

simply too expensive for the company to consider.

"We would have to get another box and another facility to put it in. And then that facility would have to have built-in redundancies and networking capabilities," Sherry says. "So I'd be looking at a very significant capital investment, and then I most likely would have been responsible for maintaining that box and facility—and I didn't want to take that task on. And then there were software-licensing fees, which would have added up. We really didn't want to invest in any of that. We wanted to keep things simple and leverage our vendor knowledge."

DR test, beginning with the initial full backup and then subsequent daily and weekly backups. After doing this for a month and making minor adjustments along the way, the company conducted a DR test.

"We started with a backup job that ran on a Tuesday, and on Wednesday morning, UCG took over, taking the data and starting the restore. It took less than 18 hours for everything to come back up so I could actually connect to that remote system and begin conducting transactions. It was under our ideal recovery time," Sherry says.

He then had some key personnel sit down at their computers and apply real transactions, including sales orders

speeding its arrival at the VAULT400 location. Additionally, the data is encrypted before it's sent over wire, ensuring that it can't be read, even if it's intercepted, during the backup process.

Kinetico is also notified by e-mail when backups are completed and if any problems arise during this process. In the latter case, Kinetico can work with ICG to troubleshoot any issues. But as Sherry points out, "That doesn't happen very often. Everything is very consistent."

#### **Making the Best of the Worst**

Although most organizations realize the importance of backing up their data

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***Everything would be seamless."***

— Ned Sherry, director of IT, Kinetico

And that's what they did. Having already collaborated with UCG on several different projects—including configuring its System i server—Kinetico knew the vendor and UCG was equally familiar with Kinetico. Before jumping directly into those waters, however, the company put out requests for proposal. The field of several vendors dropped to only a few.

"There weren't a lot of companies capable of handling what we had envisioned, such as backing up over wire to an offsite facility, declaring a disaster and then being able to have our data restored from disk and not from tape," Sherry says. "Sure, there are a lot of software packages for high availability and colocation, but I didn't want to head down that path. And UCG and VAULT400 didn't. They were right on target."


Kinetico decided, however, that even though VAULT400 looked like the right solution at the right time, it should put the service through its paces before signing a contract. To that end, Sherry put on his skeptic's hat and began seeding his backups for a

and journal transactions, to both the company's local system and the remote system. Sherry then compared the two and saw the systems were in sync, proving that the company could work on the remote box for an extended time in the event of a worst-case, pile-of-ashes scenario.

"If I look at that worst case—a big lump of molten plastic and metal—I know I'd have to run in disaster-recovery mode for several weeks before I could bring in a new box. Once I did, though, I could simply work with UCG to help set up and configure that box and then go through the restore process. That was part of the appeal to working with UCG. Everything would be seamless, and I'd only have to work with one business partner," Sherry notes. "As an added bonus, I also wouldn't have to pay extra for the time I might be working on that remote DR box. Others charge for that, beyond simple backups."

One might think that backing up over wire would take longer than backing up to tape, but that's not the case with VAULT400. The data is compressed before being transmitted,

for DR purposes, different companies will likely have different requirements. And, similarly, different vendors will have different solutions. That's why it's important that companies do their homework, exploring every possible solution before deciding on one, as Kinetico did.

It recognized that some solutions were too expensive to deploy or would introduce too much complexity. After careful deliberation, it found a service provider that met its needs, including automated backups that wouldn't leave Friday and Saturday data entry vulnerable to loss. Now, the company can not only meet or exceed its RPOs and RTOs, but also rest assured that it can continue operating even in the worst-case scenario. 



**Jim Utsler**, IBM Systems Magazine senior writer, has been covering technology for nearly

20 years.

# The Proper Treatment

A new disaster-recovery partner helps Kinetico Incorporated prepare for the worst.

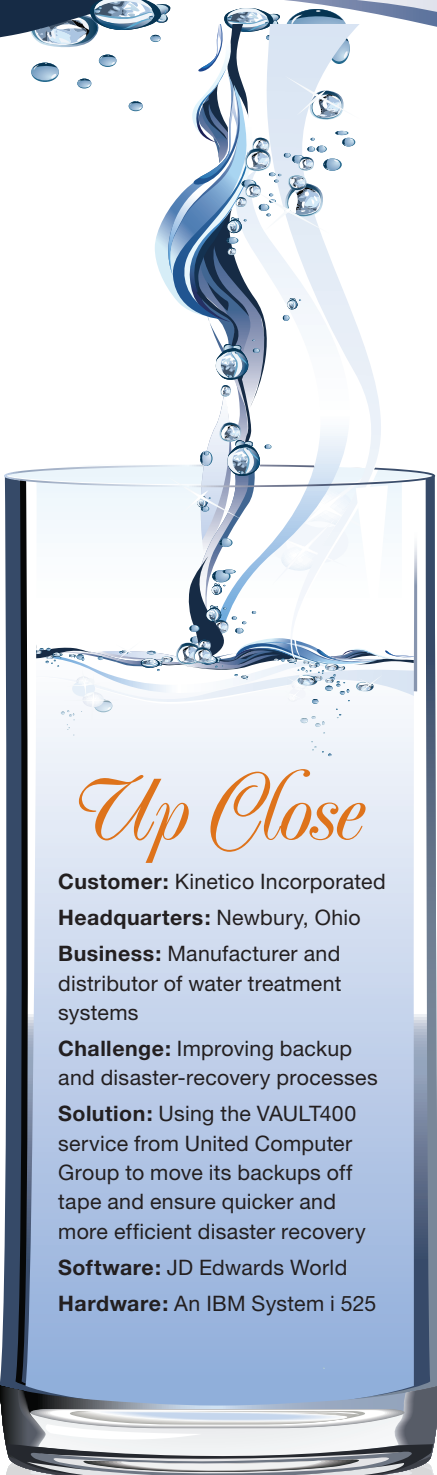
By Jim Utsler

By now, most organizations recognize the importance of sound disaster-recovery (DR) procedures. For some, however, best-practice details may be elusive. Should they back up to tape, mirror one system to another or perhaps partner with a third-party DR provider?

Those were just a few of the questions that came up when Kinetico Incorporated began reconsidering its recovery time objectives (RTOs). It had been using tape for daily and weekly backups, which it shipped to an offsite vaulting facility. Ned Sherry, director of IT with Kinetico, notes, "We had an RTO of well over 24 hours and the potential of losing two days' worth of data."



Kinetico's Ned Sherry says the water-treatment company could keep business flowing after a disaster.



## Up Close

**Customer:** Kinetico Incorporated  
**Headquarters:** Newbury, Ohio  
**Business:** Manufacturer and distributor of water treatment systems  
**Challenge:** Improving backup and disaster-recovery processes  
**Solution:** Using the VAULT400 service from United Computer Group to move its backups off tape and ensure quicker and more efficient disaster recovery  
**Software:** JD Edwards World  
**Hardware:** An IBM System i 525

Neither of these situations sat well with management. They and Sherry wanted both an RTO and a recovery point objective (RPO) of 24 hours or less. They also wanted a relatively hands-off alternative to tape, which, given the company's small IT department, was vital to the viability of any tape successor.

After exhaustive research, Kinetico chose VAULT400, a DR-hosting service from United Computer Group (UCG). Using this service, Kinetico can now send daily encrypted backups over wire to UCG and VAULT400 and avoid dealing

with tape at all. This arrangement more than meets Kinetico's RTOs and RPOs.

And just as importantly, "It's all automated, unattended, secure and quick," Sherry says.

### A Full Plate

Founded in 1970, Newbury, Ohio-based Kinetico specializes in fully automatic water-treatment systems, including water-conditioning equipment such as water softeners, iron filters and reverse-osmosis devices. Kinetico sells through independent dealers in the U.S., Canada and Europe, and international distributors throughout the world. Most Kinetico customers are residential and commercial users.

The company makes most of its products at its Ohio headquarters. This includes molded parts, valves and other key components. It only taps an outside partner for off-the-shelf parts, such as screws and O-rings. All other design and manufacturing takes place in house, which, given today's outsourcing norm, is somewhat unusual but also very efficient. "We control every aspect of the product-development lifecycle, including fulfillment," Sherry says.

Humming along in Kinetico's data center is an IBM System i\* 525. It hosts the company's core ERP suite, JD Edwards World. This green-screen-based application handles not only Kinetico's everyday back-office processing, including accounts payable and accounts receivable, but also all data related to orders, including in-house work orders.

Prior to becoming a UCG and VAULT400 customer, the company wrote daily file backups and weekly full backups, including JD Edwards, to tape. It would then take those tapes offsite to a local storage facility. In the event of a system outage, which the company has never experienced, someone would have had to drive those tapes to a hot-site DR-hosting facility, mount them and then bring a remote system online.

This DR approach was lacking. For one thing, Sherry notes, tapes are prone to failure. So even if the tapes got to the hot site for DR purposes, they might be corrupted, and therefore unusable, and days worth of work might be lost. Also, a human being

would have to go the DR site to mount the tapes and restore the system. Kinetico's lean IT staff—four, including Sherry—made this untenable. This became an issue even during periodic DR testing, with valuable personnel having to go offsite when other, everyday matters needed attention.

"We have around 25 to 30 servers, including the System i server, that we have to support, as well as some 30 to 35 applications," Sherry says. "There's a lot on our plate already, even before we get to backups and disaster recovery."

The backups themselves were time consuming, with dailies taking around 45 minutes. Second-shift manufacturing employees couldn't enter any data, including vital work-order information, into the system until the job was finished. This created a backlog of work that otherwise should have been completed on time.

Perhaps more importantly, a possible 24 hours-plus of work could have been lost if Kinetico had experienced a disaster. This was because Friday backup tapes were being left mounted over the weekend, and Saturday data entry wasn't written to tape up until the next scheduled backup—8 p.m. on Mondays. If a physical disaster were to happen at the data center on Sunday, the data from both Friday and Saturday would be lost.

"That tape was just sitting in that tape drive, and this was the worst-case scenario, with the computer room being just a pile of ashes," Sherry says. "There would be no way to meet our 24-hour RPO. In addition, our senior management team clearly identified what our new RTO should be, which was also 24 hours, and with tape and the cold-site vaulting, we just couldn't achieve that. That's why I had to look for a new solution."

### Right on Target

And look he did, reaching out to every resource available, including the Web, trusted partners and IBM magazines. The company considered nearly every option that didn't involve tape. But it found that many of them, such as real-time, box-to-box mirroring, weren't viable because of cost or complexity. Mirroring options, for example, were