



KEY HIGHLIGHTS

INDUSTRY: PROFESSIONAL

**CHALLENGE**

Replace aging hardware with a more economical and reliable infrastructure to run SAP® ERP

SOLUTIONS

Migrate to SAP ERP 6.0 running on VMware® Infrastructure and IBM blade servers

VMWARE AT WORK

VMware Infrastructure 3 Enterprise, featuring:

- VMware ESX™ 3.5.1
- VMware VirtualCenter
- VMware VMotion
- VMware High Availability
- VMware Distributed Resource Scheduler (DRS)

DEPLOYMENT ENVIRONMENT

- ESX 3.5.1 running on three IBM HS21 blade servers attached to an IBM DS 4700 SAN
- Mission-critical applications running in production in virtual machines: SAP ERP 6.0, SQL Sever 2005
- Guest operating systems: Windows Server 2003 R2 x64 edition

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Ed Solima
Director of IT

Southwestern/Great American, Inc.

Southwestern/Great American has a long history: 153 years, to be precise. In 1855, the company’s focus was religious tracts, but today it has a dozen distinct lines of business, including direct selling, customized publishing, school fund-raising, sales training, and executive search and recruitment. A big reason Southwestern/Great American has lasted as long as it has is because its business model has changed to keep up with the times—as has its IT infrastructure.

The most critical application in that infrastructure today is SAP ERP. “It’s the backbone of our business,” says Director of IT Ed Solima. Until December 2007, SAP ERP was running on an IBM AS/400, while most of the company’s other applications were running on Windows-based hardware.

That dual approach was creating problems. For starters, the two environments had separate storage, and their administration required very different skill sets. Things came to a head in 2007. “The lease on our AS/400 was up, so we were trying to decide whether to upgrade it or take a different approach,” Solima recalls. “When we did the math on what we’d have to spend to keep our AS/400, including upgrading memory and storage, as well as replacing an aging SAN in our Windows environment, we realized we’d have to invest roughly \$778K to keep both environments running.”

Instead, Southwestern/Great American chose to swap its dual environment for a leaner infrastructure based on VMware ESX and IBM blade servers that could run both SAP ERP and its Windows applications. “By virtualizing, we saved ourselves a lot of money by not having to replace outdated physical servers, and we could consolidate our storage,” Solima says. “Our investment was roughly \$560K for a three-year lease and maintenance contracts, and the estimated saving over those three years is \$218K.”

Before Southwestern/Great American decided to virtualize its SAP ERP infrastructure with VMware software, the company evaluated Microsoft’s Virtual Server. “We run a lot of Microsoft applications here, so it made sense to give Virtual Server a try,” Solima says. “To be honest, we were quite disappointed. After struggling with it for a while, we changed gears and went with VMware.

The VMware architecture was more robust in our evaluation, and VMware infrastructure proved to be significantly better in performance and ease of use.”

Solima says he didn’t have much trouble convincing Southwestern/Great American’s management to not only virtualize, but to begin the process with its most important application: SAP ERP. “Besides emphasizing the money we’d save,” he recalls, “our presentation to our CEO pointed out that other companies have virtualized key applications with VMware, and that VMware technology is a really solid, well-established approach to building an economical and reliable infrastructure.” Solima and his team got the go-ahead to virtualize both SAP ERP and the SQL databases that support it.

“About three weeks before we went live in December 2007, we heard that SAP had certified that its applications would run on VMware under Windows,” Solima says. “Being out front like that was a bit scary, but it went well—very well.” The entire project—including acquiring the hardware, setting up the virtualized environment, and migrating SAP ERP and the SQL databases—took five months from start to finish.

To complete that major undertaking in such a short timeframe, Southwestern/Great American turned to Dynamix Group, an IBM and VMware business partner headquartered in Roswell, GA. “We were new to the IBM blades, new to the SAN solution, and new to VMware,” Solima says. “We had a longstanding relationship with Dynamix, so we got them to come in. They not only did a great job with the setup, they brought us up to speed as well. We learned a lot from them, and after the engagement we were pretty self-sufficient.”

Dave Brogan, a database analyst at Southwestern/Great American, has this advice for companies planning to virtualize their SAP ERP and SQL databases: “Make sure your hardware is up to the task, and don’t overload a machine with too many VMs. If you pay attention to the basics of performance, tuning and resource allocation, you shouldn’t have any trouble. We didn’t.”

Benefits of Running SAP ERP on ESX

Increased flexibility is perhaps the biggest benefit Southwestern/Great American has seen from running SAP ERP on ESX. “We have some fairly large VMs—our SAP central instance and SQL Server both are assigned 16GB of memory—and they just run really well. It’s also a much simpler environment not having a separate piece of hardware for each part of our SAP ERP system,” Solima says. “The flexibility to take a couple of blades and fire up a bunch of VMs on them is really an advantage, since it lets us respond quickly to shifts in user demand and other variables. We’ve found that ESX is a really solid foundation for our SAP ERP system. Because of our success, we now have a VMware-first policy.”

Fast and easy server provisioning is one of the VMware benefits that’s most popular in Southwestern/Great American’s data center. “Now we can create temporary VMs for software testing,” Solima says. “That was something we could never do before, because we didn’t have hardware just lying around. And it’s fast: we can get a VM up and running within an hour. With physical equipment, that would have taken much longer. We would have had to make a requisition, get that signed off, place an order, wait two weeks for the equipment to come in, and then maybe spend half a day to a day to install the software.”

The company has also seen significant benefits in terms of uptime. “You get all the uptime you need, without investing a ton of money in redundant hardware,” Brogan says. “In the old environment, we would typically take the system down, do maintenance, and then bring the system back up. Now, whenever we need to do either hardware or firmware maintenance, we just VMotion the virtual machines off one physical server onto one of the other two. There’s no downtime at all. We stay up pretty much seven days a week.”

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The move to ESX has also saved space in the data center—and lots of energy. “We had some pretty big gear in here on the AS/400 side,” Solima says. “Now that has been reduced to basically three blades, so power consumption has been significantly reduced. And that will continue to get better.

“We have plans to move the rest of our Windows environment into the same virtualized blade center that’s running SAP ERP,” he adds. “We’ve been doing a server a week, verifying that it’s good to go, then moving on to the next one. Now that we’ve got this SAP project under our belt, our goal is to be as close to 100 percent virtualized as we can, and that should happen in another year or so. We just don’t set up physical servers anymore.”

Results

- Savings on hardware and overhead add up to about \$218K over three years
- The more flexible SAP ERP environment can keep up with both user demand and IT changes
- Server-provisioning time shaved from weeks to under an hour
- VMotion allows for better maintenance—with no downtime
- Considerable savings on both space and energy consumption in the data center
- A VMware-first policy for all new servers, with plans to have its applications infrastructure 100 percent virtualized in 2009

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