

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 **MSC-LIMS Insights**.

This newsletter will help current MSC-LIMS users get the most out of their software, and will complement the product literature and downloadable demo that prospective users can find on our web site at [www.msc-lims.com](http://www.msc-lims.com).



Join our mailing list for more information. Sign up at [www.msc-lims.com/lims/maillist.html](http://www.msc-lims.com/lims/maillist.html).

This newsletter is for and about MSC-LIMS users. We welcome your comments, and your suggestions for topics you would like to see addressed in upcoming issues. Please send your thoughts to [newsletter@msc-lims.com](mailto:newsletter@msc-lims.com). 

## Case Study, Anyone?

**Share your implementation success story with prospective MSC-LIMS users.**

One of the necessities in running a successful software business, or any business for that matter, is marketing. While we'd rather just sit quietly writing peerless software, it remains a fact that we still need to promote our product to ensure continued success.

There is a lot of noise in that marketplace. We need to help prospective MSC-LIMS users cut through that noise with useful information that will help them during their LIMS search.

New users tell us that the published [case studies](#) on our web site have been invaluable and that they have helped many prospective users during their selection.

We know many of you have found MSC-LIMS a valuable tool and we'd like to share your story. Don't be shy. Drop us a note. We will do all the hard work of writing, your lab will reap the rewards of positive publicity, and your co-workers will be amazed at your diligence.

Current and prospective MSC-LIMS users will benefit from reading about how you used MSC-LIMS to streamline your lab operations. We will share your implementation success in a future newsletter or on our web site. 

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## From the Developer

We have gone paperless at MSC. It's only fitting that a software company should embrace technology, and we're thrilled to save a few trees while we're at it. We now email all license agreements, quotations, invoices, newsletters, and annual subscription and annual maintenance renewal notices in PDF format. To ensure that our correspondence reaches your inbox, add [rcollard@msc-lims.com](mailto:rcollard@msc-lims.com) to your address book or update your spam filter.

You may have noticed that your unsolicited kind words from an email or other correspondence have appeared on the home page or the [User Comments](#) page on our web site. We protect your privacy by listing only your initials and state, province, or country. If I have not thanked you personally, please know that we appreciate your candid comments.



*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](mailto:rcollard@msc-lims.com).*

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## Review Your Backup and Recovery Strategy TODAY

### Avoid the Heartbreak of Preventable Data Loss

Recently, we learned that a well-established MSC-LIMS user lost weeks of data. An unforeseen series of events had surreptitiously compromised their overnight backups. The problem snowballed, culminating in the loss of great quantities of data before it was discovered.

It pains us to hear about any data loss. Because with a good backup and disaster recovery strategy in place, no lab should ever lose more than a day of LIMS data.

Have you reviewed your backup and disaster recovery strategy recently? **Do it before you go home tonight!** Don't wait for a hard drive failure, server crash or other disaster to verify the integrity – or reveal the fallibility - of your backups, as it did for the unfortunate lab mentioned above. Use these suggestions to get started:

- ✓ Consider designating a specific person to verify the success of the overnight backup each morning.
- ✓ Remember to alternate media. That is, tonight's backup should not overwrite last night's.
- ✓ Do a trial run and make sure you can retrieve several of your most recent LimsData backups. Use File | Open LIMS Database within MSC-LIMS to open each database in turn and print the Database Records report available on the Admin menu. A quick comparison of the record counts in the backups and in your production database should be all that is necessary to ensure your backups are intact.

- ✓ In addition to automated server backups, use the Windows Scheduler to automatically copy your LimsData database to another workstation. Why stop at one workstation? Add an automatic overnight copy to two or more workstations for additional insurance.
- ✓ Finally, if your IT department is responsible for backing up LimsData along with other server data, ask them to retrieve copies of your LimsData backups from the last several days for testing. If the files can not be retrieved in a timely fashion, that is a clear sign that it would be prudent to consider additional backup strategies.

### Belt and Suspenders

In addition to automatic server backups administered by their IT department, one MSC-LIMS lab creates their own backup of their LimsData database as well, copying it to a blank CD each afternoon.

Before the close of business, all users exit the LIMS. Then, a designated lab technician copies LimsData to a writeable CD. It only takes a few minutes. The CD is then taken to a safe location off premise.

For more ideas, see "How Reliable are your Backups?" in [MSC-LIMS Insights Issue No. 1](#).

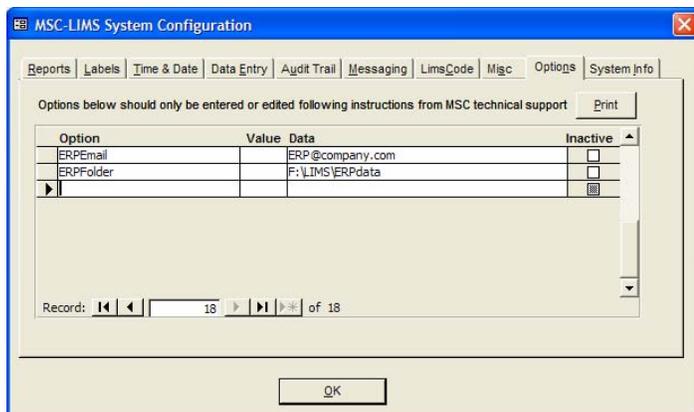
Your LimsData database is a valuable asset that must be safeguarded. Take the steps now to ensure you can recover quickly. 

## Integrating MSC-LIMS and ERP Systems

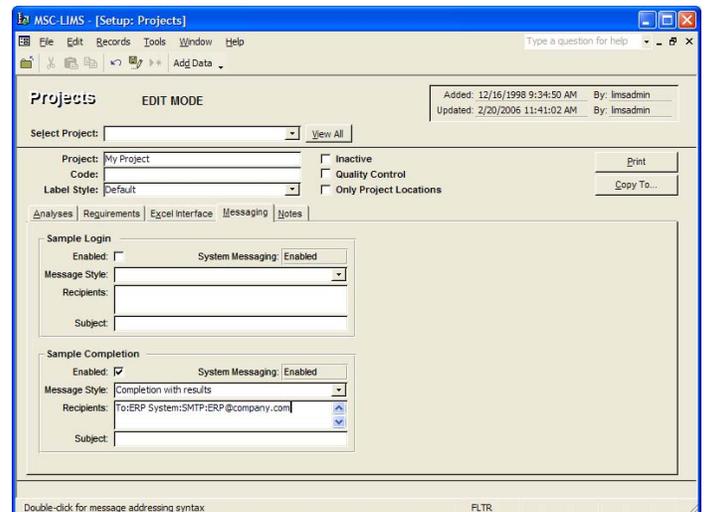
Several Full System licensees are using MSC-LIMS' customization framework to integrate MSC-LIMS data with their corporate enterprise resource planning (ERP) system in real time. Manufacturing companies are keenly aware that isolated databases or "islands of information" are a problem. Today's information systems must be capable of sharing their data with other systems. Lab results are often part of the bigger picture and that data must be readily available to employees throughout the company. MSC-LIMS fits well in these environments.

Using the customization infrastructure in MSC-LIMS Messaging, we have implemented MSC-LIMS and ERP integration solutions in just a few hours. Here's how it works. The ERP vendor supplied the layout of a data file they can import into their system. Their system has the ability to watch a folder and when a new file is found, the file's data is imported into the ERP. We updated MSC-LIMS Messaging to look for a designated email address. The email address is fictitious and is only used to trigger the data export. When Messaging encounters the email address, it removes the address from the list of message recipients then it creates the ERP-specific data file in the assigned folder.

In MSC-LIMS, configuration is simple. First, if it was not already set, we enabled sample completion messaging on the Messaging tab of the System Configuration screen. Next, we defined the ERP email address and data folder using new site-specific items on the Options tab of the System Configuration screen (see screen below).



The LIMS administrator then enabled sample completion messaging for all LIMS projects whose sample results must be sent to the ERP. In these cases, no actual email messages are being sent because only the ERP is included in the recipients field (see below). While a message style must be selected, no message is actually dispatched.



With this simple solution, the LIMS administrator can conveniently control which sample results are sent to the ERP using project or customer messaging. When a project or customer sample completes, Messaging automatically sends the sample's results to the ERP by writing a data file in the ERP's watched folder. With only a few hours of customization, completed sample results are now immediately available company-wide in the ERP. This simple solution integrates MSC-LIMS data with other information systems automatically in real time without any user intervention. ▲

## Notes from Technical Support

### SQL to the Rescue

Two users recently contacted technical support requesting assistance with specific data queries. The MSC-LIMS query-by-example (QBE) controls are powerful. Using any combination of the controls delivers very flexible query capabilities. However, not all queries can be accomplished using QBE. Both of these requests required a Structured Query Language (SQL) expression.

In the first request, the user needed to find all samples where a specific analysis was performed on a given date. The QBE controls support querying samples with a specific analysis and any of the sample's dates such as a date logged, received, and completed. The date the analysis was performed, which is entered on the results entry screens, is not available in the QBE controls.

Since the analysis date is not a sample characteristic (i.e. not stored in LimsData's Sample table), the solution requires a subquery on the sample's analyses using the SampleAnalysis table. But first, we need to find the internal AnalysisID for the analyte. That's simple. Just select the analyte on the Analytes tab of the QBE controls and click the [Query] button. Now view the "SQL for last query" on the SQL tab and find the clause "AnalysisID=N" in the expression. The value N is the internal AnalysisID. If our AnalysisID is 99, the following SQL expression will find all samples with the analyte where the analysis was performed on the specified date:

```
Sample.SampleID IN (SELECT SampleID FROM
SampleAnalysis WHERE AnalysisID=99 AND
AnalysisDate = #7/20/2007#)
```

Note that any SQL expression can also be combined with other QBE criteria to further refine the query.

In the second request for query assistance, the user needed to find all samples where a specific analysis was performed by any one of three outside labs. If you take a look at the Additional tab of the QBE controls you can see that the "Analysis by" options can be used but they only support finding analyses performed by a single lab.

*Continued on page 6.*

## Quick Data Export to Excel

We all learn something new every day. You are probably aware that it is easy to export data from any MSC-LIMS report to Excel. But did you know you can also quickly export data from some screens to Excel?

Try this simple example. Open the Locations screen on the Setup menu. Use Ctrl+A to select all records then use Ctrl+C to copy the data to the Windows clipboard.

Now open Excel. Position the cursor in cell A1 in a blank worksheet then use Ctrl+V to paste the data.

This technique also works in an MSC-LIMS Add/Edit form such as the Analyses setup screen. Switch the form to Edit Mode then click the [View All] button to enable all records. Use Ctrl+A to select all records and Ctrl+C to copy then use Ctrl+V in Excel to paste.

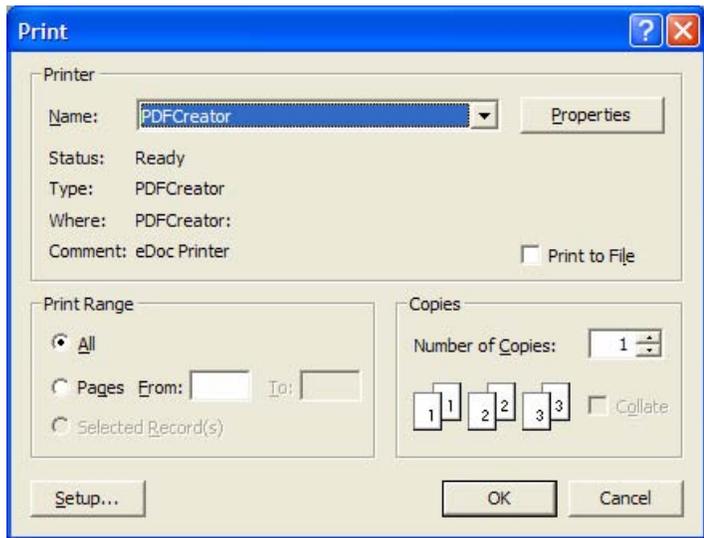
	LoginDefault	Name	Description	QualityControl	Inactive
1		Final Effluent		FALSE	FALSE
2		Inactive Location		FALSE	TRUE
3		Inactive QC Location		TRUE	TRUE
4		Influent		FALSE	FALSE
5		Mooney Final		FALSE	FALSE
6		N/A		FALSE	FALSE
7		Nokis Final		FALSE	FALSE
8		None		TRUE	FALSE
9		OCF Final		FALSE	FALSE
10		Primary Effluent		FALSE	FALSE
11		Salmonella Only		FALSE	FALSE
12				FALSE	FALSE

**Figure 1** Locations screen data pasted in Excel

While it may look and behave like magic, this capability is enabled by Access' and Excel's shared Microsoft Office lineage. 

## Create PDF files with free PDFCreator

In upcoming version 3.2, MSC-LIMS Messaging will include new message styles with attached PDF files. Since we did not want to require that users purchase Adobe Acrobat software just to create PDF files, we selected the free open source [PDFCreator software](#) for this feature.



If you don't already have Adobe Acrobat or other PDF software, use PDFCreator to distribute any LIMS report in PDF format. Download and install the free open source PDFCreator and you can save to PDF files LIMS reports, Excel workbooks, and documents from any Windows program by simply printing to the PDFCreator printer (screen, above). 

## What's Coming in Version 3.2

The new message styles alluded to in the article "Create PDF files with free PDFCreator", left, are not the only exciting innovations on the horizon. MSC-LIMS version 3.2 is over a year away, but here is a glimpse at some of the other new features you can expect.

- ✓ A complete update of the Container Labels option on the Samples menu will support querying samples and label scripts to reprint multiple labels for multiple samples.
- ✓ Like batch login, single-sample login will support label scripts to print multiple label styles for a single sample.
- ✓ Optional audit trailing of changes to sample characteristics will be added.
- ✓ New sampler and employee list reports are also expected.
- ✓ MSC-LIMS Messaging will receive several significant additions. Both batch message styles and message styles with attached PDF files will be added to Messaging.
- ✓ For Full System licensees with customizations, new configuration options in MSC-LIMS Archiving make it simple to archive data in custom tables.

Look for more information on version 3.2 in the next issue of MSC-LIMS Insights. 

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## For Customers Only

This section of *MSC-LIMS Insights* is devoted to current users of MSC-LIMS. Here we briefly introduce only the most recent additional to MSC-LIMS.com Customers Only pages. Use your login name and password to log on to the Customers Only section of our website. While you are there, visit these features:

### Archived MSC-LIMS Insights

We archive all past MSC-LIMS Insights newsletters in the Customers Only section of our web site. If you are a recent MSC-LIMS user or you missed a past issue, visit the [MSC-LIMS Insights](#) page for a convenient list. The list includes a summary of each newsletter's contents.

### File Library

#### [Sample Tracking Templates](#)

Use one of these templates to create your own backlog report by exporting data from an MSC-LIMS Sample Tracking report. A new template that groups the data by batch has been added to the existing templates that group by project and customer. See each template's Read Me sheet for more information. 

## Notes From Technical Support

*Continued from page 4.*

Of course, you can run the query three times but the user needed a single query so all samples could be listed on a single report.

The solution to this request is to perform the single-lab query three times, note the internal LaboratoryIDs of each outside lab then copy the "SQL for last query" and change the expression to a multiple-lab query. For example, here is the relevant SQL copied after querying the first lab:

```
Sample.SampleID IN (SELECT SampleID FROM  
SampleAnalysis WHERE LaboratoryID=1 AND  
AnalysisID=99)
```

We only need to change "LaboratoryID=N" in the expression to "LaboratoryID IN (N1, N2, ...)".

If our three outside labs have internal LaboratoryIDs of 1, 2, and 3 here is the multiple-lab SQL expression:

```
Sample.SampleID IN (SELECT SampleID FROM  
SampleAnalysis WHERE LaboratoryID IN  
(1,2,3) AND AnalysisID=99)
```

The QBE controls are powerful but they will not handle all possible queries. When you encounter a query that can not be accomplished with QBE, remember that an appropriate SQL expression will get the job done. 

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## Contact Us

**Questions, comments, suggestions?  
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