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To Improve Laboratory Management Capabilities with the Help of Laboratory Data Sharing System

Abstract: the construction and operation of laboratory database directly relate to efficiency of laboratories. Labthink Lystem™ Laboratory Data Sharing System has excellent performance in database construction and application, so as to provide great convenience to regular works of laboratories. Meanwhile, the system is a good assistance for the management of laboratories. This article especially emphasizes the system applications for the management.

Key Words: database, management, efficiency, availability, test progress

Lystem™ Laboratory Data Sharing System monitors the entire laboratory operation in a highly safe and reliable integrated mode; unified data storage of testing data can be realized. In other words, Lystem™ Laboratory Data Sharing System is net-based laboratory information management software. With the help of network and analysis of the system, Lystem™ Data Sharing System can provide corresponding referential information to laboratory operators of different ranks. Its excellent performance in database construction and application has greatly facilitated regular works of the laboratories. As to laboratory operators, they can benefit a lot with the assistance of the system.

1. Laboratory Management Demands

One of the outstanding characteristics of laboratory management is the varied threads of works which are at different stages with different progresses. More testing objects and more testing methods would result in more complicated testing and corresponding management.

The main task of laboratories is to test specimens. Some laboratories are also responsible for analysis and research. To promote laboratory works requires the management of laboratories to have a thorough and exact command of the following: firstly, the management should have a thorough command of progresses of varied tests, with emphases on key testing projects or urgent tests. Thus, carelessness in works, especially those irretrievable errors, can be avoided. Secondly, works among the laboratory staff should be well distributed, so that everyone would have a proper workload. The problem of exceeding workloads on a few operators can thus be avoided, and everyone would have a certain progress. Thirdly, the exact utilization of laboratory instruments should be effectively mastered, so as to rationally allocate those instrumental resources and make preparations for future expansion.

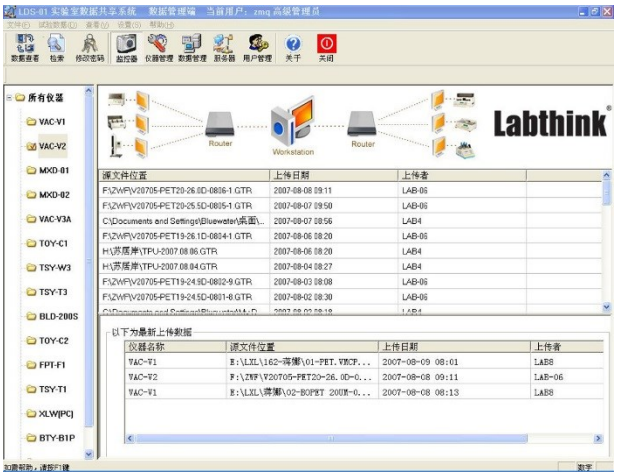
At present, the management learns laboratory works by reports and summaries from operators. On one hand, the management has to pay comparatively great attention. On the other hand, judgment or decision of the management directly relate to the quality or completeness of those reports or summaries. However, such kind of reporting and learning lacks of timeliness. As to key projects or urgent tasks, great attention of the management has to be paid.

2. Management Function of Lystem™ Laboratory Data Sharing System

Lystem™ Laboratory Data Sharing System is mainly for centralized management, categorized storage of data and construction of laboratory database. Moreover, the system is an effective means for the management. Through authorization as senior administrators, the management may learn the progress of each task, especially those of the key tasks by inquiring and statistics of the system. The detailed test information and data, instrumental utilization ratio and working status and workload of each operator, etc., may also be learned. All those data is a useful tool for working performance assessment of the operators and effective monitoring of their efficiency. Meanwhile, the data can provide assistance in laboratory development plan, instrumental demands, testing capability statistics and resource allocation, etc. Hereafter, the management functions of Lystem™ Laboratory Data Sharing System are introduced in details.

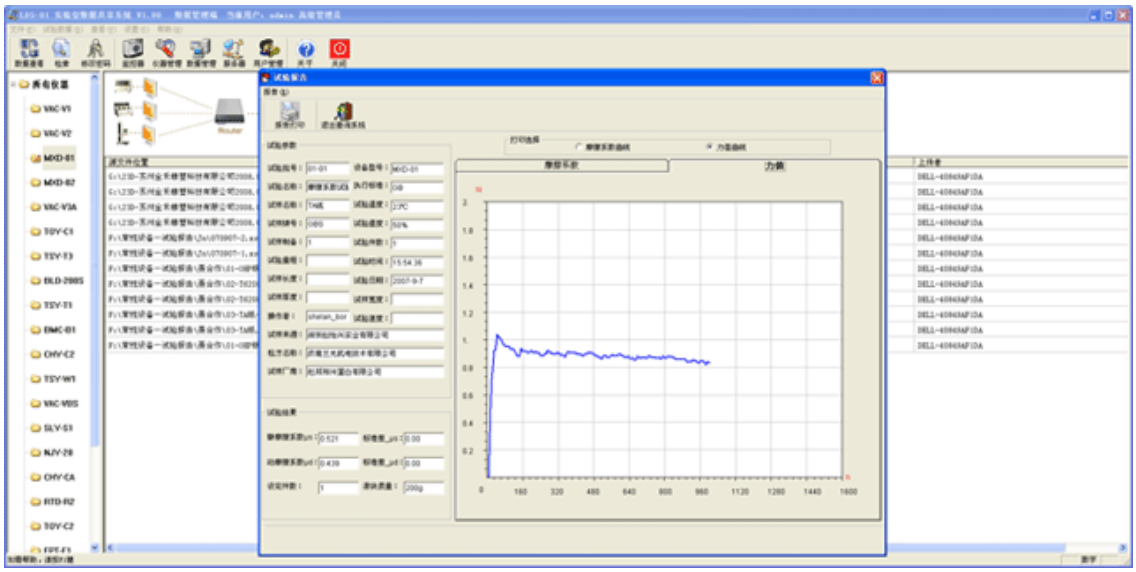
First, the multi-rank authorization entitles every operator his corresponding jurisdiction, that is, he can only visit and operate the database within the authorized rights. For example, common users can browse and inquire the data; preliminary administrators can monitor the data besides the rights of the common users; and senior administrators have the supreme rights to manage the users, data and instruments. The management is authorized as the senior administrator, that is, they have supreme authorization of the system. Thus, based on working status of each operator, system safety can be guaranteed by way of reasonable authorization.

Second, the management can instantly learn real time test progress from the system. The server end of the system has sufficient data information. What is worth mentioning is its unique data monitoring function. Since the server end would only available to senior administrators, the management can timely know data status by way of monitoring. The management only needs to click ‘monitor’ button on the interface to view the latest test information at the bottom of main interface content area. Thus, the management may conveniently learn real time testing progress.



Third, progress of key tests can be better monitored. Previously, the management would receive reports of key tests at the very end of all the tests. If testing mistakes or errors were found in the report, the tests would be considered imperfect, or some processing needs to be improved. However, there would be inadequate time to test again. The real time monitoring and inquiry can help the management accurately and timely learn test progress without disturbing the operators. The management can view all the detailed testing data, curves and information with the help of report viewing program of the system. If errors or mistakes can be found during tests,

the management may notify the operator to remedy. Meanwhile, it's an effective means to improve efficiency.



Fourth, the statistics for instrument utilization ratio is simplified. Lystem™ Laboratory Data Sharing System can automatically accomplish centralized data management and database construction. All the data are uploaded to the server and categorized according to instrument name. If an operator intends to view the data, he only needs to log in and to click corresponding files to obtain data of instruments. The management can learn utilization ratio of each instrument with high accuracy and low statistical workload. Thus, rational allocation of testing resource can be achieved. Solutions for those instruments that have met their peak capabilities can be made as soon as possible. Thus, problems affecting regular laboratory operations can be avoided at early stages.

Fifth, working efficiency of operators can be learned by the management accurately and objectively. Previously, the management could only assess the performance of operators through their weekly or monthly reports. A timely mastering of their working status could not be realized. Meanwhile, unreasonable work distribution might occur in the past. With the help of Lystem™ Laboratory Data Sharing System, the working status of each operator, including his/her progress and workload can be viewed by the management. A better evaluation for each operator and a more reasonable allocation of workload can be realized, so that the capability of the whole laboratory can be improved.

3. Conclusions

Though the system cannot be applied for testing control, Labthink Lystem™ Laboratory Data Sharing System has advantages in the construction, expansion, arrangements and application of the laboratory database. At the same time, accurate information can be provided for the management to strengthen laboratory arrangements. Thus, the system can help improve efficiency and standard of the whole laboratory, and provide assistance and supports for future laboratory work.