



Tech introduction

# About DOIs

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Digital Object Identifiers



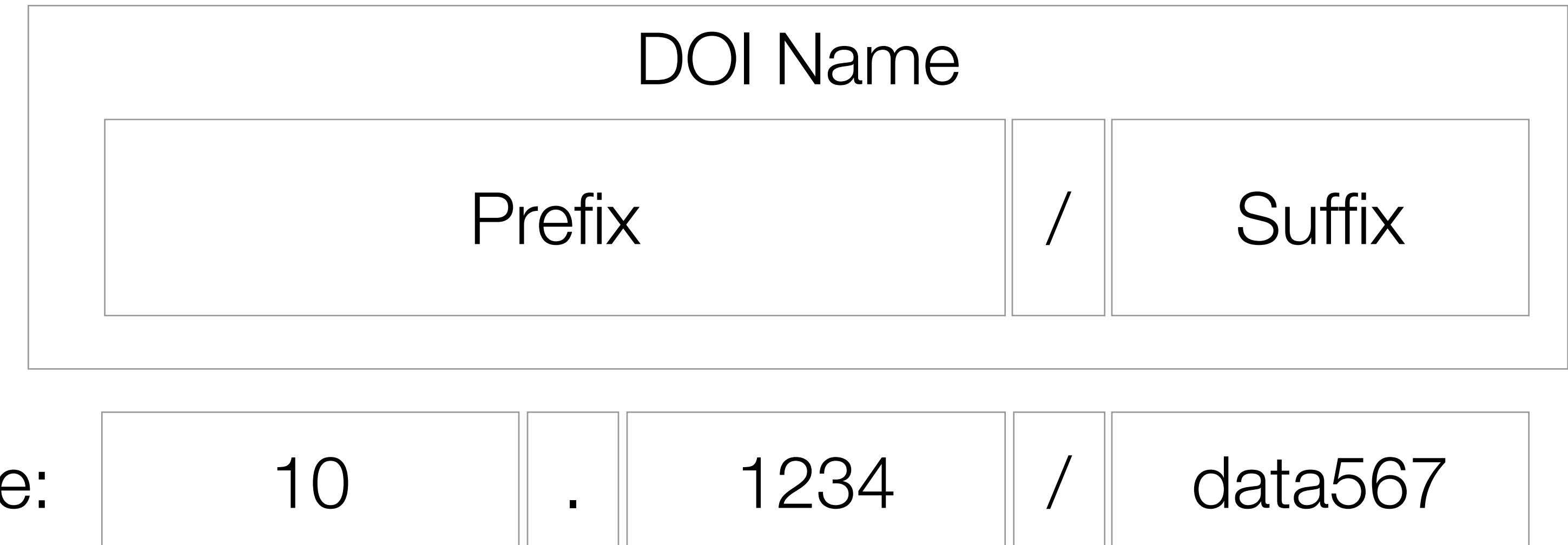
# DOI: Digital Object Identifier

- A DOI is a serial code used to **uniquely identify** content of various types of entities. The DOI system is particularly used for electronic documents such as journal articles or datasets.
- What is digital is the identifier, not the object!



# DOI Names

- Prefixes are assigned to different services. Each one of them manages the ‘suffix’ namespace freely.



## URL

- The DOI name points to a URL, and it can be repointed as many times as needed.
- This URL can be the object itself or a landing page displaying metadata and how to access the object.



# Metadata

- A metadata schema is a list of core metadata properties chosen for the accurate and consistent identification of a resource.

Mandatory	Recommended	Optional
Identifier	Subject	Language
Creator	Contributor	Alternate ID
Title	Date	Size
Publisher	Related identifier	Format
Publication year	Description	Version
Resource Type	GeoLocation	Rights

<https://schema.datacite.org>

Current version 4.0  
XML examples available

# Resolving DOIs

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- You can resolve a DOI to its URL using:
  - <http://doi.org/DOI name>
  - <http://dx.doi.org/DOI name>

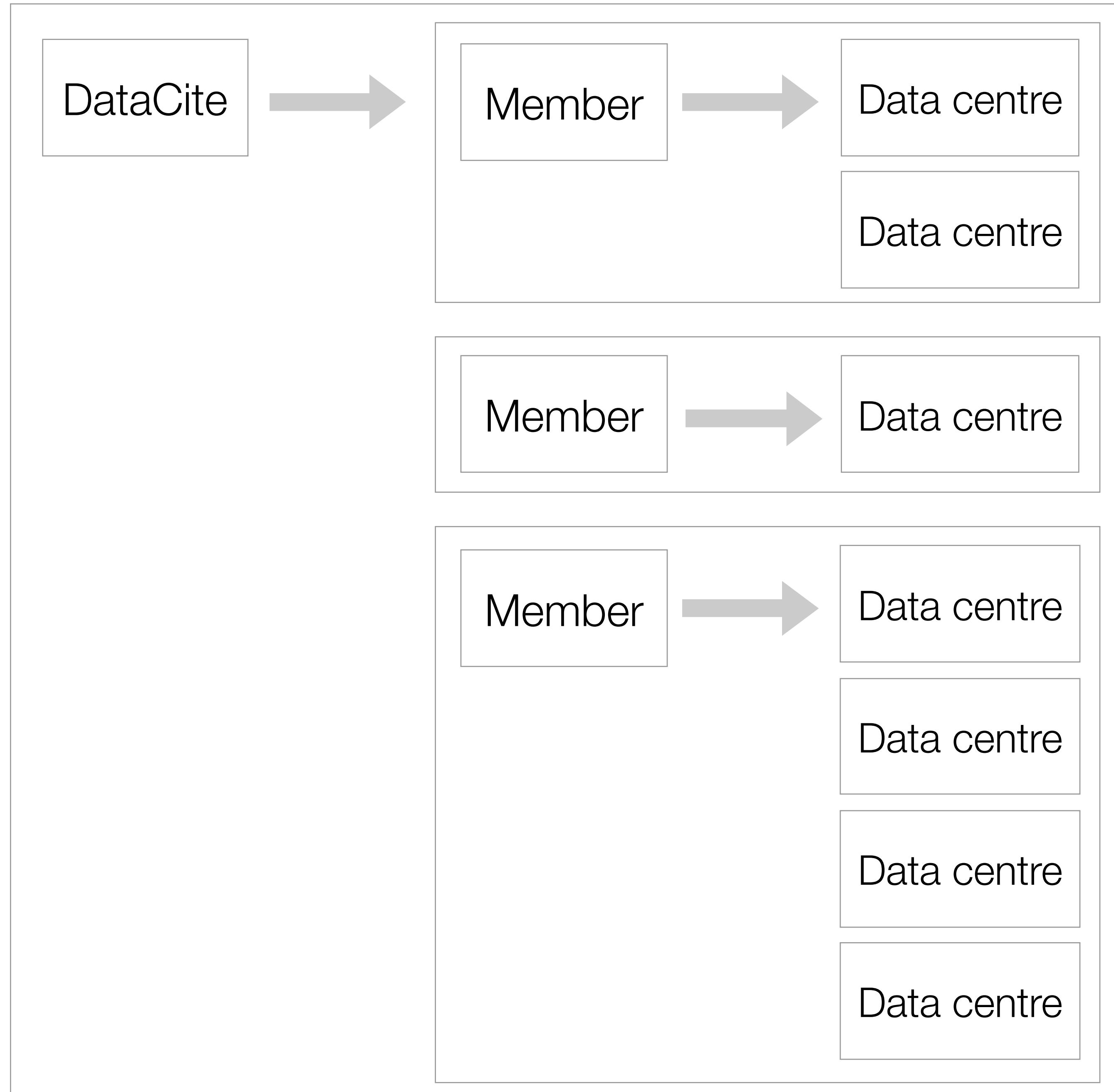
## About the service

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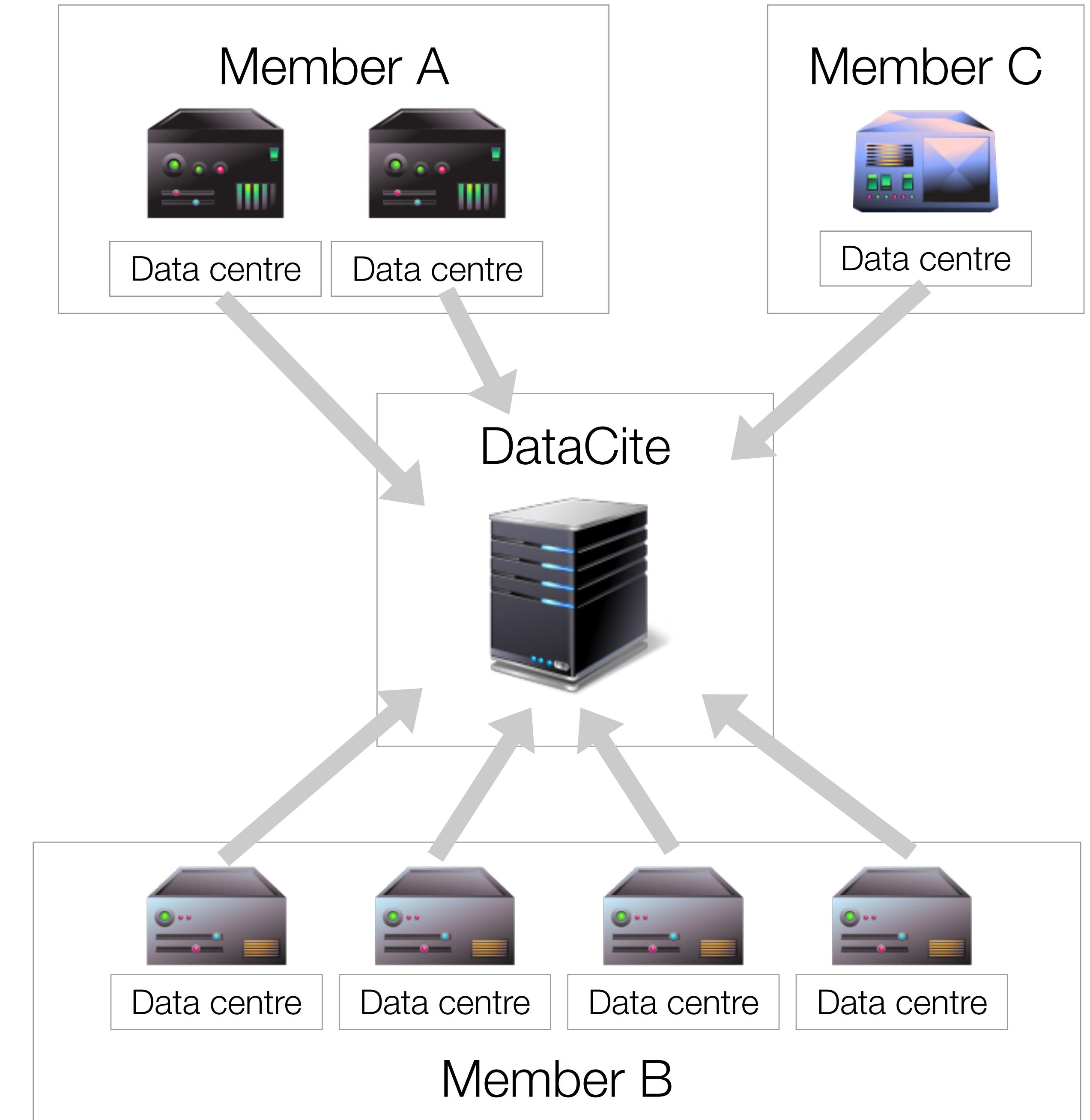
# Service agreements

- DataCite serves its members
- Two types of members:
  - Allocating
  - Non-allocating
- Each member serves its affiliated data centres
  - With different business models



# Technical infrastructure

- DataCite serves all the data centres using a centralised infrastructure
- Same end-point for all of them
- Becoming a member does not require to set up any technical infrastructure



# About the MDS

MetaData Store



# The MetaData Store

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- The DataCite Metadata Store is a service for data publishers to mint DOIs and register associated metadata.
- Two ways to use it:
  - Web interface - <https://mds.datacite.org>
  - API - <https://mds.datacite.org/static/apidoc>

# Web interface

- “Single” or manual operations.

## Members

### Datacentre

[Create new Datacentre](#)

[List all Datacentres](#)

[Find by Symbol](#)

[Find by Name](#)

### Dataset

[Register new Dataset](#)

[List all Datasets](#)

[Find by DOI](#)

### View

[API documentation](#)

## Datacentres

### Dataset

[Register new Dataset](#)

[List all Datasets](#)

[Find by DOI](#)

### View

[API documentation](#)

# Example: mint a DOI

▼ Register new Dataset

DOI latency: Be aware that it can take up to 24 hours until a DOI update is globally known. New DOIs should be resolvable after about 5 minutes.

**For testing purposes please only use our dedicated test prefix 10.5072**

DOI:	<input type="text"/>	Name
Url:	<input type="text"/>	URL
XML upload:	<input type="button" value="Choose File"/> No file chosen	Metadata
Please select an XML file. It must reference a schema located under the following base URL: <a href="http://schema.datacite.org/meta/">http://schema.datacite.org/meta/</a>		
XML:	<input type="text"/>	
<b>SAVE</b>		

- RESTful API.
- HTTPS with basic authentication.
- Example, first upload the metadata, then mint the DOI:

```
curl -u USER.NAME  
      -H "Content-Type: application/xml"  
      --data-binary @metadata.xml  
      https://mds.datacite.org/metadata
```

200 OK

```
curl -u USER.NAME  
      -d "url=http://page1.com"  
      -d "doi=10.1234/dataset567"  
      https://mds.datacite.org/doi
```

200 OK

# Sandbox

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- DataCite provides a test environment for developers.
- The endpoint is <https://test.datacite.org> and the resolver is <http://dx.test.datacite.org>
- A test prefix exists for all data centres 10. 5072

# Distributed System

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- The Handle system (the technical infrastructure of DOIs) is distributed.
- Newly minted DOIs should be resolvable in less than 5 minutes (normally no more than 1 minute).
- Updates to DOIs (URL/metadata) can take up to 24h before being distributed through the whole network.

# Services around DOIs



## Integrated search

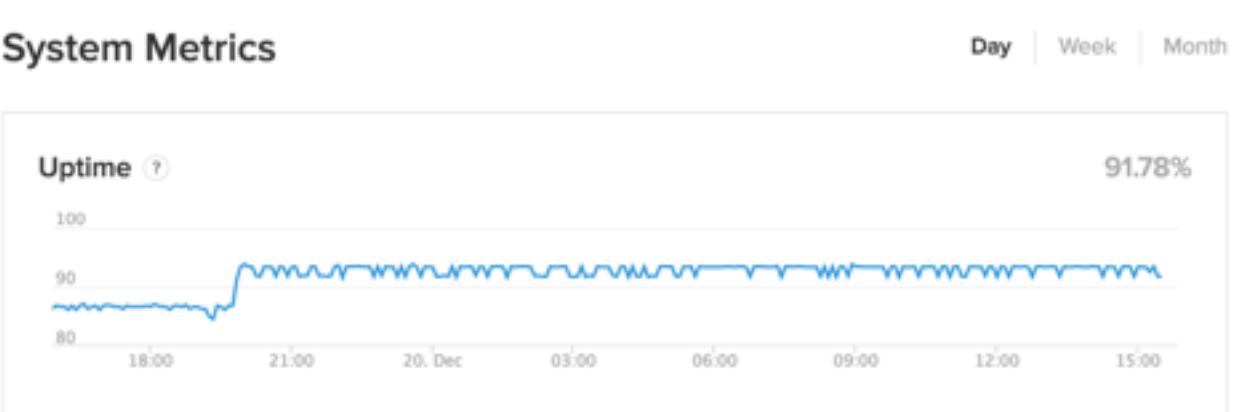
Search for work  Search

3,545 Works

**Characterization of the role of MrpC in *Myxococcus xanthus* developmental cell fate determination**  
Vidhi Bhardwaj  
Doctoral thesis published 2013 via Philipps-Universität Marburg  
*Myxococcus xanthus* is an excellent model system for multicellular prokaryotic behaviour and Gram-negative differentiation. Under nutrient-limited conditions, the population enters a complex multicellular developmental program wherein cells undergo at least three distinct known cell fates: sporulation within multicellular fruiting bodies; differentiation into persister-like state termed peripheral rods and cell lysis. A fourth distinct, relatively less understood cell type, called the cell clusters is also thought to exist. This starvation-induced developmental program is tightly regulated by...

<https://doi.org/10.17192/Z2013.0387> 66 Cite Add to ORCID record

## Service status



## Statistics

Allocator	DOI Registrations					Metadata			
	Total	This Year	Last 30 Days	Last 7 Days	Searchable	Held	Mixed	Ratio	
ANOD - Australian National Data Service	148 331	156 432	4 367	1 168	167 032	293	908	99%	
BIBSYS - Bibsys	384	334	227	3	362	2	0	100%	
BL - The British Library	947 238	91 209	9 037	1 940	960 217	4 967	122	99%	
CDL - California Digital Library	2 259 439	154 541	11 794	6 085	1 807 982	652 057	0	99%	
CERN - CERN - European Organization for Nuclear Research	383 292	311 014	43 840	11 274	349 767	3 539	0	100%	
CSN - National Research Council Canada	239 732	152 700	591	40	236 729	3 962	18	99%	
CRU - CRU0011	55 313	10 462	1 968	652	52 112	34	3 127	94%	
CSC - CSC	7 189	7 189	4	0	7 179	10	0	100%	
DATAcite - DataCite	109	93	60	60	108	0	0	100%	
DEUFF - TU Delft Library	54 295	8 482	529	68	53 895	35	306	99%	
DK - Technical Information Center of Denmark	245 652	136 391	11 484	2 278	245 967	64	1	99%	
ESTDOK - Tartu University	490 150	2 452	28	1	490 148	2	0	100%	
ETHZ - ETH Zurich	1 184 874	125 254	1 104	830	1 181 332	1	3 241	99%	
FIKOBIAKE - Agriphile	524 847	332 237	72 833	48 094	524 832	15	0	100%	
GESIS - GESIS - Leibniz Institute for the Social Sciences	918 450	90 491	23 105	5 912	918 220	430	0	100%	
INIST - Institute for Scientific and Technical Information	18 790	8 911	829	113	18 418	182	0	100%	
JALC - Japan Link Center	29	19	0	0	29	0	0	100%	
MTAKR - MTA Környéki	2 903	879	144	29	2 905	0	0	100%	
NRCT - National Research Council of Thailand	83 148	31 305	2 805	474	82 795	363	0	100%	

## Citation formatter

### DOI Citation Formatter

Paste your DOI:

For example 10.1145/2783446.2783605

Select Formatting Style:

Begin typing (e.g. Chicago or IEEE.) or use the drop down menu.

## re3data

re3data.org

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Compendium of Protein Lysine Modifications

GPLM

Subject(s)

Life Sciences | Biology | Cell Biology | General Genetics | Plant Genetics | Animal Genetics, Cell and Developmental Biology

## OAI-PMH

### OAI 2.0 Request Results

Identity | ListRecords | ListSets | ListMetadataFormats | ListIdentifiers

You are viewing an HTML version of the XML OAI response. To see the underlying XML use your web-browsers view source option. More information about this XSLT is at the bottom of this page.

Datestamp of response: 2016-12-20T15:00:54Z

Request URL: <http://oai.datacite.org/oai>

Request was of type Identify.

Repository Name: DataCite MDS

Base URL: <http://oai.datacite.org/oai>

Protocol Version: 2.0

Earliest Datestamp: 2011-01-01T00:00:00Z

Deleted Record Policy: persistent

Granularity: YYYY-MM-DDThh:mm:ssZ

Admin Email: admin@datacite.org

Questions?

[support@datacite.org](mailto:support@datacite.org)

# References

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- DOI Handbook:  
[doi.org/10.1000/182](https://doi.org/10.1000/182)
- DataCite Metadata Schema Documentation:  
[doi.org/10.5438/0010](https://doi.org/10.5438/0010)
- DataCite Metadata XML Schema:  
[doi.org/10.5438/0011](https://doi.org/10.5438/0011)