



THE
C O M P A N Y
M E R C H A N T

Postcode Interface

v 5.1

Jan 2011

Methods of Licencing

The Postcode Address File (PAF) is the intellectual property of Royal Mail. They spend millions every year on issuing and maintaining postcodes and so they licence and monetise their intellectual property

Large customers may choose to purchase the Royal Mail file in full with a system licence costing several thousand pounds and then spend thousands developing their own system, however, many customers need to use it for small to medium usage, which is where the online Postcode Checker system comes into its own. Royal mail licence their postcode lookups in a number of ways:

“Front end” user interfaces which give access to the general public are the main use for postcode/address lookup systems. Royal Mail licence this usage at a low cost per check.

“Back end” or closed off systems operated by your own staff. If you operate a website as an intranet (i.e a website only available from within your company) or a closed off, administrative system on the internet itself where your company employees log in to carry out administrative work and the general public cannot gain access to the system, you can also use the postcode checking system but the per lookup licence costs are higher. If you have a low number of users within this intranet or administration site, it may be cheaper to licence each “user” individually and pay a small administrative cost for each lookup. With Royal Mail, a “user” is considered to be a computer device – PC, Mac, Mobile etc rather than a person, so if you have 3 people operating in 8 hours shifts on one computer, its is only a single licence required.

The Royal Mail licence requires that the organisation making use of the lookups should be the one to pay for the licence unless you enter into a 3rd party supply agreement with us. If you provide software that is to be used on a website which is not owned or operated by you then the company/individual owning the website is required to purchase the lookups

Development System

The PostcodeChecker service makes use of SOAP to allow you to interface with the system.

By providing you with a SOAP 1.1 interface, we give you full control over the way you wish to present the data to your customers and this removes any restriction in your development platform – you can choose PHP, ASP, Java etc – anything that can use SOAP

We appreciate that many customers don't have much development experience and maybe only have rudimentary knowledge of Javascript, HTML and PHP for example. For customers who don't know much about SOAP, it basically allows your server to talk to our server in a structured way and allows you to then use any programming language you want – PHP, Java, ASP etc as these should all have SOAP routines built into them

If you have no inclination to develop you own interface to the PostcodeChecker system, you just want to plug in and go, we have supplied a PHP based integration kit with popup window for selecting data which means you can be up and running within 30 minutes with a rudimentary level of Javascript.

Whilst we a provide this basic PHP implementation, it's easy to convert it to other server side languages because only one small file is actually required, or if you use SOAP directly you will be developing your own system anyway

Access Points

We appreciate you may like to analyse or track lookups from different sources – maybe your sign up page or your order page etc. For this, we use AccessPoints. Each AccessPoint can track a different location on your site. When you create an Accesspoint, you specify some parameters of the lookup:

- **How many lookup attempts you want to allow the customer on a particular page - i.e. before the user has to refresh the page (based on their IP address).**
- **How many lookup attempts you want the user to carry out within a 24 hour period (based on**

their IP address)

- **Would you like to offer Welsh based addresses where available?**

If you have a sign up screen, for example, there should be no reason for a customer to carry out more than a couple of lookups on that screen before proceeding to the next screen. Allowing your customer to use 30 or 40 lookups on one screen may mean that your site is used for a person to check addresses without actually wanting to register, so limiting the number of lookups per page or per 24 hour period may help

Passphrase

We take security of your system seriously. Because your use of the system is likely to involve Javascript which is openly visible to your site visitors, we appreciate that you do not want someone taking visible code from your website and running it on their own website with you paying for their lookups.

Because browsers do not allow one website to talk to another website directly, even a Javascript based solution requires a small amount of “server side” processing to carry out the inter-server communication. Our plug in solution uses a small server side process to talk to our system. This server side process is not visible to your customers and so we use this script to pass a hidden “passphrase” to our system which allows access to your postcode account. This passphrase is configurable by yourselves within the control panel. If you are providing a centralised “white label” system with multiple customer domains running postcode lookups and your users are buying their own lookups from us, then you can either advise them of a commonly used Passphrase that all your customers will use, or they can use a code of their choosing and provide the code within your system so that you can pass the correct code through for the correct customer

The SOAP Interface

The SOAP WSDL file can be found here

<http://interface.postcodechecker.co.uk/wsdl/pcclInterface.wsdl>

In order to track the usage on each page, the system uses a “token”. A token is requested from the system. When you make the token request, the customers IP Address (for tracking), your requested Access Point ID and a description of the page for later analysis of usage, the PassPhrase you chose and finally the type of lookup being carried out are passed in. A numeric token is then passed back in for each subsequent request

The system consists of 3 primary functions

getToken

The system works on a token basis. In order to know how many lookups have been carried out on a page, the system needs to know when it should track a new page, and what type of lookup is being carried out

getToken receives 5 parameters

accessPoint – the access point id

remotePassphrase – passphrase for this access point

pageLocation – description of where the page is (usually the URL) for later analysis

ipAddress – ipAddress of the customer using your website

lookupType – what type of lookup – PERCLICK, INTERNAL, PERUSER

The function returns a numeric token id.

Note that when PERUSER is used, it should be the IP address or a distinguishing feature of the user machine (such as the computers name on the network – we don't suggest using a login name as multiple people may make use of the same computer. A “user” in Royal Mail terminology is any single access input

device used to access the data, not necessarily the human person using it.

getAddresses

Once you have a token id, you can then get a list of available addresses. The parameters are:

accessPoint – the access point id

remotePassphrase – the passphrase for this accesspoint

token – the token id for this lookup

postcode – the postcode to check

This function returns an array of entries with a unique id and a partial description of the property location

getAddressDetail

Once a user has selected the address ID, you can now get the address details. The system receives the following parameters

accessPoint - the access point id

remotePassphrase - the passphrase for this accesspoint

token - the token id for this lookup

addressID - the selected address

This function then returns an element with the following structure

```
<xsd:element name="AddressID" type="xsd:string" />
<xsd:element name="Line1" type="xsd:string" />
<xsd:element name="Line2" type="xsd:string" />
<xsd:element name="Line3" type="xsd:string" />
<xsd:element name="Line4" type="xsd:string" />
<xsd:element name="Line5" type="xsd:string" />
<xsd:element name="Town" type="xsd:string" />
<xsd:element name="Postcode" type="xsd:string" />
<xsd:element name="Thoroughfare" type="xsd:string" />
<xsd:element name="ThoroughfareType" type="xsd:string" />
<xsd:element name="DoubleDependentLocality" type="xsd:string" />
<xsd:element name="DependentLocality" type="xsd:string" />
<xsd:element name="Locality" type="xsd:string" />
<xsd:element name="BuildingNumber" type="xsd:string" />
<xsd:element name="BuildingName" type="xsd:string" />
<xsd:element name="SubBuildingName" type="xsd:string" />
<xsd:element name="CompanyName" type="xsd:string" />
<xsd:element name="Department" type="xsd:string" />
<xsd:element name="Occupiers" type="xsd:integer" />
<xsd:element name="FullAddressWithPostcode" type="xsd:string" />
<xsd:element name="AddressWithoutTown" type="xsd:string" />
<xsd:element name="SmallUser" type="xsd:integer" />
<xsd:element name="DeliveryPointSuffix" type="xsd:string" />
```

Note that for several years, Royal Mail have not needed county details and therefore they do not supply them as part of the Postcode Database. Royal Mails view is that county boundaries change and for postal requirements, they do not need it and so do not provide it as part of standard PAF (Postcode Address File). If you choose to provide a county input on your addresses it should not be mandatory as the postcode lookup will not provide it

There are a number of ways that you may code your address entry boxes, so we aim to supply you with a variety of returned values to allow you to get maximum use from the data

Line1 through to Line5 will contain a line by line list of the address with no blank lines until the address has finished (but not including the postcode).

We supply the Town/City also as a separate data item so that should you want a line by line response but require the town in a specific field you can compare Line1 through Line5 until you reach the Town value and move the Town to another field

The Postcode is supplied back to you correctly spaced

Thoroughfare is the name of the street – such as “High” or “Bartholomew” and ThoroughFare Type is “Street”, “Road”, “Avenue” etc

Royal Mail refer to towns/cities as “localities” and the sub divisions of towns as “dependent localities” and if that dependent locality is further subdivided, it is a “double dependent locality”. The “double dependent locality” might be a hamlet, within a village (dependent locality), which is within a town (locality)

We also supply the FullAddressWithPostcode and AddressWithoutTown data if you are populating a HTML TEXTAREA on screen, you can assign it to either of these values instead of manipulating the other data sources.

Handling Exceptions

When running a SOAP request, it is usual to wrap the requests in a construct which allows the catching of any exceptions.

The system will throw the following exception codes and descriptions

Exception Code	Description
INVALID	Postcode not known
DBSERVER	Database connection problem
PCC-ERR01	Customer code / access point dont match up or are invalid
PCC-ERR02	Lookup type is not PERCLICK, INTERNAL or PERUSER
PCC-ERR03	Token not tied to provided access point
PCC-ERR04	No lookups left
PCC-ERR05	Too many lookups carried out under this token
PCC-ERR06	Too many lookups in a 24 hour period