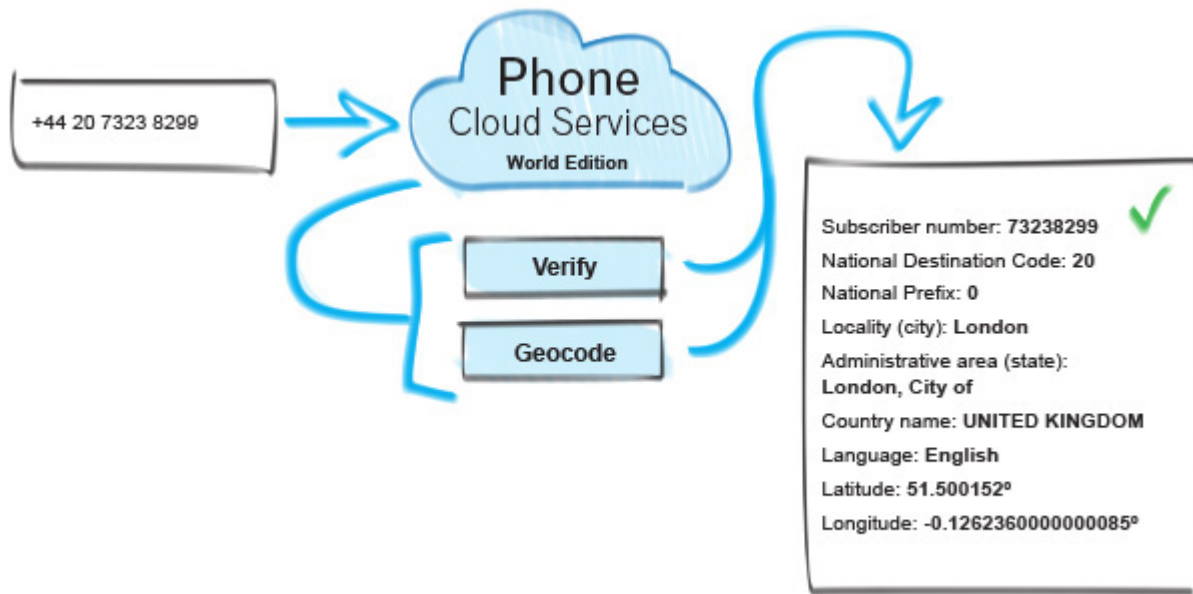


Global Phone Cloud Service: Programmer's Quick Start

Overview

The Global Phone Cloud Service features real-time phone validation allowing detection of unregistered phone numbers, to help improve the quality of the phone data in your database as well as understand the regions your contacts are located.

The Global Phone Cloud Service gives you the ability to verify, correct, and append data about phone numbers in over 230 countries and territories.



You can use Global Phone to:

- Verify and append country dialing codes, international exit codes, national prefixes, and more.
- Distinguish between landlines, wireless numbers, or Voice Over IP (VOIP).
- Append geographical information on the telephone line such as latitude, longitude, administrative area, and predominant language.
- Break the phone number down into its significant pieces.

Global Phone has the ability to detect:

- The phone number falls into a telephone provider's line range.
- The phone number is within the specified country.
- Designated phone type (landline, wireless, VOIP, etc.).
- Phone numbers containing national prefixes.

The Global Phone Cloud Service provides flexible phone number format detection. Depending on the inputs provided, the Global Phone will return the necessary digits in order to call the specified country.

FIELDS INPUT AND OUTPUT FROM THE SERVICE

INPUTs	Description
Transmission Reference	A unique string value identifying the request
Customer ID	License String from Melissa Data
Record ID	Unique ID if processing multiple records
Phone Number	The phone number to be verified
Country	If entered, checks the phone number in the given country's phone data. Accepted formats are the official country name or ISO2 code.
Country of Origin	If entered, returns the necessary international exit code to dial into the country the phone number belongs to. Accepted formats are the official country name or ISO2 code.

OUTPUTs	Description
Transmission Reference	A unique string value identifying the request
Transmission Results	Results of the transmission (success/fail)
Record ID	Unique ID if processing multiple records
Results	Results (status of validation)
PhoneNumber	Phone Number (full number)
PhoneInternationalPrefix	International exit digits (replaces '+')
PhoneCountryDialingCode	Country dialing code (digits after the international prefix)
PhoneNationPrefix	Nation prefix (If dialing within same country as the inputted phone number, dial these digits before the national destination code)
PhoneNationalDestinationCode	National destination code (numbering area within a country, group of countries, and/or network/services)
PhoneSubscriberNumber	Subscriber number (significant leading digits that further define local exchange area and/or service)
Locality	City
AdministrativeArea	State
CountryName	Country
DST	Daylight Savings Time (‘Y’ if area observes daylight savings; ‘N’ if area does not)
UTC	Universal Time Code (+/-HH:MM)
Language	Predominant language of number's detected geographical location
Latitude	Latitude of geographically identifiable service area of exchange
Longitude	Longitude of geographically identifiable service area of exchange

License String

You should have been provided an encrypted and unique license string or Customer ID from Melissa Data. This is necessary for including with each request to the Global Phone Cloud Service. This value should be put into the CustomerID element in each Web service request.

If you do not have a license string, please contact your Melissa Data sales representative at 1-800-MELISSA (1-800-635-4772).

Sample REST Requests

1. https://globalphone.melissadata.net/v3/WEB/GlobalPhone/doGlobalPhone?t=GlobalPhoneV3_REST&id=123456789&phone=%2B31102002999&ctry=NL&ctryorg=USA&format=JSON
2. https://globalphone.melissadata.net/v3/WEB/GlobalPhone/doGlobalPhone?t=GlobalPhoneV3_REST&id=123456789&phone=%2B31102002999&ctry=NL&ctryorg=USA&format=XML

Sample JSON Response

```
{"Version":"3.0.0.12","TransmissionReference":"GlobalPhoneV3_REST","TransmissionResults":",\"TotalRecords\":\"1\",\"Records\":{\"RecordID\":\"1\",\"Results\":\"PS01,PS08\",\"PhoneNumber\":\"+31102002999\",\"PhoneInternationalPrefix\":\"011\",\"PhoneCountryDialingCode\":\"31\",\"PhoneNationPrefix\":\"0\",\"PhoneNationalDestinationCode\":\"10\",\"PhoneSubscriberNumber\":\"2002999\",\"Locality\":\"Rotterdam\",\"AdministrativeArea\":\"Zuid-Holland\",\"CountryName\":\"NETHERLANDS\",\"DST\":\"Y\",\"UTC\":\"+01:00\",\"Language\":\"Dutch\",\"Latitude\":\"51.92269\",\"Longitude\":\"4.470786999999996\"}}}
```

Sample XML Response

```
<Response xmlns="urn:mdGlobalEmail" xmlns:i="http://www.w3.org/2001/XMLSchema-instance">
```

```
<Response>
<Version>3.0.0.12</Version>
<TransmissionReference>GlobalPhoneV3_REST</TransmissionReference>
<TransmissionResults> </TransmissionResults>
<TotalRecords>1</TotalRecords>
<Records>
  <ResponseRecord>
    <RecordID>1</RecordID>
    <Results>PS01,PS08</Results>
    <PhoneNumber>+31102002999</PhoneNumber>
    <PhoneInternationalPrefix>011</PhoneInternationalPrefix>
    <PhoneCountryDialingCode>31</PhoneCountryDialingCode>
    <PhoneNationPrefix>0</PhoneNationPrefix>
    <PhoneNationalDestinationCode>10</PhoneNationalDestinationCode>
    <PhoneSubscriberNumber>2002999</PhoneSubscriberNumber>
    <Locality>Rotterdam</Locality>
    <AdministrativeArea>Zuid-Holland</AdministrativeArea>
    <CountryName>NETHERLANDS</CountryName>
    <DST>Y</DST>
    <UTC>+01:00</UTC>
    <Language>Dutch</Language>
    <Latitude>51.92269</Latitude>
```

```
<Longitude>4.470786999999996</Longitude>
</ResponseRecord>
</Records>
</Response>
```

Single vs. Batch

Melissa Data cloud services are capable of both single record real-time processing and batch processing. The difference is simply in the number of records sent in each request. Melissa Data cloud services take an array of records. This array can contain a single record or 100 records. For a real-time process like a Web form entry or a call center application, send in a request with one record. For a batch processing scenario like a database, send requests of up to 100 records until all the records are processed. Note: Make sure each record in the request has a unique Record ID.

Sample Batch XML Request

```
<Request xmlns="urn:mdGlobalPhone">
  <TransmissionReference>Batch Sample</TransmissionReference>
  <CustomerID>XXXXXXXX</CustomerID>
  <Records>
    <RequestRecord>
      <RecordID>1</RecordID>
      <PhoneNumber>123456789</PhoneNumber>
      <Country>GB</Country>
      <CountryOfOrigin>USA</CountryOfOrigin>
    </RequestRecord>
    <RequestRecord>
      <RecordID>2</RecordID>
      <PhoneNumber>+234567890</PhoneNumber>
      <Country>DE</Country>
      <CountryOfOrigin>AU</CountryOfOrigin>
    </RequestRecord>
    ...
    <RequestRecord>
      <RecordID>100</RecordID>
      <PhoneNumber>3456789120</PhoneNumber>
      <Country>CN</Country>
      <CountryOfOrigin>KR</CountryOfOrigin>
    </RequestRecord>
  </Records>
</Request>
```

Global Phone Cloud Service URLs [Global Phone Cloud Service Endpoint URLs](#)

Choosing a Web Service Protocol

The Melissa Data Global Phone Cloud Service supports REST, JSON, XML, and SOAP. For the undecided, here are some Pros and Cons of one Web Service protocol over the other.

REST

Pros: REST is lightweight and relies upon HTTP to do its work. If you don't need a strict API definition, this is the way to go. REST is also format-agnostic so you can use XML or JSON as response formats.

Cons: REST can only be used for sending of single records and doesn't support strict contracts or more involved security. The Response is an XML or JSON document.

XML

Pros: XML allows record set structures of more than one record at a time and has very good support with most languages and browsers. Supports namespaces.

Cons: Developers need to use tools to serialize/de-serialize the XML structure.

JSON

Pros: JSON relies on simple object serialization based on JavaScript's object initialization. It is very simple to use with JavaScript and easily parsed and understood by developers.

Cons: No support for formal definitions. No namespace support. Not much support in Web Service clients with some platforms.

SOAP

Pros: SOAP (using a WSDL) is a heavy-weight XML standard that is centered around document passing. The advantage with this is that your requests and responses can be very well structured.

Cons: SOAP documents are very verbose and hard to consume without a SOAP toolkit and generally carry more overhead.

Basic Order of Operations (Pseudo Code)

1. Choose SOAP, XML, or the REST service.
2. Create an instance of the request object.
3. Populate the request element 'Customer ID' with your Product License.
4. Add input phone numbers, country, and/or country of origin to the <Records> array with anywhere from 1 to 100 <RequestRecord> items. (SOAP, XML)
5. Call the method and pass the request to the service using the SOAP endpoint for SOAP requests and the WEB endpoint for XML or JSON requests.
6. Examine and parse the response from the reply object back from the service.
7. Interpret the results.

Interpreting Results

Melissa Data's Global Phone Service uses Results Codes to determine if a phone number was or was not matched with one in our database.

The Melissa Data Cloud Services use the following Results conventions:

1. CLOUD SERVICE ERRORS: SExx
2. CLOUD TRANSMISSION ERRORS: GExx
3. PHONE NUMBER STATUS CODES: PSxx
4. PHONE NUMBER ERROR CODES: PExx

For example: A PS01 result code indicates that the number is good and a PE03 means the number is bad.

PE01 – PE10 Results Codes can indicate what specific part of the number is preventing a validation. Please check the documentation for any additional information on Results.

Results Codes

The service returns a series of results codes to tell you the status of the Phone and any changes or errors found during the verification process.

For a full list of the result codes returned by Global Phone Cloud Service, see [Global Phone Result Codes](#).

Sample Code

Fully working examples are available on the wiki pages:

[Click here to go to the Global Phone Cloud Service Sample Code Wiki Page](#).

Wiki Page

A product support Wiki is available for your convenience. In the Wiki, you will find documentation about the service in more detail.

[Click here to go to the Global Phone Cloud Service Wiki Page](#).

Misc. Considerations

Firewall

If you are behind a firewall, you may need to allow specific IP addresses access in order to communicate with the service. For a full list of IP Addresses, see [IP Address Information](#).

Country and Country of Origin Input

The Country and Country of Origin inputs are options for the service. However, the more data that can be inputted about the phone number, the higher the chance of verification.

Country is an input that represents the country of the phone number in question.

Country of Origin represents the country which the caller is located.

For example, if you are located in the US and are trying to call an Australian number, the Country would be Australia and the Country of Origin would be the US. For both inputs, the country ISO-3166 2 character code, or 3 character code, 2 digit number, or official full name are accepted.