



A consortium for Persistent Identifiers: ePIC



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Persistent Identifier Consortium for eResearch

- ePIC == **Persistent Identifier Consortium for eResearch**
- A **global** initiative, which aims to **provide a robust infrastructure** for registering and resolving PIDs for the broader research community.
- Main **goal** is to set up and maintain **highly reliable, persistent and highly performant services for PIDs** and *based on PIDs*.
 - This is achieved through a **network of major data centers** that share the same services, the same API and that have implemented a redundancy scheme.
- ePIC operates under its *Memorandum of Understanding (MoU)*
 - **open & transparent** governance structure, responsibilities, and commitments of the participating entities
- ePIC collaborates with various customers across academia, research institutions, and technology providers.

<https://pidconsortium.net/>

Persistent Identifier Consortium for eResearch (cont'd)

- Not every institute can or wants to run own services (for managing PIDs)
 - A consortium was formed to provide these services to researchers
- **Founders** were data and computing centers, which
 - are **sustainably financed**
 - have **long experience** in the operation of stable and highly available services
 - have the possibility to **offer SLAs**
 - are **involved in** various **research** projects and e-Infras
- Long collaboration among the ePIC stakeholders (also outside of ePIC)
- Some **extra services**:
 - **Data Type Registry** (for PID information types), etc
 - Graphs for PIDs

PiD
fest
CONFERENCE
ON PERSISTENT
IDENTIFIERS
2024



Robust infrastructure & highly reliable, persistent, performant services

- QoS policy
 - Example #1: **Replication** of PIDs
 - Example #2: **No-Delete** of PIDs
 - [...]

“ePIC Policy” fulfilled?
(here: Replication Policy)

Yes.

No.

Prefix	ePIC Policy Status	View Prefix
21.11150	●	Details
21.12144	●	Details
21.12145	●	Details
21.12146	●	Details
21.12149	●	Details
21.12150	●	Details
21.15107	●	Details
21.15108	●	Details

HomePrefixesProvidersHandle ServicesAboutImprintToggle Dark Theme: 🌙

Prefix: 21.12145

Prefix Health Status: OK

Prefix User: EOSC-

IP ADDRESSES

3

SITES

3

SITE STATUS

IP ADDRESS COUNT: 3

SUBNET COUNT: 2

PRIMARY SITES

2

SUBNETS

2

IP Address: 134.76.30.199 ...

Description: mirror of 10916

Organization: Gesellschaft fuer wissenschaftliche Datenverarbeitung mbH

Country: Germany

ISP: Verein zur Foerderung eines Deutschen

IP Address: 145.100.31.156 ...

Description: SURFSara master of prefix 10916

Organization: SURFSara, Science Park Watergraafsmeer, Amsterdam

Country: Netherlands

ISP: SURFNET-UNO

IP Address: 145.100.31.157 ...

Description: SURFSara master of prefix 10916 on epic6

Organization: SURFSara, Science Park Watergraafsmeer, Amsterdam

Country: Netherlands

ISP: SURFNET-UNO

TCP 2645

Status: Open

HTTP 8004

Status: Open

Port: TCP 2645

Status: Open

Port: HTTP 8004

Status: Open

HomePrefixesProvidersHandle ServicesAboutImprintToggle Dark Theme: 🌙

Prefix: 21.12144

Prefix Health Status: OK

Prefix User:

IP ADDRESSES

1

SITES

1

SITE STATUS

IP ADDRESS COUNT: 1

SUBNET COUNT: 1

PRIMARY SITES

1

SUBNETS

1

IP Address: 84.88.186.6 ...

Description:

Organization: BSC

Country: Spain

ISP: Consorci de Serveis Universitaris de Catalunya

Port: TCP 2641

Status: Open

Port: HTTP 8000

Status: Open

Innovation & other services based on PIDs

How **ePIC** supports the overall **evolution** of the PID ecosystem?

- A number of **added value services** provided by ePIC
 - To **fulfill the evolving needs** of the broader [research] community
- This includes
 - the main outcomes of related research **projects**
 - Engagement in global **data initiatives**
 - like the Research Data Alliance, FAIR Digital Objects Forum, etc



DTR
EOSC Data
Type Registry

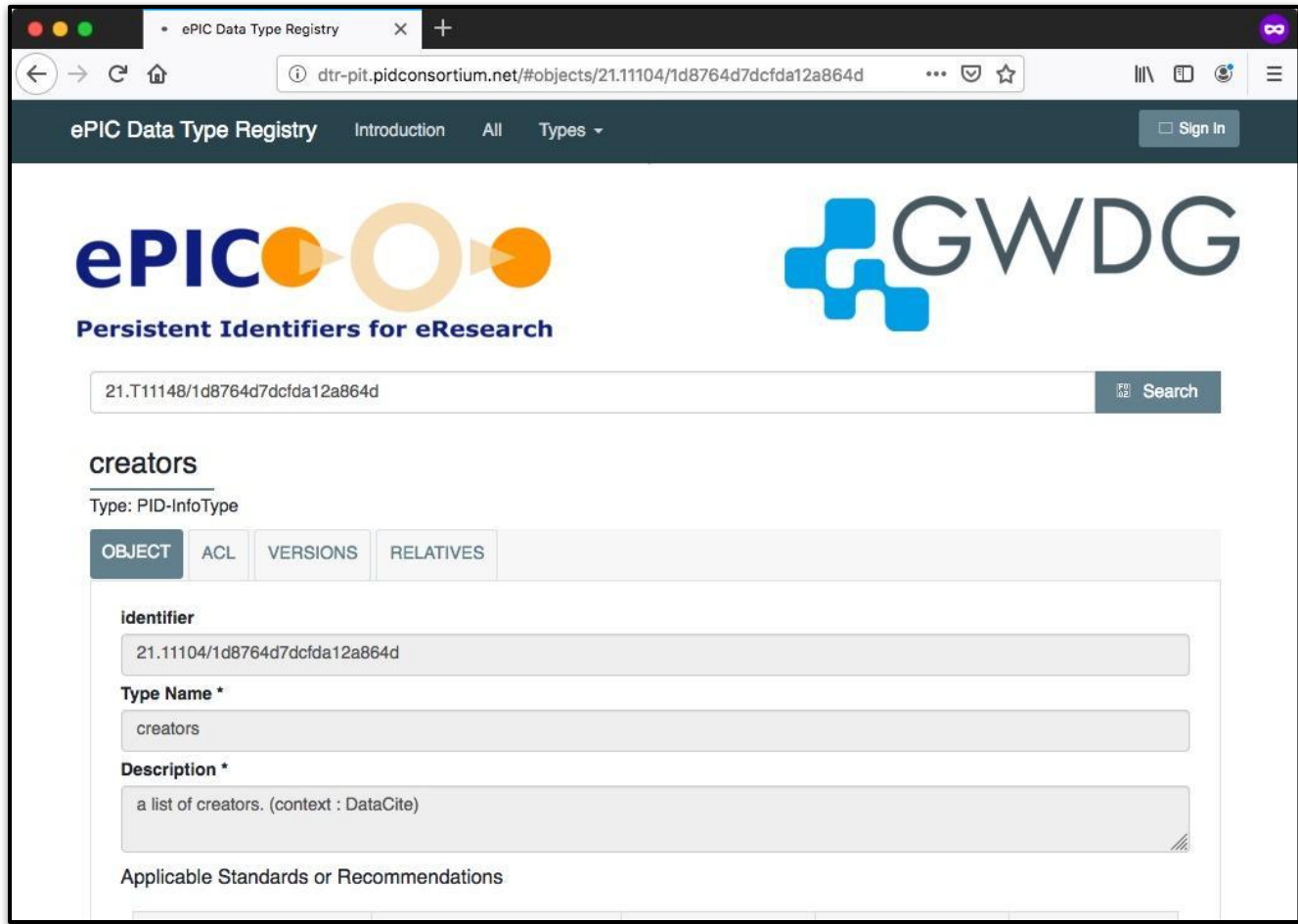


PIDMR
EOSC PID
Meta Resolver



Supporting diverse perspectives & Fulfilling various policy requirements

- Example #1: **Data lifecycle**
- Example #2: **Types**
- [...]



Handle.Net®		
Handle Values for: 21.11101/0000-0004-0F26-2		
Index	Type	Timestamp Data
1	URL	2017-04-21 09:12:08Z http://ratswd.de/dl/downloads/langzeitarchivierung_von_forschungsdate
2	21.T11148/3c6de1b7dd91465d437e	2017-04-21 09:12:08Z Langzeitarchivierung von Forschungsdate
3	21.T11148/556858cc4cebf6263d73	2017-04-21 09:12:08Z Standards und disziplinspezifische Lösung
4	21.T11148/1d8764d7dcfda12a864d	2017-04-21 09:12:08Z Reinhard Altenhöner, Claudia Oellers (Herausgeber)
5	21.T11148/b497a0aad7d4c7179b4f	2017-04-21 09:12:08Z Scivero
6	21.T11148/508ceef36e27328aebf1	2017-04-21 09:12:08Z 2012
7	21.T11148/278d671782892173c3b9	2017-04-21 09:12:08Z Text
8	21.T11148/47	European_Persistent_Identifier_Consortium_PIDs_fuer_die_Wi
9	21.T11148/82	ssenschaft_2012.pdf
10	INST	

21.t11148/b497a0aad7d4c717 Scivero

9b4f:

21.t11148/15dc2832134396bc5 ["21.11101/0000-0004-0F26-2"]

06e:

21.t11148/278d671782892173 Text

c3b9:

inst: GWDG

21.t11148/3c6de1b7dd91465d European Persistent Identifier Consortium - PIDs für die

437e: Wissenschaft

21.t11148/82e2503c49209e98 2042d2e529a97fa5d50ed304a9374b93

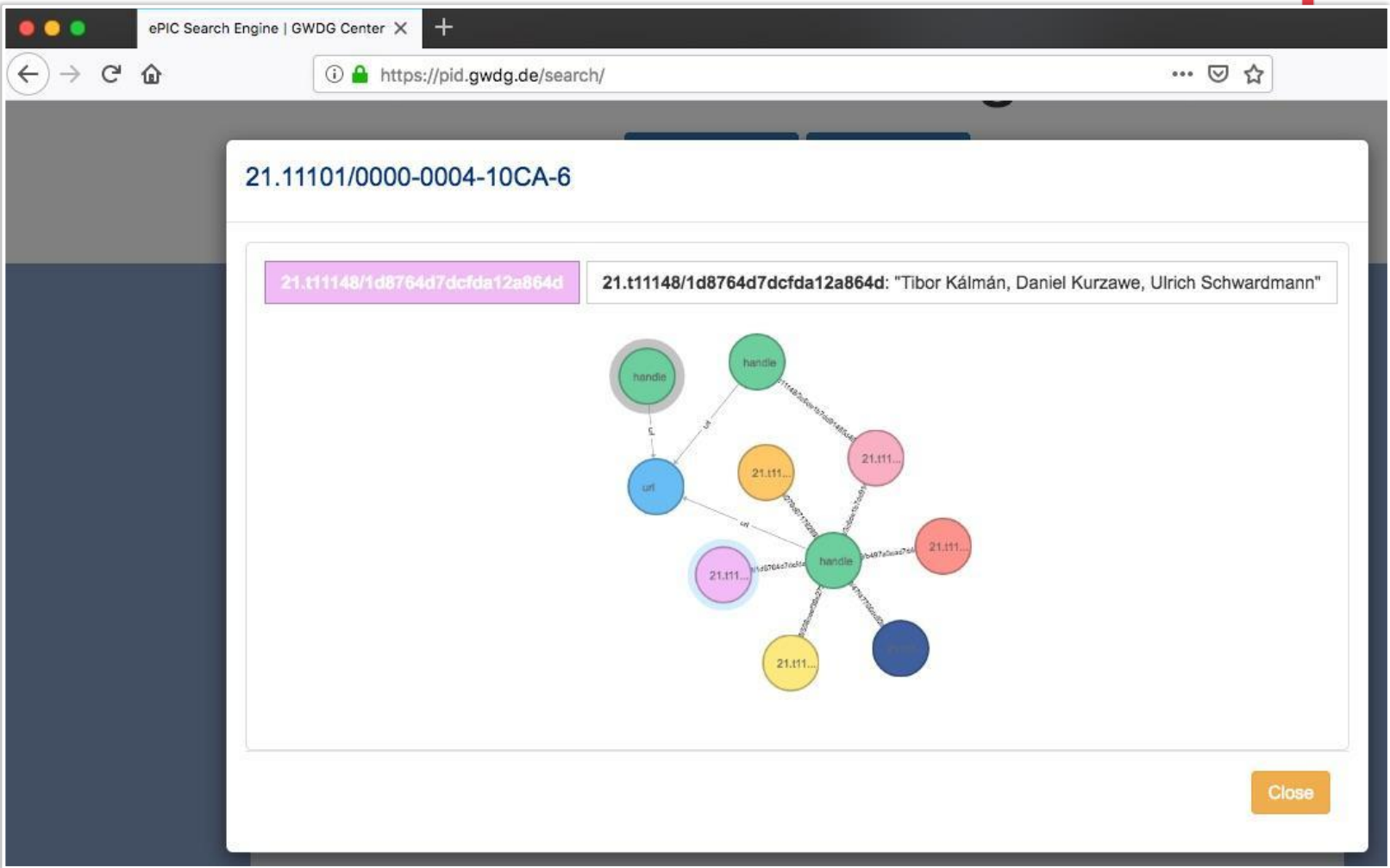
7740:

21.t11148/1d8764d7dcfda12a8 Tibor Kálmán, Daniel Kurzawe, Ulrich Schwardmann

64d:

21.t11148/508ceef36e27328ae 2012

bf1:



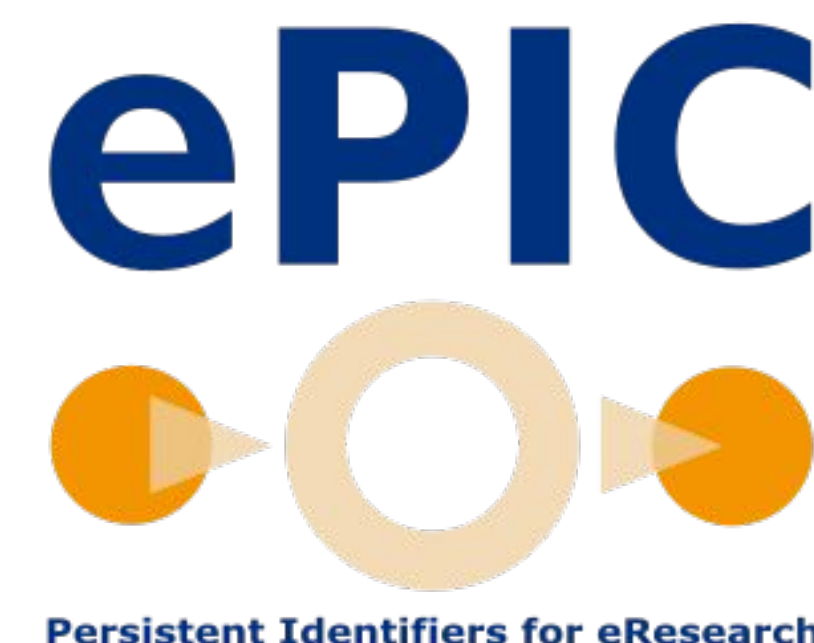
1. Register Type
(Definition)

2. Create PID
(using types)

3. Services



Thank you!



<https://pidconsortium.net/>

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Idea (5 slides allowed)

- Consortium
- Governance
 - MoU
- highly reliable, persistent and highly performant services for PIDs
 - mirroring
- innovation
 - projects results (MR, DTR, B2INST, ???)
- support for various requirements & types
 - workflow: DTR → PID → search

Example: Common PID Use-Cases in Research

Sharing

- Data is used (shared) accross different projects, systems, communities
 - PIDs for referencing climate data (German Climate Computing Center (DKRZ))
 - These can be referenced by PIDs and reused by different communities / systems
 - PIDs are “enablers” of interoperation
- PIDs identify collections, content, and objects; but also refer to metadata
 - PIDs in Digital Humanities (DARIAH-DE)
- PIDs for short-term data
 - Sensor networks' data & wind-tunnel research
 - A large amount of data is generated and provided with PIDs
 - After processing the data, some data sets might be removed
 - PID lifecycle != data lifecycle

Metadata, Collections

Data Lifecycle