Inside MSC-LIMS ™

The source for news and tips of interest to users of MSC-LIMS, an affordable laboratory information management system for small labs.

Welcome

Welcome to the inaugural issue of *Inside MSC-LIMS*. If you are already an MSC-LIMS user we hope the newsletter will be a valuable source of information to help you get the most out of your software. Our goal is to keep you informed about the system's ongoing development and to show you where we are headed.

If you are considering MSC-LIMS for your lab, we hope you find that the newsletter complements the product literature and downloadable demo you can find on our web site at http://www.msc-lims.com/.

If you received this newsletter from a colleague, visit our web site and sign up to receive your own copy of future issues as they are released. Our mailing list signup form is located at http://www.msc-lims.com/lims/maillist.

Finally, this newsletter is for and about MSC-LIMS users. We welcome your comments on this issue, and your suggestions for topics you would like to see addressed in upcoming issues. Please send your thoughts to newsletter@msc-lims.com.

What's Coming in Version 3.0?

Version 3.0 will be our next major release of MSC-LIMS. We are still on schedule to release the new version in the second quarter of 2004. MSC-LIMS version 3.0 is an Access 2002 version, the Access version in Office XP.

One of the more significant changes in MSC-LIMS 3.0 is the system's installation software, which we developed to overcome conflicts with various Microsoft Office installations. Making multiple versions coexist and breaking existing installations with newer installations are common problems with Microsoft Office and its components. With MSC-LIMS 3.0, you can install our software on any workstation regardless of the version of Office already installed. Any Microsoft Office installs, reinstalls, uninstalls or upgrades will have no affect on MSC-LIMS 3.0. The new MSC-LIMS 3.0 installation software greatly simplifies installation and administration. As with our earlier versions, neither Microsoft Office nor Microsoft Access is required to install MSC-LIMS 3.0.

In This Issue

From the Developer

I have been eagerly anticipating this first issue of *Inside MSC-LIMS*. This newsletter is my opportunity to share problem-solving techniques (see our feature article "How Reliable are your Backups?"), exciting tools ("Notes from Technical Support") and useful knowledge ("Compact Routinely") with all of YOU.

On the brink of 2004, it is enormously rewarding to consider the success stories of our customers. I am gratified both professionally and personally when a customer discovers another way to use MSC-LIMS as an effective tool, and I look forward to sharing those instances in upcoming "Focus On" features.

Finally, I would like to welcome new users to MSC-LIMS. 2003 was a banner year, and we at Mountain States Consulting LLC acknowledge the invaluable assistance provided by our customers in making it possible. I draw your attention to a sincere "Thank You", below.

Best wishes to all for a joyful and prosperous New Year.

Rick Collard is the founder of Mountain States Consulting and the principal developer of the MSC-LIMS software. You can reach Rick by email at rcollard@msc-lims.com.

In Future Issues...

We relish the opportunity to explore your lab's particular concerns in future issues of this newsletter. Please email your thoughts, comments, complaints and suggestions to newsletter@msc-lims.com.

Would you like to share your success story with others? In future issues of the newsletter we plan to showcase individual labs' MSC-LIMS implementation and illustrate the ways in which your organization has creatively applied and benefited from a LIMS.

Please contact us at newsletter@msc-lims.com to schedule your lab's **Focus On** feature article.

Thank You

We believe we owe much of the ongoing success of MSC-LIMS to suggestions for improvements proffered by its users. Your emails and telephone calls for technical support often inspire product improvements and new features. We are grateful for your many contributions and hope they will continue.

Many of you have spoken highly of our software, which has led to new inquiries and to new installations. Your honest testimonials are better than any advertising we could purchase and we certainly appreciate the good word.

When you offer your MSC-LIMS experiences to your peers in other organizations, you earn the appreciation of those fortunate new MSC-LIMS users and ensure the ongoing success of a good product.

How Reliable are your Backups?

A good backup strategy is important with any information system. It is simple enough to reinstall software from the original distribution media. However, the data we entered is not easily recovered without a good backup.

Often, an organization's information technology department (IT) uses automatic overnight processes to back up servers. Although the IT department assumes responsibility for this task, it is important to verify their backups. First, test the backup by attempting to recover yesterday's LimsData file. Not only will you ensure that you can recover the file but in doing so you will test the process and learn how long it will take to recover your data.

Second, you should verify that the overnight backups utilize revolving media sets. That is, a different tape (or other media) must be used each night of the week. To understand the importance of media sets, imagine the following scenarios:

After the close of normal business on a Friday evening, a server crash results in a corrupt LimsData file. The IT department restores server operation and the overnight backup runs normally. However, if using a single tape, the new backup overwrites the previous night's backup. Both the server hard drive and the backup media now contain a corrupt LimsData file, and the valid data from Thursday night has been overwritten and is gone. We have seen this situation occur, and the only available option was to restore LimsData from the previous week's tape, resulting in the loss of the entire week's data.

Imagine a second scenario: On Wednesday you decide to clean up LimsData prior to compacting (see "Compact Routinely" in this newsletter). You use the Delete Samples option to eliminate the dozens of samples you had logged for testing and training purposes only. On Thursday, you discover that you inadvertently deleted more samples than you should have. However, if the Wednesday night backup replaced Tuesday night's backup on a single tape, there is no way to recover the lost samples. It could happen.

Without distinct backups for each day of the week, preserved on distinct media, there is no easy way to recover from either of the two scenarios above.
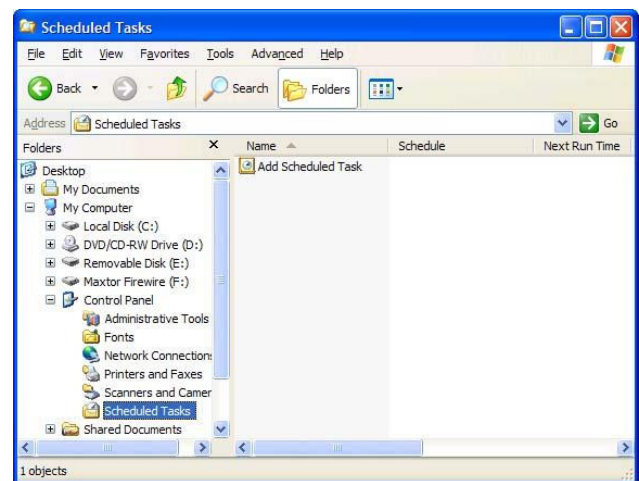Your LimsData file is an enormous asset. Therefore, we

recommend distinct backups for each of the previous five and preferably seven days. If you discover that your servers are not backed up to at least alternate media sets each night of the week, you can implement your own strategy. One method is suggested below.

Third, regardless of your IT department's backup strategy, we recommend performing your own backups by copying LimsData from the server to a local workstation. Windows' Scheduled Tasks feature is a handy tool that you can use to automate the task. I've outlined this process below.

Scheduled Tasks are available with Windows 9x, NT, 2000, and XP. Note that under Windows NT, the Scheduled Tasks feature is activated by installing Internet Explorer version 5 or newer. Or, you can use Windows NT's AT command for similar results.

Use the following procedures to create scheduled tasks to automatically copy LimsData to a different folder for each day of the week.

1. Choose which workstation will perform the automatic overnight backups. Open Windows Explorer and create a new `C:\Backup` folder on that workstation's local drive. In the new `C:\Backup` folder create new folders for each day of the week (e.g. `C:\Backup\Monday`, etc.).
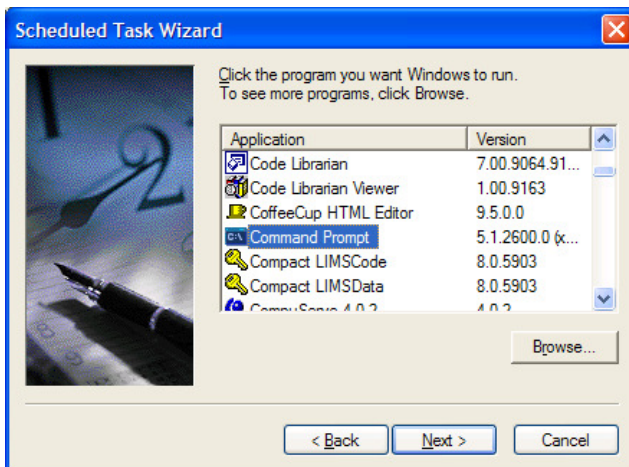
2. In Windows Explorer, select the Scheduled Tasks folder. Scheduled Tasks will be located in either the My Computer folder or the Control Panel folder. The examples below were created with Windows XP.

3. Double-click Add Scheduled Task to start the wizard then click the Next button to proceed.
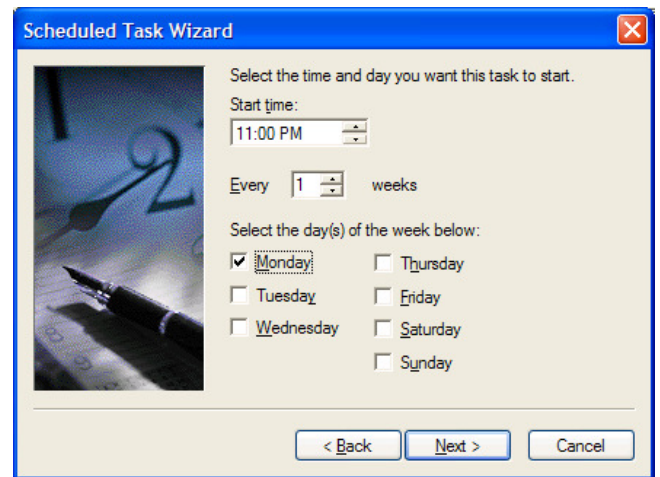

4. Select the Command Prompt program. If your list of programs does not include Command Prompt or MS-DOS Command Prompt, use the Browse button and locate file COMMAND.COM on Windows 9x systems or CMD.EXE on Windows NT/2000/XP within the Windows system folder. Use the Next button to continue.

5. Enter an appropriate name for the task and select the Weekly schedule option.
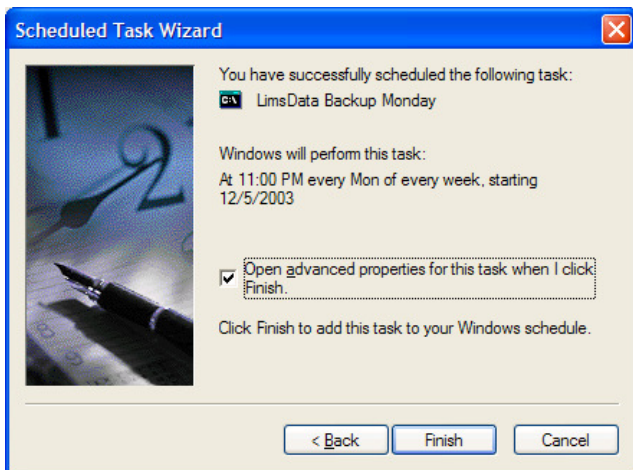

6. Enter the time you want to start the task and select the day of the week.

7. Enter a workstation login name and password for a valid user. Note that the user account entered must have sufficient privileges to access the server if LimsData will be copied from a server.

8. Check the "Open advanced properties" option and click the Finish button.

9. We are using the Command Prompt program to perform a single file copy operation. However, we must tell the program the file to copy and the destination using the following syntax (not case sensitive):
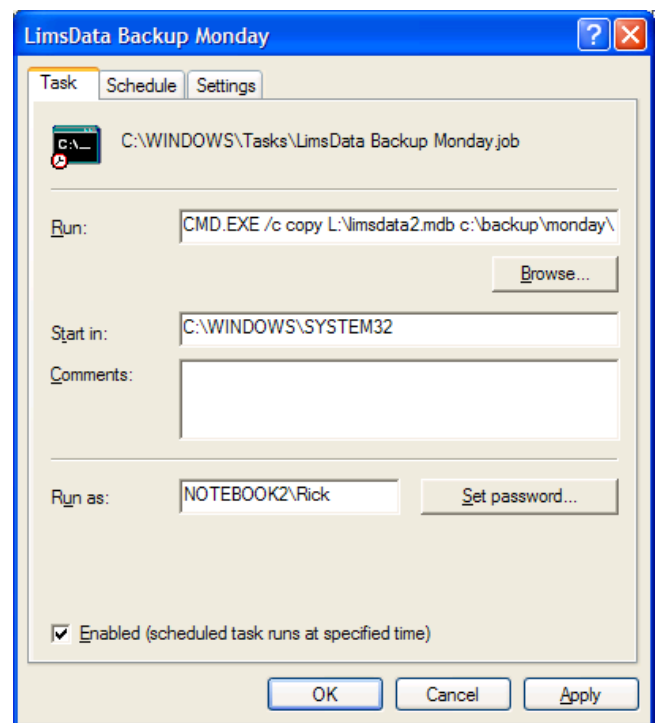
`d:\path\CMD.EXE /C Copy source destination`

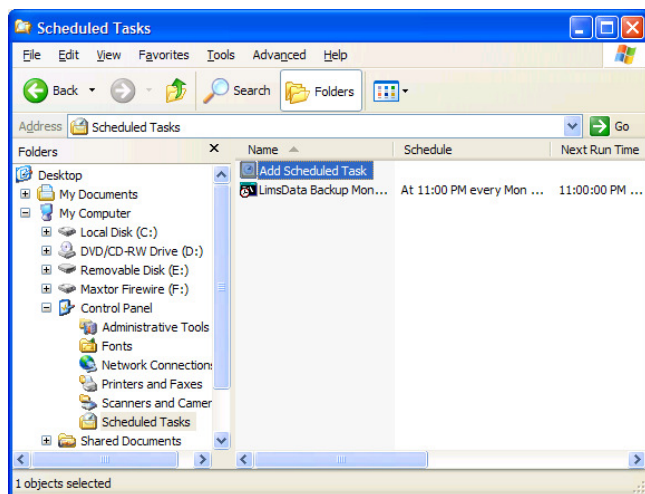To complete the task's Run property, append the "`/C Copy`" followed by your source and destination values.

In our example below we are copying file `L:\LimsData2.mdb` to folder `C:\Backup\Monday`.

The complete Run property for our Monday night backup task is as follows:
`C:\WINDOWS\SYSTEM32\CMD.EXE /c copy L:\limsdata2.mdb c:\backup\monday\`

10. As you can see in the figure on the following page, our automatic backup task for Monday night has been added. You can test the task by right-clicking and choosing Run from the popup menu.

Simply repeat steps 3 through 9 to add scheduled tasks for each remaining day of the week.

Note that this technique works well whether you are running MSC-LIMS standalone, with a peer-to-peer network, or with a dedicated file server. For example, on a standalone system, use the scheduled task to copy LimsData to an external hard drive or to removable media such as an Iomega zip drive.

Of course, when you have a large LimsData file you will need sufficient disk space. But disk space is inexpensive compared to reentering a week's worth of data, and adding additional storage is good insurance for the day you need to recover your LimsData file.

It is a good idea to make a practice of verifying your previous night's backup at the start of each day. Simply verify the date and time of the file using Windows Explorer. If the backup did not occur you can manually copy LimsData or right-click the appropriate task in the Scheduled Tasks folder and select Run.

Compact Routinely

Remember to compact your LimsData database routinely to improve system performance. We recommend you compact LimsData at least once a month but preferably once a week. In addition to minimizing the size of the LimsData database, compacting will also defragment the file by rewriting it to contiguous space on the disk. Therefore, it is a good idea to run a disk defragmenting utility prior to compacting to assure that sufficient contiguous space exists. Compacting also rewrites the database's tables in primary key order, recreates indexes, and updates Jet database statistics, all of which can improve system performance.

Use Start | Programs | MSC-LIMS for Microsoft Access | Compact LimsData then enter your LIMS login name and password to compact the database. Note that all users must exit the LIMS to compact LimsData. To ensure your Compact LimsData shortcut is configured properly, use Windows Explorer to view the size of your LimsData database both before and after compacting. A successful compact will reduce the size of the file.

> **TIP**: Add an item to MSC-LIMS' procedure calendar or a recurring appointment in Outlook as a reminder to compact.

Notes from Technical Support

Interface Excel w/ 3rd-Party Instrument

Recently, an MSC-LIMS user contacted technical support looking for assistance with Excel. He had already created and was using an Excel template to calculate and import results for a couple of analytes. A weight required in the calculations was entered manually by typing the value displayed on the nearby A&D HR-Series balance. He knew the balance had an RS-232 (serial port) communication interface. He also knew software was available from both A&D and from third parties to interface the balance with Excel, which he hoped to use to eliminate the manual data entry.

We reviewed the balance's RS-232 interface specifications and devised an Excel solution that did not require any additional software. We added Microsoft's communication control (MScomm32.ocx), a popup UserForm, and a button to the existing Excel template. The communication control provides basic RS-232 communication features. When the user clicks the [Get Balance Data] button, the workbook sends the instrument a command requesting the current value and then reads the value returned.

Customers Only

This section of *Inside MSC-LIMS* is devoted to current users of MSC-LIMS.

The following "Customers Only" pages on MSC-LIMS' website include articles, technical reports, and ongoing discussions pertinent to those applying MSC-LIMS' vast array of tools. Use your password to log onto the Knowledge Base, Discussion Forum and File Library on MSC-LIMS' website.

Knowledge Base

Below are just a few of the Knowledge Base articles recently added to our web site. If you have not visited msc-lims.com in a while, you are sure to find some useful tips in these articles.

Query Data with the MSC-LIMS Data Query Workbook
Summary: Exporting data from MSC-LIMS to Excel using MSC-LIMS' Excel Interface is a powerful means to gather and analyze MSC-LIMS data. You can use the Excel Interface to export data from any MSC-LIMS report to an Excel template. However, when you cannot retrieve the necessary data using an existing MSC-LIMS report, a more general-purpose tool is useful.

Using the MSC-LIMS Data Query workbook, you can insert the results of any Structured Query Language (SQL) Select statement directly into Excel. This article shows how you can use the MSC-LIMS Data Query workbook for ad hoc access to MSC-LIMS data.

Use a Text List to Enter Special Symbols
Summary: MSC-LIMS' Text Lists feature offers a convenient method to enter frequently used text in any LIMS text field. This article shows how you can create your own text list of special symbols, such as the degree or micro sign, so that any LIMS user can quickly enter such symbols.

How to Remove a Template's LIMS Infrastructure
Summary: In addition to the LIMSData worksheet, an Excel template used with MSC-LIMS' Excel interface may include several worksheets used to produce a final report. Analysis data, lookup table, pivot table, and customer data worksheets are examples of worksheets that a template may use to assemble the data for a template's report. This article includes procedures to automatically remove all such infrastructure from a workbook created from an Excel template

Problem: MSC-LIMS VBA Project is not Fully Compiled
Summary: During system startup, MSC-LIMS checks the compiled state of the system's Visual Basic for Applications (VBA) project. The VBA project contains all code modules including code behind forms and reports. When the VBA project is not in a compiled state, MSC-LIMS issues the following startup warning message:

The MSC-LIMS VBA project is not fully compiled. System performance can be improved by recompiling. Contact your LIMS administrator for assistance.

Using the Recompile option on MSC-LIMS' Admin menu is normally all that is necessary to compile the VBA project. However, in some cases the Recompile option will not eliminate the startup warning message and Access' Decompile procedure must be used.

Discussion Forum

The Discussion Forum has been very quiet of late. If you have any burning issues in your lab, please feel free to start a topic.

What's Coming in Version 3.0?

To begin planning for the MSC-LIMS 3.0 upgrade you should assess your current workstation hardware and software environment. None of the Office XP suites will run on Windows 95 or Windows NT 3.5x, so you will need to upgrade these operating systems before installing MSC-LIMS 3.0. Office XP and MSC-LIMS 3.0 requires one of the following operating systems: Windows 98, Windows 98 Second Edition, or Windows Millennium Edition; Windows NT 4.0 with Service Pack 6 or greater; Windows 2000; Windows XP. Internet Explorer version 4.01 or newer is also required. See the following article on Microsoft's web site for a complete list of Office XP system requirements:

"Microsoft Office XP System Requirements"
http://www.microsoft.com/office/ork/xp/welcome/depf02.htm

The following list highlights some of the new features in MSC-LIMS 3.0:

➢ The batch login screen now supports adding and deleting analyses and requirements to either individual or all batch samples.
➢ Where appropriate you can now require method certification before an employee may enter results entry for specific analyses.
➢ The Laboratory Documents feature provides quick access to laboratory documents, forms, methods, standard operating procedures, etc. created in other applications such as Word or Excel.
➢ All workstation configuration settings are now saved in an XML file eliminating use of the Windows registry.
➢ New workstation label printer configuration allows different label printers at LIMS workstations.
➢ Any user can now change the currently attached LimsData database using the Open LIMS Database option on the File menu. The main menu's File menu also maintains a list of up to four most recently used databases.
➢ Administrators can configure the main menu by disabling items or increasing the privileges required for specific items.
➢ The *MSC-LIMS User's Guide* is now accessible from the Help menu.
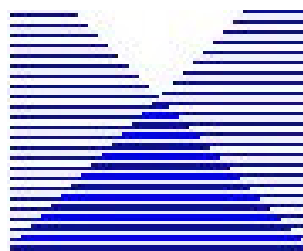

Interface Excel

Using the vendor's software would have required the user to initiate the transfer of the balance's data either from the balance's keypad or from the middleware software. With our solution, a single-button click displays the balance's value in a popup window in Excel. With either another button click or the Enter key, the value is inserted in the current Excel cell.

In this case, simpler really is better.

Contact Us

Questions, thoughts, comments, suggestions?
Reach us at:

Mountain States Consulting, LLC
970 West Broadway
PMB 471
Jackson, Wyoming 83001-9475 USA
307-733-1442