



CDS Service Offerings

Now for a decade AppLabs has been offering testing and maintenance services in the LIMS laboratory software and scientific instrument automation arena particularly for Chromatography Data Systems (CDS). AppLabs understands the details of CDS, be it data acquisition, data processing or data reporting. The ability to acquire data 24x7 simultaneously from multiple instruments, support

chromatography instruments from multiple vendors, import and export data to other data management systems, flexibility to integrate with LIMS, and providing flexible, scalable, productive, and compliant solutions to modern day laboratory needs are basic for a good CDS.



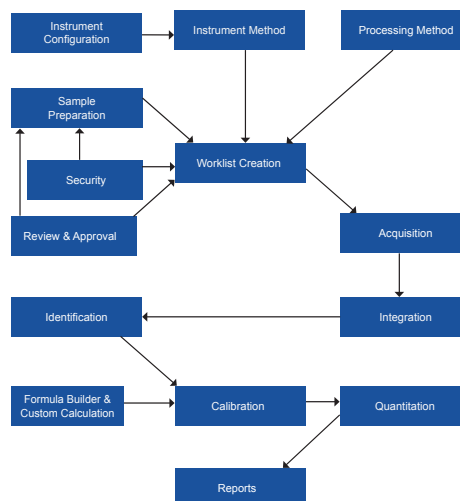
Major challenges facing CDS include-

- ▶ Support for multi vendor instruments
- ▶ Validating and Processing the CDS data in accordance with different pharmacopeia
- ▶ Adherence to various Regulatory Compliances
- ▶ Cut time, effort, and cost in achieving perfect validated acquisitions and preparing quick work lists for acquisitions.

Key Features of AppLabs offering for CDS

- ▶ **Instrument Management:** Setting different instrument modules and configuring them using Instrument Configuration and Instrument Methods.
- ▶ **Processing Methods:** Defining a set of rules for performing actions such as Integration, Identification, Calibration, and Quantization.
- ▶ **Sample Preparation:** Samples are prepared that are ready for analysis.
- ▶ **Worklist Creation:** A workbook is created to store data alongside run sequence and acquisition parameters.
- ▶ **Acquisition:** Data is acquired from the detector and stored as raw data within the workbook.
- ▶ **Integration:** Baselines are drawn for detected peaks. Areas, heights, and retention times are calculated.
- ▶ **Identification:** The retention times of known components obtained during integration are used to name the peaks of interest.
- ▶ **Calibration:** The response of the detector to components is measured using a standard mixture. Standard component information and data are stored for use during quantitation.
- ▶ **Quantitation:** During Quantitation, a calibration curve is constructed and is used to calculate amounts of components in samples.
- ▶ **Formula Builder and Custom Calculations:** A user can request for special data that is required apart from those provided in the application by default using Formula Builder and Custom Calculations.
- ▶ **Review and Approval:** A processed workbook can be reviewed and approved by different users based on assignment by the administrator.

- ▶ **Reporting:** Final results are recorded in a report.
- ▶ **Security:** Project, User and Role level security is provided to the system through the security module.
- ▶ **System Configuration:** Enables users to define their own Units, Sample Types and System Properties apart from those provided in the application.



Test Methodology

AppLabs follows the following test strategy with indomitable rigor resulting in 100% test effectiveness and high customer satisfaction on deliverables-

- ▶ Thorough analysis of the Use cases
- ▶ Preparation of an understanding document for analysis
- ▶ Step by step detailed authoring of test scripts that cover functional flow of entire use case
- ▶ Two levels of review
- ▶ Test Scripts execution
- ▶ Usage of TaskTrack & Bugzilla tools for the failed tests during the script execution
- ▶ Functional Testing
- ▶ Exploratory Testing
- ▶ Regression Testing
- ▶ Performance (Benchmarking) Testing
- ▶ Interaction with Hardware Instrument
- ▶ Individual Issue testing
- ▶ Compatibility testing on different OS