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CAN_Geo_001

Service Description Document

Introduction

This document contains all of the service specific information you will need to understand and use this particular EZ-Locate hosted service. Namely, this document specifies:

- The network address and service name;
- The required input fields and their content definitions; and
- The supported output fields and their format/content definitions.

With the data in this document, you should have everything you need to begin using this service through your preferred client (EZ-Locate client, self-built solution, etc).

Service Information	
Service access method	EZ-Locate 2 client software or SDK
Server address	mmezl.teleatlas.com
Service name	CAN_Geo_001

Description

CAN_Geo_001 provides the latest in Tele Atlas® geocoding technology and data for Canada. This service uses map data built from our most recent database and uploaded to the geocoding server on the first day of each month.

Service Inputs

Each record transmitted to this service must have a required set of input fields. Here are the names of the fields and a description of their required contents.

Field Name	Field Description
Addr	House number and street name
City	City name
Prov	Province abbreviation
FSA	FSA or full postal code
LDU	LDU if separate from the FSA

Guidance on input field formats and content

Addr

- Avoid PO Box or Rural Route numbers for best street level matching.
- Spell out street names completely. Street types and directional tokens can be safely abbreviated (Adams ST E, Rue de Champigny O).
- Express a range of numbers with a hyphen (160-170 Park St will match; 160 to 170 Park St will not match).
- Intersections are formatted (Smith St & Jones St; Smith St and Jones St; Smith St. at Jones St.; Smith St. @ Jones St.).
- Place apartment numbers, floors and suites AFTER the street name and separate them with a comma. The preferred method is to provide a separate field for apartment numbers, floors and suites (these are not used for matching).
- Remove apartment letters from street numbers: 143-D Park St and 143 D Park St will not match. These addresses should be changed to 143 Park St or 143D Park St.

Prov

- Province abbreviations must be the two-letter abbreviations used by the Canadian postal system.

FSA & LDU

- If you have a single field containing a full postal code you can transmit the value in the FSA field. The allowable formats are <FSALDU>, <FSA-LDU> or <FSA LDU>.
- If you have the FSA parsed separately from the LDU value then transmit them separately in the fields provided.

See following page for examples.

Here are some example inputs to the system.

Input Record	Best Match Possible										
<table border="1"> <tr><td>Addr</td><td>1644 Rue de Champigny</td></tr> <tr><td>City</td><td>Montreal</td></tr> <tr><td>Prov</td><td>QC</td></tr> <tr><td>FSA</td><td>H4E 1M1</td></tr> <tr><td>LDU</td><td></td></tr> </table>	Addr	1644 Rue de Champigny	City	Montreal	Prov	QC	FSA	H4E 1M1	LDU		<p>Since all fields contain values, it is possible to attain any match type other than an intersection match from this input.</p>
Addr	1644 Rue de Champigny										
City	Montreal										
Prov	QC										
FSA	H4E 1M1										
LDU											
<table border="1"> <tr><td>Addr</td><td>1644 Rue de Champigny</td></tr> <tr><td>City</td><td>Montreal</td></tr> <tr><td>Prov</td><td>QC</td></tr> <tr><td>FSA</td><td>H4E</td></tr> <tr><td>LDU</td><td></td></tr> </table>	Addr	1644 Rue de Champigny	City	Montreal	Prov	QC	FSA	H4E	LDU		<p>Since no LDU is present, there is no chance of obtaining a centroid for this match. Otherwise, it is the same as the previous example.</p>
Addr	1644 Rue de Champigny										
City	Montreal										
Prov	QC										
FSA	H4E										
LDU											
<table border="1"> <tr><td>Addr</td><td>1644 Rue de Champigny</td></tr> <tr><td>City</td><td>Montreal</td></tr> <tr><td>Prov</td><td>QC</td></tr> <tr><td>FSA</td><td></td></tr> <tr><td>LDU</td><td></td></tr> </table>	Addr	1644 Rue de Champigny	City	Montreal	Prov	QC	FSA		LDU		<p>This will match to an address or not match at all. The locality of the match will have to be determined using only the city name and province abbreviation.</p>
Addr	1644 Rue de Champigny										
City	Montreal										
Prov	QC										
FSA											
LDU											
<table border="1"> <tr><td>Addr</td><td></td></tr> <tr><td>City</td><td></td></tr> <tr><td>Prov</td><td></td></tr> <tr><td>FSA</td><td>H4E 1M1</td></tr> <tr><td>LDU</td><td></td></tr> </table>	Addr		City		Prov		FSA	H4E 1M1	LDU		<p>With the FSA LDU, the only match types available are postal code centroids.</p>
Addr											
City											
Prov											
FSA	H4E 1M1										
LDU											
<table border="1"> <tr><td>Addr</td><td></td></tr> <tr><td>City</td><td>Montreal</td></tr> <tr><td>Prov</td><td>QC</td></tr> <tr><td>FSA</td><td></td></tr> <tr><td>LDU</td><td></td></tr> </table>	Addr		City	Montreal	Prov	QC	FSA		LDU		<p>With just the City and Province there is NO MATCH POSSIBLE.</p>
Addr											
City	Montreal										
Prov	QC										
FSA											
LDU											

NOTE:

Input names may or may not contain accents – they are not considered during matching.

Service Outputs

For each record transmitted to the service, the server will return a specified set of output values. Here are the returned field names and a description of their content.

Field Name	Field Description
MAT_ADDR	Matched Street Address
MAT_CITY	Matched City
MAT_PROV	Matched Province
MAT_FSA	Matched FSA
MAT_LAT	Match latitude (decimal degrees)
MAT_LON	Match longitude (decimal degrees)
MAT_CENT	Centroid type code
MAT_STAT	Match Status Code
MAT_TYPE	Match Type Code

Matched Street Address

The matched street address contains the address number, pre-directional, street name, street type and post-directional for the matched address as found in our database. The matched street address will be blank on addresses that match to centroids or that did not match at all.

Matched City, Province and Postal Code

The matched city, state (or province) and postal code found in our database for the matched address.

Coordinate Fields

LATITUDE:

The latitude in geographic projection; decimal degree format, World Geodetic System Datum 1984, formatted 00.000000.

LONGITUDE:

The longitude in geographic projection; decimal degree format, World Geodetic System Datum 1984, 11 characters, formatted -X00.000000 (X = blank or 1).

Centroid Type

Centroid matches are available for the FSALDU and they will be the best representative value we can calculate. These may include 6 digit postal code centroids, representative city points, FSA centroids or their derivatives.

- **Unique**- The single best centroid that Tele Atlas® can calculate.
- **Most Representative**- not currently implemented.
- **Multiple**- not currently implemented.

Centroid Type Codes include:

Centroid Type	Description
0	Not a centroid (street address match)
U	Unique FSALDU centroid
R	Not currently implemented
M	Not currently implemented
Blank	Unable to match FSALDU

Match Status Codes

A two-character code appended to each record indicates the type of match or failure. Match status codes are assigned automatically. "B" codes are by far the most common. A "B" code indicates the match was made through the batch process.

Code Description

Match Status Code	Description
B1	Street segment.
B2	Intersection.
B3	Intersection.
B5	Alternate name match. Address match to an alternate or "secondary" name of a street in the Tele Atlas® database.
B6	Placeholder match. Matched to a point in the Tele Atlas® database that had been placed earlier as a best estimate until acquisition of better resources.
B7	Alternate name match to Placeholder. Matched to an alternate name of a point in the Tele Atlas® database that had been placed earlier as a best estimate until acquisition of better resources.
10	Not a valid two-character province abbreviation. Either a typo or non-covered area.
11	Locality not found in list of valid localities. The postal service and therefore Tele Atlas® does not list this as a deliverable locality.
12	Street address parse error. Incomplete or poorly formatted addresses such as blank fields. The geocoding software was unable to break the address down properly into prefix, street name, type, suffix, directional, etc.
14	Street name could not be found. The street name given is not found in the Tele Atlas® street database. This is either due to missing data in the Tele Atlas® database or an invalid address.
15	Address range does not exist. The address given is not found in the Tele Atlas® street database on the street given. This is either due to missing address ranges on streets in the Tele Atlas® database or an invalid address number.
16	More than one segment with address range. Ambiguity: either due to the address occurring multiple times in the Tele Atlas® street database, or the address is not specific enough (EXAMPLE: "100 Main St" when the Tele Atlas® database contains both "100 N Main St" and "100 S Main St").
17	Unable to match intersection. There may be two valid streets that do not intersect or one or both streets that could not be matched. Another possibility is that the two streets intersect in more than one place.

Match Type Codes

These codes are the same as the Match Status Codes, except they are strictly numeric and do not contain leading alphabetic characters. Additionally, there are the new values of:

- 1 IncorrectInputError – wrong number of fields sent to service.
- 10 NetworkError – server or network error while transmitting address.

Understanding the Canadian Postal Code

The Canadian postal code is a 6-character, uniformly structured, alphanumeric code in the form “ANA NAN” where “A” represents an alphabetic character and “N” represents a numeric character. A postal code is made up of two segments: “forward sortation area (FSA)” and “local delivery unit (LDU)”. The forward sortation area is a combination of three characters (alpha-numeric-alpha). It identifies a major geographic area in an urban or a rural location. The local delivery unit is a combination of three characters (numeric-alpha-numeric). It identifies the smallest delivery unit within a forward sortation area.

FSA – The First Segment of the Postal Code

There are over 1500 FSAs in the Canadian postal system. The FSA represents a specific area within a major geographic region or province. An FSA boundary is an area comprised of from 1000 - 2000 LDUs. An FSA would be split into two FSAs when the LDU count approaches 2000.

- The first character of the forward sortation area segment identifies one of the 18 major geographic areas, provinces or districts.
- The second character of the forward sortation area is an important component of mail preparation, as it identifies either:
 - An **urban postal code**: numerals 1 to 9 (T3Z); or
 - A **rural postal code**: numeral 0 (zero) (AOA).
- The third character of the forward sortation area segment (T3Z,) in conjunction with the first two characters, describes an exact area of a city or town or other geographic area.

LDU – The Second Segment of the Postal Code

There are over 750,000 LDUs in the Canadian postal system.

The LDU, identified by the last three characters of the postal code, allows for a more final sort within a forward sortation area.

In **urban areas**, the last three digits may indicate a specific city block (one side of a street between two intersecting streets), a single building or, in some cases, a large-volume mail receiver.

In **rural areas**, the last three digits, together with the forward sortation area, identify a specific rural community.