7. MAP COMPOSITIONS ON THE WEB, OGC WEB MAP CONTEXT

The only indirect remark in the directive

- Article 11

*"View services making it possible, as a minimum, to **display**, navigate, zoom in/out, pan, or overlay viewable spatial data sets and to **display legend information** and any relevant content of metadata"*

Commission regulation No 1089/2010

- More detailed information in Article 14 "Portrayal"

"1. For the portrayal of spatial data sets using a view network service as specified in Commission Regulation No 976/2009, the following shall be available:

(a) the layers […] for the theme or themes the data set is related to;

(b) for each layer at least a default portrayal style, with as a minimum an associated title and a unique identifier.

2. For each layer […] defines the following:

(a) a human readable title of the layer to be used for display in user interface;

(b) the spatial object type(s) that constitute the content of the layer."

Commission regulation No 1089/2010

- The Commission Regulation No 1089/2010 describes the requirements for each theme

6.4. Portrayal Rules

6.4.1. *Layers*

Layer for the spatial data theme Cadastral Parcels

Layer Name	Layer Title	Spatial object type
CP.CadastralParcel	Cadastral Parcel	CadastralParcel
CP.CadastralZoning	Cadastral Zoning	CadastralZoning
CP.CadastralBoundary	Cadastral Boundary	CadastralBoundary

- Are you aware of the consequences?

INSPIRE data specifications visualization

1) If you are very lucky, like the HY theme

Feature Type	Style	Symbology
	Persistence	*Perennial* *Intermittent* *Dry / Ephemeral*
	Man-made	*Natural* *Man-made*

INSPIRE data specifications visualization

2) If you are a little bit lucky, like the TN theme

Table 19: Default styles for the spatial data theme *Transport Networks*

Layer Name	TN.CommonTransportElements.TransportNode
Style Name	TN.CommonTransportElements.TransportNode.Default
Style Title	Generic Transport Node Default Style
Style Description	The geometry is rendered as a circle with a size of 3 pixels, with a red (#FF0000) fill and a black outline (#000000).

Symbology	`<sld:NamedLayer>`
	`<se:Name>TN.CommonTransportElements.TransportNode</se:Name>`
	`<sld:UserStyle>`
	`<se:Name> TN.CommonTransportElements.TransportNode.Default</se:Name>`
	`<sld:IsDefault>1</sld:IsDefault>`
	`<se:FeatureTypeStyle version="1.1.0">`
	`<se:Description>`
	`<se:Title>Generic Node Default Style</se:Title>`
	`<se:Abstract>The geometry is rendered as a circle with a size of 3 pixels, with a red (#FF0000) fill and a black outline (#000000).</se:Abstract>`
	`</se:Description>`
	`<se:FeatureTypeName>Network:Node</se:FeatureTypeName>`
	`<se:Rule>`
	`<se:PointSymbolizer>`
	`<se:Geometry>`
	`<ogc:PropertyName>Network:geometry`
	`</ogc:PropertyName>`
	`</se:Geometry>`
	`<se:Graphic/>`

INSPIRE data specifications visualization

3) If you are not lucky at all, like the SR theme

11.1 Layers to be provided by INSPIRE view services

Layer Name	Layer Title	Spatial object type(s)	Keywords
SR.SeaArea	Sea Area	SeaArea	Sea, Ocean
SR.Sea	Sea	Sea	Sea, Ocean
SR.MarineCirculationZone	Marine Circulation Zone	MarineCirculationZone	Sea, Ocean
SR.InterTidalArea	Intertidal Area	InterTidalArea	Sea, Ocean, Tide, Tidal
SR.MarineContour	Marine Contour	MarineContour	Sea, Ocean
SR.Shoreline	Shoreline	Shoreline	Sea, Ocean, Coast, Coastline, Shore, Shoreline
SR.Coastline	Coastline	CoastLine	Sea, Ocean, Coast, Coastline, Shore, Shoreline
SR.SeaSurfaceArea	Sea surface area	SeaSurfaceArea	Sea, Ocean
SR.SeaBedArea	Sea bed area	SeaBedArea	Sea, Ocean

11.1.1 Layers organisation

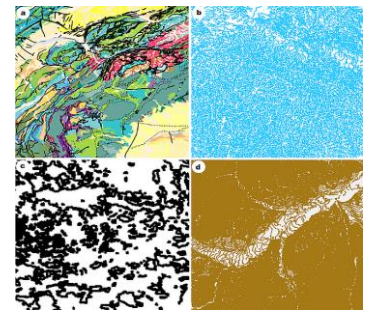
None.

11.2 Styles required to be supported by INSPIRE view services

None.

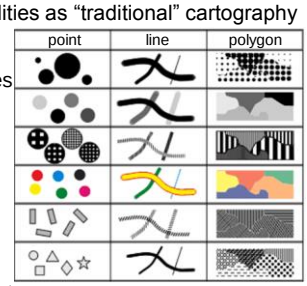
"Final" visualization

- Anyway, even if you are lucky, you may have such results



Definition of a cartographic style

- Definition of portrayal for a specified content
  - Defined on the level of layer
- The same possibilities as "traditional" cartography
  - Bertin (1967)
  - graphic variables

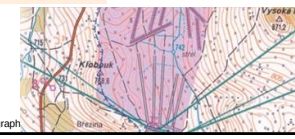


- A style may be customized to the user's needs

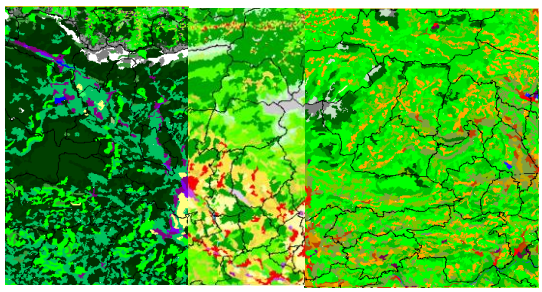
Definition of a cartographic style (SLD)

```
<StyledLayerDescriptor version="1.0.0" xmlns="http://www.opengis.net/sld" xmlns:ogc="http://www.opengis.net/ogc"
xmlns:xlink="http://www.w3.org/1999/xlink" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.opengis.net/sld http://schemas.opengis.net/sld/1.0.0/StyledLayerDescriptor.xsd">
  <NamedLayer>
    <Name>Hranice_VU</Name>
    <UserStyle>
     <Name>Hranice_VU</Name>
       <Title>Hranice vojenského újezdu</Title>
         <FeatureTypeStyle><Rule>
           <PolygonSymbolizer>
             <Fill>
               <CssParameter name="fill">#dbc0da</CssParameter>
               <CssParameter name="fill-opacity">0.1</CssParameter>
             </Fill>
             <Stroke>
               <CssParameter name="stroke">#db8ad8</CssParameter>
               <CssParameter name="stroke-width">2</CssParameter>
             </Stroke>
           </PolygonSymbolizer>
         </Rule>
       </FeatureTypeStyle>
     </UserStyle>
   </NamedLayer>
</StyledLayerDescriptor>
</StyledLayerDescriptor>
```

Style name	Testing style
Geometry	polygon
Fill (RGB)	#dbc0da
Opacity	0,1 (tj. 10%)
Outline	#db8ad8
Outline width	2 pixels

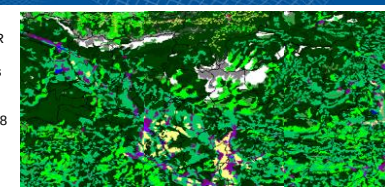


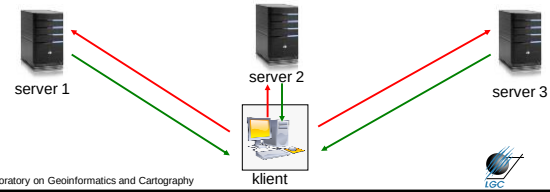
Reaching cartographic interoperability



Reaching cartographic interoperability

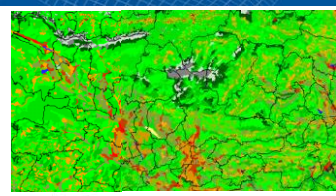
http://URL_adresa_serveru?SERVICE=WMS&version=1.1.1&REQUEST=GetMap&Layers=1&srs=EPSG:4326&BBOX=16.34, 49.22, 16.57, 49.93&WIDTH=701&HEIGHT=386&FORMAT=image/png &**STYLES=style1**

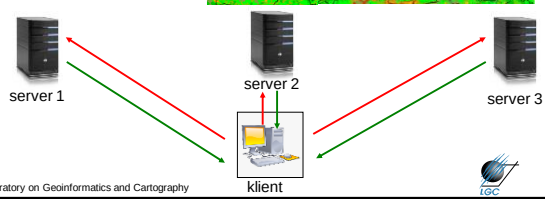




Reaching cartographic interoperability

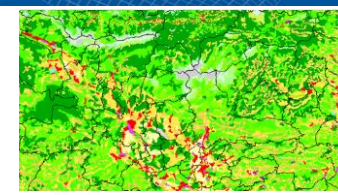
http://URL_adresa_serveru?SERVICE=WMS&version=1.1.1&REQUEST=GetMap&Layers=1&srs=EPSG:4326&BBOX=16.34, 49.22, 16.57, 49.93&WIDTH=701&HEIGHT=386&FORMAT=image/png&**STYLES=style2**

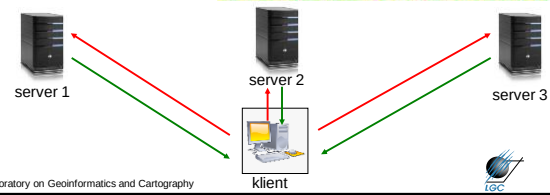




Reaching cartographic interoperability

http://URL_adresa_serveru?SERVICE=WMS&version=1.1.1&REQUEST=GetMap&Layers=1&srs=EPSG:4326&BBOX=16.34, 49.22, 16.57, 49.93&WIDTH=701&HEIGHT=386&FORMAT=image/png&**STYLES=style3**



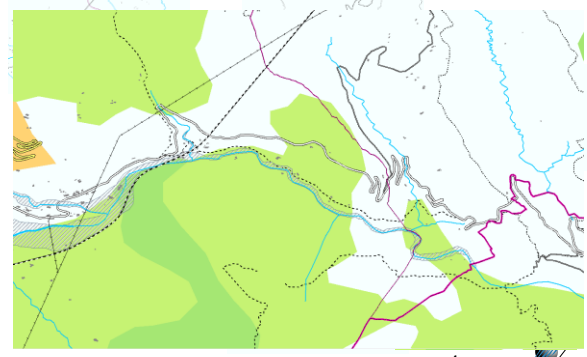


Map compositions

- OGC Web Map Context (WMC) implementation specification
  - Latest version 1.1.0 since 2005
  - Addition to the OGC WMS implementation specification
- Composes of:
  - information about the server(s) providing layer(s) in the overall map
  - the bounding box and map
  - sufficient operational metadata for Client software to reproduce the map, and ancillary metadata used to annotate or describe the maps

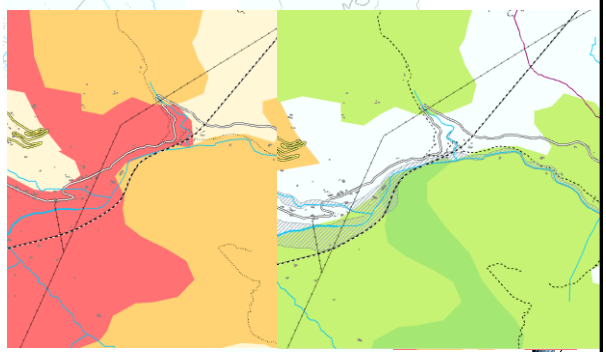
Sounds that similar to you?

Map compositions



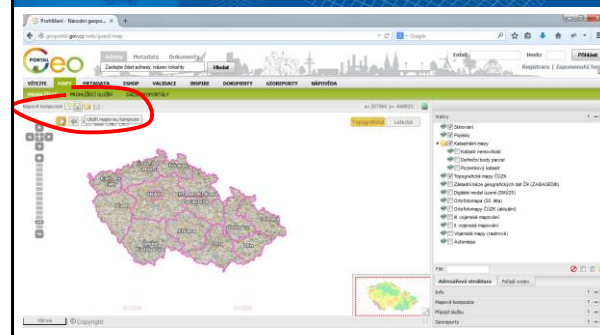
server 4

Map compositions



server 4

Saving a map composition…the easy way



Map composition – the XML encoding


```
<?xml version="1.0"?>
<ViewContext xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://www.opengis.net/context
http://schemas.opengis.net/context/1.1.0/context.xsd" id="54197c6b-8c24-4e47-987c-3928c0a80137" version="1.1.0"
xmlns="http://www.opengis.net/context">
  - <General>
      <Window height="472" width="948"/>
      <BoundingBox SRS="EPSG:102067" maxy="-848655.922514799982" maxx="-89563.5901356609975" miny="-1332044.07748520002" minx="-
        1060436.40986429993"/>
      <Title>Test</Title>
      <KeywordList/>
      <Abstract>This is for tests only</Abstract>
    - <ContactInformation>
        - <ContactPersonPrimary>
            <ContactPerson/>
            <ContactOrganization/>
          </ContactPersonPrimary>
        - <ContactAddress>
            <AddressType/>
            <Address/>
            <City/>
            <StateOrProvince/>
            <PostCode/>
            <Country/>
          </ContactAddress>
      </ContactInformation>
    - <Extension>
        <ol:maxExtent maxy="-920000.000000000000" maxx="-230000.000000000000" miny="-1260700.000000000000" minx="-
          920000.000000000000" xmlns:ol="http://openlayers.org/context"/>
        <hsl:timeStamp xmlns:hsl="http://hsrs.cz/context">2014-09-17T14:20:28</hsl:timeStamp>
        <hsl:language xmlns:hsl="http://hsrs.cz/context">cze</hsl:language>
        <hsl:layerStructure xmlns:hsl="http://hsrs.cz/context">{"0":{"name":"relief","type":"layer"},"1":{"name":"labels","type":"layer"},"2":
          {"name":"Katastrální mapy","type":"folder","structure":{"0":{"name":"Katastrální mapy/Katastr nemovitostí","type":"layer"},"1":
          {"name":"Katastrální mapy/Definiční body parcel","type":"layer"},"2":{"name":"Katastrální mapy/Pozemkový
          katastr","type":"layer"}}},"3":{"name":"topo_cosmc","type":"layer"},"4":{"name":"zabaged","type":"layer"},"5":
          {"name":"dmu","type":"layer"},"6":{"name":"orto_30v","type":"layer"},"7":{"name":"orto_cosmc","type":"layer"},"8":
          {"name":"military_IIInd","type":"layer"},"9":{"name":"military_IInd","type":"layer"},"10":
          {"name":"military_raster","type":"layer"},"11":{"name":"road_map","type":"layer"}}</hsl:layerStructure>
      </Extension>
  </General>
  <LayerList/>
</ViewContext>
```


Discovering map compositions

- Some geoportals enable to search also for the map compositions…even if it is not explicitly required under INSPIRE