



## COMPELLENT SAN RESCUES TIDEWATER FROM A PERFECT STORM



As Hurricane Katrina stormed its way toward New Orleans, team members at Tidewater Inc. knew they had to act quickly. For more than 50 years, Tidewater has been carefully watching the weather while providing vital maritime support services to the world's vast offshore oilfield operations. With a rare Category 5 storm bearing down on company headquarters in Louisiana,

John Chaffe, director of information technology, realized the potential for flooding at the central IT site, and the disruption that would cause to operations at 12 other sites around the world. The existing IT disaster plan was not going to be enough to protect data and systems in a city that would soon be underwater.

Chaffe went above and beyond the call of duty to protect vital hardware and data from total devastation. "The network supervisor and I dismantled the main servers and direct-attached storage disks, loaded them into the back of our SUVs, and set off for the Houston office," he explains. "He headed west and I headed north, both of us crawling along in the gridlocked traffic of evacuees." The 300-mile journey took Chaffe more than 24 hours. This was the beginning of an odyssey that kept him away from home for more than six weeks and ultimately led to the design of a new data center and disaster recovery plan based on Compellent technology.

Once in Texas, Chaffe and his team worked quickly to bring back up the central server system that hosts e-mail—a vital management tool for ship-to-shore deliveries. It took several hours, many trips to local computer stores for supplies, and a new portable equipment cooling fan before it was up and running—54 hours after the decision to evacuate. And just when Chaffe was beginning to think about taking the data center back to New Orleans, Hurricane Rita threatened not only Louisiana but Texas, too. Once again, Chaffe dismantled the system and this time flew it to Mobile, Alabama, to wait out the storm. He eventually flew back to Houston to redeploy the system—and redesign the company's IT and storage strategy.

## REPLICATION AND VIRTUALIZATION DRIVE DATA CENTER REDESIGN

With increasing pressures from regulatory compliance and now facing a complete disaster recovery overhaul, the Tidewater IT steering committee asked Chaffe to investigate options for data replication. After looking at several systems, including

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## RESULTS REPORTED BY TIDEWATER

- » Replication provides vital disaster recovery at the flick of a switch
- » Boot from SAN enables test server environment and rapid recovery to avoid disruption and improve regulatory compliance
- » Virtualized storage environment optimizes virtual server environment
- » Company achieves 24/7 monitoring and reduces
- » Automated Tiered Storage provides cost-effective flexibility

## OPERATING SYSTEMS

- » Microsoft Windows

## APPLICATIONS

- » Novell GroupWise
- » Blackberry Enterprise
- » Microsoft SQL Server
- » Citrix
- » Novell NetWare
- » NetWare Server
- » VMware GSX Server
- » Xerox DocuShare

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## COPILOT SERVICES

Copilot Services, Compellent's comprehensive customer service and technical support center, provides exceptional system support through online incident tracking and automated event notification. For Compellent customers, this means that in the event of a drive failure or other system threat, Copilot alerts system administrators and provides valuable insight to the level of emergency and potential solutions. Compellent Copilot Services offers the team at Tidewater peace of mind in the event that any problem—forecast or not—arises.

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independent off-site vaulting, Chaffe decided that switching to a storage area network (SAN) with asynchronous replication at a remote site and a virtualized environment would help create a new, more-reliable data center.

A heterogeneous server environment had already been causing backup and resource utilization issues for Tidewater, especially as the company grew worldwide, and e-mail—a key communication tool for ships unreachable by more traditional means—was increasing exponentially. “Fixing server issues was a lengthy process, and testing upgrades or software patches prior to going live sometimes meant an interruption in service,” Chaffe says. “If e-mail is not available and we cannot communicate with our vessels, we could end up losing thousands if not tens of thousands of dollars an hour—and put lives at risk.”

Although Chaffe was already certified on a competing vendor's storage products, he liked both the flexibility of the Compellent SAN and the system's highly competitive pricing. “Compellent isn't just selling hardware—it offers a solution that gives you more bang for the buck,” Chaffe says. “I couldn't design a system like this with any other manufacturer at this price, even with significant discounts. Compellent functionality means the system is easy to manage and provides risk mitigation options that help eliminate the possibility of long-term downtime.”

## FLEXIBILITY HELPS EXPAND IT CAPABILITIES

Chaffe designed the new data center using a dual-controller Compellent SAN with dual-port cards in a dual fabric and a single controller SATA environment at the replicated site. The system uses iSCSI for replication and Fibre Channel for its main applications, taking advantage of the increased flexibility provided by Compellent support for both iSCSI and Fibre Channel. Chaffe uses Automated Tiered Storage to create a two-tier storage environment in the main data center using SATA and iSCSI.

In addition, Tidewater purchased 20 new servers to create a homogenous environment—10 for the main office in New Orleans and 10 for the remote site in Dallas. With spare servers in place, Chaffe can easily test new patches and upgrades before putting them into production, avoiding unplanned downtime and satisfying compliance regulations.

Furthermore, provisioning or failover can be accomplished quickly and with minimal disruption. “With Compellent, I have everything booting from the SAN, which is now fully replicated to the Dallas site,” Chaffe explains. “All the servers are identical, so if I have a server hardware failure, I can reprogram the spare server to boot as the one with the failure in a matter of minutes.” And in situations where a server fails, Chaffe uses Compellent's snapshot capability to restore data quickly and easily—an impossible task with the previous system.

## OPTIMIZING STORAGE FOR MISSION-CRITICAL E-MAIL

Since the company's Novell GroupWise e-mail application is the biggest bandwidth consumer and absolutely critical to operations, Tidewater uses the Compellent de-duplication functionality for bandwidth optimization. Now Chaffe is able to failover to the Dallas site without noticeable latency while taking advantage of less-expensive iSCSI technology.

Virtualized storage also provides Chaffe with increased flexibility and reduced costs. Two of the servers use VMware and run a variety of servers that previously ran separate e-mail applications, including Novell, Blackberry and antivirus software. After comparing several virtualized storage technologies, Chaffe preferred the abstraction model used by Compellent to virtualize volumes. “The nonvirtualized nature of many other storage aggregators means you have to get extremely detailed and be quite an expert,” Chaffe says. “With the Compellent SAN, I can easily train someone in a day or less to get the job done.”

## DISASTER RECOVERY FROM ANYWHERE

Compellent's industry-leading ease of use means that Chaffe can manage the SAN from anywhere in the world. "We have a small IT staff to support global operations," Chaffe says. "I travel around the world—Brazil, Africa, Singapore, Cairo, Indonesia, Australia—on a regular basis. As long as I have an Internet connection, I can reach the SAN and allocate or fix whatever is required. After Katrina, when we were still using the old system, a server went down and I had to convince three national guardsmen holding M-16 rifles to let me into downtown New Orleans at 4 a.m. to reboot the server. Now I have an engineer in Singapore who can easily manage the system from there, so we have 24/7 coverage and no one has to leave home."

In all, ease of management—particularly for replication and the ability to rapidly create and assign LUNs—has reduced the time Chaffe spends managing the system to minutes a day. "We're doing a lot more than we used to," Chaffe explains. "But it's only taking minutes to manage. Plus, we can do it without additional headcount and still effectively mitigate risk." As additional support, Chaffe uses Compellent Copilot Services to help monitor system performance and act as a virtual extension of his IT team.

"In disaster planning, everyone has a specific risk to address," Chaffe says. "On the West Coast, it's earthquakes. In the Midwest, it's power outages or tornados. Our problem is hurricanes. Compellent has enabled us to design a system that allows us to flip a switch to keep operations up and running for as long as we need, no matter what the issue may be."

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