POSITION SERVICES – REVGEOCODING

DESCRIPTION OF POSITION SERVICES – REVGEOCODING   20.4.2012

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This is a general service for converting geographic coordinates to a text representation, usually street level or address level. Service allows making special services to supply customer data.

Service is offering following methods:
> **method for reverse geocoding of coordinates ("revgeocoding")**

Methods are capable to be called using **URL** calling convention (by HTTP GET and HTTP POST methods) with output to **XML**, **JSON** and **JavaScript** or using **SOAP**.

Service security is guaranteed by communication via secured channel SSL using THAWTE certificate.
The tradition and quality of THAWTE certificates allows full client´s confidence.

The access security is resolved by Username and Password.

The access is possible by classical access parameters or simply by specification in URL address:
A) **https://services.position.cz/?cmd=revgeocoding&auser=XXXX&apass=YYYY...**
B) **https://services.position.cz/XXXX/YYYY/?cmd=revgeocoding...**   (name/password/function name)

INFORMATION ABOUT POSITION´S SERVICES

Besides Position Services – RevGeocoding service Position is offering another high performace standardized services in HA24/7 mode.

WMS Position - MAPS – street level Europe coverage (according to actual NAVTEQ data coverage)
Position Services - SEARCH – Europe address search
Position Services - REVERSE GEOCODING
Position Services - ROUTING – street level routing
Position Services - ROUTE OPTIMIZATION – street level optimization

REVERSE GEOCODING - SPECIFICATION

URL CALL - PARAMETERS

cmd=revgeocoding	required, method name
pos	required, point coordinates separated by ; (semicolon) - each point can have projection defined as a first item - it is possible to enter more points by separating them by | (pipe) separator - for each point with no explicitly defined projection, a value of *proj* parameter is used as a projection Example: JTSK;601077.44;1205089.83|49.044645;16.987210
proj	optional, default projection of points with no explicitly defined projection Default value: "WGS-84"
outproj	optional, projection of output coordinates Default value: "WGS-84"
resfields	optional, semicolon separated field names required in result Default value: country_carcode;country;region;county;city;citypart;street;housenumber;road;zip;coords Allowed values: - * - country_carcode - country - region - county - city - citypart - street - housenumber - road - zip - speed - milestone - descr - coords Value „*" has same meaning as default value. Its usage is when you need add another item(s) to the standard output. Example: *;speed
auser	optional, user name for accessing the service (in case that authorization is used)
apass	optional, password for accessing the service (in case that authorization is used)
lang	optional, language used for error messages
reqid	optional, used to pass a used-defined value from input to the output of a service
output	optional, output type Default value: xml Allowed values: - xml - js
callback	optional, used only when *output*=js, name of JavaScript function to be called (see output examples)

URL CALL - RESPONSE

Method returns an object with the following structure:

`request`	input parameters
`{`	
`cmd`	mandatory, method name
`reqid`	optional (given when *reqid* parameter was passed in), value of parameter *reqid*
`}`	
`response`	
`{`	
`error`	mandatory, error code Possible values: 0: No error occured -1: Invalid argument (parameter value, missing parameter etc.) -2: Authorization failed -3: Unsupported value of *cmd* parameter -10: Internal error
`errormessage`	mandatory, error message
`resultitems`	optional (given when *error*=0), array of result items, items can be disabled by using *resfields* parameter, default state (when *resfields* parameter is not used) is described
`[{`	
`country_carcode`	optional (given when value is not empty), international vehicle registration code
`country`	mandatory, country name
`region`	optional (given when value is not empty), state/region name
`county`	optional (given when value is not empty), county name
`city`	mandatory, city name
`citypart`	optional (given when value is not empty), city part name
`street`	mandatory, street name
`housenumber`	mandatory, house number
`road`	optional (given when value is not empty), road number
`zip`	mandatory, zip code (postal code)
`speed`	optional (given when *resfields* parameter contains „speed" and value is not empty), speed limit
`milestone`	optional (given when *resfields* parameter contains „milestone" and value is not empty), milestone
`descr`	optional (given when *resfields* parameter contains „descr" and value is not empty), description concatenated into a single string (based on internal rules)
`coords`	mandatory, passed-in coordinates (COORDS structure)
`},...]`	
`}`	

COORDS structure:

`{`	
`proj`	mandatory, projection name
`lat`	optional (depending upon the projection), WGS-84 latitude
`lon`	optional (depending upon the projection), WGS-84 longitude

`x`	optional (depending upon the projection), x-coordinate
`y`	optional (depending upon the projection), y-coordinate
`e`	optional (depending upon the projection), e-coordinate for projection
`n`	optional (depending upon the projection), n-coordinate for UTM projection
`z`	optional (depending upon the projection), UTM zone
`c1`	optional (depending upon the projection), reserved for other projection coordinates
`c2`	optional (depending upon the projection), reserved for other projection coordinates
`c3`	optional (depending upon the projection), reserved for other projection coordinates
`c4`	optional (depending upon the projection), reserved for other projection coordinates
`}`	

SOAP CALL

Definition: RevGeocoding(*options***)**

A parameter option is declared as an object with following structure:

Positions	required, point coordinates separated by ; (semicolon)
	- each point can have projection defined as a first item
	- for each point with no explicitly defined projection, value of *Projection* parameter is used as a projection
	example:
	`<item>JTSK;601077.44;1205089.83</item>`
	`<item>49.044645;16.987210</item>`

Projection	optional, see URL parameter *proj*
OutputProjection	optional, see URL parameter *outproj*
ResultFields	optional, array of field names required in result Default value: country_carcode;country;region;county;city;citypart;street;housenumber;road;zip;coords Allowed values: - * - country_carcode - country - region - county - city - citypart - street - housenumber - road - zip - speed - milestone - descr - coords Value „*" has same meaning as default value. Its usage is when you need add another item(s) to the standard output. Example: *;speed
ReqID	optional, see URL parameter *reqid*

User	optional, see URL parameter *auser*
Password	optional, see URL parameter *apass*
Language	optional, see URL parameter *lang*

SOAP CALL – RESPONSE

Method returns an object with following structure:

Request	input parameters
{	
Version	mandatory, service version
ReqID	optional (given when *reqid* parameter was passed in), value of parameter *ReqID*
}	
Response	
{	
Error	mandatory, error code Possible values: 0: No error encountered -1: Invalid argument (parameter value, missing parameter etc.) -2: Authorization failed -10: Internal error
ErrorMessage	mandatory, error message
ResultItems	optional (given when *error*=0), array of result items, items can be disabled by using *ResultFields* parameter, default state (when *ResultFields* parameter is not used) is described
[{	
Country_Carcode	optional (given when value is not empty), international vehicle registration code
Country	mandatory, country name
Region	optional (given when value is not empty), state/region name
County	optional (given when value is not empty), county name
City	mandatory, city name
CityPart	optional (given when value is not empty), city part name
Street	mandatory, street name
HouseNumber	mandatory, house number
Road	optional (given when value is not empty), road number
Zip	mandatory, zip code (postal code)
Speed	optional (given when *resfields* parameter contains „speed" and value is not empty), speed limit
Milestone	optional (given when *resfields* parameter contains „milestone" and value is not empty), milestone
Descr	optional (given when *resfields* parameter contains „descr" and value is not empty), description concatenated into a single string (based on internal rules)
Coords	mandatory, passed-in coordinates (COORDS structure)
},...]	
}	

Struktura COORDS:

{	
Proj	mandatory, projection name

Lat	optional (depending upon the projection), WGS-84 latitude
Lon	optional (depending upon the projection), WGS-84 longitude
X	optional (depending upon the projection), x-coordinate
Y	optional (depending upon the projection), y-coordinate
E	optional (depending upon the projection), e-coordinate for projection
N	optional (depending upon the projection), n-coordinate for UTM projection
Z	optional (depending upon the projection), UTM zone
C1	optional (depending upon the projection), reserved for other projection coordinates
C2	optional (depending upon the projection), reserved for other projection coordinates
C3	optional (depending upon the projection), reserved for other projection coordinates
C4	optional (depending upon the projection), reserved for other projection coordinates
}	

URL CALL EXAMPLES

XML

Request:

http://service_url/?cmd=revgeocoding&pos=-37.593619;-72.132682

Response:

```xml
<?xml version="1.0" encoding="utf-8" ?>
<searchresult>
  <request>
    <cmd>revgeocoding</cmd>
  </request>
  <response>
    <error>0</error>
    <errormessage></errormessage>
    <resultitems>
      <item>
        <country_carcode>RCH</country_carcode>
        <country>Chile</country>
        <region>Bíobío</region>
        <county>Bío-Bío</county>
        <city>Santa Bárbara</city>
        <street></street>
        <housenumber></housenumber>
        <zip></zip>
        <coords>
          <proj>WGS-84</proj>
          <lat>-37.593619</lat>
          <lon>-72.132682</lon>
        </coords>
      </item>
    </resultitems>
  </response>
</searchresult>
```

JSON

Request:

http://service_url/?cmd=revgeocoding&pos=-37.593619;-72.132682&output=js

Response:

{"request":{"cmd":"revgeocoding"},"response":{"error":0,"errormessage":"","resultitems":[{"country_carcode":"RCH",
"country":"Chile","region":"B\u00edob\u00edo","county":"B\u00edo-B\u00edo","city":"Santa
B\u00e1rbara","street":"","housenumber":"","zip":"","coords":{"proj":"WGS-84","lat":-37.593619,"lon":-
72.132682}}]}}

JAVASCRIPT

Request:

http://service_url/?cmd=revgeocoding&pos=-37.593619;-72.132682&output=js&callback=myfunction

Response:

if(typeof myfunction == 'function')
myfunction({request:{cmd:'revgeocoding'},response:{error:0,errormessage:'',resultitems:[{country_carcode:'RCH',cou
ntry:'Chile',region:'Bíobío',county:'Bío-Bío',city:'Santa Bárbara',street:'',housenumber:'',zip:'',coords:{proj:'WGS-
84',lat:-37.593619,lon:-72.132682}}]}});