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Building SEIS at the national level – centralized or distributed architecture?

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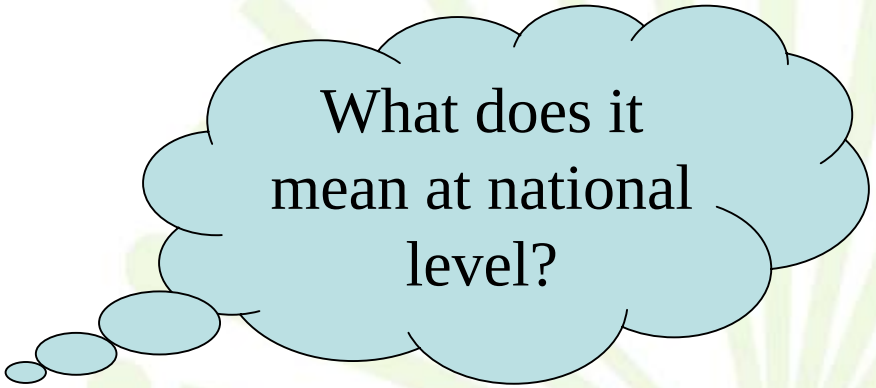
SEIS principles

- Information should be **managed as close as possible to its source;**
- Information should be **collected once, and shared** with others **for many purposes**;



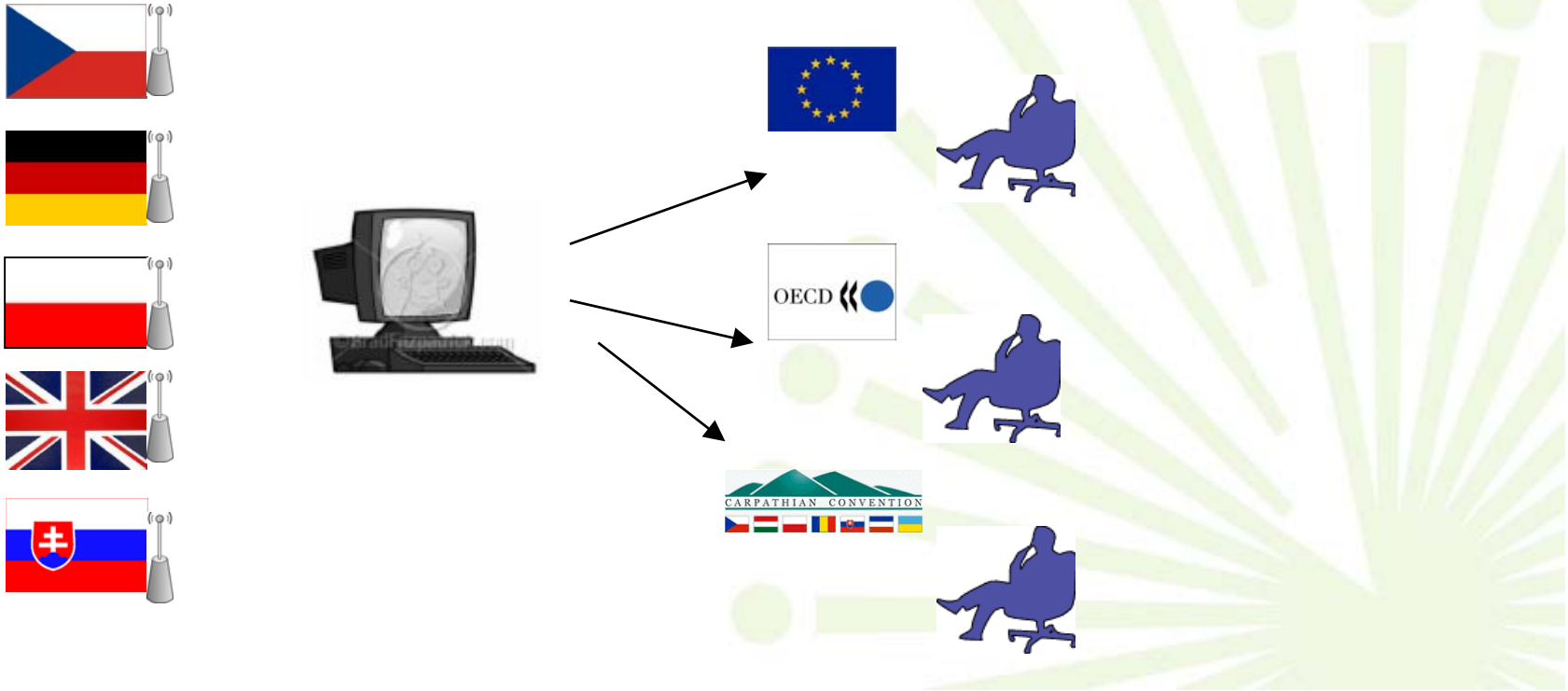
Centralized or distributed ?

Should we serve the fruit of our work in some kind of predefined style, without reference to our local customs...

...or is there still the possibility to do these things at our ceremony?

...as close a possible to its source

- **SEIS at the european level**
  - data should stay at national level and should be shared for different purposes

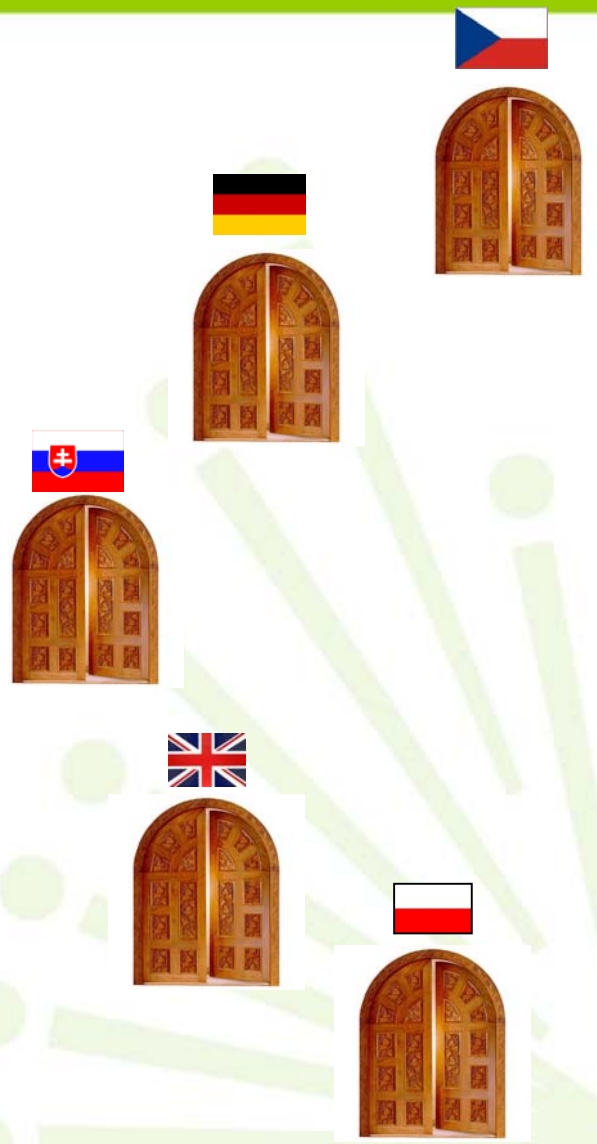


...as close a possible to its source

SEIS at national level

- European institutions **will not organize the data management** behind the national “Data Gates”

- Possibilities?
  - Centralized
  - Distributed



Which one is the better one?

- **Centralized**
  - ISSaR – Information System of Statistics and Reports

- **Distributed**
  - MIS – Czech Environmental Metaportal (Metainformation System)

Implementation of the general principles

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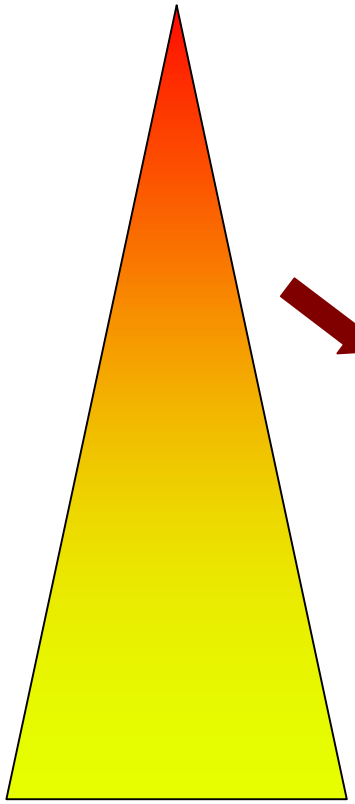

SoER, Statistical Environmental Yearbook, Regional reports, Indicators...
interpretation, assessment, interdisciplinary context

ISSaR, Geoportal
aggregation, visualisation

EIA/SEA, E-PRTR, IPPC etc.
many single topic systems producing data

MIS metainformation system

ISSaR system architecture - centralized

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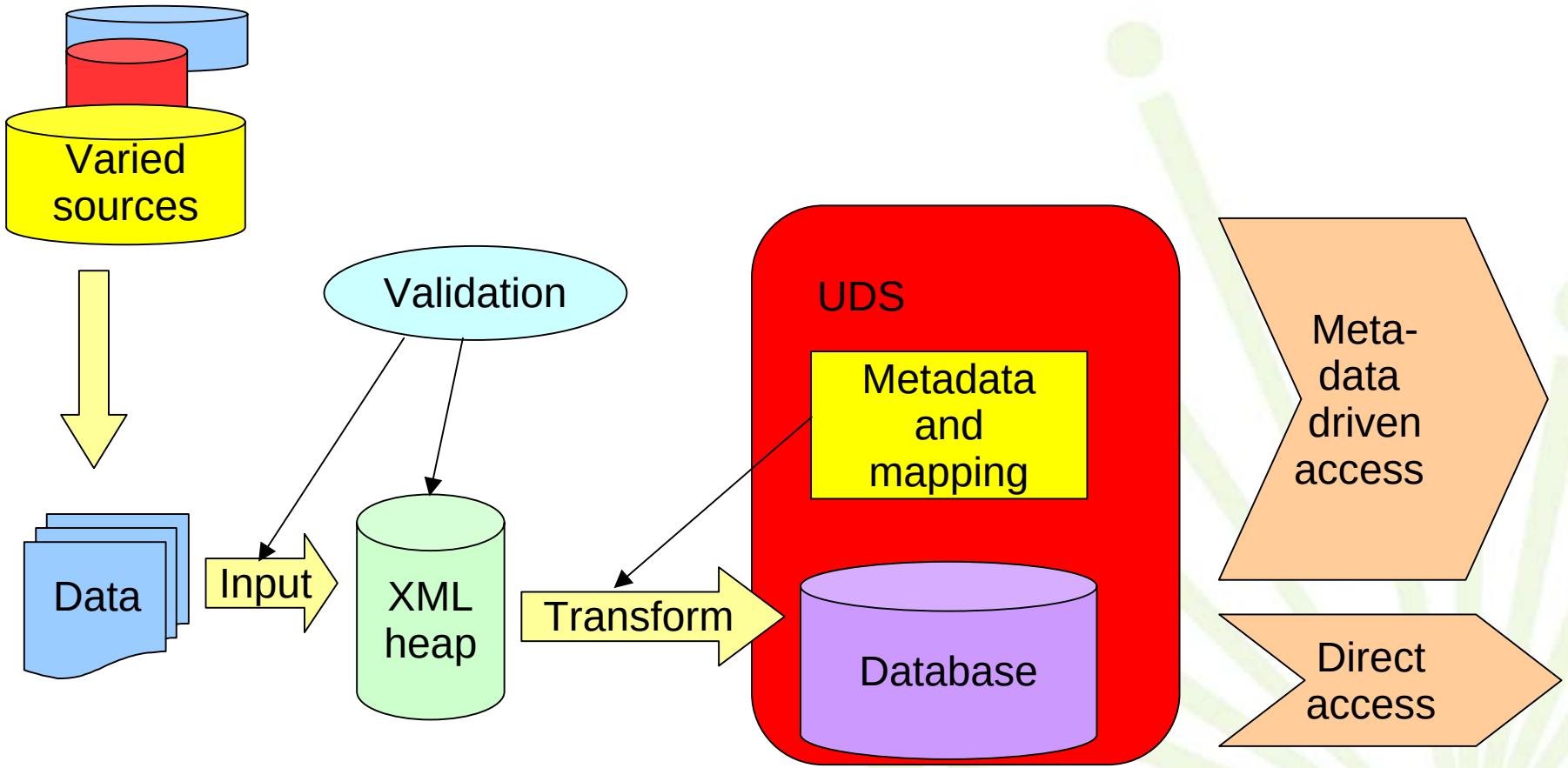

Collect once, use many times

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Data sources

Data sources
(AOPK, ČHMÚ, ČGS, ČGS-Geofond, SJČR, VÚV, VÚKOZ, Národní parky), ČSÚ, MZe, MZdr, MD, CDV, MPO, …

ISSaR

Reporting

Metadata, vocabularies

Maps

Statistics, Table data

Assessment

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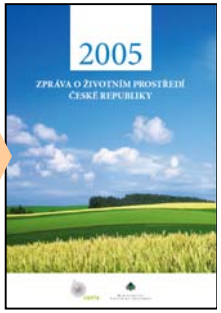
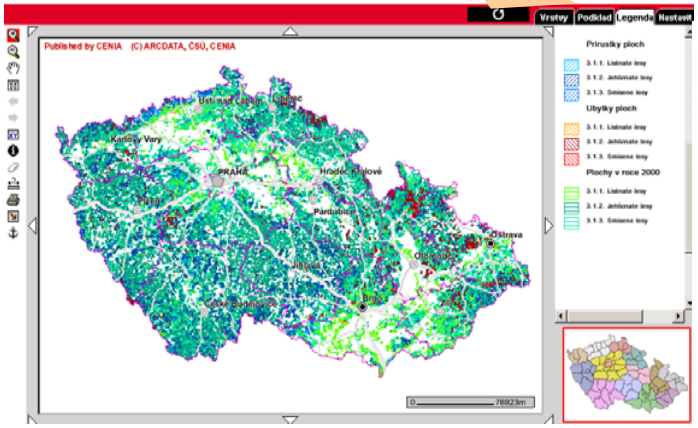


European reporting

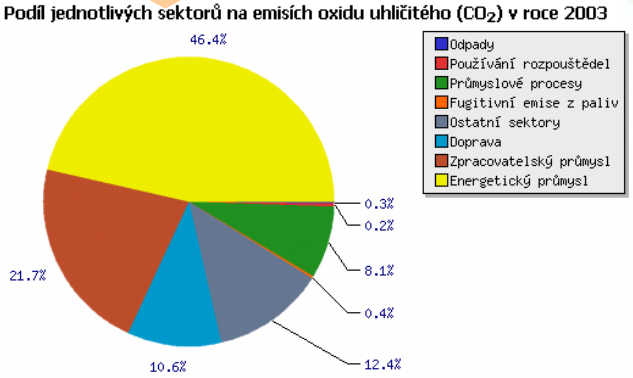
European Environment Agency

Environment

EUROPA > European Commission > Environment



Map portal



Indicators

Reports

Centralized system architecture

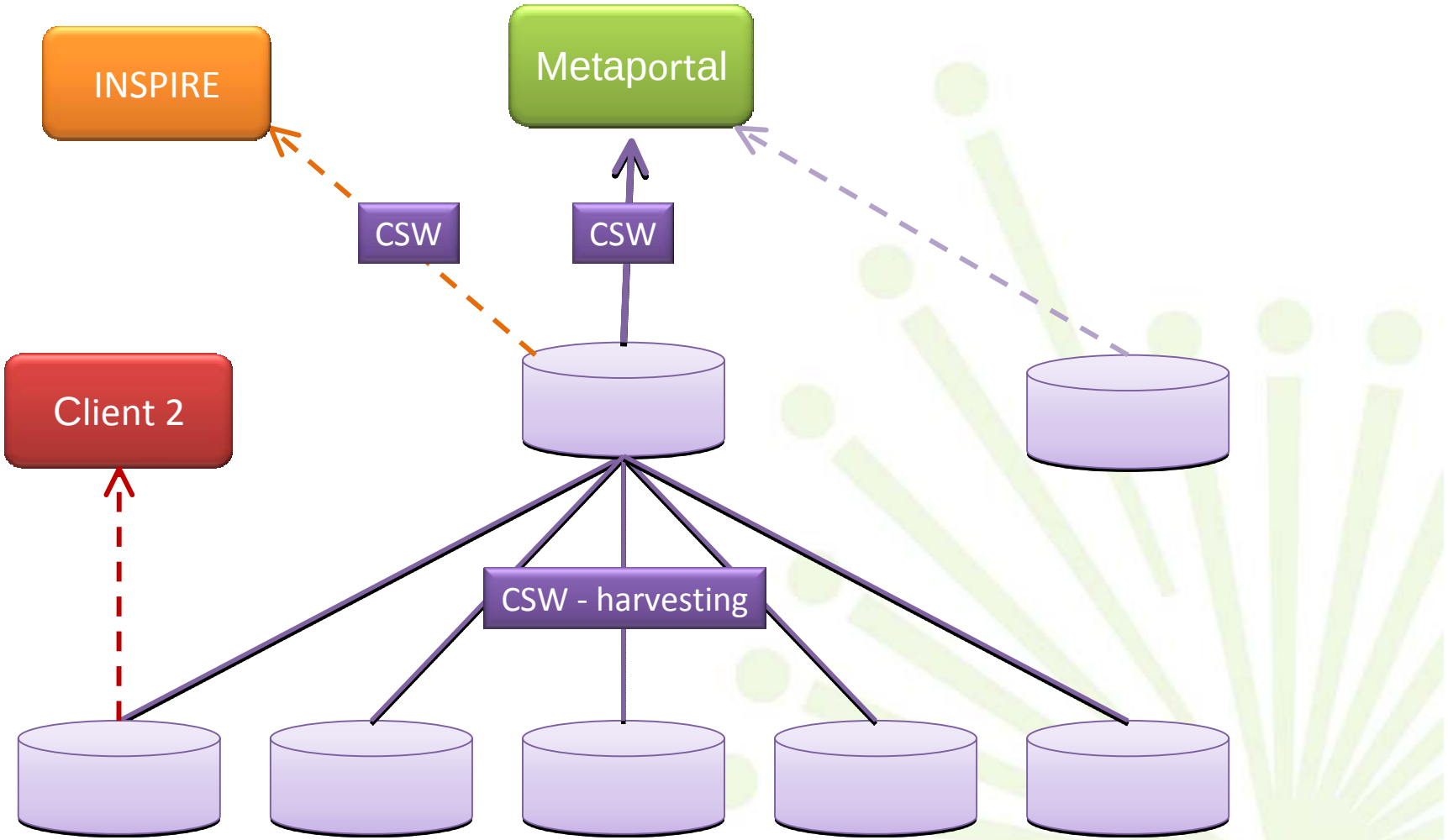
Advantages

- Stability
- Provider guarantees data availability and designs output formats and services
- System is independent on the structure and development of partial systems
- Allows you to manage the data which are not included in the partial systems, in the appropriate way (models, statistical outputs...)

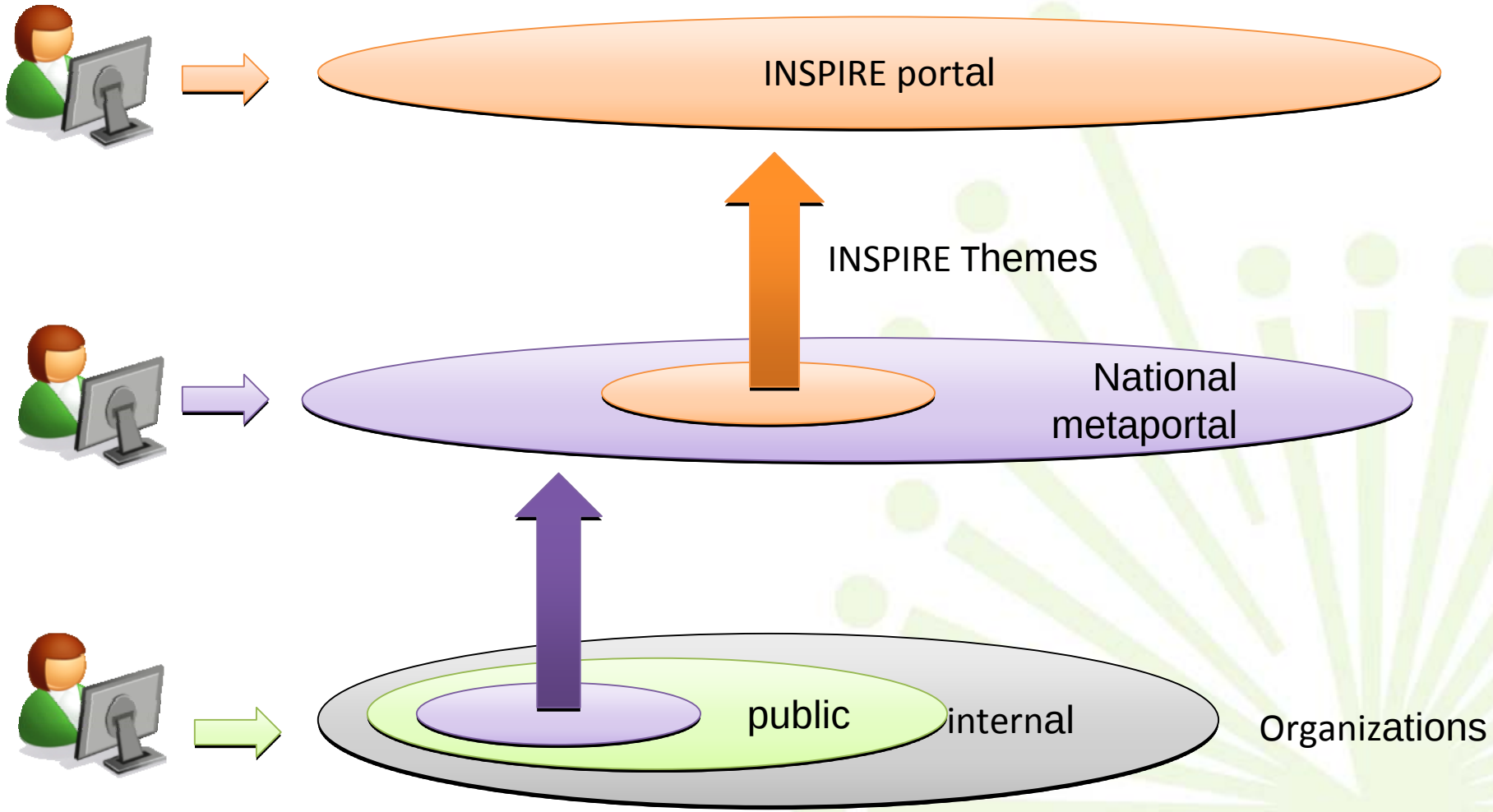
Disadvantages

- The provider is completely responsible for availability of the data
- Update – provider has to create and guarantee the system for updating the data
- Input validation is necessary as well as transformation to the final data structure – it is always the responsibility of the provider

MIS System architecture - distributed



Collect once, use many times



Distributed system architecture

Advantages

- Automatic updating – data providers are responsible for data actualization
- Up to date data at every moment
- Data validation and transformation into the central system is not necessary
- Data providers develop their systems and services independently

Disadvantages

- Stability
- Compatible data formats must be used by all partners
- System finally provides only data and services which are already processed within partial systems
- All partners should stay at a similar level of technical development

Centralized or distributed architecture?

- **SEIS is the way forward, but it is by no means a goal!**
- **SEIS is a tool for successful data management**
- Data management is an instrument for **successful** transparent, consistent and user oriented **state administration**
- **We are building SEIS by our own means.**

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Thank you for your attention

MIS: http://mis.cenia.cz

ISSaR: http://issar.cenia.cz

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