

CASE STUDY

# Memorial Hermann Healthcare

Simplified output management brings increased benefits



## Organization

Houston-based Memorial Hermann Healthcare System (Memorial Hermann) is consistently ranked among the top healthcare providers in the nation. Their 12 hospitals and dozens of facilities include Houston's only burn treatment center and one of the busiest Level 1 trauma centers in the nation. More than 20,000 dedicated employees and 5,500 affiliated physicians work to provide high quality medical services that improve the health of the communities they serve.

## Healthcare Applications on the Move

Supporting thousands of Memorial Hermann clinicians with a vast network of information systems and technology professionals, Memorial Hermann uses Cerner® solutions for clinical documentation and managing patient records.

In 2008 and 2009, Information Systems undertook a major effort to migrate these systems from an Open VMS to a HP-UX environment. Technical Services Director, Omer Awan explained, "We had over 19 Cerner applications running across our landscape, all of them critical to hospital operations, and that number is still growing."

## Document Challenges

While application platform migrations can be challenging, the impact on the rest of the infrastructure is just as daunting. In the case of Memorial Hermann, one area affected by the change was the way documents were handled.

Memorial-Hermann's legacy Open VMS environment contained around 2,800 physical printers; most would be retained in the move to the HP-UX platform. In the new environment, however, all of these physical printers would need to be defined to each of the four HP-UX clusters running the Cerner software.

"Our team was faced with defining over 10,000 queues," explained ITS Administrative Director Mike Romero. "We estimated that it would take two to three FTE months just for queue configuration, and another ongoing FTE to support the complex environment once it was up and running."

## The Road to VPSX

These and other concerns set Memorial Hermann in search of a better solution. After careful consideration, they decided to implement third-party output management software. Narrowing down the field was easier than they expected.

As part of the platform migration, the support branch of the IT group was investigating ways to improve service to clinicians and other stakeholders. Senior Programmer/Analyst Holly Efting was tasked with finding and implementing ways to streamline their Cerner application printing environment. Her reasoning: "Many elements of a clinician's workflow are tied to the printing of patient arm bands, labels, prescriptions, requisitions, and reports. Printing failure can often directly affect patient care."

Holly began searching through Cerner's online knowledge base, uCern, to see how other customers had addressed the printing challenge. There, she learned how other customers had used the Digital Media Services (DMS) functionality provided by Cerner. This enables customers to use solutions from LRS and other third-party providers to handle requests outside of the Cerner back-end environment. "Much of the documentation was applicable to the upcoming changes in terms of our application migration project, so we decided to bring the LRS solution in and see for ourselves."

A top-ranked healthcare provider needed to change the way documents were handled in their Cerner application environment. Using VPSX® software from LRS, they were able to simplify and improve their document systems for faster, better patient care.



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## Implementing the LRS® solution

Since a new output management system would affect the backend infrastructure and front-line support organizations, both groups were involved in the project. Brian Efting, Lead Applications Programmer/Analyst at Memorial Hermann, worked with LRS systems engineers over the course of a week to install and configure VPSX output management server software.

But that was just the beginning – next came the task of customizing countless specialized forms the hospital had developed over the years. “For example, we have certain barcode labels that need to be set to a specific resolution, pull from a particular tray, and have the image rotated 180 degrees on the label,” said Brian. Using special PCMD scripts provided with the LRS software, Brian’s team could do all three of these operations at once with minimum coding, thus saving time and streamlining the forms development process.

Nearly all healthcare providers are moving towards a paperless environment. “Our users still print a lot of documents though,” says Mike Romero. “And if doctors or nurses or lab techs don’t get their reports printed on time, patient care can be affected... so they usually print another copy. Printing turns into a cost issue, because speed of patient care becomes more important than saving on paper.”

## Charting a course for success

In all, Memorial Hermann had nearly 3,000 printers and other output devices spread across their vast network of hospitals. These included report printers, barcode and label printers, and specialty devices like slide etchers and tissue cartridge labelers, all to be centrally managed by the LRS solution. In addition to these devices were the hundreds of printers used by Cerner Millennium front-end applications to produce clinical documentation such as patient charts.

These printers were defined to chart servers that format and manage the patient documents. Using VPSX software, Brian’s group was able to consolidate 300 print queues to a single queue on each of their 17 chart servers. This lone queue converts data from Cerner DMS into a PostScript format understood by every charting printer on the network.

The changes simplified life for the support staff as well. “We produce upwards of 17,000 chart server requests daily,” Holly explained.

“I used to have to babysit the chart servers every day, spending eight to ten hours a week cleaning them up. Now it’s 40 minutes on a Friday afternoon. I’ve basically gained an extra day each week to work on bigger issues.”

## Secure electronic document delivery

As a part of its Continuum of Care initiative, Memorial Hermann works with case managers at facilities outside its hospitals. Sharing patient charts with these external providers—while adhering to HIPAA and other privacy regulations—was a challenge.

“Using VPSX filters, I was able to scan the document contents to identify sensitive patient data and put the word ‘SECURE’ in an email subject line,” said Brian. Working with an outgoing mail filter server, the solution sends the outside agency an email with a link to the document on a protected server. “Now any request for sensitive data automatically adheres to our privacy protocol.”

## Meaningful Use – Stage 1

“Meaningful Use” legislation has added a layer of complexity and requirements for healthcare systems. Memorial Hermann was able to meet Stage 1 Meaningful Use criteria using VPSX functionality. “We leveraged VPSX to create a file for printing or burning to a CD, in order to meet Stage 1 Meaningful Use measures for electronic capture of health information,” explains Omer Awan.

## Saving time, money, and much more

The ultimate goal of any hospital is to save lives and improve the healthcare outcomes of the patients they serve. Healthcare IT systems provide clinicians the information they need to support these goals. But even not-for-profit healthcare systems like Memorial Hermann must carefully watch the bottom line. Money saved by eliminating chart servers and other unnecessary hardware can be used to fund more strategic initiatives.

In a healthcare environment, time is perhaps the most precious resource of all. “Each month, LRS software saves countless hours of troubleshooting efforts for our Core production team,” offers Omer Awan. Whether measured in dollars saved or time available to address patient-related issues, the benefits to the organization are valuable indeed.



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