



ARCHE

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Motivation

- ARCHE was running on Fedora 4 since 2017, considered unfit for production even by the creators
- Major issues with performance on ingest and read
- Massive workarounds around the deficiencies of Fedora 4
lot of php-code around the Fedora-blackbox
- specific requirements not covered by any of the known solutions
- all known solutions have Java component for which we did not have sufficient in-house competencies

ARCHE design principles

- Low resource consumption
- Simple resource structure
 - resource just metadata + binary
 - resource structure
- Proper transaction support
- Proper backup support
- Native support for multiple identifiers
- ontology-driven (checks and editing)
- metadata in RDF (on input and output)
- auxiliary entities as first-class citizens

ARCHE components

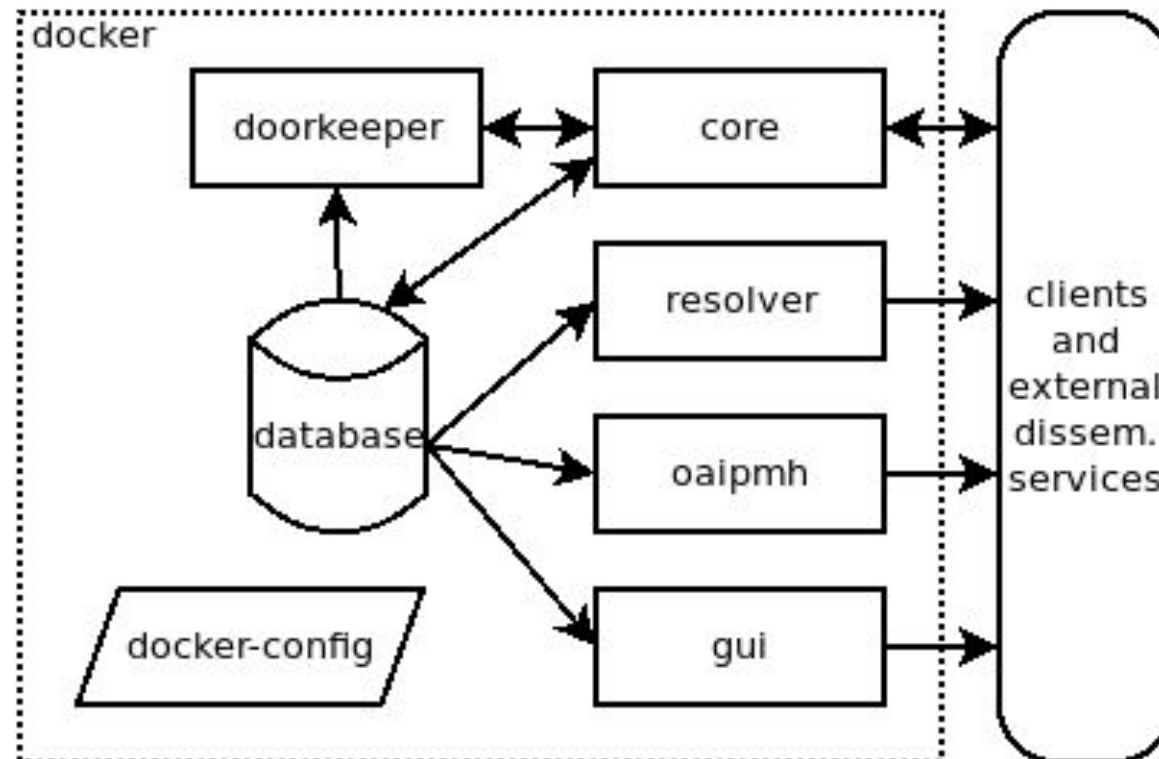
The main software stack implemented in PHP consists of the following components:

- [arche-core](#) provides the REST API for CRUD operations and transactions support. Writing to the repository is only possible through this component.
Its REST API is documented in <https://app.swaggerhub.com/apis/zozlak/arche>.
- [arche-doorkeeper](#) implements ACDH-CH-specific business logic. It integrates with arche-core using arche-core's handle system.
- [arche-resolver](#) is the service for handling the URI namespace in use (in our case <https://id.acdh.oeaw.ac.at>). It resolves URIs against identifiers in the repository and provides redirection to proper dissemination methods.
- [arche-oaipmh](#) provides an OAI-PMH endpoint for the repository.
- [arche-gui](#) is ARCHE's graphical user interface for browsing its content as well as the API endpoint for other tools like the metadata editor. This part of the system is based on Drupal making use of some of its features, like multilinguality or static pages.

=> see <https://arche.acdh.oeaw.ac.at/browser/technical-setup> and <https://acdh-oeaw.github.io/arche-docs/> for more

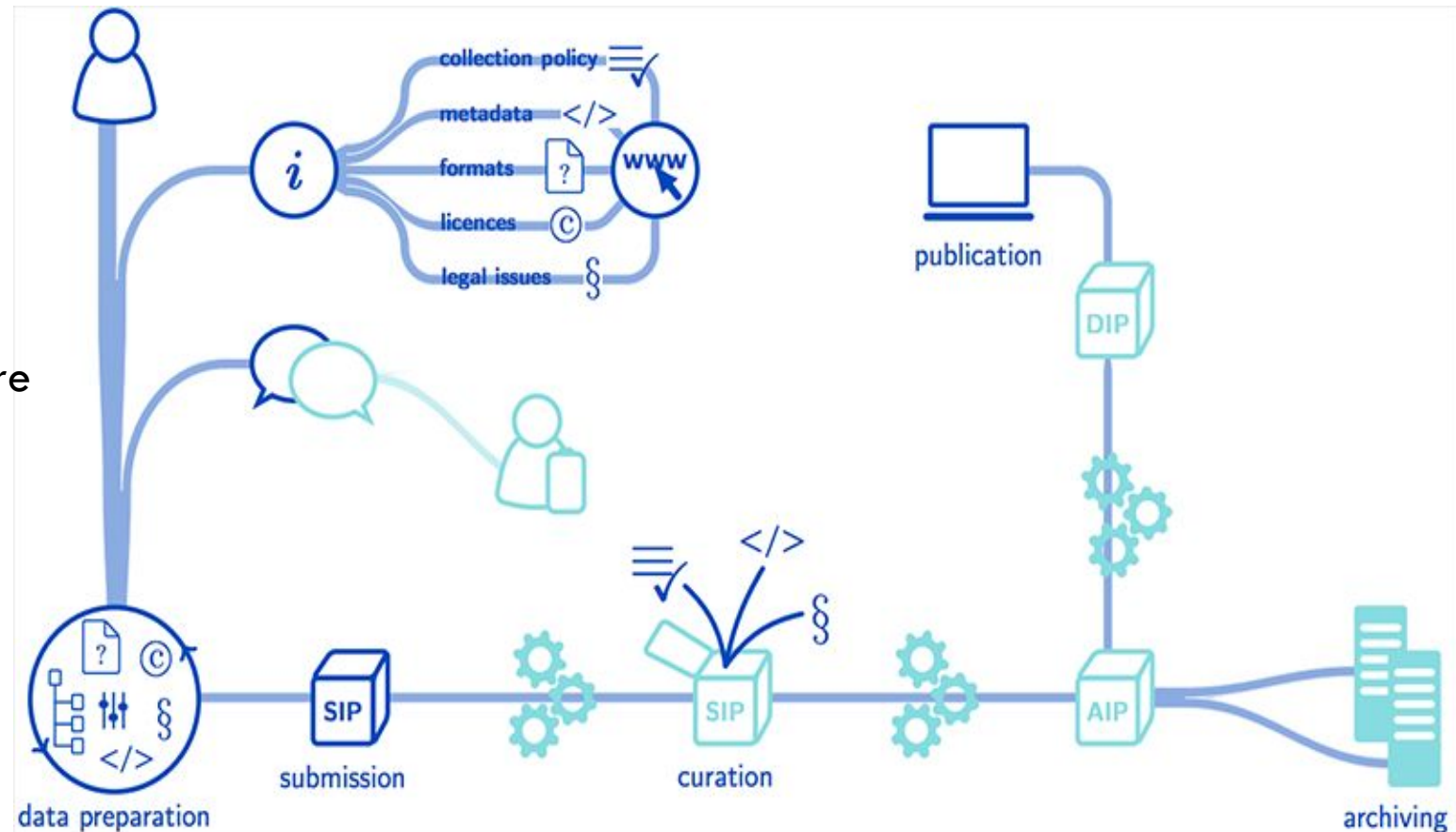
ARCHE system

- deployable in one docker container
<https://github.com/acdh-oeaw/arche-docker>
- 3 instances
 - development
 - staging/curation
 - production



ARCHE ingestion procedure

- human interaction with depositors
- metadata as ttl files
- automatic checks on the collection (repo-file-checker)
- curation iterations
- each step of the deposition procedure recorded
- test ingests into staging instance with [scripts](#)
- final approval on both sides + deposition agreement => ingest to production = publish



ARCHE dissemination services

- stand alone applications able to process external data of certain kind (normally into some presentation format)
- registered in the system (via dedicated rdf Classes and properties)
- matching on certain resources (based on data type or any other property)
- Examples:
TEI2HTML, IIIF Endpoint, 3D viewer, View on map, WMS Endpoint
- Examples: [3D viewer](#) for [a sample object](#)
- [Integration with LRSwitchboard](#) ([example application](#))

METADATA – ARCHE SCHEMA

arche-schema.owl maintained on [GitHub](#) - 9 classes

- **Project** – used only if necessary, normally to bind together several TopCollections.
- **Collection** – two types: TopCollection & (Sub)Collections. They represent the folders.
- **Resource** – represent the files.
- **Metadata** – represent a special kind of files; structured metadata of other resources. Linked to the resource via `acdh:isMetadataFor`.
- **Person** – a non-binary class representing persons.
- **Place** – a non-binary class representing places.
- **Organisation** – a non-binary class representing organisations.
- **Publication** – a non-binary class representing publications derived from the collection.
- **Image** – Title image of the Project/TopCollection. Use `isTitleImageOf` to make it appear on the GUI.

Thank you!

some pointers:

- ARCHE Browser: <https://arche.acdh.oeaw.ac.at/browser/>
- Technical setup: <https://arche.acdh.oeaw.ac.at/browser/technical-setup>
- ARCHE components on github: <https://github.com/acdh-oeaw?q=arche>
- ARCHE documentation: <https://acdh-oeaw.github.io/arche-docs/>
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