications (AFC) product to calculate the correct taxes for the jurisdiction.

### 3.1.7 FIPS Code (String)

The FIPS Code for this location expressed as a String. FIPS codes are 10 digit numbers in the format of SSCCCPPPPP where SS = State Code , CCC = County Code and PPPPP = Place Code. It will be the string implementation of whatever is in the FIPS Code property.

### 3.1.8 Underlying FIPS code (long)

This method returns the Federal FIPS code of the underlying tax district. This can be used find out the Federal FIPS code for the location if the special tax district did not exist. This FIPS code will always refer to a county or city. It will never be a FIPS code for a special tax jurisdiction. If the location is not in a special tax district, this method returns the same value as FipsCode.

This is field is for informational purposes only. For calculating taxes with AFC, the value returned by FIPSCode should always be used.

### 3.1.9 Latitude (double)

The latitude (in degrees) of this location.

### 3.1.10 Longitude (double)

The longitude (in degrees) of this location.

### 3.1.11 Census Block (integer)

The census block. This data can be used with external data sources to obtain additional demographic data about the location.

### 3.1.12 Census Tract (integer)

The census tract. This data can be used with external data sources to obtain additional demographic data about the location.

### 3.1.13 Special Tax District PCode (integer)

If the location is within a special tax district, this method returns the Avalara, Inc. PCode of the special tax district. Otherwise this method returns -1.

This is field is for informational purposes only. For calculating taxes with AFC, the value returned by PCode should always be used.

### 3.1.14 Special Tax District Name

If the location is within a special tax district, this method returns the name of the special tax district. Otherwise this method returns an empty string.

This is the name of the jurisdiction identified by the PCode returned by Special Tax District PCode.

### 3.1.15 Primary Jurisdiction PCode (integer)

If the location is within a special tax district, this method returns the Avalara, Inc. PCode of the underlying tax district. This can be used find out the jurisdiction and taxes for the location if the special tax district did not exist. This PCode will always refer to a county or city. It will never be a PCode for a special tax jurisdiction. If the location is not in a special tax district, this method returns the same value as PCode.

This is field is for informational purposes only. For calculating taxes with AFC, the value returned by PCode should always be used.

### 3.1.16 Primary Jurisdiction Name

If the location is within a special tax district, this method returns the name of the underlying tax district. This can be used find out the jurisdiction for the location if the special tax district did not exist. This will always refer to a county or city. It will never be the name of a special tax jurisdiction. If the location is not in a special tax district, this method returns the same value as Tax Jurisdiction Name.

This is the name of the jurisdiction identified by the PCode returned by Primary Jurisdiction PCode.

### 3.1.17 PCode (integer)

The PCode that should be used when calculating taxes using AFC. This PCode may be a county, city or special tax jurisdiction.

### 3.1.18 Tax Jurisdiction Name

The jurisdiction name. This is the name of the jurisdiction identified by the PCode property.

### 3.1.19 City Name

The standardized city name.

### 3.1.20 State Name

The state abbreviation.

### 3.1.21 Postal Code

The postal code. For U.S. addresses, this is the standard 5-digit ZIP code.

### 3.1.22 Postal Code Extension

The postal code extension. For U.S. addresses, this is the 4-digit ZIP+4. If there is no ZIP+4, this will return an empty string.

### 3.1.23 Network Id

The string identifier of the database that this Location was found in. Valid values are: "ta" The location was found in the TeleAtlas dataset, "nt" The location was found in the NavTech dataset.

## 3.2 CASS Output Data

This section describes the additional output data that is returned if CASS validation is enabled.

### 3.2.1 Address
Returns the CASS certified address. Represented in a string array with as many lines of text as required by the standard way of printing the address on an envelope.

### 3.2.2 Address Line
The street address portion of the address.

### 3.2.3 City State Zip
A combined string with the city, state and zip code. The city, state and zip are separated by commas. The zip and zip+4 (if present) are separated by a hyphen.

### 3.2.4 City
The USPS preferred city name

### 3.2.5 State
The state abbreviation

### 3.2.6 Zip
The 5-digit ZIP code

### 3.2.7 Zip4
Returns the 4-digit ZIP+4. If the ZIP+4 is empty, this means that the address was not certified by CASS and may not be deliverable by the post office.

### 3.2.8 Address Quality Flags
A string with the Address Quality Flags identified by the CASS software component. Refer to Appendices A and B in MailStar.doc in the docs2006 directory on the CASS DVD for the meaning of this field.

### 3.2.9 Carrier Route
The postal carrier route for this address.

### 3.2.10 County Code (integer)
The standard USPS code of the US county for this address.

### 3.2.11 Delivery Point Validation
Delivery Point Validation data. Refer to maildpvelot.doc in the docs2006 directory of the CASS DVD for information on how to interpret the value of this field.

### 3.2.12 Enhanced Line Of Travel
The position of this address in the carrier route walk sequence.

### 3.2.13 Reliability (double)
A number, between 0 and 1, indicating the closeness of the match between a location address and USPS standards (higher s better)

### 3.2.14 USPS Bar Code
A string of 12 numbers to be printed as a bar code for pre-sorting.

# 4. Appendix A – Avalara Product Names

Please note that endpoints and websites referencing EZtax or Billsoft will not be changed. These items, such as http://support.eztax.com, will remain as is unless otherwise specifically communicated.

## 4.1 Company Information

- EZtax, Inc./Billsoft, Inc. is now Avalara, Inc.

## 4.2 Product Families

- EZtax Engine and Tools are now Avalara AvaTax for Communications (AFC)
- EZgeo is now Avalara Geo for Communications (AFC Geo)

## 4.3 Product Name Changes

### 4.3.1 Avalara AvaTax for Communications

- EZtax SaaS is now AFC SaaS Pro
- EZtax Online/Batch is now AFC SaaS Standard

### 4.3.2 Avalara Geo for Communications

- EZgeo SaaS is now AFC Geo SaaS Pro
- EZgeo Online/Batch is now AFC Geo SaaS Standard