Ready to deliver rapid disaster relief

After Oklahoma’s Emergency Operations Center deployed Dell’s desktop virtualization solution, its thin-client PC workstations were ready to respond to any emergency.

“If we had been on the old desktops, we would have sat there dealing with them. With the Dell Desktop Virtualization Solution, we were ready to go immediately.”

Putnam Reiter, Emergency Operations Center Manager, State of Oklahoma

Business need
When disaster strikes, Oklahoma’s Emergency Operations Center (EOC) needs PC workstations ready for action, but keeping its PCs updated had become an obstacle to that capability.

Solution
Dell’s desktop virtualization solution provided the updated PC capabilities the EOC needed, just in time to respond to a devastating tornado, and now the EOC can save 200 hours of IT staff time annually.

Benefits
• Improves emergency PC readiness from a day or more to immediate
• Adds greater operational flexibility, especially for future response capabilities
• Reduces IT concerns, so responders can focus on helping victims
• Cuts 200 hours of IT staff time annually spent updating legacy PCs

Solutions featured
• Cloud Client Computing

Customer profile

Company | Emergency Operations Center, State of Oklahoma
Industry | State & Local Government
Country | United States
Employees | 56
Website | www.ok.gov/oem
For most of Oklahoma, tornadoes are a fact of life that threaten each year with the onset of spring and summer thunderstorms that roll across the Great Plains. Moore, a semi-rural city of 55,000 people about 15 miles south of Oklahoma City, had been in the grips of a two-year drought until early May 2013. At that time, storms started and continued throughout the month.

But those were nothing compared to the 1.3-mile-wide monster that ripped a 17-mile long path in 40 minutes on the afternoon of May 20, virtually destroying entire subdivisions. This tornado was rated an EF-5, the strongest possible, with peak winds estimated at 210 miles per hour. This single storm caused more than $2 billion in property damage, killed 25 people and injured more than 350.

Fortunately for the survivors, Oklahoma’s Emergency Operations Center (EOC) had just finished deployment of a Dell™ Desktop Virtualization Solution (DVS) just a week before, which meant that the EOC’s PC workstations in its command center were ready for action. Until that point, however, the EOC’s ability to ramp up computers took longer and required more IT personnel.

Including Reiter, the EOC staff comprises 26 full-time employees and 30 contractors. However, just he and a single assistant have IT responsibilities for the command center located in the State Capitol Office Complex. As part of its IT infrastructure, the EOC has for years kept a bank of 22 networked desktop PCs on hand for use by liaisons from other agencies who need them to coordinate response efforts. “We have to stay ready,” says Reiter. “Only California, Texas and maybe Florida surpass Oklahoma in the number of disaster declarations in an average year.”

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Putnam Reiter, Emergency Operations Center Manager, State of Oklahoma

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Frequent disasters require Oklahoma to be prepared

The Emergency Operations Center is part of the Oklahoma Department of Emergency Management, which handles all planning, response and mitigation activities pertaining to natural disasters and emergencies across the state. In times of trouble, the EOC serves as a command center for reporting the status of emergencies and coordinating state response activities through the network of more than 400 local emergency managers. Putnam Reiter, Emergency Operations Center manager, says, “We’re the state’s central coordination point for fielding requests for help and resources as well as coordinating with local and state partners on how, when and where best to deploy those resources.”

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Technology at work

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Keeping its PCs ready for disasters took time
Reiter says the EOC’s bank of PC workstations typically lay dormant between disasters. To keep them ready to boot up on a moment’s notice required his assistant to spend about two days each month loading software updates from Microsoft® Office and Windows®. But he didn’t always have an assistant and the responsibility for keeping the PCs updated fell on him, in addition to his other duties, which include facilities management, communications management and, sometimes, even meteorology.

With all that on his plate, the schedule of monthly updates often rolled from one month to the next. “On September 11, 2001, we activated our EOC just like all the other state EOCs across the nation because we didn’t know what was next,” Reiter recalls. “Turns out I had to spend all day bringing the computers up, with blue screens here and there, and things like that.”

In addition to keeping the PC workstations ready to use, Reiter says they need to be prepared for their primary users — mostly people who are liaisons from other agencies and come into our facility without PCs of their own, so they have to use the EOC workstations. “We have security needs. We have a validation need, authentication issues,” he says. “How do we mesh all of that together so our system is ready to go when somebody walks in the door?”

Desktop virtualization to the rescue
Rather than upgrade the PC workstations, Reiter decided to implement a 30-workstation EOC computing center for external agency responders by implementing a virtual desktop infrastructure (VDI). A VDI solution would effectively separate the EOC’s desktop computing environment and resident software applications from the actual PC clients. It radically simplifies managing the workstations and makes updating them much easier. Reiter chose to employ a Dell Desktop Virtualization Solution (DVS) because it had all the components he needed. “It was a simple, practical and cost-effective way to deploy VDI in the EOC,” he says.

At the core of the Dell DVS is factory-installed Citrix® VDI-in-a-Box™ hosted on a Dell PowerEdge R720 rack server. The Citrix package is an all-in-one software application that consolidates connection brokering, load balancing, provisioning and VDI management. Virtualization is achieved using the Citrix XenServer® hypervisor. The EOC uses a Dell EqualLogic PS Series SAN storage array with 14TB capacity for EOC data.

For each of the 30 workstations, Reiter chose a Dell Wyse D90D7 thin client, which use dual-core processors and are deployed with embedded Windows 7. He chose to reuse the EOC’s existing Dell 24-inch LCD monitors as displays for the Wyse thin clients. Guest workers using the workstations can access Microsoft Office 2007 and Internet Explorer® through the VDI solution. In addition, they can access WebEOC, an EOC web-based application used by the emergency response industry for status reports, notifications and contact management.

Dell ProSupport provides Reiter with the service and support for the Dell DVS solution, but so far, he says he hasn’t needed to call. The entire system is backed by a 300-kilowatt continuous duty generator as well as an uninterruptable power supply that can deliver six hours of backup power should the generator fail.

Disaster strikes; Dell donates laptops for mobile emergency response
Fortunately, Reiter had completed the installation of the Dell DVS solution just a week before the massive tornado struck Moore, so the EOC was ready for emergency response. “If we had been on the old desktops,” he says, “I emailed my Dell contact to see about getting some laptops on loan for about two months. Within the hour, Dell responded with a donation of 10 Dell Latitude E6500 laptops.”
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He recalls that the several other tornadoes in the days preceding the Moore disaster started the EOC’s mobilization, but when the big one hit Moore, the EOC’s activity quickly escalated. With the arrival of the Federal Emergency Management Agency, the overall urgency of the situation skyrocketed. “We weren’t really sure how the VDI was going to hold up with new users arriving in the EOC by the hour,” he says, “but with Dell’s Desktop Virtualization Solution, everything worked really well. It took care of all our security, validation and authentication requirements.”

Reiter also welcomed Dell’s offer to donate 10 Dell Latitude E6500 laptops to the disaster response effort. “We needed some laptops for our mobile response workers, but because of the state’s rigorous procurement procedures, it would’ve taken weeks before we had them,” he says. “Instead I emailed my Dell contact to see about getting some laptops on loan for about two months. Within the hour, Dell responded with a donation of 10 Dell Latitude E6500 laptops.”

**PCs are now always ready for emergency responders to use**

Reiter says that, in effect, the Dell DVS solution has taken IT readiness out of the way of the EOC’s ability to respond to emergencies and disasters quickly and aggressively. Before, the availability of working PCs in the EOC might have delayed its ability to provide computing resources. “We no longer have to worry about these issues,” he says. “We don’t have to deal with the threat of a blue screen any more or wait hours for a PC to update itself. Now we can totally focus on the much more critical and vital issues that survivors are facing.”

**Greater operational flexibility and 200 hours of annual IT time savings**

Reiter looks forward to taking further advantage of the greater operational flexibility that the new solution provides. He envisions extending the reach of Dell DVS to mobile users as well. “Obviously, the need for mobility is greatest out in the field where relief operations are taking place,” he says. “So, now that we’ve been able to quickly validate our VDI model in the EOC, I’d like to see how we can use it remotely, too.”

Finally, both Reiter and his assistant relish saving about 200 hours of their time each year because they no longer have to endure the monthly chore of updating each of the EOC’s workstations to keep them as ready as possible for disaster response. He says, “With the 200 hours that the Dell Desktop Virtualization Solution saves us each year, we can look for new ways to make IT even more instrumental in helping us respond faster and more effectively to emergencies and disasters.”

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Citrix

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