



# Towards a joint service catalogue for e-Infrastructure services

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# Goal

- A framework for creating a Catalogue of Services (CoS)
- Primarily intended for e-Infrastructure services
- Framework:
  - Used to specify and implement a concrete catalogue
  - not a catalogue itself
  - does not list or describe services
- <http://bit.ly/1Nk0JCA>

# Benefits

- Inform service users
  - Make services findable
  - Enable determining the services' relevance
  - Identify overlapping efforts or gaps in the catalogued service landscape
  
- Assist service providers
  - Provide shared language for service descriptions
  - Resulting in interoperable project-local service descriptions
  - Provide competitive advantage by being able to show your products

# Methodology

- Exploratory
  - information coverage vs. maintainability
  
- Reusing existing conceptualisations:
  - FitSM
  - ISO 20000 : requirements for an information technology service management (ITSM) system
  - UK Government Service Design Manual
  
- Validated with examples from projects THOR, EGI, EUDAT, GEANT, OpenAIRE, BlueBridge
  
- Implementation independent

# Result

□ <http://bit.ly/1Nk0JCA>

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## e-Infrastructure Catalogue of Services

### Goal

This document outlines a framework for creating a Catalogue of Services (CoS), primarily intended for e-Infrastructure services. It is supposed to describe services at a high level and to make them findable. It can also be used to identify overlapping efforts or gaps in the catalogued service landscape.

The goal of this document is to define a framework that can be used to specify and implement a concrete catalogue. It is not a catalogue itself and does not list or describe services.

### Methodology

The framework was developed in an exploratory fashion to include a choice of key concepts, balancing information coverage and maintainability of the CoS. It reuses the existing conceptualisations in FISM, ISO 20000 (requirements for an information technology service management (ITSM) system), and the UK Government Service Design Manual. The framework was validated with examples from the projects BlueBridge, EGL, EUDAT, GEANT, OpenAIRE, and THOR.

The presentation of the framework is implementation independent. It does not imply how a CoS should be implemented. The implemented system could take the form of a list of services, or be implemented as a database. This depends of the intended functions that the CoS will need to support.

### What is a CoS?

Because of the way the task was assigned to this working group we refer to a catalogue of services. However, the conceptual model in this framework rather describes a service portfolio[1], which can also capture pre- and post-production services; a catalogue of services, in contrast, by definition, only includes live services. A portfolio supports the use cases of on-going operational as well as prototype services, both of which are intended in the next

e-Infrastructure work programme. The service development phase can be specified with the service phase field[2]. The basic underlying conceptual model is the same for both. Although, in a portfolio some of the concepts in the framework are not applicable as they are still developing. A service supports defined functions, for defined purposes, for defined stakeholders, under certain policies, under certain cost models. This is captured in the framework's concept model. The service area and types are taken from the IT life-cycle: they may range from low-level functions, such as storage provision, to high-level functions, such as visualisation.

The framework does not define

- specific software (the product) that implements and provides the service.
- projects that produce a service. Services are described from a customer perspective instead. One project can offer multiple services.
- Service Level Agreements (SLA). Several different SLAs can be associated with a service.

### The CoS and the Service Providers

The framework assumes that the CoS is not necessarily owned and maintained by the service providers. The CoS may cover services from multiple service providers.

The owner of the CoS may, for example, be

- a funding agency.
- a current and prospective service provider (ESFRI RIs, e-Infrastructures, VRE projects...).
- a research community.

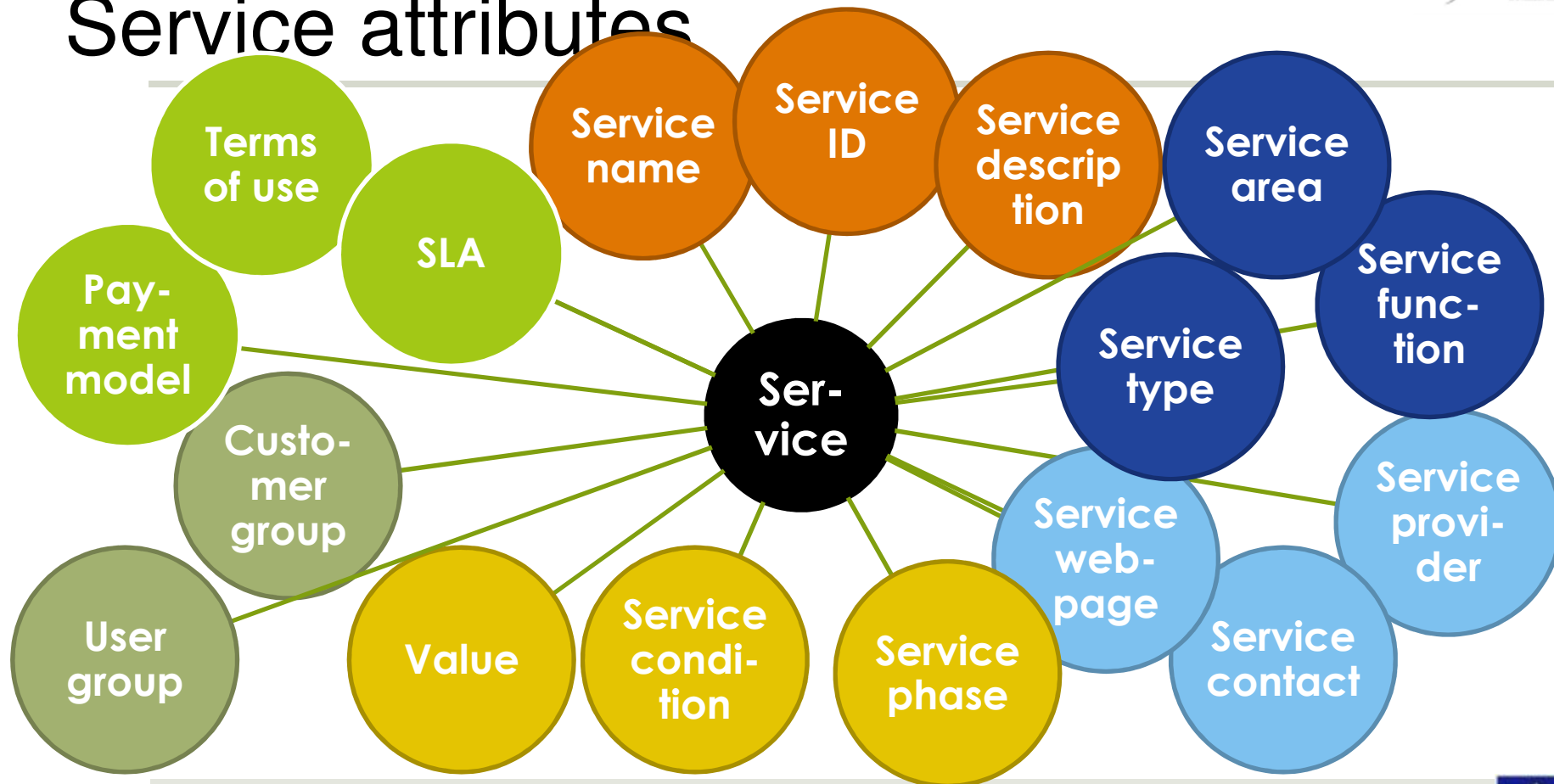
It assumes that the CoS owner may hold only high level, core information about the service: in particular information needed to identify whether the service would likely be relevant for a given service user. It will then hold all information to access more detailed information about the service at the service provider's website. The CoS should hold enough information to enable finding the relevant services with a good specificity, but not so much that it would be unrealistic to keep the service descriptions up-to-date.

### How to use the framework

When the framework is used to create a CoS it needs to be tailored to the specific requirements of the CoS. The framework introduces a range of relevant concepts that describe a generic CoS. It makes a proposal of which concepts would most likely be desirable for a CoS instance, but the final decision on the level of detail remains with the creator of the CoS instance. In particular, the chosen features will vary with

- the declared purpose: For example, cost/benefit information should only be included if the user is expected to use it in the CoS.
- the declared stakeholder target groups: this may include the CoS users, managers, and owners. The specific implementation may also vary based on the covered domain / research area or organisation types.

# Service attributes



# Service attributes

Term	Definition	Notes
<b>Service name</b>	Name of a specific service as assigned by the service provider	<b>Source:</b> FitSM template for service portfolio <b>Format:</b> Free text
<b>Service ID</b>	Global unique and persistent identifier of a specific service	<b>Format:</b> DOI or any other relevant standard; it should contain information about the identifier type and value. <b>Additional info:</b> A PID can be used ideally resolvable to a landing page or a machine readable data typed metadata page. It should be assigned by the CoS owner.
<b>Service description</b>	High-level description of what the service does in terms of functionalities it provides and the resources it enables	<b>Format:</b> Free text <b>Additional info:</b> It may provide also information related to the offered capacity, number of installations, underlying data that is offered

# Validation

Service name	Object storage	Cloud compute	Assign persistent identifier	Metadata store
<b>Service ID</b>				
<b>Service webpage</b>			<a href="https://www.datacite.org/">https://www.datacite.org/</a>	<a href="https://www.datacite.org/">https://www.datacite.org/</a>
<b>Service provider</b>	EGI	EGI	DataCite	DataCite
<b>Service contact</b>	support@egi.eu	support@egi.eu	<a href="https://www.datacite.org/contact">https://www.datacite.org/contact</a>	<a href="https://www.datacite.org/contact">https://www.datacite.org/contact</a>
<b>Service description</b>	Store and retrieve unstructured data as objects via a uniform/standard interface. Most object stores allow attaching metadata to objects, and	Run virtual machines of your choice on high quality IT resources accessible via a uniform interface from multiple service providers	A service to assign persistent identifiers to data sets backed-up by a governance structure	A metadata management service to for maintaining descriptive metadata associated with datasets.



# Service (1)

- A **service** supports
  - defined functions
  - for defined purposes
  - for defined stakeholders
  - under defined conditions
  - available from a provider
  
- Key attributes are captured in the framework's conceptual model

# Service (2)

- Service area
  - taken from the IT life-cycle: low to high-level functions
  - across IT functions
  - vocabulary customised to the CoS

Visualisation
Publication
Access
Discovery
Analysis
Applications
Authorization/ Authentication
PID Identification
Networking
Hosting
Computing
Data Management & Preservation
Storage

Data & Information
Training / Consulting / Policy
Distributing/ Sharing/ Collaborating



# Service (3)

From a **customer perspective**

**Not**

**Project**

- That produce a service
- One project can offer multiple services

**Specific software / tool**

- The product that implements and provides the service
- A service can be implemented through multiple software solutions

**Service Level Agreements (SLA)**

- Several different SLAs can be associated with a service

# Service (4)

The CoS should

- Inform, not market
- Capture service abstractions, not service instances
- Capture live services and pre- and post-production services

# CoS and service providers

- Not necessarily **owned and maintained** by service providers
  - a current and prospective service provider (ESFRI RIs, e-Infrastructures, VRE projects...)
  - a funding agency
  - a research community
  
- Services from **multiple service providers**
  
- High level, core** information about the service
  - detailed information at the service provider's website

# How to use the framework: Tailor

- **Tailor** the framework to **requirements** of specific CoS
  - State requirements and policies explicitly
  - Framework = range of relevant concepts that describe a generic CoS
    - The most likely concepts to be desirable for a CoS instance
  - Detail determined by the creator of the CoS instance



# How to use the framework: Adopt

- Adopt fields** dependent on
  - Purpose**
    - E.g. Is cost/benefit information needed by the user?
  - Stakeholder target groups**
    - E.g. owners, managers, customers, users
    - E.g. domain / research area
    - E.g. organisation types
  - Policies** : vary for service types, departments, organisations, sectors, regions
  - Systems context** : able to obtain and maintain information

# How to use the framework: Add

## Add

- Data types** : permissible values
- Controlled vocabularies** for each field
- Applicability** and **obligation**,  
under what conditions





# How to use the framework: Extend

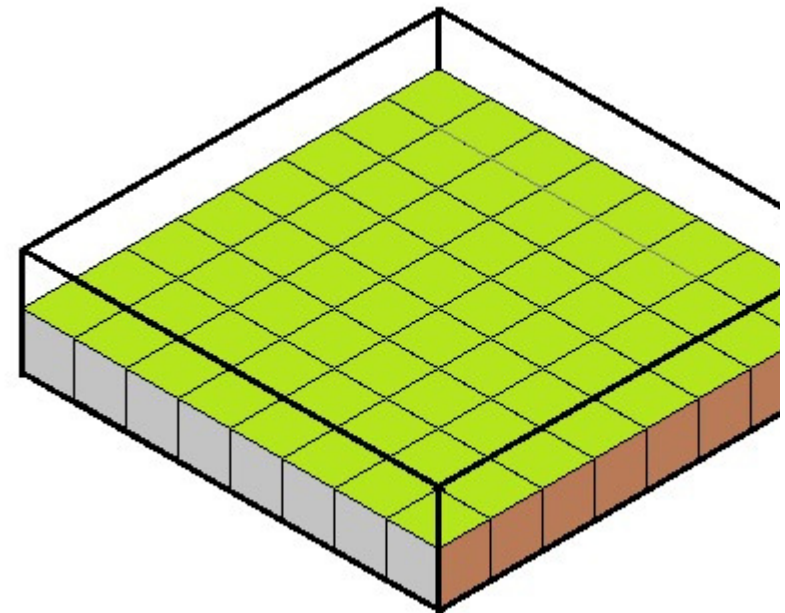
- Extend** the general framework
  - additional information needed depending on **scope** and **types of services**
  - domain-specific information
  - technical detail
  - more specific / granular information



# How to use the framework: Constrain

## Define constraints for use of CoS

- the **geographic** scope
  - such as organisational, regional, European
  
- the **nature** of the included services
  - such as training, IT services, consultancy
  
- other **constraints**
  - such as who funded the service
  
- size, style** and **format** limitations for text
  - homogeneous presentation
  - useful and comparable content



# How to use the framework: Governance

- Agree on maintenance and update policy
- Agree on granularity of description to ensure comparability

