SOLUTIONS
- **BACKUP/RECOVERY/ARCHIVING**
- **CONSOLIDATION**
- **VIRTUALIZATION**

HIGH APPROVAL RATING

Global survey consulting firm reduces server deployment time to 45 minutes with server virtualization

In 1936, Dr. George Gallup answered one of the most difficult questions of the time: Who would be the next president of the United States? Relying on data from his pioneering work in polling and audience research, Gallup bucked the conventional wisdom and correctly predicted that Franklin Roosevelt would defeat Kansas governor Alfred Landon.

GALLUP

CUSTOMER PROFILE

COUNTRY: United States

INDUSTRY: Communications

FOUNDED: 1936

NUMBER OF EMPLOYEES: 2,000

WEB ADDRESS: *www.gallup.com*

CHALLENGE

Server downtime and maintenance at global consultancy Gallup interfered with sensitive projects and strained the limits of the ultra-lean IT administration team.

SOLUTION

A virtual server farm using VMware® Infrastructure 3 on Dell™ PowerEdge™ 2900 servers and an Internet SCSI (iSCSI) storage area network (SAN) using Dell EqualLogic™ PS3900 and PS-84E devices was designed to eliminate downtime and simplify or eradicate many maintenance tasks.

BENEFITS

Get IT Faster
- Dell Infrastructure Consulting Services helps implement the solution 50 percent faster than anticipated
- Dell virtual infrastructure helps reduce server deployment time to 45 minutes

Run IT Better
- Gallup team achieves zero downtime goal with virtualized servers
- Virtual server farm running on Dell PowerEdge servers helps simplify IT administration

Grow IT Smarter
- Virtualization helps eliminate an estimated US$72,000 in server purchases each year

Today, world and business leaders turn to the organization that Dr. Gallup founded for public opinion polling, market research, and management and leadership consulting. "Gallup is about asking people what they think and helping clients understand what the results mean," says Phil Ruhlman, CIO of Gallup. "Everything that we do starts with a question."

Considering the extent of the company's influence, Gallup is a relatively small organization, with 2,000 employees in 54 offices around the world. The company uses IT extensively, running hundreds of custom applications to develop and field surveys, collect the answers, and analyze the results. The applications primarily run on servers at the company's Omaha, Nebraska, data center, and are managed by an incredibly lean IT staff. "Our core team of administrators is made up of 10 very talented people who have been here for an average of 15 years," says Ruhlman. "They know the business inside and out, and they know what works for Gallup and our clients."

"GAINING THE BUSINESS, TRUST, AND RESPECT OF THE GALLUP TEAM IS JUST THE FIRST STEP—OUR PARTNERS NEED TO WORK HARD TO KEEP THAT RESPECT, AND DELL DOES A PERFECT JOB; THEY NEVER FALTER."

Phil Weber, director of telecommunications and information systems infrastructure, Gallup

Despite the dedication and skill of the Gallup IT team, keeping up with the company's IT infrastructure was a challenge. With more than 220 servers each running between 2 and 20 applications, the sheer size of the installation was an obstacle. "We had clusters and failover schemes, but when you have as many servers, applications, and databases as we have, something is going to fail that the redundant systems can't catch," says Phil Weber, director of telecommunications and information systems infrastructure at Gallup. "A human has to intervene and restore something, and it will be hours before you can get those applications back in production."

For most projects at Gallup, those lost hours could mean disaster. "Almost all of our work is sensitive, high-profile, time-dependent, or some combination of the three," says Ruhlman. "We are constantly investigating ways to reduce—or eliminate, if possible—the chance of application downtime."

Eventually, the team's search led it to consider server virtualization as a way to establish a more effective disaster recovery plan. "Instead of installing the operating system and applications on a fresh system, we could just restore the image of the failed server on another virtualized host system that was already running," says Weber. "We could recover from a problem in minutes, and the process could be automated." The IT team also saw that data center utilization rates could be increased with server virtualization, allowing for fast responses to internal requests for servers to host new applications.

In theory, virtualization sounded like an ideal solution. But when the Gallup IT team tested virtualization software platforms, the results were not impressive. "We had some challenges in our early pilot projects," recalls Weber. "There were a lot of bumps and bruises, and a lot of the administrators were skeptical that the virtualized environment would hold up under production loads."

Weber was convinced that the advantages of virtualization were too great to ignore, but he also saw that the Gallup IT team needed help creating a real-world implementation that would deliver the necessary performance. He began looking for a partner organization with a solid track record of successful virtualization implementations that could consult with the Gallup IT team and help it find a workable platform and architecture.

HOW IT WORKS

HARDWARE

- Dell™ PowerEdge™ 2900 with quad-core Intel® Xeon® processors
- Dell EqualLogic™ PS3900 and PS-84E

SOFTWARE

- VMware® Infrastructure 3

SERVICES

- Dell Infrastructure Consulting Services
- Virtualization Assessment
- Virtualization Implementation
- Dell Support

"WITH OUR DELL VIRTUAL INFRASTRUCTURE, WE CAN HELP ASSURE OUR USERS THAT THEIR APPLICATIONS WILL BE AVAILABLE."

Phil Weber, director of telecommunications and information systems infrastructure, Gallup

One of the first calls that Weber made was to Dell. "We hadn't talked to Dell about network infrastructure or services before, but it is our preferred and only supplier of servers, notebooks, and desktop computers," says Weber, who proudly states that the Gallup IT team is hard on its suppliers. "Our whole IT staff is actively engaged 24 hours a day, 7 days a week, and they all take a huge amount of ownership, pride, and responsibility in what they do," says Weber. "We expect the same level of consistent commitment from our vendors. Gaining the business, trust, and respect of the Gallup team is just the first step—our partners need to work hard to keep that respect, and Dell does a perfect job; they never falter."

Weber also knew that Dell had partnered with other businesses and successfully completed several virtualization implementations. After consulting with the Dell Infrastructure Consulting Services team, both Weber and the rest of the Gallup IT staff were convinced that Dell could help them build the virtualization infrastructure they envisioned. "I asked our Dell contacts to show us an implementation recipe that would eliminate all of the trial-and-error and mistakes that we would go through on our own," says Weber. "The Dell team showed us that they could do it, and then they followed through."

Working with Dell Infrastructure Consulting Services, the Gallup IT team created a virtual server infrastructure using VMware Infrastructure 3. "The Dell team performed a Virtualization Readiness Assessment, advised using VMware, and sketched out an architecture that they had been successful using," says Joe Walling, network administrator at Gallup. "Dell Infrastructure Consulting Services gave us a clear and detailed picture of how VMware could work for us."

For the physical infrastructure, Gallup administrators chose three Dell PowerEdge 2900 servers with quad-core Intel® Xeon® processors. "The Dell PowerEdge 2900 servers give us a cost-efficient combination of processing power and expansion slots," says Weber. "VMware licenses are sold per processor socket, so we can buy two licenses for the PowerEdge 2900 and get eight Intel Xeon cores. That gives us the performance we need to drive the applications running on our virtual servers."

The Gallup team uses four of the six expansion slots in each PowerEdge 2900 with network interface cards, maximizing the usefulness of the server farm by directly connecting it to as many of the company's networks as possible. "The expandability of the PowerEdge 2900 servers is fantastic," says Weber. "They tie tightly into our existing network and give us plenty of room for growth."

For storage, the Gallup team created a 3.5 TB SAN made up of EqualLogic iSCSI PS3900 and PS-84E devices, connected to iSCSI host bus adapters (HBAs) in the PowerEdge 2900 servers. The IT team evaluated both Fibre Channel and iSCSI options for the SAN, choosing iSCSI because it could deliver the data throughput Gallup required while minimizing both hardware costs and the need for staff training. "We've been working with iSCSI for a number of years," says Don Plowman, senior network administrator at Gallup. "When we needed to build the SAN with virtual servers, we chose the EqualLogic platform because it is robust and simple. The I/O performance is fantastic; we have 61 virtual servers up, and it is barely breathing hard."

DELL SERVICES HELPS IMPLEMENT SOLUTION 50 PERCENT FASTER THAN ANTICIPATED

Working with Dell Infrastructure Consulting Services, the Gallup IT team installed and set up the virtual server farm twice as fast as expected. "We scheduled three days for the implementation, but we only needed a day and a half," says Walling. "The plan that Dell Services proposed was thorough and straightforward, the hardware arrived ready to go, and the Dell consultant was efficient and knowledgeable. The entire system worked perfectly on the first try."

After a short trial period, the Gallup team moved the applications from 61 servers—more than 25 percent of the company's total physical server installation—to the virtual server farm. The administration team estimates that the three Dell PowerEdge 2900 servers that make up the Gallup server farm will comfortably handle 120 virtual servers.

GALLUP TEAM ACHIEVES ZERO DOWNTIME GOAL FOR VIRTUALIZED SERVERS

Since implementing the virtual server farm on Dell PowerEdge servers, the Gallup IT team has seen its virtual servers operate continuously, without a single failure. If any of the virtual servers do fail, the IT staff can restore them in minutes from images it maintains. Also, because the IT team replaced 61 physical servers with three Dell PowerEdge 2900 servers, it can more closely monitor the health of the Dell servers powering the virtual server farm and is thus better able to catch potential problems before they cause catastrophic failures. "The reliability of the 61 servers that we have virtualized so far has gone from 99.9 percent to 100 percent," says Weber. "With our Dell virtual infrastructure, we can help assure our users that their applications will be available."

VIRTUALIZATION HELPS ELIMINATE AN ESTIMATED US$72,000 IN SERVER PURCHASES FOR THE YEAR

With the new virtual server infrastructure running on Dell PowerEdge 2900 servers, the Gallup IT team has been able to reduce the money it spends on server hardware by adding new applications without buying new servers. "Usually, we need to buy an average of two servers a month to support requests from our users," says Walling. "Since we

installed the virtual server farm running on three Dell PowerEdge servers, we haven't purchased a single new physical server, and we don't expect to anytime soon."

DELL VIRTUAL INFRASTRUCTURE HELPS REDUCE SERVER DEPLOYMENT TIME TO 45 MINUTES

The Gallup IT team has dramatically increased the speed with which it can respond to requests for server resources. Previously, ordering, installing, and setting up a new server could take as long as two weeks; the virtual server farm running on Dell PowerEdge servers has cut that time to minutes. "A couple of weeks ago, we got four servers up and running in approximately 45 minutes," says Walling. "With our Dell virtual infrastructure, Gallup consultants across the world can get the tools that they need almost immediately. They can quickly field surveys, analyze results, and deliver those results to clients. It's a tremendous leap forward."

VIRTUAL SERVER FARM ON DELL POWEREDGE SERVERS HELPS SIMPLIFY IT ADMINISTRATION

Implementing a virtualized environment has helped reduce the number of tasks that Gallup administrators must perform and made those tasks simpler to perform. For example, Gallup IT administrators can administer all of the virtualized servers remotely from a single console rather than physically visiting the server room. Instead of spending time on maintenance, the Gallup IT team can now focus on more strategic tasks: delivering more services to Gallup users and increasing the overall capabilities of the Gallup organization. "We run very lean, and there is always more work to do," says Walling. "The server virtualization solution from Dell has helped either simplify or eliminate a lot of my server maintenance tasks, so I can work on more important projects."

The Dell virtualization project has been a rousing success for the entire Gallup organization. Within the IT department, the virtual server farm has helped simplify the company's infrastructure, increasing the efficiency of the IT team and the resiliency of the company's servers and applications. On a broader scale, the virtual server farm helps Gallup quickly deliver accurate information about public opinion to its clients. "When you join Gallup, you discover that it's not about what you think, it's about what the people think," says Ruhlman. "Dell helps us ask the right questions."

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