

TNT Post Group



# **TNT iConnections v2.0: Pricing Technical Guide**

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## Revision History

Date	Version	Description	Author
19 <sup>th</sup> August, 2002	4.0	Initial document	Michelle Dance
4 <sup>th</sup> 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.	Michelle Dance



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## INTRODUCTION

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

With the use of the new 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.



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## CONNECTING TO THE TNT SERVER

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

1. 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. This will be arranged by the TNT representative.
2. Each customer is setup with their own company id and password, required for each iConnections 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 iConnections. This will be arranged by the TNT representative.
3. Before sending an XML document through a straight socket connection, you must verify that you can access TNT's iConnections 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 test/demonstration site simulates a simple customer interface to the back-end iConnections 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.

4. 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	194.200.70.13
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.



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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.



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## 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.

## JAVASCRIPT CONNECTION CODE EXAMPLE

Var xmlin = your xml document

```
var httpOb = Server.CreateObject("Microsoft.XMLHTTP");
var URL = "iconnection.tnt.com:81/Pricegate.asp";
httpOb.Open("POST", URL, false, "", "");
httpOb.setRequestHeader("Content-Type", "application/x-www-form-urlencoded");
httpOb.Send("xml_in="+xmlin);
```

(The returned data can be obtained by viewing the ResponseText property of the http object).

```
Response.Write("httpOb.responsetext");
```

## VBSRIPT 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



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## 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.

### 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		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
DETTOWNNAME	N	Destination Town name		PRICECHECK
DESTPOSTCODE	Y	Destination Postcode		PRICECHECK
DETTOWNGROUP	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
INSURANCE (Optional)	Y	To indicate if insurance is required, pass the insurance value in	Must be numeric and Consignment Type must be Non-Doc	PRICECHECK
<b>N.B. The insurance does not currently impact the rates</b>				



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returned, but has been included for future development purposes				
---	--	--	--	--



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## 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://164.39.41.19:81/PriceCheckerDTD1.0/PriceRequestIN.dtd'>
<PRICEREQUEST>
```

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

```
<LOGIN>
```

```
<COMPANY>Company Name</COMPANY>
```

```
<PASSWORD>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>
```

```
<DESTTOWNNAME></DESTTOWNNAME>
```

```
<DESTPOSTCODE></DESTPOSTCODE>
```

```
<DESTTOWNGROUP>AMS</DESTTOWNGROUP>
```

```
<CONTYPE>D</CONTYPE>
```

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

```
<WEIGHT>0.2</WEIGHT>
```

```
<VOLUME></VOLUME>
```

```
<ACCOUNT>315757</ACCOUNT>
```

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

```
<SERVICE>15D</SERVICE>
```

```
</PRICECHECK>
```

```
</PRICEREQUEST>
```

## 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.



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## 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	Version number	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://164.39.41.19:81/PriceCheckerDTD1.0/SetRequestIN.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.



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## XML FORMAT: OUTPUT

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

### TABLE OF RETURNED XML ELEMENTS – PRICE REQUEST

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



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## 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).



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### 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 Services's telephone number	20	COUNTRY
COLLDAYS	Y	TNT Collection Days in xxxxxx format (Sun to Sat where x = no collection)	7	COUNTRY
DOMESTIC	Y	'1' = Domestic shipments possible '0' = 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
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



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## 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 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.-->



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```
<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>
```



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## 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.

### 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)>
```

### 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)>
```

## ERRORS

There are a number of different errors that may occur when using TNT iConnections. 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 iConnections software is up and running.

### 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://164.39.41.1
9:81/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.

## **ERRORS RETURNED BY THE PRICEGATE.ASP (ENTRY FILE)**

The entry file will check your login details and return an error if they can not 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).

## **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



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## 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	Account number is not owned by the company whose id was found in the company element.
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

## 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/>