



Express ICS

TNT ExpressConnect: Pricing V2.0

TNT iConnections v2.0: Pricing Technical Guide

Version <4.7>

Revision History

| Date | Version | Description |
|--------------------------------|---------|---|
| 19 th August, 2002 | 4.0 | Initial document |
| 4 th December | 4.1 | Optional tag added to Pricing XML so that town is passed to LMF as well as postcode. This resolves the issue with some US postcodes that have more than one town associated with them. |
| 12 th May, 2003 | 4.2 | Correction to Domestic XML element. |
| 24 th February 2006 | 4.3 | Updated |
| 26 th January 2007 | 4.4 | Removed references to TNTTEST userid |
| 10 th February 2009 | 4.5 | Removed reference to: http://164.39.41.19:81/PriceCheckerDTD1.0/PriceRequestIN.dtd and replaced with: http://164.39.41.88:81/PriceCheckerDTD1.0/PriceRequestIN.dtd as 41.19 is an old version of the live server. |
| 18 th August 2009 | 4.6 | Updated socket connection IP address |
| 14 th October 2009 | 4.7 | Updated |

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|--|-------------------------------------|
| TNT iConnections v2.0: Pricing Technical Guide | Version: 4.7 |
| | Date: 14 th October 2009 |
| | |

Table of Contents

| | |
|--|----|
| 1. INTRODUCTION | 4 |
| 2. CONNECTING TO THE TNT SERVER | 5 |
| 2.1 MICROSOFT.XMLHTTP | 7 |
| 2.2 VBSCRIPT CONNECTION CODE EXAMPLE | 7 |
| 3. XML FORMAT: INPUT | 8 |
| 3.1 TABLE OF XML ELEMENTS – PRICE REQUEST | 8 |
| EXAMPLE OF PRICE REQUEST XML | 9 |
| 3.2 PRICE REQUEST DATA RULES | 10 |
| 3.3 TABLE OF XML ELEMENTS – TNT DATASET REQUEST | 11 |
| 4. XML FORMAT: OUTPUT | 12 |
| 4.1 TABLE OF RETURNED XML ELEMENTS – PRICE REQUEST | 12 |
| 4.2 TABLE OF RETURNED XML ELEMENTS – DATASET REQUEST | 14 |
| 5. DTDs (Document Type Definitions) | 17 |
| 5.1 Price Request DTD | 17 |
| 6. Dataset Request DTD | 18 |
| 7. ERRORS | 19 |
| 7.1 PARSER ERRORS | 19 |
| 7.2 ERRORS RETURNED BY THE PRICEGATE.ASP (ENTRY FILE) | 20 |
| 7.3 APPLICATION GENERATED ERRORS | 20 |
| 7.4 TABLE OF APPLICATION GENERATED ERROR CODES, MESSAGES AND RESOLUTIONS | 21 |
| 8. RECOMMENDED RESOURCES | 22 |

| | |
|--|-------------------------------------|
| TNT iConnections v2.0: Pricing Technical Guide | Version: 4.7 |
| | Date: 14 th October 2009 |
| | |

1. INTRODUCTION

TNT provides a facility whereby a client can connect to TNT's rating facility over the Internet and receive prices for submitted consignment details.

With the use of XML (extensible mark-up language) technology, this will give price checking functionality for multiple consignment submissions.

This particular application also allows 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.

The data to price will be passed to TNT in a predetermined XML format. The client will get the data to TNT by opening an http socket level connection to a given URL and port, thus connecting their own web server with that of TNT. The data from the client will be passed as a URL encoded string.

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.

| | |
|--|-------------------------------------|
| TNT iConnections v2.0: Pricing Technical Guide | Version: 4.7 |
| | Date: 14 th October 2009 |
| | |

2. CONNECTING TO THE TNT SERVER

A new user of TNT's ExpressConnect Pricing application will need to complete the following steps before attempting to send an XML document directly to the TNT server.

- The IP address of the customer's **server** (not their PC) must be added to the TNT firewall rulebase, so that any calls to the TNT server from this server will be allowed through. In the case that the customer has more than one server with access required, for example, a test environment and a live environment, each server's IP address must be given. Please note that 5 working days notice is required before the requested IP addresses are added to the TNT firewall. The TNT representative will arrange this.
- Customers are setup with their own company id and password, required for each ExpressConnect submission. The customer may also request that their account numbers be registered against their logon details, this will allow them to retrieve their own personalized rates using ExpressConnect. The TNT representative will arrange this.
- Before sending an XML document through a straight socket connection, you must verify that you can access TNT's ExpressConnect applications by successfully using the test/demonstration web site provided by TNT. This is located at <http://iconnection.tnt.com:81>.

Some important points to note:

- ▶ You need to ensure that your own firewall will allow data out using port 81.
- ▶ The demonstration site does NOT support foreign (non-ASCII) characters.
 - The demonstration site simulates a simple customer interface to the back-end ExpressConnect server. It is useful for front-end developers to use as a tool to test their XML and analyse their return XML results, prior to and during the development of their front-end application. The demonstration site links to the **production environment** so that it replicates exactly the results that the customer will achieve with their own front-end 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 real XML submission using the code similar to that on the following pages.

Open a socket connection to the following address and port number.

| | |
|-------------|---------------------|
| Domain Name | iConnection.tnt.com |
| IP Address | 164.39.122.33 |
| Port | 81 |

Send the following lines, data between quotes. N.B. 1 blank line should be sent after Content-length line.

```
"POST PriceGate.asp HTTP/1.0"
"Accept: */*"
"User-Agent: PriceGate_socket/1.0";
"Content-type: application/x-www-form-urlencoded";
"Content-length: X";      (replace X with the length of data plus 7 for "xml_in=")
""
"xml_in=XML document"    (this is the content of message)
```

XML document is the XML corresponding to the specified format below.

| | |
|--|-------------------------------------|
| TNT iConnections v2.0: Pricing Technical Guide | Version: 4.7 |
| | Date: 14 th October 2009 |
| | |

Once the above data has been sent, read from the socket until no more data is available. The data returned will consist of some header information followed by a blank line, and then the price information.

| | |
|--|-------------------------------------|
| TNT iConnections v2.0: Pricing Technical Guide | Version: 4.7 |
| | Date: 14 th October 2009 |
| | |

2.1 MICROSOFT.XMLHTTP

Microsoft has added an http object to Internet Explorer 5.0 and above. If IIS is being used with IE5 installed then the socket connection is made easier. The following shows how to use the Microsoft http object. It does the same job as the connection above, but is slightly user-friendlier.

The XMLHttpRequest object provides client-side protocol support for communication with HTTP servers.

A client computer can use the XMLHttpRequest object (Microsoft.XMLHTTP) to send an arbitrary HTTP request, receive the response, and have the Microsoft XML Document Object Model (XMLDOM) parse that response.

This object is integrated with MSXML to support sending the request body directly from, and parsing the response directly into, the MSXML Document Object Model objects. When combined with the support for XSL, the XMLHttpRequest component provides an easy way to send structured queries to HTTP servers and efficiently display the results with a variety of presentations.

On the next page is some example code using the Microsoft socket object to send data into the TNT systems.

2.2 VBSCRIPT CONNECTION CODE EXAMPLE

xml_in = (your Price/Dataset request XML document as a string variable)

```
'note ----- create a socket connection object
    dim httpOb
    set httpOb = Server.CreateObject("Microsoft.XMLHTTP")

'note ----- open socket connection to given IP address and entry file
    httpOb.Open "POST","http://iConnection.tnt.com:81/Pricegate.asp", false, "", ""

'note ----- if opening socket works set header and send XML
    httpOb.setRequestHeader "Content-Type","application/x-www-form-urlencoded"
    httpOb.Send "xml_in"&xml_in
'note ----- store returned XML
    xml_out = httpOb.responseText
'note ----- release socket object
    set httpObj = nothing
```

| | |
|--|-------------------------------------|
| TNT iConnections v2.0: Pricing Technical Guide | Version: 4.7 |
| | Date: 14 th October 2009 |
| | |

3. XML FORMAT: INPUT

This will be in one of the two following formats - one is for a price request, one is for a dataset request.

3.1 TABLE OF XML ELEMENTS – PRICE REQUEST

| XML ELEMENT | MUST HOLD DATA | DESCRIPTION | CONSTRAINTS | PARENT ELEMENT |
|------------------------------|----------------|--|---|----------------|
| PRICEREQUEST | Y | Top level element | | None |
| LOGIN | Y | Holds login detail elements | | PRICEREQUEST |
| COMPANYID | Y | Version number | As allocated by TNT | LOGIN |
| PASSWORD | Y | Company Password | As allocated by TNT | LOGIN |
| APPID | Y | Application Id | Must be 'PC' | LOGIN |
| DATASETS | Y | Holds version info | | PRICEREQUEST |
| COUNTRY | Y | Customer's current version of the TNT country dataset | Will be floating point value e.g.1.0 | DATASETS |
| CURRENCY | Y | Customer's current version of the TNT currency dataset | Will be floating point value e.g.1.0 | DATASETS |
| POSTCODEMASK | Y | Customer's current version of the TNT postcodemask dataset | Will be floating point value e.g.1.0 | DATASETS |
| TOWNGROUP | Y | Customer's current version of the TNT towngroup dataset | Will be floating point value e.g.1.0 | DATASETS |
| SERVICE | Y | Customer's current version of the TNT service dataset | Will be floating point value e.g.1.0 | DATASETS |
| OPTION | Y | Customer's current version of the TNT option dataset | Will be floating point value e.g.1.0 | DATASETS |
| PRICECHECK (may be multiple) | Y | Holds the consignment detail elements | | PRICEREQUEST |
| RATEID | Y | Request identifier | Supplied by customer for own use. Must be unique within the price check XML document. | PRICECHECK |
| ORIGINCOUNTRY | Y | Origin Country | Must be a valid TNT Country code | PRICECHECK |
| ORIGINTOWNNAME | N | Origin Town name | | PRICECHECK |
| ORIGINPOSTCODE | Y | Origin Postcode | Passed as is to rating, no validation | PRICECHECK |
| ORIGINTOWNGROUP | Y | Origin Depot | Must be a valid TNT towngroup code | PRICECHECK |
| DESTCOUNTRY | Y | Destination Country | Must be a valid TNT Country code | PRICECHECK |
| DESTTOWNNAME | N | Destination Town name | | PRICECHECK |
| DESTPOSTCODE | Y | Destination Postcode | Passed as is to rating, no validation | PRICECHECK |
| DESTTOWNGROUP | Y | Destination depot | Must be a valid TNT towngroup code | PRICECHECK |
| CONTYPE | Y | Indicates consignment type | Must be 'D', document or 'N', Non-doc. | PRICECHECK |
| CURRENCY | Y | The currency the rate is to be in | Must be a valid TNT currency code | PRICECHECK |
| WEIGHT | Y | The total weight of the consignment | In Kg | PRICECHECK |
| VOLUME | Y | The total volume of the consignment | In cubic metres, not mandatory if contype = 'D' | PRICECHECK |
| ACCOUNT | N | Account number to be used | Validated by company name | PRICECHECK |
| ITEMS | Y | Number of items in consignment | Must be an integer | PRICECHECK |
| SERVICE (Optional) | Y | If only one service to be rated, pass this element in | Must be a valid TNT service code | PRICECHECK |

| | |
|--|-------------------------------------|
| TNT iConnections v2.0: Pricing Technical Guide | Version: 4.7 |
| | Date: 14 th October 2009 |
| | |

EXAMPLE OF PRICE REQUEST XML

```
<!--Important – this address must be given for the DTD path-->
<?xml version="1.0" standalone="no"?><!DOCTYPE PRICEREQUEST SYSTEM
'http://164.39.41.88:81/PriceCheckerDTD1.0/PriceRequestIN.dtd'>
<PRICEREQUEST>
```

```
  <!-- login is mandatory and is verified before further processing.-->
```

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

<!-- 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 to the customer informing them that they should request an update set. If you do not wish to use the TNT datasets, then you may set this to any numerical value.-->

```
  <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>
```

<!--The following structure is required for each set of consignment data to be priced-->

```
  <PRICECHECK>
```

<!--The Rate identifier may be supplied by the customer as a means of easily identifying the rate returned. It is not a mandatory field, but should offer benefits to the customer.-->

```
    <RATEID>RATE1</RATEID>
    <ORIGINCOUNTRY>GB</ORIGINCOUNTRY>
    <ORIGINTOWNNAME>ATHERSTONE</ORIGINTOWNNAME>
    <ORIGINPOSTCODE>CV9 1TT</ORIGINPOSTCODE>
    <ORIGINTOWNGROUP></ORIGINTOWNGROUP>
    <DESTCOUNTRY>NL</DESTCOUNTRY>
    <DETTOWNNAME></DETTOWNNAME>
    <DESTPOSTCODE></DESTPOSTCODE>
    <DETTOWNGROUP>AMS</DETTOWNGROUP>
    <CONTYPE>D</CONTYPE>
    <CURRENCY>GBP</CURRENCY>
    <WEIGHT>0.2</WEIGHT>
    <VOLUME></VOLUME>
    <ACCOUNT>315757</ACCOUNT>
    <ITEMS>1</ITEMS>
    <SERVICE>15D</SERVICE>
  </PRICECHECK>
</PRICEREQUEST>
```

| | |
|--|-------------------------------------|
| TNT iConnections v2.0: Pricing Technical Guide | Version: 4.7 |
| | Date: 14 th October 2009 |
| | |

3.2 PRICE REQUEST DATA RULES

- Mandatory fields:
Origin Country (Country code)
Dest country (Country Code)
ConType (either 'N' - NonDoc or 'D' - Doc)
Weight (metric value)
Volume (metric value, but only mandatory if contype = N)
- Supplying a service element is optional. If one is not found, rates for all available services will be returned.
- If the towngroup and postcode are both supplied, but do not correspond, rating will be performed using the postcode.
- The towngroup must be the TNT code, not the full name.
- Multiple <PRICECHECK> elements may be within each <PRICEREQUEST> element.
- The XML must have upper case element tags.
- Insurance value must be numeric and is only available for Non-documents.
N.B. this functionality is not yet implemented.
- The <ORIGINTOWNNAME> & <DETTOWNNAME> are optional tags. These tags are required for LMF validation, for countries such as the United States where some postcodes have more than one town associated with them.

| | |
|--|-------------------------------------|
| TNT iConnections v2.0: Pricing Technical Guide | Version: 4.7 |
| | Date: 14 th October 2009 |
| | |

3.3 TABLE OF XML ELEMENTS – TNT DATASET REQUEST

| XML ELEMENT | MUST HOLD DATA | DESCRIPTION | CONSTRAINTS | PARENT ELEMENT |
|-------------|----------------|-----------------------------|--|----------------|
| SETREQUEST | Y | Top level element | | None |
| LOGIN | Y | Holds login detail elements | | PRICEREQUEST |
| COMPANYID | Y | Company ID | As allocated by TNT | LOGIN |
| PASSWORD | Y | Company Password | As allocated by TNT | LOGIN |
| APPID | Y | Application Id | Must be 'PC' | LOGIN |
| REQUEST | Y | Holds dataset element | | PRICEREQUEST |
| DATASET | Y | Required datasets | Can be any combination of Country, Currency, towngroup, postcodemask, service, option. | DATASETS |

EXAMPLE OF DATASET REQUEST XML

<!--Important – this address must be given for the DTD path-->

```
<?xml version="1.0" standalone="no"?><!DOCTYPE SETREQUEST SYSTEM
'http://164.39.41.88:81/PriceCheckerDTD1.0/PriceRequestIN.dtd'>
<SETREQUEST>
```

<!-- login is mandatory and is verified before further processing.-->

```
<LOGIN>
  <COMPANY>Company Name</COMPANY>
  <PASSWORD>Password</PASSWORD>
  <APPID>PC</APPID>
</LOGIN>
```

```
  <REQUEST>
    <DATASET>PostcodeMask Country Currency Towngroup Service Option</DATASET>
  </REQUEST>
```

```
</SETREQUEST>
```

- Any combination of datasets may be entered within the <DATASET> tags (the application looks for the words, so the format is unimportant as long as they are spelt correctly).
- Input String must have Upper case element tags.

| | |
|--|-------------------------------------|
| TNT iConnections v2.0: Pricing Technical Guide | Version: 4.7 |
| | Date: 14 th October 2009 |
| | |

4. XML FORMAT: OUTPUT

If successfully processed, this will be in one of the two following formats, one for price information, and one for TNT data.

4.1 TABLE OF RETURNED XML ELEMENTS – PRICE REQUEST

| XML ELEMENT | MUST HOLD DATA | DESCRIPTION | MAX LENGTH | PARENT ELEMENT |
|-------------------------|----------------|--|------------|----------------|
| PRICEREQUEST | Y | Top level element | | None |
| DATASETS | Y | Holds version info | | PRICEREQUEST |
| COUNTRY | Y | Status of customer's current version TNT country dataset | 3 | DATASETS |
| CURRENCY | Y | Status of customer's current version of the TNT currency dataset | 3 | DATASETS |
| POSTCODEMASK | Y | Status of customer's current version of the TNT postcodemask dataset | 3 | DATASETS |
| TOWNGROUP | Y | Status of customer's current version of the TNT towngroup dataset | 3 | DATASETS |
| SERVICE | Y | Status of customer's current version of the TNT service dataset | 3 | DATASETS |
| OPTION | Y | Status of customer's current version of the TNT option dataset | 3 | DATASETS |
| PRICE (may be multiple) | Y | Holds the consignment detail elements | | PRICEREQUEST |
| RATEID | Y | Request identifier | 20 | PRICE |
| SERVICE | Y | The TNT service being quoted for | 3 | PRICE |
| SERVICEDESC | Y | The full service description | 30 | PRICE |
| OPTION | Y | The TNT option being quoted for on this service (if any) | 2 | PRICE |
| OPTIONDESC | Y | The full option description | 30 | PRICE |
| CURRENCY | Y | Indicates currency code | 3 | PRICE |
| RATE | Y | The price (Excluding V.A.T.) | decimal | PRICE |
| RESULT | Y | 'Y' if price returned, 'N' if no rate available for these details | 1 | PRICE |

| | |
|--|-------------------------------------|
| TNT iConnections v2.0: Pricing Technical Guide | Version: 4.7 |
| | Date: 14 th October 2009 |
| | |

EXAMPLE OF RETURNED PRICE REQUEST XML

<PRICEREQUEST>

<!-- providing the current version number of their datasets is mandatory. These will be checked against the TNT versions. 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>

```

<!--There will be multiple price elements for each successfully rated price request, one per service/option combination.-->

<PRICE>

<!--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.-->

```

<RATEID>RATE1</RATEID>
<SERVICE>15D</SERVICE>
<SERVICEDESC>GLOBAL EXPRESS</SERVICEDESC>
<OPTION>PR</OPTION>
<OPTIONDESC>PRIORITY</OPTIONDESC>
<CURRENCY>GBP</CURRENCY>
<RATE>55.90</RATE>
<RESULT>Y</RESULT>

```

</PRICE>

</PRICEREQUEST>

- There will be one price element for each service available alone, and for each option available for that service (but not for multiple options on a service).

| | |
|--|-------------------------------------|
| TNT iConnections v2.0: Pricing Technical Guide | Version: 4.7 |
| | Date: 14 th October 2009 |
| | |

4.2 TABLE OF RETURNED XML ELEMENTS – DATASET REQUEST

| XML ELEMENT | MUST HOLD DATA | DESCRIPTION | MAX LENGTH | PARENT ELEMENT |
|-----------------|----------------|--|-----------------|----------------|
| SETREQUEST | Y | Top level element | | None |
| VERSION | Y | Holds dataset version numbers | | SETREQUEST |
| COUNTRYSET | Y | Current country dataset version | 3 (1.1 decimal) | DATASETS |
| CURRENCYSET | Y | Current currency dataset version | 3 (1.1 decimal) | DATASETS |
| POSTCODEMASKSET | Y | Current postcodemask dataset version | 3 (1.1 decimal) | DATASETS |
| TOWNGROUPSET | Y | Current towngroup dataset version | 3 (1.1 decimal) | DATASETS |
| SERVICESET | Y | Current service dataset version | 3 (1.1 decimal) | DATASETS |
| OPTIONSET | Y | Current option dataset version | 3 (1.1 decimal) | DATASETS |
| DATASETS | Y | Holds dataset elements | | SETREQUEST |
| COUNTRY | Y | Holds country elements | | DATASETS |
| CODE | Y | TNT country code | 3 | COUNTRY |
| NAME | Y | Full country name | 30 | COUNTRY |
| EURO | Y | '1'= in EU '0'= Not in EU | 1 | COUNTRY |
| CURRENCYCODE | Y | Country's currency code | 3 | COUNTRY |
| CSPHONE | Y | TNT Customer Service's telephone number | 20 | COUNTRY |
| COLLDAYS | Y | TNT Collection Days in xooooox format (Sun to Sat where x = no collection) | 7 | COUNTRY |
| DOMESTIC | Y | '0' = Domestic shipments possible '1' = No Domestic shipments | 1 | COUNTRY |
| CURRENCY | Y | Holds currency elements | | DATASETS |
| CODE | Y | TNT Currency code | 3 | CURRENCY |
| NAME | Y | Full currency name | 30 | CURRENCY |
| DECPLACES | Y | Number of decimal places standard | 5 | CURRENCY |
| POSTCODEMASK | Y | Holds postcodemask elements | | DATASETS |
| COUNTRYCODE | Y | TNT country code | 3 | POSTCODEMASK |
| MASK | Y | PostCode mask | 9 | POSTCODEMASK |
| TOWNGROUP | Y | Holds towngroup elements | | DATASETS |
| COUNTRYCODE | Y | TNT country code | 3 | TOWNGROUP |
| COMID | Y | Company Id (for TNT use) | 5 | TOWNGROUP |

| | |
|--|-------------------------------------|
| TNT iConnections v2.0: Pricing Technical Guide | Version: 4.7 |
| | Date: 14 th October 2009 |
| | |

| | | | | |
|-------------|---|--|----|-----------|
| TNGID | Y | TNT town code | 5 | TOWNGROUP |
| DESCRIPTION | Y | Full town name | 40 | TOWNGROUP |
| SERVICE | Y | Holds service elements | | DATASETS |
| COUNTRYCODE | Y | TNT country code | 3 | SERVICE |
| DOC | Y | 'D' if a Documents service, 'N' if for Non-Docs | 1 | SERVICE |
| CODE | Y | TNT service code | 4 | SERVICE |
| DESCRIPTION | Y | Full description of service | 30 | SERVICE |
| OPTION | Y | Holds option elements | | DATASETS |
| COUNTRYCODE | Y | TNT country code | 3 | OPTION |
| DOC | Y | 'D' if a Documents service, 'N' if for Non-Docs | 1 | OPTION |
| SERVICECODE | Y | TNT service code | 4 | OPTION |
| CODE | Y | TNT option code | 4 | OPTION |
| DESCRIPTION | Y | Full description of option | 30 | OPTION |

EXAMPLE OF RETURNED DATASET REQUEST XML

<SETREQUEST>

<!--The current versions of the TNT datasets are given to allow the client to verify that all their own datasets are now the latest versions.-->

<VERSIONS>

<COUNTRYSET>1.0</COUNTRYSET>
 <CURRENCYSET>1.0</CURRENCYSET>
 <POSTCODEMASKSET>1.0</POSTCODEMASKSET>
 <TOWNGROUPSET>1.0</TOWNGROUPSET>
 <SERVICESET>1.0</SERVICESET>
 <OPTIONSET>1.0</OPTIONSET>

</VERSIONS>

<DATASETS>

<!--The country list is a complete list of countries recognized by TNT. Customers are required to collect and update a copy of this table in order to be able to supply correct country codes in Price check and Shipper interfaces.-->

<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. Customers are required to collect and update a copy of this table in order to be able to supply correct currency codes in Price check and

| | |
|--|-------------------------------------|
| TNT iConnections v2.0: Pricing Technical Guide | Version: 4.7 |
| | Date: 14 th October 2009 |
| | |

Shipper interfaces.-->

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

<!--The Postcodemask list is a complete list of post code masks recognized by TNT. Customers are required to collect and update a copy of this table in order to be able to supply correct postal codes in Price check and Shipper interfaces.-->

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

<!--The TownGroup list is a complete list of towngroups established and used by TNT. Customers are requested to collect and update a copy of this table in order to be able to supply correct towngroup codes in Price check and Shipper interfaces.-->

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

<!--The Service list is a complete list of services established and used by TNT. Customers are requested to collect and update a copy of this table in order to be able to supply correct service codes in Price check and Shipper interfaces.-->

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

<!--The option list is a complete list of option established and used by TNT. Customers are requested to collect and update a copy of this table in order to be able to supply correct options codes in Price checker and Shipper applications.-->

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

```
</DATASETS>
</SETREQUEST>
```

| | |
|--|-------------------------------------|
| TNT iConnections v2.0: Pricing Technical Guide | Version: 4.7 |
| | Date: 14 th October 2009 |
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5. DTDs (Document Type Definitions)

These may be cut and pasted into a file (for example, in Notepad) and saved as a .dtd file for testing your XML format.

5.1 Price Request DTD

```
<!--PriceRequest input DTD. Version 2.0 -->
```

```
<!ELEMENT PRICEREQUEST (LOGIN, DATASETS, PRICECHECK*)>
```

```
<!--Login details-->
```

```
<!ELEMENT LOGIN (COMPANY, PASSWORD, APPID)>
```

```
<!ELEMENT COMPANY (#PCDATA)>
```

```
<!ELEMENT PASSWORD (#PCDATA)>
```

```
<!ELEMENT APPID (#PCDATA)>
```

```
<!--Dataset Versions-->
```

```
<!ELEMENT DATASETS (COUNTRY, CURRENCY, POSTCODEMASK, TOWNGROUP, SERVICE, OPTION)>
```

```
<!ELEMENT COUNTRY (#PCDATA)>
```

```
<!ELEMENT CURRENCY (#PCDATA)>
```

```
<!ELEMENT POSTCODEMASK (#PCDATA)>
```

```
<!ELEMENT TOWNGROUP (#PCDATA)>
```

```
<!ELEMENT SERVICE (#PCDATA)>
```

```
<!ELEMENT OPTION (#PCDATA)>
```

```
<!--Price Check record (multiples allowed) -->
```

```
<!ELEMENT PRICECHECK (RATEID, ORIGINCOUNTRY, ORIGINPOSTCODE, ORIGINTOWNGROUP, DESTCOUNTRY, DESTPOSTCODE, DESTTOWNGROUP, CONTYPE, CURRENCY, WEIGHT, VOLUME, ACCOUNT, ITEMS,SERVICE?,INSURANCE?)>
```

```
<!ELEMENT RATEID (#PCDATA)>
```

```
<!ELEMENT ORIGINCOUNTRY (#PCDATA)>
```

```
<!ELEMENT ORIGINPOSTCODE (#PCDATA)>
```

```
<!ELEMENT ORIGINTOWNGROUP (#PCDATA)>
```

```
<!ELEMENT DESTCOUNTRY (#PCDATA)>
```

```
<!ELEMENT DESTPOSTCODE (#PCDATA)>
```

```
<!ELEMENT DESTTOWNGROUP (#PCDATA)>
```

```
<!ELEMENT CONTYPE (#PCDATA)>
```

```
<!ELEMENT WEIGHT (#PCDATA)>
```

```
<!ELEMENT VOLUME (#PCDATA)>
```

```
<!ELEMENT ACCOUNT (#PCDATA)>
```

```
<!ELEMENT ITEMS (#PCDATA)>
```

```
<!ELEMENT INSURANCE (#PCDATA)>
```

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|--|-------------------------------------|
| TNT iConnections v2.0: Pricing Technical Guide | Version: 4.7 |
| | Date: 14 th October 2009 |
| | |

6. Dataset Request DTD

```
<!--SetRequest input DTD. Version 1.0 -->  
<!ELEMENT SETREQUEST (LOGIN, REQUEST)>  
<!--Login details-->  
<!ELEMENT LOGIN (COMPANY, PASSWORD, APPID)>  
<!ELEMENT COMPANY (#PCDATA)>  
<!ELEMENT PASSWORD (#PCDATA)>  
<!ELEMENT APPID (#PCDATA)>  
<!--Requested datasets-->  
<!ELEMENT REQUEST (DATASET)>  
<!ELEMENT DATASET (#PCDATA)>
```

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|--|-------------------------------------|
| TNT iConnections v2.0: Pricing Technical Guide | Version: 4.7 |
| | Date: 14 th October 2009 |
| | |

7. ERRORS

There are a number of different errors that may occur when using TNT ExpressConnect. Most of these you will encounter only during the development phase when unsure of the XML format and trying to send XML through a socket connection for the first time. However, your code will need to be able to handle some of the others, such as server unavailability, once your TNT ExpressConnect software is up and running.

7.1 PARSER ERRORS

Errors generated by the XML parser are returned as XML and look like this:

```
<?xml version="1.0" standalone="yes" ?>
<parse_error>
<error_reason>Element content is invalid according to the DTD/Schema. Expecting:
ORIGINCOUNTRY.</error_reason>
<error_line>18</error_line>
<error_linepos>21</error_linepos>
<error_srcText>
- <![CDATA[ <ORIGINPOSTCODE></ORIGINPOSTCODE>]]>
</error_srcText>
</parse_error>
```

These can be resolved by making changes to the XML format. Usually the error message will be descriptive, telling you that there was an expected element missing. Refer to the DTD and XML examples to remedy this.

If the parser error gives line number 1 and position 13 to locate the error, this suggests that the XML was invalid as XML, not just as Pricing XML. The most common cause of this is when XML is sent to the TNT server and is not URL encoded. The spaces in the XML are lost as it crosses the World Wide Web, arriving at the TNT server looking like this:

```
<?xmlversion="1.0"standalone="no"?><!
DOCTYPEPRICEREQUESTSYSTEM'http://164.39.41.88:81/PriceCheckerDTD1.0/PriceRequestIN.dtd'><
PRICEREQUEST>...etc
```

You can force the URL encoding of your XML by replacing all spaces with a + sign before sending it.

| | |
|--|-------------------------------------|
| TNT iConnections v2.0: Pricing Technical Guide | Version: 4.7 |
| | Date: 14 th October 2009 |
| | |

7.2 ERRORS RETURNED BY THE PRICEGATE.ASP (ENTRY FILE)

The entry file will check your login details and return an error if they cannot be validated. Ensure that you have submitted them in the correct case, as they were given to you by your TNT contact.

If the XML/request for XML that you send in to the TNT server is an empty string, or not formatted as expected, the following message will be returned:

```
<?xml version='1.0' standalone='yes'?>
<runtime_error>
<error_reason>no data received at gateway from client</error_reason>
<error_srcText><![CDATA[]]></error_srcText>
</runtime_error>
```

Ensure that you sent your xml/request in a string starting 'xml_in=' (see the example connection code).

7.3 APPLICATION GENERATED ERRORS

Application errors are included as they occur and take the following format:

```
<ERROR>
<CODE>error code</CODE>
<DESCRIPTION>error description</DESCRIPTION>
</ERROR>
```

- For possible errors see Error Table below

| | |
|--|-------------------------------------|
| TNT iConnections v2.0: Pricing Technical Guide | Version: 4.7 |
| | Date: 14 th October 2009 |
| | |

7.4 TABLE OF APPLICATION GENERATED ERROR CODES, MESSAGES AND RESOLUTIONS

| Error Code | Error Description | Resolution |
|------------|--|---|
| G1 | Login Failed | Valid company id and password must be present in the XML document. |
| G2 | Error occurred checking dataset versions | This will not prevent pricing from being completed; submit again for dataset version check. |
| G3 | No DataSet Request element found | Check your XML format, either PriceRequest or DatasetRequest elements must be present, upper case and correctly spelt. |
| G4 | No dataset version information found | Elements are empty or missing, check XML format. |
| P1 | Failure to format incoming XML string | Check XML format and resubmit. |
| P2 | RateId: x - Failure to specify available Services: those returned might not all apply | Resubmit for all services. |
| P3 | RateId: x - Failure to specify available Options: those returned might not all apply | Resubmit for all options. |
| P4 | RateId: x - Failure to retrieve Service/Option details using TNTLists.dll | Resubmit XML, if error reoccurs contact TNT Help Desk. |
| P5 | RateId: rateid - Price Check Intergate Failure: Time out on database | Resubmit XML, if error reoccurs contact TNT Help Desk. |
| P6 | RateId: x - Price Check Intergate Failure: Error in Server | Resubmit XML, if error reoccurs contact TNT Help Desk. |
| P7 | RateId: x - Price Check Intergate Failure: No Rates Returned | Resubmit XML, if error reoccurs contact TNT Help Desk. |
| P8 | RateId: x - Field/s missing or invalid. Mandatory fields = OriginCountry, DestCountry, ConType, Weight, Volume (if nonDoc) | Check XML – all fields listed must contain valid values and may not be empty. |
| P9 | No Price Requests Found | PriceRequest element missing will still check dataset versions. |
| P10 | Invalid Account Number | The company whose id was found in the company element does not own account number. |
| P11 | Invalid Country Code | Country code must match a code in the TNT country dataset. |
| P12 | Invalid Town Group | TownGroup code must match a code in the TNT Towngroup dataset. |
| P13 | RateId: x – Standard Rates | No rates are set up for the given account with these origin and destination details. The rates returned are standard rates. |
| P14 | RateId: x – Invalid Domestic Consignment | Domestic rating is not available. |
| P15 | RateId: x – Insurance value must be numeric | Insurance value must be numeric |
| P16 | RateId: x – Service required with options | If option values are present in the XML, a service must be present and hold a valid TNT service code |
| P17 | RateId: x – Unable to retrieve service/option | Resubmit or contact your TNT CIT rep |

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|--|-------------------------------------|
| TNT iConnections v2.0: Pricing Technical Guide | Version: 4.7 |
| | Date: 14 th October 2009 |
| | |

8. RECOMMENDED RESOURCES

To download the Internet Explorer 5.5 browser:

<http://www.microsoft.com/windows/ie/previous/default.asp>

Useful XML resources:

<http://www.xml.com>

<http://www.topxml.com>

<http://www.xmlinfo.com/>

<http://msdn.microsoft.com/library/>