



INSPIRE

Infrastructure for Spatial Information in Europe

Geoportal workflow for establishing links between data sets and network services

Preface

In the past months, the low level of accessibility of data sets through services (as shown in the new INSPIRE Geoportal) has been extensively discussed in the MIG and its sub-groups. To further support data and service providers in the Member States to improve on this situation, it has been suggested to clearly document the process used in the Geoportal for establishing links between data sets and network services and to indicate, which of the several possible options given by the INSPIRE Technical Guidelines for metadata, download and view services are used in this process.

1 Introduction

This document gives a high-level overview of the process used in the INSPIRE Geoportal for establishing links between data sets and network services (section 2.1) and detailed explanations on how to retrieve the identifiers used for establishing links for WFS-based download services (section 2.2), Atom-based download services (section 2.3) and WM(T)S-based view services (section 2.4).

Where several possible options are given by the INSPIRE Technical Guidelines for metadata, download and view services, the identifiers used to establish the link and the rationale for using this identifier are clearly described.

2 Process for establishing links

2.1 Overview

Figure 1 gives a high-level overview of the process for establishing links. The process is based on the data set and service metadata harvested from the national discovery services as well as on the service metadata that can be obtained from the network services through their Get View/Download Service Metadata operation.

After retrieving all metadata records for data and services (step 1), the geoportal creates internal representations of the discovered resources (steps 2 and 3). For the linking, the analysis of service metadata and related resources (e.g. data set metadata, service (extended) capabilities) are of particular importance. Therefore this step is explained in detail for WFS-, Atom- and WM(T)S-based implementations.

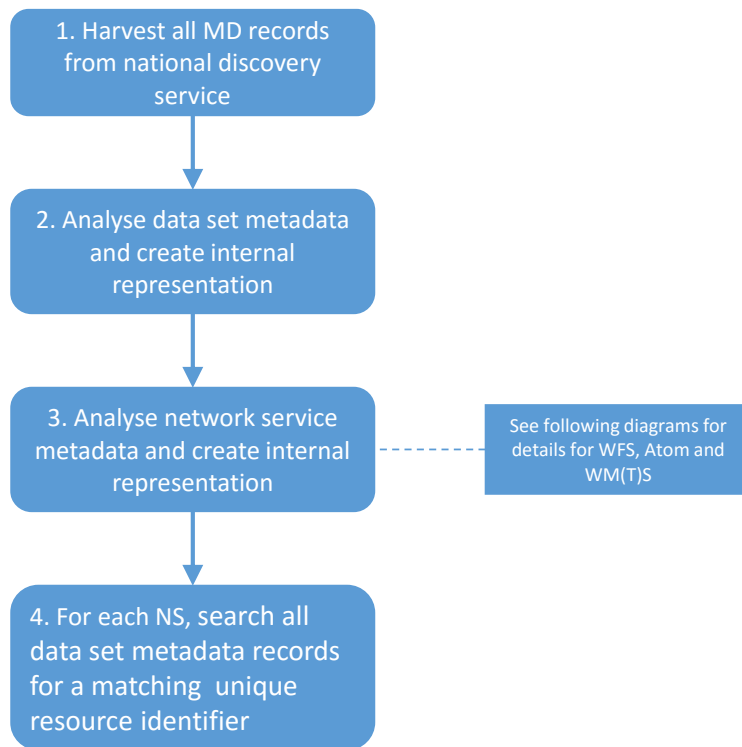


Figure 1. Overview of the overall process

The detailed analyses described in the following sections takes the service metadata record as a starting point. The blue arrows in the flow charts describe the sequence of additional resources being accessed (based on the information in a given document) and further analysed.

For example, the diagram shown in Figure 2 illustrates that, after analysing the information directly accessible in the network service metadata document,

- based on the information found in the *resource locator* metadata element, the WFS and their capabilities are being accessed (and further analysed), and
- based on the information found in the *coupled resource* metadata element, the unique resource identifier (inside the metadata document) of the related data set is retrieved.

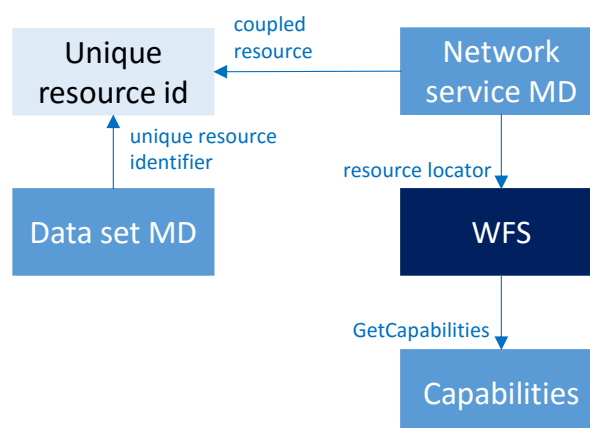


Figure 2. Example of the evaluating additional resources

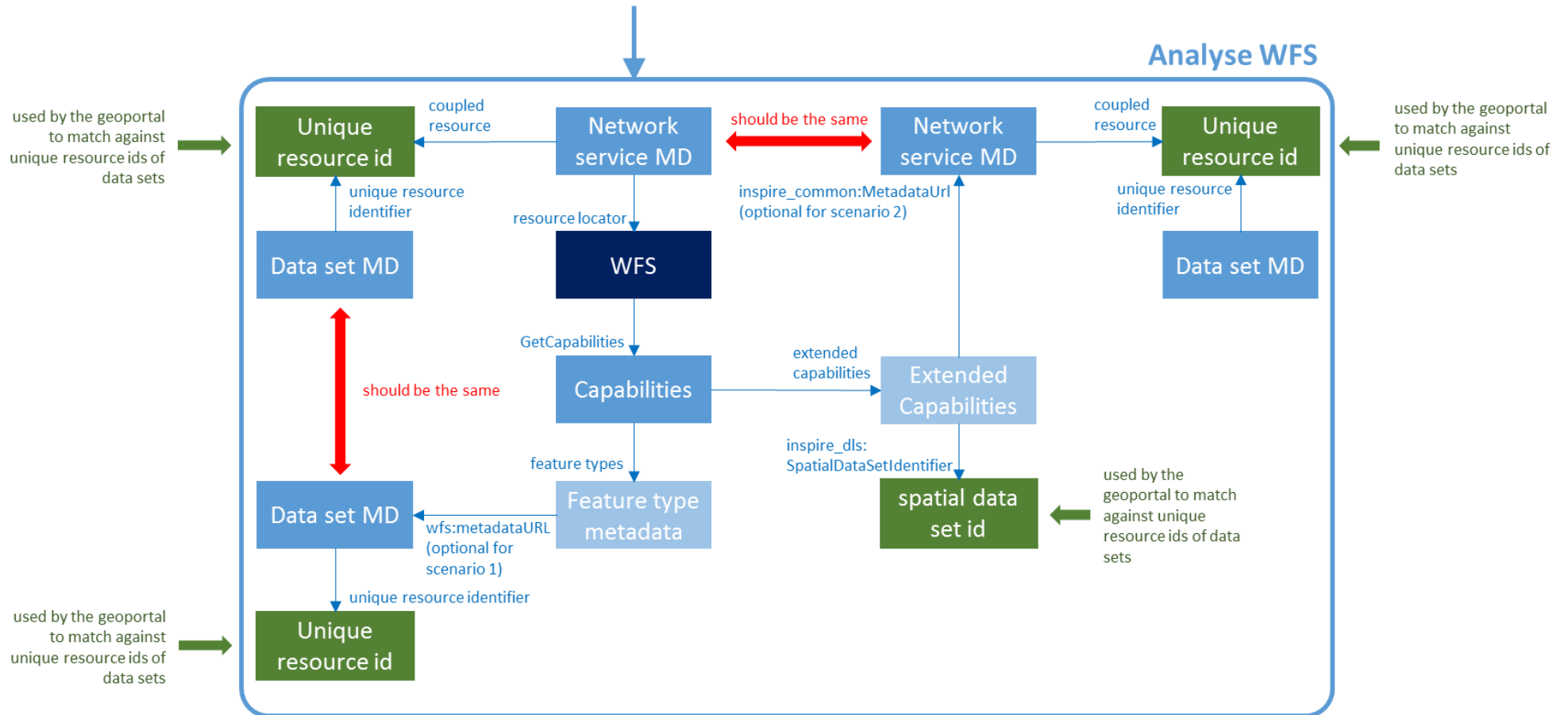
In some cases, the resources successively retrieved should be the same (e.g. the service metadata document linked to from the extended capabilities of a WFS should be the same service metadata document referring to this WFS in the first place). However, this is not always the case and lead to different (and sometimes conflicting) information being retrieved. Such cases are shown by red double arrows in the diagrams.

Each of the diagrams in the following sections highlights the identifiers used to establish the link (in green) and other possible options that could be used instead or in addition.

Each section also explains the rationale for using this particular identifier over the other possible options. For the linking of services to data sets, the Geoportal assumes the role of a download or view service client, i.e. the chosen identifier is the one that can most readily be retrieved from the service itself (rather than from its metadata). The rationale for this are the requirements in the IRs for network services that require that download / view services provide links to the data set metadata as part of the Get View / Download Service Metadata response.

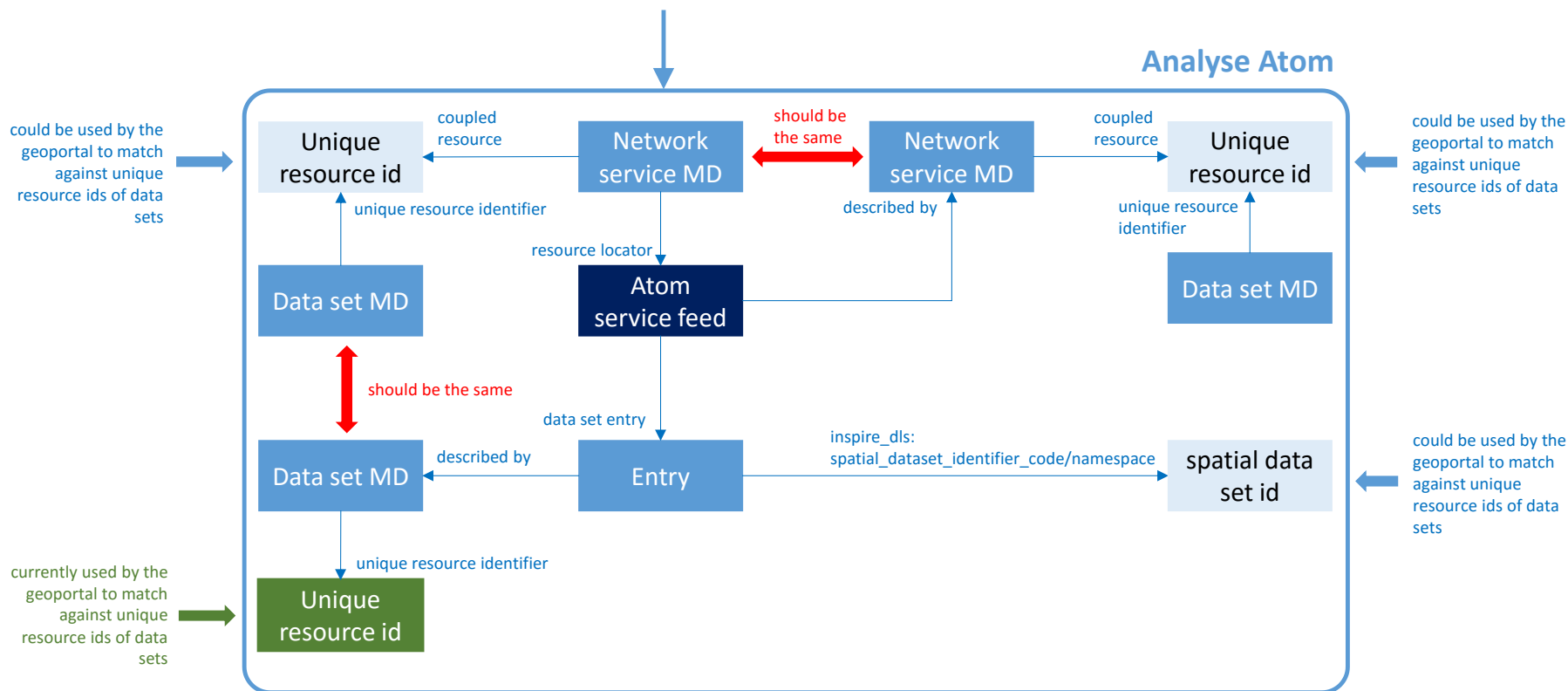
NOTE The JRC has implemented in the INSPIRE Geoportal and for the case of OGC WFS 2.0 Download Services, the alternative approach presented and discussed at the Geoportal workshop in January 2019, which extends the sources for Data Set Unique Resource Identifier used to link WFS Services with the datasets they serve.

2.2 Establishing links for WFS-based download services



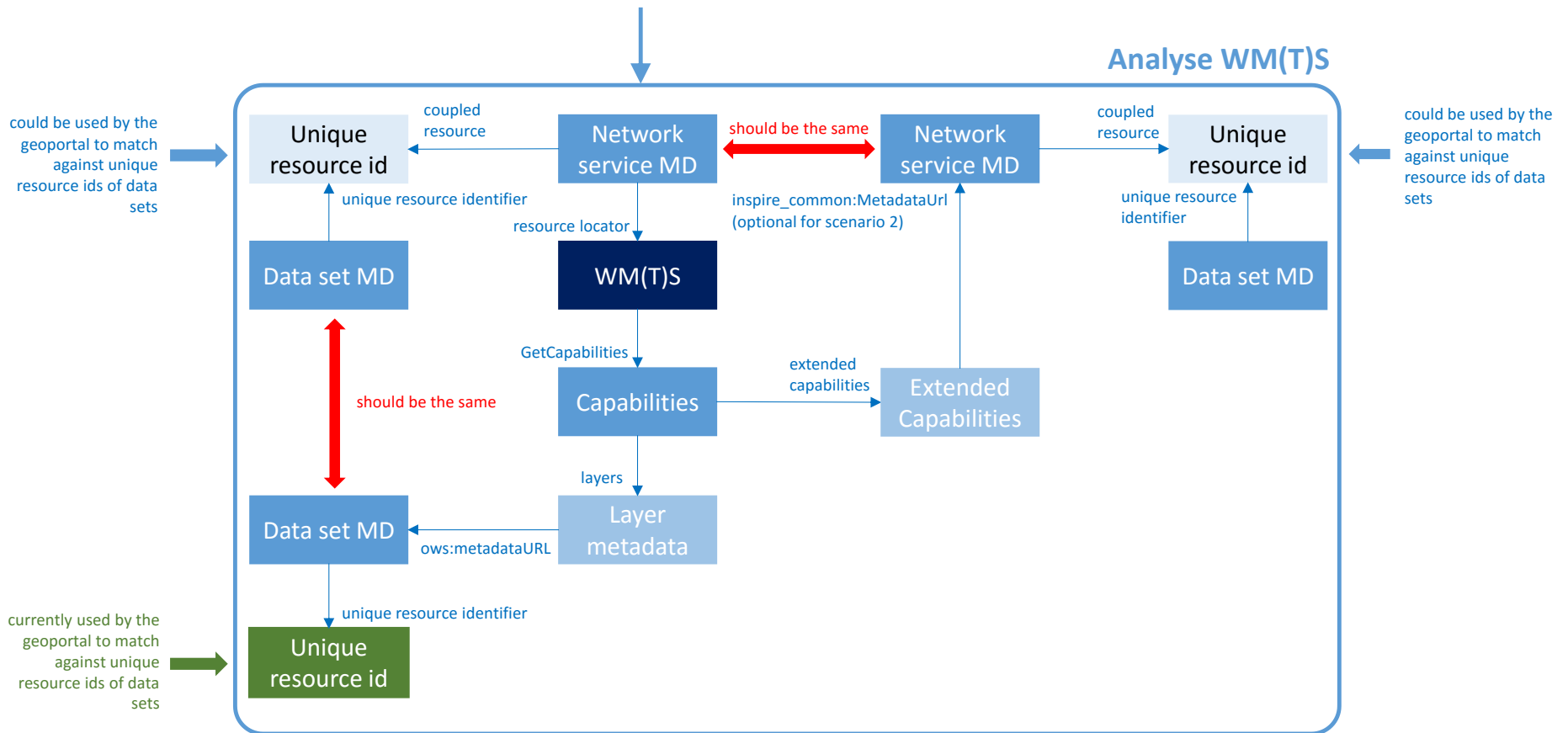
Rationale: The spatial data set identifiers of the datasets or series used to establish the link between the WFS and the datasets or series, are extracted from all the available sources (the green boxes in the above picture).

2.3 Establishing links for Atom-based download services



Rationale: The unique resource identifier in the data set metadata is the only identifier that is required by the IRs for network services and can be used to unambiguously identify the service feed entry providing access to the data set. Even though the spatial data set identifier could also be used for this purpose, it is not strictly required by the IRs, while the unique resource identifier in the coupled resource of the service metadata does not allow unambiguously assigning a data set to an entry in the service feed (if more than one data set is provided through an Atom feed).

2.4 Establishing links for WM(T)S-based view services



Rationale: The unique resource identifier in the data set metadata is the only identifier that is required by the IRs for network services and can be used to unambiguously identify the layer portraying the data set. The unique resource identifier in the coupled resource of the service metadata does not allow unambiguously assigning a data set to a layer.