

**ECP 2005 GEO 038026 EGN**

## **EuroGeoNames**

### **User Test Plan**

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**eContentplus**

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<sup>1</sup> OJ L 79, 24.3.2005, p. 1.

## 1 Executive Summary

In accordance with the general practice in IT-related projects, the EGN consortium has scheduled a comprehensive Test Phase. This deliverable, the User Test Plan sets the premises for this.

Two components of the technical EGN architecture will be involved in this process. Most users will contact EGN mainly through the so called EGN Web GIS Reference Application, which will be accessed by an internet browser and which will comprise common search functionalities and visualization facilities. The reference application will use the EGN Central Service, which is the core of the infrastructure and be connected with the EGN Local Services (see also D6.1 for further explanation).

This Work package (WP) No 9, will be set up the test environment for EGN, in order to test, evaluate and assess the software components mentioned above which have been developed within WP6 and WP7. Feedback on these components will be requested from different "test groups": data providers, staff members involved in the development of the software components and finally users, who are not project members but part of interest groups for geographical names and GIS.

The users will test the EGN infrastructure by using the search functionality of the reference application. As the User testing Component (D9.2), an online form/questionnaire addressed to the potential end users as well as additional templates, which are specifically addressed to the data providers (NMCAs) and the EGN Consortium members, will be developed. Their completion will provide valuable comments to the software developers and will help to assess, whether or not the user requirements defined within WP2 are fulfilled.

The Value Added Resellers (VARs), which may implement the EGN Central Service in future, will not be directly included in the testing phase. Their perspective may be by some degree taken up by GeoTask which develops the reference application.

Further technical aspects will be observed through the software implementations and the analysis of the 'log files'.

Annex A describes the Test Items, i.e. the way the EGN central services and the EGN Web GIS Reference Application will be tested. These test items have already been stated in deliverable D6.1, which was prepared within WP6. The test items reflect the requirements from the perspective of the end users, the VARs, the data provider and the European Commission (EC).

The success of WP9 will depend mostly on the feedback coming from the user groups mentioned above. Highest priority will be given to the feedback coming from the users.

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## 2 Introduction

### 2.1 Objectives of WP9

The EuroGeoNames (EGN) project will establish a European infrastructure and services for geographical names. In the first phase of the project, amongst others, user/business requirements (D2.1) and a conceptual schema for geographical names data (D4.2) as well as a draft business model and technical requirements for setting up the EGN infrastructure (D6.1) were defined. Recently, progress was made in the design of the technical EGN architecture. This technical architecture includes the EGN Local Services which will be connected through an EGN Central Service. A EGN Web GIS Reference Application will be developed as the user interface for the geographical names search and the visualization of the search results.

Within WP9 the test environment for EGN will be set up, in order to test, evaluate and assess the software components mentioned above which have been developed within WP6 and WP7.

The first task of WP9 is setting up a User Test Plan (D9.1) which lays the basis for the User Testing Component (D9.2). The User testing Component will comprise an online form/questionnaire addressed to the potential end users as well as additional templates, which are specifically addressed to the data providers (NMCAs) and the EGN Consortium members. Their completion will provide valuable comments to the software developers and will help to assess, whether or not the user requirements defined within WP2 are fulfilled.

WP9 strongly depends on the outcome from other work packages, mainly from WP6 and WP7. Some test Items, i.e. the way the EGN central services and the EGN Web GIS Reference Application will be tested, have been identified and stated already in deliverable D6.1, which was prepared within WP6. The test items reflect the requirements from the perspective of the end users, the VARs, the data provider and the European Commission (EC).

The EGN Web Services infrastructure (prototype and test interfaces) and the EGN Web GIS Reference Application prototype are still in the development stage. Thus, the test environment must consequently be flexible and adaptable.

The evaluation and assessment results of the testing phase will be documented in a comprehensive Test Implementation Analysis (D9.3).

### 2.2 Purpose

This document describes the different aspects of the User Test Plan. First it shows up the general approach for the test phase. It then identifies the relevant parts of the technical EGN architecture and the key players involved (chapters 3.1, 3.2). The section Test Components comprise the methods by which the key players will be addressed (chapter 3.3). The section

Test Items is derived from D6.1 Web Services requirement documentation (chapter 3.4). Finally, a short analysis of the risks which could impair the User Test Plan when turning it into action has been made (chapter 5).

## 2.3 Change summary

Version	Date	Author	Notes
0.1	31/05/2007	Walter Wurzer	Initial draft
0.2	05/07/2007	Pier-G. Zaccheddu	Review
0.3	10/08/2007	Bernhard Schneider	Review
0.4	16/08/2007	Walter Wurzer	Final

## 2.4 Related Documents

Title	Author	Date	Version
/1/ Web Services requirement documentation	Anne Blankert, Frans Knibbe	31/05/2007	D6.1

## 2.5 Contact details

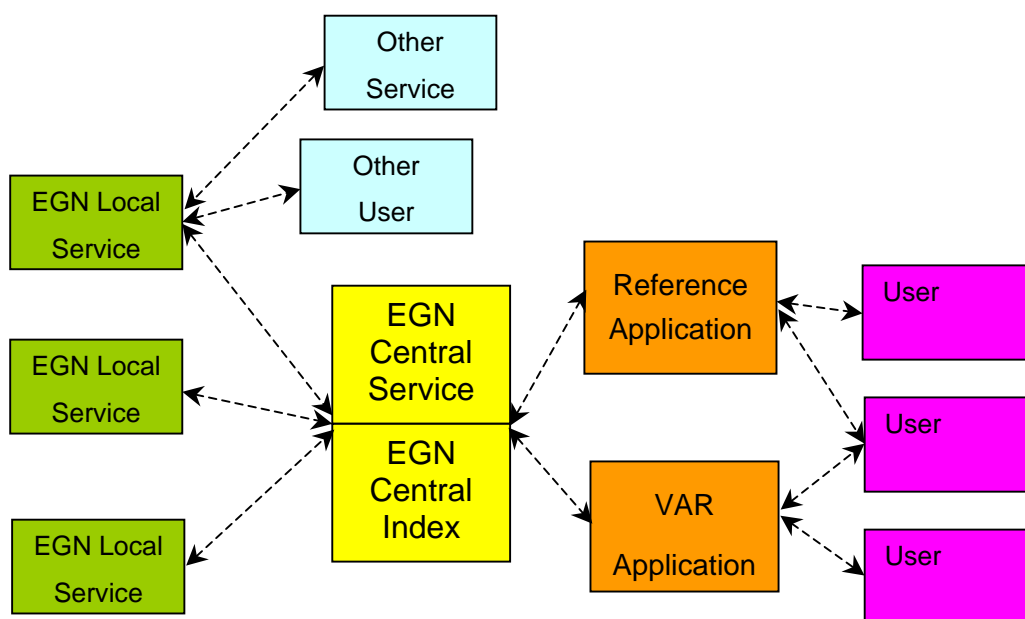
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### 3 Test Plan

#### 3.1 Approach

Within the first phase of the project, EGN has worked out a detailed concept of the system components and processes which is referred to as the technical architecture. A schema of the technical architecture is shown in the diagram below. The tests within WP9 will concentrate on the EGN Central Service and the EGN Web GIS Reference Application.



The EGN Local Service will not be tested by users, although it might also provide extra functionality for non-EGN systems. The technical benchmarks of the local services are important for the overall performance and compliance testing. This is of great significance for the data providers (NMCAs) being connected to the EGN infrastructure within the EU-funded project duration. They will be asked to share their experience with future data providers by contributing feedback through the online form/questionnaire.

Generally, the EGN Central Service will receive queries from an application, analyse it, identify the proper local service by means of the EGN Central Index and finally send its own queries to the local service(s) and receive data, which is handed over to the reference application. Thus, especially the EGN Central Service has to be tested and evaluated comprehensively.

The reference application will run on a browser and perform name searches in a manner appropriate to users by facilitating a user-friendly interface (comprising input masks and a map for the output).

During the EU-funded project duration there will be no Value Added Reseller (VAR) integrating the EGN Central Service.

The EGN Web GIS Reference Application will be addressed to the end user. The experiences gained by the developers of this reference application are relevant for the evaluation and assessment of the EGN Central Service and will be documented in the Test Implementation Analysis. The reference application will demonstrate the availability, the functionality and the potential of EGN and essentially provides the means for the end users to test the EGN Web Services infrastructure (comprising the EGN Central service as well as the connected EGN Local Services).

Hence, the task of WP9 in this context is to check both the EGN Web GIS Reference Application prototype as well as the EGN Web Services prototype and test interfaces mainly in terms of availability and functionality.

### **3.2 Test Groups**

WP9 has to provide means for collecting feedback on the software components which are to be developed within EGN. The following introduces the three “test groups” which have been identified for providing the feedback:

The first test group will be established by people or organisations who are interested in geographical names and geographic information in general. It will mainly consist of members of the EGN Group of Interest. This group will test the EGN Central Service by using the functionality of the EGN Web GIS Reference Application.

The second test group will consist of experts being EGN consortium members. They are experienced and familiar with the technical issues related to the EGN project, the EGN infrastructure and its components. ESRI and GeoTask will be the major contributors.

The third test group will consist of the data providers (NMCAs) being members of the EGN Reference Group. The group may provide the EGN Consortium with valuable information on the EGN Local Services. This feedback may relate to issues of maintenance, too.

### **3.3 Test Components**

The procedure of testing will comprise the following actions:

- Check the log files of the EGN Central Service
- Check the log files of the EGN Web GIS Reference Application
- Implement test software (if necessary)

- Provide an online form/questionnaire addressed to the end user, which shall at least comprise all members of the EGN Group of Interest
- Provide a template addressed to the EGN experts being EGN Consortium members
- Provide a template addressed to the data providers (NMCAs) being members of the EGN Reference Group

The technical evaluation and assessment will reveal benchmarks like access times and reliability. Information about these issues might be obtained by analysing the log files of the EGN Central Service as well as the EGN Web GIS Reference Application. In addition, the analysis of log files may reveal the end users' preferences.

Currently it is not clear, whether or not some extra functionality for testing the software components has to be added to EGN Central Service. At least 'compliance test clients' are necessary in order to validate the responses coming from the EGN Local Services.

Some test items are difficult to measure. For instance 'security' is difficult to measure because hostile activities are not expected in the short time. It can however be judged by experts, who are familiar with security concepts and the technology used within EGN. The aim is to report on the methods, standards and technology used in order to evaluate and assess them concerning the current state of the art and the fulfilment of the user/business requirements defined within WP2.

The potential end users will give direct feedback by filling out the online form/questionnaire. This might be accessed by a link provided through the EGN Web GIS Reference Application prototype. One part of the online form/questionnaire will handle technical requirements concerning the reference application, the other part will cover the assessment of data quality aspects.

The EGN Reference Group members (data providers – NMCAs) as well as the EGN Consortium members will be addressed separately by a template or a short questionnaire in order to give feedback from their perspective.

### **3.4 Test Items**

The term 'Test Items' comprises the requirements that the EGN Web Services infrastructure has to fulfil. As a result of WP2, the Web Services must have defined properties. By the methods mentioned in the previous section, it will be tested, whether these properties are present.

A detailed list of test items is attached to this document as Annex A.

## 4 Resources

Partner	Resource (MM)	Contribution
BEV	5.0	Deliverables, Test Components, concept, organisation
BKG	0.25	Review
SMA	1.0	Review, analysis of test results
UEDIN	0.5	Contact test-community, review
Geodan	1.5	Software, concept, log files
Geotask	1.0	Concept, log files, feedback concerning the interface to the EGN Web service
ESRI	1.0	Concept, feedback concerning the interface to EGN Web Service

## 5 Risks

The following will state some issues which might negatively impact the effectiveness of the User Test Plan.

Firstly, the dependency of the test environment on the ongoing development activities makes it prone to changes. Thus, the test environment must consequently be flexible and adaptable.

The question whether or not the test items are appropriate and complete is of higher importance. For instance it is difficult to define comprehensively test items in advance. And some of them will turn out to be hard to measure. However, the established test environment will certainly allow to react to specific problems which might occur testing the software components.

The crucial point will definitely be the test groups' contribution to the test phase. For a good result a high participation should be reached. A group of more than 25 test cases provided by EGN Consortium members, EGN Reference Group members and external end users (members of the EGN Group of Interest) is a realistic number.

## 6 Next Steps

The test environment will be established until January 31st in 2008. This includes the implementation of the software components for the EGN Web Services prototype and test interfaces and the EGN Web GIS Reference Application prototype as well as the online form/questionnaire.

## D9.1 User Test Plan



As soon as the software components will be implemented, the test phase will be started. The outcome of the test phase will be used for preparing the Test Implementation Analysis (D9.3). A report will state whether and up to which degree the EGN Web Services infrastructure and the EGN Web GIS Reference Application fulfils the requirements in term of performance, functional completeness and quality.

## 7 Annex A: Test Items

This Annex refers to D6.1 – Web Services requirement documentation. Requirements which are guaranteed by the specifications need not be evaluated. The following describes the way the software components, the EGN Web Services prototype and test interfaces and the EGN Web GIS Reference Application prototype, will be checked.

The following schema is used:

x. **The service should be ...**a requirement listed D6.1

Value: Value domain or guidelines

Test Group: User, data providers, experts

Test Component: Online form, form for data providers or report from experts

Comment: Important notes

### ***A.1 From the perspective of the end user***

#### **Service**

##### **1. The service should be easy to use.**

Value: Yes/No or extent

Test Group: User

Test Component: Online form

Comment: The answer is expected to be subjective and not exact

##### **2. The service should provide a fast response.**

Value: Yes/No or extent

Test Group: User

Test Component: Online form

Comment: The answer is expected reflect the perceived speed.

**3. The Reference Application should provide understandable answers, in the language of the user.**

Value: Yes/No or extent, user comments

Test Group: User

Test Component: Online form

Comment:

**4. It should be possible to search for names that do not exactly match the name entered by the user (fuzzy searching).**

Value: (Is this function satisfying?) Yes/No or extent

Test Group: User

Test Component: Online form

Comment: only if implemented

**5. It should be possible to search for names that sound like the name the user has entered (soundex searching).**

Value: (Is this function satisfying?) Yes/No or extent

Test Group: User

Test Component: Online form

Comment: only if implemented

**Quality**

**1. Does the current availability of data meet your expectations.**

Value: user comments

Test Group: User

Test Component: Online form

Comment:

**2. Is the range of feature types and attributes complete?.**

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Value: user comments

Test Group: User

Test Component: Online form

Comment:

### **3. Is the classification of feature types and its mapping to specific groups consistent?**

Value: user comments

Test Group: User

Test Component: Online form

Comment:

### **4. Is a yearly update frequency adequate in your eyes?**

Value: user comments

Test Group: User

Test Component: Online form

Comment:

## ***A.2 From the perspective of the VAR***

The VAR's requirement concerning the EGN Services can best be judged by GeoTask (reference application) and ESRI (producing a ARCGIS extension)

### **Service**

#### **1. The service should be compatible with standard GIS components.**

Value: Yes/No

Test Group: experts (GeoTask, ESRI)

Test Component: experts report

Comment:

#### **2. The service should be of a standard service type.**

Value: Yes/No

Test Group: experts (GeoTask, ESRI)

Test Component: experts report

Comment:

#### **3. The service should use standard interfaces for interoperability and communication.**

Value: Yes/No

Test Group: experts (GeoTask, ESRI)

Test Component: experts report

Comment:

#### **5. The service should be well documented.**

Value: Yes/No

Test Group: experts (GeoTask, ESRI)

Test Component: experts report

Comment:

### **Hosting**

#### **6. The service should have a high availability**

Value: (99,5% uptime, 24 hours a day, every day of the year)

Test Group: experts (GeoTask, ESRI), log files, software implementation

Test Component: experts report

Comment:

**7. The service should be fast.**

Value: 2,5 seconds per request

Test Group: experts (GeoTask, ESRI), log files, software implementation

Test Component: experts report

Comment:

**8. The service should be monitored continuously to detect any problems.**

Value: (Is monitoring appropriate?) affordable, necessary

Test Group: experts (GeoTask, ESRI)

Test Component: experts report

Comment:

**9. Technical support should be available and respond within an hour after the report of a problem.**

Value: (this possible?) Yes/No, affordable, necessary

Test Group: experts (GeoTask, ESRI)

Test Component: experts report

Comment:

**Business**

**10. EGN has to respond quickly to changes in market (e.g. prices, user-requirements).**

Value: (Will this be possible?) Yes/No

Test Group: experts (GeoTask, ESRI)

Test Component: experts report

Comment:

**11. EGN has to provide a fine-grained user-management to distinguish the free services from the non-free services.**

Value: (Is this fulfilled?) Yes/No

Test Group: experts (GeoTask, ESRI)

Test Component: experts report

Comment:

**12. Non-free services must have a clear benefit for the user (improved data quality or data quantity).**

Value: (Is this fulfilled?) Yes/No

Test Group: experts (GeoTask, ESRI)

Test Component: experts report

Comment:

***A.3 From the perspective of the data provider***

The data providers are the NMCA's in the consortium and in the reference group.

**1. The service should not create any additional security threats to internal data and systems.**

Value: (Are there risks?) Yes/No, which?

Test Group: data provider

Test Component: form for data providers

Comment:

**2. The service should be usable for other purposes than the EGN gazetteer (for example: a custom gazetteer service).**

Value: (Is it reusable?) Yes/No

Test Group: data provider

Test Component: form for data providers

Comment:

**3. Already existing NMCA systems, services and procedures should be used as much as possible.**

Value: (Are existing systems used?) Yes/No

Test Group: data provider

Test Component: form for data providers

Comment:

**4. The service should keep the 'richness' of source data intact, as much as possible.**

Value: Yes/No, extent

Test Group: data provider

Test Component: form for data providers

Comment:

**5. The EGN software and data must be easy to maintain.**

Value: (Is it easy to maintain?) Yes/No

Test Group: data provider

Test Component: form for data providers

Comment:

***A.4 From the perspective of the EC***

**1. Adhere to INSPIRE directives and recommendations.**

Value: Yes/No

Test Group: experts

Test Component: experts report

Comment:

**2. Develop a clear and reusable architecture.**

Value: Yes/No

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Test Group: experts

Test Component: experts report

Comment:

### **3. Make the system extendible.**

Value: Yes/No

Test Group: experts

Test Component: experts report

Comment:

### **4. Use (ISO/OGC/W3C) standards where possible.**

Value: Yes/No

Test Group: experts

Test Component: experts report

Comment: