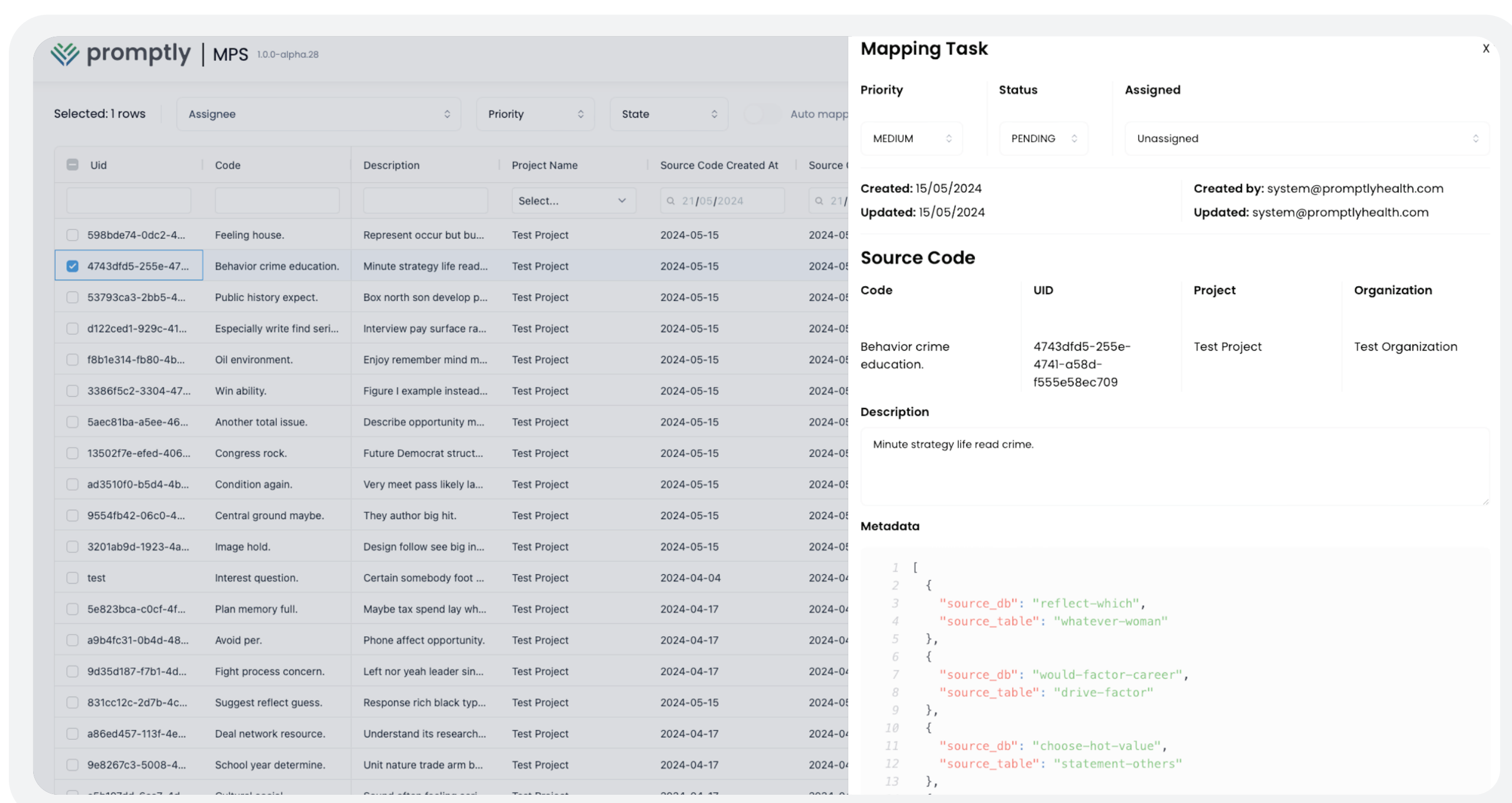# promptly

Towards the scalability of databases' harmonisation and expansion of RWE networks, Promptly introduces AI-based suggestions and automated vocabulary mapping platform into the ETL pipeline.

Improving vocabulary mapping to OMOP-CDM concepts:
an AI-based automated and collaborative mapping platform

Background - During the harmonization of 38,162 patients, we identified a major bottleneck: vocabulary mapping of source database concepts to OMOP-CDM concepts, due to the burden of manual assignments requiring highly specialized human resources with a strong clinical background.

Considering the limitations identified in USAGI OHSI tool, we are developing an AI-based automated and collaborative mapping platform service - Promptly mapping platform.

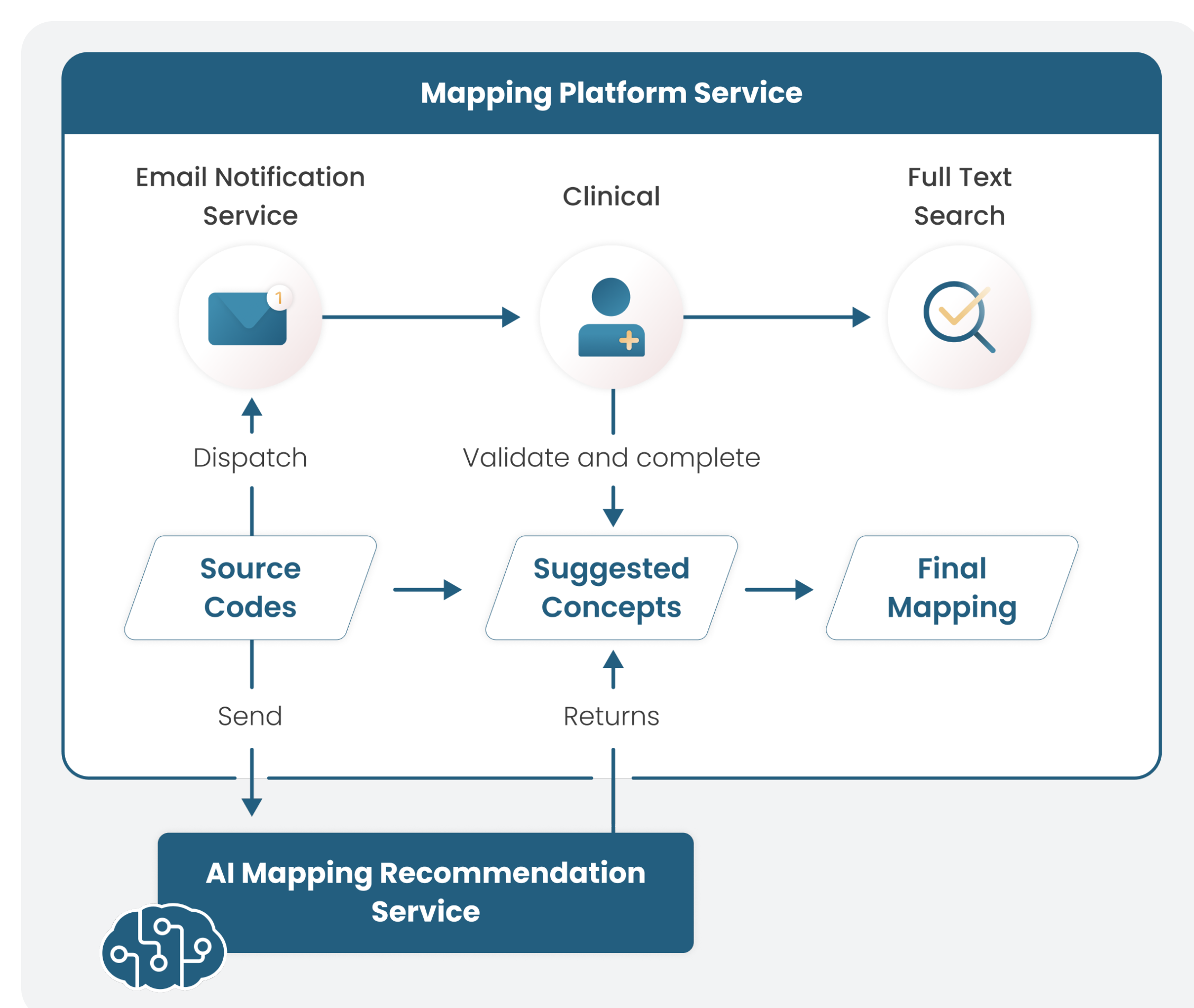## AI-based automated and collaborative mapping platform | Alpha Version.

Alpha Version.

Intercommunicative service integrated into the ELT pipeline with three main communications:
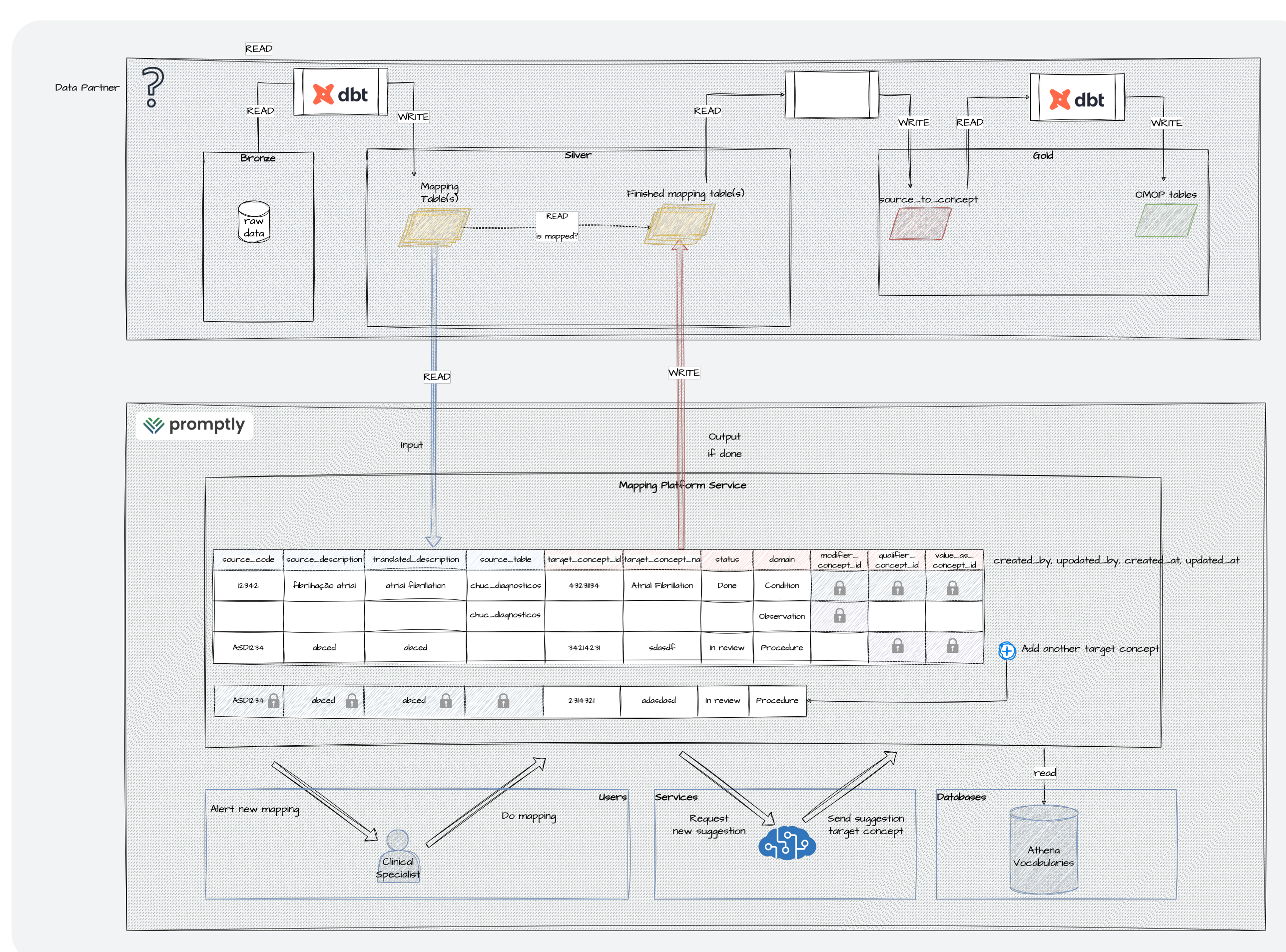
- **ELT pipeline:** Receive new source codes that need to be mapped and send newly mapped target concept IDs

- **Users:** Alert medical users regarding a new mapping task

- **AI-based suggestion service:** Send source description, domain and metadata to the AI-based suggestion service and receive a suggestion for the target_concept_id.

The flow designed for Promptly AI-based automated and collaborative mapping platform was:

1. Access data partner's database to extract descriptions of source concepts to map to OMOP-CDM concepts
2. Check if descriptions of source database concepts have been mapped before
3. Expose source database concepts and codes in a way that is easily readable by the clinician to map or review them
4. Integrate with Athena vocabularies directly, so the clinician can search for concepts
5. Suggest the most likely OMOP-CDM concepts for descriptions based on a recommendation system with an AI model
6. Select one or more OMOP-CDM concepts for each new description of source database. This mapping is preformed by a clinician and helped by the AI suggestion and ability to search in Athena
7. Tag source database concepts according to priority and readiness state of the available descriptions, following a collaborative and efficient workflow
8. Export OMOP-CDM concepts marked as ready to the database/pipeline that populates the OMOP-CDM version

Infrastructure architecture

Promptly AI-based automated and collaborative mapping platform flow design

OHDSI

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