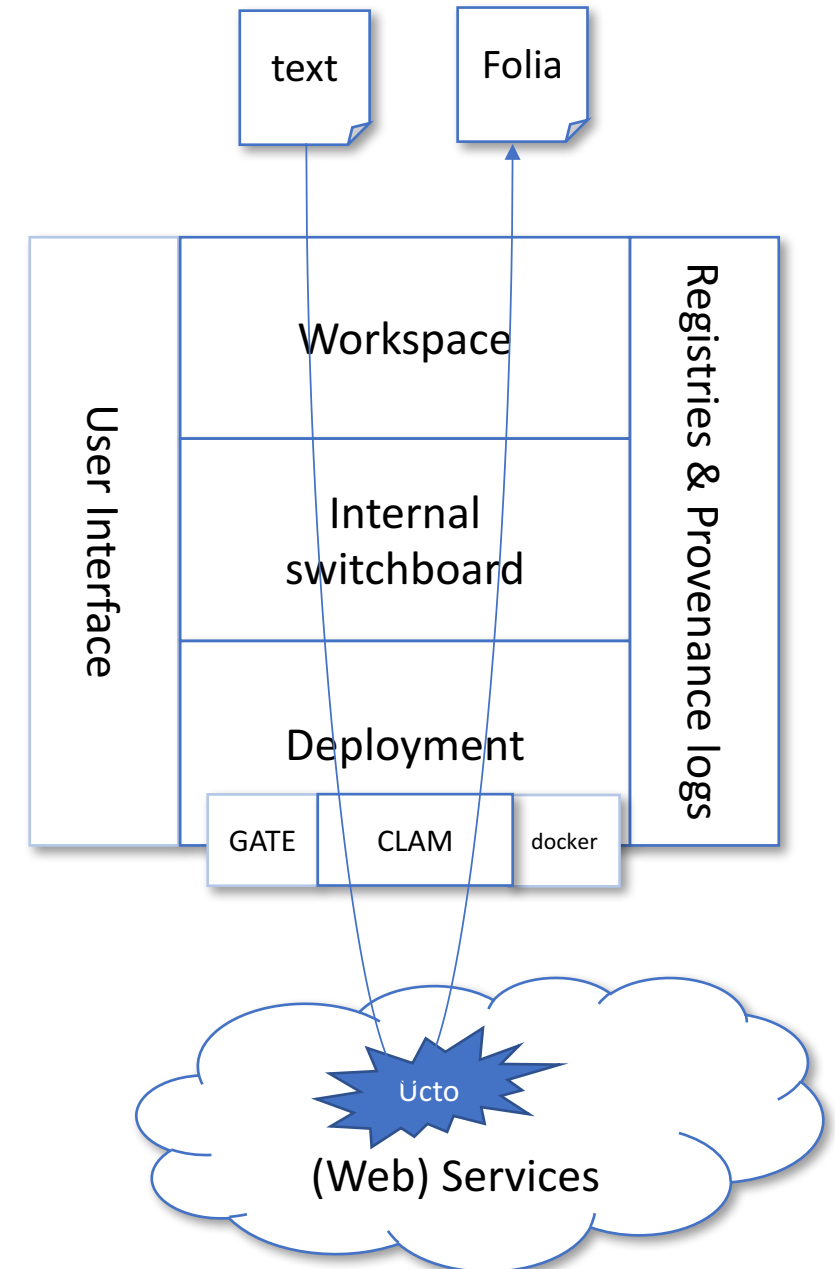


WP3 Virtual Research Environment

An integrative platform for the humanist

1. **Upload your resources** to your workspace
 - **Automatic data type detection**, (semi)automatic component metadata creation, automatic parsing and indexing, ...
2. **Invoke a matching service** to process the resources
 - Using a plugin architecture many service invocation methods can be supported, e.g., GATE Cloud, docker, WebLicht and **CLAM**
 - Stanbol, Gretel, Paqu, **Ucto**, Frog, ...
3. **Results come available in your workspace** to be further processed or downloaded
4. Archive relevant results into the Meertens TLA-FLAT or elsewhere, e.g., EUDAT's B2SHARE
 - **Provenance is tracked**, i.e., its known which and how services were used to process the data



Technologies used by the VRE demo

- Workspace:
 - ownCloud, extended with an app (PHP) to post events to Kafka
 - Used by SURFdrive and EUDAT B2DROP
 - Alternative: nextCloud
- Provenance tracking:
 - Kafka, which supports pub/sub but also persists event streams (when do resources come in, and what happens to them)
 - Highly scalable and persistent
- Registries:
 - PostgreSQL with a RESTful API by Dreamfactory
 - PostgreSQL 10 is highly scalable
 - Dreamfactory provides easy (uniform) access
- Data type detection:
 - FITS (but still needs to be wrapped/extended for domain specific types)
 - Covers many common types, wraps many tools, extensible
- ...

Technologies used by the VRE demo (cont.)

- ...
- Indexing:
 - SOLR with the MTAS Lucene plugin to enable, among others, CQL searches
 - Scalable and MTAS provides domain specific access
- Own Java (9?) development:
 - Kafka consumers to trigger indexing and data type detection
 - A switchboard to prepare a workspace for a service run, and process the results
 - A deployment engine, which uses a plugin architecture to invoke a specific service (type), including the handling of in- and output
- LaMachine:
 - An example “remote” service invoked by the VRE
- No VRE frontend (yet)
- No metadata (yet)
- No versioning (yet)
- No archiving (yet)