Future Directions of INSPIRE

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SEE
WHAT
OTHERS
CAN'T

INSPIRE: A Legal Framework

Addressing Pan-European Issues

- **34 Data themes**
- **Metadata**
- **View Services (i.e., Map Services)**
- **Download Services (i.e., Feature Services)**
- **Catalog Discovery Services (i.e., Geoportal)**
- **Monitoring and Reporting**

Environmental

Urban planning

Health

Conservation

Safety

Climate change

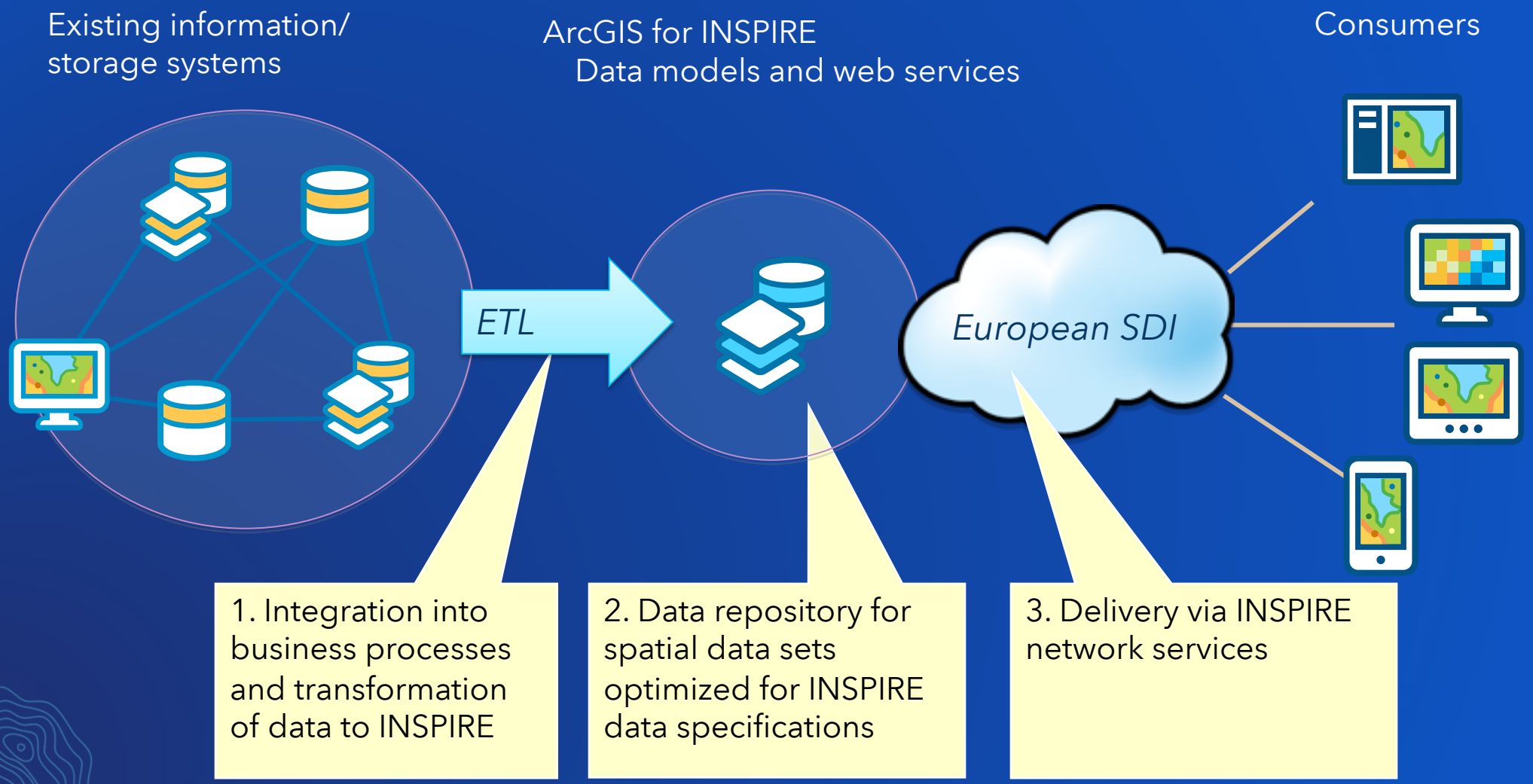
Transportation

…and much more

ArcGIS for INSPIRE

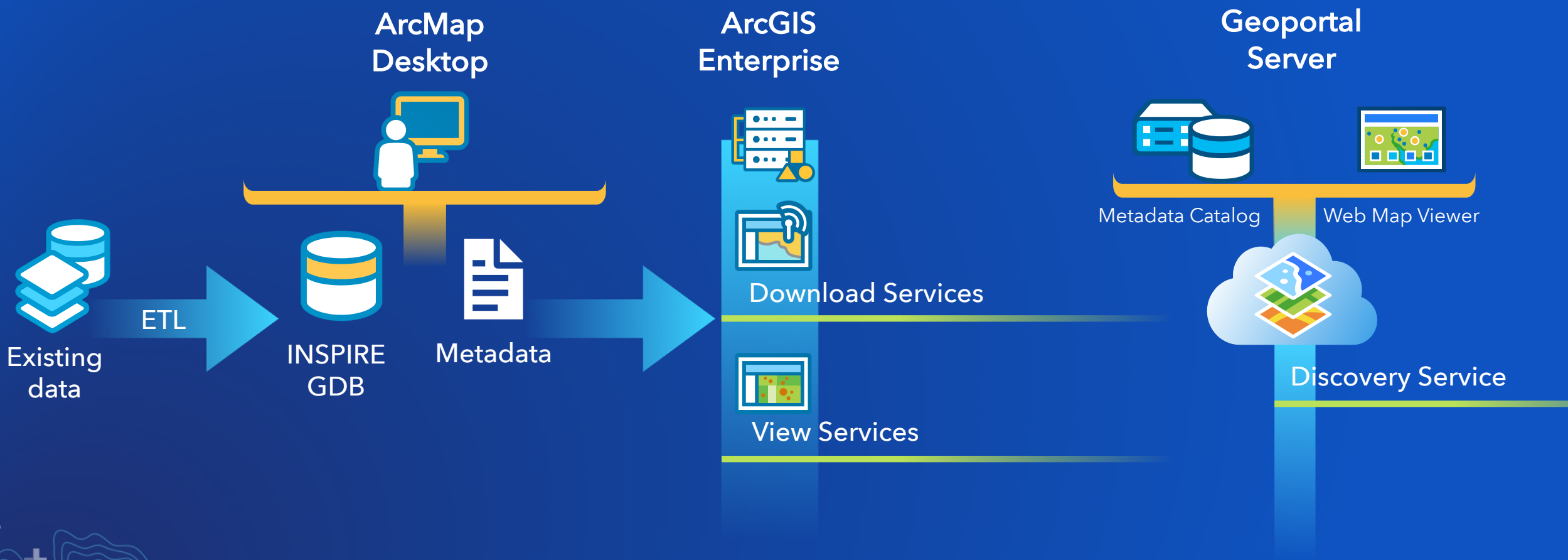
Solution for INSPIRE Discovery, View and Download Services

ArcGIS for INSPIRE implementation



ArcGIS for INSPIRE

A complete INSPIRE solution



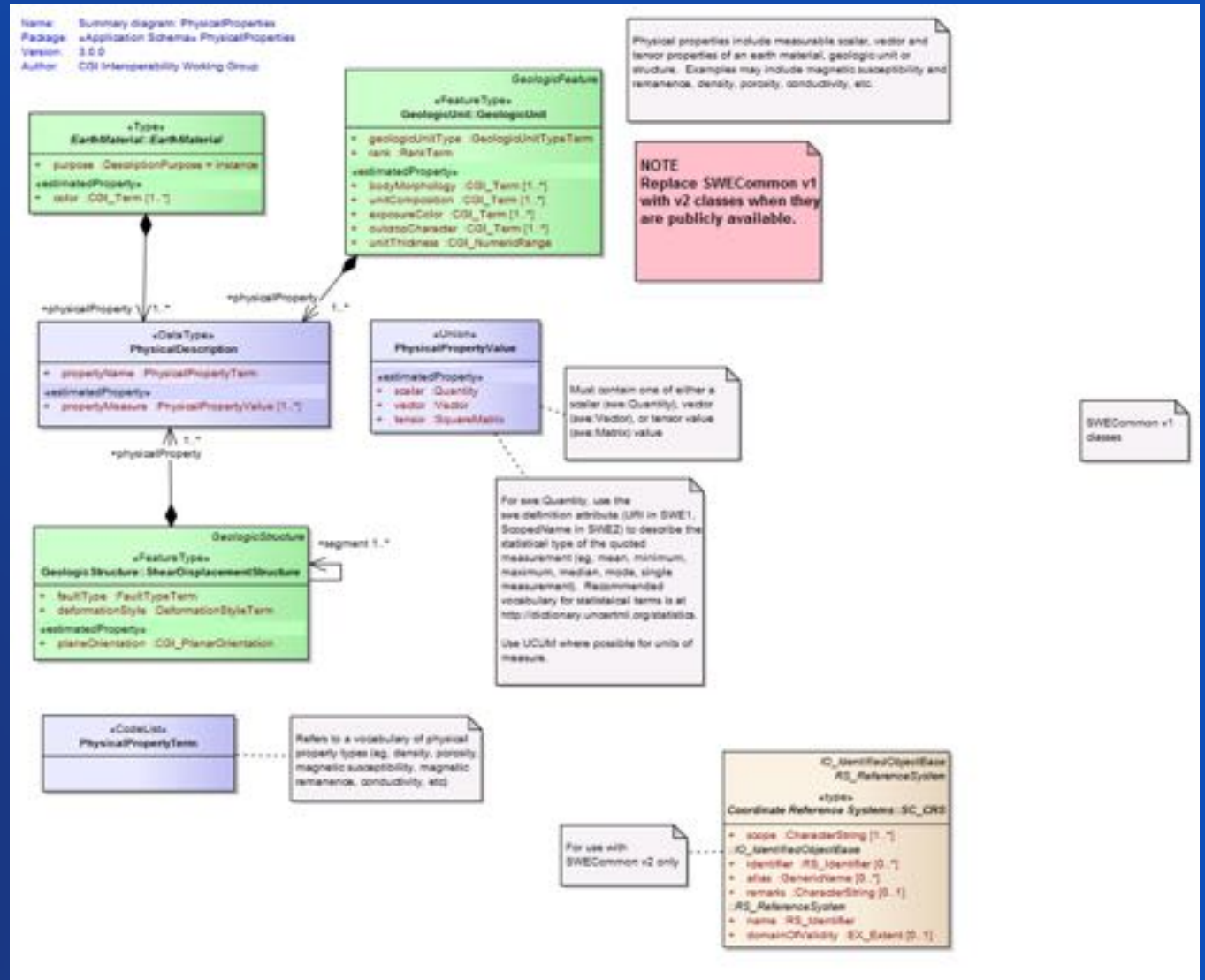
ArcGIS for INSPIRE 10.7.1: Geodatabase Templates

Annex I	Annex II	Annex III
Addresses	*Elevation*	Agricultural and Aquacultural Facilities (design)
Administrative Units	Geology	Area Managements/Restriction/Regulation Zones and Reporting Units
Cadastral Parcels	Land Cover	*Atmospheric Conditions, Meteorological Geographical Features*
Coordinate Reference System	*Orthoimagery*	*Bio-geographical Regions*
Geographical Grid System		Buildings
Geographical Names		Energy Resources
Hydrography		Environmental Monitoring Facilities
Protected Sites		Habitats and Biotopes
Transport Networks		Human Health and Safety
		Land Use
		Mineral Resources
		Natural Risk Zones
		Oceanographic Geographical Features
		Production and Industrial Facilities
		Population Distribution - Demography
		Sea Regions
		Soil
		Species Distribution
		Statistical Units
		Utility and Governmental Services

Action 2017.2 on alternative encodings for INSPIRE data

Background and Context

“The INSPIRE xml schemas are complex… simple use is difficult in standard GIS clients.” – from Action 2017.2



According to Art. 7 of the IRs on data interoperability,

alternative encodings can be used

as long as an encoding rule is publicly available that specifies schema conversion rules for all spatial object types and all attributes and association roles and the output data structure used.

2017.2 Alternative Encodings

(proposed)

- The action will **define alternative encoding rules** (mainly for the purpose of viewing/analysis in mainstream GIS systems) for a number of selected application schemas and a template and procedure for proposing and endorsing additional encoding rules in the future.

Overview

2017.2 Action for Alternative Encodings

- Develop concrete proposals for **alternative encodings**
  - Collect proposals for **alternative encodings**. These can be based on existing examples and/or on specific use cases and requirements. The proposals can be cross-cutting (i.e. cover all INSPIRE themes) or specific for one or several related themes.
  - Prioritize the collected examples and select a small number of proposals, for which alternative encodings will be developed by the action.
  - For the selected examples, develop encoding rules that explain how (and/or under which conditions) the proposed encoding meets the requirements of the IRs.

Overview (cont)

- Define a **template and procedure for** proposing and endorsing **additional encoding rules**
  - Elaborate a template for proposals for additional encoding rules.
  - Develop a procedure for how additional encoding rules can be proposed using the template and checked/endorsed by the MIG.
  - Develop a proposal for the update or maintenance of endorsed encoding rules.
  - Create a repository of addition encoding rules that have been endorsed by the MIG.
  - Develop a proposal for documenting the used encoding rules in data set/service metadata.

Flattened Data Structure

(proposed)

Flat File – A file structure for data records that have no structured relationship. A flat file takes up less computer space than other types (e.g., network, relational) but requires that the database application know how the information is organized in the file.

Example of flat data structure:

- XML with no XLinks
- Shapefile
- CSV
- GeoJSON

FEDERAL HIGHWAY ADMINISTRATION. *Data Integration Primer*.

Action 2019.2: Improving accessibility of data sets through network services

Section Subhead

Context

- The level of data-service linking is insufficient; many organisations in the member states are not able to provide implementations in line with the current TGs
- The current approach for data-service linking in the TGs (metadata and network services) is widely acknowledged as complicated and there are different interpretations of the requirements, even by implementation/standards experts
- This has negative impacts on the accessibility of INSPIRE data sets and future monitoring and reporting (based on metadata) and hence as the overall impression of the usability of the INSPIRE infrastructure
- The fact that the current approach for service metadata requires extensions to base standards is posing an obstacle to the implementation of INSPIRE requirements (because they are not widely implemented in off-the-shelf software)
- There is a clear overlap / duplication of data set and service metadata, which in some cases leads to inconsistencies.

Simplified Metadata Requirements (Proposed)

Removing requirement for service-level metadata

"Requirements to document download and view services in stand-alone (ISO 19119) service metadata records are removed. Instead, network services shall be exclusively documented through the metadata returned by the service itself as a response to a Get Download/View Service Metadata request."

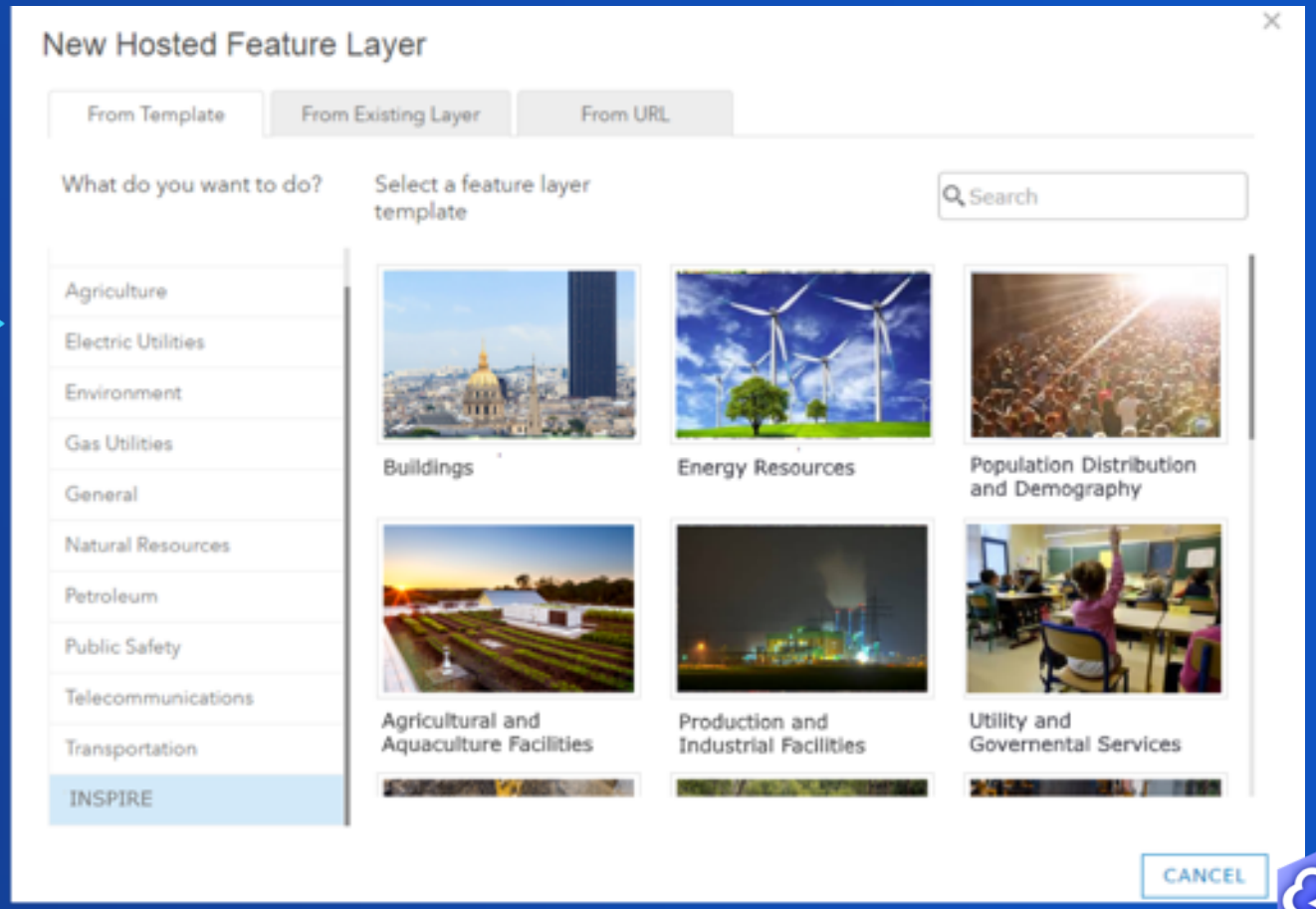
ArcGIS for INSPIRE: Future Directions

Section Subhead

Future Directions: Treat INSPIRE data within ArcGIS Online like any other data

"Flattened" Data Schema as Hosted Feature Layer Templates

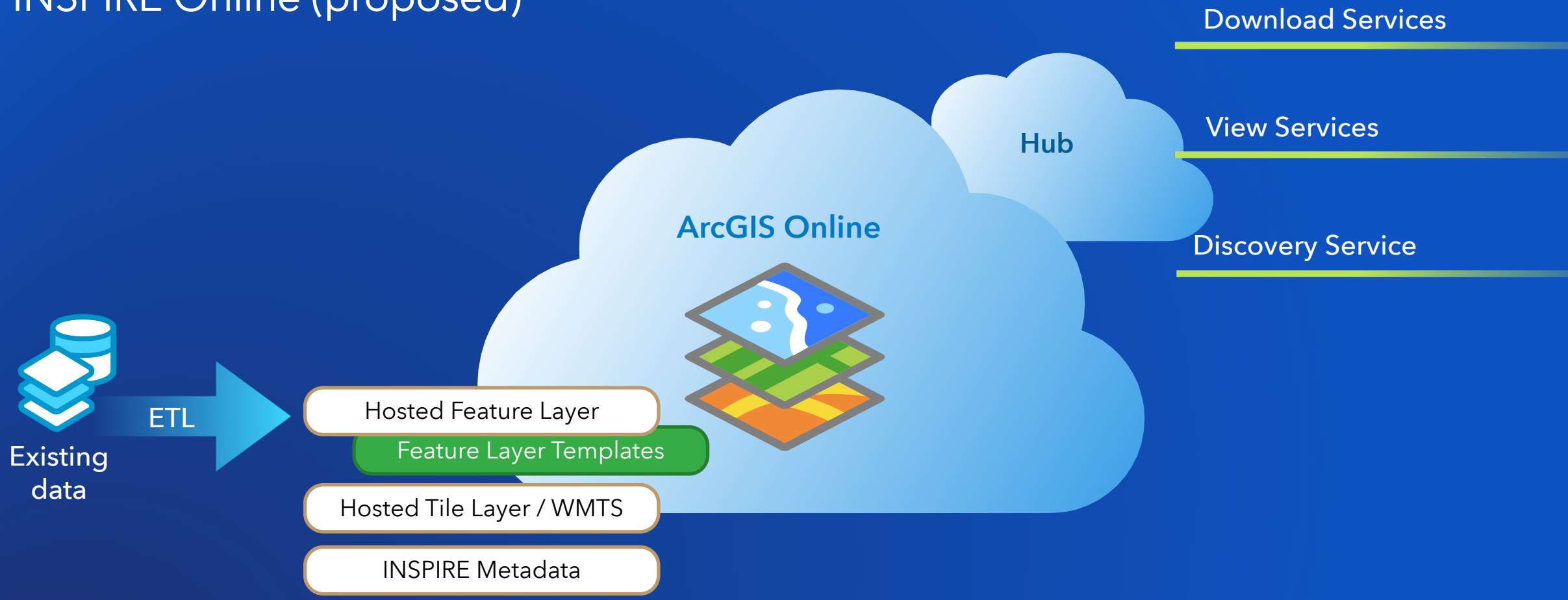
"Flatten" the INSPIRE data structure following the General Model Simplification Rule (proposed 2017.2 Alternative Encodings)



Hosted feature layer templates for INSPIRE Simplified application schemas

ArcGIS Online

INSPIRE Online (proposed)



Talk to Us About INSPIRE

Open Platform Demo Theater

Place to discuss INSPIRE
https://community.esri.com/groups/arcgis-for-inspire

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