

Harvest LIS Enhances Productivity for the UMC Student Health Center

In 1992, when Dr. Nancy Olson was hired as the Laboratory Manager at the University of Missouri Student Health Center (UMC SHC) in Columbia, Missouri, she immediately had intentions to rid the laboratory of the paper system they had been using for years. Due to a state-funded budget that came with cost restraints for the Student Health Center, Nancy's quest was a rather long one.



UMC SHC Laboratory Staff: (sitting from left to right) Janna Watson, MLT(ASCP); Becky Shultz, MT(ASCP); (standing from left to right) Nancy Jo Day, MT(ASCP); Nancy Olson, Lab Director, PhD, MT(ASCP); Wanda Meiners, MT.

The Student Health Center at UMC is very robust. Seventeen physicians and nurse practitioners provide primary healthcare to all students. One of the features of the SHC is its onsite laboratory. The laboratory has five full-time staff members who are all certified medical technologists. The amount of work being sent through the lab has increased in the past few years, and because of this, the laboratory staff knew it was time to think about implementing a computerized laboratory information system.

Each year at the annual CLMA conference, Nancy would visit with the LIS vendors. "I've been trying to get an LIS since I started here in 1992. I saw Harvest at the CLMA conference and knew it's what I wanted," said Olson. Finally

in 2003, Nancy was able to convince the university of the need for an automated system for the laboratory, and after looking at other systems, Nancy was confident that she wanted to implement Orchard Harvest™ LIS.

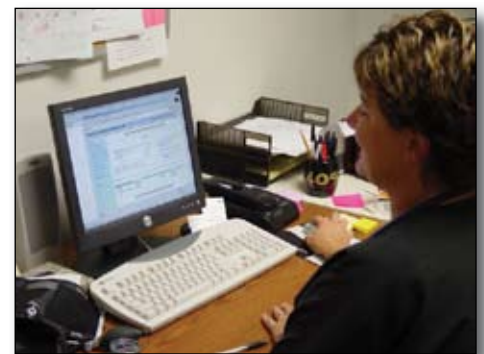
Nancy felt that the laboratory could benefit from an automated system to improve productivity. "There were a lot of clerical errors that cost us money," she says. "I wanted to reduce the paper trail and Harvest has done exactly that."

Installed on August 10, 2004, the staff has used the system for just over a year. "This system has been great," says Nancy. "The amount of time it has saved in phone calls is amazing. It has really increased our efficiency."

Upon installation of Harvest LIS, Nancy also chose to implement Orchard Harvest™ Webstation. This provides the nursing staff in the SHC the ability to look up patient results in a matter of seconds. "The nurses love it," Nancy explains. "They don't have to track us down all the time to find lab results, and we don't have to stop our work to deliver them."

In addition to the added productivity the automated system has given the lab staff, they are also pleased with Harvest LIS' ease of use and data retrieval ability. "I love how easy it is to use," says Nancy. "The ability to extract and manipulate data is great. We can also change patient names on the fly. That is really important for a student health center where the patient names tend to change a lot due to marriage."

Nancy is particularly pleased with Orchard's training. She has attended training at Orchard's corporate headquarters in Carmel, Indiana, on two separate occasions for system administrator training and advanced user training. "The training in Indiana is wonderful. I learned



Elisa Burkett, RN, uses Harvest Webstation to look up patient results.

so much and it was a great opportunity to meet the staff. I am sure there is so much more to learn, but it gave me a great start."

When choosing Harvest LIS, the budget constraints of a publicly funded university came into play. The staff at UMC wanted to ensure that the system they were buying would continue to grow with them and not become outdated. "We really liked the fact that it was inexpensive comparatively," Nancy says. "We didn't want the 'white elephant.' We were confident that Orchard wouldn't get gobbled up by a big corporation leaving us with no support. The support is great, and we are positive that it will be there for a very long time." ●

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Orchard Earns Customer Value Enhancement Award

This past July at an award ceremony in Boston, Massachusetts, Frost & Sullivan presented Orchard Software with its 2005 Customer Value Enhancement (CVE) Award for the laboratory information systems (LIS) industry. This award was given to Orchard in recognition of our ongoing customer initiatives that have led to the highest satisfaction rates in the industry.

“As information systems become more fundamental to the operation of laboratories, their functionality is expanding to meet the ever-growing needs of customers,” says Frost & Sullivan research analyst Silvia Cerqueira. “The LIS market is constantly changing, driven by more complex technology, the shortage of technical personnel, and the movement to streamline procedures.”

Some of the most important factors in an LIS purchase decision are customizability, flexibility, and the company’s ability to provide superior customer service. Frost & Sullivan recognized Orchard for our differentiation in the market through our unparalleled product development and customer support, and because Orchard’s Harvest LIS stands far above competing products.

In addition, Orchard’s Harvest LIS was recognized for being one of the most affordable systems on the market, making our LIS affordable for cost-conscious healthcare facilities and bringing tremendous value to their operations. “Healthcare cost restraints do not allow for system changes every few years, hence facilities are under great pressure to invest in an LIS that will be able to expand capabilities and upgrade in



Orchard Software’s President, Rob Bush, accepts the Customer Value Enhancement Award from John Ruggles, Vice President of Frost & Sullivan.

award for Orchard. “On behalf of all Orchard employees, I would like to thank our customers,” Rob said. “We know that this award would not have been possible without our customers. Orchard values these relationships, and the open line of communication is what helps us to develop and deliver the very best LIS. I also acknowledge each one of our employees and their level of commitment to exceptional service and going beyond the call of duty. Congratulations to everyone!”

order to keep up with growing needs,” elaborates Cerqueira. “These are the areas in which Orchard excels.”

Frost & Sullivan presents its CVE Award each year to a company that has demonstrated the ability to expand its customer base, while maintaining its existing install base, with more innova-

tive value creation and enhancement strategies than competing vendors. The award acknowledges Orchard’s customer-focused service strategies, and the degree to which these strategies meet the customers’ stated needs and requirements.

Rob Bush, President, and Bruce Heitman, Northeast Regional Sales Manager, attended the ceremony and accepted the

While in Boston, Bruce and Rob attended a press conference given by Governor Mitt Romney. He announced his initiative to rank and publish healthcare outcome information to help Massachusetts citizens make better healthcare choices. It is no coincidence that he chose to make such an announcement outside the East Boston Neighborhood Health Center, where Harvest LIS runs the lab. Governor Romney pointed to the Neighborhood Health Center and pronounced it a model of quality, efficiency, and the future of healthcare delivery. Congratulations to East Boston Neighborhood Health Center. ●



Massachusetts Governor Mitt Romney met with nurses and patients from the East Boston Neighborhood Health Center, where Harvest LIS runs the laboratory.

Henry Oglesby

Vice President of Operations

Hired as the first employee of Orchard Software, Henry Oglesby has seen it all at the Orchard. Henry came to work for Orchard in 1993 as the first non-founding employee of Orchard Software Corporation.

When asked what projects and assignments Henry has participated in, he responds, "The only area that I haven't had a project or assignment is in accounting." Currently, Henry serves as the Vice President of Operations, where he is in charge of the installation and support for all of Orchard Software's products.

Henry attended Indiana University for both his undergraduate and graduate

studies. Before coming to Orchard, Henry worked at American Monitor Corporation for ten years in a variety of roles, such as product testing, product research and development, technical support management, and regulatory affairs. Henry has also served as an instructor at Ivy Tech State College in Indiana.

Henry is married to his high school sweetheart, Susan. They have a daughter, Jennifer, who is married and living in Chicago, and a son, Michael, who will graduate from college in December. Although Henry doesn't have a whole lot of free time, he says that he enjoys reading about the Civil War and early



American history, as well as playing golf. When it comes to sports, Henry is a devout Chicago fan. He enjoys watching the Chicago Cubs and the Chicago Bears, as well as IU basketball. ●

2006 Orchard Harvest LIS Training Classes Now Available

Are you ready to come to class? Orchard Software has released the 2006 Advanced User Training and Microbiology Module Training class schedules. We invite you to join us at Orchard Software's Corporate Office in Carmel, Indiana, to familiarize yourself with the most recent changes and newest features in Harvest LIS and the Microbiology Module. Orchard's Customer Sales

Representatives, Kelly Bruce and Susan Dockus, would be happy to provide you with additional information, including a quote to allow you to budget for Advanced User Training or Microbiology Module Training. Kelly and Susan can also answer questions regarding Orchard's add-on modules; additional licensing; instrument interfaces; host interfaces; reference lab interfaces; plus

hardware upgrades, expansions, and replacements. We realize that it's never too early to start planning for the future. We encourage you to contact your Customer Sales Representative (800) 856-1948 with any 2006 budgetary needs or questions, and we welcome you to come be our guest at a 2006 training class. ●

2006 Training Class Dates

Advanced User Training Microbiology Module Training

February 20-24, 2006	January 23-27, 2006
March 20-24, 2006	April 24-28, 2006
May 15-19, 2006	July 24-28, 2006
June 19-23, 2006	October 16-20, 2006
August 21-25, 2006	
September 18-22, 2006	
November 13-17, 2006	
December 11-15, 2006	



New clients attending System Administrator training work independently on their own databases in the newly renovated training lab at Orchard's corporate headquarters in Carmel, Indiana.

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Electronic versions of the newsletter can be viewed at:
www.orchardsoft.com/news_links/newsletter/newsletterarchive.html



Where in the World is Orchy?

Orchard's unofficial mascot, Orchy, has been traveling again. From our last newsletter, Frederick Adams of Mount Sinai Clinical Labs in New York, New York, correctly identified that Orchy was visiting Vatican City. During the last few months, Orchy has been traveling somewhere in the southern half of the United States. If you can guess Orchy's location in this photo, send your answer to news@orchardsoft.com by November 15th to be eligible to win an Orchard prize package. We'll select a winner at random from the correct entries. Log in to the Orchard website to see where in the world Orchy has been lately! ●



Orchard's Trade Show Calendar 2005 & 2006

Dates	Name	Location
11/2-11/5/05	COLA/POL Symposium	Baltimore, MD
11/3-11/4/05	Central New York CLMA	Verona, NY
11/14-11/16/05	NextGen Healthcare User's Conference	Dallas, TX
3/2-3/4/06	Clinical Lab Educators Conference	San Antonio, TX
3/1-3/3/06	Lab InfoTech Summit	Las Vegas, NV
3/18-3/21/06	National CLMA Convention	Charlotte, NC

Limited Technical Support for Upcoming Holidays

During the days listed below, a technical support representative will be on call for emergencies, but the call center will be closed for normal business.

Thanksgiving—November 24 and 25
Christmas—December 23 and 26
New Year's—January 2, 2006

OrchardSoftware



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Address Correction Requested

2006 Harvest LIS Training Classes Now Available!

Harvest LIS Boasts New Features in the Microbiology Module

In Orchard Harvest LIS 6.5 we added several enhancements to the Harvest Microbiology Module. Among these was an important new feature: the ability to configure Harvest LIS to correctly interpret sensitivity results based on the zone size or manual MIC result obtained during testing.

To configure this feature, you must create entries in a new table called Rules - Microbiology Thresholds. Opening this table displays a window listing all of the rules configured in the system. You can double-click a rule to display the details for that rule, or click the New Rule button to display a blank detail window ready for the creation of a new rule.

Configuring a Rule

1. Begin by giving your rule a description.
2. Select the antibiotic that this rule will apply to. Only lab tests configured with the microbiology type "Sensitivity Analysis" appear in the "Antibiotic" drop-down list.
3. Select the option from the Findings drop-down list that Harvest LIS will use to match the contents of your finding. You may choose "contains," "does not contain," "contains item in list," or "does not contain item in list." When choosing one of the last two options, you can enter multiple items in the findings field, separated by a semi-colon.
4. You may select to have the culture source as a rule condition. If you wish to use this condition, you must

have a Findings-type test on the microbiology worksheet that has the Source/Site attribute enabled in the Lab Tests definition window. You may use the same comparison options for this condition as you did for the Findings condition you configured in step 3.

5. Enter the zone size or MIC break-points for Resistant, Intermediate, and Sensitive results.
6. Click the Save button to store your rule.

Handling Antibiotic Cascades or "Deduced Drugs"

You may use the Deduced Drugs button to add a special rule condition. As most microbiologists are aware, there is often a predictor drug for a specific antibiotic class.

For example, when testing antibiotics against Staphylococcus aureus, the result achieved by Oxacillin can be used to reliably predict the performance of the other beta lactams. When you add deduced drugs to a rule, you may select multiple antibiotics to which this rule applies. You can then make one of three selections:

1. Match the interpretation for the selected antibiotics to that of the antibiotic selected in the main rule.
2. Match the interpretation for the selected antibiotics to that of the antibiotic selected in the main rule, only if it's resistant.
3. Set the interpretation for the selected antibiotics to a specific text string (4 characters maximum).

Click the OK button to store your selections. If you assign one or more deduced drugs to the rule condition, Harvest LIS italicizes the Deduced Drugs button on the Rules - Microbiology Thresholds window.

Using Your New Rules

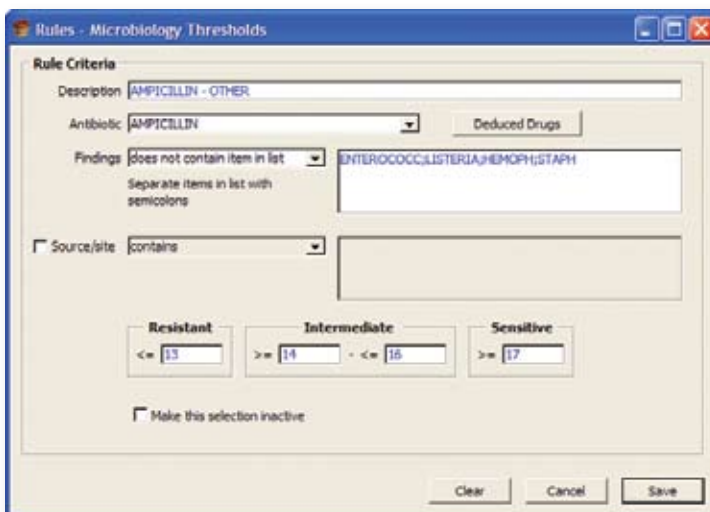
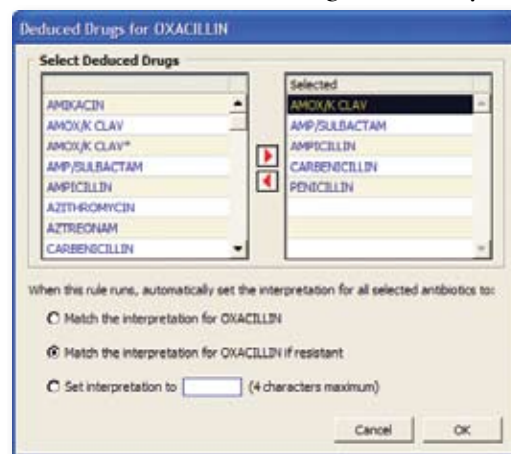
You should add each manual sensitivity test to the microbiology worksheet as the immediate child of the Findings-type test that contains your organism ID. When this is the case, Harvest LIS parses the organism ID into the Findings field of the Fill Manual Sensitivity dialog. This is very important: the text

that appears in this field is what Harvest LIS will use to compare with the findings condition of your rules! If the manual sensitivity is not the immediate child of your organism ID, you may manually enter

your organism name in this field. Because Harvest LIS is comparing text, it is important that you standardize your terminology. For example, if you have a rule that compares the Findings field to the text value "Escherichia," and you enter your organism name as "E. coli," then the rule will not fire correctly. You can help standardize how your techs enter organism names by creating a choice list for the lab test that you enter organism IDs in.

As you enter zone sizes or MIC values, Harvest LIS evaluates the number entered against the rules in your Rules - Microbiology Thresholds table. The first rule for which all conditions are met will fire, and Harvest LIS will update the Interpretation field. If a rule fires that has deduced drugs, Harvest LIS sets the interpretation of the deduced drugs as specified in your rule and italicizes these antibiotics.

Once you have entered all your results, click the Save button to store them on the microbiology worksheet.



Microbiology

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Fine Tuning

Here are some suggestions for fine tuning your rules:

- Prioritize your rules to help control how interpretations are made by dragging them up and down on the first page of the table.
- When creating these rules it is always best to follow a very simple rule of thumb: choose the drug, choose the bug, and occasionally choose the source. Then enter your breakpoints.
- Be wary of making your rules overly complicated, or creating contradictory rules.

- Remember that it is very easy to create additional rules that are similar using the Copy button.
- You may add an entry in Harvest LIS' Advanced Configuration Options window to denote which interpretations have been set by a rule with deduced drugs. In the [ManualSensitivity] section of Advanced Configuration Options, add the setting DeducedFlag=<Prefix>. Replace <Prefix> with a character of your choice. Here is an example from the Orchard Training Database:

```
[ManualSensitivity]  
DeducedFlag=*
```

Using this example, Harvest LIS will prefix the interpretation with an

asterisk. Note that because there are a limited number of characters allotted for the interpretation on the report, lengthy prefixes will likely be truncated. Accordingly, you should limit the <Prefix> value to one or two characters.

Using rules for micro thresholds in Harvest LIS can assist your technologists by ensuring accurate, easy interpretations for this complex area of microbiology testing.

There are also many other exciting enhancements to microbiology in version 6.5, including the ability to automate microbiology billing, choice lists, and reporting. Additional information on these new features is available in the online or printed help manual and release notes. ●



Restore or Create the Mandatory Log File in Harvest LIS

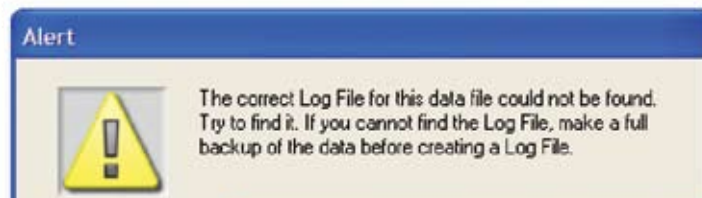
The log file contains all of the transactions in the database since the last successful backup. It has been a safety measure since the inception of Harvest LIS, and was made mandatory in version 5.5. This was done to prevent data loss and increase database stability in the event of an unexpected server shutdown.

A log file error can occur whenever the Harvest LIS server application has been closed unexpectedly. For example, shutting down the server without first closing the Harvest LIS server application, or a power outage that causes the server to shut down improperly.

If one of these events occurs, you will receive the following error message: "The Log File contains some data that has not been saved in the database." You must follow the steps below in order to restore the log file.

1. Click OK on the error message and another message appears. Click OK on the next two messages.
2. An open file window appears. Click the Cancel button, and then click OK on the next alert message.

3. On the Windows desktop, double-click the "My Computer" icon to open it. Double-click the drive on which Harvest LIS is installed.
4. Double-click the 4DBackup folder, and then double-click the 4DBackup.exe file. This file has a floppy disk icon.



5. Select the "Restore Log" option from the File menu, and an open file window appears. Change the "Files of Type" at the bottom of the window from "Structure File" to "Compiled Database." At the top of the window, navigate to the Harvest

LIS Server\Harvest LIS folder. Highlight the Harvest.4DC file, and then click Open.

6. Click "Open Log," and another open file window appears. Navigate to the Harvest LIS Server\Harvest LIS folder again, select the Harvest.4DL file, and then click Open.

7. The backup program begins parsing the file. Once the option to integrate is available, click Integrate to begin the process. Once it has finished,

the button will be disabled. If any errors occur during this process, please call technical support.

8. Upon a successful integration, exit the applica-

tion, and start Harvest LIS Server.

9. The alert for a mandatory log file appears again. Click OK until the open file window appears.
10. Select Harvest.4DL, and click Open. ●