

Application: gvSIG desktop - gvSIG bugs #2632

Loss of precision parsing CRS parameters

07/07/2014 04:54 AM - Antonio Falciano

Status:	Closed	% Done:	0%
Priority:	Normal	Spent time:	0.00 hour
Assignee:	Joaquín del Cerro Murciano		
Category:	CRS		
Target version:	2.1.0-2248-testing		
Severity:	Minor	Add-on version:	
gvSIG version:	2.1.0	Add-on build:	
gvSIG build:	2232	Add-on resolve version:	
Operative System:		Add-on resolve build:	
Keywords:	crs, precision, wkt, proj4	Proyecto:	
Has patch:	Yes	Hito:	
Add-on name:	Unknown		

Description

It happens a loss of precision parsing some CRS parameters, such as `semi_minor`, `central_meridian` and `latitude_of_origin` which affects the WKT and Proj.4 representation in the CRS information window (see screenshot in attachment) and elsewhere.

For instance, open the Jython console and type:

```
>>> from org.gvsig.fmap.crs import CRSFactory
>>> proj = CRSFactory.getCRS('EPSG:23032')
>>> wkt = proj.getWKT()
>>> print wkt
PROJCS["ED50 / UTM zone 32N", GEOGCS["ED50", DATUM["European Datum 1950", SPHEROID["International 1924",
6378388.0, 297.0]], PRIMEM["Greenwich", 0.0], UNIT["degree", 0.017453292519943295]],
PROJECTION["Transverse_Mercator"], PARAMETER["latitude_of_origin", 0.0], PARAMETER["central_meridian",
8.999999999999991], PARAMETER["scale_factor", 0.9996], PARAMETER["false_easting", 500000.0],
PARAMETER["false_northing", 0.0], UNIT["metre", 1.0], AUTHORITY["EPSG", 23032]]
>>> proj4 = proj.getProj4String()
>>> print proj4
+proj=tmerc +lat_0=0.0 +lon_0=8.999999999999991 +k=0.9996 +x_0=500000.0 +y_0=0.0 +ellps=intl
```

+lon_0 should be equal to 9 instead of 8.999999999999991, so this parameter (and all the numeric ones) should be parsed as String and not as Double.

Associated revisions

Revision 280 - 10/06/2014 07:41 AM - Joaquín del Cerro Murciano

Loss of precision parsing CRS parameters, refs #2632

History

#1 - 07/08/2014 03:54 AM - Antonio Falciano

- File `23032_loss_of_precision.png` added

#2 - 09/12/2014 02:01 PM - Antonio Falciano

- File `round_proj_parameters.patch` added

Has patch: Yes

There were some rounding problems with Math.PI and Math.toDegrees. This is the output of the same code after the application of the patch in attachment:

```
>>> from org.gvsig.fmap.crs import CRSFactory
>>> proj = CRSFactory.getCRS('EPSG:23032')
>>> wkt = proj.getWKT()
>>> print wkt
PROJCS["ED50 / UTM zone 32N", GEOGCS["ED50", DATUM["European Datum 1950", SPHEROID["International 1924", 6378388.0, 297.0]],
PRIMEM["Greenwich", 0.0], UNIT["degree", 0.017453292519943295]], PROJECTION["Transverse_Mercator"],
PARAMETER["latitude_of_origin", 0.0], PARAMETER["central_meridian", 9.0], PARAMETER["scale_factor", 0.9996],
PARAMETER["false_easting", 500000.0], PARAMETER["false_northing", 0.0], UNIT["metre", 1.0], AUTHORITY["EPSG", 23032]]
>>> proj4 = proj.getProj4String()
>>> print proj4
+proj=tmerc +lat_0=0 +lon_0=9 +k=0.9996 +x_0=500000 +y_0=0 +ellps=intl
```

So both WKT and Proj4 strings take benefit from this. The same Proj4 strings is shown in the CRS information window correctly.

#3 - 09/13/2014 08:18 AM - Joaquín del Cerro Murciano

- Has patch set to Yes

#4 - 09/15/2014 04:03 AM - Álvaro Anguix

- Assignee set to Joaquín del Cerro Murciano

#5 - 09/26/2014 03:46 AM - Antonio Falciano

- Target version set to 2.1.0-2259-rc3

#6 - 10/06/2014 07:42 AM - Joaquín del Cerro Murciano

- Status changed from New to Fixed

#7 - 10/06/2014 07:42 AM - Joaquín del Cerro Murciano

- Target version changed from 2.1.0-2259-rc3 to 2.1.0-2248-testing

#8 - 10/07/2014 11:18 AM - Antonio Falciano

- Status changed from Fixed to Closed

Files

23032_loss_of_precision.png	50.8 KB	07/08/2014	Antonio Falciano
round_proj_parameters.patch	4.7 KB	09/12/2014	Antonio Falciano