TNT Express

ExpressConnect

ExpressConnect Pricing Integration Guide v2 Schema

Revision History

Date	Version	Description
26/07/2012	1.0	First revision of technical user guide for ExpressConnect Pricing
30/07/2012	1.1	Minor changes following review
31/07/2012	1.2	Addition of error messages and sample client request
17/08/2012	1.3	Correction made following UAT
18/09/2012	1.4	Removed invalid elements from example UK Domestic request.

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1. Introduction

ExpressConnect Pricing is part of the ExpressConnect family, providing B2B interfaces into TNT's operational and financial systems. The ExpressConnect Pricing interface is used to provide an estimated cost for the delivery of the consignment.

This manual provides a technical guide to the ExpressConnect Pricing interface. It is designed to help developers understand the interface sufficiently to program an application to request an estimated cost for the consignment. With the use of XML (extensible mark-up language) technology, this will provide price checking functionality for multiple PRICECHECK submissions. The majority of examples in the document will be XML based as it is easier to understand the data involved.

Return data from TNT will be formatted as XML, again in a predetermined structure. When this data is returned to a client, they may parse it for storage or presentation, as they require.

An ExpressConnect Login Id will be arranged by your TNT representative. The customer must supply a list of valid TNT accounts numbers to be used with the system. A secure connection is thus set up, using both authentication and secure protocols, to submit requests and to receive processed PRICECHECK labels based on the published URL:

https://express.tnt.com/expressconnect/pricing/getprice

Sample scripts are provided to show how a connection can be achieved together with example requests and responses to illustrate the data required; see Connecting to ExpressConnect Pricing. Consideration is given below to the networking and security requirements to ensure that this is successful.

This document is structured as follows:

- Registration
- Making a request to the TNT server
- Example XML Price Request Document
- Input XML Format - the structure and content of the request
- Processing the response - information about the data that will be returned
- Errors - possible error messages and the steps you can take to resolve them
- Connecting to ExpressConnect Pricing
- Appendices

ExpressConnect Pricing offers the ability for the client to retrieve the latest country, currency, towngroup, postcodemask, service, and option datasets from the TNT databases. The current version number of the client's copy of these datasets must be passed in with any price requests, to allow TNT to signify on return whether they need updating. Whilst this functionality is still available within the solution for backward compatibility, it is now obsolete via this interface. More information can be found in Appendix D

1.1 Legend

The following conventions have been used throughout this document.

Normal	The majority of text in this document is in this style. Section in this style are part of the narrative of the document
Code	Sections or words in this text indicate a section of XML, XML element, or section of code.
[0..1]	Digits within square brackets indicate the number of times an element may occur in an XML document. Examples include: [1] The element must appear once in the document [0..*]. The element may appear once, many times (unlimited) or not at all. [0..1] The element is optional. If it appears, it must appear only once. [1..5] The element may appear any number of times between 1 and 5 times
xsd:string	This indicates one of the schema types, in this case a string. More information on defined schema data types can be found at http://www.w3.org/TR/xmlschema-2/#built-in-datatypes
…	Means that the section has been omitted for the sake of clarity. This usually means that the omitted elements are described elsewhere or that the section where they appear is a repetition of a previous stanza. For example: <house> <room> <width unitOfMeasure="m">12</width> </room> <!-- the next room contains the same dimensions sections as the one above. --> <room>…</room> </house>

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2.Registration

Each customer is set up with a username and password, required for all communications with the system. The same username and password is used for ExpressConnect Shipping Pricing and Tracking.

Please contact your local TNT representative to complete a registration request.

3. Making a request to the TNT server

To make a Price request, you must construct an XML file which conforms to the standard set out in this document. The submission will be validated to check for any problems with the structure of the XML. This facility is provided to allow you to self-diagnose problems with the XML.

Before sending an XML document over the internet to TNT, you should verify that you understand the XML format by successfully using the Express Web Services Pricing site provided by TNT, contact your TNT representative for further information. The audience for the website is intended to be developers who can use it as a tool to test their XML and to analyse results, prior to and during the development of client applications. It includes a Test Harness that allows the developer to submit sample XML to the service.

Please note that the site requires you to enter your user id and password before displaying the test harness.

- ExpressConnect Pricing does NOT support non-ASCII characters.
- The demonstration site links to a production like environment so that it replicates exactly the results that the customer will achieve with their completed application.

Having made a successful submission of an XML document via the test page, you are ready to set up a socket connection and make a programmatic submission using HTTP POST to the following URL:

https://express.tnt.com/expressconnect/pricing/getprice

Please be aware that all submissions to the aforementioned URL will the require you to supply your user id and password in the body of the XML request.

More detailed information on connecting to the ExpressConnect servers can be found in Connecting to ExpressConnect Pricing.

4. Example XML Price Request Document

An example is provided below of a typical price request. The request specifies a single consignment, with no specific service.

There can be multiple PRICECHECK elements in a request, so each one contains the RATEID element to act as a key to uniquely identify it. This is then used in responses to identify which one each returned price, error message, etc relates to.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<PRICEREQUEST>
     <LOGIN>
          <COMPANY>YOUR USERID</COMPANY>
          <PASSWORD>YOUR PASSWORD</PASSWORD>
          <APPID>PC</APPID>
     </LOGIN>
     <PRICECHECK>
          <RATEID>rate1</RATEID>
          <ORIGINCOUNTRY>GB</ORIGINCOUNTRY>
          <ORIGINTOWNNAME>Atherstone</ORIGINTOWNNAME>
          <ORIGINPOSTCODE>CV9 2RY</ORIGINPOSTCODE>
          <ORIGINTOWNGROUP/>
          <DESTCOUNTRY>ES</DESTCOUNTRY>
          <DESTTOWNNAME>Alicante</DESTTOWNNAME>
          <DESTPOSTCODE>03006</DESTPOSTCODE>
          <DESTTOWNGROUP/>
          <CONTYPE>N</CONTYPE>
          <CURRENCY>GBP</CURRENCY>
          <WEIGHT>0.2</WEIGHT>
          <VOLUME>0.1</VOLUME>
          <ACCOUNT/>
          <ITEMS>1</ITEMS>
     </PRICECHECK>
</PRICEREQUEST>
```

Figure 1

5.Input XML format

The input XML format for ExpressConnect Pricing is a list of price requests.

The structure for a Price Request is described below in detail. Alternatively, refer to Appendix A which contains a summary of the points below.

Note

It should be noted that XML defines a number of characters which are reserved. These include the greater-than (>), less-than (<), ampersand (&), and percent (%) characters. Where these appear in the data which is being submitted to ExpressLabel, the characters must be escaped or the content surrounded with a CDATA section.

A common requirement is to submit an address which includes a company name such as: "Andrews & Plummer". The ampersand must therefore be escaped as per the XML rules (&) or alternatively the whole or part of the text must be wrapped in a CDATA section as follows:

…
  <name><![CDATA[Andrews & Plummer]]></name>

The request has the following structure:

- Header – always required, this defines the XML document
- Price request– A list of PRICECHECK elements for which a price is required

5.1 Header

The header section will begin every ExpressConnect Pricing request XML document submitted to TNT.

This contains the XML declaration, which contains the character encoding used for the document and the standalone attribute, which should be set to "no":

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
```

Figure 2

5.2 The PRICEREQUEST element

A Price Request at a high level is structured as shown is Figure 3:

```
<PRICEREQUEST>
      <LOGIN>
            <COMPANY>YOUR USERID</COMPANY>
            <PASSWORD>YOUR PASSWORD</PASSWORD>
            <APPID>PC</APPID>
      </LOGIN>
      <PRICECHECK>
            …
      </PRICECHECK>
      <PRICECHECK>
            …
      </PRICECHECK>
</PRICEREQUEST>
```

Figure 3

A PRICEREQUEST contains a single LOGIN element, which contains the username and password.

A PRICEREQUEST contains 1 or more PRICECHECK elements. This allows batching of pricing requests. Each PRICECHECK element contains the set of information needed to generate an estimate cost for the PRICECHECK referenced.

A PRICECHECK element contains a key attribute that identifies it uniquely *within the request*. The response will associate pricing data and validation errors with their PRICECHECK requests through this key. The value of this key must be of type string and is only valid in ExpressConnect Pricing for a single transaction - i.e. ExpressConnect Pricing does not retain any history of the keys used once a request has been processed and a response sent to the client system.

5.3 The LOGIN element

Each LOGIN element contains the following information:

```
<LOGIN>
      <COMPANY>YOUR USERID</COMPANY>
      <PASSWORD>YOUR PASSWORD</PASSWORD>
      <APPID>PC</APPID>
</LOGIN>
```

Figure 4

All elements are mandatory.

It contains a COMPANY element which should contain your username as supplied by your TNT Representative. The PASSWORD element contains the associated password for this use.   Failure to provide correct information will result in an invalid PRICEREQUEST.

The **APPID** element should be defaulted to "PC". This element is used by various source applications to highlight where the request was made, it has no bearing on the estimated cost returned.

5.4 The PRICECHECK element

Each PRICECHECK element may contain the following information:

```
    <PRICECHECK>
            <RATEID>rate1</RATEID>
            <ORIGINCOUNTRY>GB</ORIGINCOUNTRY>
            <ORIGINTOWNNAME>Atherstone</ORIGINTOWNNAME>
            <ORIGINPOSTCODE>CV9 2RY</ORIGINPOSTCODE>
            <ORIGINTOWNGROUP/>
            <DESTCOUNTRY>GB</DESTCOUNTRY>
            <DESTTOWNNAME>Hinckley</DESTTOWNNAME>
            <DESTPOSTCODE>LE10 1YG</DESTPOSTCODE>
            <DESTTOWNGROUP/>
            <CONTYPE>N</CONTYPE>
            <CURRENCY>GBP</CURRENCY>
            <WEIGHT>0.2</WEIGHT>
            <VOLUME>0.1</VOLUME>
            <ACCOUNT accountcountry='GB'>123456789</ACCOUNT>
            <ITEMS>1</ITEMS>
            <UKDOMESTIC>
                    <COMPANYNAME>ABC Bikes Ltd.</COMPANYNAME>
                    <CONTACTNAME>Fred Bloggs</CONTACTNAME>
                    <CONTACTPHONENUMBER>01287 710683</CONTACTPHONENUMBER>
                    <GOODSDESCRIPTION>Computer equipment</GOODSDESCRIPTION>
                    <GOODSVALUE>1000</GOODSVALUE >
                    <UNNUMBER>1234</UNNUMBER>
                    <VOLUMEWEIGHT>0.2</VOLUMEWEIGHT>
                    <CARRFORWARD>1</CARRFORWARD>
                    <ENHANCEDLIAB>1</ENHANCEDLIAB>
                    <DANGEROUSGOODS>1</DANGEROUSGOODS>
                    <FUELSUPP>11.11</FUELSUPP>
                    <SHIPDATE>24/01/2011</SHIPDATE>
                    <CONLINE>
                            <LINEITEMS>2</LINEITEMS>
                            <LINEWEIGHT>1.25</LINEWEIGHT>
                            <LINELENGTH>12</LINELENGTH>
                            <LINEWIDTH>23</LINEWIDTH>
                            <LINEHEIGHT>10</LINEHEIGHT>
                            <LINEPALLET>1</LINEPALLET>
                    </CONLINE>
                    <CONLINE>
                            <LINEITEMS>1</LINEITEMS>
                            <LINEWEIGHT>0.750</LINEWEIGHT>
                            <LINELENGTH>14</LINELENGTH>
                            <LINEWIDTH>33</LINEWIDTH>
                            <LINEHEIGHT>10</LINEHEIGHT>
                            <LINEPALLET>0</LINEPALLET>
                    </CONLINE>
            </UKDOMESTIC>
    </PRICECHECK>
```

Figure 5

A PRICECHECK is made up of the following parts. Except where noted, every element is required once.

5.5 The `RATEID` element

The `RATEID` identifies the PRICECHECK uniquely within the request.

```
<RATEID>rate1</RATEID>
```

Figure 6

It is recommended that the value is unique within the PRICEREQUEST to allow easy identification of results to requests.

5.6 The `ORIGINCOUNTRY` element

The `ORGINCOUNTRY` is a mandatory element and is the country where the shipment will be collected and sent from. It is represented by the 2 digit ISO 3166-1 Alpha-2 country code.

```
<ORIGINCOUNTRY>GB</ORIGINCOUNTRY>
```

Figure 7

5.7 The `ORIGINTOWNNAME, ORIGINPOSTCODE and ORIGINTOWNGROUP` elements

These elements identify where the shipment originates.

```
<ORIGINTOWNNAME>Atherstone</ORIGINTOWNNAME>
<ORIGINPOSTCODE>CV9 2RY</ORIGINPOSTCODE>
<ORIGINTOWNGROUP/>
```

Figure 8

These elements are optional but it is recommended that these are supplied to allow an accurate as possible estimated cost to be determined. The postcode and town combination must match and offers the greatest level of accuracy for the estimated cost.

If these are not known but the TNT collection depot is known, then this can be supplied instead via the `ORIGINTOWNGROUP.`

If neither the postcode / town or collection depot is known, then the default collection depot for the country will be used. This may reduce the accuracy of the returned price.

If all three are supplied then they will be validated but the postcode and town will be used in the cost estimation process.

5.8 The `DESTCOUNTRY` element

The `DESTCOUNTRY` is a mandatory element and is the country where the shipment will be delivered to. It is represented by the 2 digit ISO 3166-1 Alpha-2 country code.

```
<DESTCOUNTRY>GB</DESTCOUNTRY>
```

Figure 9

5.9 The `DESTTOWNNAME, DESTPOSTCODE and DESTTOWNGROUP` elements

These elements identify where the shipment will be sent.

```
<DESTTOWNNAME>Hinckley</DESTTOWNNAME>
<DESTPOSTCODE>LE10 1YG</DESTPOSTCODE>
<DESTTOWNGROUP/>
```

Figure 10

These elements are optional but it is recommended that these are supplied to allow an accurate as possible estimated cost to be determined. The postcode and town combination must match and offers the greatest level of accuracy for the estimated cost. If the combination is not known then either can be supplied but this may result in a town/postcode not unique warning, which may reduce the accuracy of the estimated cost.

If these are not known but the TNT delivery depot is known, then this can be supplied instead via the `DESTTOWNGROUP.`

If all three are supplied then they will be validated but the postcode and town will be used in the cost estimation process.

5.10 The `CONTTYPE` element

These elements identify whether you are shipping a "D" Document (paper/manuals/reports) or "N" Non-document (packages).

```
<CONTYPE>N</CONTYPE>
```

Figure 11

Document services are not offered for a number of TNT domestic shipments. For domestic shipment within these countries please use a `CONTYPE of` "N" for Non-document.

5.11 The CURRENCY element

This element indentifies the currency that the estimate costs should be returned in.

```
<CURRENCY>GBP</CURRENCY>
```

Figure 12

It is represented by the 3 digit ISO 4217 Alpha-3 currency codes.

5.12 The WEIGHT and VOLUME elements

These elements describe the package being shipped.

```
<WEIGHT>0.2</WEIGHT>
<VOLUME>0.1</VOLUME>
```

Figure 13

The WEIGHT element contains the total weight of the shipment in Kilograms and is a mandatory element.

The VOLUME element contains the total volume of the shipment in cubic metres and is a mandatory element for Non-documents, CONTYPE = 'N'.

5.13 The ACCOUNT element

This element will contain payers account TNT number.

```
<ACCOUNT accountcountry='GB'>1234567890</ACCOUNT>
```

Figure 14

This must be a valid TNT account number as supplied by your TNT representative. This is an optional element but must be supplied to obtain accurate price estimates.

The accountcountry is an optional element and is the country where the TNT Account is held. It is represented by the 2 digit ISO 3166-1 Alpha-2 country code. If not supplied then this defaults to the sender country if it's a standard sender pays consignment, or receiver country if the consignment is receiver pays (see PAYMENTIND).

The account number must be authorised to be used by the userid and password supplied in the LOGIN element.

5.14 The ITEMS element

This element will contain the number of items within the shipment.

```
<ITEMS>1</ITEMS>
```

Figure 15

This is a mandatory element.

5.15 The `SERVICE` element

If you wish to determine the estimate cost for a shipment using a particular service then the service is populated within the element.

```
<SERVICE>09N</SERVICE>
```

Figure 16

It is recommended that this element is populated if known, to offer a more rapid response to the request.

If this element is not provided, then an estimated cost will be provided for all feasible services between the origin and destination based on the shipment details.

5.16 The `INSURANCE` element

This element is for Enhanced Liability in countries where insurance is not available.

```
<INSURANCE>1</INSURANCE>
```

Figure 17

A '1' indicates that Insurance/Enhanced Liability is required, '0' indicates that it is not required. This is an optional element that defaults to '0' if not supplied or populated.

Please refer to the TNT terms and conditions for further information on TNT's liability and coverage.

Please note this element is present for backward compatibility and does not currently affect the estimated cost.

5.17 The `PAYMENTIND` element

This identifies whether this is an import (receiver pays) or export (sender pays) shipment.

```
<PAYMENTIND>S</PAYMENTIND>
```

Figure 18

A `PAYMENTIND` type of "S" represents a sender pays shipments, "R" represents a receiver. If this element is not supplied then the payment type is defaulted to sender.

5.18 The `UKDOMESTIC` node

These elements are only required to obtain an estimate cost for a shipment within the United Kingdom. They are not used for shipments outside of the UK.

```
<UKDOMESTIC>
     <COMPANYNAME>ABC Bikes Ltd.</COMPANYNAME>
     <CONTACTNAME>Fred Bloggs</CONTACTNAME>
     <CONTACTPHONENUMBER>01287 710683</CONTACTPHONENUMBER>
     <GOODSDESCRIPTION>Computer equipment</GOODSDESCRIPTION>
     <GOODSVALUE>1000</GOODSVALUE >
     <UNNUMBER>1234</UNNUMBER>
     <VOLUMEWEIGHT>0.2</VOLUMEWEIGHT>
     <CARRFORWARD>1</CARRFORWARD>
     <ENHANCEDLIAB>1</ENHANCEDLIAB>
     <DANGEROUSGOODS>1</DANGEROUSGOODS>
     <FUELSUPP>11.11</FUELSUPP>
     <SHIPDATE>24/01/2011</SHIPDATE>
     <CONLINE>
          <LINEITEMS>2</LINEITEMS>
          <LINEWEIGHT>1.25</LINEWEIGHT>
          <LINELENGTH>12</LINELENGTH>
          <LINEWIDTH>23</LINEWIDTH>
          <LINEHEIGHT>10</LINEHEIGHT>
          <LINEPALLET>1</LINEPALLET>
     </CONLINE>
     <CONLINE>
          <LINEITEMS>1</LINEITEMS>
          <LINEWEIGHT>0.750</LINEWEIGHT>
          <LINELENGTH>14</LINELENGTH>
          <LINEWIDTH>33</LINEWIDTH>
          <LINEHEIGHT>10</LINEHEIGHT>
          <LINEPALLET>0</LINEPALLET>
     </CONLINE>
</UKDOMESTIC>
```

Figure 19

A number of these elements are mutually exclusive with the PRICECHECK elements, more information can be found in Mutually exclusive element.

The good value is required if the shipment covered by Enhanced Liability and must be supplied in pounds sterling.

Please refer to the TNT terms and conditions for further information on Dangerous/Hazard.   If you are approved to ship dangerous goods, and wish to obtain an estimate cost for doing so, please set the DANGEROUSGOODS element to '1' (true), and supply an associated UN number. UN numbers are four-digit identifiers for hazardous/dangerous substances, and articles (such as explosives, flammable liquids, toxic substances, etc.).

If you wish to determine the estimated cost for a carriage forward services, then the CARRFORWARD element should be set to '1' (the default is '0').   Carriage forward services allow you to call your local TNT UK depot for a same working day collection to be made from any distant address, by another TNT UK depot, using our radio and mobile data equipped fleet of response vehicles. Carriage forward shipments can be delivered to any address specified by you. You must arrange for all the items in a carriage forward shipment to be correctly labelled and addressed by the sender.

If you have been provided a Fuel supplement charge value then this maybe entered into the FUELSUPP element in Pounds Sterling. It is expected behaviour for this element to not be supplied.

To obtain accurate estimated costs you need to supply details of each group of packages or consignment line. These elements describe the group of packages and whether they have been palletised. The weight is in kilograms and dimensions in centimetres. If the packages have been palletised then set the LINEPALLET '1' for true (the default is '0').

If the package is of a large volume but low weight then this can affect the cost of the shipment, using a volumetric weight convertor, where the TNT default is 250, you can supply the volumetric weight in the VOLUMEWEIGHT element.

The date of the week the shipment is made has on affect on the price and this can be highlighted using the shipping date (the date the packages will be collected from the sender).

5.19 Mutually exclusive elements

If the shipment is wholly within the United Kingdom and so the UKDOMESTIC has been supplied, then the following elements should not be supplied;

- SERVICE
- INSURANCE
- PAYMENTIND

6.Processing the XML Response

The document that is returned by the system is a standard XML document. It contains a Header and depending on the type of price request made one or more response elements containing pricing information.

For non-UK domestic price responses there will be a `<PRICE>` section for each service that is feasible for a successful Price Request - one that passed validation and contained all of the information necessary to create an estimate cost for the shipment.

 •

The document will contain a `<priceResponse>` section for each successful UK Domestic Price Request.

It is possible to have a combination of a `<priceResponse>` section and multiple `<PRICE>` nodes.

In addition to price response elements, there may be a number of `<ERROR>` section. These nodes represent validation errors, and may be used to report on the availability of the system.

6.1 High level description of an XML Response Document

The first section contains the usual XML header; see Header and Root Element. The ROOT node contains all the responses to the price requests.   Within the root node there are 4 main sections

 • `<PRICE>` – If the `<Service>` element has been populated then there will be one per PRICECHECK, or up to 10 `<PRICE>` sections per PRICECHECK if no service has been specified.
 • `<priceResponse>` – UK Domestic price response, there is one per PRICECHECK.
 • `<ERROR>` – There will be one per error or earning encountered
 • `<DATASETS >` – This section is for backward compatibility and is no longer used.   More information can be found in Appendix D

6.1.1Header and Root Element

As explained above, the header section will begin every ExpressConnect Pricing response XML document sent back by TNT. This contains the XML declaration, which defines the encoding of the document. The root element, `Document`

If the system has encountered a fatal error, this will appear as a `fault.` This is discussed in more details in the section on Errors.

```
<?xml version="1.0" encoding="utf-8" standalone="yes"?>
<document>
     …
</document>
```

Diagram 20

6.1.2 The *PRICE* Sections

A PRICE section contains estimated cost information for a service, which may be used for the shipment request details defined in the PRICECHECK element.

There may be up to a maximum of 10 PRICE sections per PRICECHECK.

```
<PRICE>
    <RATEID>rate1</RATEID>
    <SERVICE>48N</SERVICE>
    <SERVICEDESC>Economy Express</SERVICEDESC>
    <OPTION>NONE</OPTION>
    <OPTIONDESC>NONE</OPTIONDESC>
    <CURRENCY>GBP</CURRENCY>
    <RATE>164.53</RATE>
    <RESULT>N</RESULT>
</PRICE>
```

Diagram 21

It RATEID is used to associate the Price response with the corresponding PRICECHECK.

The price list element will contain a result. The rate identified supplied by the customer is returned along with the service and options codes/descriptions, rate (excluding V.A.T.) and a result code. If the result code is N then no rate was available for that service.

6.1.3 The *priceResponse* Section

There is a single `priceResponse` section for each PRICECHECK where the `UKDOMESTIC` element has been defined.

The price request is made up of elements to audit and describe the respond, as well as pricing information on services that could be used to fulfil the shipment details in the price request.

```
<<priceResponse>
    <generatedByName>10.210.132.246</generatedByName>
    <generatedById>10.210.132.246</generatedById>
    <requestDateTime>2012-07-27T08:56:16</requestDateTime>
    <quoteReference>1207-000200</quoteReference>
    <availableCollectionDate>2012-07-27T00:00:00</availableCollectionDate>
    <hazardousGoodsAllowed>false</hazardousGoodsAllowed>
    <collectionDepot>051</collectionDepot>
    <ratingDepot></ratingDepot>
    <accountName>Fredrick Bloggs Ltd.</accountName>
    <divisionNumber>010</divisionNumber>
    <noteType>3</noteType>
    <enhancedLiabilityIndicator>false</enhancedLiabilityIndicator>
    <options>CZ</options>
    <bookingStatus>QuoteViaWeb</bookingStatus>
    <quoteComment>Generated via Web Request</quoteComment>
    <availableDeliveries>
      <date>2012-07-30T00:00:00</date>
      <reference>1</reference>
      <ratedServices>
        <ratedService>
          <deliveryReference>1</deliveryReference>
          <code>1</code>
          <description>EXPRESS</description>
          <division>D</division>
          <charge>90.71</charge>
          <guaranteed>true</guaranteed>
          <discount>0.00</discount>
          <surcharges>
            <category>CZ</category>
            <description>CFwd and Hazardous Supplement</description>
            <charge>41.00</charge>
            <commodityCode></commodityCode>
            …
          </surcharges>
          <deliveryDate>2012-07-30T00:00:00</deliveryDate>
          <accepted>true</accepted>
          <commodityCode></commodityCode>
        </ratedService>
        <ratedService>
          …
        </ratedService>
          …
      </ratedServices>
    </availableDeliveries>
  </priceResponse>
```

Diagram 22

6.1.3.1 The generatedByName, generatedById, requestDateTime *and* quoteReference elements

The generatedByName, generatedById, requestDateTime and quoteReference, are used to uniquely identify the rating response.

```
<generatedByName>10.210.132.246</generatedByName>
<generatedById>10.210.132.246</generatedById>
<requestDateTime>2012-07-27T08:56:16</requestDateTime>
<quoteReference>1207-000200</quoteReference>
```

Diagram 23

6.1.3.2 The availableCollectionDate element

The next available collection date after the supplied shipping date will be returned in the availableCollectionDate element

```
<availableCollectionDate>2012-07-27T00:00:00</availableCollectionDate>
```

Diagram 24

The date format is CCYY-MM-DD.

6.1.3.3 The collectionDepot, ratingDepot, accountName, divisionNumber, noteType, enhancedLiabilityIndicator, options, bookingStatus and quoteComment elements

There are a number of elements that have been retained in the interface for backward compatibility or to be used within TNT solutions using the same interface, they should not be coded into the user solution. These elements provide information on the shipment based on the supplied input.

```
<collectionDepot>051</collectionDepot>
<ratingDepot></ratingDepot>
<accountName>Fredrick Bloggs Ltd.</accountName>
<divisionNumber>010</divisionNumber>
<noteType>3</noteType>
<enhancedLiabilityIndicator>false</enhancedLiabilityIndicator>
<options>CZ</options>
<bookingStatus>QuoteViaWeb</bookingStatus>
<quoteComment>Generated via Web Request</quoteComment>
```

Diagram 25

6.1.3.4 The availableDeliveries section

There is an availableDeliveries section for each delivery date based on the services determined that the user may select to delivery the shipment based on the details supplied. Normally there will be one section returned for the next working day.   This section contains all the serviced that can be used to delivery on this date, these are detailed in the ratedServices.

```
<availableDeliveries>
      <date>2012-07-30T00:00:00</date>
      <reference>1</reference>
      <ratedServices>
            <ratedService>
                  …
            </ratedService>
            …
      </ratedServices>
</availableDeliveries>
```

Diagram 26

6.1.3.5 The ratedServices and ratedService sections

The ratedServices section can contain up to 10 ratedService elements.   Each service that can be rated and is feasibility used to delivery the shipment described in the price check.

```
<ratedServices>
  <ratedService>
    <deliveryReference>1</deliveryReference>
    <code>1</code>
    <description>EXPRESS</description>
    <division>D</division>
    <charge>90.71</charge>
    <guaranteed>true</guaranteed>
    <discount>0.00</discount>
    <surcharges>
     …
    </surcharges>
    <deliveryDate>2012-07-30T00:00:00</deliveryDate>
    <accepted>true</accepted>
    <commodityCode></commodityCode>
  </ratedService>
  <ratedService>
    …
  </ratedService>
     …
</ratedServices>
```

Diagram 27

The service code and description are returned in the `code` and `description` elements. The charge amount is in Pound sterling, as is the discount that has been provided. The delivery date format is CCYY-MM-DD

6.1.3.6 The surcharges sections

The `surcharges` section can contain up to 10 surcharges that applies to this shipment.

```
<surcharges>
  <category>CZ</category>
  <description>CFwd and Hazardous Supplement</description>
  <charge>41.00</charge>
  <commodityCode></commodityCode>
  <category>ELCF</category>
  <description>Enhanced Liability with CF</description>
  <charge>3.00</charge>
  <commodityCode></commodityCode>
  <category>D</category>
  <description>Residential Supplement - delivery</description>
  <charge>7.50</charge>
  <commodityCode></commodityCode>
  <category>8</category>
  <description>Express Index</description>
  <charge>11.11</charge>
  <commodityCode></commodityCode>
</surcharges>
```

Diagram 28

The surcharges category, associate description, charge code and where appropriate commodity code are returned for each rated service.   The charge amount is in Pound sterling.

7.Errors

There are a number of different errors that may occur when using ExpressConnect Pricing. Many of these are likely to be encountered in the initial development phase and are concerned with the format of the XML message and the presence of data items.

The remaining messages are concerned with validation of the data items and the availability of the service. The error messages are shown below:

It would be sensible to ensure that your code is capable of handling all of the potential error messages returned by ExpressConnect Pricing.

7.1Application generated errors

Application errors are included in your returned XML as they occur and take the following format:

- BrokenRules – These errors are returned as result of verification and validation of the request data.

```xml
  <?xml version="1.0" encoding="utf-8" standalone="yes"?>
<document>
  <DATASETS>
    <COUNTRY>UTD</COUNTRY>
    <CURRENCY>UTD</CURRENCY>
    <POSTCODEMASK>UTD</POSTCODEMASK>
    <TOWNGROUP>UTD</TOWNGROUP>
    <SERVICE>UTD</SERVICE>
    <OPTION>UTD</OPTION>
  </DATASETS>
  <ERROR>
    <CODE>P11</CODE>
    <DESCRIPTION>RATEID: rate1 - Invalid Country Code</DESCRIPTION>
  </ERROR>
</document>
```

- Fault – These errors are returned as result of an unexpected exception that has occurred during a request.

```
?
```

- XML processing error – These errors are returned if the XML supplied with the request does not comply with the ExpressConnect Pricing request schema and thus cannot be successfully parsed.

```
  <?xml version="1.0" encoding="utf-8" standalone="yes"?>
<parse_error>
  <error_reason>cvc-complex-type.2.4.a: Invalid content was found starting with element 'DESTTOWNNAME'.
One of '{DESTCOUNTRY}' is expected.</error_reason>
  <error_line>21</error_line>
  <error_linepos>17</error_linepos>
  <error_srcText></error_srcText>
</parse_error>
```

For possible `BrokenRules` errors see Table of application generated error codes, messages and resolutions on the following pages.

7.2 Table of application generated error codes, messages and resolutions

The Default Message column contains the English language message that is returned with each code. This value is intended to be used by systems integrators. For content management you should use the error code.

An element is considered empty if it contains no value or only whitespace. Therefore all of the following elements are empty:

```
<emptyElement/>

<emptyElement></emptyElement>

<emptyElement>              </emptyElement>
```

Error Code	Error Description	Default Message	Resolution
1	The XML in the request is not formatted correctly.	Failure to format incoming XML string	Ensure the XML in the request is of the correct structure. Refer to the XSD and available documentation to rectify.
2	The services returned in the response may not all be valid due to a failure to validate the possible services.	Failure to specify available Services: those returned might not all apply	Resubmit the request for all services.
3	The options returned in the response may not all be valid due to a failure to validate the possible options.	Failure to specify available Options: those returned might not all apply	Resubmit the request for all options.
4	Failure to retrieve details of the service or options.	Failure to retrieve Service/Option details	Resubmit the request. If the problem persists, contact the TNT helpdesk.
5	A timeout occurred when making a call to the database.	Price Check Failure: Time out on database.	Resubmit the request. If the problem persists contact the TNT helpdesk.
6	An error occurred on the TNT server.	Price Check Failure: Error in server	Resubmit the request. If the problem persists contact the TNT helpdesk.
7	No rates available for the request	Price Check Failure: No Rates Returned.	Source and destination addresses need to be serviceable by TNT.
8	Mandatory fields missing or invalid in the request XML.	FIELD/S MISSING OR INVALID. MANDATORY FIELDS ARE ORIGINCOUNTRY,	Ensure the XML in the request is of the correct structure and contains all mandatory fields. Refer to the XSD and available documentation to rectify.

Error Code	Error Description	Default Message	Resolution
		DESTCOUNTRY, CONTYPE,ITEMS,WEIGHT AND VOLUME(IF NONDOC).	
9	No price requests found in the XML	No Price Requests Found	Refer to the XSD and available documentation to rectify.
10	The account number entered is not associated with this customer	Invalid Account Number	Enter a valid account number.
11	The country code in the request XML is invalid.	Invalid Country Code	Ensure the country code matches one of those in the TNT dataset.
12	The town group specified in the request XML is invalid.	Invalid Town Group	TownGroup code must match a code in the TNT Towngroup dataset.
13	The rates returned are standard rates and do not include any account specific prices.	Standard Rates	If account specific rates are required then account details should be populated in the request XML.
14	Domestic price requests are not supported in the country specified.	Invalid Domestic Consignment	Domestic shipments should be within supported TNT countries.
15	The value of the Insurance element should be a number.	Insurance value must be numeric	Ensure the value of the Insurance element is a number.
16	Options have been specified in the request XML without an associated service code.	Service required with options	Ensure a service code is specified for the requested options.
17	The system was unable to retrieve the service and option for the request.	Unable to retrieve service/option	Refer to the XSD and available documentation to rectify.
18	The service specified in the request is invalid.	Service is invalid	Ensure the service in the request matches a code in the TNT dataset.
19	The system was unable to parse the request XML.	Pricing request failed with parsing error.	Ensure the XML is of a valid structure. Refer to the XSD and available documentation to rectify.
20	The request XML was not recognised as a Express Connect request.	XML supplied is not recognised as an ExpressConnect request.	Refer to the XSD and available documentation to rectify.
21	No data was received from the client.	No data received at gateway from client error	Resubmit the request.
22	The maximum number of options per service has been exceeded.	Exceeded maximum number of allowed options	A maximum of 5 options per service are allowed.
101	Origin address town not supplied	Origin address town not supplied	Supply origin address town
102	Origin address town and postcode not supplied	Origin address town and postcode not supplied	Supply origin address town and postcode.

Error Code	Error Description	Default Message	Resolution
103	Origin address town has not been recognized.	Origin address town not found	Ensure that the specified origin town is a valid town.
104	Origin address town results in more than one match	Origin address town not unique	Ensure the origin town is entered correctly. Do not use partial town names.
105	The origin address province maximum length has been exceeded.	Origin address province length exceeded	Maximum 30 characters.
106	Origin address postcode has been entered for a country that does not accept postcodes as part of the address.	Origin address postcode not allowed for selected country	Remove the origin postcode element from the request.
107	Origin address province not found	Origin address province not found	Ensure origin province is entered correctly or remove the origin province element.
108	The origin postcode is invalid in the request.	Origin address postcode invalid	Ensure the origin postcode element is entered correctly.
109	Origin address postcode has an invalid format. For example CV9 XTT is incorrect for a UK postcode.	Origin address postcode invalid format	Ensure the origin postcode element is entered correctly and is no longer than 9 characters.
110	Origin address postcode matches more than one town. This may occur if a partial postcode is entered.	Origin address postcode not unique	Ensure the origin postcode is entered correctly.
111	Origin address has an invalid town / postcode combination. For example if you entered a London postcode for Birmingham.	Origin address town/postcode combination invalid	Ensure origin postcode and/or town are entered correctly.
112	Origin address postcode is not within the valid range of postcodes for the town.	Origin address postcode not in valid range	Ensure origin postcode and/or town are entered correctly.
113	Origin postcode is missing from the request XML.	Origin address postcode not found	Ensure origin postcode is entered correctly
114	Origin country not found in the XML	Origin address country not supplied	Country is mandatory in the request.
115	Origin address country is not valid ISO 3166-1 ALPHA-2. (2 character alpha).	Origin address country not valid iso.	Ensure origin country is entered correctly.
116	Origin address town results in more than one match.	Origin address not unique	Ensure origin town and/or postcode are entered correctly. Do not use partial town or postcodes.

Error Code	Error Description	Default Message	Resolution
117	Origin address postcode is below minimum length for selected country	Origin address postcode is below minimum length for selected country	Ensure origin town and/or postcode are entered correctly. Do not use partial town or postcodes.
201	Destination address town not supplied	Destination address town not supplied	Supply destination address town
202	Destination address town and postcode not supplied	Destination address town and postcode not supplied	Supply destination address town and postcode.
203	Destination address town has not been recognized.	Destination address town not found	Ensure that the specified destination town is a valid town.
204	Destination address town results in more than one match	Destination address town not unique	Ensure the destination town is entered correctly. Do not use partial town names.
205	The Destination address province maximum length has been exceeded.	Destination address province length exceeded	Maximum 30 characters.
206	Destination address postcode has been entered for a country that does not accept postcodes as part of the address.	Destination address postcode not allowed for selected country	Remove the destination postcode element from the request.
207	Destination address province not found	Destination address province not found	Ensure destination province is entered correctly or remove the destination province element.
208	The Destination postcode is invalid in the request.	Destination address postcode invalid	Ensure the destination postcode element is entered correctly.
209	Destination address postcode has an invalid format. For example CV9 XTT is incorrect for a UK postcode.	Destination address postcode invalid format	Ensure the destination postcode element is entered correctly and is no longer than 9 characters.
210	Destination address postcode matches more than one town. This may occur if a partial postcode is entered.	Destination address postcode not unique	Ensure the destination postcode is entered correctly.
211	Destination address has an invalid town / postcode combination. For example if you entered a London postcode for Birmingham.	Destination address town/postcode combination invalid	Ensure destination postcode and/or town are entered correctly.
212	Destination address postcode is not within the valid range of postcodes for the town.	Destination address postcode not in valid range	Ensure destination postcode and/or town are entered correctly.
213	Destination postcode is missing from the request XML.	Destination address postcode not found	Ensure destination postcode is entered correctly

Error Code	Error Description	Default Message	Resolution
214	Destination country not found in the XML	Destination address country not supplied	Country is mandatory in the request.
215	Destination address country is not valid ISO 3166-1 ALPHA-2. (2 character alpha).	Destination address country not valid iso.	Ensure destination country is entered correctly.
216	Destination address town results in more than one match.	Destination address not unique	Ensure destination town and/or postcode are entered correctly. Do not use partial town or postcodes.
217	Destination address postcode is below the minimum length for selected country	Destination address postcode is below minimum length for selected country	Ensure destination town and/or postcode are entered correctly. Do not use partial town or postcodes.
301	The depot ID for the origin depot is not valid.	Delivery in depot id is not valid	Depot ID should be one of the valid TNT towngroup codes contained within the towngroup dataset.
302	The depot ID for the self collect delivery address is not valid.	Self collect depot id is not valid	Depot ID should be one of the valid TNT towngroup codes contained within the towngroup dataset.
401	The TNT backend system was unable to determine the route between the source and destination addresses.	Unable to determine traffic lane for route	Contact TNT helpdesk.
999	The user name and password specified in the request have not been recognised.	login details not recognised	Enter the correct username and password combination. Contact the TNT helpdesk if the problem persists.

8. Connecting to ExpressConnect Pricing

ExpressConnect Pricing is a HTTP web service, which defines an XML interface for data transfer. The XSD for the service can be found in the pricing section of the website. In the sections below we have shown two examples, one using Java and the other using PHP.

8.1.1XML

XML is very suited to environments where Hessian does not offer support. Performance is reduced as the messages are larger, however, it can be simpler to develop as the message are human readable and can be constructed using simple String manipulation.

Even for a simple XML connection a number of jar files are recommended,
  a. commons-httpclient-3.1.jar (http://hc.apache.org/httpclient-3.x/)
  b. commons-logging-1.1.1.jar (http://commons.apache.org/)
  c. commons-codec-1.3.jar (http://commons.apache.org/)

There are a number of useful xml libraries as part of the standard Java SE version, which may also be useful in parsing the result xml. See below an example request set up using HttpClient.

```java
public class XMLTestApp {

    public static void main(String[] args) throws IOException {
        // Create the xml request
        StringBuilder xmlRequest = new StringBuilder();
        xmlRequest.append("<?xml version=\"1.0\" encoding=\"UTF-8\"?>");
        xmlRequest.append("<PRICECHECK>");
        // complete the xml...

        // Post xml request to ExpressConnect pricing
        String url =
                "https://express.tnt.com/expressconnect/pricing/getprice";
        HttpPost post = new HttpPost(url);

        //Setup the request entity
        NameValuePair xmlInRequestParameter = new BasicNameValuePair("xml_in",
                xmlRequest.toString());
        List<NameValuePair> parameters = new ArrayList<NameValuePair>();
        parameters.add(xmlInRequestParameter);

        // Create the authentication element
        String userPassword = "user" + ":" + "password";
        byte[] encoding = Base64.encodeBase64(userPassword.getBytes());
        post.addHeader("Authorization", "Basic " + encoding);

        // Create the entity and put it in the post method
        post.setEntity(new UrlEncodedFormEntity(parameters));

        // Create a HttpClient to do the transfer
        HttpClient httpClient = new DefaultHttpClient();
        HttpResponse result = httpClient.execute(post);

        // Get the response as bytes.
        HttpEntity entity = result.getEntity();
        if (entity != null) {
            byte[] xmlBytes =  IOUtils.toByteArray(entity.getContent());
        }
    }
}
```

9. Appendix A: XML elements definition (input)

These tables contain all of the possible Input XML nodes and some information about their use. All elements are mandatory and must contain just one instance unless stated in the table below.

XML elements which do not contain a value but are merely a container for other elements are noted as **Container element**, the elements contained therein are described in the rows immediately below. Please remember that field values should be escaped using the ![CDATA[]] notation. At a minimum, all address fields should be escaped. Failure to escape these areas could result in unexpected problems if the value in an element contains an Ampersand (&).

For all data types described with a type prefix of 'xsd:' see XSD Data Types.

For all data types in the form 'stringMinLength*X*MaxLength*Y*', 'stringMaxLength*Y*', 'integerMin0Max9', doubleMaxExclusive*X* or longMaxLength*X* see Section 10.1 Custom Data Types.

Developer Notes

XML ELEMENT	DESCRIPTION	COMMENTS
PRICEREQUEST	Top level element for a message to ExpressConnect Pricing. **Container element**	The root XML element for a Price Request message. This element must contain one or more price requests, each one represented by a PRICECHECK element.
PRICECHECK	The PRICECHECK element represents a single request for a price request. **Container element**	Multiple price requests, each one in a PRICECHECK element may be submitted. The information within this element will be used to validate the addresses, determine the services, and produce the estimate costs for the shipment. Each PRICECHECK element must contain a key attribute that uniquely identifies the price request. The value of the key may be any alphanumeric string - typically this value will be an integer value i.e. the first request will have key="1", second value of key="2" and so on. Any validation errors will be tagged with this key so that you can identify the request in error.
LOGIN	Element to hold the COMPANY, PASSWORD and APPID. **Container element**	This element provides the Login instructions and must be supplied for each Price request message
COMPANY	Type = xsd:string stringMinLength10MaxLength10	The username supplied by the TNT representative. This is a mandatory element.
PASSWORD	Type = xsd:string	Contains the associated password for the username supplied in the COMPANY element. This is a mandatory element.

Developer Notes

APPID	Type = xsd:string	This is the application ID and should be set to 'PC'. This is a mandatory element.
RATEID	Type = xsd:string	It is recommended that the value is unique within the PRICEREQUEST to allow easy identification of results to requests. This is a mandatory element.
ORIGINCOUNTRY	Type = stringMinLength2MaxLength2	The ISO 3166-1 Alpha-2 country code for the country of the given address. This is a mandatory element.
ORIGINTOWNNAME	Type = stringMaxLength30	The town name as recognised by TNT.
ORIGINPOSTCODE	Type = stringMaxLength9	Postcode or zip code
ORIGINTOWNGROUP	Type = stringMaxLength5	The town group id as recognised by TNT.
DESTCOUNTRY	Type = stringMinLength2MaxLength2	The ISO 3166-1 Alpha-2 country code for the country of the given address. This is a mandatory element.
DESTTOWNNAME	Type = stringMaxLength30	The town name as recognised by TNT.
DESTPOSTCODE	Type = stringMaxLength9	Postcode or zip code
DESTTOWNGROUP	Type = stringMaxLength5	The town group id as recognised by TNT.
CONTYPE	Type = stringMaxLength1	Type of service for product chosen. Values are "D" for a document or "N" for non-documents. This is a mandatory element.
CURRENCY	Type =	The ISO 4217 Alpha-3 currency codes for the currency of the price request.

Developer Notes

	stringMinLength3MaxLength3	
WEIGHT	Type = doubleMaxExclusive100000	The total weight of the shipment, Mandatory element, must be supplied in Kilograms.
VOLUME	Type = doubleMaxExclusive100000	The total volume of the shipment, Mandatory element if non document, must be supplied in cubic metres.
ACCOUNT	Type = longMaxLength10	TNT account number, which is the 9 or 10 digit number assigned by the TNT sales person.
accountcountry	Type = stringMinLength2MaxLength2	ISO 3166-1 Alpha-2 country code for the country in which the TNT account is registered.
ITEMS	Type = xsd:int	The total number of pieces this PRICECHECK contains. In cases where only some of the pieces are being submitted, this value should contain the total number of pieces in the consignment, not the total number of pieces in the request.
SERVICE	Type = stringMinLength5MaxLength5	Information relating to the TNT product chosen for this PRICECHECK. If this is supplied, the price will be for the service, otherwise a list of services will be returned. This element should not be supplied where the UKDOMESTIC elements are populated. The product ids you should use will be allocated to you by your TNT representative.
INSURANCE	Type = boolean	Obsolete, Optional element

Developer Notes

PAYMENTIND	Type = stringMinLength1MaxLength1	Whether the sender or receiver to paying for the shipment. Values are "S" for a sender or "R" for receiver. Optional element, which default to S if not supplied.
UKDOMESTIC	Element to hold the UK Domestic information. **Container element**	This element provides the shipment information for UK domestic price requests and must be supplied for each Price request in the UK
COMPANYNAME	Type = stringMinLength1MaxLength30	Full Company Name
CONTACTNAME	Type = stringMinLength1MaxLength30	Name of the person to be contacted if needed.
CONTACTPHONENUMBER	Type = stringMinLength1MaxLength20	Phone number of the person to be contacted if needed.
GOODSDESCRIPTION	Type = stringMaxLength30	Full description of goods being shipped. Optional element
GOODSVALUE	Type = doubleMaxExclusive100000	Optional element that contains the value of the goods in Pounds sterling.
UNNUMBER	Type = stringMaxLength4	Optional element that contains the UN number for dangerous goods.
VOLUMEWEIGHT	Type = doubleMaxExclusive100000	Optional element that contains the weight in kilograms, using a volumetric cubic convertor of 250.

Developer Notes

CARRFORWARD	Type = boolean	Optional element which defaults to false, if carriage forward option is required.
ENHANCEDLIAB	Type = boolean	Optional element which defaults to false, if enhance liability is required.
DANGEROUSGOODS	Type = boolean	Optional element which defaults to false, if the shipment contains dangerous goods.
FUELSUPP		
SHIPDATE		
CONLINE	The CONLINE element represents information to a group of identical packages/pieces. **Container element**	Dimension (height, width, length) and weight measurements relating to the pieces defined by this con line type. Data must be provided in centimetres for dimensions, kilograms for weight. See below.
LINEITEMS	Type = integerMin1Max99	Number of pieces within this Con Line, Mandatory, if UKDomestic elements supplied.
LINEWEIGHT	Type = doubleMaxExclusive100000	The weight of an individual piece. Mandatory, if UKDomestic elements supplied.
LINELENGTH	Type = doubleMaxExclusive100	The length in centimetres. Mandatory, if UKDomestic elements supplied.
LINEWIDTH	Type = doubleMaxExclusive100	The width in centimetres. Mandatory, if UKDomestic elements supplied.
LINEHEIGHT	Type = doubleMaxExclusive100	The height in centimetres. Mandatory, if UKDomestic elements supplied.

Developer Notes

LINEPALLET	Type = boolean	Whether the packages have been placed onto a pallet.

Developer Notes

10. Appendix B: XSD Data Types

XSD DATA TYPE	DESCRIPTION
dateTime	Data expected in the format CCYY-MM-DD'T'hh:mm:ss where CC indicates century, YY year, MM month in 2 digit format, DD day of the month, hh hour of the day, mm minutes and ss seconds. For example 5:30 p.m. on 30th December 2008 would be 2008-12-30T17:30:00. This data type describes instances identified by the combination of a date and a time. It is described in Chapter 5.4 of ISO 8601 and the W3C XML Schema Recommendation. Its lexical space is the extended format: [-]CCYY-MM-DDThh:mm:ss[Z|(+|-)hh:mm]
double	Numeric data with decimal places in the range -9007199254740991..9007199254740991.
int	Numeric data without decimal places in the range -2147483648..2147483647
long	Numeric data without decimal places in the range -9223372036854775808..9223372036854775807
string	XML compatible alphanumeric data.
boolean	1 – true, 0 - false

10.1 Custom Data Types

CUSTOM DATA TYPE	DESCRIPTION
stringMinLength*X*MaxLength*Y*	Data type of type xsd:string with a minimum length of *X* and a maximum length of *Y*. If 'MinLength' is not specified in

Developer Notes

	the data type name (e.g. stringMaxLength4) there is no minimum length.
integerMin0Max9	Data type of type xsd:int with a minimum value of 0 and a maximum value of 9.
doubleMaxExclusive*X*	Data type of type xsd:double with a value that must be less than *X*. E.g. For 'doubleMaxExclusive100' the value cannot exceed 99.99.
longMaxLength*X*	Data type of type xsd:long with a maximum length of *X*. E.g. For 'longMaxLength10' the maximum value is 9999999999 (ten 9's).

Developer Notes

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11. Appendix C: ISO 3166-1 Alpha-2 Country Codes

Country names	ISO 3166-1-alpha-2 code
A	
AFGHANISTAN	AF
ÅLAND ISLANDS	AX
ALBANIA	AL
ALGERIA	DZ
AMERICAN SAMOA	AS
ANDORRA	AD
ANGOLA	AO
ANGUILLA	AI
ANTARCTICA	AQ
ANTIGUA AND BARBUDA	AG
ARGENTINA	AR
ARMENIA	AM
ARUBA	AW
AUSTRALIA	AU
AUSTRIA	AT
AZERBAIJAN	AZ
B	
BAHAMAS	BS
BAHRAIN	BH
BANGLADESH	BD
BARBADOS	BB
BELARUS	BY
BELGIUM	BE
BELIZE	BZ
BENIN	BJ
BERMUDA	BM
BHUTAN	BT
BOLIVIA	BO
BOSNIA AND HERZEGOVINA	BA
BOTSWANA	BW
BOUVET ISLAND	BV
BRAZIL	BR

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BRITISH INDIAN OCEAN TERRITORY	IO
BRUNEI DARUSSALAM	BN
BULGARIA	BG
BURKINA FASO	BF
BURUNDI	BI
C	
CAMBODIA	KH
CAMEROON	CM
CANADA	CA
CAPE VERDE	CV
CAYMAN ISLANDS	KY
CENTRAL AFRICAN REPUBLIC	CF
CHAD	TD
CHILE	CL
CHINA	CN
CHRISTMAS ISLAND	CX
COCOS (KEELING) ISLANDS	CC
COLOMBIA	CO
COMOROS	KM
CONGO	CG
CONGO, THE DEMOCRATIC REPUBLIC OF THE	CD
COOK ISLANDS	CK
COSTA RICA	CR
CÔTE D'IVOIRE	CI
CROATIA	HR
CUBA	CU
CYPRUS	CY
CZECH REPUBLIC	CZ
D	
DENMARK	DK
DJIBOUTI	DJ
DOMINICA	DM
DOMINICAN REPUBLIC	DO
E	
ECUADOR	EC

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EGYPT   EG
EL SALVADOR   SV
EQUATORIAL GUINEA   GQ
ERITREA   ER
ESTONIA   EE
ETHIOPIA   ET
F
FALKLAND ISLANDS (MALVINAS) FK
FAROE ISLANDS   FO
FIJI   FJ
FINLAND   FI
FRANCE   FR
FRENCH GUIANA   GF
FRENCH POLYNESIA   PF
FRENCH SOUTHERN TERRITORIES TF
G
GABON   GA
GAMBIA   GM
GEORGIA   GE
GERMANY   DE
GHANA   GH
GIBRALTAR   GI
GREECE   GR
GREENLAND   GL
GRENADA   GD
GUADELOUPE   GP
GUAM   GU
GUATEMALA   GT
GUERNSEY   GG
GUINEA   GN
GUINEA-BISSAU   GW
GUYANA   GY
H
HAITI   HT
HEARD ISLAND AND MCDONALD   HM
ISLANDS
HOLY SEE (VATICAN CITY STATE) VA

Developer Notes

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HONDURAS	HN
HONG KONG	HK
HUNGARY	HU
I	
ICELAND	IS
INDIA	IN
INDONESIA	ID
IRAN, ISLAMIC REPUBLIC OF	IR
IRAQ	IQ
IRELAND	IE
ISLE OF MAN	IM
ISRAEL	IL
ITALY	IT
J	
JAMAICA	JM
JAPAN	JP
JERSEY	JE
JORDAN	JO
K	
KAZAKHSTAN	KZ
KENYA	KE
KIRIBATI	KI
KOREA, DEMOCRATIC PEOPLE'S REPUBLIC OF	KP
KOREA, REPUBLIC OF	KR
KUWAIT	KW
KYRGYZSTAN	KG
L	
LAO PEOPLE'S DEMOCRATIC REPUBLIC	LA
LATVIA	LV
LEBANON	LB
LESOTHO	LS
LIBERIA	LR
LIBYAN ARAB JAMAHIRIYA	LY
LIECHTENSTEIN	LI
LITHUANIA	LT

Developer Notes

LUXEMBOURG   LU
M
MACAO   MO
MACEDONIA, THE FORMER   MK
YUGOSLAV REPUBLIC OF
MADAGASCAR   MG
MALAWI   MW
MALAYSIA   MY
MALDIVES   MV
MALI   ML
MALTA   MT
MARSHALL ISLANDS   MH
MARTINIQUE   MQ
MAURITANIA   MR
MAURITIUS   MU
MAYOTTE   YT
MEXICO   MX
MICRONESIA, FEDERATED STATES   FM
OF
MOLDOVA   MD
MONACO   MC
MONGOLIA   MN
MONTENEGRO   ME
MONTSERRAT   MS
MOROCCO   MA
MOZAMBIQUE   MZ
MYANMAR   MM
N
NAMIBIA   NA
NAURU   NR
NEPAL   NP
NETHERLANDS   NL
NETHERLANDS ANTILLES   AN
NEW CALEDONIA   NC
NEW ZEALAND   NZ
NICARAGUA   NI
NIGER   NE

Developer Notes

NIGERIA   NG
NIUE   NU
NORFOLK ISLAND   NF
NORTHERN MARIANA ISLANDS   MP
NORWAY   NO
O
OMAN   OM
P
PAKISTAN   PK
PALAU   PW
PALESTINIAN TERRITORY,   PS
OCCUPIED
PANAMA   PA
PAPUA NEW GUINEA   PG
PARAGUAY   PY
PERU   PE
PHILIPPINES   PH
PITCAIRN   PN
POLAND   PL
PORTUGAL   PT
PUERTO RICO   PR
Q
QATAR   QA
R
RÉUNION   RE
ROMANIA   RO
RUSSIAN FEDERATION   RU
RWANDA   RW
S
SAINT BARTHÉLEMY   BL
SAINT HELENA   SH
SAINT KITTS AND NEVIS   KN
SAINT LUCIA   LC
SAINT MARTIN   MF
SAINT PIERRE AND MIQUELON   PM
SAINT VINCENT AND THE   VC
GRENADINES

Developer Notes

SAMOA	WS
SAN MARINO	SM
SAO TOME AND PRINCIPE	ST
SAUDI ARABIA	SA
SENEGAL	SN
SERBIA	RS
SEYCHELLES	SC
SIERRA LEONE	SL
SINGAPORE	SG
SLOVAKIA	SK
SLOVENIA	SI
SOLOMON ISLANDS	SB
SOMALIA	SO
SOUTH AFRICA	ZA
SOUTH GEORGIA AND THE SOUTH SANDWICH ISLANDS	GS
SPAIN	ES
SRI LANKA	LK
SUDAN	SD
SURINAME	SR
SVALBARD AND JAN MAYEN	SJ
SWAZILAND	SZ
SWEDEN	SE
SWITZERLAND	CH
SYRIAN ARAB REPUBLIC	SY
T	
TAIWAN, PROVINCE OF CHINA	TW
TAJIKISTAN	TJ
TANZANIA, UNITED REPUBLIC OF	TZ
THAILAND	TH
TIMOR-LESTE	TL
TOGO	TG
TOKELAU	TK
TONGA	TO
TRINIDAD AND TOBAGO	TT
TUNISIA	TN
TURKEY	TR

Developer Notes

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TURKMENISTAN	TM
TURKS AND CAICOS ISLANDS	TC
TUVALU	TV
U	
UGANDA	UG
UKRAINE	UA
UNITED ARAB EMIRATES	AE
UNITED KINGDOM	GB
UNITED STATES	US
UNITED STATES MINOR OUTLYING ISLANDS	UM
URUGUAY	UY
UZBEKISTAN	UZ
V	
VANUATU	VU
VATICAN CITY STATE	see HOLY SEE
VENEZUELA	VE
VIET NAM	VN
VIRGIN ISLANDS, BRITISH	VG
VIRGIN ISLANDS, U.S.	VI
W	
WALLIS AND FUTUNA	WF
WESTERN SAHARA	EH
Y	
YEMEN	YE
Z	
ZAMBIA	ZM
ZIMBABWE	ZW

Developer Notes

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12. Appendix D: Datasets

ExpressConnect Pricing offers the ability for the client to retrieve the latest country, currency, towngroup, postcodemask, service, and option datasets from the TNT databases. The current version number of the client's copy of these datasets must be passed in with any price requests, to allow TNT to signify on return whether they need updating.

Whilst this functionality is still available within the solution for backward compatibility, it is being replaced via a new dataset interface.

You can check whether your local datasets are the latest by supplying the dataset version elements

```
<DATASETS>
      <COUNTRY>1.0</COUNTRY>
      <CURRENCY>1.0</CURRENCY>
      <POSTCODEMASK>1.0</POSTCODEMASK>
      <TOWNGROUP>1.0</TOWNGROUP>
      <SERVICE>1.0</SERVICE>
      <OPTION>1.0</OPTION>
</DATASETS>
```

Providing the current version number of the datasets is mandatory. These will be checked against the TNT copy and if a later version exists a flag is returned, you should request an update set. If you do not wish to use the TNT datasets, then you may set this to any numerical value.

If a later version exists, NEW is returned to the customer, if they are up to date, UTD is returned

```
<DATASETS>
      <COUNTRY>UTD</COUNTRY>
      <CURRENCY> UTD </CURRENCY>
      <POSTCODEMASK> UTD </POSTCODEMASK>
      <TOWNGROUP> UTD </TOWNGROUP>
      <SERVICE> UTD </SERVICE>
      <OPTION>NEW</OPTION>
</DATASETS>
```

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To request dataset please populate the request element.

```
<REQUEST>
      <DATASETS>PostcodeMask Country Currency TownGroup Service Option
      </DATASETS>
</REQUEST>
```

Any combination of datasets may be entered within the DATASETS tags.

The country list is a complete list of countries recognized by TNT.

```
<COUNTRY>
      <CODE>COUNTRYCODE</CODE>
      <NAME>COUNTRYNAME</NAME>
      <EURO>COUNTRYEURO</EURO>
      <CURRENCYCODE>CURRENCYCODE</CURRENCYCODE>
      <CSPHONE>CUSTOMERSERVICESPHONE</CSPHONE>
      <COLLDAYS>COLLECTIONDAYS</COLLDAYS>
      <DOMESTIC>DOMESTIC</DOMESTIC >
</COUNTRY>
```

The currency list is a complete list of currencies recognized by TNT.

```
<CURRENCY>
      <CODE>CURRENCYCODE</CODE>
      <NAME>CURRENCYNAME</NAME>
      <DECPLACES>DECIMALPLACES</DECPLACES>
</CURRENCY>
```

The Postcodemask list is a complete list of Postcode masks recognized by TNT.

Developer Notes

```
<POSTCODEMASK>
      <COUNTRYCODE>COUNTRYCODE</COUNTRYCODE>
      <MASK>COUNTRYMASK</MASK>
</POSTCODEMASK>
```

The TownGroup list is a complete list of TownGroup recognized by TNT.

```
<TOWNGROUP>
      <COUNTRYCODE>COUNTRYCODE</COUNTRYCODE>
      <COMID>COUNTRYMASK</COMID>
      <TNGID>TNGID</TNGID>
      <DESCRIPTION> TNGDESCRIPTION </ DESCRIPTION>
</TOWNGROUP>
```

The service list is a complete list of services (products) recognized by TNT.

```
<SERVICE>
      <COUNTRYCODE>COUNTRYCODE</COUNTRYCODE>
      <DOC>DOC OR NONDOC</DOC>
      <CODE>SERVICECODE</CODE>
      <DESCRIPTION>SERVICEDESCRIPTION</DESCRIPTION>
</SERVICE>
```

The option list is a complete list of options (sub-services) recognized by TNT.

```
<OPTION>
      <COUNTRYCODE>COUNTRYCODE</COUNTRYCODE>
      <DOC>DOC OR NONDOC</DOC>
      <SERVICECODE>SERVICECODE</SERVICECODE>
      <CODE>OPTIONCODE</CODE>
      <DESCRIPTION>OPTIONDESCRIPTION</DESCRIPTION>
</OPTION>
```

Developer Notes

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