

Identitätsmanagement: Mainzliste

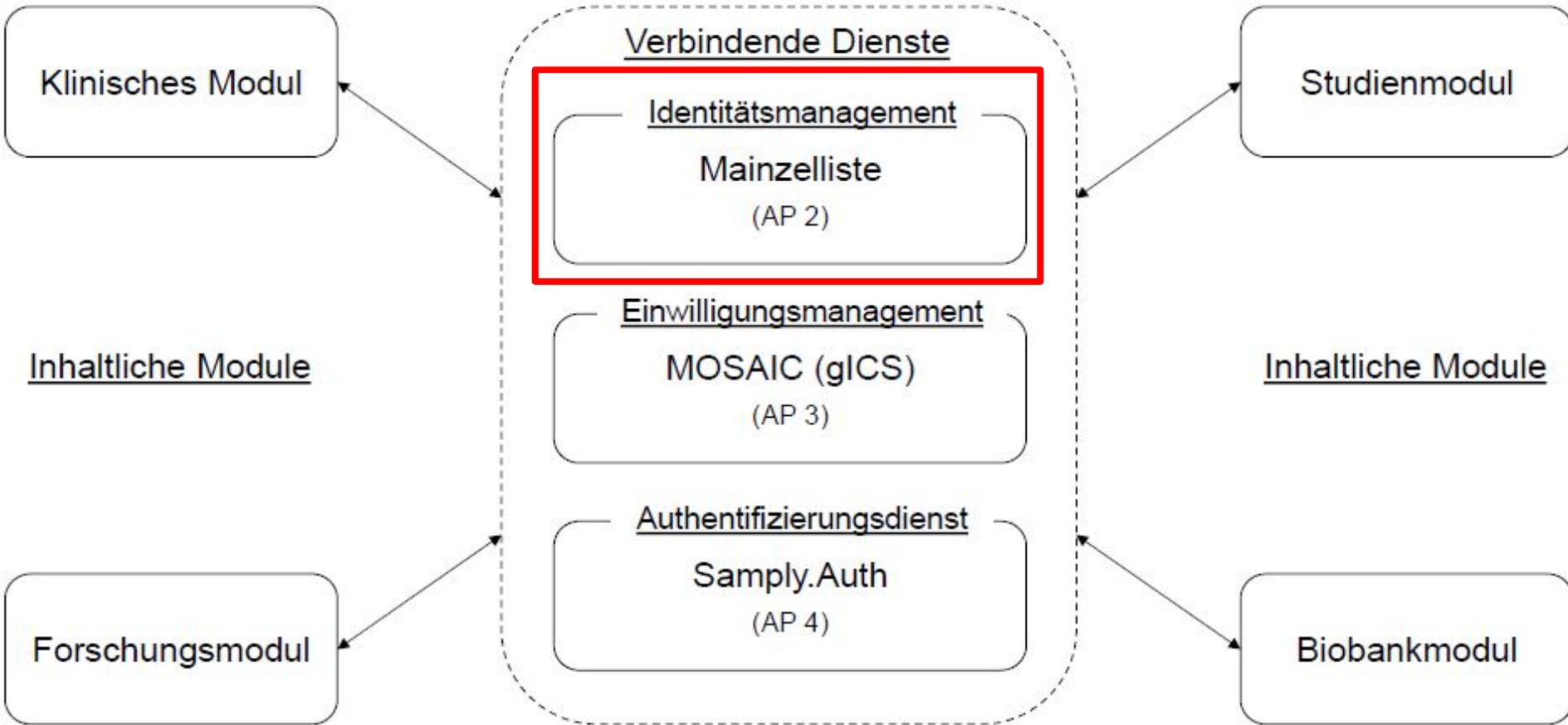
TMF-Workshop MAGIC | Berlin | 18.09.2018

Martin Lablans

Deutsches Krebsforschungszentrum

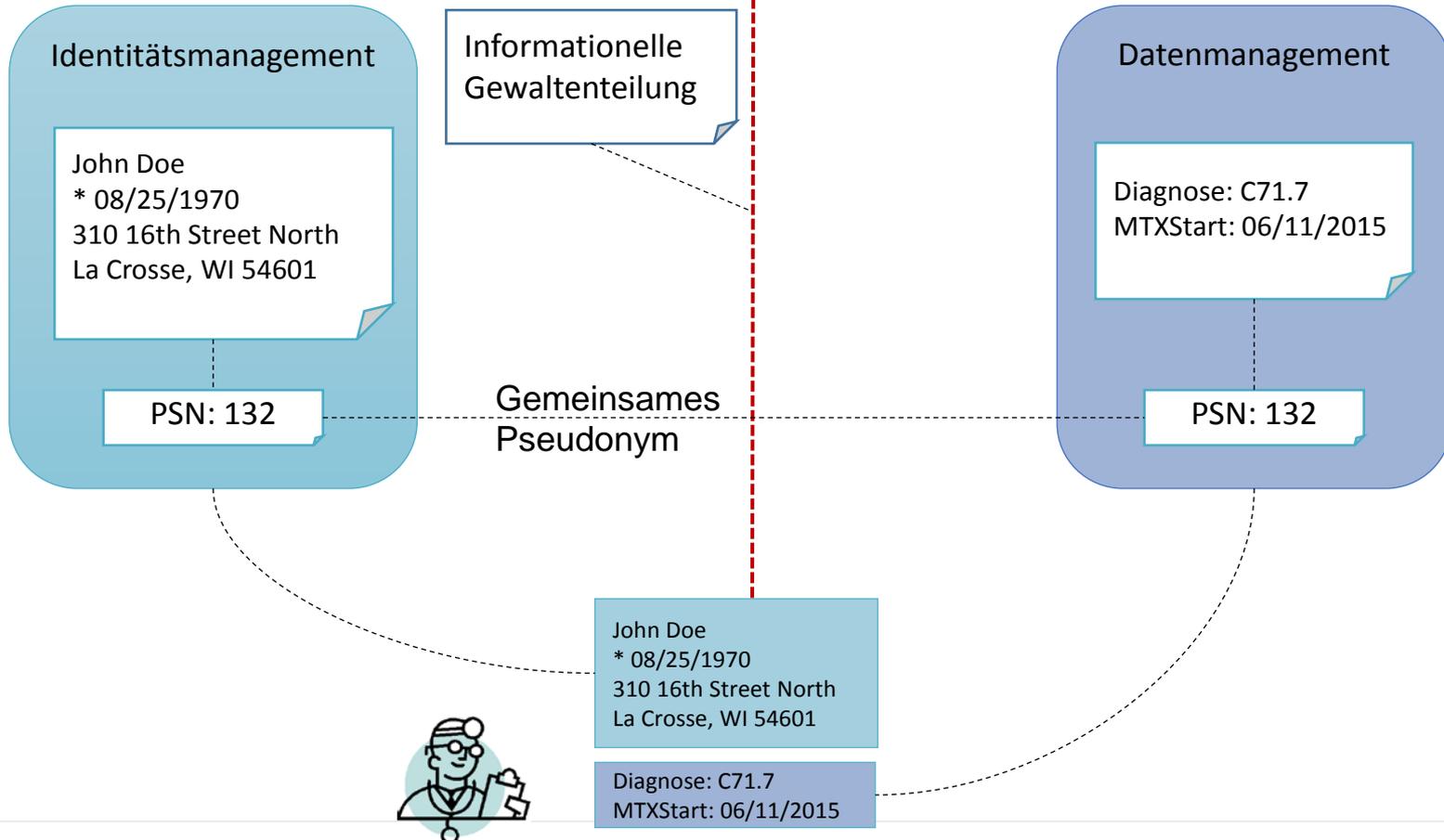


Einordnung in TMF-Leitfaden



IDAT (Identifizierende Daten)

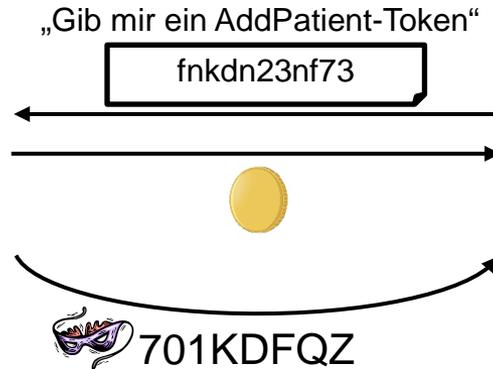
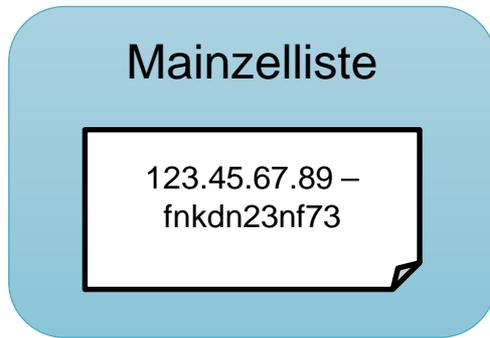
MDAT (Medizinische Daten)



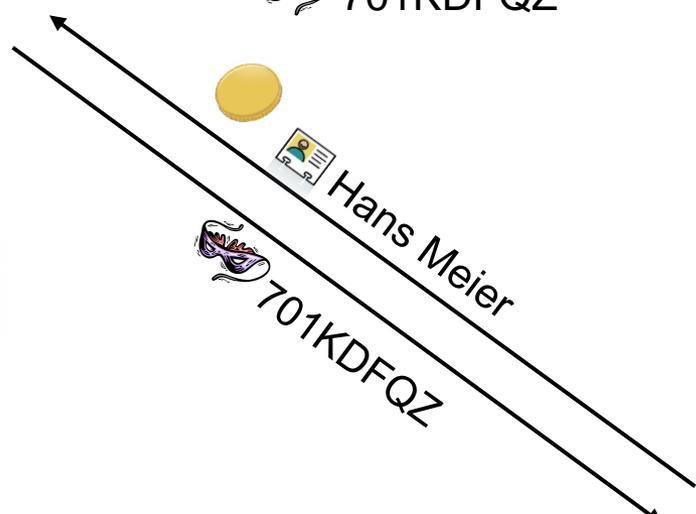
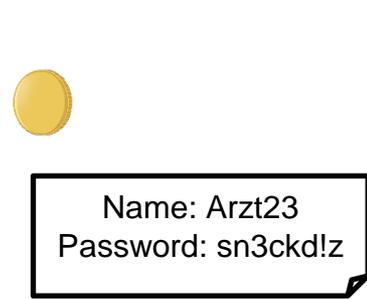
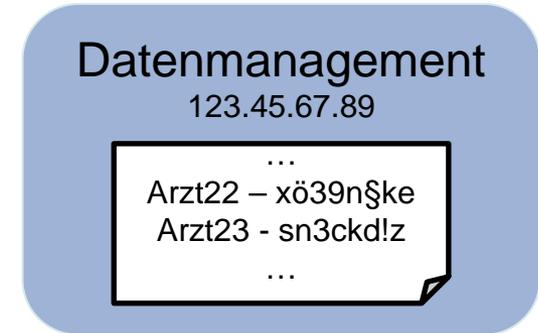
Flexible Prozessintegration



IDAT (Identifizierende Daten)



MDAT (Medizinische Daten)

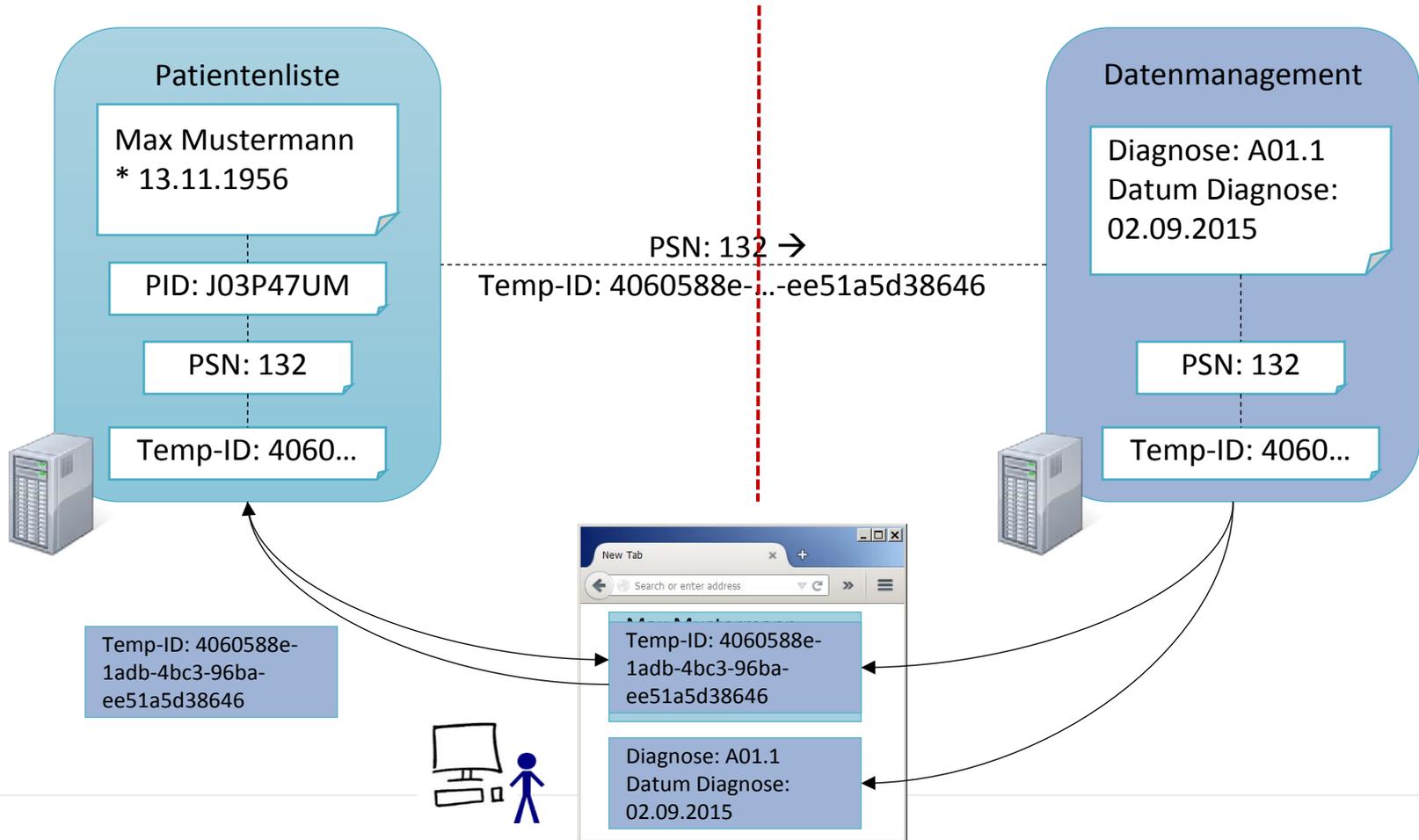


Klinisches Modul: Arbeit mit IDAT



IDAT (Identifizierende Daten)

MDAT (Medizinische Daten)



Mainzliste.Client



```
<span data-tempid="4060588e-1adb-4bc3-96ba-ee51a5d38646"  
  data-subject="nachname"></span>,&br/></pre>
```

```
<span data-tempid="4060588e-1adb-4bc3-96ba-ee51a5d38646"  
  data-subject="vorname"></span>
```

```
(<span data-tempid="4060588e-1adb-4bc3-96ba-ee51a5d38646"  
  data-subject="pid"></span>)
```

```
<script type="text/javascript" >  
  tempIdResolver.resolve();
```

Name (PID) ^

Leeren Dauerhaft Alles HTML CSS JavaScript XHR Bilder Plug-ins Medien Schriften

GET patients?tokenId=d91301c...-4ab0-985a-c5be0f8bb84c 200 OK

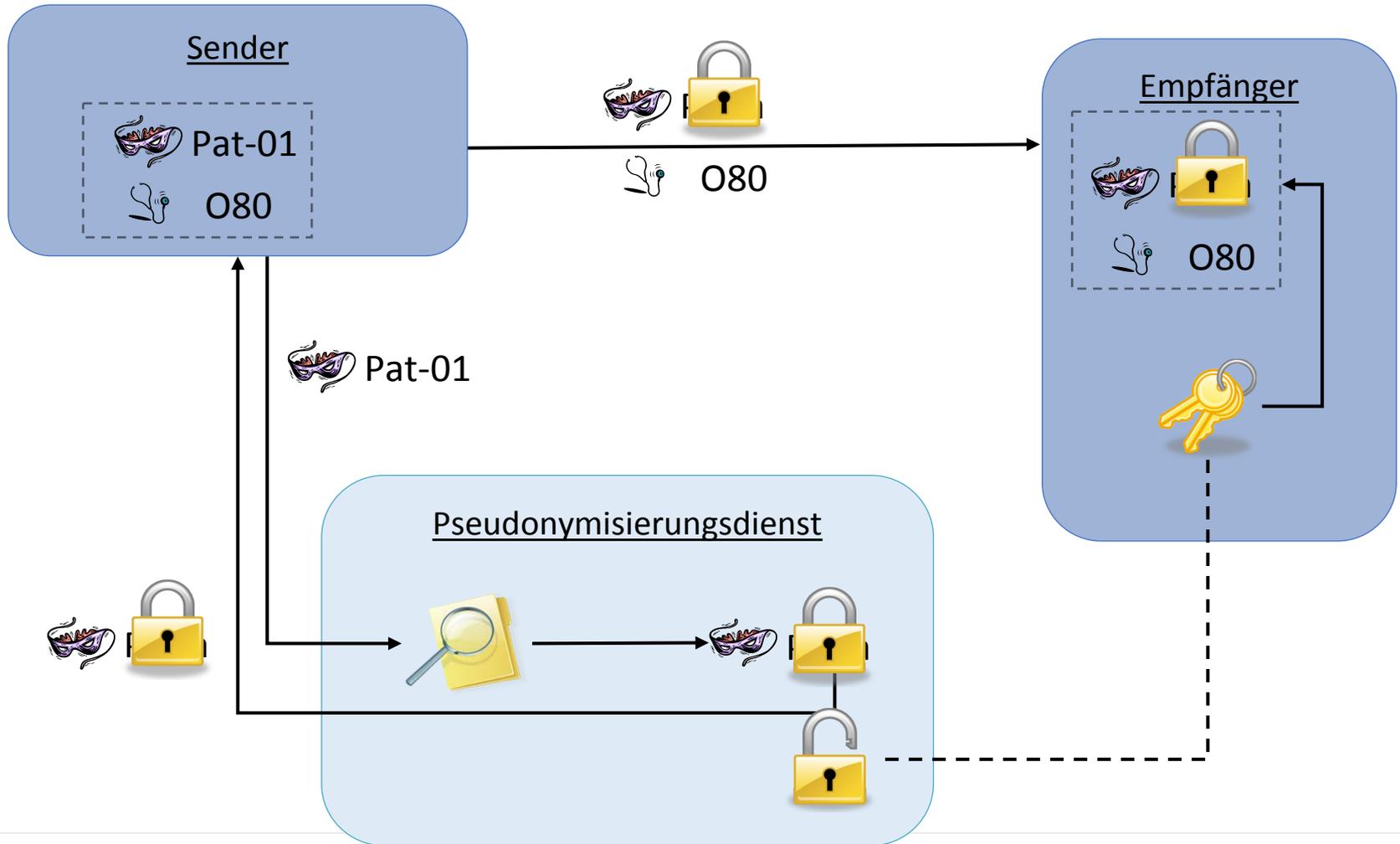
GET patients?tokenId=4060588...-4bc3-96ba-ee51a5d38646 200 OK

Parameter Header Antwort JSON Cache Cookies

```
[{"fields": {"nachname": "Mustermann", "geburtsmonat": "11", "vorname": "Max", "geburstag": "13", "geburtsjahr": "1956"}, "ids": [{"idType": "pid", "idString": "J03P47UM", "tentative": false}]}
```

26 Anfragen

Pseudonymisierung (höherer Stufe)

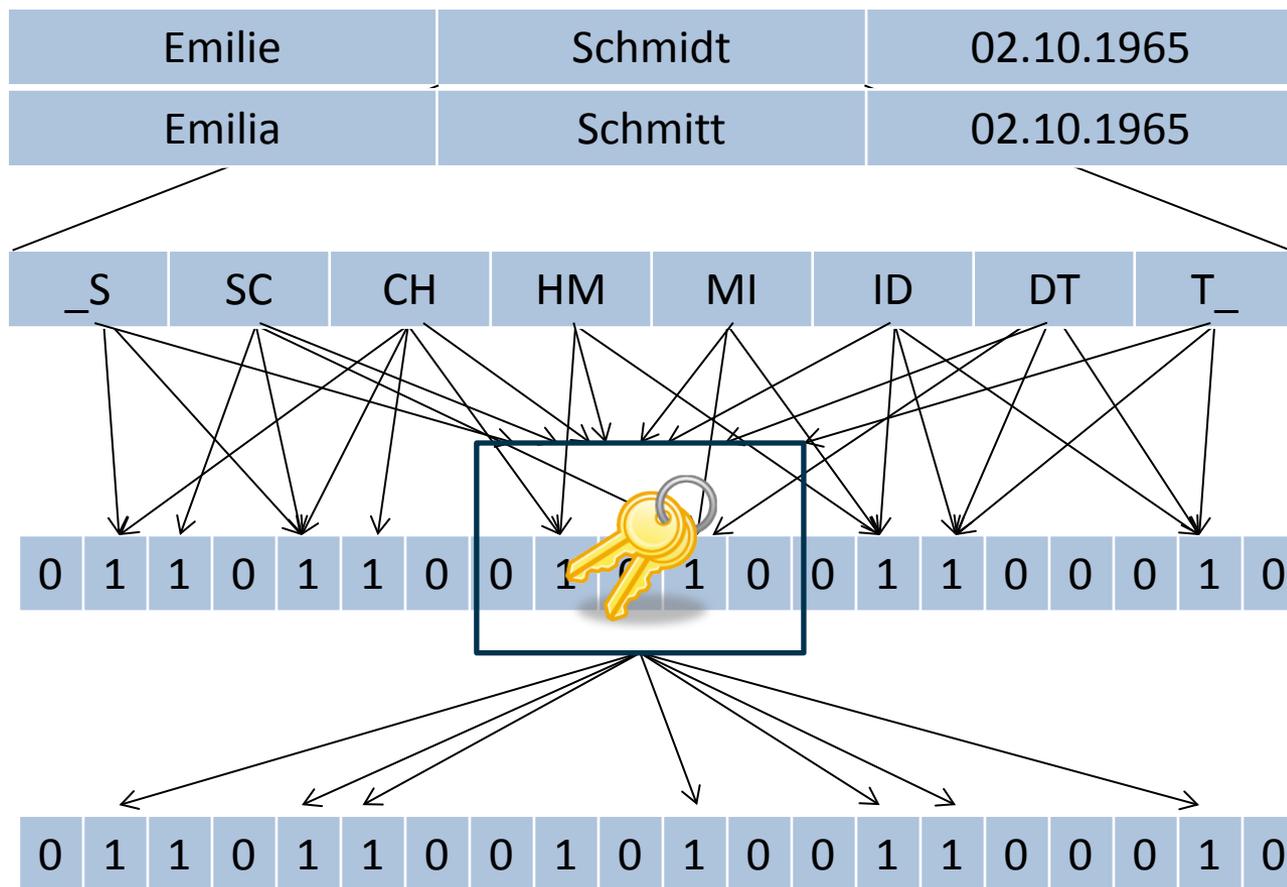


(Altdaten, Secondary Use, ...)

Record Linkage & Pseudonymisierung ohne Patienteneinwilligung?

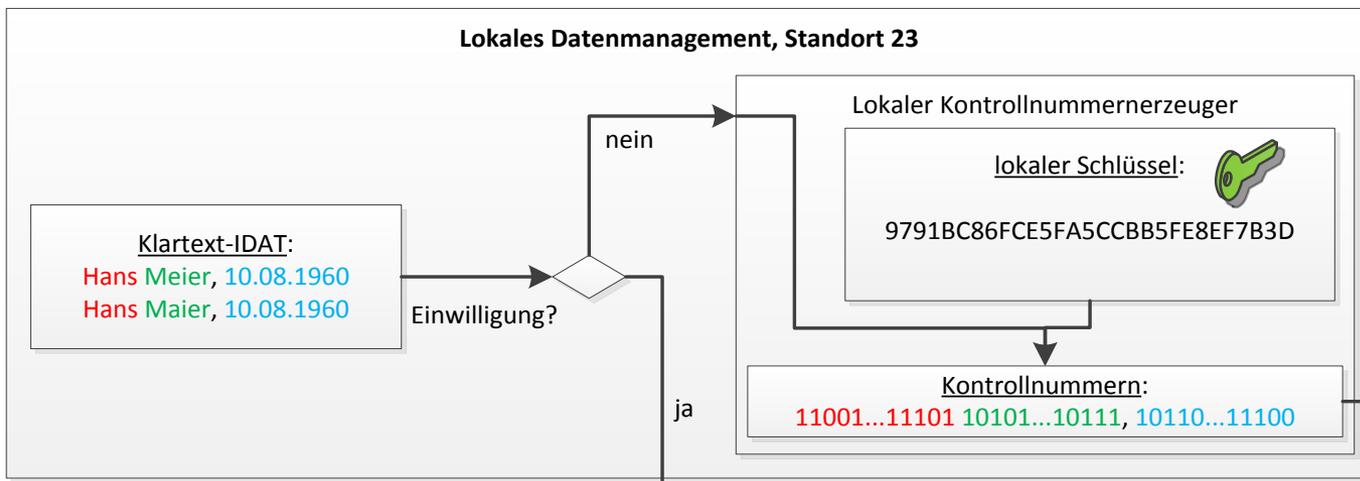
Chancen & Grenzen

(Privacy-Preserving) Record Linkage



Rainer Schnell, Tobias Bachteler and Jörg Reiher: Privacy-preserving record linkage using Bloom filters. *BMC Medical Informatics and Decision Making* 2009, 9:41

Beispiel: Pseudonymisierung im Deutschen Konsortium für Translationale Krebsforschung (DKTK)



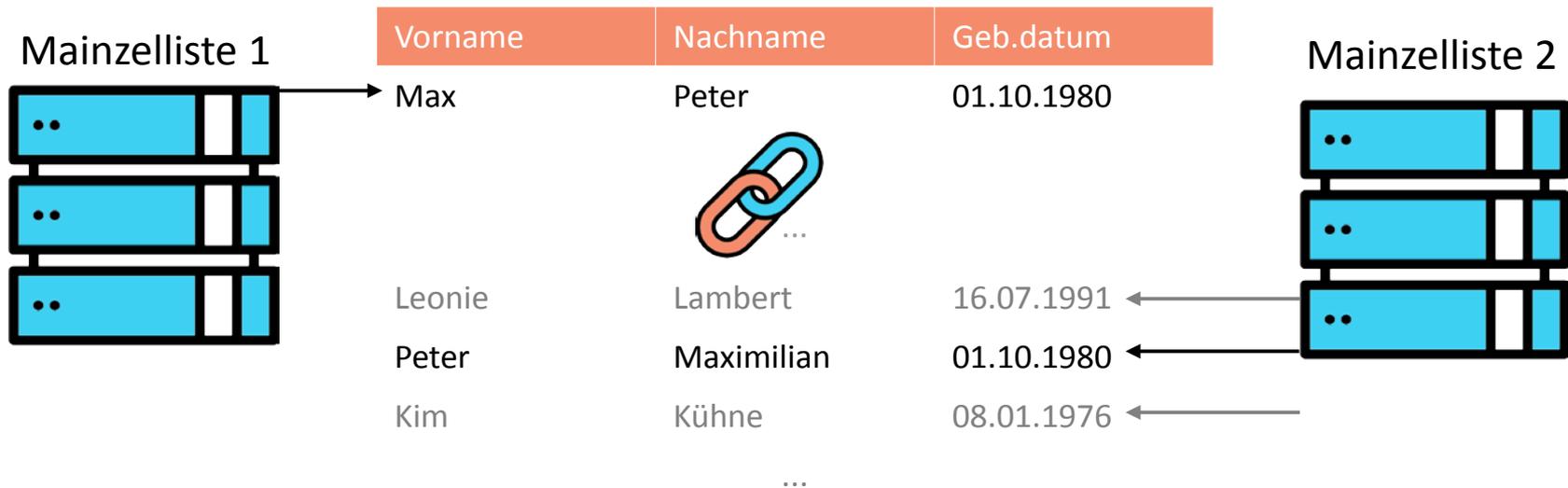
Frankfurt



Mainz



Experimentell: Secure Record Linkage



- Mittels **Secure Multi Party Computation (sMPC)** linken zwei Mainzellisten ihre Einträge, ohne die Daten der Gegenseite zu offenbaren.
- Fehlertoleranz wird durch Verwendung des **EpiLink-Algorithmus** garantiert
- Das sMPC Framework **ABY** (TU Darmstadt) garantiert kryptographische Sicherheit und eliminiert die Notwendigkeit einer Trusted Third Party
- Entwicklungsstand: **Prototyp / Proof-of-Concept** funktioniert

Nutzer der Mainzliste



- Java Mainzliste
- Source
- Commits
- Branches
- Pull requests
- Pipelines
- Deployments
- Issues
- Wiki
- Downloads
- Boards
- Settings

References

Mainzliste is used in various medical joint research projects, including:

- German Mukoviszidose Register ([Data protection concept](#))
- European chILD-EU register ([Ethics/Data Safety](#))
- [German Cancer Consortium](#)
- Cluster for Individualized Immune Intervention (Ci3) ([Meeting abstract on IT concept](#))
- Studies conducted by the [LASER group](#)
- The [MIRACUM consortium](#)

Another important use case is pseudonymization in central biobanks, for example:

- [Comprehensive Biomaterial Bank Marburg](#)
- [Hannover Unified Biobank](#)

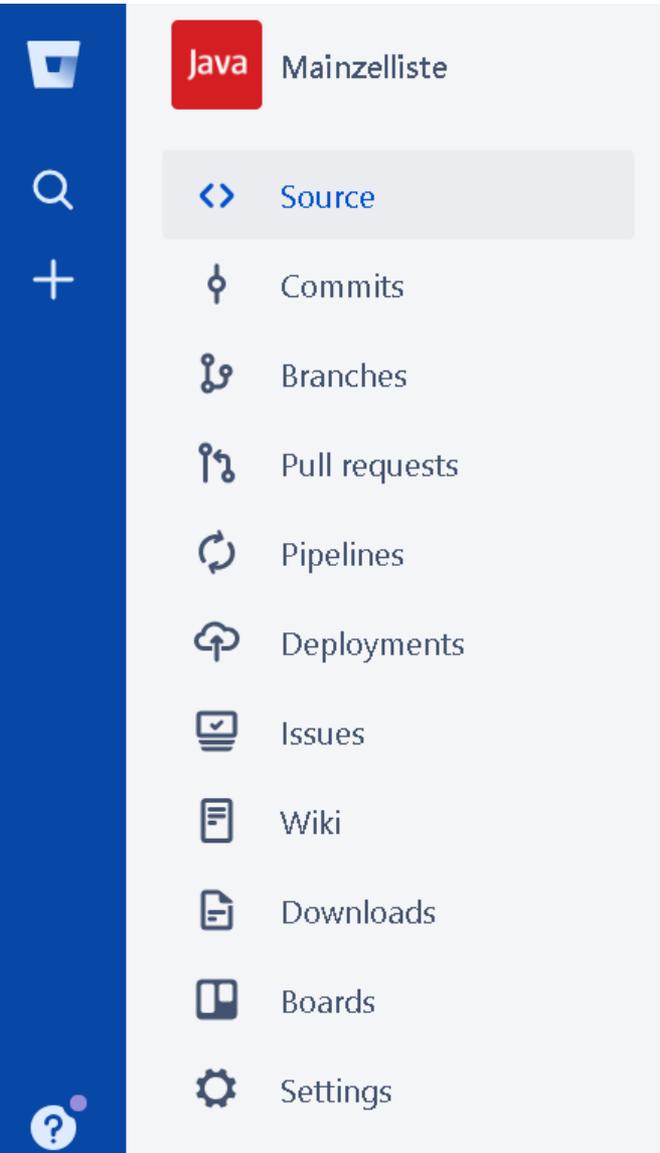
The Mainzliste API has been implemented in the following projects and software products:

- [OSSE – Open Source Registry System for Rare Diseases in the EU](#)
- [OpenClinica](#) (see [presentation on integrating Mainzliste and other software](#))
- [secuTrial](#) (see [modules description](#))
- [Semantic Clinical Registry System for Rare Diseases](#)
- [MOSAIC](#) (the external interface of the "Trusted Third Party Dispatcher" is oriented towards the token-based concept of the Mainzliste API, see [Bialke et al., J Transl Med. 2015, 13:176](#))
- [German Center for Cardiovascular Disease \(DZHK\)](#) (see [MOSAIC](#) and the [data protection concept](#))
- [German National Cohort](#) (see [MOSAIC](#) and the [data protection concept](#))
- [Electronic data capture system by Fraunhofer FOKUS](#)
- [CentraXX](#) by Kairos GmbH
- [Platform for medical research by Climedo Health GmbH](#) ([Description of electronic health record component](#))

We have compiled this list from the results of public search engines. If you use the Mainzliste or its API, we would be glad to include your project in this list. Please don't hesitate to [contact us](#).

Contributing

Beiträge zur Mainzliste durch die Community



- Wrong default path for configuration file.
- A bug in IDGeneratorMemory caused a database error due to a duplicate primary key.

1.0

- Initial release

Contributions

As an open source project, Mainzliste profits from contributions from the research community. We would like to thank the following colleagues for their code contributions:

- Maximilian Ataian, Universitätsmedizin Mainz
- Benjamin Gathmann, Universitätsklinikum Freiburg
- Stephan Rusch, Universitätsklinikum Freiburg
- Jens Schwanke, Universitätsmedizin Göttingen
- Daniel Volk, Universitätsmedizin Mainz
- Dirk Langner, Universitätsmedizin Greifswald
- Matthias Lemmer, Universität Marburg
- Project FP7-305653-chILD-EU
- Ziad Sehili, Universität Leipzig

Kostenfreie Bereitstellung



Kostenfreie Nutzung der Mainzliste durch AGPLv3-Lizenz

Mehr Informationen unter:



<https://www.toolpool-gesundheitsforschung.de/produkte/mainzliste>



<https://hub.docker.com/r/medicalinformatics/mainzliste/> (BETA)



Bitbucket

<https://bitbucket.org/medicalinformatics/mainzliste>