



# **INSPIRE ThematicViewer – now know as INSPIRE Geoportal**

# How to get on the "list"?

- Any suggestions?
- Someone please!

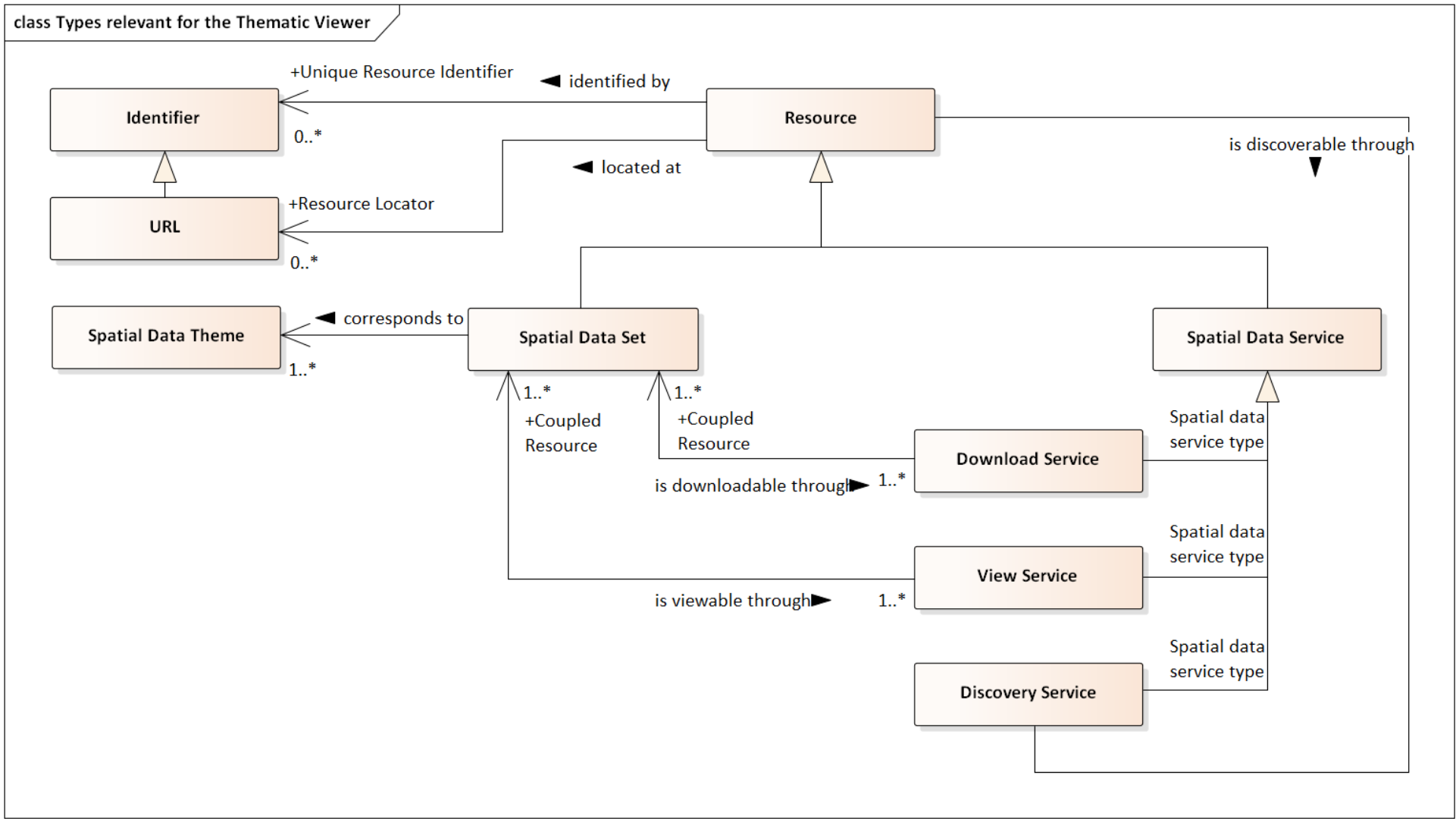
# Status on priority data sets for The Nordics

Austria	76   66   61	Finland	19   8   13	Latvia	0   0   0	Portugal	213   6   79
Belgium	106   35   64	France	26   0   0	Liechtenstein	0   0   0	Romania	11   1   1
Bulgaria	0   0   0	Germany	68   33   25	Lithuania	0   0   0	Slovakia	12   2   4
Croatia	6   0   1	Greece	0   0   0	Luxembourg	67   56   53	Slovenia	1   1   0
Cyprus	5   5   5	Hungary	0   0   0	Malta	54   50   54	Spain	81   75   80
Czech Republic	39   4   37	Iceland	0   0   0	Netherlands	28   6   13	Sweden	23   0   18
Denmark	38   1   5	Ireland	9   0   0	Norway	9   1   1	Switzerland	0   0   0
Estonia	21   1   1	Italy	1   0   0	Poland	0   0   0	United Kingdom	0   0   0

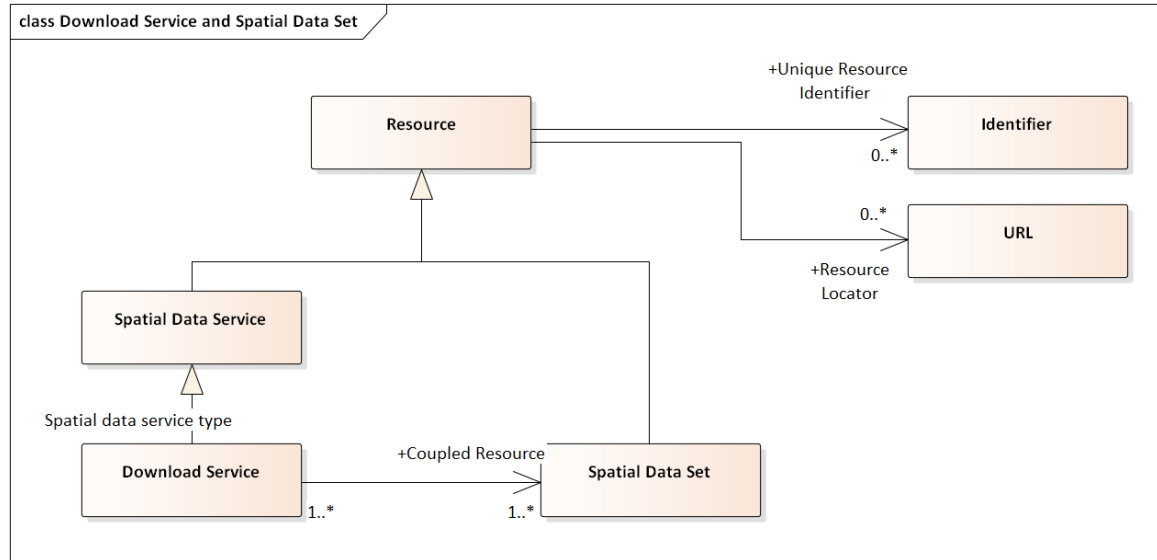
# Status on themes data sets for The Nordics

Select a COUNTRY

Austria	740   572   523	Finland	599   33   45	Latvia	142   0   4	Portugal	1136   66   207
Belgium	538   150   397	France	35659   1569   11182	Liechtenstein	70   11   15	Romania	113   4   8
Bulgaria	29   0   0	Germany	26792   5550   6670	Lithuania	48   0   5	Slovakia	220   4   8
Croatia	122   1   4	Greece	28   0   24	Luxembourg	236   111   164	Slovenia	97   6   8
Cyprus	42   34   39	Hungary	111   0   1	Malta	154   129   150	Spain	217   126   145
Czech Republic	151   15   79	Iceland	88   0   0	Netherlands	155   53   93	Sweden	267   14   141
Denmark	176   1   6	Ireland	54   4   0	Norway	184   1   1	Switzerland	196   2   4
Estonia	73   12   23	Italy	19706   0   385	Poland	31349   53   17	United Kingdom	20787   64   317



# Relation between spatial data set and download service



In total there has to be three relations from service to data set, and one implementation in the opposite direction.

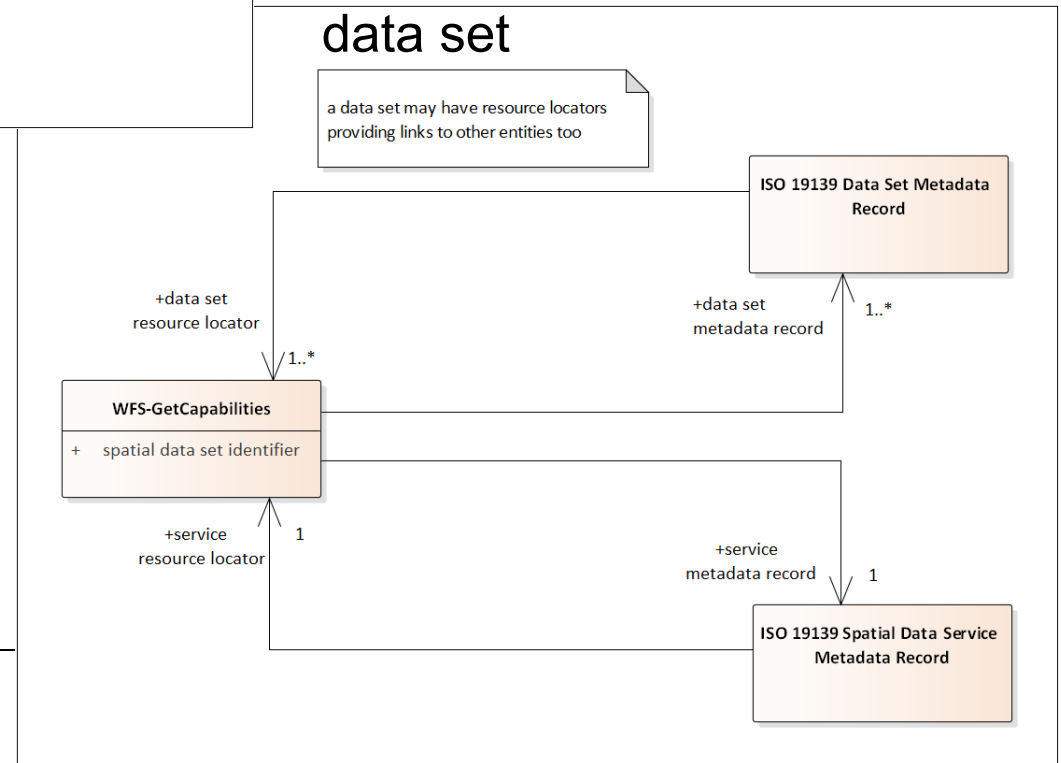
**Complicated!**

WFS Capabilities:

- 1) SpatialDataSetIdentifier
- 2) FeatureType has MetadataURL
- 3) link to the metadata record of the service itself.

MD DS:

- 1) Resource Locators of the data set



# Discussion Paper on possible simplification of data-service linking in INSPIRE

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The paper is motivated mainly by the following issues and assumptions:

- Users of the INSPIRE infrastructure are mainly interested in accessing data; services are just a means to this end. Therefore, the focus should be on data.
- MS are experiencing difficulties to implement the current TG requirements and recommendations, partly because they require extensions to existing standards that are not (widely) supported by existing software products.
- During the development of the Thematic Viewer, it has been difficult to establish working links for downloading and viewing data sets for all MS, e.g. because
  - the requirements currently prescribed in the TGs for documenting these links are difficult to implement and understand and therefore not widely (correctly) implemented by MS;
  - some information (e.g. restrictions on public access) is documented for both data and services; and
  - there is some duplication between the metadata required for services in the Metadata and the Network Services IRs.
- The MIG and its sub-groups (mainly 2017.4) are experiencing difficulties in drafting clear and unambiguous requirements and tests in the TGs.

Therefore, a simplified approach for data-service linking should ideally

- be centred on data (rather than treating data and services as equally important resources)
- not require extensions to existing standards
- limit the implementation options
- remove duplicate or unnecessary elements in metadata descriptions (mainly for services)

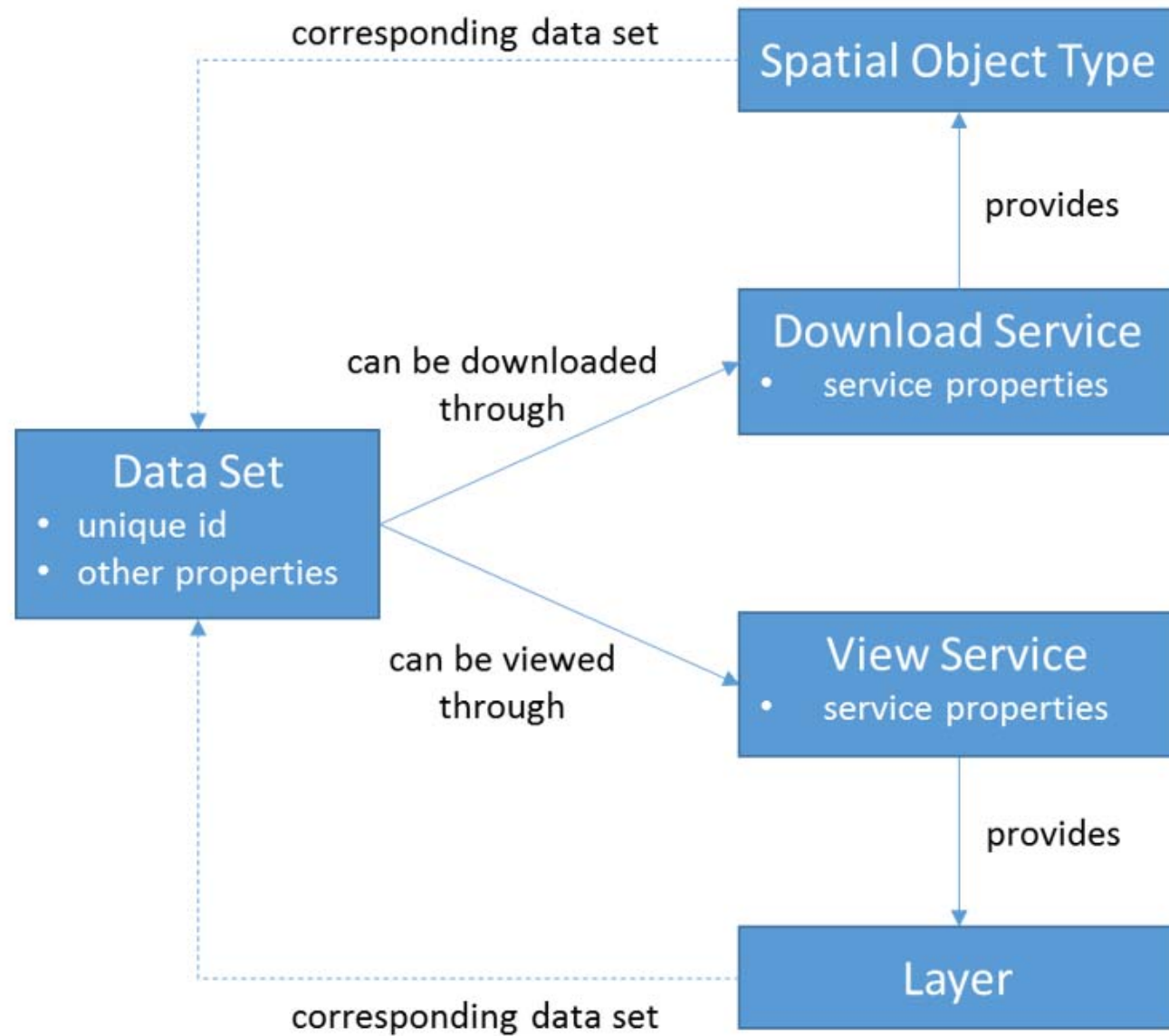


Figure 1. Conceptual model – relationships between data sets, network services and spatial object types / layers



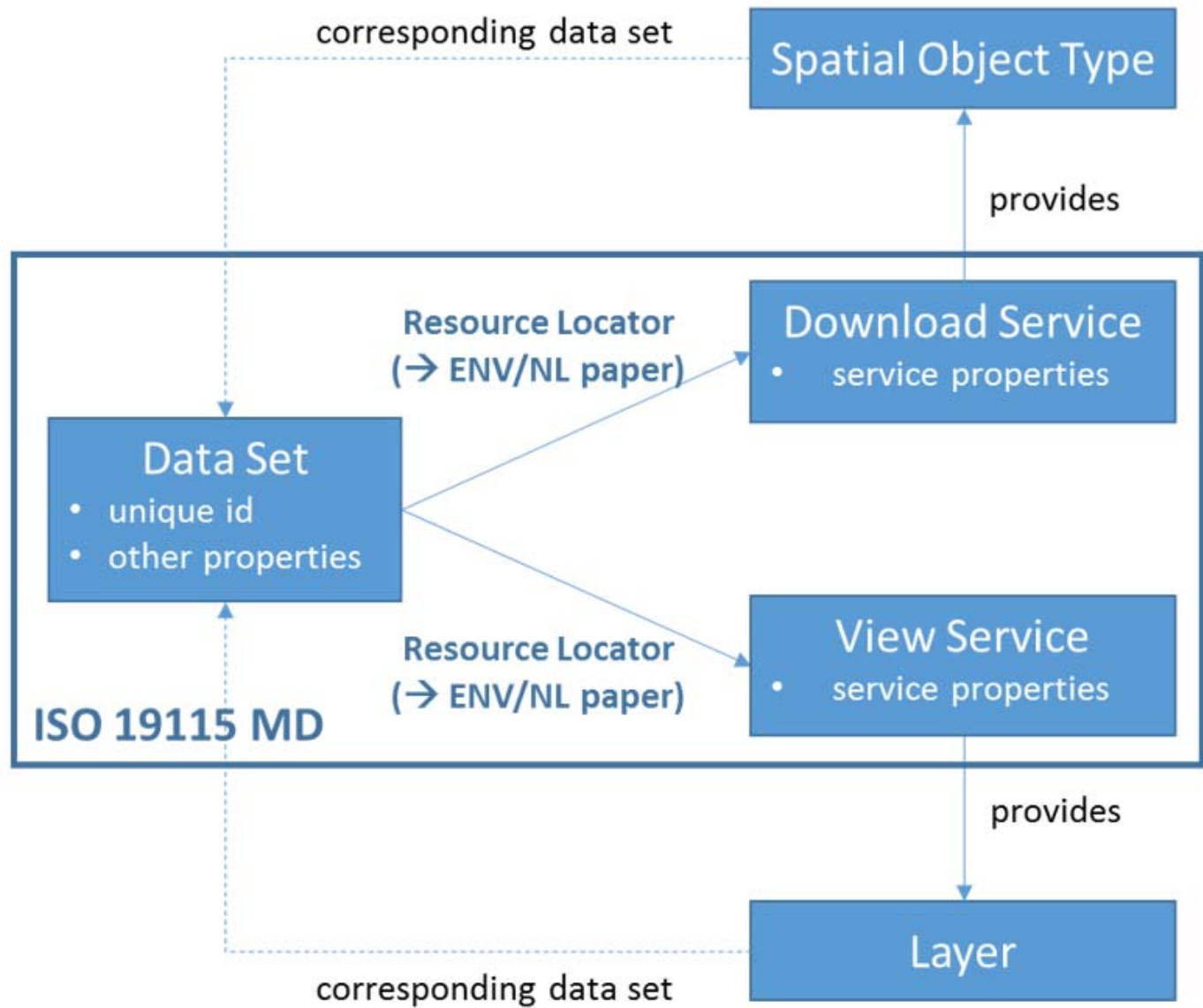


Figure 2. Data set metadata/

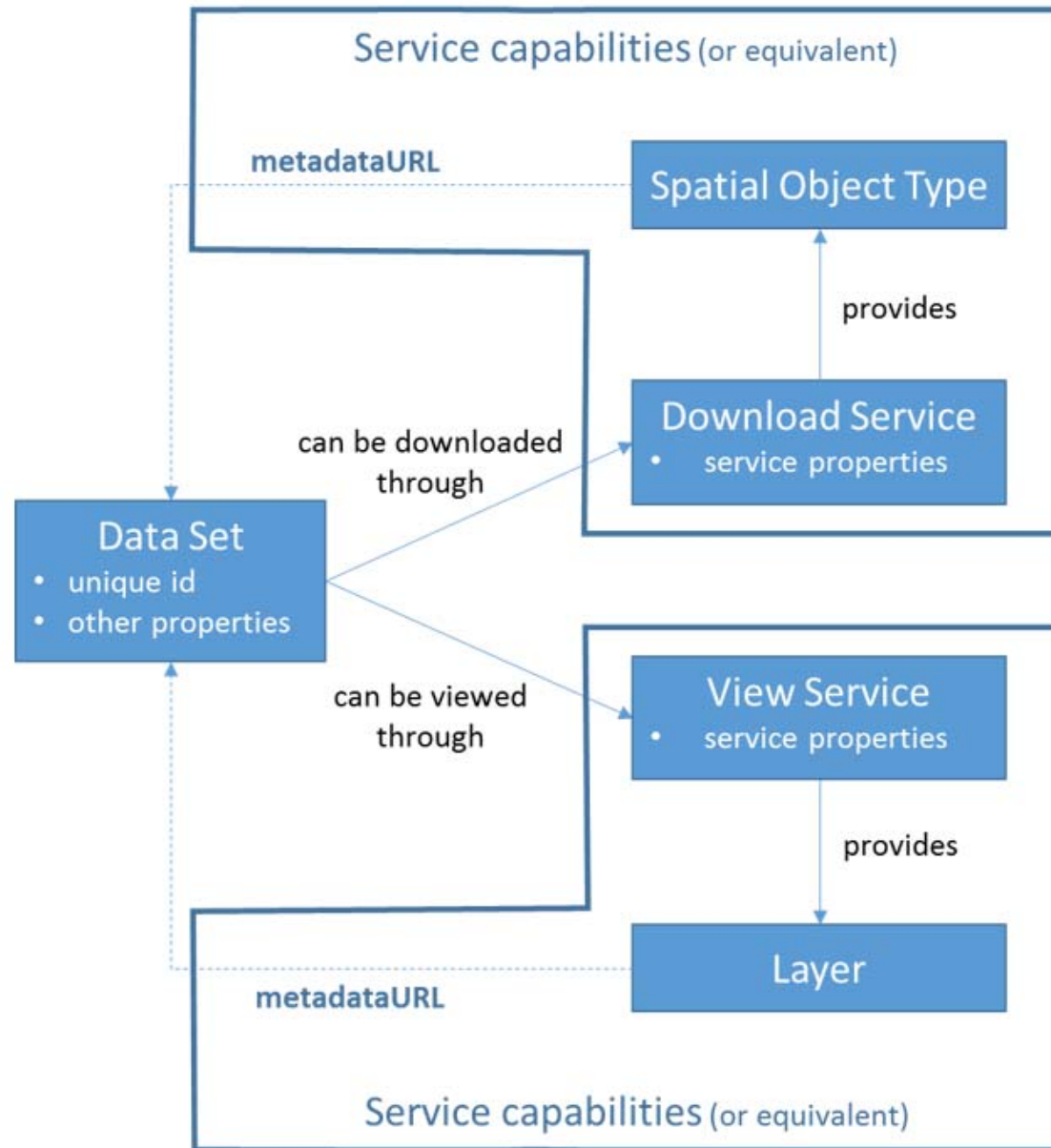


Figure 3. Service metadata/

(1) The following requirement should be modified for data set metadata **from currently** (Metadata TG v2.0.1):

**TG Requirement 1.8:** metadata/2.0/req/datasets-and-series/resource-locator

A resource locator linking to the service(s) providing online access to the described data set or data set series shall be given, if such online access is available.

If no online access for the data set or data set series is available, but there is a publicly available online resource providing additional information about the described data set or data set series, the URL pointing to this resource shall be given instead.

These links shall be encoded using gmd:transferOptions/gmd:MD\_DigitalTransferOptions/gmd:onLine/gmd:CI\_OnlineResource/gmd:linkage/gmd:URL element.

The multiplicity of this element is 0..n.

to (new proposal):

### **TG Requirement 1.8:** metadata/2.0/req/datasets-and-series/resource-locator

One or more resource locators linking to the view service(s) providing online access to the described data set or data set series shall be given.

One or more resource locators linking to the download service(s) providing online access to the described data set or data set series shall be given.

These links shall be encoded using *gmd:transferOptions/gmd:MD\_DigitalTransferOptions/gmd:onLine/gmd:CI\_OnlineResource/gmd:linkage/gmd:URL* element.

The multiplicity of this element is 2..n.

The URLs provided as the value of the *gmd:transferOptions/gmd:MD\_DigitalTransferOptions/gmd:onLine/gmd:CI\_OnlineResource/gmd:linkage/gmd:URL* element shall point to the response of a Get View/Download Service Metadata request of the service providing access to this data set.

The *gmd:CI\_OnlineResource* element containing the given *gmd:linkage* element shall contain a *gmd:protocol/gmx:Anchor* element pointing to one of the values of the Protocol code list<sup>5</sup>.

The *gmd:CI\_OnlineResource* element containing the given *gmd:linkage* element shall contain a *gmd:applicationProfile/gmx:Anchor* element pointing to one of the values of the ApplicationProfile code list<sup>6</sup>.

<sup>5</sup> to be added to the INSPIRE registry as proposed in the change proposal at <https://ies-svn.jrc.ec.europa.eu/issues/3257>, e.g. <http://inspire.ec.europa.eu/metadata-codelist/ProtocolValue/OGC:WFS-2.0.0>

<sup>6</sup> to be added to the INSPIRE registry, e.g. <http://inspire.ec.europa.eu/metadata-codelist/ApplicationProfile/view>

# A service has several links – wich one in MD?

```
<!-- Transfer options - description of the spatial data view service -->
<gmd:transferOptions>
  <gmd:MD DigitalTransferOptions>
    ...
    <!-- Generic service endpoint -->
    <gmd:onLine>
      <gmd:CI OnlineResource>
        <gmd:linkage>
          <gmd:URL>https://xxx.xxx.xxx/wms?</gmd:URL>
        </gmd:linkage>
        <gmd:protocol>
          <gmx:Anchor xlink:href="http://inspire.ec.europa.eu/metadata-codelist/ProtocolValue/OGC:WMS-1.3.0">OGC:WMS-1.3.0</gmx:Anchor>
        </gmd:protocol>
        <gmd:applicationProfile>
          <gmx:Anchor xlink:href="http://inspire.ec.europa.eu/metadata-codelist/ApplicationProfile/view">INSPIRE View Network Service</gmx:Anchor>
        </gmd:applicationProfile>
        <gmd:name>
          <gco:CharacterString>xxx </gco:CharacterString>
        </gmd:name>
        <gmd:description>
          <gco:CharacterString>xxx </gco:CharacterString>
        </gmd:description>
      </gmd:CI OnlineResource>
    </gmd:onLine>
    <!-- Optionally you could also describe the service interface in more detail
    e.g. for the getcapabilities() -->
    <gmd:onLine>
      <gmd:CI OnlineResource>
        <gmd:linkage>
          <gmd:URL>https://xxx.xxx.xxx/wms?request=GetCapabilities&version=1.3.0&service=wms</gmd:URL>
        </gmd:linkage>
      </gmd:CI OnlineResource>
    </gmd:onLine>
  </gmd:MD DigitalTransferOptions>
</gmd:transferOptions>
```

Link to GetCapabilities-url?  
Link to GetMap-url?

↓

# Link to Atom feed .xml and/or .zip/.gml?

```
<!-- Transfer options - description of the spatial data download service for predefined data download-->
```

```
<gmd:transferOptions>  
  <gmd:MD DigitalTransferOptions>  
    ...  
    <gmd:onLine>  
      <gmd:CI OnlineResource>  
        <gmd:linkage>  
          <gmd:URL>http://xxx.xxx.xxx/atom.xml</gmd:URL>  
        </gmd:linkage>
```

```
      <gmd:protocol>  
        <gmx:Anchor xlink:href="http://inspire.ec.europa.eu/metadata-codelist/ProtocolValue/WWW:DOWNLOAD-1.0-http-download">WWW:DOWNLOAD-1.0-http-download</gmx:Anchor>
```

download

```
      </gmd:protocol>                                     ??? A .zip file as an  
      <gmd:applicationProfile>                             INSPIRE Download Service???
```

```
        <gmx:Anchor xlink:href="http://inspire.ec.europa.eu/metadata-codelist/ApplicationProfile/view">INSPIRE Download Network Service</gmx:Anchor>  
      </gmd:applicationProfile>
```

```
      <gmd:description>xxx<gco:CharacterString/></gmd:description>  
    </gmd:CI OnlineResource>  
  </gmd:onLine>  
</gmd:MD DigitalTransferOptions>
```

```
<!-- Transfer options - description of predefined spatial data file download capability-->
```

```
<gmd:transferOptions>  
  <gmd:MD DigitalTransferOptions>  
    ...  
    <gmd:onLine>  
      <gmd:CI OnlineResource>  
        <gmd:linkage>  
          <gmd:URL>http://xxx.xxx.xxx/file.zip</gmd:URL>  
        </gmd:linkage>
```

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## Changes in MS implementations – Common Implementation Strategy

The proposed changes, while drastically simplifying the implementation of network service metadata, require some additional metadata to be created for data sets, in particular for the resource locator elements.

To keep the impact on MS low, implementation of the new approach could initially be agreed and tested for priority and national/regional data sets.

To document this (and possibly other) agreements, a Common Implementation Strategy could be defined in INSPIRE that outlines which aspects of the current Implementing Rules (and TGs) implementation should focus on over the coming years.

## Changes in the legal and technical framework

The proposed approach would require limited changes in the TGs for metadata (as outlined above), but considerable changes (simplifications) in the TGs for network services.

Whether / how the IRs also would need to be amended, will still need to be analysed. Possibly, it would be sufficient to introduce some minor modifications

- in the MD IRs clarifying that the service metadata do not apply to spatial data services that are network services, and
- in the NS IRs clarifying the metadata elements that have to be provided as a response to the Get Download/View Service Metadata request.

**Open issue:** Should a possible amendment of the network services IRs also clarify the option mentioned in the directive of offering "download of parts of data sets"? Should "whole data set download" still be required even if "direct access download is provided"? Or do we need additional guidance for how to implement "pre-defined data set" download for large data sets (e.g. how to advertise query limits and how to page through results)?

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