



LABS/Q[®] LIMS

System Components

LABS/Q® Database

LABS/Q® in the current version 4.x is developed completely under JAVA™/Eclipse® and other iCD. branded development tools, and via JDBC supports various relational databases, namely Microsoft SQL® or Oracle Database®. Customers can purchase database licenses directly or through iCD.

LABS/Q® is an open solution that, in addition to the functionality of LABS/Q®, allows easy implementation of additional software solutions offered by the database developer or by third parties. As an example, customers can enable the utilisation of any commercial available SQL report editor (e.g. Crystal Reports® or Oracle Reports®) for report generation. This is done by means of an open report tool interface within LABS/Q®. The structure of the LABS/Q® LIMS data files and the corresponding descriptions are completely disclosed. Thus, upgrades and adjustments of the LIMS are possible at any time.

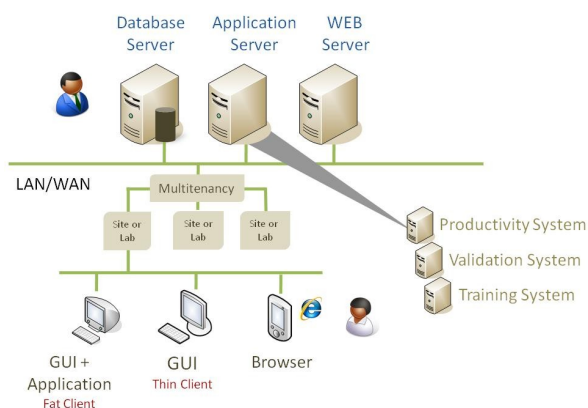
Information is separated in master data, submission data, history records, and archived records in accordance to the size of the data stock. Additionally, the information of the integrated Documentation Management System (Apache Jackrabbit™) is handled within a separate data area.

Archived data are available for evaluation only with restrictions, however, can be easily reloaded into the corresponding database tables at any time.

Within LABS/Q® the permissions for a direct and read-only access to the data stock are assigned to individual users according to the defined user roles. Thus the user can access and evaluate LABS/Q® information even using database or third party tools, respectively.

For an optimum response time, the workload of the LABS/Q® application can be distributed on several computers in a so-called Multi Tier Application. For this, LABS/Q® makes use of of the latest techniques, namely VM (virtual

Distribution of the Application



machines), WEB services, Clustering, Citrix XenApp™ / Presentation Server™, Microsoft Terminal Server™, etc. to support the following distribution:

Presentation Tier

The client computer of the user executes the JAVA based Graphic User Interface (GUI). The GUI can be started by the WEB browser as well and, thereafter, can be executed from within or outside the browser. Additionally, the LABS/Q® online help is available via the browser.

Logic Tier

On this level the actual application logic is processed. This can be done by means of several computers also. Communication to other levels is carried out directly via WEB services and the database. Some subdivisions of the logic are executed by the WEB server using Apache Tomcat™.

Data Tier

On this level the data management is performed. Within LABS/Q® this is done via the SQL database. Taking the estimated requirements into account (e.g. availability every day, 24 hours a day), this can be done using several computers as well.

Using this Multi Tier or, in this case, Three Tier Architecture that is involving a separation of database, application and GUI, the LABS/Q®

LIMS is easily integrated in existing system environments, thus supporting even heterogeneous networks (investment protection). In addition to the possibility of using distributed processing with the workload spread throughout the complete network, the end user can fall back upon the intelligence and productivity of the individual terminal (PC). Moreover, a phased upgrade of the entire system by adding clients and additional servers is supported. Generally, this can be realized without directly affecting the existing server.

System Requirements

LABS/Q® is based on industrial standards, and is designed and developed as an open solution, supporting the following system platforms:

- Unix (e.g. HP/UX, AIX, Solaris) and Linux operating systems
- Microsoft operating systems, as Windows 2003 or 2008 Server, and XP or Vista

At least the client computer must be provided with a graphic resolution of 1024 * 768 pixels, an up-to-date Internet browser, and the permission to run JAVA applications.

The application server must be provided with a powerful CPU, sufficient RAM (ca. 75 MB of free RAM for each user), and must be connected to the database server via a powerful network.

The database server should be equipped at least with 2 hard disks, a long-term storage

media system, and sufficient Hard Disk space (> 500 MB) for the database.

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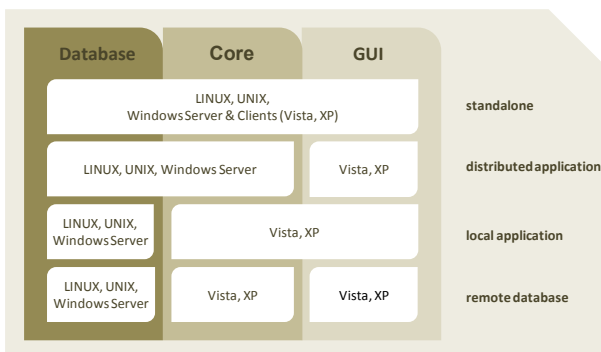
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Portfolio

	LIMS für Pharma/Biotech, Chem/Petrochem, Automotive u.a.
	SAP Middleware
	Optimierung von chemischen Synthesen und Rezepturen
	Rezepturerstellung, Verwiegung & LIMS für die Kosmetikindustrie
	Laborkostenkalkulation
	Regelkarten
	Dokumenten Management System
	Methoden-Validierung (ICH/USP/FDA/DIN)
	Dienstleistungen
	LIMS für Auftragslabors