

ANNEX I

ANNEX V

IMPLEMENTING RULES FOR INVOCABLE SPATIAL DATA SERVICES

PART A

Writing Conventions

Similar to the Regulation (EC) No 1205/2008, the following writing conventions are used for the spatial data service metadata.

Where specified in the description of the metadata elements, the value domains shall be used with the multiplicity expressed in the relevant tables. In relation to a particular domain, each value is defined by:

- a numerical identifier,
- a textual name for humans which may be translated in the different Community languages,
- a language neutral name for computers (the value expressed between parenthesis),
- an optional description or definition.

The table present the following information:

- the first column contains the reference to the paragraph in the Annex defining the metadata element or group of metadata elements,
- the second column contains the name of the metadata element or group of metadata elements,
- the third column specifies the multiplicity of a metadata element. The expression of the multiplicity follows the unified modelling language (UML) notation for multiplicity, in which:
 - N means that there shall be only N instances of this metadata element in a result set,
 - 1..* means that there shall be at least one instance of this element in a result set,
 - 0..1 indicates that the presence of the metadata element in a result set is conditional but can occur only once,
 - 0..* indicates that the presence of the metadata element in a result set is conditional but the metadata element may occur once or more,
 - when the multiplicity is 0..1 or 0..*, the condition defines when the metadata elements is mandated.
- the fourth column contains a conditional statement if the multiplicity of the element does not apply to all types of resources. All elements are mandatory in other circumstances.

PART B

Category Metadata Element

1. Category

This is a citation of the status of the spatial data service versus invocability.

The value domain of this metadata element is as follows:

1.1. Invocable (invocable)

The spatial data service is an invocable spatial data service.

1.2. Interoperable (interoperable)

The invocable spatial data service is an interoperable spatial data service.

1.3. Harmonised (harmonised)

The interoperable spatial data service is a harmonised spatial data service.

PART C

Instructions on Multiplicity and Conditions of the Metadata Elements

The new metadata describing the spatial data service shall comprise the metadata elements or groups of metadata elements listed in Table 1.

Those metadata elements or groups of metadata elements shall be in accordance with the expected multiplicity and the related conditions set out in Table 1.

When no condition is expressed in relation to a particular metadata element, that element shall be mandatory.

TABLE 1

Metadata for invocable spatial data services

Reference	New metadata elements	Multiplicity	Condition
1	Category	0..1	mandatory for an invocable spatial data service

PART D

Additional Requirements on Metadata Set Out in Regulation (EC) No 1205/2008

1. Resource Locator

The Resource Locator metadata element set out in Regulation (EC) No 1205/2008 shall also contain all access points from the spatial data service provider and these access points shall be unambiguously identified as such.

2. Specification

The Specification metadata element set out in Regulation (EC) No 1205/2008 shall also refer to or contain technical specifications (such as INSPIRE technical guidance but not only), to which the invocable spatial data service fully conforms, providing all the necessary technical elements (human, and wherever relevant, machine readable) to allow its invocation.

ANNEX II

ANNEX VI

IMPLEMENTING RULES FOR THE INTEROPERABILITY OF INVOCABLE SPATIAL DATA SERVICES

PART A

Additional Requirements on Metadata Set Out in Regulation (EC) No 1205/2008

1. Conditions applying to access and use

The technical restrictions applying to the access and use of the spatial data service shall be documented in the metadata element “CONSTRAINT RELATED TO ACCESS AND USE” set out in Regulation (EC) No 1205/2008.

2. Responsible party

The responsible party set out in Regulation (EC) No 1205/2008 shall at least describe the custodian responsible organisation, corresponding to the Custodian responsible party role set out in Regulation (EC) No 1205/2008.

PART B

Metadata Elements

3. Coordinate Reference System Identifier

Where appropriate, this is the list of coordinate reference systems supported by the spatial data service.

Each supported coordinate reference system shall be expressed using an identifier.

4. Quality of Service

This is the minimum quality of service estimated by the spatial data service responsible party and expected to be valid over a period of time.

4.1. Criteria

These are the criteria to which the measurements refer.

The value domain of this metadata element is as follows:

4.1.1. Availability (availability)

It describes the percentage of time the service is available.

4.1.2. Performance (performance)

It describes how fast a request to the spatial data service can be completed.

4.1.3. Capacity (capacity)

It describes the maximum number of simultaneous requests that can be completed with the declared performance.

4.2. Measurement

4.2.1. Description

It describes the measurement for each criterion.

The value domain of this metadata element is free text.

4.2.2. Value (value)

It describes the value of the measurement for each criterion.

The value domain of this metadata element is free text.

4.2.3. Unit (unit)

It describes the Unit of the measurement for each criterion.

The value domain of this metadata element is free text.

PART C

Instructions on Multiplicity and Conditions of the Metadata Elements

The metadata describing an interoperable spatial data service shall comprise the metadata elements or groups of metadata elements listed in Table 1.

Those metadata elements or groups of metadata elements shall be in accordance with the expected multiplicity and the related conditions set out in Table 1.

When no condition is expressed in relation to a particular metadata element, that element shall be mandatory.

TABLE 1

Metadata for interoperable spatial data services

Reference	New metadata elements	Multiplicity	Condition
1	Coordinate reference system identifier	1..*	Mandatory if relevant
2	Quality of service	3..*	

ANNEX III

ANNEX VII

IMPLEMENTING RULES FOR THE HARMONISATION OF INTEROPERABLE SPATIAL DATA SERVICES

PART A

Characteristics

1. Quality of Service

The probability of a harmonised spatial data service to be available shall be 98 % of the time.

2. Output encoding

A harmonised spatial data service returning spatial objects in the scope of the Directive 2007/2/EC shall encode those spatial objects according to this regulation.

PART B

Metadata Elements

3. invocation metadata

The invocation metadata element documents the interfaces of the harmonised spatial data service and lists the end points to enable machine-to machine communication.

PART C

Instructions on Multiplicity and Conditions of the Metadata Elements

The harmonised spatial data service metadata shall comprise the metadata element or group of metadata elements listed in Table 1.

This metadata element or group of metadata elements shall be in accordance with the expected multiplicity and the related conditions set out in Table 1.

When no condition is expressed in relation to a particular metadata element, that element shall be mandatory.

TABLE 1

Metadata for harmonised spatial data services

Reference	New metadata elements	Multiplicity	Condition
1	invocation metadata	1..*	

PART D

Operations

1. List of operations

A harmonised spatial data service shall provide the operation listed in table 2.

TABLE 2

Operations for Harmonised Spatial Data Services

Operation	Role
Get Harmonised Spatial Data Service Metadata	Provides all necessary information about the service and describes service capabilities

2. Get Harmonised Spatial Data Service Metadata Operation

2.1. Get Harmonised Spatial Data Service Metadata Request

2.1.1. Get Harmonised Spatial Data Service Metadata Request parameters

The Get Harmonised Spatial Data Service Metadata Request parameter indicates the natural language for the content of the Get Harmonised Spatial Data Service Metadata Response

2.2. Get Harmonised Spatial Data Service Metadata Response

The Get Harmonised Spatial Data Service Metadata Response shall contain the following sets of parameters:

- Harmonised Spatial Data Service Metadata,
- Operations Metadata,
- Languages.

2.2.1. Harmonised Spatial Data Service Metadata parameters

The Harmonised Spatial Data Service Metadata parameters shall at least contain the INSPIRE metadata elements of the Harmonised Spatial Data Service set out in this Regulation, and in Regulation (EC) No 1205/2008.

2.2.2. Operations Metadata parameters

The Operations Metadata parameter provides metadata about the operations of the Harmonised Spatial Data Service. It shall at least describe each operation, including as a minimum a description of the data exchanged and the network address.

2.2.3. Languages parameter

Two language parameters shall be provided:

- the Response Language parameter indicating the natural language used in the Get Harmonised Spatial Data Service Metadata Response parameters,
- the Supported Languages parameter containing the list of the natural languages supported by the Harmonised Spatial Data Service.