iTera's Echo² at Great Plains Communications

What began with a company's decision to go paperless turned in to a high availability headache that fortunately had a very happy ending.

It began with a decision to transition to a paperless billing system. In 1998 Great Plains Communications, a Blair, Nebraska provider of phone, cable and Internet service to much of rural Nebraska, took on the job of finding and implementing a high availability solution to provide disaster recovery protection for its billing, service order and other operational applications. The need for high availability became especially acute because of an initiative at Great Plains Communications to transition to a paperless billing system, which of course meant that they could no longer fall back on hard copies of their bills to rebuild transactions if a system failure should occur between daily tape backups.

After a thorough evaluation of the three high availability vendors that existed in the iSeries world at that time, as well as weighing the pros and cons of building their own solution, Great Plains chose to go with a vendor solution, and they began the implementation process. Before starting, an additional iSeries model 820 was purchased and placed in another location 10 miles away, linked to the production system by a fiber optic connection. But after a several months of unsuccessful efforts to get their new solution reliably mirroring all critical data, Great Plains' great expectations for high availability soured into great disappointment. That's about the time that the responsibility of HA was dropped into the lap of Tim Jensen, Senior Programmer/Analyst at Great Plains Communications.

Says Jensen, "Right away I spent a lot of time working with the HA system, endeavoring to troubleshoot problems and get these solved by the vendor. I kept expecting that we would ultimately get problems resolved, but as soon as I began to relax a little, something always happened that would undermine my confidence." Jensen continues, "I spent an enormous amount of time tracking errors and documenting the HA system processes both to prove the problems to the vendor, but also to ensure that my staff would also understand exactly what they needed to do to in order to try and keep the system running."

The problems that Great Plains encountered included chronic out of sync conditions (objects not being accurately replicated to the backup system), inaccurate monitoring and reporting of replication information, inability to test the role swap process (moving users and jobs to the backup system), and poor support. Not only were there logical files that wouldn't replicate, the mirroring of IFS and spooled files also wouldn't reliably replicate. Additionally, accurate information from the HA system monitor wasn't always being shown, and when it was, the monitor didn't clearly flag data to indicate where errors existed. To make things worse, Great Plains just wasn't getting the help they needed from the vendor to resolve these problems, which, of course, added tremendously to their frustrations. Says Jensen, "I had to continually push customer support to escalate our problems because we weren't getting satisfactory resolutions."

Jensen continues, "Finally, we paid to bring technicians out from the vendor to help resolve our issues, but even after their being on-site for two weeks we still could not do a role swap. It was only several weeks later and after three different on-site visits from vendor technicians that the role swap was successfully executed. At this point we had been working with the product for nearly two years and only now were we able to do a role swap. The reason is we never had the confidence that objects were being

accurately replicated on the backup system; therefore, we were naturally afraid to create long periods of downtime during role swap tests due to unexpected complications. On top of this we were also worried that if we successfully did the role swap, that we might not be able to easily roll back (reverse the role swap)."

But even after all of the technicians had left, there were still persistent problems. Finally, exasperated after nearly three years of not getting reliable object replication, plus not having the necessary confidence to reliably test the role swap process—let alone a failover (role swap from a sudden system failure)—Jensen and his IT staff decided they needed to cut their losses and start searching for a different HA solution. Jensen contacted the other two HA vendors whom they were aware of in the iSeries market (the other two vendors that Great Plains originally contacted) and took another very close look at these in hope that one of them offered an alternative that would not be a repeat of their current problems. But after thoroughly evaluating the other solutions, while still struggling to get their current HA software working, nothing stood out as a better solution. The other solutions seemed as complex, cumbersome and expensive as their current solution, and Jensen wasn't so sure that they would provide a better level of support when problems did arise.

It was just about this time that Jensen read about the benefits of remote journaling for high availability solutions in an article in an iSeries publication and subsequently learned about iTera's Echo^2 high availability solution for iSeries that is based on remote journaling. Jensen contacted iTera and to his surprise discovered that Echo^2 not only cost significantly less than the others he had evaluated, but seemed at first blush to hold promise that it could more reliably replicate his data and execute role swaps.

Jensen soon discovered, however, that iTera was not a large international company with thousands of customers like the other HA vendors he had evaluated and, despite an encouraging demo and positive conversations with several people from iTera, Jensen was a bit reluctant to consider a smaller vendor. Still very interested, but determined to avoid another flavor of his current HA frustrations, Jensen decided to go to Salt Lake City and check out the company for himself, meet face to face with staff members, and see the product in action. Very quickly all of his fears were dispelled. Says Jensen, "Once I came to the offices and met with everyone, saw the operation and learned more about the product, I felt an increased comfort level. I was impressed with the ability to talk directly with the product's developers and especially Dan NeVille, the company's president. I was happy to know that if we bought Echo^2 that I would be able to directly contact those 'in the know' and not have to go through a long chain of command."

Upon his return to Great Plains, an online demo of Echo^2 was conducted with all of the decision makers present and after some additional deliberation, the majority of votes were cast in favor of Echo^2. Says Jensen, "We chose Echo^2 not only because it was significantly less expensive, but because it appeared to have the features we were looking for and we felt confident we would get a high level of service. Of course money was an important factor in the decision, because our company--like a lot of companies— doesn't have the dollars to spend on IT like we used to." Jensen continues, "But most importantly, the Echo^2 software appeared to be succinct, tidy and unified, and we felt confident that it would reliably keep our critical data replicated, plus allow us to regularly test and build confidence in the role swap process. In addition, unlike the other products that we looked at, the learning curve appeared to be far easier. Of course, we already knew from experience about an extensive and exhausting learning curve

for our current HA solution, and we were told by someone from IBM who was very familiar with iSeries HA software that if we changed to another solution that we could expect to spend a year, at minimum, learning that product. However, after fully evaluating Echo^2 and seeing its automation and ease of use, it was clear that this wasn't going to be the case."

Echo^2 was installed at Great Plains Communications during the first weekend in January 2003, and even though there was a little difficulty at first getting some objects replicated, issues were quickly and satisfactorily resolved. "Overall, Echo^2 does a great job of keeping objects in sync and bringing objects back into sync if a problem occurs" says Jensen, "On a day to day basis we spend far less time monitoring Echo^2. The product is truly automated, self healing and self correcting. With our previous HA solution, every out-of-sync condition had to be manually resolved. We are also impressed with the spool file and IFS replication capabilities of Echo^2." Jensen continues, "For the past two to three years, my single largest job has been dealing with our HA software, but in the short time that Echo^2 has been installed, I have already been freed up to spend most of my time on other IT projects."

During the first test of the role swap process with Echo^2, iTera's installer was on site and helped Great Plains work out the kinks. The main problem at first was getting the IP addresses to change properly. However, after several more tests and some additional fine-tuning of the process, multiple role swaps with the backup system were completed, each in two minutes or less. One rollover even took less than 40 seconds.

Despite their decision to implement Echo^2, Great Plains still hedged its bet by making the purchase decision while there was still a few months left on their maintenance contract with their original HA vendor. The idea was, in case Echo^2 didn't work out they could at least fall back to the first solution and continue to try to resolve its problems. However, after just a couple of months with Echo^2, Great Plains decided not to renew their maintenance with the previous vendor, thus finally cutting their old ties and confirming their confidence in iTera and Echo^2.

About iTera

Headquartered in Salt Lake City, Utah, iTera is a leading developer and integrator of iSeries high availability and continuous availability solutions including Echo² ™ High Availability, Reorganize While Active™, Purge & Archive™, GuardianSave™, Upgrade While Active™ and Convert While Active™.

About Great Plains Communications

Great Plains Communications, headquartered in Blair, Nebraska, is a diversified telecommunications leader that provides telephone, cable television, Internet and distance learning service to thousands of customers in 76 rural Nebraska communities.

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