With deregulation looming, officials at City Public Service (CPS) of San Antonio needed to streamline. A more efficient operation delivering better service would position the municipal utility to succeed in the face of future competition. Aided by HP, CPS is well on the way toward its goal. The electric and gas utility has moved many key business functions to R/3, the ERP suite from SAP, running on HP hardware and supported by HP services. Having re-engineered its information systems and processes, CPS can provide more reliable service to San Antonio residents and businesses while controlling its operating costs.

CPS serves more than 560,000 electricity users across a 1,566 square-mile service area, plus 302,000 natural gas users. Founded in 1860, the utility was acquired by the city of San Antonio in 1942. Its revenues finance about one-fourth of the city’s budget. Officials at CPS point with pride to the fact that they have not increased utility rates since 1991.

“When we received new servers, HP was here to install them and get them running on our network.”
— Richard Zanni, network analyst, City Public Service, San Antonio

Of CPS’ approximately 4,000 employees, about half currently work on the SAP system. Although many of these end-users are concentrated in the utility’s headquarters, others work in field offices throughout the service area. Field technicians exchange information with the system in real time.
They do this through an integrated wireless work force management system, an electrical outage management system and a geographic information system (GIS) tied to the R/3 application.

The Challenge

In 1996, the state government began to contemplate deregulating the power industry in Texas. With this in mind, CPS officials reassessed the organization’s existing technology infrastructure and found it inadequate for the competitive new environment. The utility needed to replace its legacy mainframe information systems with an integrated solution that delivered ready access to critical business data and helped its work force provide better customer service, said Richard Zanni, a CPS network analyst. In the past, CPS maintained separate systems and databases for different functions. This hampered employees’ efforts to provide the best possible service. For example, “it was difficult to pull together all the information pertaining to a customer,” Zanni said. “The data was there. It just wasn’t readily accessible all at once.”

The old systems only provided redundancy for the customer service applications, leaving the financial, materials management and work force management applications susceptible to outages. In addition, the GIS and outage management system were not integrated, and the mobile workforce management system was only partially integrated. Significant effort would have been necessary to integrate these additional systems and improve the flexibility of the entire system.

So CPS conducted a competitive procurement for a company to implement a suite of modern ERP applications and provide the necessary hardware and infrastructure. A major requirement was that the system had to stay up and running no matter what. Members of the CPS procurement team “were looking for a system that would have redundancy, that would have a failover capability, a disaster recovery capability,” Zanni said. They also required a storage solution that provided day-to-day access to data and backups.

CPS awarded the contract to HP in 2000. The solution incorporated SAP’s R/3 software suite, as well as enterprise-class hardware, software and services needed to ensure availability of these mission-critical applications. “HP presented the best solution for SAP in terms of database backup, a storage solution, server failover and disaster recovery,” Zanni said.

HP’s Solution

The main SAP modules CPS installed are applications for financial management, materials management, customer information, and workload management for repair and preventative maintenance.

They run on a cluster of HP mid-range servers, with HP lower-end servers to handle smaller components of the system. In addi-
The implementation includes two of HP’s high-availability Intel-based servers to run middleware that manages the SAP browser interface. HP also provided two high-end disk array storage units, one installed at CPS’ main office and one at a remote site. These store the SAP data that users access as they do their jobs. The two storage arrays stay synchronized in real time, so if one should malfunction, users can continue to access data from the second site.

Indeed, HP worked with CPS to assess the utility’s business continuity requirements and ensure the ERP solution included adequate protection for vital operations. For example, the solution gains redundancy from fiber channel technology. Each server is connected to the storage array by at least two fiber channels, and in some cases four. The system “knows that if one side of that path goes down, it can use the other side,” ensuring uninterrupted communications, Zanni said.

Software HP provided for the implementation includes: Metro Cluster Service Guard, to manage the nine-node server cluster and make sure functions move seamlessly from one server to another should one of them fail; Omniback II, to manage backups; and Openview MeasureWare, which CPS uses to measure and monitor the performance of system components. All of these hardware and software solutions couple with a Cisco AVVID (Architecture for Voice, Video, and Integrated Data) infrastructure to provide a highly available end-to-end solution for CPS and its customers.

Since members of the CPS information...
technology staff had little previous experience with UNIX operating systems, they relied heavily on the expertise of HP’s consultants. “They helped us with how to implement SAP in our new HP UX environment and how to design it so it would best serve our needs,” Zanni said.

HP’s consultants “were here from the get-go, and they helped us all through the implementation,” he added. Besides helping CPS’ staff draw up specifications and plan how to put the new technology in place, they assisted in the installation, he said. “The HP consultants were here to get our cluster up and running. They were here to configure and get our storage array up and running. When we received new servers, HP was here to install them and get them running on our network,” Zanni said.

Because CPS staffers have been climbing a steep learning curve, they especially appreciate the services HP provides under their Critical Systems Support (CSS) service agreement. Under the agreement, HP is a single point of contact for a broad range of support services.

For instance, when problems arise with the servers most crucial to running the ERP system, CPS gets assistance right away by phone. If the responder can’t solve the problem quickly, “they’ll immediately call in other areas of expertise, get everyone in a conference call and work the problem until it’s fixed,” Zanni said. HP’s experts also can log into CPS’ servers and storage systems from remote locations to perform diagnostics, Zanni added.

When problems occur with less critical components of the system, CPS’ staff calls a different HP support group. This assistance also is available 24 hours a day and seven days a week. Not only does this group’s advice help resolve the issue at hand, but “we’ll learn something in the process,” so that CPS staff members can handle future issues themselves, Zanni said.

In addition, CPS receives in-person assistance from its own HP account support engineer (ASE). “He takes very good care of us,” helping solve problems and facilitate ongoing projects, Zanni said. “We see him at least monthly, if not more.”

“HP presented the best solution for SAP in terms of database backup, a storage solution, server failover and disaster recovery.”
— Richard Zanni, network analyst, City Public Service, San Antonio

---

### HP Solution Profile

#### STORAGE

CPS implemented advanced HP storage solutions to build a robust data infrastructure, reduce downtime and ensure business continuity. HP’s line of StorageWorks products includes:

**hp StorageWorks modular SAN array 1000**
part no. 201723-B22

- High performance/low-cost entry Storage Area Network system with unique Direct Attach to SAN (DTS) functionality. DTS is a quick and easy way to migrate stored data from an HP ProLiant Server
- Base holds up to 14 one-inch universal disk drives in single 4U rackmount cabinet
- Supports Windows®, Linux and NetWare
- Scalable to 42 drives for up to 6 TB in 10U rack space
- Hot-plug expansion and replacement support
- Remote management capabilities
- Three-year limited warranty

**$9,495**
**$295/mo. ITFlex price**

**hp SureStore DAT40i tape drive**
part no. C5686A #ABA

- The perfect combination of capacity, speed and reliability
- Backup up to 40 GB [2:1 data compression]
- DDS data on one cartridge
- Compatible with leading operating systems and backup software
- Includes HP One-Button Disaster Recovery for quick restore of the entire system
- Includes TapeWare desktop and server backup software

**$1,000**
**$31/mo. ITFlex price**

For information on HP’s complete line of storage solutions, see [www.hp.com/go/govcatalog](http://www.hp.com/go/govcatalog) or call 888/887-2081.
Once, for example, the ASE learned that CPS staff members were spending whole weekends making copies of the SAP production environment so developers refining the implementation could work with real data. He helped CPS install EXSID, an HP product designed specifically to replicate the SAP environment. “With this new EXSID application, we’re able to do the same thing automatically, with almost no human interaction involved, in a couple of hours,” Zanni said.

Indeed, HP experts routinely go the extra mile for CPS. One weekend during the implementation, CPS ran into an unexpected problem with some tests it was conducting. “We immediately called HP, they got on the line and we started working the issue,” Zanni recalled. “Before we knew it, we had five or six HP people on the line, at two in the morning on a Saturday.” They included experts on Service Guard, the storage system and the HP UX operating system. “Just hours later, we found the solution,” he said.

**Ready for the Future**

CPS has been operating on R/3 since August 2001, and the new solution helped improve many of its operations. For example, the utility now has much better tools for handling calls about everything from billing to service interruptions. When a customer service representative fields a call, “that person can bring in all sorts of data from service calls, from financials, from everywhere, and see that customer’s history all in one snapshot,” Zanni said. The new system also provides a central facility to manage budgeting, procurement, maintenance and other crucial functions.

Designed to accommodate growth, the HP platform will scale up smoothly as CPS embraces more of the benefits of integrated information systems. “We are considering bringing other areas into the SAP environment,” including the human resources department, Zanni said.

And even as demand increases, employees at CPS can rest assured that their information systems will stay in service to support their work. “The system is very robust,” Zanni

**HP BUSINESS CONTINUITY SERVICES**

Today, continuous access to critical information isn’t an option — it’s an imperative. Downtime can mean the loss of critical services and vital information. That’s why jurisdictions throughout the nation choose HP for business continuity solutions. HP Business Continuity Services and our network of partners work together to deliver the best-in-class technology, services and strategies you need to reduce your risk, protect your mission-critical operations against catastrophic events and speed your recovery.

HP has provided business continuity services since 1984 and has successfully helped customers recover from more than 5,000 disasters. HP is a proven business continuity problem solver. From analysis to implementation to ongoing business continuity support across multivendor environments, you can count on HP for comprehensive, customized, end-to-end solutions.

Choose from these superb services to create a continuity solution that meets your specific needs:

**Business Continuity Consulting.** With our many collective years of experience and proven methodologies, HP has services to assist you in translating your business needs into recovery strategies, to develop a business continuity plan, to deploy a robust implementation, and to evolve your plan and processes in an agile fashion over time.

**Business Recovery Services for the data center.** If disaster strikes, move your IT operations and staff to one of HP’s business recovery centers or let us ship equipment to your alternate data center to help you resume business as usual.
observed. The days when computer failures brought business to a halt for hours at a time are gone. “The system is designed to fail over. It’s transparent to the customer. I don’t see us having a lot of downtime,” he said.

The new system also lowers the pressure on busy CPS IT staffers. Where the mainframe required people on site to watch over its operations, with the new system from HP, “a lot of that can be done remotely, and a lot can be done in an automated fashion,” Zanni said.

The advanced ERP applications help CPS maintain its commitment to high-quality service at a reasonable price. “Hopefully, making things more efficient will help prevent us from having to increase rates,” Zanni said. With help from SAP and HP, CPS stands ready to meet this goal now, and well into the future.

---

**Business Recovery Services for the office.** Keep your order processing, call center and other business-critical office activities up and running following a disaster.

**Disaster Tolerant Management Services.** On top of the business continuity infrastructure design and implementation services provided by our Business Continuity Consulting services, HP can provide training, management and monitoring services.

**Facility and Site Services.** HP provides a single point of accountability for your complete facilities program, including design, engineering, construction and implementation, as well as vendor and project management.

**Electronic Vaulting and Tape Backup.** HP can help you plan and implement a strategy for restoring files from anywhere across your enterprise, anytime you need them.

**HP Recover-All Service.** Protect your IT assets with “priority-one” service that guarantees equipment replacement within 72 hours of order placement — no matter what kind of catastrophe you’re coping with.

**Managed Storage.** HP provides both SAN-based storage management services and storage hardware on an on-demand or pay-per-use basis.

For more information visit www.hp.com/go/govcatalog