

Power to the People: Cooperative Beats National Average for Power Costs with HP's Help

HP helps South Central Power meet its goals without building a new data center—saving six figures.



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— Cathy Bitler, Vice President of Administration at South Central Power

Objective:

Increase scalability and performance while reducing data center space, power needs and costs.

Approach:

Turn to HP Integrity servers with HP OpenVMS, virtualization on an HP BladeSystem and an HP StorageWorks EVA SAN—reducing space and power requirements while improving application performance.

Business benefits:

- Six-figure construction costs avoided by extending the life of current data center
- Customer service enhanced through faster application performance
- Ability to scale IT services without adding to headcount
- 100% payback for complete HP solution in under 5 years

IT improvements:

- 20% reduction in storage administration time
- Tenfold faster storage I/O (200 I/O per second increased to 2,000 I/O per second)
- More than 50% reduction in billing processing time (60 minutes reduced to 25)

- 4 hour reduction in backup time
- Projected server consolidation of 10:1 through virtualization
- 5-10% reduction in power consumption
- 67% smaller footprint (3 racks into 1)
- 92% faster server deployment (24 hours reduced to 2 hours)
- 87% reduction in time to patch code (8 hours reduced to 1)
- 20% reduction in server administration time through remote management

Efficiency drives gains for everyone

You live in rural Ohio and it's 1936—the middle of the Great Depression. Your region has no electricity. So you team up with eight neighbors and each pay a \$5 membership fee to create an electric power cooperative. Within a year, the first power pole goes up and the first line is energized.

Seventy years later, that member-owned cooperative, known as the South Central Power Company, has grown. Guided by the values of integrity, accountability, innovation and community spirit, it's now staffed by 241 employees managing more than 11,000 miles of power lines. These reach out to serve more than 110,000 residential, commercial and industrial customers in 24 Ohio counties.

Most importantly, South Central Power Company is bringing its customers electricity at 7.5 cents a kilowatt-hour—almost 20 percent lower than the national average of 8.9 cents consumers pay, according to the U.S. Department of Energy.¹

This is the cooperative spirit in action: neighbors helping neighbors. It's also the result of good management.

For the past 20 years, management at South Central Power Company has turned to HP to help keep IT infrastructure services reliable, service to customers high and costs low. In the fall of 2007, the company worked with HP to consolidate and virtualize servers and storage. As a result, the life of what was becoming a cramped data center is now being prolonged. Space, money and time are being recovered. Customer service has been enhanced. And the cooperative has been able to avoid the six-figure cost of building a new data center.

The project is a study in being resourceful.

Transforming the data center

To solve South Central's challenges, the IT team needed to upgrade two different IT platforms. One was OpenVMS, which hosts business-critical applications such as customer billing, payment history, account status, cash posting, orders and outage management. These applications all ran on an HP Alpha ES40 Model 2 server that was end-of-life. It was replaced by an HP Integrity rx3600 server. An HP Integrity rx2600 server was also purchased to support the company's disaster recovery plan. "The HP Integrity servers were a natural next step for us," says Cathy Bitler, vice president of administration at South Central Power. "They have the flexibility, resilience and longevity we need for our business-critical workload. And OpenVMS continues to bring us the availability and security we need for these applications."

The other IT platform being upgraded is Microsoft Windows Server 2003. It contains a number of office productivity applications that were hosted on

¹ "In 2006, the average retail price for all customers rose to 8.9 cents per kWh, a sharp increase of three-fourths of a cent from the 2005 price level." Energy Information Administration, U.S. Department of Energy, http://www.eia.doe.gov/cneaf/electricity/esr/esr_sum.html

20 assorted rack-mounted servers. Those 20 servers are now being consolidated onto an HP BladeSystem consisting of five HP ProLiant BL460c server blades in a BladeSystem c7000 enclosure. Some of the rack-mounted servers are being virtualized using VMware ESX Server.

"The glue that makes the HP BladeSystem and the transformation of our data center possible is our move to the HP StorageWorks Enterprise Virtual Array 4100 SAN," says Jeff Haidet, a consultant from JCC Consulting, Inc. who works with South Central. "Each of our 20 Microsoft Windows-based servers had direct-attached storage. All that data has been consolidated on the HP SAN." The SAN is connected via 4 GB fiber switches.

Boosting service while reducing costs

The benefits of the HP solution are many. "Storage administration time has been reduced by 20 percent," Bitler says.

"Thanks to the performance of the HP Integrity/OpenVMS platform and HP SAN, our I/O throughput is now tenfold faster," Haidet adds. "We were able to do 200 I/O's per second on our old machines. That has increased to 2,000 I/O's per second. Before, we could process 1,000 accounts per minute for billing. Now with Integrity servers, we can process 2,500 accounts per minute. That has reduced our billing processing time more than 50 percent, from 60 minutes to about 25 minutes."

Productivity at the data center has jumped, notes Bitler. "We used to have processes stacking up at night, but now things get accomplished much sooner," she says. "For instance, we've reduced our backup time by four hours—which is also due in part to the speed of our new HP StorageWorks LTO-4 Ultrium 1840 Tape Drive."

In addition, uptime has been enhanced, Bitler says. There has been no unplanned downtime since the new HP solution was installed. During the previous eight years, the company experienced about three total days of downtime in its OpenVMS environment, all of which was hardware-related. South Central Power runs a 24x7 operation, and makes every effort to maximize uptime.

Virtualization helps save six figures

When the virtualization project is complete in the Microsoft Windows environment, the target is to have 10 virtual servers running on each HP server blade.

"We have about 5 virtual servers on each server blade now, and we're seeing a 5 to 10 percent drop in power consumption," Haidet says.

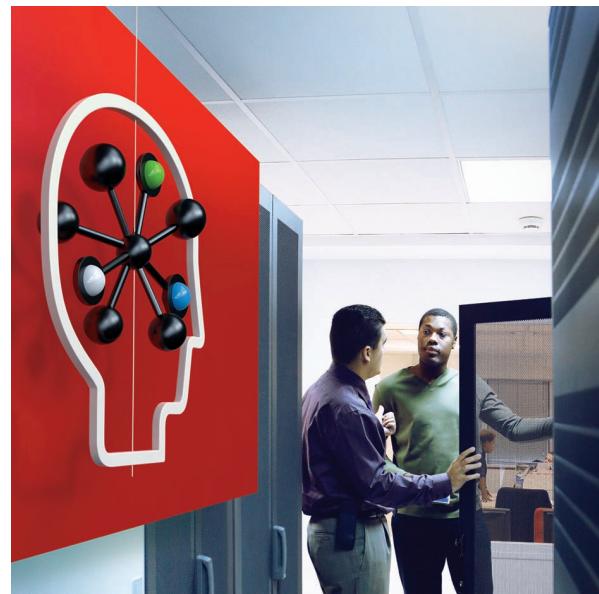
In addition, three racks of equipment have been consolidated onto one. "Space was extremely cramped before," Bitler notes. "Now we can move around. By giving us room to grow, our HP solution is helping us avoid the six-figure cost of building a new data center."

The team can also respond faster to internal service requests. "We can roll out a virtual server in two hours instead of the three working days that procuring a rack-mounted server and deploying it used to take," Bitler says. "We can afford to deploy more test and development servers, and we can test and patch code in an hour. Testing and patching used to take us about eight hours."

From anywhere on the planet

The team uses HP Insight Control management software "to do everything possible remotely. We need to be able to access the Integrity and BladeSystem servers from anywhere on the planet," Haidet says. "HP iLO lets us do that. We're patching, we're updating DNS and we're restarting servers—all from the field."

"I have a very small IT staff, just 5 people," Bitler adds. "Anything we can do to improve their efficiency is tremendously important. With the ability to work remotely through HP iLO, we're able to reduce server administration time by about 20 percent."



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At a glance

Running out of space and power in its data center, South Central Power, an Ohio-based cooperative, turned to HP Integrity servers running HP OpenVMS, HP BladeSystem virtualization, and an HP StorageWorks EVA SAN to raise performance while reducing costs, space and power needs.

Keeping costs down and customers happy

Add together the different data center transformation benefits, and South Central estimates it will achieve 100% payback on the complete HP solution in less than six years.

Key in delivering the benefits and the solution was HP partner Agilysys. "Agilysys was good at assessing our needs, asking us questions and helping us develop the specs," Bitler says. "They really understand HP hardware and how it all connects and relates."

Meanwhile, South Central customers continue to get electricity at almost 20 percent under the national average. The IT team is determined to continue delivering services cost-efficiently. "HP is enabling us to achieve our business goals without having to hire staff, build facilities or jam hardware into the space we have," Bitler sums up. "This solution is one we are really happy with."

Solution at a Glance

Hardware:

- HP BladeSystem c7000 enclosure
- 5 HP ProLiant BL460c server blades
- HP Integrity rx2600 server
- HP Integrity rx3600 server
- HP StorageWorks Enterprise Virtual Array 4100
- HP ProCurve Switch 2848
- HP StorageWorks LTO-4 Ultrium 1840 Tape Drive

Software:

- HP Systems Insight Manager
- HP Insight Control Environment (ICE) for BladeSystems
- HP Integrated Lights-Out 2 (iLO2)
- VMWare ESX Server

Operating System:

- OpenVMS
- Microsoft Windows Server 2003

Services:

- Design and implementation support from HP Partner Agilysys
- JCC Consulting, Inc. (an HP DSPP partner) provided planning assistance

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