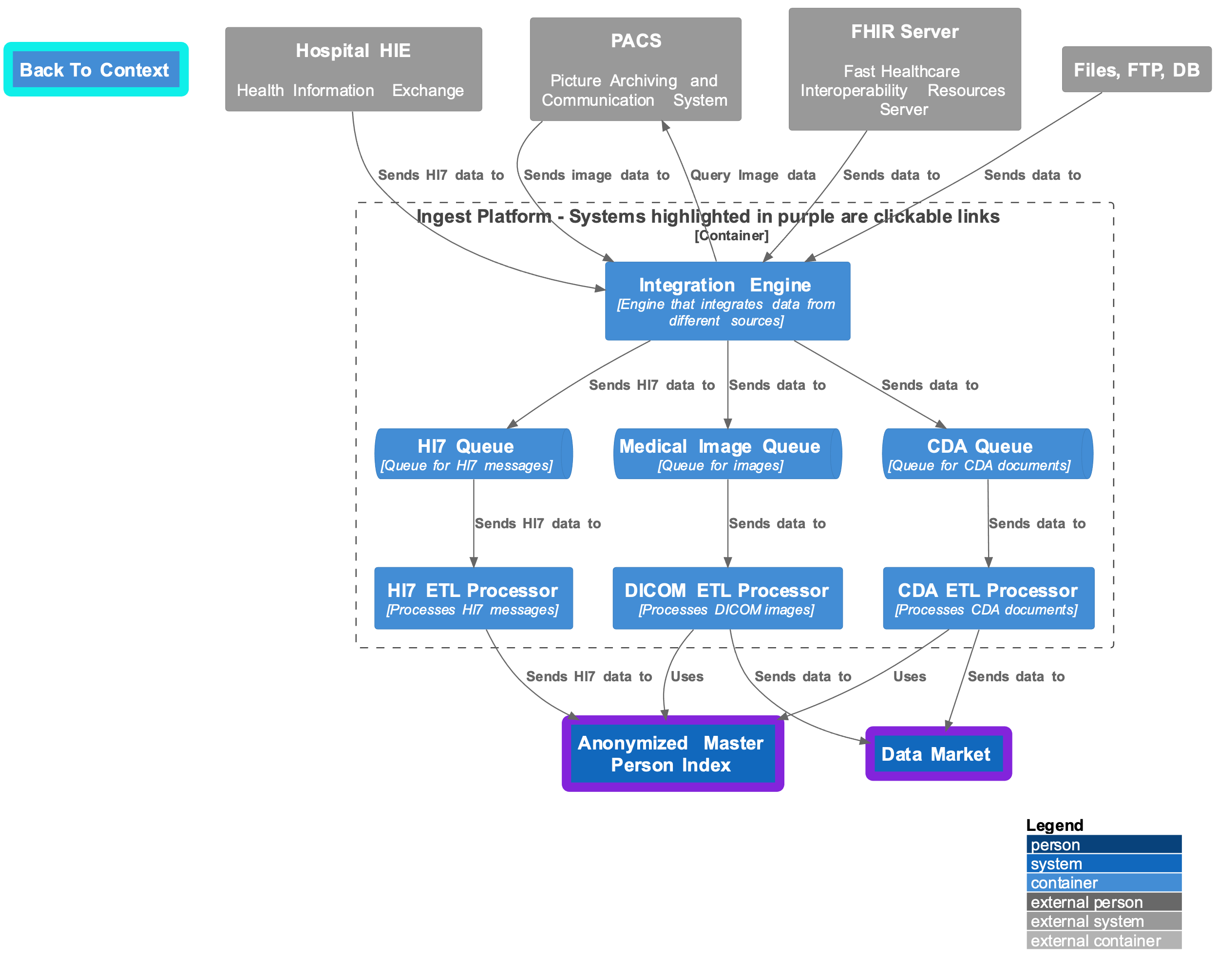
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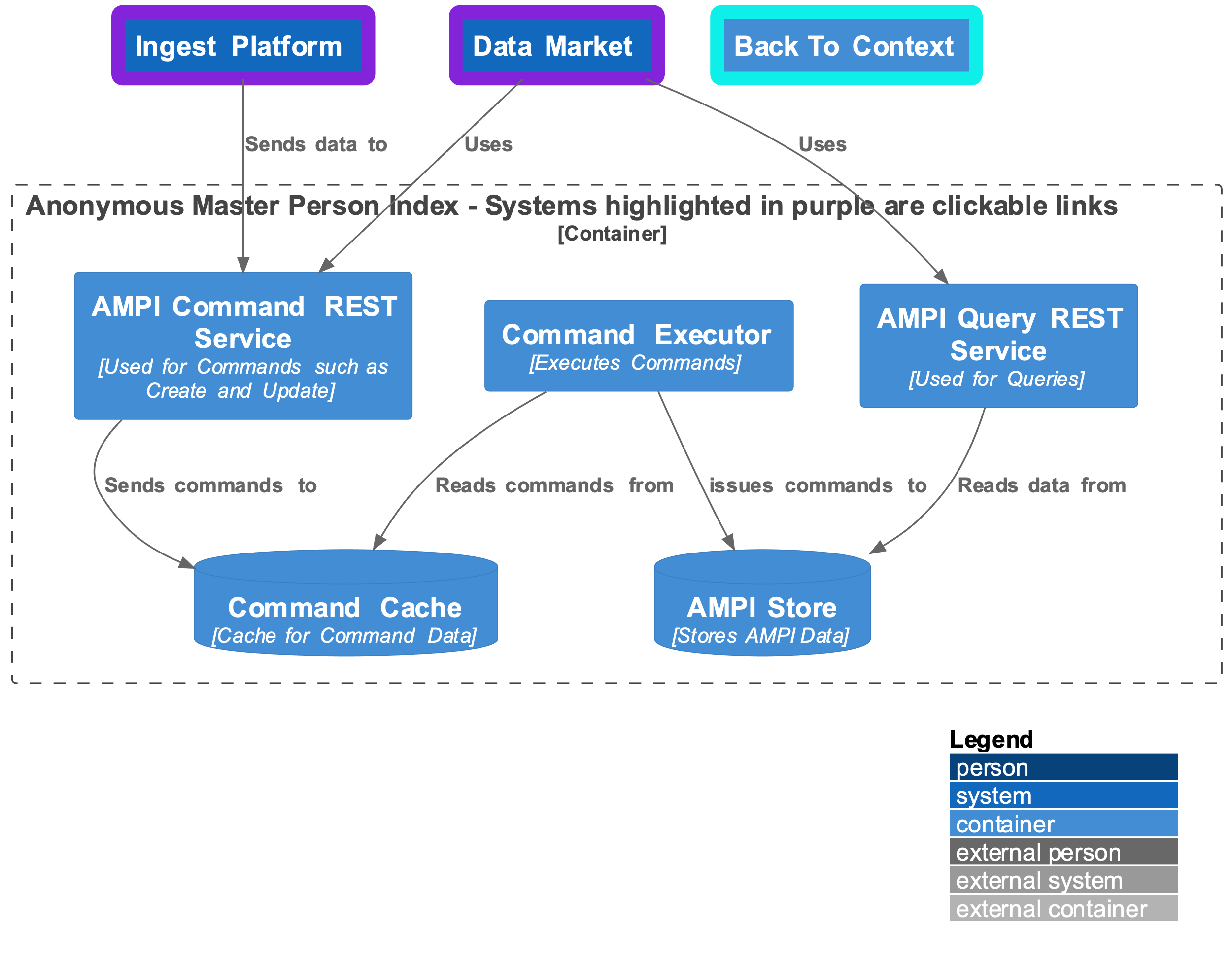
The tesselate medical research integration platform is composed of 4 main pieces

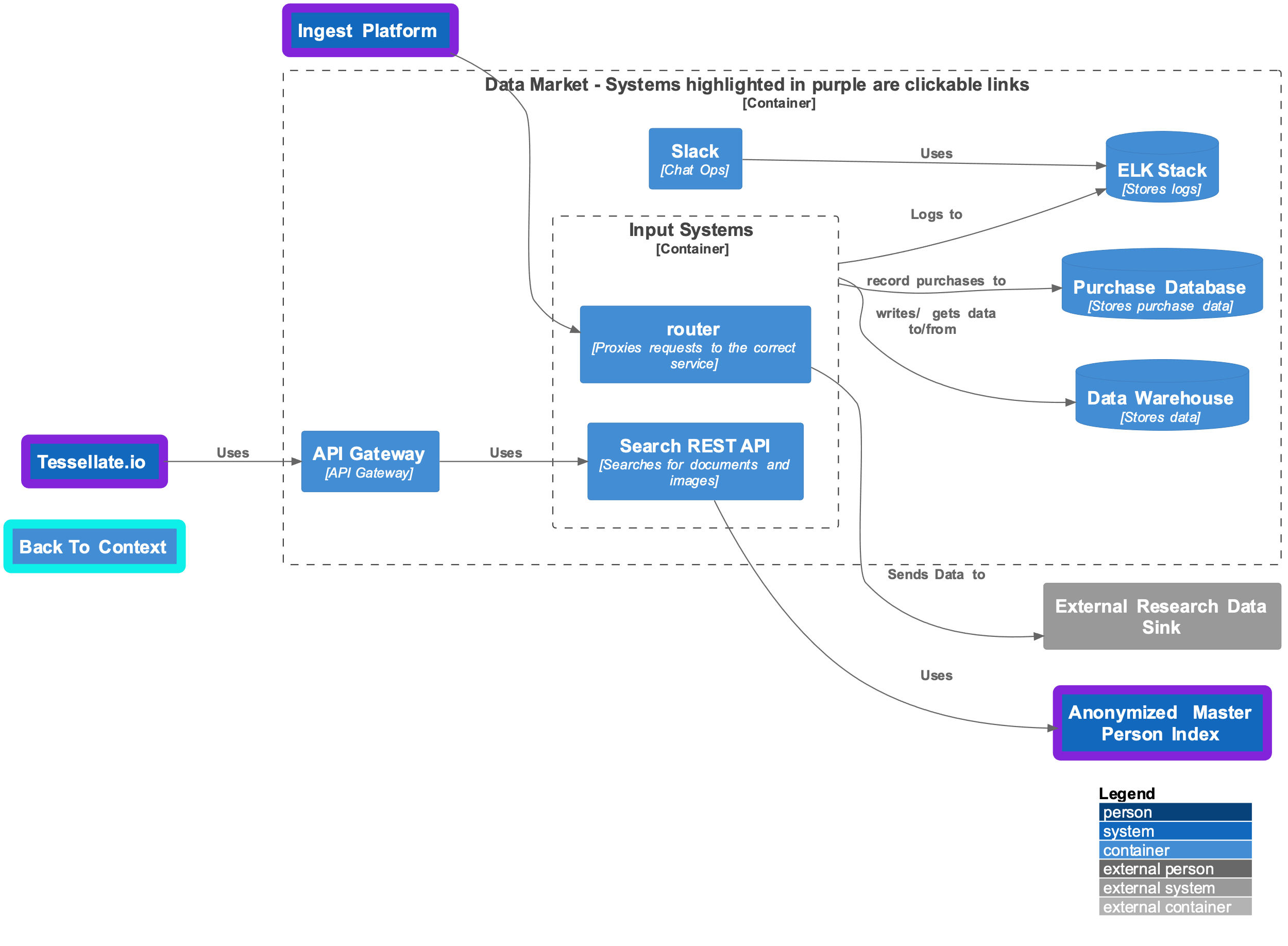
* Tesselate.io web platform
  + Used to query for data
  + Used by clinicians to annotate data
  + Used by Medical Billers to review earnings from the data they uploaded.
  + Used by Researchers to discover medical data
  + Used by Charge Review specialists to review invoices and make payments.
  + Support analysts to troubleshoot and review logs.
* Ingest Platform
  + Used to ingest data from various sources and de-identify the data.
* Anonymous Master Person Index
  + Creates an anonymized identity that can’t be traced back to actual patients
  + Maintains a reference to clinical documents and medical data for anonymized identities to enable viewing the progress of an anonymized patient’s condition
* Data Market
  + A set of systems that facilitate the buying, selling, and exchange of data
  + Used by Data Market to aggregate data associated with an identity.



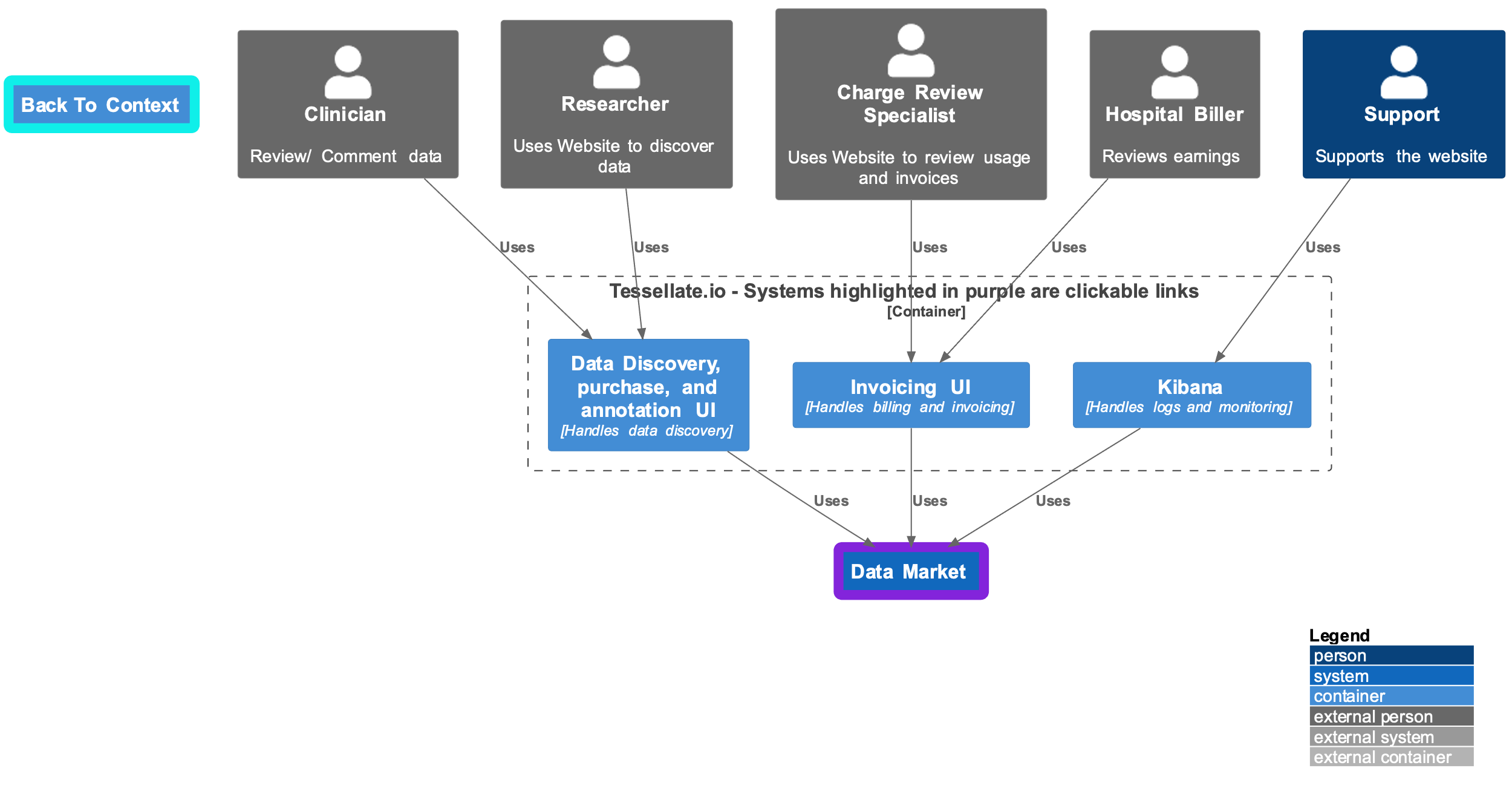
The ingest data platform ingests data from various sources, deidentifies it, and passes it to the data market. When data is received in the ETL Processor, it sends the records to the Anonymous Master Person Index to:

1. Find an identity to which to associate the document.
2. If an identity doesn’t exist, attempt to create one using the data in the document.

The Anonymized Master Person Index (AMPI) creates a proxy identity for a patient that can’t be traced back to actual patients. This enables researchers to view a patient’s condition over time. It creates a cross-reference between a hospital identifier, such as a medical record number, and a unique ID generated for display purposes on the Tessellate side. The hospital identifier is only viewable by clinicians. AMPI supports merging identities for patients in multiple hospital systems with disparate identifiers. It leverages a command query architecture style for better horizontal scalability and domain separation (when required).



The Data Market facilitates the buying, selling, and exchange of data. The ingest platform brings in anonymized data. The router will send data to the warehouse and stream data to external sinks (i.e., those who subscribe to a data set). All data sent through a sink is logged as a purchase. The tesselate.io domain uses the search REST API to find data. At first, metadata and a preview of a dataset are returned. The user can also purchase the entire dataset. All input systems log to Elk, which Slack uses for alerts.



The Tesselate.io domain is composed of several UI components. The Data Discovery, Purchase, and Annotation UI allows clinicians to search for and annotate data, and researchers can discover and purchase data sets. The invoicing UI will enable users to review usage-based charges or earnings if they are data providers. Kibana is an open-source data visualization and exploration platform primarily used to analyze log data.