

Key Architecture features of SLims

The Technology behind SLims, a platform providing LIMS + ELN solutions!

Database and Data access

All data is stored in a relational database and the following systems are supported: MySQL, Microsoft SQL Server and Oracle. All communication with the database passes through the SLimsDAO (Data Access Object) extending the data layer with essential logic, including security constraints, auditing, and history tracking. This Java API offers predefined queries (e.g. findSamplesByLocation) and complicated methods with inherent business logic (e.g. addSampleToLocation, with automatic check on availability of the position, security checks and so forth).

Communication

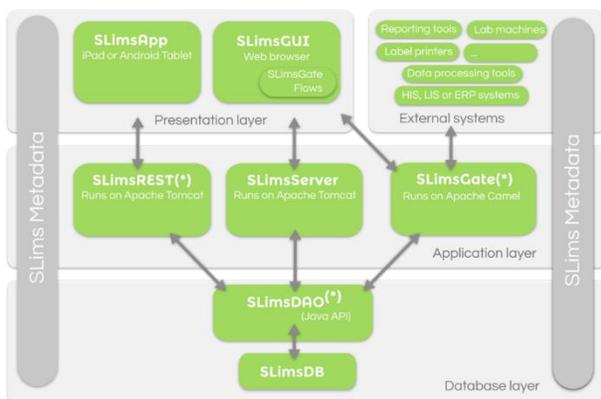
The communication layer allows the information needed by the user, both in- and outside of the system, to be transmitted to and from the database. It also provides a framework for integrations with external resources (e.g. databases, sequencers, liquid handlers, etc) acting as a conduit for transmitting information.

All interactions with external entities occur through proprietary SLimsGate components are based on an Enterprise Service Bus (ESB) architecture, allowing maximum flexibility for connections within the system while adhering to the industry standard for system level integrations. SLimsGate custom workflows, such as communication with external data sources, calling external applications, or interacting with document management systems can be executed at any point in the LIMS system allowing advanced automatization of complex tasks.

SLimsREST is a webservice API, allowing loose coupling with SLims over http/https, for example for customer specific iPad apps that communicate with SLims. Reporting with external tools (e.g. JasperReports) allows the use of templates to generate reports at certain key status transitions (e.g. upon order request, or after availability of results), or independently from SLims at fixed intervals (e.g. daily statistics on samples/tests).

Integrating with the system can occur at the following points:

- SLimsGate (ESB flows)
- SLimsREST (REST web services)
- SLimsDAO (Java method calls)



(*) API's available to customers

This layer is composed of three unique components including the SLimsServer, SLimsGate, and SLimsRest. The SLimsServer provides the core functionality of the SLimsGUI (graphical user interface). This web 2.0 application runs in the browser and is based on the Google Web Toolkit.

About Genohm

Genohm is a Swiss company with offices in Lausanne (Switzerland), Ghent (Belgium) and in Durham, NC (USA). The company has developed SLims, a laboratory software automation suite. SLims provides laboratories with one integrated LIMS + ELN environment that tracks data and samples from the original sample shipment down to the result from lab machines and in-silico analysis pipelines. It fully accommodates the needs of any research lab, NGS lab, service facility, Biobank or QC lab.

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“SLims is the perfect Lab Companion for your Lab”

