Rating Ground Freight Web Services Developers Guide

December 30, 2013

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1.1 Important Information

UPS Developer APIs

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

Key Legal Requirements for UPS Developer APIs

Permitted Territories

This document can only be used in the countries listed in Exhibit C of the UPS Technology Agreement or UPS Customer Technology Agreement.

Use

The application must not be designed to allow distribution of information received through the UPS Web Service 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).

Consent to Use of UPS Mark

- All screens or forms generated by your application including information received through the UPS Web Service 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 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 Web Service APIs. Your application must present all data within each field received through the UPS Web Service APIs without amendment, deletion or modification of any type.

1.2 Welcome to the Rating Ground Freight Developer's Guides

1.2.1 Release Features

Release	New Features
Jan 2014	No changes
July 2013	No changes

New error codes

Error Code	Severity	Description
9360079	Hard	UPS Freight® LTL Guaranteed A.M. service is not valid for the destination postal code you entered.
9360080	Hard	Shipment is not eligible for LTL guaranteed service.
9360081	Hard	Shipment is not eligible for UPS Freight® LTL Guaranteed A.M. service.
9360082	Hard	LTL guaranteed Service not available.
9368780	Hard	Invalid ship date. Ship date should not be in the past.
9368781	Hard	Invalid numbers of handling units. Should be between 1 and 9999.
9368782	Hard	Invalid request type. Valid values are L, F, B and P.
9368783	Hard	Invalid request party. Valid values are S, C and T.
9368784	Hard	At least one shipment is required.
9368785	Hard	Please contact UPS Freight Customer Service for Rates at 800-333-7400

9368786	Hard	Please contact UPS Freight Customer Service for Rates at 800-333-7400
9368787	Hard	Invalid Ship From Address.
9360083	Hard	Invalid destination postal code, please verify and resubmit.
9368788	Hard	Shipment weight must be less than 10,000 lbs
9368790	Hard	Weight unit of measure is invalid

1.2.2 How to Use this Guide

If you are an experienced developer, you can begin developing applications quickly after reviewing "Required Steps for Integrating."

If you would like a more step-by-step guide to developing and deploying the Developer APIs, "Planning Your Applications" provides advice and describes options for developing and deploying applications and web sites that use UPS Developer APIs.

The "UPS Developer API Technologies" section explains key technologies on which the Developer APIs rely. That section also includes hints for using those technologies in various software development environments.

If you would like to learn more about what the UPS API covered in this guide can do for your applications, refer to the section on understanding the UPS API Services in this guide.

A complete technical reference to the Developer API covered in this guide is found in the API Reference section with details for the programming interfaces.

Additional material, including reference tables and lists, may be found in the appendices.

1.3 Business Processes and Rules

- The Rating API cannot be used to access rates or data from proprietary rate basing systems or licensed products that are not the property of UPS. The Rating API may not be used by brokers or resellers of transportation services. The Shipping and Pickup APIs are the products of UPS and are available to all customers.
- Must be registered with a userid and password for both MYUPS and MYLTL in order to see Negotiated Rates.
- All shipping and billing locations must be included in the Ground Freight registration.
- Requests for utilizing the Rating API with data from proprietary rate basing systems or licensed products that are not the property of UPS can only be considered after approval from the owning authority. Upon application for access to the Rating API, UPS Freight

will request approval from the owning authority prior to completing the application request.

- The Rating API may only be used by brokers or resellers of transportation services with a current and active UPGF Master Transportation Agreement. The Shipping and Pickup APIs are the products of UPS and are available to all customers.
- To be granted production rights to the Ground Freight APIs please follow the steps in the Developer's Guides and return to ups.com to complete approval and certification.

1.4 Required Steps for Integrating WebServices

The required steps for integrating the UPS APIs are listed here for UPS XML Services.

UPS Web Services

Details for accessing UPS Developer API Web Services are defined within WebServices Definition Language (WSDL) files that are part of the UPS Developer Kit. Most modern development environments include support for automatically importing WSDL files and generating skeleton code to access the services. Although the specific details depend on the particular development environment, the general procedure is as follows.
1. Review the UPS Technology Agreement available at www.ups.com. This agreement requires that you follow certain procedures and practices in using UPS Developer API Web Services.
2. Import the WSDL files into the development APIs of choice. Depending on the specific API, this step will result in skeleton code (such as Java or C# classes) for accessing the Web Services
3. Add your functionality specific to your application and/or web site to the skeleton code.
4. Test your application and/or web site using the designated UPS staging environment.
5. If you are a UPS Ready developer, review your application with UPS.
6. Deploy your application for your customers.
7. Ensure the UPS Shipper Account number is added to the user's profile. This can be done at myups.com.

1.5 Planning Your Applications for WebServices

Planning is a key part of any successful development activity, and UPS WebServices applications are no exception. This section helps that planning by describing the important activities of any UPS WebServices application project. It provides an overview of the steps required to develop applications, and it describes key factors and choices necessary to deploy those applications.

1.5.1 Web Service Applications

Many different types of applications can take advantage of WebServices.Those application types include dedicated desktop applications, databases, web applications, and documents. The following figures illustrate some of the possibilities for applications using UPS

Developer APIs. The only essential requirement for all of these applications is that they must have access to the Internet.
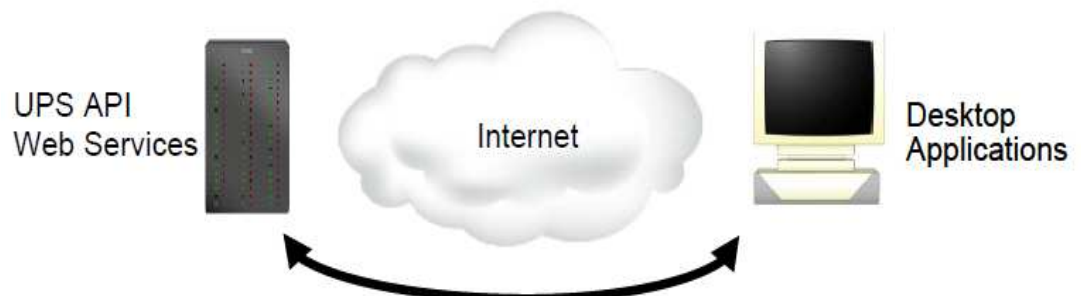
Figure 1: Dedicated applications that users run on their desktops can access UPS Web Services.
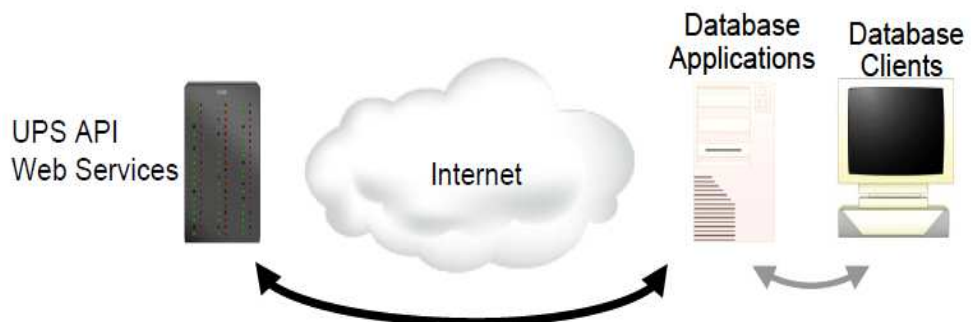
Figure 2: Database applications can access UPS Web Services and return information to their clients.
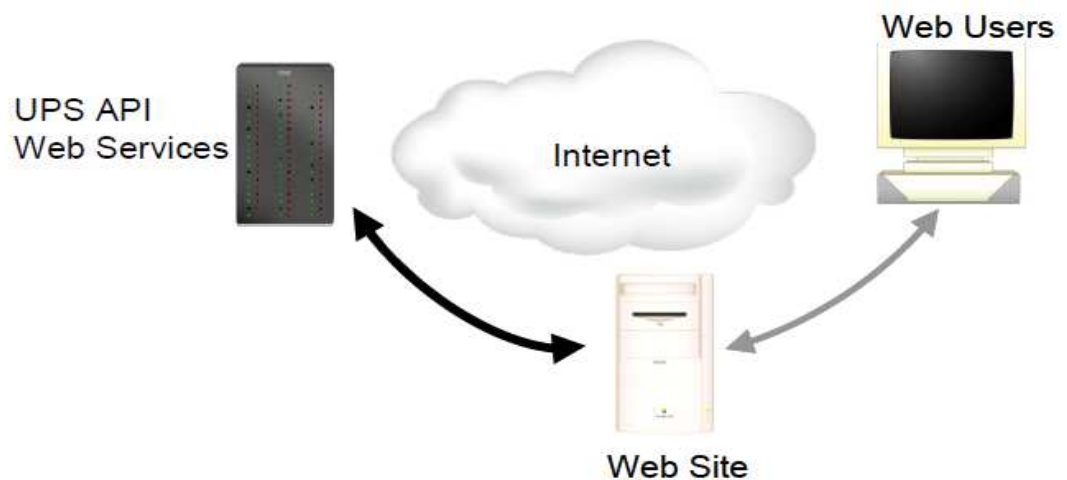
Figure 3: Web sites can access UPS Web Services and return information to users' web browsers.

Figure 4: Non-traditional applications such as Microsoft Office or Adobe Acrobat documents can use UPS Web Services to automatically update their content.

The UPS Developer APIs can be implemented withal of these types of applications and many others. Virtually any software that needs instant, up-todate access to UPS services can take advantage of UPS Developer APIs.

1.5.2 Licensing the UPS Developer API WebServices

As part of the UPS Technology Agreement, users of the APIs have certain obligations that are spelled out within the service agreement and its exhibits. Regardless of the manner in which the UPS Developer API WebServices are integrated into your specific e-commerce web site or enterprise application, you must adhere to appropriate usage requirements.

1.5.2.1 Branding Requirements

UPS should receive attribution and branding in all applications (including websites and software applications) that use the Developer API Web Services. No End User, Third Party Developer or Access User should be permitted to use the Developer API Web Services without providing branded recognition to UPS. Your use of the

UPS logo can in no way imply endorsement, sponsorship or certification of your e-commerce web site or enterprise application by UPS. You are not allowed to use or alter the information returned by the UPS Developer API Web Service in a way that misrepresents the information or the functionality of the web service.

1.5.2.2 UPS Review of Applications

If you distribute your application as software, please provide UPS access to, or a copy of, your application (and/or any updates). If you host your application for the benefit of others, please provide the Uniform Resource Locator (URL) for each location of your application. If you build your own application, UPS might request the URL in order to review your application. UPS may review each application for compliance with the UPS Technology Agreement. See the Customer Integration Environment chapter for more information on the certification process.

1.5.3 Developing Web Services Clients

The UPS Developer API Web Services rely on standard Web Services technology that is supported by a wide variety of software development platforms. Those platforms vary from pure open source environments such as Apache Axis (see Figure 5) to commercial products from vendors such as Microsoft (Figure 6). Other development tools that support Web Services development include BEA WebLogic, Sun's NetBeans, and products from both major systems vendors including IBM and Hewlett-Packard and smaller, specialized vendors such as Altova, Cape Clear, and Stylus Studio. Many nontraditional environments such as Microsoft Office and Adobe Acrobat also include support for Web Services.
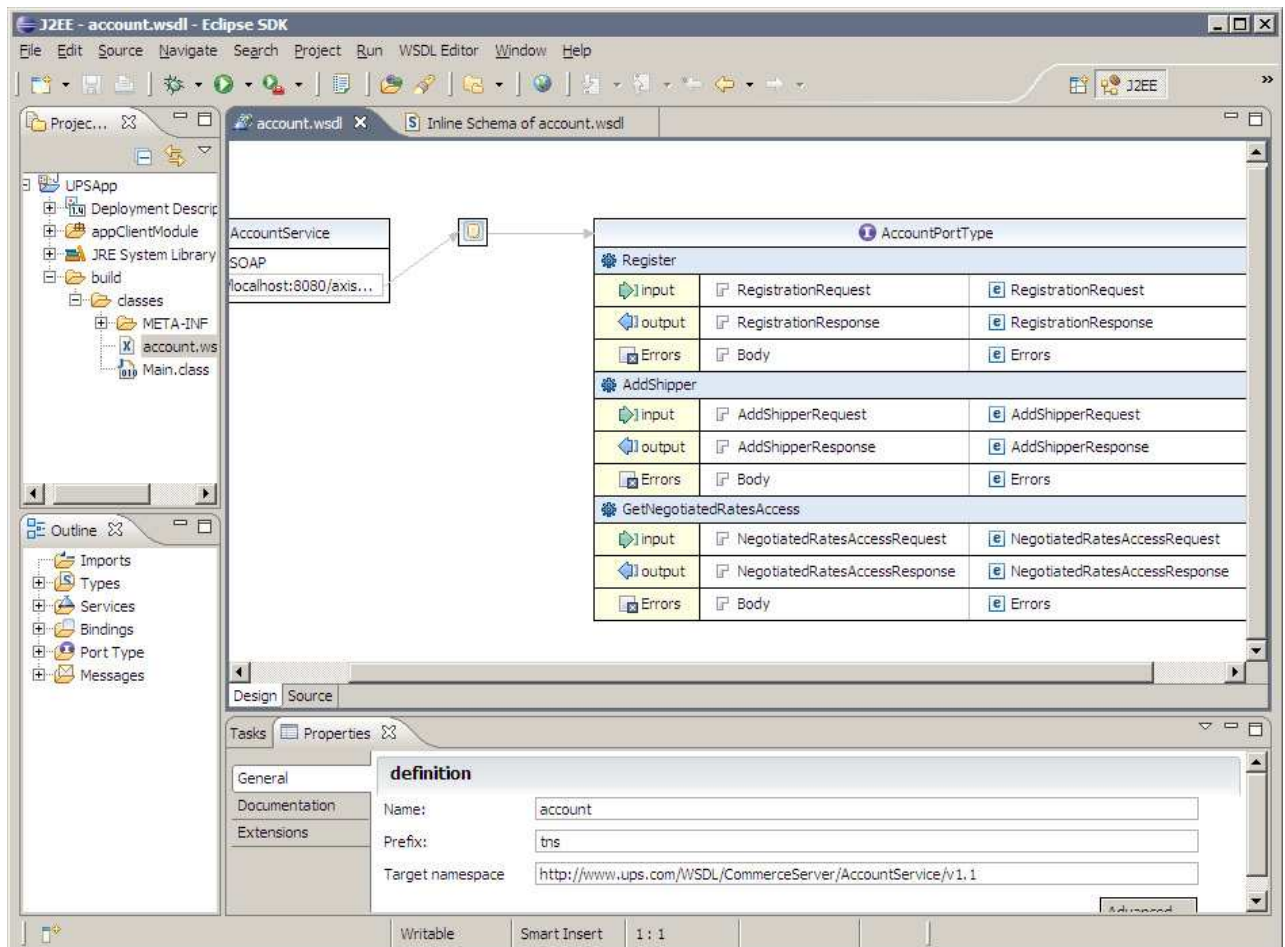
Figure 5: The Eclipse Web Tools Platform (WTP) project provides support for Web Services in a Java development environment.
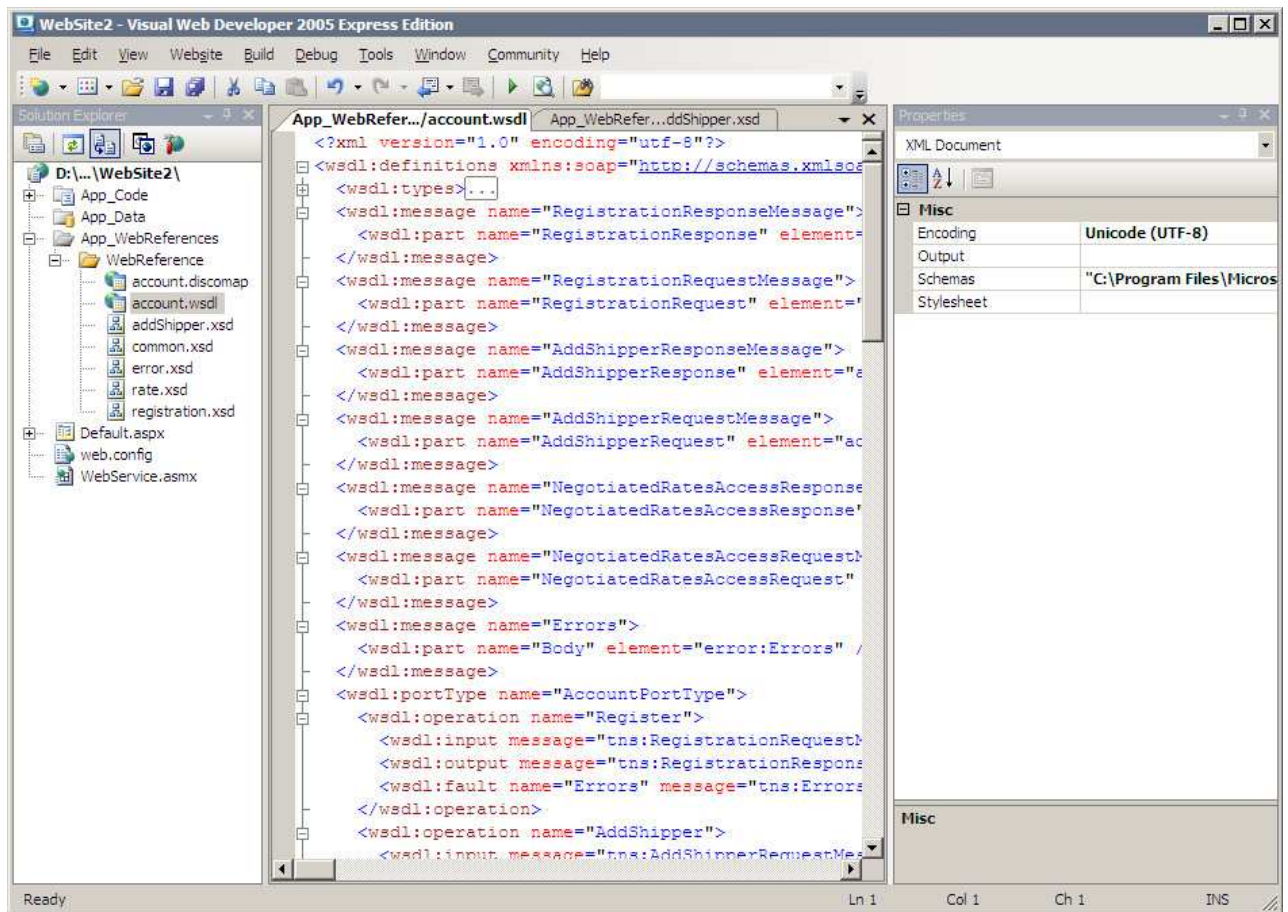
Figure 6: Microsoft's Web Visual Developer 2009 can create client applications for Web Services.

With any particular development environment, key parts of the development process will be similar or the same. Web Services development relies on a technology known as Web Services Definition Language (WSDL). This technology is a formal language based on the Extensible Markup Language (XML). WSDL precisely and completely describes Web Services, and standard Web Services documents themselves by "publishing" one or more WSDL files. The UPS Developer APIs support three different Web Services, each of which it documents in a separate WSDL file. These WSDL files are included in the UPS Developer Kits, and can be imported directly into a software development environment. Note, though, that the default behavior of some tools is to retrieve WSDLs from a central repository accessible on the Internet, most often the Universal Description, Discovery and Integration (UDDI) at http://uddi.xml.org/ . UPS does not publish its WSDLs through these repositories. As a result, the development tool should be directed to import the WSDL locally rather than through a public directory.

1.5.4 Getting Technical Support

Technical Support (U.S.)

There are four channels for obtaining support for the UPS Developer Kit (UDK) APIs all of which are accessed through the **UPS Developer Resource Center** at the following link:

http://www.ups.com/content/us/en/resources/techsupport/developercenter.html?WT.svl=SubNav

Or by following these steps:

1. Go to www.UPS.com.
2. Mouse over the Support tab and select Technology Support
3. In the left navigation panel of the page select the link "Developer Resource Center".

- Email Technical Support – available in the right hand column on the **UPS Developer Resource Center** web page. This is *the* support channel for technical support and questions regarding API integration. It is accessed by logging in to myUPS and attaching your XML Request/Response files and any other pertinent information about your integration [please see Appendix A for detailed instructions and screen shots]. UPS Email Technical Support can only support the XML Request/Response pair. They cannot consult customers and developers on how to integrate the XML into their internal or purchased software.

- UPS Developer Kit Community – available in the right hand column of the **UPS Developer Resource Center** web page. This is a community forum for developers to answer one another's questions and share information therefore the response times may be slower. If you have an immediate need for technical support contact UPS Email Tech Support above and they will respond within 4 business hours (see hours below). The remainder of the site contains online versions of all API developer guides and FAQs.

- UPS Developer Kit Knowledge Base – available in the right hand column of the **UPS Developer Resource Center** web page. This is a self-service support .pdf document that can be opened or downloaded. It contains over 240 frequently asked questions about every mode and service supported by the UDK APIs. It's also available in an online version at the UPS Developer Kit Community.

- General Question Phone Support (U.S. only) – available in the right hand column of the **UPS Developer Resource Center** web page. Phone support is the *least comprehensive* support mechanism for the developer. This channel of support addresses questions about the user interface at ups.com and how to gain access to the APIs and navigate the Access Key request process. They do not provide technical support for XML Request/Response issues and questions. Those types of questions must go through Email Technical Support.

Getting Started with Email Technical Support

1. Go to ups.com and log in to myUPS.
2. Hover over the "Support" tab and select "Technology Support".
3. On the Technology Support page select the Developer Resource Center link from the left navigation.
4. On the Developer Resource Center page select the "Email UPS" link in the right hand column.
5. Enter all relevant information including name, enter email address, select Support Category "Technical Support", and select Support Topic "Developer Resource" [which identifies UPS Developer Kit APIs tech support]. Click next.
6. Scroll down to the middle of the email form and complete the fields "Your Telephone", "Stage of Development", "Developer Resource" which is which API you are integrating, "Attach File" where you attach your XML Request/Response Pair, and any pertinent description of the issues in the "What is your question or comment?" field.
7. Select "Send Email" button.
8. A response is provided that explains someone from UPS will contact you. Please base the response time on the detailed information listed below about tech support hours of operation and response times.

(For screen shots of this process please see Appendix A at the end of this guide.)

1st Level Email Technical Support Business Hours and Response Times:

a. Hours of operation for 1st Level Email Tech Support: 7:30am to 9pm EST Monday through Friday and 9am to 6pm EST Saturday and Sunday. The desk is closed on UPS Holidays.
b. 1st Level Email Tech Support email response time is planned to be within 4 business hours of the initial request. Business hours are defined as hours of operation of the tech support desks when service technicians are working.

This means if you submit an email tech support request after business hours the 4 hour response clock will not begin until the following morning at 7:30am EST M-F and 9am EST Saturday and Sunday (UPS Holidays excluded).

PLEASE NOTE:
If you are sent an email from 1st Level Email Tech Support stating your case log # has been escalated, the 24 hour planned response clock starts from the time you receive the email from 1st Level Email Tech Support (provided the Escalation Support desk is open). If not, then the clock will begin when the Escalation Support desk opens.

Escalation Support Business Hours and Response Times:

c. Hours of operation: 8am to 8pm EST Monday through Friday. The desk is closed weekends and on UPS Holidays.
d. Escalation Support desk response time is planned to be within 24 hours during normal hours of operation.

This means if your case log is escalated at 8:30pm on Friday, you will not receive an email response from the Escalation Support desk at the latest until Monday at 8pm (Saturdays, Sundays, and Holidays are excluded). Response times are from the time the case log was escalated plus 24 hours which do NOT include the weekends or UPS holidays.

There may be some scenarios when the tech support team is meeting planned response times but it appears as if it's taking too long. Below is a brief example where the planned response time is met but nothing happened over the weekend.

Example –

Customer submits tech support email at 7am on Friday. The clock for 4 hour response will not begin until 7:30am EST for the 1st level tech support team. They respond within 4 hours at 11:30am EST that same Friday stating the case log has been escalated and providing the case log #.

The escalation desk receives the case log at 11:30am EST. They begin work on evaluating the problem and have planned to either update the customer within 24 hours or solve the problem within 24 hours. Either way, the customer will hear from the escalation desk within 24 hours with some type of disposition on their case log. The escalation desk clock begins when they receive a case log from 1st level tech support during business hours, M-F 8am to 8pm EST. In this case, the clock begins at 11:30am EST if the escalation desk does not have an answer by 8pm EST on Friday the desk has until 11:30am EST the following Monday to either provide a resolution or a status update to the customer on the case log. The Escalation Desk continues work on the case log on Monday beginning at 8am EST. They receive resolution at 1030am EST Monday and send the resolution to the customer. The Escalation Desk has met their 24 hour planned response time.

Technical Support (Non-U.S.)

For Non-US countries supported by the UPS Developer Kit follow the instructions in Appendix A. However, to get to the UPS Developer Resource Center pages please complete the following steps.

1. Log in to myUPS for the country from which you downloaded the developer guides.
2. Select the Support tab and in the drop-down select Technology Support.
3. Select from the left navigation the "UPS Developer Resource Center" link.
4. Continue with email form as described above.

Please also note that email response times for non-US requests vary. Translations and escalations may delay the process. If a quicker response is required, please access the US web site directly and complete an email technical support form from the US web site.

1.5.5 Keeping Up-to-Date

As UPS adds new services and features, Developer APIs will evolve, offering more features and service benefits. Once you register to use UPS Developer APIs, UPS will notify you by e-mail of updates and changes to the Developer APIs. You can return to the UPS Support area of ups.com for the latest updated information about UPS Developer APIs.

- **It is essential that an accurate e-mail address for your company be maintained.**

- In addition, UPS recommends that you complete the secondary contact information to ensure that your organization receives the latest updates.

- You should update your profile when changes or responsibilities for the UPS Developer APIs change within your company.

To change your profile information, go to UPS.com and log in using your MyUPS.com User ID.

1.6 UPS Developer API Technologies for WebServices

Web Services are powerful technologies that let business applications in different enterprises communicate directly with each other. For example, a software application program that processes orders for a mail order retailer can use Web Services to communicate with software applications at UPS that automatically schedule the shipment for new orders.

Web Services are governed by standards bodies which include, but are not limited to, W3C and OASIS. They are not limited to particular vendors and are available to any software application. Applications created for one environment (such as Microsoft Windows) can seamlessly communicate with applications in a different environment (such as Linux) without worrying about incompatibility of the different environments.

Web Services are supported by a wide variety of software development environments, so virtually all software developers can easily add Web Services features to their applications.

In effect, Web Services create a World Wide Web, but for computer applications instead of people. With Web Services, communications between enterprises happens rapidly, efficiently, and reliably.

Two technologies make up the core of Web Services—the Extensible Markup Language (XML) and the Simple Object Access Protocol (SOAP). A third technology, Web Services Definition Language (WSDL) uses XML and SOAP to define specific Web Services.

This section concludes by describing security and error reporting for Web Services.

1.6.1 Extensible Markup Language (XML)

The Extensible Markup Language (XML) is a standard governed by the World Wide Web Consortium, the governing body for web standards and guidelines. XML provides a way to identify the structure of content within a document. Figure 1 shows how a simple XML document could describe a book.

As the figure illustrates, XML distinguishes different parts of a document with labels known as tags. Tags in the example include <book>, <title>, <author>, <firstname>, etc. In this example the publisher for the book is John Wiley and Sons.

```
<?xml version="1.0" encoding="UTF-8" ?>
<book>
    <title>
        HTTP Essentials: Protocols for Secure, Scaleable Web Sites
    </title>
    <author>
        <firstname>
            Stephen
        </firstname>
        <lastname>
            Thomas
        </lastname>
    </author>
    <publisher>
        John Wiley and Sons
    </publisher>
    <year>
        2001
    </year>
    <isbn>
        0-471-398233
```

Figure 7: XML identifies the structure of documents, as in this document describing a book.

A great deal of information on XML is available on the Internet. A good starting point is the World Wide Web Consortium's main page on XML at http://www.w3.org/XML/.

1.6.2 Simple Object Access Protocol (SOAP)

While XML defines the information that Web Services exchange, the Simple Object Access Protocol (SOAP) defines the methods that Web Services use to transfer those documents. The SOAP standard defines several different approaches for sending XML documents, but most Web Services (including those from UPS) rely on a single approach. That method uses the Hypertext Transfer Protocol (HTTP) to send a message from a Web Services client to a server. The server replies in the HTTP response. Figure 2 shows an example of a SOAP header portion of a web services message.

SOAP, like XML, is governed by the World Wide Web Consortium. More information can be found on the Internet at the W3C's XML Protocol Working Group's page, located at http://www.w3.org/standards/xml/

This security header block provides a mechanism for attaching security-related information targeted at a specific recipient in the form of a SOAP actor/role. UPSSecurity is a container element which provides the user access verification for the API Web Service.

```
            <envr:Envelope xmlns:auth="http://www.ups.com/schema/xpci/1.0/auth"
            xmlns:upss="http://www.ups.com/XMLSchema/XOLTWS/UPSS/v1.0"
            xmlns:envr="http://schemas.xmlsoap.org/soap/envelope/"
            xmlns:xsd="http://www.w3.org/2001/XMLSchema"
            xmlns:common="http://www.ups.com/XMLSchema/XOLTWS/Common/v1.0
            " xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
            xmlns:wsf="http://www.ups.com/schema/wsf">
        <envr:Header>
        <upss:UPSSecurity>
        <upss:UsernameToken>
        <upss:Username></upss:Username>
        <upss:Password></upss:Password>
        </upss:UsernameToken>
        <upss:ServiceAccessToken>
        <upss:AccessLicenseNumber></upss:AccessLicenseNumber>
        </upss:ServiceAccessToken>
        </upss:UPSSecurity>
        </env:Body>
          </env:Envelope>
```

Figure 2: A sample of the UPSSecurity header portion of a web services message which structures its content as an XML document.

1.6.3 Web Services Definition Language (WSDL)

XML and SOAP are general technologies used widely for many different purposes. The technology that ties them specifically to Web Services is the Web Services Definition Language (WSDL). Enterprises that make Web Services available to other enterprises describe those services using WSDL. In effect, WSDL acts a service contract: it defines exactly what services the enterprise offers and how clients should access those services.

WSDL documents are XML documents which conform to a specific structure. Figure 3 shows a sample WSDL document. The current version of the specification for WSDL (version 1.1) is available as a draft submitted to the World Wide Web Consortium. It can be found on their web site at http://www.w3.org/TR/wsdl.

Although WSDL documents, like all XML documents, are ultimately textual information, they are not primarily intended for humans to read. Instead, WSDL documents are designed to be read by software applications and application development tools. An application tool such as Microsoft's Visual Studio can import a WSDL document and automatically generate software classes that access the Web Services the WSDL defines. Developers then add these classes to their applications, giving the programs the ability to use Web Services.

Some WSDL documents are published in special directories such as the Universal Description, Discovery, and Integration (UDDI) registry on the Internet. UPS does not

currently publish WSDL documents for UPS Developer APIs in such directories. Instead, UPS delivers the WSDL documents as part of the software development kit.

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<wsdl:definitions name="Track" xmlns="http://schemas.xmlsoap.org/wsdl/"
    xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/"
    xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
    xmlns:http="http://schemas.xmlsoap.org/wsdl/http/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:mime="http://schemas.xmlsoap.org/wsdl/mime/"
    xmlns:error="http://www.ups.com/schema/xpci/1.0/error"
    xmlns:common="http://www.ups.com/XMLSchema/XOLTWS/Common/v1.0"
    xmlns:trk="http://www.ups.com/XMLSchema/XOLTWS/Track/v1.0"
    xmlns:tns="http://www.ups.com/XMLSchema/XOLTWS/Track/v1.0/local"
    targetNamespace="http://www.ups.com/XMLSchema/XOLTWS/Track/v1.0/local">
    <xsd:import namespace="http://www.ups.com/XMLSchema/XOLTWS/Common/v1.0"
        schemaLocation="common.xsd" />
    <xsd:import namespace="http://www.ups.com/XMLSchema/XOLTWS/Error/v1.0"
        schemaLocation="error2.xsd" />
    <xsd:import namespace="http://www.ups.com/XMLSchema/XOLTWS/Track/v1.0"
        schemaLocation="track.xsd" />
    <wsdl:types />
    <wsdl:message name="TrackInput">
        <wsdl:part name="Body" element="trk:TrackRequest" />
    </wsdl:message>
    <wsdl:message name="TrackOutput">
        <wsdl:part name="Body" element="trk:TrackResponse" />
    </wsdl:message>
    <wsdl:message name="TrackError">
        <wsdl:part name="TrackError" element="error:Errors" />
    </wsdl:message>
    <wsdl:portType name="TrackPortType">
        <wsdl:operation name="Track">
      <wsdl:input name="TrackRequest" message="tns:TrackInput" />
      <wsdl:output name="TrackResponse" message="tns:TrackOutput" />
       <wsdl:fault name="TrackError" message="tns:TrackError" />
        </wsdl:operation>
    </wsdl:portType>
    <wsdl:binding name="TrackBinding" type="tns:TrackPortType">
        <soap:binding transport="http://schemas.xmlsoap.org/soap/http" />
        <wsdl:operation name="Track">
      <soap:operation soapAction="http://www.wwwcie.ups.com/webservices/TrackBinding"
    style="document" />
     <wsdl:input name="TrackRequest">
                <soap:body parts="Body" use="literal" />
      </wsdl:input>
      <wsdl:output name="TrackResponse">
                <soap:body parts="Body" use="literal" />
      </wsdl:output>
      <wsdl:fault name="TrackError">
                <soap:fault name="TrackError" use="literal" />
      </wsdl:fault>
        </wsdl:operation>
```

```
        </wsdl:binding>
        <wsdl:service name="Track">
            <wsdl:port name="TrackPortTypePort" binding="tns:TrackBinding">
         <soap:address location="https://www.wwwcie.ups.com/webservices/Track" />
            </wsdl:port>
        </wsdl:service>
         </wsdl:definitions>
```

Figure 3: WSDL documents are specialized XML documents that define Web Services. Example ONLY.

1.6.4 Securing Web Services

Organizations can offer Web Services using the public Internet, so Web Services standards provide many options for securing those services. Security options can ensure that only authorized parties are able to access Web Services, and they can protect confidential information that may be exchanged as part of Web Services communications. Because the breadth and depth of security options for Web Services are extensive, this subsection only describes security features relevant to UPS Developer APIs.

The most basic security services protect confidential information from eavesdropping by other devices on a network. To provide that protection, the UPS Developer APIs rely on the Secure Sockets Layer 3 (SSL3) protocol. When two systems communicate using SSL, the protocol creates a secure channel between them, and it encrypts all information that they exchange using this channel. The SSL protocol that UPS Developer APIs use is the same protocol used to secure millions of on-line purchases on the Web.
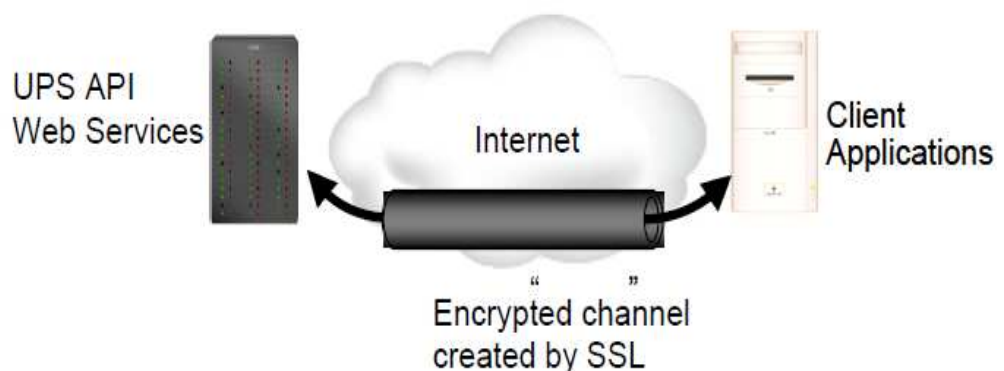
Figure 4: SSL creates a secure channel across a network and protects confidential communications using that channel.

In addition to protecting confidential information, the UPS Developer APIs also ensure that client applications are authorized to access UPS customer information. To gain that

authorization, client applications must supply a username, password, and license key in all requests, as the example in Figure 5 shows. UPS corporate applications verify this information before returning sensitive information for the client applications.

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<env:Envelope xmlns:env="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
    instance" xmlns:wsse="http://schemas.xmlsoap.org/ws/2002/04/secext"
    xmlns:upsa="http://www.ups.com/XMLschema/XOLTWS/upssa/v1.0
     xmlns:common="http://www.ups.com/XMLschema/XOLTWS/Common/v1.0
     xmlns:upss="http://www.ups.com/XMLschema/XOLTWS/UPSS/v1.0"
     xmlns:wsf="http://www.ups.com/schema/wsf">
    <env:Header>
        < upss:UPSSecurity>
        <upss:UsernameToken >
            < upss:Username></upss:Username >
            < upss:Password></upss:Password >
        </upss:UsernameToken >
        <upss:ServiceAccessToken >
            <upss:AccessLicenseNumber></upsss:AccessLicenseNumber>
        </upss:ServiceAccessToken >
        </upss:UPSSecurity>
    </env:Header>
    <env:Body>
        <!-- the content of the message goes here -->
    </env:Body>
    </env:Envelope>
```

Figure 5: UPS Web Service requests must include a Username, Password, and AccessLicense.

Included in the WSDL files that document the specific Web Services are the appropriate messages that client applications can use to pass the security credentials as SOAP header elements. Development tools can import the WSDL document and automatically format the request messages appropriately.

SSL Certificate Changes and Renewals:
UPS has migrated from Unchained to Chained Digital Certificates to improve security for UPS servers. Chained Digital Certificates requires the use of SSL 3.0. Our migration from SSL 2.0 to 3.0 was completed between 6/15/2008 and 3/3/2009.

Renewal of UPS.com SSL Certificates are coordinated by UPS Security Services every two years. There is a concern that some UPS Developer Kit users who store UPS Certificates internally may have issues when SSL Certificates are renewed. It is recommended that UPS Developer Kit users not store UPS Certificates internally; however if a customer finds this necessary due to specific needs within their company, they may need to add renewed certificates to the their trust store.

There are a number of ways one can add a certificate to the application. One way to obtain the proper certificate is by placing a UPS Developer Kit URL,

https://onlinetools.ups.com/ups.app/xml/Rate, for example, in a browser, connect to the URL, and double-click on the "lock" on the bottom right of the window (using Internet Explorer 7). After that the steps can be followed to install the certificate.

Also, in the event that the aforementioned solution does not work successfully for you we have been provided with the following certificate which should allow you to connect once it has been successfully added. You should be able to paste the following string into Notepad and save the file locally. Then, it will be necessary to have the client application reference the file so that it will know that this is the trusted certificate for making a connection to UPS.

This is the Verisign Class 3 Secure Server CA - G2 certificate that the client must trust:

-----BEGIN CERTIFICATE-----

MIIGLDCCBZWgAwIBAgIQbk/6s8XmacTRZ8mSq+hYxDANBgkqhkiG9w0BAQUFADCB
wTELMAkGA1UEBhMCVVMxFzAVBgNVBAoTDlZlcmlTaWduLCBJbmMuMTwwOgYDVQQL
EzNDbGFzcyAzIFB1YmxpYyBQcmltYXJ5IENlcnRpZmljYXRpb24gQXV0aG9yaXR5
IC0gRzIxOjA4BgNVBAsTMShjKSAxOTk4IFZlcmlTaWduLCBJbmMuIC0gRm9yIGF1
dGhvcml6ZWQgdXNlIG9ubHkxHzAdBgNVBAsTFlZlcmlTaWduIFRydXN0IE5ldHdv
cmswHhcNMDkwMzI1MDAwMDAwWhcNMTkwMzI0MjM1OTU5WjCBtTELMAkGA1UEBh
MC
VVMxFzAVBgNVBAoTDlZlcmlTaWduLCBJbmMuMR8wHQYDVQQLExZWZXJpU2lnbiBU
cnVzdCBOZXR3b3JrMTswOQYDVQQLEzJUZXJtcyBvZiB1c2UgYXQgaHR0cHM6Ly93
d3cudmVyaXNpZ24uY29tL3JwYSAoYykwOTEvMC0GA1UEAxMmVmVyaVNpZ24gQ2xh
c3MgMyBTZWN1cmUgU2VydmVyIENBIC0gRzIwggEiMA0GCSqGSIb3DQEBAQUAA4IB
DwAwggEKAoIBAQDUVo9XOzcopkBj0pXVBXTatRlqltZxVy/iwDSMoJWzjOE3JPMu
7UNFBY6J1/raSrX4Po1Ox/lJUEU3QJ90qqBRVWHxYISJpZ6AjS+wIapFgsTPtBR/
RxUgKIKwaBLArlwH1/ZZzMtiVlxNSf8miKtUUTovStoOmOKJcrn892g8xB85essX
gfMMrQ/cYWIbEAsEHikYcV5iy0PevjG6cQIZTiapUdqMZGkD3pz9ff17Ybz8hHyI
XLTDe+1fK0YS8f0AAZqLW+mjBS6PLlve8xt4+GaRCMBeztWwNsrUqHugffkwer/4
3RlRKyC6/qfPoU6wZ/WAqiuDLtKOVImOHikLAgMBAAGjggKpMIICpTA0BggrBgEF
BQcBAQQoMCYwJAYIKwYBBQUHMAGGGGh0dHA6Ly9vY3NwLnZlcmlzaWduLmNvbTAS
BgNVHRMBAf8ECDAGAQH/AgEAMHAGA1UdIARpMGcwZQYLYIZIAYb4RQEHFwMwVjAo
BggrBgEFBQcCARYcaHR0cHM6Ly93d3cudmVyaXNpZ24uY29tL2NwczAqBggrBgEF
BQcCAjAeGhxodHRwczovL3d3dy52ZXJpc2lnbi5jb20vcnBhMDQGA1UdHwQtMCsw
KaAnoCWGI2h0dHA6Ly9jcmwudmVyaXNpZ24uY29tL3BjYTMtZzIuY3JsMA4GA1Ud
DwEB/wQEAwIBBjBtBggrBgEFBQcBDARhMF+hXaBbMFkwVzBVFglpbWFnZS9naWYw
ITAfMAcGBSsOAwIaBBSP5dMahqyNjmvDz4Bq1EgYLHsZLjAlFiNodHRwOi8vbG9n
by52ZXJpc2lnbi5jb20vdnNsb2dvLmdpZjApBgNVHREEIjAgpB4wHDEaMBgGA1UE
AxMRQ2xhc3MzQ0EyMDQ4LTEtNTIwHQYDVR0OBBYEFKXvCxHOwEEDo0plkEiyHOBX
LX1HMIHnBgNVHSMEgd8wgdyhgcekgcQwgcExCzAJBgNVBAYTAlVTMRcwFQYDVQQK
Ew5WZXJpU2lnbiwgSW5jLjE8MDoGA1UECxMzQ2xhc3MgMyBQdWJsaWMgUHJpbWFy
eSBDZXJ0aWZpY2F0aW9uIEF1dGhvcml0eSAtIEcyMTowOAYDVQQLEzEoYykgMTk5
OCBWZXJpU2lnbiwgSW5jLiAtIEZvciBhdXRob3JpemVkIHVzZSBvbmx5MR8wHQYD
VQQLExZWZXJpU2lnbiBUcnVzdCBOZXR3b3JrghB92f4Hz6getxB5Z/uniTTGMA0G

CSqGSIb3DQEBBQUAA4GBAGN0Lz1Tqi+X7CYRZhr+8d5BJxnSf9jBHPniOFY6H5Cu
OcUgdav4bC1nHynCIdcUiGNLsJsnY5H48KMBJLb7j+M9AgtvVP7UzNvWhb98lR5e
YhHB2QmcQrmy1KotmDojYMyimvFu6M+O0Ro8XhnF15s1sAIjJOUFuNWI4+D6ufRf
-----END CERTIFICATE-----

Finally, for more information on installing the latest VeriSign CA Root Certificate, please click on the links below:

https://knowledge.verisign.com/support/ssl-certificates-support/index?page=content&id=SO7154&actp=search&viewlocale=en_US&searchid=1308235124970
https://knowledge.verisign.com/support/ssl-certificates-support/index?page=content&actp=CROSSLINK&id=AR1553
https://knowledge.verisign.com/support/ssl-certificates-support/index?page=content&id=SO4785&actp=LIST

1.6.5 Indicating Errors in Client Application Requests

When an error occurs in a client application's request, UPS Developer APIs report that error using the standard SOAP message format. That message format defines a specific message type, known as a *fault*, for error reporting. The essential components of a fault message are the faultcode, faultstring, faultactor, and detail.

The faultcode element can contain one of four values to indicate the type of error that the UPS Developer APIs encountered.

- VersionMismatch: The SOAP message that the client application sent used a version of the SOAP protocol that the UPS Developer APIs could not understand.

- MustUnderstand: The SOAP message that the client application sent included an element in the header that the UPS Developer APIs could not understand.

- Client: The request that the client application sent was not valid.

- Server: Although the client application's request did not have any errors itself, the UPS Developer APIs encountered an error when trying to process it.

The faultstring element contains a textual description of the error.

The faultactor element can indicate which system detected or generated the error. If present, it contains a Uniform Resource Identifier (URI) for that system.

The detail element contains more information about the error. It includes a specific error code and a textual description for that code.

Note: UPS encourages application developers to display the description of any unexpected errors or warnings to the user. This information can be invaluable when diagnosing problems, and will normally be required by UPS Technical Support.

It will be extremely helpful if the developer implements and maintains logs of all transactions and activity, including errors or warnings.

1.7 Understanding Freight Rate Web Services

With its Freight Web Services, UPS combines a range of freight delivery services with the flexibility and convenience of the Internet. With these services, you can develop custom applications to determine rates available for freight shipments.

1.7.1 Finding the Rate for Freight Shipments

The Freight Rate Web Service gives client applications a way to determine the rates available for a freight shipment. To use this service, an application sends UPS details about the shipment such as its origin, destination, and contents as well as the specific UPS service or services desired. UPS returns rate information to the client application.
To view negotiated rates for Ground Freight or Ground (Freight Pricing) rates please contact your Account Executive.
NOTICE - The Rating Tool cannot be used to access rates or data from proprietary rate basing systems or licensed products. The Rating Tool may not be used by brokers or resellers of transportation services. The Shipping and Pickup Tools are the products of UPS and are available to all customers.

1.8 The Freight Rate Web Services Reference

Overview

Access the Service at: https://onlinetools.ups.com/webservices/FreightRate
Service Operation: GetRate

GetRate 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/FreightRateBinding

1.8.1 Freight Rate Web Service Schema

Freight Rate Web Service

Input: FreightRateRequest

Note: The "Required" Column has four potential values:
Yes: *Always* required
No: *Always* optional
Yes*: *Conditionally* required
Cond: Conditional

Output: FreightRateResponse

Note: The "Required" Column has four potential values:
Yes: *Always* required
No: *Always* optional
Yes*: *Conditionally* required
Cond: Conditional

Name	XPath	Required	Max Allowed	Type	Length	Description	Validation Rules
FreightRateRequest	/FreightRateRequest	Yes	One	Container	N/A	N/A	
Request	/FreightRateRequest/Request	Yes	One	Container	N/A	Freight Rate Request Container.	
RequestOption	/FreightRateRequest/Request/RequestOption	No	Many	String	1...15	Valid Value: 1 = Ground (default) 2 = Air	
TransactionReference	/FreightRateRequest/Request/TransactionReference	No	One	Container	N/A	TransactionReference identifies transactions between client and server.	
CustomerContext	/FreightRateRequest/Request/TransactionReference/CustomerContext	No	One	String	1...512	The client uses CustomerContext to synchronize request/response pairs. The client establishes CustomerContext, which can contain any information you want, as along as it is valid XML; it is echoed back by the server.	
ShipFrom	/FreightRateRequest/ShipFrom	Yes	One	Container	N/A	ShipFrom Container.	

Name	XPath	Required	Max Allowed	Type	Length	Description	Validation Rules
Name	/FreightRateRequest/ShipFrom/Name	No	One	String	35	The ship from locations name or company name.	
Address	/FreightRateRequest/ShipFrom/Address	Yes	One	Container	N/A	Address Container.	
AddressLine	/FreightRateRequest/ShipFrom/Address/AddressLine	No	Three	String	35	The Ship from street address.	
City	/FreightRateRequest/ShipFrom/Address/City	No	One	String	30	The Ship from city.	
StateProvinceCode	/FreightRateRequest/ShipFrom/Address/StateProvinceCode	Cond	One	String	5	The Ship from locations state or province code.	
Town	/FreightRateRequest/ShipFrom/Address/Town	No	One	String	30	The ship from locations town code.	
PostalCode	/FreightRateRequest/ShipFrom/Address/PostalCode	Cond	One	String	10	The ship from locations postal code.	

Name	XPath	Required	Max Allowed	Type	Length	Description	Validation Rules
CountryCode	/FreightRateRequest/ShipFrom/Address/CountryCode	Yes	One	String	2	The ship from locations country code.	
AttentionName	/FreightRateRequest/ShipFrom/AttentionName	No	One	String	35	Contact name at the ship from location.	
TariffPoint	/FreightRateRequest/ShipFrom/TariffPoint	No	One	String	3	Airport code for the ship from location. Used for hold at airport.	Air freight only.
ShipTo	/FreightRateRequest/ShipTo	Yes	One	Container	N/A	ShipTo Container.	
Name	/FreightRateRequest/ShipTo/Name	No	One	String	35	Consignees company name.	
Address	/FreightRateRequest/ShipTo/Address	Yes	One	Container	N/A	Address Container.	
AddressLine	/FreightRateRequest/ShipTo/Address/AddressLine	No	Three	String	35	The Ship from street address.	

Name	XPath	Required	Max Allowed	Type	Length	Description	Validation Rules
City	/FreightRateRequest/ShipTo/Address/City	No	One	String	30	Consignee's city.	
StateProvinceCode	/FreightRateRequest/ShipTo/Address/StateProvinceCode	Cond	One	String	5	Consignee's state or province code.	
Town	/FreightRateRequest/ShipTo/Address/Town	No	One	String	30	Consignee's town code.	
PostalCode	/FreightRateRequest/ShipTo/Address/PostalCode	Cond	One	String	10	Consignee's postal code.	
CountryCode	/FreightRateRequest/ShipTo/Address/CountryCode	Yes	One	String	2	Consignee's country code.	
AttentionName	/FreightRateRequest/ShipTo/AttentionName	No	One	String	35	Contact name at the consignee's location.	
TariffPoint	/FreightRateRequest/ShipTo/TariffPoint	No	One	String	3	Airport code for the ship to location. Used for hold at airport.	Air freight only.

Name	XPath	Required	Max Allowed	Type	Length	Description	Validation Rules
PaymentInformation	/FreightRateRequest/PaymentInformation	Yes	One	Container	N/A	Payment Information Container.	
Payer	/FreightRateRequest/PaymentInformation/Payer	Yes	One	Container	N/A	Payer Container.	
Name	/FreightRateRequest/PaymentInformation/Payer/Name	Yes	One	String	35	Payer's company name	
Address	/FreightRateRequest/PaymentInformation/Payer/Address	Yes	One	Container	N/A	Address Container.	
AddressLine	/FreightRateRequest/PaymentInformation/Payer/Address/AddressLine	Yes	Three	String	35	Payer's street address.	
City	/FreightRateRequest/PaymentInformation/Payer/Address/City	Yes	One	String	30	Payer's city.	
StateProvinceCode	/FreightRateRequest/PaymentInformation/Payer/Address/StateProvinceCode	Cond	One	String	5	Payer's state or province code.	

Name	XPath	Required	Max Allowed	Type	Length	Description	Validation Rules
Town	/FreightRateRequest/PaymentInformation/Payer/Address/Town	No	One	String	30	Payer's town code.	
PostalCode	/FreightRateRequest/PaymentInformation/Payer/Address/PostalCode	Cond	One	String	10	Payer's postal code.	
CountryCode	/FreightRateRequest/PaymentInformation/Payer/Address/CountryCode	Yes	One	String	2	Payer's country code.	
ShipperNumber	/FreightRateRequest/PaymentInformation/Payer/ShipperNumber	No	One	String	10	Payer's six digit account number.	
AttentionName	/FreightRateRequest/PaymentInformation/Payer/AttentionName	No	One	String	35	Contact name at the payer's location.	
ShipmentBillingOption	/FreightRateRequest/PaymentInformation/ShipmentBillingOption	Yes	One	Container	N/A	ShipmentBillingOption Container.	Ground freight only.
Code	/FreightRateRequest/PaymentInformation/ShipmentBillingOption/Code	Yes	One	String	2	Billing Option Code.	Ground freight only.

Name	XPath	Required	Max Allowed	Type	Length	Description	Validation Rules
Description	/FreightRateRequest/PaymentInformation/ShipmentBillingOption/Description	No	One	String	35	Billing Option Description.	Ground freight only.
Service	/FreightRateRequest/Service	Yes	One	Container	N/A	Service Container.	
Code	/FreightRateRequest/Service/Code	Yes	One	String	3	The code for the UPS Service associated with the shipment.	
Description	/FreightRateRequest/Service/Description	No	One	String	35	A text description of the UPS Service associated with the shipment.	
HandlingUnitOne	/FreightRateRequest/HandlingUnitOne	Cond	One	Container	N/A	Handling Unit Container	Ground freight only. Required, unless HandlingUnitTwo is present with a value of LOO - LOOSE
Quantity	/FreightRateRequest/HandlingUnitOne/Quantity	Yes*	One	String	8	Quantity of the handling unit.	Ground freight only.
Type	/FreightRateRequest/HandlingUnitOne/Type	Yes*	One	Container	N/A	Type Container	Ground freight only.

Name	XPath	Required	Max Allowed	Type	Length	Description	Validation Rules
Code	/FreightRateRequest/HandlingUnitOne/Type/Code	Yes	One	String	3	The code associated with handling unit type.	Ground freight only.
Description	/FreightRateRequest/HandlingUnitOne/Type/Description	No	One	String	35	A text description of the code for the handling unit type.	Ground freight only.
HandlingUnitTwo	/FreightRateRequest/HandlingUnitTwo	No	One	Container	N/A	HandlingUnit Container.	Ground freight only.
Quantity	/FreightRateRequest/HandlingUnitTwo/Quantity	Yes*	One	String	8	Quantity of the handling unit.	Ground freight only.
Type	/FreightRateRequest/HandlingUnitTwo/Type	Yes*	One	Container	N/A	Quantity of the handling unit.	Ground freight only.
Code	/FreightRateRequest/HandlingUnitTwo/Type/Code	Yes	One	String	3	The code associated with handling unit type.	Ground freight only.
Description	/FreightRateRequest/HandlingUnitTwo/Type/Description	No	One	String	35	A text description of the code for the handling unit type.	Ground freight only.

Name	XPath	Required	Max Allowed	Type	Length	Description	Validation Rules
Commodity	/FreightRateRequest/Commodity	Yes	Many	Container	N/A	Commodity Container.	
CommodityID	/FreightRateRequest/Commodity/CommodityID	No	One	String	35	Unique identifier for the commodity.	
Description	/FreightRateRequest/Commodity/Description	Yes	One	String	755	Description of the line item.	
Weight	/FreightRateRequest/Commodity/Weight	Cond	One	Container	N/A	CommodityWeight Container.	Required if ShipmentTotalWeight is not provided
Value	/FreightRateRequest/Commodity/Weight/Value	Yes	One	String	16.2 for Ground 6.2 for Air	The value for the line item weight associated with the shipment.	
UnitOfMeasurement	/FreightRateRequest/Commodity/Weight/UnitOfMeasurement	Yes	One	Container	N/A	CommodityWeight UnitOfMeasurement Container.	

Name	XPath	Required	Max Allowed	Type	Length	Description	Validation Rules
Code	/FreightRateRequest/Commodity/ Weight/UnitOfMeasurement/Code	Yes	One	String	3	The code associated with the unit of measure for the line item.	
Description	/FreightRateRequest/Commodity/ Weight/UnitOfMeasurement/Descri ption	No	One	String	35	A text description of the code for the unit of measure associated with the line item.	
AdjustedWeight	/FreightRateRequest/Commodity/A djustedWeight	No	One	Container	N/A	Adjusted Weight Container.	
Value	/FreightRateRequest/Commodity/A djustedWeight/Value	Yes	One	String	16.2	Adjusted weight value for the commodity.	
UnitOfMeasurement	/FreightRateRequest/Commodity/A djustedWeight/UnitOfMeasuremen t	Yes	One	Container	N/A	Unit of Measurement container for the Adjusted weight.	
Code	/FreightRateRequest/Commodity/A djustedWeight/UnitOfMeasuremen t/Code	Yes	One	String	3	Code associated with the Unit of Measurement for the Adjusted weight.	
Description	/FreightRateRequest/Commodity/A djustedWeight/UnitOfMeasuremen t/Description	No	One	String	35	Description for the code associated with the Unit of Measurement for the Adjusted weight.	

Name	XPath	Required	Max Allowed	Type	Length	Description	Validation Rules
Dimensions	/FreightRateRequest/Commodity/ Dimensions	Cond	One	Container	N/A	Quantity of the handling unit.	Dimensions are required for Air freight only and not for Ground
UnitOfMeasurement	/FreightRateRequest/Commodity/ Dimensions/UnitOfMeasurement	Yes*	One	Container	N/A	UnitOfMeasurement Container.	
Code	/FreightRateRequest/Commodity/ Dimensions/UnitOfMeasurement/C ode	Yes	One	String	3	The code associated with the unit of measure for the line item dimension.	
Description	/FreightRateRequest/Commodity/ Dimensions/UnitOfMeasurement/D escription	No	One	String	35	A text description of the code for the unit of measure associated with the line item dimension.	
Length	/FreightRateRequest/Commodity/ Dimensions/Length	Yes*	One	String	16.2 for Ground 3.1 for Air	The length of the line item used to determine dimensional weight.	Ground: Valid characters are 0-9 and. (Decimal point). Limit to 2 digits after the decimal. The maximum length of the field is 16 excluding the period and including the 2 decimal places.(#############.##,##### ##########.#, ################) Air: Valid characters are 0-9 and .(Decimal point). Limit to 1 digit after the decimal. The maximum length of the field is 4 excluding and including the 1 decimal places.(###.#, ###)

Name	XPath	Required	Max Allowed	Type	Length	Description	Validation Rules
Width	/FreightRateRequest/Commodity/ Dimensions/Width	Yes*	One	String	16.2 for Ground 3.1 for Air	The width of the line item used to determine dimensional weight.	Ground: Valid characters are 0-9 and. (Decimal point). Limit to 2 digits after the decimal. The maximum length of the field is 16 excluding the period and including the 2 decimal places.(##############.##,#### #########.#, ###############) Air: Valid characters are 0-9 and .(Decimal point). Limit to 1 digit after the decimal. The maximum length of the field is 4 excluding the period and including the 1 decimal places.(###.#, ###)
Height	/FreightRateRequest/Commodity/ Dimensions/Height	Yes*	One	String	16.2 for Ground 3.1 for Air	The height of the line item used to determine dimensional weight.	Ground: Valid characters are 0-9 and. (Decimal point). Limit to 2 digits after the decimal. The maximum length of the field is 16 excluding. and including the 2 decimal places.(##############.##,#### #########.#, ###############) Air: Valid characters are 0-9 and .(Decimal point). Limit to 1 digit after the decimal. The maximum length of the field is 4 excluding the period and including the 1 decimal places.(###.#, ###)
NumberOfPieces	/FreightRateRequest/Commodity/ NumberOfPieces	Yes	One	String	6	Number of piece of the commodity in the handling unit.	
PackagingType	/FreightRateRequest/Commodity/P ackagingType	Yes	One	Container	N/A	PackagingType Container.	

Name	XPath	Required	Max Allowed	Type	Length	Description	Validation Rules
Code	/FreightRateRequest/Commodity/PackagingType/Code	Yes	One	String	3	The code for the UPS packaging type associated with the shipment.	
Description	/FreightRateRequest/Commodity/PackagingType/Description	No	One	String	35	A text description of the code for the UPS packaging type associated with the shipment.	
DangerousGoodsIndicator	/FreightRateRequest/Commodity/DangerousGoodsIndicator	Cond	One	String	0	The presence of the tag DangerousGoodsIndicator indicates that the commodity is of type dangerous goods.	
CommodityValue	/FreightRateRequest/Commodity/CommodityValue	No	One	Container	N/A	CommodityValue Container.	
CurrencyCode	/FreightRateRequest/Commodity/CommodityValue/CurrencyCode	Cond	One	String	3	Commodity value currency code type.	
MonetaryValue	/FreightRateRequest/Commodity/CommodityValue/MonetaryValue	Yes*	One	String	16.2	Commodity value amount.	
FreightClass	/FreightRateRequest/Commodity/FreightClass	No	One	String	10	Freight Classification.	

Name	XPath	Required	Max Allowed	Type	Length	Description	Validation Rules
NMFCCommodityCode	/FreightRateRequest/Commodity/ NMFCCommodityCode	No	One	String	0..8	National Motor Freight Classification Commodity code	
NMFCCommodity	/FreightRateRequest/Commodity/ NMFCCommodity	No	One	Container	N/A	Container for National Motor Freight Classification Commodity. This Container is for customers who choose to send the NMFC Prime and sub code as two different fields.	
PrimeCode	/FreightRateRequest/Commodity/ NMFCCommodity/PrimeCode	Cond	One	String	3..6	National Motor Freight Classification Commodity prime code.	Must be 6 digits representing the NMFC prime code. This field is required if NMFCCommodity/SubCode is supplied.
SubCode	/FreightRateRequest/Commodity/ NMFCCommodity/SubCode	No	One	String	0..2	National Motor Freight Classification Commodity sub code.	
ShipmentServiceOptions	/FreightRateRequest/ShipmentSer viceOptions	No	One	Container	N/A	ShipmentServiceOptions Container.	
PickupOptions	/FreightRateRequest/ShipmentSer viceOptions/PickupOptions	No	One	Container	N/A	PickupOptions Container.	
HolidayPickupIndicator	/FreightRateRequest/ShipmentSer viceOptions/PickupOptions/Holida yPickupIndicator	No	One	String	0	The presence of the tag HolidayPickupIndicator indicates that the shipment requires a holiday pickup.	Ground freight only.

Name	XPath	Required	Max Allowed	Type	Length	Description	Validation Rules
InsidePickupIndicator	/FreightRateRequest/ShipmentServiceOptions/PickupOptions/InsidePickupIndicator	No	One	String	0	The presence of the tag InsidePickupIndicator indicates that the shipment requires an inside pickup.	Ground freight only.
ResidentialPickupIndicator	/FreightRateRequest/ShipmentServiceOptions/PickupOptions/ResidentialPickupIndicator	No	One	String	0	The presence of the tag ResidentialPickupIndicator indicates that the shipment requires a residential pickup.	
WeekendPickupIndicator	/FreightRateRequest/ShipmentServiceOptions/PickupOptions/WeekendPickupIndicator	No	One	String	0	The presence of the tag WeekendPickupIndicator indicates that the shipment requires a weekend pickup.	Ground freight only.
LiftGateRequiredIndicator	/FreightRateRequest/ShipmentServiceOptions/PickupOptions/LiftGateRequiredIndicator	No	One	String	0	The presence of the tag LiftGateRequiredIndicator indicates that the shipment requires a lift gate.	
HoldAtAirportForPickupIndicator	/FreightRateRequest/ShipmentServiceOptions/PickupOptions/HoldAtAirportForPickupIndicator	No	One	String	N/A	The presence of the tag HoldAtAirportForPickupIndicator indicates that the shipment requires to be held at airport for pickup.	Air freight only.
PickupFromDoorIndicator	/FreightRateRequest/ShipmentServiceOptions/PickupOptions/PickupFromDoorIndicator	No	One	String		The presence of the tag PickupFromDoorIndicator indicates that the shipment requires a door pickup.	
LimitedAccessPickupIndicator	/FreightRateRequest/ShipmentServiceOptions/PickupOptions/LimitedAccessPickupIndicator	No	One	String		The presence of the tag LimitedAccessPickupIndicator indicates that there is limited access for the pickup.	

Name	XPath	Required	Max Allowed	Type	Length	Description	Validation Rules
DeliveryOptions	/FreightRateRequest/ShipmentServiceOptions/DeliveryOptions	No	One	Container	N/A	DeliveryOptions Container.	
CallBeforeDeliveryIndicator	/FreightRateRequest/ShipmentServiceOptions/DeliveryOptions/CallBeforeDeliveryIndicator	No	One	String	0	The presence of the tag CallBeforeDeliveryIndicator indicates that the shipment is going to be delivered after calling the consignee.	Ground freight only.
ConstructionSiteDeliveryIndicator	/FreightRateRequest/ShipmentServiceOptions/DeliveryOptions/ConstructionSiteDeliveryIndicator	No	One	String	0	The presence of the tag ConstructionSiteDeliveryIndicator indicates that the shipment is going to be delivered at a construction site.	Ground freight only.
HolidayDeliveryIndicator	/FreightRateRequest/ShipmentServiceOptions/DeliveryOptions/HolidayDeliveryIndicator	No	One	String	0	The presence of the tag HolidayDeliveryIndicator indicates that the shipment is going to be delivered on a holiday.	Ground freight only.
InsideDeliveryIndicator	/FreightRateRequest/ShipmentServiceOptions/DeliveryOptions/InsideDeliveryIndicator	No	One	String	0	The presence of the tag InsideDeliveryIndicator indicates that the shipment requires an inside delivery.	Ground freight only.
ResidentialDeliveryIndicator	/FreightRateRequest/ShipmentServiceOptions/DeliveryOptions/ResidentialDeliveryIndicator	No	One	String	0	The presence of the tag ResidentialDeliveryIndicator indicates that the shipment requires a residential delivery.	
WeekendDeliveryIndicator	/FreightRateRequest/ShipmentServiceOptions/DeliveryOptions/WeekendDeliveryIndicator	No	One	String	0	The presence of the tag WeekendDeliveryIndicator indicates that the shipment is going to be delivered on a weekend.	Ground freight only.

Name	XPath	Required	Max Allowed	Type	Length	Description	Validation Rules
LiftGateRequiredIndicator	/FreightRateRequest/ShipmentServiceOptions/DeliveryOptions/LiftGateRequiredIndicator	No	One	String	0	The presence of the tag LiftGateRequiredIndicator indicates that the shipment requires a lift gate.	
SaturdayDeliveryIndicator	/FreightRateRequest/ShipmentServiceOptions/DeliveryOptions/SaturdayDeliveryIndicator	No	One	String	0	The presence of the tag SaturdayDeliveryIndicator indicates that the shipment is going to be delivered on a Saturday.	Ground freight only.
DeliveryToDoorIndicator	/FreightRateRequest/ShipmentServiceOptions/DeliveryOptions/DeliveryToDoorIndicator	No	One	String	0	The presence of the tag DeliveryToDoorIndicator indicates that the shipment is going to be delivered to door.	Air freight only.
LimitedAccessDeliveryIndicator	/FreightRateRequest/ShipmentServiceOptions/DeliveryOptions/LimitedAccessDeliveryIndicator	No	One	String		The presence of the tag LimitedAccessDeliveryIndicator indicates that there is limited access for the delivery.	
OverSeasLeg	/FreightRateRequest/ShipmentServiceOptions/OverSeasLeg	No	One	Container	N/A	OverSeasLeg Container.	Ground freight only.
Dimensions	/FreightRateRequest/ShipmentServiceOptions/OverSeasLeg/Dimensions	Yes*	One	Container	N/A	Dimensions Container.	Ground freight only.
Volume	/FreightRateRequest/ShipmentServiceOptions/OverSeasLeg/Dimensions/Volume	Cond	One	String	16.2	Represents the size as volume.	Ground freight only.

Name	XPath	Required	Max Allowed	Type	Length	Description	Validation Rules
Height	/FreightRateRequest/ShipmentServiceOptions/OverSeasLeg/Dimensions/Height	Cond	One	String	18	The height used to determine dimensional size.	Ground freight only.
Length	/FreightRateRequest/ShipmentServiceOptions/OverSeasLeg/Dimensions/Length	Cond	One	String	18	The length used to determine dimensional size.	Ground freight only.
Width	/FreightRateRequest/ShipmentServiceOptions/OverSeasLeg/Dimensions/Width	Cond	One	String	18	The width used to determine dimensional size.	Ground freight only.
UnitOfMeasurement	/FreightRateRequest/ShipmentServiceOptions/OverSeasLeg/Dimensions/UnitOfMeasurement	Yes	One	Container	N/A	UnitOfMeasurement Container.	Ground freight only.
Code	/FreightRateRequest/ShipmentServiceOptions/OverSeasLeg/Dimensions/UnitOfMeasurement/Code	Yes	One	String	3	The code associated with the unit of measure for the OverSeasLeg dimension.	Ground freight only.
Description	/FreightRateRequest/ShipmentServiceOptions/OverSeasLeg/Dimensions/UnitOfMeasurement/Description	No	One	String	35	A text description of the code for the unit of measure associated with the OverSeasLeg dimension.	Ground freight only.
Value	/FreightRateRequest/ShipmentServiceOptions/OverSeasLeg/Value	Yes*	One	Container	N/A	Dimensions Value Container.	Ground freight only.

Name	XPath	Required	Max Allowed	Type	Length	Description	Validation Rules
Cube	/FreightRateRequest/ShipmentServiceOptions/OverSeasLeg/Value/Cube	No	One	Container	N/A	Dimensions Value Cube Container.	Ground freight only.
CurrencyCode	/FreightRateRequest/ShipmentServiceOptions/OverSeasLeg/Value/Cube/CurrencyCode	Yes*	One	String	3	Currency code type for Price per cubic feet.	Ground freight only.
MonetaryValue	/FreightRateRequest/ShipmentServiceOptions/OverSeasLeg/Value/Cube/MonetaryValue	Yes*	One	String	16.2	Price per cubic feet.	Ground freight only.
CWT	/FreightRateRequest/ShipmentServiceOptions/OverSeasLeg/Value/CWT	No	One	Container	N/A	Dimensions Value CWT Container.	Ground freight only.
CurrencyCode	/FreightRateRequest/ShipmentServiceOptions/OverSeasLeg/Value/CWT/CurrencyCode	Yes*	One	String	3	Currency code type for Price per CWT.	Ground freight only.
MonetaryValue	/FreightRateRequest/ShipmentServiceOptions/OverSeasLeg/Value/CWT/MonetaryValue	Yes*	One	String	16.2	Price per CWT.	Ground freight only.
COD	/FreightRateRequest/ShipmentServiceOptions/COD	No	One	Container	N/A	COD Container.	Ground freight only.

Name	XPath	Required	Max Allowed	Type	Length	Description	Validation Rules
CODValue	/FreightRateRequest/ShipmentServiceOptions/COD/CODValue	Yes*	One	Container	N/A	CODValue Container.	Ground freight only.
CurrencyCode	/FreightRateRequest/ShipmentServiceOptions/COD/CODValue/CurrencyCode	Yes	One	String	3	COD amount currency code type.	Ground freight only.
MonetaryValue	/FreightRateRequest/ShipmentServiceOptions/COD/CODValue/MonetaryValue	Yes	One	String	16.2	COD Amount.	Ground freight only.
CODPaymentMethod	/FreightRateRequest/ShipmentServiceOptions/COD/CODPaymentMethod	Yes*	One	Container	N/A	CODPaymentMethod Container.	Ground freight only.
Code	/FreightRateRequest/ShipmentServiceOptions/COD/CODPaymentMethod/Code	Yes	One	String	1	The code associated with the COD payment method for the shipment service options.	Ground freight only.
Description	/FreightRateRequest/ShipmentServiceOptions/COD/CODPaymentMethod/Description	No	One	String	35	A text description of the code for the COD payment method associated with the shipment service options.	Ground freight only.
CODBillingOption	/FreightRateRequest/ShipmentServiceOptions/COD/CODBillingOption	Yes*	One	Container	N/A	CODBillingOption Container.	Ground freight only.

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Name	XPath	Required	Max Allowed	Type	Length	Description	Validation Rules
Code	/FreightRateRequest/ShipmentServiceOptions/COD/CODBillingOption/Code	Yes	One	String	2	The code associated with the COD billing option for the shipment service options.	Ground freight only.
Description	/FreightRateRequest/ShipmentServiceOptions/COD/CODBillingOption/Description	No	One	String	35	A text description of the code for the COD billing option associated with the shipment service options.	Ground freight only.
RemitTo	/FreightRateRequest/ShipmentServiceOptions/COD/RemitTo	Yes*	One	Container	N/A	RemitTo Container.	Ground freight only.
Name	/FreightRateRequest/ShipmentServiceOptions/COD/RemitTo/Name	Yes	One	String	35	The payee company name for the COD charges.	Ground freight only.
Address	/FreightRateRequest/ShipmentServiceOptions/COD/RemitTo/Address	Yes	One	Container	N/A	Address Container.	Ground freight only.
AddressLine	/FreightRateRequest/ShipmentServiceOptions/COD/RemitTo/Address/AddressLine	Yes	Three	String	35	Payee Street address for the COD charges.	Ground freight only.
City	/FreightRateRequest/ShipmentServiceOptions/COD/RemitTo/Address/City	Yes	One	String	30	Payee city code for the COD charges.	Ground freight only.

Name	XPath	Required	Max Allowed	Type	Length	Description	Validation Rules
StateProvinceCode	/FreightRateRequest/ShipmentServiceOptions/COD/RemitTo/Address/StateProvinceCode	No	One	String	5	Payee state or province code for the COD charges.	Ground freight only.
Town	/FreightRateRequest/ShipmentServiceOptions/COD/RemitTo/Address/Town	No	One	String	30	Payee town code for the COD charges.	Ground freight only.
PostalCode	/FreightRateRequest/ShipmentServiceOptions/COD/RemitTo/Address/PostalCode	No	One	String	10	Payee postal code for the COD charges.	Ground freight only.
CountryCode	/FreightRateRequest/ShipmentServiceOptions/COD/RemitTo/Address/CountryCode	Yes	One	String	2	Payee country code for the COD charges.	Ground freight only.
AttentionName	/FreightRateRequest/ShipmentServiceOptions/COD/RemitTo/AttentionName	No	One	String	35	Payee contact name for the COD charges.	Ground freight only.
DangerousGoods	/FreightRateRequest/ShipmentServiceOptions/DangerousGoods	No	One	Container	N/A	DangerousGoods Container.	
Name	/FreightRateRequest/ShipmentServiceOptions/DangerousGoods/Name	Yes*	One	String	35	The contact name for question re: Dangerous Goods.	

Name	XPath	Required	Max Allowed	Type	Length	Description	Validation Rules
Phone	/FreightRateRequest/ShipmentServiceOptions/DangerousGoods/Phone	Yes*	One	Container	N/A	Phone Container.	
Number	/FreightRateRequest/ShipmentServiceOptions/DangerousGoods/Phone/Number	Yes	One	String	15	The contact phone number for question re: Dangerous Goods	
Extension	/FreightRateRequest/ShipmentServiceOptions/DangerousGoods/Phone/Extension	No	One	String	4	The contact phone extension for question re: Dangerous Goods	
TransportationMode	/FreightRateRequest/ShipmentServiceOptions/DangerousGoods/TransportationMode	No	One	Container	N/A	TransportationMode Container.	
Code	/FreightRateRequest/ShipmentServiceOptions/DangerousGoods/TransportationMode/Code	Yes*	One	String	20	The code associated with the transportation mode for the dangerous goods. Valid Values: Cargo Aircraft Only Passenger Aircraft	
Description	/FreightRateRequest/ShipmentServiceOptions/DangerousGoods/TransportationMode/Description	No	One	String	35	A text description of the code for the transportation mode associated with the dangerous goods.	
SortingAndSegregating	/FreightRateRequest/ShipmentServiceOptions/SortingAndSegregating	No	One	Container	N/A	SortingAndSegregating Container.	

Name	XPath	Required	Max Allowed	Type	Length	Description	Validation Rules
Quantity	/FreightRateRequest/ShipmentServiceOptions/SortingAndSegregating/Quantity	Yes*	One	String	6	Quantity of units to be sorted/segregated.	
DeclaredValue	/FreightRateRequest/ShipmentServiceOptions/DeclaredValue	No	One	Container	N/A	DeclaredValue Container.	Air freight only.
CurrencyCode	/FreightRateRequest/ShipmentServiceOptions/DeclaredValue/CurrencyCode	Yes*	One	String	3	Declared value amount currency type.	Air freight only.
MonetaryValue	/FreightRateRequest/ShipmentServiceOptions/DeclaredValue/MonetaryValue	Yes*	One	String	16.2	Declared value amount.	Air freight only.
CustomsValue	/FreightRateRequest/ShipmentServiceOptions/CustomsValue	No	One	Container	N/A	CustomsValue Container.	Air freight only.
CurrencyCode	/FreightRateRequest/ShipmentServiceOptions/CustomsValue/CurrencyCode	Yes*	One	String	3	Customs value amount currency type.	Air freight only.
MonetaryValue	/FreightRateRequest/ShipmentServiceOptions/CustomsValue/MonetaryValue	Yes*	One	String	16.2	Customs value amount.	Air freight only.

Name	XPath	Required	Max Allowed	Type	Length	Description	Validation Rules
DeliveryDutiesPaidIndicator	/FreightRateRequest/ShipmentServiceOptions/DeliveryDutiesPaidIndicator	No	One	String	0	The presence of the tag DeliveryDutiesPaidIndicator indicates that the duties have already been paid.	Air freight only. Valid Only for International Air
DeliveryDutiesUnpaidIndicator	/FreightRateRequest/ShipmentServiceOptions/DeliveryDutiesUnpaidIndicator	No	One	String	0	The presence of the tag DeliveryDutiesUnpaidIndicator indicates that the duties have not been paid already.	Air freight only. Valid Only for International Air
HandlingCharge	/FreightRateRequest/ShipmentServiceOptions/HandlingCharge	No	One	Container	N/A	HandlingCharge Container.	
Percentage	/FreightRateRequest/ShipmentServiceOptions/HandlingCharge/Percentage	Cond	One	String	7.2	Percentage amount consistent with the handling charge.	
Amount	/FreightRateRequest/ShipmentServiceOptions/HandlingCharge/Amount	Cond	One	Container	N/A	HandlingCharge Amount Container.	Either Percentage or Amount needs to be present, not both.
CurrencyCode	/FreightRateRequest/ShipmentServiceOptions/HandlingCharge/Amount/CurrencyCode	Yes*	One	String	3	Handling charge amount currency type.	
MonetaryValue	/FreightRateRequest/ShipmentServiceOptions/HandlingCharge/Amount/MonetaryValue	Yes*	One	String	16.2	Handling Charge amount.	

Name	XPath	Required	Max Allowed	Type	Length	Description	Validation Rules
CustomsClearanceIndicator	/FreightRateRequest/ShipmentServiceOptions/CustomsClearanceIndicator	No	One	String	0	The presence of the tag CustomsClearanceIndicator indicates that the customs clearance is required.	Air freight only.
FreezableProtectionIndicator	/FreightRateRequest/ShipmentServiceOptions/FreezableProtectionIndicator	No	One	String	0	The presence of the tag FreezableProtectionIndicator indicates that the freezable protection is required.	
ExtremeLengthIndicator	/FreightRateRequest/ShipmentServiceOptions/ExtremeLengthIndicator	No	One	String	0	The presence of the tag ExtremeLengthIndicator indicates that the package is of extreme length.	
ExcessDeclaredValue	/FreightRateRequest/ShipmentServiceOptions/ExcessDeclaredValue	No	One	Container	N/A	ExcessDeclaredValue Container.	Ground freight only.
CurrencyCode	/FreightRateRequest/ShipmentServiceOptions/ExcessDeclaredValue/CurrencyCode	Yes*	One	String	3	Excess Declared value amount currency type.	Ground freight only.
MonetaryValue	/FreightRateRequest/ShipmentServiceOptions/ExcessDeclaredValue/MonetaryValue	Yes*	One	String	16.2	Excess Declared value amount.	Ground freight only.
PickupRequest	/FreightRateRequest/PickupRequest	Cond	One	Container	N/A	PickupRequest Container.	Required for Air

Name	XPath	Required	Max Allowed	Type	Length	Description	Validation Rules
PickupDate	/FreightRateRequest/PickupReque st/PickupDate	Yes*	One	String	8	Date of the Pickup. Format is YYYYMMDD.	N/A
AdditionalComments	/FreightRateRequest/PickupReque st/AdditionalComments	No	One	String	500	Additional Pickup comments or instructions.	Air freight only.
AlternateRateOptions	/FreightRateRequest/AlternateRat eOptions	No	One	Container	N/A	Container to indicate that alternate rates are requested.	
Code	/FreightRateRequest/AlternateRat eOptions/Code	Yes*	One	String	2	Code for the alternate rate type requested. 1 = LTL only 2 = GFP only 3 = GFP and LTL	
Description	/FreightRateRequest/AlternateRat eOptions/Description	No	One	String	1..20	Description of the alternate rate type requested. 1 = LTL only 2 = GFP only 3 = GFP and LTL	
AccountType	/FreightRateRequest/AccountType	No	One	Container	N/A	AccountType container.	Air freight only.

Name	XPath	Required	Max Allowed	Type	Length	Description	Validation Rules
Code	/FreightRateRequest/AccountType/Code	Yes*	One	String	10	House - Customer has a daily pickup or has made arrangements to drop off the shipment at a UPS Service Center. Occasional - Customer does not have a daily pickup and has not made arrangements to drop off the shipment at a UPS Service Center.	Air freight only. Valid Values: 01 - House 02 - Occasional Non-empty, invalid values will be defaulted to Occasional.
Description	/FreightRateRequest/AccountType/Description	No	One	String	35	Account type description.	Air freight only.
ShipmentTotalWeight	/FreightRateRequest/ShipmentTotalWeight	Cond	One	Container	N/A	Shipment Total Weight Container.	Air freight only. Required if Commodity Weight is not provided
Value	/FreightRateRequest/ShipmentTotalWeight/Value	Yes*	One	String	9.2	Total Weight Value for the shipment.	Air freight only. Valid characters are 0-9 and the decimal point. Limit to 2 digits after the decimal. The maximum length of the field is 11 excluding the period and including the 2 decimal places. (#########.##, #########.#, #########)
UnitOfMeasurement	/FreightRateRequest/ShipmentTotalWeight/UnitOfMeasurement	Yes*	One	Container	N/A	Unit of Measurement container for the shipment total weight.	Air freight only.
Code	/FreightRateRequest/ShipmentTotalWeight/UnitOfMeasurement/Code	Yes*	One	String	3	Code associated with the Unit of Measurement for the shipment total weight.	Air freight only. Valid values: KGS = kilograms LBS - Pounds

Name	XPath	Required	Max Allowed	Type	Length	Description	Validation Rules
Description	/FreightRateRequest/ShipmentTotalWeight/UnitOfMeasurement/Description	No	One	String	35	Description for the code associated with the Unit of Measurement for the shipment total weight.	Air freight only.
HandlingUnitWeight	/FreightRateRequest/HandlingUnitWeight	No	One	Container	N/A	Handling unit weight container.	
Value	/FreightRateRequest/HandlingUnitWeight/Value	Yes	One	String	9.2	handling unit weight value for the shipment.	
UnitOfMeasurement	/FreightRateRequest/HandlingUnitWeight/UnitOfMeasurement	Yes	One	Container	N/A	Unit of Measurement container for the handling unit weight.	
Code	/FreightRateRequest/HandlingUnitWeight/UnitOfMeasurement/Code	Yes	One	String	3	Code associated with the Unit of Measurement for the handling unit weight.	
Description	/FreightRateRequest/HandlingUnitWeight/UnitOfMeasurement/Description	No	One	String	35	Description for the code associated with the Unit of Measurement for the handling unit weight.	

Name	XPath	Required	Max Allowed	Type	Length	Description	Validation Rules
					0		Defaults to false. Required only if the user wants to subtract the handling unit weight. When AdjustedWeightIndicator is set to true If HandlingUnitWeight is present, the HandlingUnitWeight Value will be subtracted and prorated from the FreightLineItem Weight Value. The subtracted/prorated FreightLineItem Weight will be used for GFP rating. If HandlingUnitWeight is not present and the AdjustedWeightValue is present, the adjusted weight value from the FreightLineItem object will be used to do a GFP rating request to UPGF. If HandlingUnitWeight is not present and the AdjustedWeightValue is not present, the original weight from the FreightLineItem object will be used to do a GFP rating request to UPGF. In this case, the HandlingUnitWeight value is assume to be zero. AdjustedWeightIndicator set to false The FreightLineItem. Weight will be used for both LTL and GFP rating requests (current functionality). The HandlingUnitWeight or the FreightLineItem. AdjustedWeight will not be used.
AdjustedWeightIndicator	/FreightRateRequest/AdjustedWeightIndicator	No	One	String		Indicator to specify if the user wants to subtract the handling unit weight.	
TimeInTransitIndicator	/FreightRateRequest/TimeInTransitIndicator	No	One	String		Presence of the tag indicates Time in Transit information is requested and will be returned.	Ground freight only.

Name	XPath	Required	Max Allowed	Type	Length	Description	Validation Rules
FreightRateResponse	/FreightRateResponse	Yes	One	Container	N/A	Freight Rate Response Container.	
Response	/FreightRateResponse/Response	Yes	One	Container	N/A	Response Container.	
ResponseStatus	/FreightRateResponse/Response/ResponseStatus	Yes	One	Container	N/A	Response Status Container.	
Code	/FreightRateResponse/Response/ResponseStatus/Code	Yes	One	String	1	Identifies the success or failure of the transaction. 1 = Successful	
Description	/FreightRateResponse/Response/ResponseStatus/Description	Yes	One	String	1...35	Describes Response Status Code. Returns text of Success.	
Alert	/FreightRateResponse/Response/Alert	No	Many	Container	N/A	Alert Container. There can be zero to many alert containers with code and description.	
Code	/FreightRateResponse/Response/Alert/Code	Yes*	One	String	1...10	Warning code returned by the system.	

Name	XPath	Required	Max Allowed	Type	Length	Description	Validation Rules
Description	/FreightRateResponse/Response/Alert/Description	Yes*	One	String	1...150	Warning messages returned by the system.	
TransactionReference	/FreightRateResponse/Response/TransactionReference	No	One	Container	N/A	Transaction Reference Container.	
CustomerContext	/FreightRateResponse/Response/TransactionReference/CustomerContext	No	One	String	1..512	The CustomerContext Information which will be echoed during response.	
CustomerServiceCenterPhone	/FreightRateResponse/CustomerServiceCenterPhone	No	One	Container	N/A	CustomerServiceCenterPhone Container.	
Number	/FreightRateResponse/CustomerServiceCenterPhone/Number	Yes*	One	String	15	This element is returned by Air Freight in the Pre-Authorization is required scenario. The end customer must call the phone number to correct the shipment.	
Extension	/FreightRateResponse/CustomerServiceCenterPhone/Extension	No	One	String	4	This element is returned by Air Freight in the Pre-Authorization is required scenario. The end customer must call the phone extension to correct the shipment.	
Rate	/FreightRateResponse/Rate	No	Many	Container	N/A	Rate Container.	

Name	XPath	Required	Max Allowed	Type	Length	Description	Validation Rules
Type	/FreightRateResponse/Rate/Type	Yes	One	Container	N/A	Rate Type Container	
Code	/FreightRateResponse/Rate/Type/Code	Yes	One	String	10	The code associated with the rate type. See Appendix for a list of values	
Description	/FreightRateResponse/Rate/Type/Description	Yes	One	String	80	A text description of the code for the rate charge.	
Factor	/FreightRateResponse/Rate/Factor	Yes	One	Container	N/A	Factor Container.	
Value	/FreightRateResponse/Rate/Factor/Value	Yes	One	String	16.2	Contains value pertaining to rate type code. For e.g. if discount rate is 25% then rate charge code will have code type as DISCOUNT_RATE and rate factor value will have 25	
UnitOfMeasurement	/FreightRateResponse/Rate/Factor/UnitOfMeasurement	No	One	Container	N/A	Unit of measurement container for factors related to Rate Types.	

Name	XPath	Required	Max Allowed	Type	Length	Description	Validation Rules
Code	/FreightRateResponse/Rate/Factor /UnitOfMeasurement/Code	Yes	One	String	3	This will contain measurement unit (e.g. LBS for weight, USD for dollar amount). Rate should have code type that pertains to Unit Of Measurement Code. For e.g. if rate type code has code type DISCOUNT then Unit Of Measurement Code should be USD to represent the measurement unit of discounted dollar amount	
Description	/FreightRateResponse/Rate/Factor /UnitOfMeasurement/Description	No	One	String	35	Description of unit of measurement code for rate factors	
Commodity	/FreightRateResponse/Commodity	No	unbounded	Container	N/A	Commodity Container.	
CommodityID	/FreightRateResponse/Commodity /CommodityID	No	One	String	35	Unique identifier for the commodity.	
Description	/FreightRateResponse/Commodity /Description	Yes	One	String	35	Description of the line item.	
Weight	/FreightRateResponse/Commodity /Weight	Yes	One	Container	N/A	Commodity Weight Container.	

Name	XPath	Required	Max Allowed	Type	Length	Description	Validation Rules
Value	/FreightRateResponse/Commodity/Weight/Value	Yes	One	String	16.2	The value for the line item weight associated with the shipment.	
UnitOfMeasurement	/FreightRateResponse/Commodity/Weight/UnitOfMeasurement	Yes	One	Container	N/A	CommodityWeight UnitOfMeasurement Container.	
Code	/FreightRateResponse/Commodity/Weight/UnitOfMeasurement/Code	Yes	One	String	3	The code associated with the unit of measure for the line item.	
Description	/FreightRateResponse/Commodity/Weight/UnitOfMeasurement/Description	No	One	String	35	A text description of the code for the unit of measure associated with the line item.	
AdjustedWeight	/FreightRateResponse/Commodity/AdjustedWeight	No	One	Container	N/A	Adjusted Weight Container.	
Value	/FreightRateResponse/Commodity/AdjustedWeight/Value	Yes	One	String	16.2	Adjusted weight value for the commodity.	
UnitOfMeasurement	/FreightRateResponse/Commodity/AdjustedWeight/UnitOfMeasurement	Yes	One	Container	N/A	Unit of Measurement container for the Adjusted weight.	

Name	XPath	Required	Max Allowed	Type	Length	Description	Validation Rules
Code	/FreightRateResponse/Commodity/AdjustedWeight/UnitOfMeasurement/Code	Yes	One	String	3	Code associated with the Unit of Measurement for the Adjusted weight.	
Description	/FreightRateResponse/Commodity/AdjustedWeight/UnitOfMeasurement/Description	No	One	String	35	Description for the code associated with the Unit of Measurement for the Adjusted weight.	
TotalShipmentCharge	/FreightRateResponse/TotalShipmentCharge	No	One	Container	N/A	TotalShipmentCharge Container.	
CurrencyCode	/FreightRateResponse/TotalShipmentCharge/CurrencyCode	Yes	One	String	3	Total shipment Charge currency code type.	
MonetaryValue	/FreightRateResponse/TotalShipmentCharge/MonetaryValue	Yes	One	String	16.2	Total shipment charge.	
BillableShipmentWeight	/FreightRateResponse/BillableShipmentWeight	No	One	Container	N/A	BillableShipmentWeight Container.	
Value	/FreightRateResponse/BillableShipmentWeight/Value	Yes	One	String	16.2	The value for the billable weight associated with the shipment.	

Name	XPath	Required	Max Allowed	Type	Length	Description	Validation Rules
UnitOfMeasurement	/FreightRateResponse/BillableShipmentWeight/UnitOfMeasurement	Yes	One	Container	N/A	UnitOfMeasurement Container.	
Code	/FreightRateResponse/BillableShipmentWeight/UnitOfMeasurement/Code	Yes	One	String	3	The code associated with the unit of measure for the billable weight of a shipment.	
Description	/FreightRateResponse/BillableShipmentWeight/UnitOfMeasurement/Description	No	One	String	35	The description for the billable weight associated with the shipment.	
DimensionalWeight	/FreightRateResponse/DimensionalWeight	No	One	Container	N/A	DimensionalWeight Container.	
Value	/FreightRateResponse/DimensionalWeight/Value	Yes*	One	String	5	The value for the dimensional weight associated with the shipment.	
UnitOfMeasurement	/FreightRateResponse/DimensionalWeight/UnitOfMeasurement	Yes*	One	Container	N/A	UnitOfMeasurement Container.	
Code	/FreightRateResponse/DimensionalWeight/UnitOfMeasurement/Code	Yes	One	String	2	The code associated with the unit of measure for the dimensional weight of a shipment.	

Name	XPath	Required	Max Allowed	Type	Length	Description	Validation Rules
Description	/FreightRateResponse/Dimensional Weight/UnitOfMeasurement/Description	No	One	String	35	The description for the dimensional weight associated with the shipment.	
Service	/FreightRateResponse/Service	No	One	Container	N/A	Service Container.	
Code	/FreightRateResponse/Service/Code	Yes*	One	String	3	The code for the UPS Service associated with the shipment.	
Description	/FreightRateResponse/Service/Description	No	One	String	35	A text description of the UPS Service associated with the shipment.	
GuaranteedIndicator	/FreightRateResponse/GuaranteedIndicator	No	One	String	N/A	This is an empty tag. The presence of the indicator indicates the rate returned is guaranteed.	
MinimumChargeAppliedIndicator	/FreightRateResponse/MinimumChargeAppliedIndicator	No	One	String	N/A	This is an empty tag. The presence of the tag indicates the rate returned has a minimum charge applied to it.	
AlternateRatesResponse	/FreightRateResponse/AlternateRatesResponse	No	Many	Container	N/A	Container for alternate rates including FRS rates	

Name	XPath	Required	Max Allowed	Type	Length	Description	Validation Rules
AlternateRateType	/FreightRateResponse/AlternateRatesResponse/AlternateRateType	Yes*	One	Container	N/A	Container for the type of alternate rate	
Code	/FreightRateResponse/AlternateRatesResponse/AlternateRateType/Code	Yes*	One	String	2	Code for the Alternate Rate Type. 1 = LTL only 2 = GFP only 3 = GFP and LTL	
Description	/FreightRateResponse/AlternateRatesResponse/AlternateRateType/Description	No	One	String	1..35	Descritpion of the Alternate Rate Type. 1 = LTL only 2 = GFP only 3 = GFP and LTL	
Rate	/FreightRateResponse/AlternateRatesResponse/Rate	Yes*	Many	Container	N/A	Rate Container.	
Type	/FreightRateResponse/AlternateRatesResponse/Rate/Type	Yes	One	Container	N/A	Rate Type Container	
Code	/FreightRateResponse/AlternateRatesResponse/Rate/Type/Code	Yes	One	String	10	The code associated with the rate type. See Appendix for a list of values	
Description	/FreightRateResponse/AlternateRatesResponse/Rate/Type/Description	Yes	One	String	80	A text description of the code for the rate charge.	

Name	XPath	Required	Max Allowed	Type	Length	Description	Validation Rules
Factor	/FreightRateResponse/AlternateRatesResponse/Rate/Factor	Yes	One	Container	N/A	Factor Container.	
Value	/FreightRateResponse/AlternateRatesResponse/Rate/Factor/Value	Yes	One	String	16.2	Contains value pertaining to rate type code. For e.g. if discount rate is 25% then rate charge code will have code type as DISCOUNT_RATE and rate factor value will have 25	
UnitOfMeasurement	/FreightRateResponse/AlternateRatesResponse/Rate/Factor/UnitOfMeasurement	No	One	Container	N/A	Unit of measurement container for factors related to Rate Types.	
Code	/FreightRateResponse/AlternateRatesResponse/Rate/Factor/UnitOfMeasurement/Code	Yes	One	String	3	This will contain measurement unit (e.g. LBS for weight, USD for dollar amount). Rate should have code type that pertains to Unit Of Measurement Code. For e.g. if rate type code has code type DISCOUNT then Unit Of Measurement Code should be USD to represent the measurement unit of discounted dollar amount	
Description	/FreightRateResponse/AlternateRatesResponse/Rate/Factor/UnitOfMeasurement/Description	No	One	String	35	Description of unit of measurement code for rate factors	
BillableShipmentWeight	/FreightRateResponse/AlternateRatesResponse/BillableShipmentWeight	No	One	Container	N/A	BillableShipmentWeight Container.	

Name	XPath	Required	Max Allowed	Type	Length	Description	Validation Rules
Value	/FreightRateResponse/AlternateRatesResponse/BillableShipmentWeight/Value	Yes	One	String	16.2	The value for the billable weight associated with the shipment.	
UnitOfMeasurement	/FreightRateResponse/AlternateRatesResponse/BillableShipmentWeight/UnitOfMeasurement	Yes	One	Container	N/A	UnitOfMeasurement Container.	
Code	/FreightRateResponse/AlternateRatesResponse/BillableShipmentWeight/UnitOfMeasurement/Code	Yes	One	String	3	The code associated with the unit of measure for the billable weight of a shipment.	
Description	/FreightRateResponse/AlternateRatesResponse/BillableShipmentWeight/UnitOfMeasurement/Description	No	One	String	35	The description for the billable weight associated with the shipment.	
TimeInTransit	/FreightRateResponse/AlternateRatesResponse/TimeInTransit	No	One	Container		Time In transit information.	Ground freight only.
DaysInTransit	/FreightRateResponse/AlternateRatesResponse/TimeInTransit/DaysInTransit	Yes*	One	String		Number of days in transit.	Ground freight only.
MinimumBillableWeightAppliedIndicator	/FreightRateResponse/MinimumBillableWeightAppliedIndicator	No	One	String	0	This is an empty tag. The presence indicates minimum billable weight is applied.	Air freight only.

Name	XPath	Required	Max Allowed	Type	Length	Description	Validation Rules
RatingSchedule	/FreightRateResponse/RatingSchedule	No	One	Container	N/A	Rating Schedule container.	Air freight only.
Code	/FreightRateResponse/RatingSchedule/Code	Yes*	One	String	2	Code associated with the Rating Schedule: 01 - Contract Rates 02 - Published Rates	Air freight only.
Description	/FreightRateResponse/RatingSchedule/Description	No	One	String	35	Description of the Rating Schedule	Air freight only.
HoldAtAirportPickupDate	/FreightRateResponse/HoldAtAirportPickupDate	Cond	One	String	8	Hold at Airport Pickup date. Format is YYYYMMDD. Returned when HoldAtAirportForPickupIndicator is sent	Air freight only.
NextAvailablePickupDate	/FreightRateResponse/NextAvailablePickupDate	Cond	One	String	8	Next Available Pickup date. Format is YYYYMMDD. Returned when a valid Pickup Date is entered in the request.	Air freight only.
TimeInTransit	/FreightRateResponse/TimeInTransit	No	One	Container		Time In transit information.	Ground freight only.
DaysInTransit	/FreightRateResponse/TimeInTransit/DaysInTransit	Yes*	One	String		Number of days in transit.	Ground freight only.

1.9 Customer Integration Environment

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. No stress testing should ever be performed by customers against any UPS systems.
Once your application has been thoroughly tested, you should redirect the application to the UPS Production Environment.
Please note that while the Customer Integration Environment maintains system availability 24 hours, 7 days each week, there are occasional system down times to allow for server maintenance.

1.9.1 Ground Freight Rating

For integration testing, you should direct your Ground Freight Rate test software to:
https://wwwcie.ups.com/webservices/FreightRate

1.9.2 System Availability

The Customer Integration Environment is available 24 hours a day, 7 days a week.

1.9.3 Server Availability Check

All of the UPS services work using HTTPS POST. Using the same URL as you point your application to, perform an HTTPS GET. 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/Rate
This will be returned:

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

1.10 Ground Freight Certification Test Cases

One of the certification requirements for the Ground Freight API requires that the correct results from Scenario 1 is entered into the web form on ups.com under the Manage your access key, request production access. Scenarios 2 through 6 are for developer testing only and values returned may vary. An issue should only be reported if no amount is returned in the response for scenarios 2 through 6.

Scenario 1 – Basic Pricing

Input:

Type	Value
Shipper Name	Developer Test 1
Shipper Address	101 Developer Way
Shipper City	Richmond
Shipper State	VA
Shipper (Origin) Zip	23224
Consignee Name	Consignee Test 1
Consignee Address	1000 Consignee Street
Consignee City	Allanton
Consignee State	MO
Consignee (Destination) Zip	63025
Prepaid/Collect	P (Prepaid)
Weight (lb)	1500
Class	92.5
NMFC	116030 sub 1

Output:

Certification requires the return of result data. Provide the following three (3) data results on the Global eCommerce form for Freight Certification:
Total Freight Charges:
<freightShip:TotalShipmentCharge>
Or <freightrate:TotalShipmentCharge>

Pickup Confirmation Number:

<freightPickup:PickupRequestConfirmationNumber>

BOL Number:

<freightShip:BOLID>
An email will be sent approving production access. Once granted, point your software to:
https://onlinetools.ups.com/webservices/FreightShip or
https://onlinetools.ups.com/webservices/FreightRate

Scenario 2 – Exception Pricing

Input:

Type	Value
Shipper Name	Developer Test 2
Shipper Address	202 Developer Way
Shipper City	Atlanta
Shipper State	GA
Shipper (Origin) Zip	30328
Consignee Name	Consignee Test 2
Consignee Address	2000 Consignee Street
Consignee City	Allanton
Consignee State	MO
Consignee (Destination) Zip	63001
Prepaid/Collect	P (Prepaid)
Weight (lb)	1500
NMFC	116030 sub 1
Class	92.5

Output:

Type	Value
Disc	70%
Total Charges	$286.11

Scenario 3 – Regional Tier Pricing

Input:

Type	Value
Shipper Name	Developer Test 2
Shipper Address	202 Developer Way
Shipper City	Atlanta
Shipper State	GA
Shipper (Origin) Zip	30328
Consignee Name	Consignee Test 3
Consignee Address	3000 Consignee Street
Consignee City	Richmond
Consignee State	VA
Consignee (Destination) Zip	23224
Prepaid/Collect	P (Prepaid)
Weight (lb)	1500
Class	92.5
NMFC	116030 sub 1

Output:

Type	Value
Disc	72%
Total Charges	$198.15

Scenario 4 – Accessorial Charge Exception

Input:

Type	Value
Shipper Name	Developer Test 2
Shipper Address	202 Developer Way
Shipper City	Atlanta
Shipper State	GA
Shipper (Origin) Zip	30328
Consignee Name	Consignee Test 3
Consignee Address	3000 Consignee Street
Consignee City	Richmond
Consignee State	VA
Consignee (Destination) Zip	23224
Prepaid/Collect	P (Prepaid)
Weight (lb)	1500
Class	92.5
NMFC	116030 sub 1
Accessorial	NTFN (Notification)

Output:

Type	Value
Disc	72%
Total Charges	$198.15

Scenario 5 – Canadian Pricing

Input:

Type	Value
Shipper Name	Developer Test 2
Shipper Address	202 Developer Way
Shipper City	Atlanta
Shipper State	GA
Shipper (Origin) Zip	30328
Consignee Name	Consignee Test 5
Consignee Address	5000 Consignee Street
Consignee City	St Johns
Consignee State	NF

Consignee (Destination) Zip	A1A1A1
Prepaid/Collect	P (Prepaid)
Weight (lb)	1500
Class	92.5
NMFC	116030 sub 1
Service	LTL
Handling Unit One Code	SKD

Output:

Type	Value
Disc	70%
Total Charges	$ 1375.42

Scenario 6 – GFP Pricing

Input:

Type	Value
Shipper Name	Developer Test 2
Shipper Address	202 Developer Way
Shipper City	Atlanta
Shipper State	GA
Shipper (Origin) Zip	30328
Consignee Name	Consignee Test 2
Consignee Address	2000 Consignee Street
Consignee City	Allanton
Consignee State	MO
Consignee (Destination) Zip	63001
Prepaid/Collect	P (Prepaid)
Weight (lb)	200
Class	92.5
NMFC	116030 sub 1
UPS Account #	AF6458

Note: It does not matter what UPS Account # is entered. For test purposes, the account number will be hard coded so the output below will be returned.

Output:

| Type	Value
Disc	72%
Total Charges	$71.18

Appendix A - Accessing Tech Support (US Site Example)

Go to ups.com and log in to myUPS with your ID and PW.

Hover over the "Support" tab, and select "Technology Support" from the drop-down.

From the Technology Support page select the Developer Resource Center link from the left navigation.

From the Developer Resource Center page select the "Email UPS" link in right hand column.
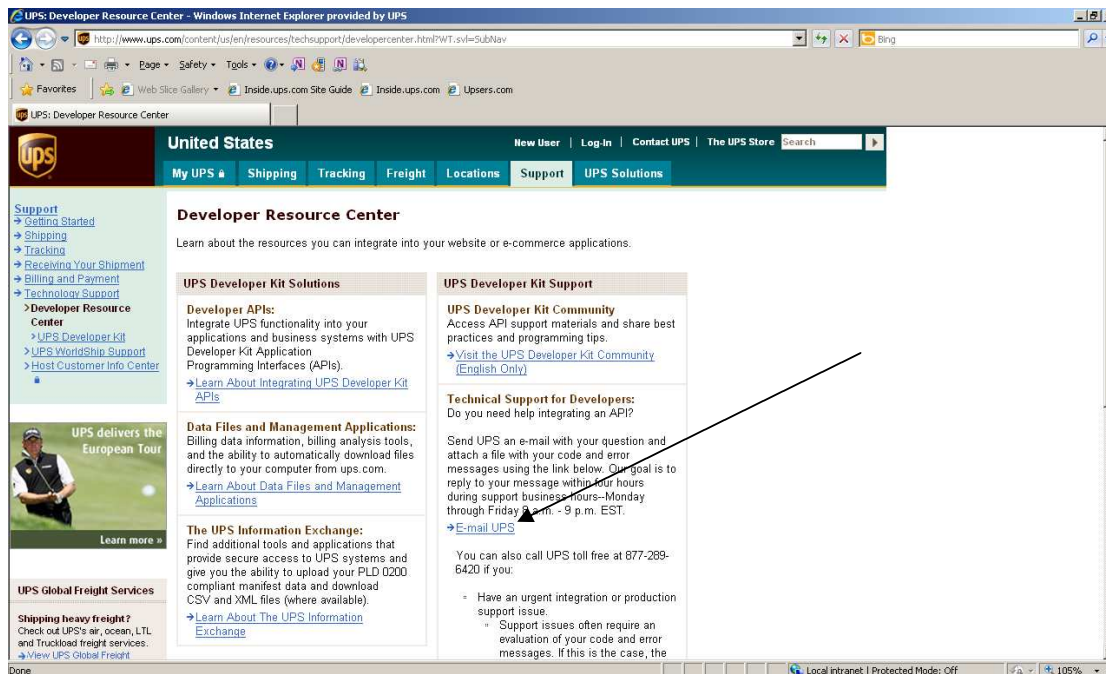
Complete Name, email address, Support Category must be "Technical Support", and Support Topic must be "Developer Resource". Select the "Next" button.
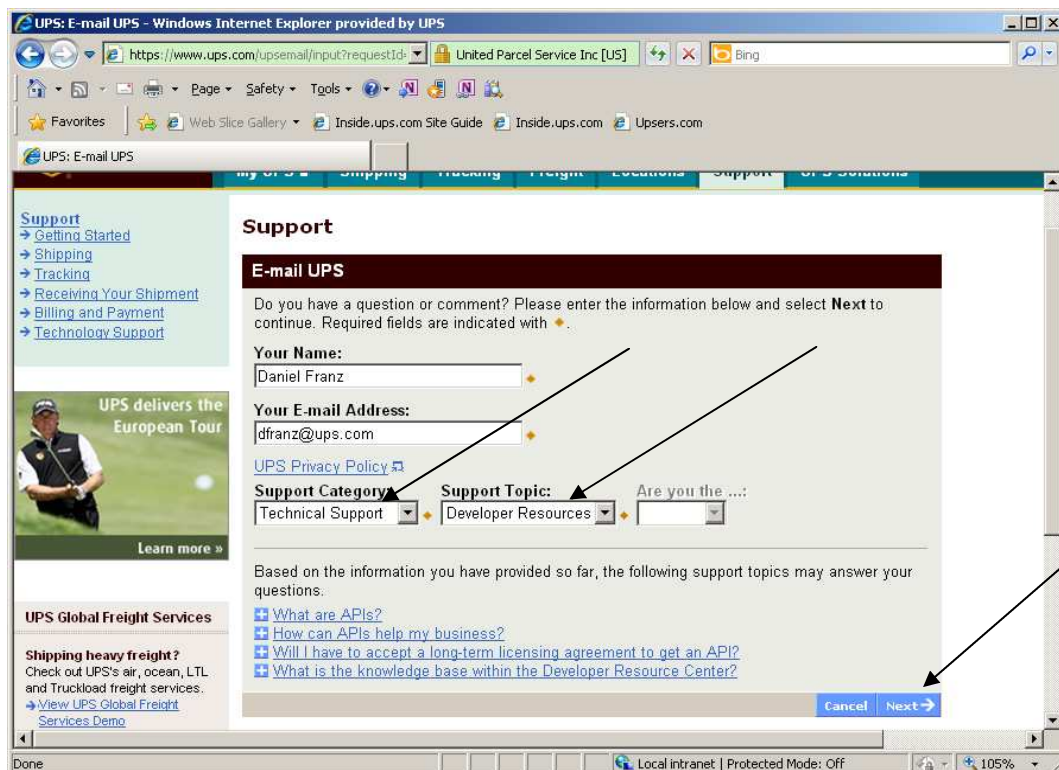
Scroll down the page and complete the remainder of the email form including "Your Telephone", "Stage of Development", "Developer Resource" which is which API you are integrating, "Attach File" where you attach your XML Request/Response Pair, and any pertinent description of the issues in the "What is your question or comment?" field. Select "Send Email" button.

The screen below will appear. Please see "Technical Support (US)" within this document for tech support hours of operation and response times.

Appendix B – Freight Rate Web Services Error Codes

To discover errors, check the ResponseStatusCode element. A "1" normally indicates a successful response, whereas a "0" indicates an error, either Transient or Hard. When an error occurs there will also be an error code, and an error description.

Success – Successful responses may or may not include **Warnings**.

- (without warnings) Request is processed as anticipated by the client.
- (with warnings) *Warning* messages indicate that UPS was able to process the request; however (potentially) unanticipated results have also occurred. The warning contains information in the response that should be passed to the end user.

Errors – will return two different levels of severity.

- *Transient* errors are temporary errors, due to temporary high server loads or scheduled maintenance, for example. The application may re-issue the request at a later time.
- *Hard* errors indicate that an error existed in the request that UPS could not resolve. These errors are critical and prevent requests from processing.

Applications should not re-issue requests with hard errors without first correcting the error.
The following table lists the errors that UPS may return in response to a request.

Error Code	Severity	Description
10001	Hard	The XML document is not well formed
10002	Hard	The XML document is well formed but not valid
10003	Hard	No XML document found
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 this service
20001	Transient	Service Unavailable
20002	Hard	The specified service name, {0}, and version number, {1} combination is invalid
20007	Hard	Missing Required field, {0}
20008	Hard	The field, {0}, contains invalid data, {1}
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
250006	Hard	The maximum number of user access attempts was exceeded
250007	Hard	The UserId is currently locked out, please try again in 24 hours
250009	Hard	License Number not found in the UPS database
250019	Hard	Invalid Field Value
250050	Transient	License system not available
250051	Transient	Not allowed to create new License
250052	Transient	Authorization system is currently unavailable

Error Code	Severity	Description
9360733	Hard	Invalid Tariff Point Code
9380000	Transient	Freight Rate Web Service is Unavailable
9380061	Hard	Missing or Invalid Account Type Code
9380101	Hard	Missing Payment Information
9380151	Hard	Missing Shipment Billing Option
9380201	Hard	Missing Service
9380216	Hard	Missing or Invalid Handling Unit One Quantity
9380217	Hard	Missing Handling Unit One
9380231	Hard	Missing or Invalid Handling Unit Two Quantity
9380232	Hard	Missing Handling Unit Two
9380240	Hard	Missing Shipment Total Weight Value
9380241	Hard	Missing the Unit of Measurement for Shipment Total Weight
9380242	Hard	Missing or Invalid Unit of Measurement Code for Shipment Total Weight
9380247	Hard	Missing Commodity {0} Weights Unit Of Measure
9380249	Hard	Missing Packaging Type of Commodity {0}
9380250	Hard	Missing Packaging Type of Commodity {0}
9380301	Hard	Missing COD Value
9380302	Hard	Missing the COD Payment Method
9380303	Hard	Missing the COD Billing Option
9380304	Hard	Missing Remit To Address
9380305	Hard	Missing Remit To
9380316	Hard	Missing Overseas Leg Dimensions
9380317	Hard	Missing Unit of Measurement for Overseas Leg Dimensions
9380318	Hard	Missing or Invalid Overseas Leg Value
9380319	Hard	Missing or Invalid Overseas Leg Volume
9380320	Hard	Missing or Invalid Overseas Leg Height
9380321	Hard	Missing or Invalid Overseas Leg Length
9380322	Hard	Missing or Invalid Overseas Leg Width
9380323	Hard	Missing or Invalid Monetary Value for Overseas Leg Price per Cubic Foot
9380324	Hard	Missing or Invalid Monetary Value for Overseas Leg Price per CWT
9380325	Hard	Invalid combination of CWT and Cube for the Overseas Leg service option
9380336	Hard	Invalid combination of Percentage and Value for Handling Charge service option
9380337	Hard	Missing Dangerous Goods Name
9380338	Hard	Missing Dangerous Goods Phone
9380339	Hard	Missing or Invalid Dangerous Goods Phone Number
9380340	Hard	Missing or Invalid Sorting and Segregating Quantity
9380341	Hard	Missing or Invalid Declared Value Monetary Value for Shipment Service Option

Error Code	Severity	Description
9380342	Hard	Missing or Invalid Declared Value Currency Code for Shipment Service Option
9380343	Hard	Missing or Invalid Customs Value Monetary Value for Shipment Service Option
9380344	Hard	Missing or Invalid Customs Value Currency Code for Shipment Service Option
9380345	Hard	Missing or Invalid Handling Charge Percentage
9381000	Hard	Invalid Freight Rate Request Document
9380251	Hard	NMFC Commodity Prime Code is required when NMFC Commodity Sub Code is supplied for Commodity {0}
9380252	Hard	NMFCCommodity container and NMFCCommodityCode are mutually exclusive for Commodity {0}
9380371	Hard	Missing or Invalid Payer Account Number supplied for FRS pricing
9380372	Hard	Payer Account Number not FRS enabled
9380373	Hard	Invalid Alternate Rate Option
9389001	Warning	Payer Account Number required for FRS pricing
9389002	Warning	Payer Account Number not FRS enabled
9380001	Hard	Missing Ship From Phone
9380246	Hard	Missing Commodity {0} Weight
9380248	Hard	Missing Commodity {0} Dimension's Unit of Measurement
9380253	Hard	Missing or Invalid Commodity {0} Adjusted Weight Value
9380254	Hard	Missing the Unit of Measurement for Commodity {0} Adjusted Weight
9380255	Hard	Missing or Invalid Unit of Measurement Code for Commodity {0} Adjusted Weight
9380262	Hard	Missing or Invalid Handling Unit Weight Value
9380263	Hard	Missing the Unit of Measurement for Handling Unit Weight
9380264	Hard	Missing or Invalid Unit of Measurement Code for Handling Unit Weight
9380041	Hard	Missing or Invalid Shipper Number
9369080	Warning	Time in Transit (for FRS/GFP) information not available at this time.
9369081	Warning	Time in Transit (for FRS/ GFP) request details are invalid.
9369082	Warning	Pickup date to calculate Time in Transit (for FRS/ GFP) has been changed.
9369083	Warning	Negotiated rates (for FRS/ GFP) are not available. Published rates are returned.
9369085	Warning	FRS/ GFP Accessorial rate details are unavaliable.
9369087	Warning	FRS/ GFP Accessorial rate request is invalid. No rates returned.
9360541	Hard	Missing or Invalid Pickup Date.

Error Code	Severity	Description
9360079	Hard	UPS Freight® LTL Guaranteed A.M. service is not valid for the destination postal code you entered.
9360080	Hard	Shipment is not eligible for LTL guaranteed service.
9360081	Hard	Shipment is not eligible for UPS Freight® LTL Guaranteed A.M. service.
9360082	Hard	LTL guaranteed Service not available.
9368780	Hard	Invalid ship date. Ship date should not be in the past.
9368781	Hard	Invalid numbers of handling units. Should be between 1 and 9999.
9368782	Hard	Invalid request type. Valid values are L, F, B and P.
9368783	Hard	Invalid request party. Valid values are S, C and T.
9368784	Hard	At least one shipment is required.
9368785	Hard	Please contact UPS Freight Customer Service for Rates at 800-333-7400
9368786	Hard	Please contact UPS Freight Customer Service for Rates at 800-333-7400
9368787	Hard	Invalid Ship From Address.
9360083	Hard	Invalid destination postal code, please verify and resubmit.
9368788	Hard	Shipment weight must be less than 10,000 lbs
9368789	Hard	Please contact UPS Freight Customer Service for Rates at 800-333-7400
9368790	Hard	Weight unit of measure is invalid

Appendix C – Ground Freight Packaging Type

UPS Freight Services support a variety of packaging types. The following table lists the codes used to designate each type.

Code	Description
BAG	Bag
BAL	Bale
BAR	Barrel
BDL	Bundle
BIN	Bin
BOX	Box
BSK	Basket
BUN	Bunch
CAB	Cabinet
CAN	Can
CAR	Carrier
CAS	Case
CBY	Carboy
CON	Container
CRT	Crate
CSK	Cask
CTN	Carton
CYL	Cylinder
DRM	Drum
LOO	Loose
OTH	Other
PAL	Pail
PCS	Pieces
PKG	Package
PLN	Pipe Line
PLT	Pallet
RCK	Rack
REL	Reel
ROL	Roll

Code	Description
SKD	Skid
SPL	Spool
TBE	Tube
TNK	Tank
UNT	Unit
VPK	Van Pack
WRP	Wrapped

Appendix D – Ground Freight Packaging Codes

Freight shipments may include various charges. The following table lists the codes used to indicate these charges.

Code	Charge
2	Fuel Surcharge
ADV_NOTF	Arrival Notification
AFTR_DSCNT	Amount after Discount
CA_BORDER	Border Processing Fee
CA_CSTM_MNFST	Custom Manifest Fee
COD	Collect on Delivery fee
CON_ST_DEL	Construction Site Delivery
DEFICITRATE	Deficit Rate
DEFICITWGHT	Deficit Weight
DFCT_AMT	Deficit Charge
DSCNT	Discounted Amount
DSCNT_RATE	Discount Rate (as a percentage)
EXC_LEN	Extreme Length
FREEZE_PROT	Freezable Protection
HAZMAT	Hazardous Materials Charge
HICST	High Cost Service Area Surcharge
HOL_WE_PU_DEL	Holiday/Weekend Pickup or Delivery
INSD_PU_DEL	Inside Pickup/Delivery
L_UPGF_016	Custom Charge
LIFTGATE	Liftgate Fee
LIM_ACC_PU_DEL	Limited Access Pickup/Delivery
LND_GROSS	Gross Charges
MINCHARGE	Minimum Charge Applies
OFUELSURCHG	Ocean Fuel Surcharge
RESI_PU_DEL	Residential Pickup/Delivery
RMTLOC	Remote Location Fee
SORTSEG	Sorting and Segregation
TOTI	Total Island Charges
TOTO	Total Ocean Charges
GUAR_SERVICE	Guaranteed Service Charges
EXLI	Excess Declared Value Charges

Appendix E – Ground Freight Reference Number Codes

Freight shipments may include a reference number. The type of reference number may be indicated by a reference number code. The only reference numbers that can be tracked are Bill of Lading Number and Purchase Order Number. All other reference numbers up to five references can be printed on the BOL. The following table lists the reference number code values.

Code	Reference Number Type
57	Bill of Lading Number
28	Purchase Order Number
OTHER	TYPE_OTHER
PM	TYPE_PM
PROJ	TYPE_PROJ
QUOTE	TYPE_QUOTE
SID	TYPE_SID
TASK	TYPE_TASK
VPRC	TYPE_VPRC

Appendix F – Ground Freight Billing options

Freight shipments may include various charges. The following table lists the codes used to indicate these charges.

Code	Billing Option
10	Prepaid
30	Bill to Third Party
40	Freight Collect

Appendix G - Ground Freight Classes

The following table lists freight classes available from UPS freight services.

Freight Class
50
55
60
65
70
77.5
85
92.5
100
110
125
150
175
200
250
300
400
500

Appendix H- Ground Freight Service Codes

UPS offers a variety of freight delivery services. The following tables list the service code values for these services.

Code	Charge
308	UPS Freight LTL
309	UPS Freight LTL - Guaranteed
334	UPS Freight® LTL - Guaranteed A.M.

Appendix I- Ground Freight Handling Unit Codes

Code	Valid for Handling Unit One	Valid for Handling Unit Two	Description
SKD	X		SKID
CBY	X		CARBOY
PLT	X		PALLET
TOT	X		TOTES
LOO		X	LOOSE
OTH		X	OTHER

Appendix J- COD Billing Option Codes

Freight shipments may include various COD billing options. The following table lists the codes used to indicate these options.

Code	Billing Option
01	Prepaid
02	Freight Collect

Appendix K- COD Payment Method Codes

Freight shipments may include various COD Payment Methods. The following table lists the codes used to indicate these methods.

Code	Description
C	Cash
M	Company Check
R	Certified Check

Appendix L- Frequently Asked Questions – Rating Ground Freight

API	Category	Question	Answer
Rating	Fuel Surcharge	Is the Fuel Surcharge listed as a separate line item in the response for the Rating API for LTL?	Yes. The fuel surcharge is listed as a separate line item within the response.
Rating	Maximum Shipment Weight	What is the maximum shipment weight for LTL Freight?	Anything 10,000 lbs or over is considered a truckload move. Our public rate engine will not return a rate on shipments weighing equal to or more than 10,000lbs. Instead, the user gets the following message. Rate a Shipment is not available for this shipment. Please call Customer Service at 1-800-333-7400 for assistance with this rate.
Rating	Rating	Is Pallet Rating supported?	Pallet rating is not supported for online rating. Please contact 800-266-6902 for pallet rating.
Rating	Rating	Does the API rate offshore shipments?	No. Please call Customer Service at 1-800-333-7400 for offshore rating
Rating	Rates	Are there any rate structures that are not allowable for LTL Freight?	No. Czar and Czar Lite rate structures are permitted for use with the Rating or Shipping API for LTL Freight UPS Freight approval required.
Rating	Rates	I have CZAR rates…are they available for use with the LTL Freight Rating or Shipping APIs?	Yes. Czar and Czar Lite rate structures are permitted for use with the Rating or Shipping API for LTL Freight UPS Freight approval required.
Rating	Rates	Are Third Party or Freight Collect available through either the Rating or Shipping APIs?	Yes. The LTL Freight Rating and Shipping APIs are only available for the customers who are paying the invoice.
Rating	Rates	What rates can be returned using the rating API?	Published rates based on the UPS560 tariff or a contract rate negotiated with UPS Freight.
Rating	Rates	Can I choose the rate I want returned in the rate request?	No. The API supports a single rate type based on your setup with UPS Freight. (Examples: 1 – You do not have a negotiated rate contract with UPS Freight, Published rates will be returned. 2 – You have a negotiated rate contract with UPS Freight, your negotiated rate will be returned.)
Rating	Time in Transit	Is Time in Transit available through the LTL Freight Rating or Shipping APIs?	Yes. Time in Transit (Days in Transit) for Ground Freight is available in the Freight Ship and Freight Rate Web Service.

API	Category	Question	Answer
Rating	3rd Party/ Freight Collect Rating	We implemented the Rating API - LTL Freight last year and have had repeated difficulty getting correct rates to appear. The issue appears to revolve around the postal codes that are assigned to the account. With the Rating API - Package, it appears as if postal codes are agnostic, meaning that you can essentially plug in any two postal codes as origin and destination and get an appropriate rate based on the client's agreement. The Rating API - LTL Freight seems to be quite different can you please tell us what the difference is?	Rating API - LTL Freight does not behave like the Rating API - Package. In order for you to see your negotiated rates for freight the origin postal code and the postal code on file with UPS Freight must match. When something other than the LTL Freight Account postal code is used within the origin the response includes something other than their negotiated rates [eg. 60% UPS discount]. The Rating API - LTL Freight ONLY allows for one billing option, prepaid [similar to the Rating API - Package]. The Rating API - LTL Freight cannot do freight collect or third party. Until that functionality is available customers will not receive the rates for third party accounts or freight collect accounts. So, ultimately, the prepaid must be the origin shipper with the Rating API - LTL Freight.
All	General - security	Which digital certificates are supported?	We support chained digital certificates
All	General XML - Coding - Limited XML Coding Knowledge	I have no XML coding knowledge do you have any recommendations for how to get started?	Thank you for your inquiry. The only direct example of the XML APIs implemented is the Brown and Brown store whose demo can be viewed by clicking the following link and viewing the .pdf document: http://www.ups.com/content/us/en/bussol/offering/online_tools/downloads.html. To become more familiar with XML we would have to recommend reviewing some of the references listed in the Bibliography section at the end of the Rating API - Package Developer's Guide. There are also examples of XML in both the Developer's and Reference Guides. The Xpath in the Developer's Guide lists the descriptions of the XML tags and potential values. Once one is familiar with XML, the Xpath will help you fashion specific requests which can be posted to our servers and receive a proper XML response. The "readme.html" document in the Developer's Kit will help you get started using the two guides. Please note that the APIs were designed to be implemented by customers with a prior

API	Category	Question	Answer
			knowledge of XML along with a programming language. The main programming requirements the UPS Developer APIs have is that the XML document must be submitted to our servers via a POST using HTTPS (SSL). Depending upon your business needs and programming knowledge, your application can be simple or elaborate. Unfortunately, we do not support code directly; however, Java and Visual Basic code examples are supplied in the Reference Guide which can help guide customers to develop their own application. These examples are for a theoretical implementation and one may use portions of the code provided based on their environment and their application's design. If you are still deciding if the UPS Developer APIs will fulfill your business needs, you may also want to contact your UPS Account Representative for further guidance.
All	UPS Logos High Resolution	How do I get access to higher resolution logos than what are available within the download for the UPS Developer Kit - Developer APIs?	Customers are not routinely provided these UPS shield graphics without having a design/layout submitted to UPS Brand Management for approval. The customer needs to visit: https://www.upsbrandexchange.com/brandHome.awsp This site will take them through the process for downloading a limited set of sample images for layout, and how to secure an approval for customer use, as well as the high-resolution graphics.
All	Technical Support email form	Is XPCI a required field within the email support form?	No.

API	Category	Question	Answer
All	Technical Support email form	Where is the XPCI version number obtained and what does it mean?	XPCI stands for XML Package Carrier Interface (XPCI) and defines a vocabulary and structure for describing packages, shipments, and the activity details for package carriers and their customers. XPCI is a set of DTDs that defines the terminology, transaction enveloping, and XML message definitions. For a client to be XPCI-compliant, the client must generate a well-formed XML message that validates against the XPCI DTDs. Several DTDs, organized into three categories, define XPCI: Vocabulary — This DTD defines the basic business vocabulary of XPCI. All tags used in a message are defined in this DTD. Interchange — This DTD defines the transaction-enveloping scheme. Every message includes transaction information. Message — Each message has an associated DTD that defines the vocabulary of the message. The version and date would have been related to versioning however the APIs were not versioned so they currently do not carry significance. They remain as part of the APIs so that in the event they are versioned, we have these elements "just in case".
All	Technical Support	How do I get technical support for the APIs at ups.com?	Go to the Developer Resource Center and select email support under the UPS Developer Kit Support Column.

API	Category	Question	Answer
All	System Down-Times	Is there any designated system down time for the Developer APIs?	Yes. The overall reserved downtime for the CGI servers is Saturday 10:00 PM ET through Sunday 12:00 PM ET. However, often the window is shortened to two 15 minute intervals with one starting at 11 PM and the other occurring sometime between 1 and 3 AM ET Sunday morning for most weekends. The back end goes through numerous updates typically beginning at 11:00PM Saturday through 4:00AM Sunday. Typically traffic is handled in such a way that there is very little impact to customers, and any impact which does occur does so in the small 15 minute intervals mentioned previously. Having said this as this entire time is reserved for maintenance we inform customers of the possibility of experiencing issues throughout this time period so that if there are any issues which occur during maintenance we have a time window to troubleshoot and perform measures to resolve. On Sunday, the maintenance is really relegated to just ABR and freight.
All	ASMX	Are the Web Services versions of the APIs ASMX based?	No. All Web Services are XML based. This is described in the section 'UPS OnLine Tools Technologies' of every developer's guide
All	Web Services - Empty folders within the documentation zip file.	The ship_dev_guide and Ship_Reference_guide folders have some sub folders that look like they should contain some code examples / samples but they are all empty? XML_Samples Visual_Basic Code_samples All empty?	Unfortunately code samples are not provided with the Shipping API - Web Services version. The reason being is that a WSDL is included which provides all of the necessary information needed to successfully implement the API. These folders are typically utilized in the XML version of the APIs as there is no WSDL present. If the customer wishes to view the samples contained in the Shipping API they can download the documentation by logging into UPS.com, navigating to the UPS Developer Kit, and then clicking on the Shipping API link.

API	Category	Question	Answer
All	Pointing to the wrong URL for API	I keep getting, "XML document is well formed but the document is not valid." error message. What am I doing wrong?	The "XML document is well formed but the document is not valid" error message is generally returned when an element in the XML request does not adhere to the formatting defined within the Xpath section of that API's developer guide. When the API returns this error it indicates the field which is not valid in the ErrorLocationElementName element in the XML response. When we test the XML provided by you earlier in this email chain we are able to receive a successful response. This would indicate that you may be posting to an incorrect URL. The error message returned from the API should have contained a line similar to the following: <ErrorLocationElementName>XPATH TO FIRST ELEMENT WHERE XML DOESN'T MATCH EXPECTED FORMAT</ErrorLocationElementName> As previously stated, this element is included in the XML error response to point you to the element of the posted request which is not valid for the Tool. When further clarification is needed you can look up the element in question in the Xpath section of the Developer Guide for the particular API. If this element lists another API's request such as "TrackRequest" it would indicate that you are posting to that API's URL and need to adjust the URL you are sending your XML to.
All	Phone Support	Is phone support provided for the UPS Developer Kit - Developer APIs? If so, what is the number and what are the hours of operation?	Yes. Phone support is provided at 1st Level only and for basic API questions. This includes integration questions and production questions. However, customers' questions that cannot be answered verbally will be directed to the email support form at ups.com to escalate to 3rd level via email.Phone Support Hours:M-F 730am- 9pm ESTSa-Su 9am - 6pm EST 800.247.9035

API	Category	Question	Answer
All	Examples of API Implementations	Are there any examples of implementations that we can review to understand how best to utilize the APIs?	We do not share customer implementations of our tools amongst customers. On occasion we do post case studies on ups.com and articles in customer-facing newsletters, but that is only after gaining permission from the customer and working with Legal, Customer Communications, etc. Please understand that the XML tool is only data, which is transparent to the end user. How the developer implements the tool and presents results back to the end user can vary from web site to web site. These web sites may not highlight the full functionality of the tool. We need to be able to describe the value proposition of the tool without depending on another customer's usage. If they must see a visual, Daniel Franz, the Online Tools product manager refers customers to a UPS Ready provider that actually shows a demo of our tools. This may be better than just a screenshot from one customer's web site. Interactive example at shipworks.com http://www.interapptive.com/shipworks/quicktour.html Also, UPS is a user of our tools. Our Calculate Time and Cost application uses our Rating and Time in Transit Tools; Internet Shipping using our Shipping Tool; and Tracking at ups.com uses our Tracking Tool.
All	Code languages supported	Do the APIs support PHP or Perl with code sample within the Developer Guides or the developer kit zip files?	Yes. We currently support PHP or Perl with sample code.

Appendix M - Freight Rate Charge Type Codes

Freight rates may include various charges. The following table lists the codes used to indicate these charges.

Code	Description
FAS	Base Transportation Flat amount per shipment – Base Transportation
ACM	Automated Customs Manifest Service Fee
CCF	Customs Brokerage Related Customs clearance fee
COD	Check To Shipper Fee Changed from CHS to COD
DDS	Destination Beyond Charge Default delivery area surcharge
DOU	Destination Document(s) Fees Document generation usage
SDT	Delivery Duty Paid Service Fee Split Duty/Tax
DDU	Delivery Duty Unpaid Service Fee
DTD	Delivery Removed FRS – delivery to door
ECU	Export Customs Brokerage Export Compliance Checking (usage)
HAZ	Dangerous Goods Surcharge
DVS	Declared/Insured Value Surcharge Removed DCV - shipper extra value insurance
MDF	Misc. Destination Fees Recv detail – additional destination fee
MOF	Misc. Origin Fees
NCF	Nav. Canada Fee
RPS	Origin Beyond Charge Rural Pickup Surcharge
ODF	Origin Document(s) Fees
OVR	Oversize Surcharge Over maximum size
PSS	Peak Season Surcharge
PIK	Pickup
RES	Residential Delivery
REP	Residential Pickup
SAT	Saturday Delivery
SPU	Saturday Pickup
SEC	Security Fee
SIG	Signature Security Fee
GST	Goods and Service Tax
HST	Harmonized Sales Tax
IST	International Sales Tax
PST	Provincial Sales Tax
TSC	Trade Show Fee
HAP	Hold at Airport for Pickup
LGS	Liftgate Required
NTS	Email Notification LTL/TL notification to ship
FSC	Fuel Surcharge
VAT	Value Added Tax –Value Added Tax

Appendix N - Freight Rate Reference Number Codes

UPS offers a variety of freight rate reference codes. The following table lists the air freight reference code values.

Code	Description
SH	Shipper Reference (Shipment Level Reference for E2K)
CO	Consignee Reference (Shipment Level Reference for E2K)