

The Semantic Interoperability Suite (SIS) is designed to enable common understanding of clinical data and resolve semantic mismatches due to the use of different terminology systems between pilot sites and C3-Cloud top-level components. SIS addresses the challenge of heterogeneous clinical data representation formats.

Due to local terminologies used, the SIS is developed in close relation with the C3-Cloud pilot sites and offers them the opportunity to keep on using their local coding systems with the possibility to benefit from Standardized and European wide deployable ICT solutions. The architecture of the SIS is provided in Figure 1 below. SIS is articulated around two main sub-components: SIS Structural Mapper and SIS Semantic Mapper.

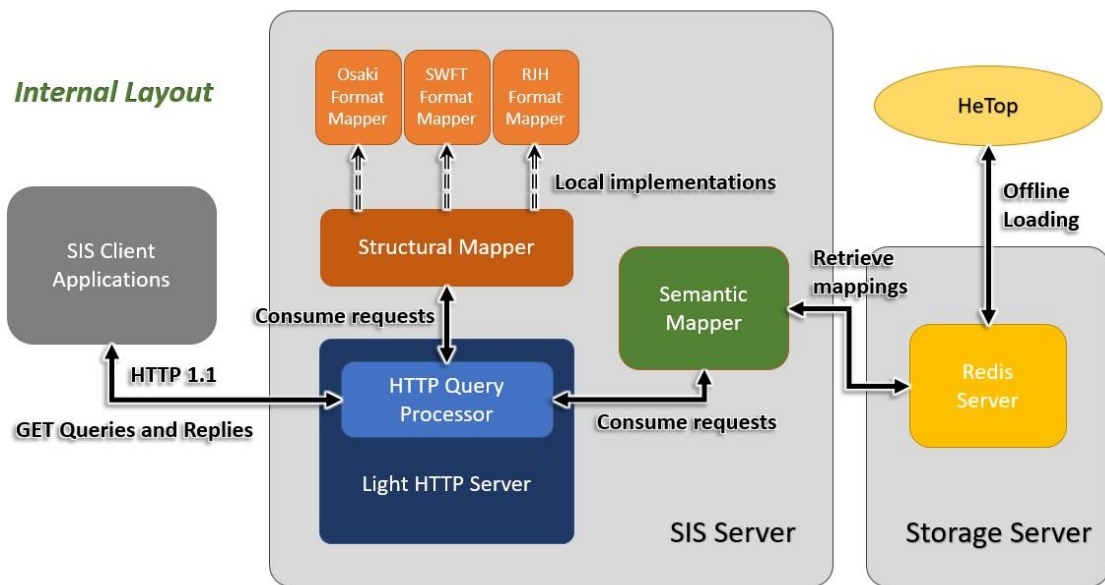


Figure 1 : Semantic Interoperability Suite Architecture

To achieve its purpose, the Structural Mapper consists of pilot site dedicated local format mappers. These mappers provide precise mappings to create correspondence to every relevant data exported by the pilot site to its correct interpretation and place in a FHIR resource. The FHIR resources mapped from pilot site data are defined in the C3-Cloud data dictionary.

Regarding the Semantic Mapper, a clinical concept mapping sheet is being maintained as the source of reference, which includes all the clinical concepts that are needed by the CDS services, in reference terminologies like SNOMED-CT, LOINC and WHO ATC, and all the local codes (Spanish and Swedish versions of ICD-10 and READ codes for UK) that are used by the pilot sites for these concepts. Following the current pilot site needs, available language versions are English, Spanish and Swedish. Further language versions can be integrated on demand and with close collaboration concerned partners. In the scope of C3-Cloud project, all the required integration activities of the Semantic Interoperability Suite have been completed.