ArcBITS Newsletter

ArcSys Hot Tip

Release 2.2.53 of Red Planet has several features that may be of interest. The first is related to the meaning or role of what a "locked" record is like.

The second relates to an additional security feature for encrypting data at rest.

Click on the 2.2.53 button in the lower right corner of a menu to read the documentation and gain further insight into these new features.

The IHC Lessons

Intermountain Health Care is the dominant player in the Utah market for health-care. After several years of looking at options for a new EHR system, they settled on Cerner. The conversion process was extensive, suffered setbacks and literally had a cast of thousands. In mid-August their system crashed when they went through an upgrade. Here is part of the official description from Mark Briesacher, MD, Chief Physician Executive, of what went wrong. We are including it in this newsletter because the lessons learned apply to everyone.

Today I am sharing what happened, why, and the hard lessons we learned. I also am sharing actions taken and the plans to continue to improve.

We have been working with Cerner on a plan to upgrade our database servers to increase the speed of iCentra's applications. Cerner had tested the servers, which are located in Kansas City, in their testing lab, where they performed well. The new server configuration has 4 servers that provide redundancy in the event that one of them fails. We were assured that if something went wrong during the upgrade, we could fall back to our current server configuration quickly before operating rooms started and clinics opened.

This is where we made mistakes and learned important lessons:

Cerner didn't test the performance sufficiently.

What happened: The load test did not simulate our peak-loads. We should have understood the current testing levels and how that compared to the load on our servers during peak hours of use —times when our volume and workflows are the highest.
What we're doing about it: Research is being done on how to appropriately load test and validate changes under our peak-load conditions going forward.

Our redundant servers failed during the switchover.

What happened: The new server configuration has four servers linked by software that balances the load and keeps them synchronized. However, this software had a defect that did not become evident until more caregivers logged on and started using iCentra. Because of this failure, all the iCentra traffic went to one server, which led to slowing and eventually the inability to use iCentra.
What we're doing about it: We're working with Cerner to determine why this happened and improve load testing, and require, with only rare emergency exceptions, that all changes be tested at full load.

The IHC Lessons (continued)

We made incorrect assumptions.

What happened: We shouldn't have relied on the premises that this would be a low-risk switchover and that we could back out in rapid fashion if we needed to. It turned out that we couldn't. Cerner was also making an Oracle software upgrade at the same time (this is the software that runs the server databases), so it took hours for us to uninstall the software and then move back to our previous servers.

What we're doing about it: Regardless of risk level for a switchover, we will only perform these updates on a Friday or Saturday night.

Our downtime procedures were insufficient.

What happened: Clinical caregivers were unsure about downtime kits and procedures and had limited access to read-only viewers of iCentra while the system was down.

What we're doing about it: We're working to update downtime procedures and creating a plan to practice them on a regular basis. We already increased our read-only viewers from 1,000 to 7,000 and are evaluating if this should be 10,000 or more.

The most important lesson we learned was that we need to communicate with everyone impacted by emergencies and issues like this—rapidly, transparently, and reciprocally. We are creating an Intermountain Med Staff text group for all physicians and APCs and more information will be sent tomorrow.

I again want to apologize for this week, and I hope that each day is better for you. Recovery efforts are coming to an end, and please continue to reply with your advice, ideas, concerns, and suggestions.

ArcSys has had its share of problems when providing updates so we are sympathetic to the events which impacted IHC. When you don't have direct hands-on control, things can go awry.

More Lessons

Just so you don't think we are throwing IHC under the bus, ArcSys has had instances where all our pre-testing was for naught.

Recently we have been working on an interface between Red Planet EMR sending billing information to Aviacode, AltaMed and eventually AdvancedMD. Sounds complex, right? Anyway, there were numerous parties involved and there was a fair amount of software being installed and tested. Everything appeared to work. The final switch was thrown and we were in production.

Oops. Red Planet was not sending insured date of birth and gender.

A quick fix was implemented and data was flowing (again). The lesson? No matter how much testing you go through, there will always be a hiccup. Murphy's Law will prevail—if anything can go wrong, it will.

Updox is planning on implementing a change in early October to improve the security of transmissions. We've read the documentation and we think we are covered. But, we had to bring it to Updox's attention that a test before hand might be warranted to assure us that things will work. They have now concurred.

We will keep our fingers crossed.