Address Validation - Street Level

Web Service Developer Guide

July 08 , 2019

Important Information

UPS Developer Kit APIs

Your development of an application using UPS Developer Kit APIs is governed by the UPS Technology Agreement you entered into with UPS. The following are key legal requirements from these agreements for the UPS Developer Kit APIs. For more information on all requirements for the UPS Developer Kit APIs, please refer to the UPS Technology Agreement.

Defined terms used but not defined in this document have the meaning set forth in the UPS Technology Agreement.

Key Legal Requirements for UPS Developer APIs

Permitted Territories

This document can only be used in the countries of the Permitted Territory as defined in the UPS Technology Agreement, as applicable.

Use

The application must not be designed to allow distribution of information received through the UPS Developer Kit APIs to third parties, other than to persons having a bona fide interest in such information (e.g., the shipper, receiver, or the third party payer, or to your service providers authorized by UPS).

Consent to Use of UPS Mark

- All screens or forms generated by your application including information received through the UPS Developer Kit APIs must include (1) the UPS Mark positioned in reasonable proximity to the Information and of an appropriate size to readily identify the source of the Information as UPS and (2) the following language at the bottom of every screen that displays the UPS Mark: "UPS, the UPS brand mark, and the Color Brown are trademarks of United Parcel Service of America, Inc. All Rights Reserved." Except as set forth in the preceding sentence, you have no right to use the UPS Mark without the prior written approval of UPS.
- You shall not use the UPS Mark in association with any third party trademarks in a manner that might suggest co-branding or otherwise create potential confusion as to source or sponsorship of the application, or ownership of the UPS Mark.
- The UPS Mark shall be used only as provided by UPS electronically or in hard copy form. The UPS Mark may not be altered in any manner, including proportions, colors, elements, etc., or animated, morphed or otherwise distorted in perspective or dimensional appearance.
- The UPS Mark may not be combined with any other symbols, including words, logos, icons, graphics, photos, slogans, numbers, or other design elements. A minimum amount of empty space must surround the UPS Mark separating it from any other object, such as type, photography, borders, edges, etc. The required area of empty space around the UPS Mark must be 1/3x, where x equals the height of the UPS Mark.

Copyright and Proprietary Notice

In your application and any POD Letters you prepare, you must include a prominent reproduction of UPS's copyright and proprietary notices in a form and format specified by UPS (See the Copyright section of this document).

Display of Information

The application must not display information concerning any other provider of shipping services or such other shipping services on any page, whether comprising one or more frames, displaying information your application receives from the UPS Developer Kit APIs. Your application must present all data within each field received through the UPS Developer Kit APIs without amendment, deletion, or modification of any type.

Notice

In all communications with UPS concerning this document, please refer to the document date located on the cover.

Copyright

Trademarks

Some of the UPS corporate applications use United States city, state, and postal code information obtained by United Parcel Service of America, Inc. under a non-exclusive license from the United States Postal Service.

Table of Contents

Chapter 1: Introduction

In this document, you will find guidance and instructions for integrating the Address Validation Street Level Web Service into your application, service, or system.

In this guide, you will find:

- New release features
- Address Validation Web Service API functionality and business rules
- Web service API request and response schema
- FAQs for the Address Validation API
- Address Validation Street Level error response code descriptions

This guide applies to the following API:

- SOAP API for the Address Validation Street Level Web Service

This guide does not apply to the following APIs:

- Address Validation Street Level XML API
- Address Validation City, State, Zip API

Intended Audience

This guide is intended for developers who will be integrating the Address Validation Street Level Web Service API into their application, service, or system.

Required Knowledge & Skills

This guide assumes you have a basic understanding of the following:

- Concepts and instructions in the *Introduction to the UPS Developer Kit* guide
- XML syntax and structure
- Web services
- Software development

How to Use this Guide

- If this is your first time working with the UPS Developer Kit, begin with the *Introduction to the UPS Developer Kit* guide. This guide serves as the foundation for all API-specific developer guides.
- If you are experienced with the UPS Developer Kit but have not yet worked with the Address Validation API, continue with Chapter 2: Understanding the Address Validation API. There you will find an overview of the Address Validation functionality and business rules.
- Chapter 3: Customer Integration Environment (CIE) contains information on UPS integration environments.
- Chapter 4: Address Validation API Elements and Details contains an overview of the top-level containers and elements that comprise the Rating request and response.
- Request and response examples are located in Chapter 5: Address Validation Web Service API Examples.
- Reference tables, services codes, and error codes are located in the Appendices.

Release Features

July 2019

No change.

January 2019

No change.

July 2018

- Expand address classification for the following countries (see Appendix)
  - Belarus(BY)
  - Jersey(JE)
  - Romania(RO)
  - Russia(RU)
  - Slovenia(SI)
  - Turkey(TR)
  - Ukraine(UA)

January 2018

- Expand address classification for Greece(GR) and Luxembourg (LU) (see Appendix)

July 2017

No change.

January 2017

No change.

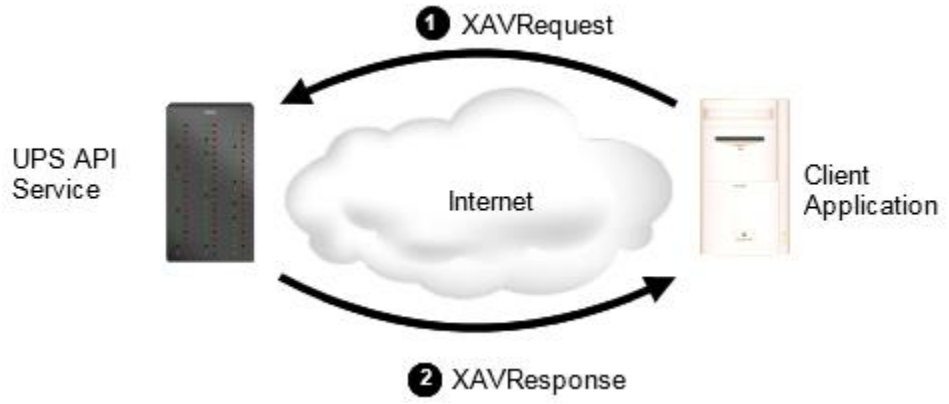
July 2016

- Residential Surcharge Expansion
- Expand functionality to additional countries (see Appendix)

Chapter 2: Understanding the Address Validation API

The Address Validation Street Level API can be used to check addresses against the United States Postal Service database of valid addresses in the U.S. and Puerto Rico. If an address is not valid according to this database, the API can optionally provide a list of valid addresses that correspond to the intended address. The API can also determine if an address is a commercial or residential address.

The figure below shows how client applications use address validation services. The process begins when the client sends a XAVRequest to UPS API Services. UPS replies to this request with a XAVResponse.



Client applications can request either a general validation of a city, state, and zip code, or a validation of specific, street-level address. The RegionalRequestIndicator in the request determines which type of validation the application desires.

Client applications also indicate the maximum number of candidate addresses they wish to receive in the response. UPS returns candidate addresses only if the address that the client provides is not valid. Candidate addresses are valid addresses that might correspond to the requested address. If a client does not wish to receive candidate addresses, it can specify zero (0) for this value.

Business Processes and Rules

- UPS expects schema elements/tags as defined in the XPath and presented in the schema structure without spelling or structural deviations. Elements/tags that are not defined in the schema or do not conform to the schema structure will be ignored by UPS.
- Only users that plan to ship packages manifested, tendered, and delivered by UPS can use the API.
- Any customers/developers abusing or data mining the API will have their access revoked.
- To access API documentation the user must have or create a My UPS profile.
- To access testing and production sites the user must have an Access Key. To get an Access Key you must have a My UPS profile and an associated shipping account. For additional information, refer to the *UPS Developer Kit User Guide*.

Address Validation

- The Address Verification Street Level (AVSL) API does not perform Apt/Suite validation.
- The AVSL API Response never returns the address provided in the Request. It is the responsibility of the customer to compare address provided in Request to addresses returned in Response.
- Countries or territories that support Residential/Commercial classification is available in the Appendix refer to the topic: Address Validation Street Level API Supported Countries/Territories.
- Street Level verification is only available for the United States and the U.S. territory of Puerto Rico.
- The UPS address validation database is updated monthly with USPS information.

UPS Address Validation Notice

You must display the following notice, or such other language provided by UPS from time to time, in reasonable proximity to the Address Validation input and output information screens:

NOTICE: UPS assumes no liability for the information provided by the address validation functionality. The address validation functionality does not support the identification or verification of occupants at an address.

Residential / Commercial Address Classification

The Address Validation Street Level API can determine whether a given address is a residential or commercial address. Address classification uses the same request/response exchange as address validation. In fact, classification and validation can be combined in a single request.

To view supported countries or territories, refer to Address Validation Street Level API Supported Countries/Territories in the Appendix.

For address classification, UPS determines whether an address is a residence or a commercial location. For address classification requests, it is important that the user include as much information as possible or available about the address, for example, a contact name or "attention to" value. Such information is important for accurate results, as many locations include both commercial and residential entities (such as a deli on the ground floor of an apartment building).

NOTE: Consignee name is heavily weighted when determining resi / comm classification. Contrary to popular assumptions, an “address” in and of itself is not residential or commercial, but rather the aggregate of all address elements, including and especially consignee name, are used to determine the classification.

Address Validation Examples

If this address was sent in a request and included the Apt/Suite#

Company or Name:	LAKESIDE PAIN CENTER
AddressLine:	6010 LAKESIDE COMMONS DR.
AddressLine:	**STE B**
City:	Macon
State:	GA
Zip:	31210
Country:	US

The AVSL API does not perform Apt/Suite validation. In cases where there is a valid match (ValidAddressIndicator in Response) the API will return

Company or Name:	LAKESIDE PAIN CENTER
AddressLine:	6010 LAKESIDE COMMONS DR.
AddressLine:	
City:	Macon
State:	GA
Zip:	31210
Country:	US

If the following address is sent in a request, the system will check if it exists. In this case, this address does not exist.

Company or Name:	LAKESIDE PAIN CENTER
AddressLine:	6010 LAKESIDE
AddressLine:	
City:	Macon
State:	
Zip:	**312**
Country:	US

But the API will be able to return an address that maybe similar to the one that was provided as a candidate.

Company or Name:	LAKESIDE PAIN CENTER
AddressLine:	6010 LAKESIDE
AddressLine:	
City:	Macon
State:	GA
Zip:	**31210**
Country:	US

Chapter 3: Customer Integration Environment (CIE)

The Customer Integration Environment allows customers to test their application prior to launch. This environment is intended for integration testing of customer applications with the UPS servers.

Once your application has been thoroughly tested, you should redirect the application to the UPS Production Environment.

 No stress testing should ever be performed by customers against any UPS systems.

To access testing and production sites the user must have an Access Key. You can request an Access Key after establishing a UPS profile and associating your shipping account.

System Availability

The Customer Integration Environment is available 24 hours a day, 7 days a week. Note, the system is occasionally down for server maintenance.

Integration Testing

Test your Address Validation Street Level application with valid and invalid address elements.

 NOTE: In the Customer Integration Environment, Street Level Address Validation will only produce results for addresses in New York (NY) and California (CA).

It is recommended that you use addresses that are familiar to you, for example, your home or business address. This will ensure that your application has the ability to process success and error responses correctly.

 All API URLs are case sensitive.

For integration testing, direct your Address Validation Street Level Web Service to:

https://wwwcie.ups.com/webservices/XAV

Production

 All API URLs are case sensitive.

Once testing is complete, direct your Address Validation Street Level Web Service API to the production URL:

https://onlinetools.ups.com/webservices/XAV

Server Availability Check

All of the UPS services work using HTTPS POST. If the server is available, it will reply with the service name, remote user, server port, server name, and servlet path.

To see this in action, type the following URL in your web browser: https://wwwcie.ups.com/webservices/XAV

Service Name:	XAV
Remote User:	null
Server Port:	443
Server Name:	wwwcie.ups.com
Servlet Path:	/XAV

Chapter 4: Address Validation API Elements and Details

Accessing the Address Validation Street Level Web Service API

Access the Service at:	https://onlinetools.ups.com/webservices/XAV
Service Operation:	ValidateAddress
ValidateAddress Operation:	Type: Request-Response (client sends a request to UPS and the UPS server replies with a response) SOAPAction Header: http://onlinetools.ups.com/webservices/XAVBinding

Element Constraints

The Request and Response XPath tables contain the full hierarchy of the API elements.

UPS expects schema elements/tags as defined in the XPath and presented in the schema structure i.e., no spelling or structural deviations. Elements/tags that are not defined in the schema or do not conform to the schema structure will be ignored by UPS.

Element constraints are defined as follows:

Required

- Yes - indicates the element must be present in the request or response.
- Yes* - indicates the element must be present in the request if the parent container is present in the request.
- No - indicates the element is optional and may be used if it applies to the request.
- Cond – indicates the element is required under certain conditions.

Type

- Container - holds a group of related elements.
- String - consists of alphanumeric characters, spaces, and decimals.

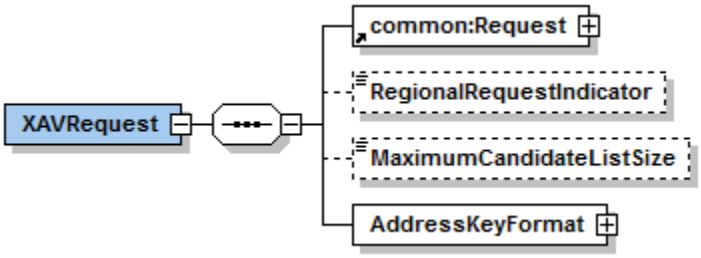
Length

- The maximum number of characters that can be present in a String. Length is not applicable (N/A) to Containers.

Max Allowed

- The maximum number of elements or containers that can be present in the parent container.

XAVRequest Top Level Containers



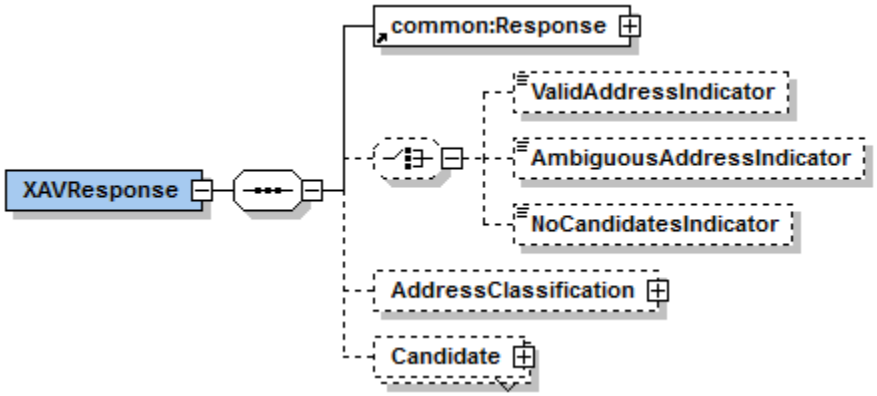
XAVRequest XPath Tables

Name	Constraint	Description
/XAVRequest		
XAVRequest	Required: Yes Type: Container Max Allowed: 1 Length:	
/XAVRequest/Request		
Request	Required: Yes Type: Container Max Allowed: 1 Length: N/A	XAV Request Container.
/XAVRequest/Request/RequestOption		
RequestOption	Required: Yes Type: String Max Allowed: 1 Length: 1	Identifies the optional processing to **be** performed. If not present or invalid value then an error will be sent back. Valid values: 1 - Address Validation 2 - Address Classification 3 - Address Validation and Address Classification. For a list of valid values, refer to Address Validation API Supported Countries/Territories in the Appendix.
/XAVRequest/Request/TransactionReference		
TransactionReference	Required: No Type: Container Max Allowed: 1 Length: N/A	TransactionReference identifies transactions between client and server.
/XAVRequest/Request/TransactionReference/CustomerContext		
CustomerContext	Required: No Type: String Max Allowed: 1 Length: 1...512	The client uses CustomerContext to synchronize request/response pairs. The client establishes CustomerContext, which can contain any information you want, as long as it is valid XML; it is echoed back by the server.

Name	Constraint	Description
/XAVRequest/RegionalRequestIndicator		
RegionalRequestIndicator	Required: No Type: String Max Allowed: 1 Length: 0	If this indicator is present then either the region element or any combination of Political Division 1, Political Division 2, PostcodePrimaryLow and the PostcodeExtendedLow fields will be recognized for validation in addition to the urbanization element. If this tag is present, US and PR street level address validation will not occur. The default is to provide street level address validation. Not valid with the address classification request option.
/XAVRequest/MaximumCandidateListSize		
MaximumCandidateListSize	Required: No Type: String Max Allowed: 1 Length: 1..2	The maximum number of Candidates to return for this request. Valid values: 0 - 50 Default: 15
/XAVRequest/AddressKeyFormat		
AddressKeyFormat	Required: Yes Type: Container Max Allowed: 1 Length: N/A	AddressKeyFormat container. The Key format is based on addressing standards jointly developed by the Postal Service and mailing industry. The information provided in the Address Key container will be returned in the same format.
/XAVRequest/AddressKeyFormat/ConsigneeName		
ConsigneeName	Required: No Type: String Max Allowed: 1 Length: 1..40	Name of business, company or person. Ignored if user selects the RegionalRequestIndicator.
/XAVRequest/AddressKeyFormat/AttentionName		
AttentionName	Required: No Type: String Max Allowed: 1 Length: 1..40	Name of the building. Ignored if user selects the RegionalRequestIndicator.
/XAVRequest/AddressKeyFormat/AddressLine		
AddressLine	Required: No Type: String Max Allowed: 3 Length: 1..100	Address line (street number, street name and street type) used for street level information. Additional secondary information (apartment, suite, floor, etc.) Applicable to US and PR only. Ignored if user selects the RegionalRequestIndicator.
/XAVRequest/AddressKeyFormat/Region		
Region	Required: Cond Type: String Max Allowed: 1 Length: 1..100	If this node is present the following tags will be ignored: - Political Division 2 - Political Division 1 - PostcodePrimaryLow - PostcodeExtendedLow Valid only for US or PR origins only. Using this tag for non US/PR origins may cause address format errors.

Name	Constraint	Description
/XAVRequest/AddressKeyFormat/PoliticalDivision2		
PoliticalDivision2	Required: Cond Type: String Max Allowed: 1 Length: 1..30	City or Town name.
/XAVRequest/AddressKeyFormat/PoliticalDivision1		
PoliticalDivision1	Required: Cond Type: String Max Allowed: 1 Length: 1..30	State or Province/Territory name.
/XAVRequest/AddressKeyFormat/PostcodePrimaryLow		
PostcodePrimaryLow	Required: Cond Type: String Max Allowed: 1 Length: 1..10	Postal Code.
/XAVRequest/AddressKeyFormat/PostcodeExtendedLow		
PostcodeExtendedLow	Required: Cond Type: String Max Allowed: 1 Length: 1..10	4 digit Postal Code extension. For US use only.
/XAVRequest/AddressKeyFormat/Urbanization		
Urbanization	Required: No Type: String Max Allowed: 1 Length: 1...30	Puerto Rico Political Division 3. Only valid for Puerto Rico.
/XAVRequest/AddressKeyFormat/CountryCode		
CountryCode	Required: Yes Type: String Max Allowed: 1 Length: 2	Country/Territory Code. For a list of valid values, refer to the Address Validation API Supported Countries/Territories table in the Appendix.

XAVResponse Top Level Containers



XAVResponse XPath Tables

Note: Not all containers/elements are reflected separately in the table of contents.

Name	Constraint	Description
/XAVResponse		
XAVResponse	Required: Yes Type: Container Max Allowed: 1 Length: N/A	XAV Response Container.
/XAVResponse/Response		
Response	Required: Yes Type: Container Max Allowed: 1 Length: N/A	Response Container.
/XAVResponse/Response/ResponseStatus		
ResponseStatus	Required: Yes Type: Container Max Allowed: 1 Length: N/A	Response Status Container.
/XAVResponse/Response/ResponseStatus/Code		
Code	Required: Yes Type: String Max Allowed: 1 Length: 1	Identifies the success or failure of the transaction. Valid values: 1 = Success 0 = Failure
/XAVResponse/Response/ResponseStatus/Description		
Description	Required: Yes Type: String Max Allowed: 1 Length: 1...35	Describes Response Status Code. Returns text of 'Success' or 'Failure'.
/XAVResponse/Response/Alert		
Alert	Required: No Type: Container Max Allowed: 1 Length: N/A	Alert Container. There can be zero to many alert containers with code and description.

Name	Constraint	Description
/XAVResponse/Response/Alert/Code		
Code	Required: Yes* Type: String Max Allowed: 1 Length: 1...10	Warning code returned by the system.
/XAVResponse/Response/Alert/Description		
Description	Required: Yes* Type: String Max Allowed: 1 Length: 1...150	Warning messages returned by the system.
/XAVResponse/Response/TransactionReference		
TransactionReference	Required: No Type: Container Max Allowed: 1 Length: N/A	Transaction Reference Container.
/XAVResponse/Response/TransactionReference/CustomerContext		
CustomerContext	Required: No Type: String Max Allowed: 1 Length: 1...512	The CustomerContext Information which will be echoed during response.
/XAVResponse/ValidAddressIndicator		
ValidAddressIndicator	Required: Cond Type: String Max Allowed: 1 Length: 0	Indicates query found a valid match.
/XAVResponse/AmbiguousAddressIndicator		
AmbiguousAddressIndicator	Required: Cond Type: String Max Allowed: 1 Length: 0	Indicates query could not find a match based on the information provided. Candidate list follows
/XAVResponse/NoCandidatesIndicator		
NoCandidatesIndicator	Required: Cond Type: String Max Allowed: 1 Length: 0	No Candidate found.
/XAVResponse/AddressClassification		
AddressClassification	Required: No Type: Container Max Allowed: 1 Length: N/a	AddressClassification Container.
/XAVResponse/AddressClassification/Code		
Code	Required: Yes* Type: String Max Allowed: 1 Length: 1	Contains the classification code of the input address. Valid values: 0 - UnClassified 1 - Commercial 2 - Residential

Name	Constraint	Description
/XAVResponse/AddressClassification/Description		
Description	Required: Yes* Type: String Max Allowed: 1 Length: 1..15	Contains the text description of the address classification code: UnClassified Commercial Residential
/XAVResponse/Candidate		
Candidate	Required: No Type: Container Max Allowed: 1 Length: N/A	Candidate Container.
/XAVResponse/Candidate/AddressClassification		
AddressClassification	Required: No Type: Container Max Allowed: 1 Length: N/A	AddressClassification Container.
/XAVResponse/Candidate/AddressClassification/Code		
Code	Required: Yes* Type: String Max Allowed: 1 Length: 1	Contains the classification code of the address: 0 - UnClassified 1 - Commercial 2 - Residential
/XAVResponse/Candidate/AddressClassification/Description		
Description	Required: Yes* Type: String Max Allowed: 1 Length: 1..15	Contains the text description of the address classification code (see Code above).
/XAVResponse/Candidate/AddressKeyFormat		
AddressKeyFormat	Required: Yes Type: Container Max Allowed: 1 Length: N/A	AddressKeyFormat Container.
/XAVResponse/Candidate/AddressKeyFormat/ConsigneeName		
ConsigneeName	Required: No Type: String Max Allowed: 1 Length: 1..40	Name of business, company or person. Not returned if user selects the RegionalRequestIndicator.
/XAVResponse/Candidate/AddressKeyFormat/AttentionName		
AttentionName	Required: No Type: String Max Allowed: 1 Length: 1..40	Name of building. Not returned if user selects the RegionalRequestIndicator.
/XAVResponse/Candidate/AddressKeyFormat/AddressLine		
AddressLine	Required: No Type: String Max Allowed: 3 Length: 1..100	Address line (street number, street name and street type, and political division 1, political division 2 and postal code) used for street level information. Additional secondary information (apartment, suite, floor, etc.) Applicable to US and PR only. Not returned if user selects the RegionalRequestIndicator.

Name	Constraint	Description
/XAVResponse/Candidate/AddressKeyFormat/Region		
Region	Required: Cond Type: String Max Allowed: 1 Length: 1..100	Single entry containing in this order Political Division 2, Political Division 1 and Post Code Primary Low and/or PostcodeExtendedLow.
/XAVResponse/Candidate/AddressKeyFormat/PoliticalDivision2		
PoliticalDivision2	Required: Cond Type: String Max Allowed: 1 Length: 1..30	City or Town name.
/XAVResponse/Candidate/AddressKeyFormat/PoliticalDivision1		
PoliticalDivision1	Required: Cond Type: String Max Allowed: 1 Length: 1..30	State/Province. Returned if the location is within a State/Province/Territory. For International: returned if user enters valid Country/Territory Code, and City/postal code and it has a match. For Domestic addresses, the value must be a valid 2-character value (per US Mail standards). For International the full State or Province name will be returned.
/XAVResponse/Candidate/AddressKeyFormat/PostcodePrimaryLow		
PostcodePrimaryLow	Required: Cond Type: String Max Allowed: 1 Length: 1..10	Low-end Postal Code. Returned for countries or territories with Postal Codes. May be alphanumeric.
/XAVResponse/Candidate/AddressKeyFormat/PostcodeExtendedLow		
PostcodeExtendedLow	Required: Cond Type: String Max Allowed: 1 Length: 1..10	Low-end extended postal code in a range. Example in quotes: Postal Code 30076-'1234'. Only returned in candidate list. May be alphanumeric
/XAVResponse/Candidate/AddressKeyFormat/Urbanization		
Urbanization	Required: No Type: String Max Allowed: 1 Length: 1...30	Puerto Rico Political Division 3. Only Valid for Puerto Rico.
/XAVResponse/Candidate/AddressKeyFormat/CountryCode		
CountryCode	Required: Yes Type: String Max Allowed: 1 Length: 2	A Country/Territory code. Required to be returned.

Chapter 5: Address Validation Web Service API Examples

XAVRequest Example

```
<envr:Envelope xmlns:auth="http://www.ups.com/schema/xpci/1.0/auth"
xmlns:envr="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:upss="http://www.ups.com/XMLSchema/XOLTWS/UPSS/v1.0"
xmlns:common="http://www.ups.com/XMLSchema/XOLTWS/Common/v1.0"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <envr:Header>
        <upss:UPSSecurity>
            <upss:UsernameToken>
                <upss:Username>Your Username</upss:Username>
                <upss:Password>Your Password</upss:Password>
            </upss:UsernameToken>
            <upss:ServiceAccessToken>
                <upss:AccessLicenseNumber>Your Access License Number</upss:AccessLicenseNumber>
            </upss:ServiceAccessToken>
        </upss:UPSSecurity>
    </envr:Header>
    <envr:Body>
<XAV:XAVRequest xsi:schemaLocation="http://www.ups.com/XMLSchema/XOLTWS/xav/v1.0"
xmlns:XAV="http://www.ups.com/XMLSchema/XOLTWS/xav/v1.0">
            <common:Request>
                <common:RequestOption>1</common:RequestOption>
                <common:TransactionReference>
                    <common:CustomerContext>Your Customer Context</common:CustomerContext>
                </common:TransactionReference>
            </common:Request>
<XAV:MaximumListSize>10</XAV:MaximumListSize>
            <XAV:AddressKeyFormat>
<XAV:ConsigneeName>Consignee Name</XAV:ConsigneeName>
<XAV:BuildingName>Building Name</XAV:BuildingName>
<XAV:AddressLine>12380 Morris Road</XAV:AddressLine>
<XAV:PoliticalDivision2>Alpharetta</XAV:PoliticalDivision2>
<XAV:PoliticalDivision1>GA</XAV:PoliticalDivision1>
<XAV:PostcodePrimaryLow>30009</XAV:PostcodePrimaryLow>
<XAV:CountryCode>US</XAV:CountryCode>
</XAV:AddressKeyFormat>
</XAV:XAVRequest>
    </envr:Body>
</envr:Envelope>
```


XAVResponse Example

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/">
    <soapenv:Header/>
    <soapenv:Body>
<xav:XAVResponse xmlns:xav="http://www.ups.com/XMLSchema/XOLTWS/xav/v1.0">
        <common:Response xmlns:common="http://www.ups.com/XMLSchema/XOLTWS/Common/v1.0">
            <common:ResponseStatus>
                <common:Code>1</common:Code>
                <common:Description>Success</common:Description>
            </common:ResponseStatus>
            <common:TransactionReference>
                <common:CustomerContext>Your Customer Context</common:CustomerContext>
            </common:TransactionReference>
        </common:Response>
        <xav:ValidAddressIndicator/>
        <xav:Candidate>
            <xav:AddressKeyFormat>
<xav:AddressLine>12380 MORRIS RD</xav:AddressLine>
<xav:PoliticalDivision1>GA</xav:PoliticalDivision1>
<xav:PostcodePrimaryLow>30005</xav:PostcodePrimaryLow>
<xav:PostcodeExtendedLow>4177</xav:PostcodeExtendedLow>
<xav:Region>ALPHARETTA GA 30005-4177</xav:Region>
<xav:CountryCode>US</xav:CountryCode>
</xav:AddressKeyFormat>
</xav:Candidate>
</xav:XAVResponse>
    </soapenv:Body>
</soapenv:Envelope>
```


Chapter 6: Address Validation Street Level FAQs

Category	Question	Answer
General	What countries' addresses can be validated by the Address Validation - Street Level API?	Street Level Address Validation (SLAV) allows the validation of street level address in the US and Puerto Rico only.
General	Does the Address Validation - Street Level API validate addresses?	The Address Validation - Street Level API validates addresses in the US and Puerto Rico only. The API classifies addresses as Residential or Commercial in keeping with UPS standards.
General	Why do we get back a candidate list of addresses even when the response has a Valid Address Indicator?	The API returns a candidate list even when there is a Valid Address Indicator because the parameters entered have more than one valid match. If the address that was entered as part of the request is returned as part of the candidate list then the address is valid and should be used.
General	How is street level AV completed? Does it use the USPS to validate an address?	The UPS database is updated monthly with USPS information.
General	How much time will it take to program/implement the Address Validation - Street Level API?	The programming/implementation of the Address Validation - Street Level APIs may vary and is strictly dependent on the skill level of the developer. An implementation of Address Validation Street Level may take as little as a week for a very skilled developer to as long as months for a less skilled developer.
Address Validation frequency of updates	How frequently are the databases updated for Address Validation Street Level?	Address Validation Street Level API 1. Classification = weekly 2. Validation = monthly
Batch Upload	Does either the Address Validation or Address Validation Street Level APIs offer the ability to batch upload?	No.
Resi/Comm Indicator	Which APIs provide address classification?	Refer to Address Validation Street Level API Supported Countries/Territories in the Appendix.
Resi/Comm Database	What process does UPS use to apply residential/commercial designations?	UPS business logic is used to determine the results.
Suite/Apt #	Does Address Validation Street Level API provide a candidate list for addresses that have suite/apt information?	The API does not return candidate lists for suite or apartment number ranges.

Category	Question	Answer
Valid/Invalid Address	How do I know whether the address I submitted is correct?	If the address is entered incorrectly, the API will return an AmbiguousAddressIndicator and a list of candidate addresses. If the address is entered correctly, the API will return a ValidAddressIndicator and the correct address. Note: The API will not return the address sent in the XML Request. It is the responsibility of the customer to compare the address sent in the request to the address(es) returned in the response.
CASS Certified	Is the Address Validation Street Level API CASS certified or the data we receive CASS certified?	UPS does not provide any API or application with customer-facing CASS-certified address validation. CASS certification is required for discounts on USPS services, but not required for any UPS services or discounts. UPS address validation is not CASS-certified. It is also free, as we are not competing with vendors that provide CASS-certified Address Validation software. The Address Validation API is provided to allow customers who do not already use CASS-certified Address Validation software, our Address Validation Street Level API can be used to help clean-up addresses for UPS shipments. UPS delivers to addresses that are not in the USPS database (some examples are addresses that are warehouses that do not accept mail and areas where the USPS only provides PO Box delivery) - so an invalid address may still be deliverable. In addition, a valid address may be the wrong address, and still require an address correction. NOTE: The source of our data for address validation is the USPS that we subscribe to and refresh monthly.

Appendices

Error Codes (WS)

When the UPS system is unable to respond to a request, be it from a malformed request, an illegal or invalid value, or other issues, the API generates an error response. For examples and additional information on error responses, refer to *Chapter 3: Error Responses*, in the *Introduction to the UPS Developer Kit* guide.

- Successful responses may or may not include warnings.
  - Without warnings - Indicates the request has been processed as anticipated.
  - With warnings - Indicates the request has been processed with potentially unanticipated results. The warning contains information in the response that should be passed to the end user.
- The severity of an error may be transient or hard.
  - Transient error - Indicates an error that is temporary in nature. Such errors may be caused by response timeouts due to high server loads or scheduled maintenance in progress. The request may be issued successfully at a later time.
  - Hard error - Indicates the request has a problem that the system is not able to resolve. These errors are critical and prevent requests from processing.

Do not resubmit requests with Hard Errors until the problems causing the error have been resolved.

Common Error Codes

The following error codes can apply to all Webservice and other APIs.

Code	Severity	Description
10001	Hard	The XML document is not well formed.
10002	Hard	The XML document is well formed but the document is not valid.
10003	Hard	The XML document is either empty or null.
10006	Hard	Although the document is well formed and valid, the element content contains values which do not conform to the rules and constraints contained in this specification.
10013	Hard	The message is too large to be processed by the Application.
20001	Transient	General process failure.
20002	Hard	The specified service name, {0}, and version number, {1}, combination is invalid.
20003	Hard	Please check the server environment for the proper J2EE ws apis.
20006	Hard	Invalid request action.
20007	Hard	Missing Required field, {0}.
20008	Hard	The field, {0}, contains invalid data, {1}.
20012	Hard	The Client Information exceeds its Maximum Limit of {0}.
250000	Hard	No XML declaration in the XML document.
250001	Hard	Invalid Access License for the tool. Please re-license.
250002	Hard	Invalid UserId/Password.
250003	Hard	Invalid Access License number.
250004	Hard	Incorrect UserId or Password.
250005	Hard	No Access and Authentication Credentials provided.

Code	Severity	Description
250006	Hard	The maximum number of user access attempts was exceeded.
250007	Hard	The UserId is currently locked out, please try again in 30 minutes.
250009	Hard	License Number not found in the UPS database.
250019	Hard	Invalid Field value.
250050	Transient	License system not available.

Address Validation Street Level Web Service Error Codes

Error Code	Severity	Description	Condition
250065	Hard	Invalid or missing request element.	Occurs when Request Container is missing or invalid in a request.
260000	Hard	XAV Web Service currently unavailable.	XAV Web service is not exposed or service is down for some reason.
264001	Transient	AV Service is not available.	Adapter parsing error, business process calling error, backend service is unavailable, etc.
264002	Hard	Country Code is invalid or missing.	The country/territory code is not US or PR. (or) CountryCode element is missing.
264003	Hard	The Maximum allowable Candidate List size has been exceeded within the User Request.	The maximum candidate list size requested from the user has been exceeded.
264004	Hard	The maximum validation query time has been exceeded due to poor address data.	Request has timed out. Usually due to insufficient or poor address data from client.
264005	Hard	Address classification is not valid for a regional request.	The customer submits a request for address classification with a regional address format.
264006	Hard	Invalid candidate list size.	The maximum candidate list size given by the customer is not a numeric value between 0 and 2147483647.
264007	Hard	Address classification is not allowed for the country requested.	The request contains address classification with a country/territory code that is not supported for classification.
264008	Hard	Country code and address format combination is not allowed.	Country/Territory code and address format combination is not allowed.
264027	Hard	Additional address fields are needed to perform the requested operation.	The Country/Territory Code is valid but the other fields are blank. Additional fields need to be provided in order to validate or classify the address.
9261000	Hard	Invalid XAV Request Document	XAV SOAP request in invalid.
9264028	Hard	Invalid or missing request option.	RequestOption value is empty or outside the range 1 to 3 or element not present in request.
9264029	Hard	Missing address key format.	AddressKeyFormat container is missing.
9264030	Hard	The state is not supported in the Customer Integration Environment.	

Address Validation Street Level API Supported Countries/Territories

UPS Country/Territory code abbreviations generally follow the ISO Standard 3166.

NOTE: Not all UPS services are available in every country or territory. Refer to the UPS Rate and Service Guide at UPS.com for more information on UPS services.

Country/Territory Name	**Country/Territory Code**	Residential / Commercial Classification	Street Level Validation
Aland Islands	AX	X	
Austria	AT	X	
Azores	A2	X	
Belgium	BE	X	
Belarus	BY	X	
Canada	CA	X	
Canary Islands	IC	X	
Ceuta	XC	X	
Czech Republic	CZ	X	
Denmark	DK	X	
England	EN	X	
Finland	FI	X	
France	FR	X	
Germany	DE	X	
Greece	GR	X	
Holland	HO	X	
Hungary	HU	X	
Ireland, Republic of	IE	X	
Italy	IT	X	
Jersey	JE	X	
Luxembourg	LU	X	
Madeira	M3	X	
Melila	XL	X	
Mexico	MX	X	
Netherlands	NL	X	
Northern Ireland	NB	X	
Norway	NO	X	
Poland	PL	X	
Portugal	PT	X	

Country/Territory Name	**Country/Territory Code**	Residential / Commercial Classification	Street Level Validation
Puerto Rico	PR	X	X
Romania	RO	X	
Russia	RU	X	
Scotland	SF	X	
Slovenia	SI	X	
Spain	ES	X	
Sweden	SE	X	
Switzerland	CH	X	
Turkey	TR	X	
Ukraine	UA	X	
United Kingdom	GB	X	
United States	US	X	X
Wales	WL	X	

