

**ECP 2005 GEO 038026 EGN**

**EuroGeoNames**

## **EGN Web Services implementation reports**

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# 1 Introduction

## 1.1 Purpose

This document describes the level of implementation of the EuroGeoNames Web Services at the end of the funded project period (February 28, 2009).

## 1.2 Executive summary

The EuroGeoNames web services consist of one EGN Central Service and a number of Local Services (one for each participating country).

**EGN Local Services** have been implemented for seven countries: Cyprus, Germany, Latvia, Hungary, the Netherlands, Norway and Slovenia. Four other countries are very close to being connected: Austria, Finland, Lithuania and Spain. It can be expected that these countries will have fully functioning EGN Local Services around the end of March 2009, bringing the number of NMCAs connected to the EuroGeoNames infrastructure to eleven.

The components of the **EGN Central Service** have been installed at the service centre of BKG (Germany) and are running as intended.

## 1.3 Glossary

The terms that the reader might be unfamiliar with are explained here:

**EGN:** EuroGeoNames.

**ETL:** Extract, Transform and Load.

**EVN-DB:** The EGN Exonyms and other variants names database.

**NMCA:** National Mapping and Cadastral Agency.

**RDBMS:** Relational DataBase Management System.

**WFS:** The Web Feature Service as defined by the OGC.

## 2 Implementation of EGN Local Services

NMCAs that are part of the EuroGeoNames Reference Group and other NMCAs that have shown interest in participating in EuroGeoNames, eighteen in total, are listed in the following table. The table is ordered alphabetically on country name.

Country	Organization	Part of the EGN Reference Group?	EGN Local Service ready?	Remarks
Austria	Bundesamt für Eich- und Vermessungswesen (BEV)	yes	almost	
Belgium	Institut géographique national	no	no	Intend to be connected in 2009.
Cyprus	Department of Lands and Surveys	yes	yes	The Local Service is temporarily hosted at Geodan. It will move to Cyprus as soon as possible.
Czech Republic	Czech Office for Surveying, Mapping and Cadastre	yes	no	Intend to be connected in 2009.
Estonia	Estonian Land Board	no	no	Will be assisted by BEV for implementing ETL.
Finland	National Land Survey of Finland	yes	no	A test version is confirmed to work correctly.
France	Institut Géographique National (IGN)	yes	no	Will be able to estimate the date for implementation in July 2009.
Germany	Federal Agency for Cartography and Geodesy	yes	yes	
Greece	Hellenic Military Geographical Service	no	no	
Hungary	Institute of Geodesy, Cartography and Remote Sensing	yes	yes	The Local Service is temporarily hosted at Geodan. It will move to Hungary as soon as possible.
Latvia	State Land Service of the Republic of Latvia	yes	yes	
Lithuania	National Land Service	yes	almost	Local Service is ready but does not support POST requests yet.
The Netherlands	Kadaster	yes	yes	
Norway	Statens kartverk	yes	yes	
Slovenia	Surveying and Mapping Authority of the Republic of Slovenia	yes	yes	

Country	Organization	Part of the EGN Reference Group?	EGN Local Service ready?	Remarks
Slovakia	Geodesy, Cartography and Cadastre Authority of the Slovak Republic	yes	no	The EGN Local service will be ready by 2010
Spain	Instituto Geográfico Nacional	yes	almost	
Turkey	National Land Survey	yes	no	

Most of the EGN Local Service implementations make use of the software package that has been provided by the EGN Consortium (egn\_local\_service\_setup.zip). This archive file contains documentation and scripts that can be used to set up the RDBMS and WFS server that form the EGN Local Service. Means to perform ETL in order to populate the database with national data are not included. This is because of two reasons: One is that the mapping of data models - which is an important part of ETL - is dependant on local data structures, which were found to be very diverse. The other is that no generally applicable and free software that supports ETL could be found.

In support of the ETL efforts the participating NMCAs were given assistance to accomplish data transformation where it was needed. As a general help, an overview sheet explaining the way the EGN Local Database should be populated ("EGN Local Database schema overview" ) was created and made available to the NMCAs. Both the EGN Local Service setup files and the EGN Local Database schema overview can be used by NMCA's that have yet to start with implementation of the EGN Local Service.

### 3 Implementation of the EGN Central Service

The EGN Central Service is installed on a dedicated host machine at BKG (Germany). The Central Service consists of several software components. Although the intention was to make use of existing software components as much as possible it was necessary to develop some components especially for the EGN Central Service. These components, together with documentation and installation scripts were made available to BKG.

The table below gives an overview of the EGN Central Service components:

Component	Function	Based on
EGN Index Database	Data store for aggregated national data to be indexed for queries.	PostgreSQL RDBMS with PostGIS extension
EGN Name Updater	Updates the Index Database with data from the EVN-DB	In-house development
EGN Data Monitor	Update the Index Database with data from EGN Local Services	In-house development combined with an adapted version of the Deegree WFS
EGN Central Service WFS	Provide access to data to EGN clients	Deegree WFS
securityManager	Provide access control	con terra securityManager
EGN Link Resolver	Optionally request data from EGN Local Services with each client request.	In-house development

Although the software necessary for the EGN Central Service is installed on a single machine, it is possible to distribute the components over several machines if there is a perceived need to do so. There was no time left in the project for extensive performance testing (profiling) of the components making up the EGN Central service. This, and the subsequent making of adjustments to increase performance, is something that will have to be done in the next stage of the development of the EuroGeoNames infrastructure.