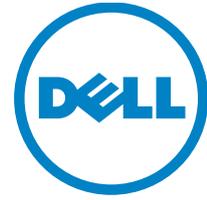# Dell Guadalajara creates redundant resources that provide end user flexibility with Dell Managed Virtual Client solution and Intel

- **Flexible Computing**
- **Power & Cooling**
- **Virtualization**

"With Dell technology, we can be flexible and set up a program for telecommuters."

Phil Kelly, Manager, Dell

Customer Profile

Company:	Dell Guadalajara NOC
Industry:	Technology
Country:	Mexico
Employees:	65,000+
Web:	www.dell.com

Business Need

The Dell Guadalajara network operations center (NOC) was concerned that a widespread H1N1 flu outbreak might make it difficult for employees to come to work and for others to travel to Mexico. At the same time, Dell and Perot Systems had been working on a Managed Virtual Client solution and were looking for an opportunity to implement a pilot.

Solution

Dell Guadalajara implemented a pilot Managed Virtual Client solution with 15 desktops using Dell™ OptiPlex™ flexible computing systems and Dell PowerEdge™ servers with Intel® Xeon® processors. When rolled out to 85 existing desktop PCs running VMware View 4, the solution created a redundant NOC that Dell could stand up in the United States if necessary.

Benefits

- **30% reduction in total cost of ownership compared to implementing and maintaining a conventional desktop solution**
- **Ability to maintain tighter security and compliance**
- **Near zero physical interaction with machines when installing patches and upgrades and backing off changes**
- **Installation of patches and upgrades from central data center**
- **Ability to offer solution to clients by making minor changes**

The H1N1 flu outbreak prompted worldwide alarm, especially in Mexico, where the first cases occurred.

The Dell Network Operations Center (NOC) in Guadalajara, which supports Dell ProManage services for small and medium-sized business (SMBs), was concerned that employees might not be able to come to work due to illness.

At the same time, Dell and Perot Systems had developed a Managed Virtual Client solution, and they were looking for a pilot.

"If we could not travel and we could not get people in Mexico to work, we needed to stand up a NOC here in the U.S.," says Phil Kelly, manager, Dell. "Managed Virtual Clients would be advantageous to have in that situation, so we had a scenario in which we could deploy a pilot."

Creating A Redundant NOC Resource

The Guadalajara NOC approved a pilot with 15 users. Dell and Perot Systems implemented the Managed Virtual Client solution using Dell OptiPlex FX160 flexible computing desktops and VMware View 4, built on VMware vSphere 4, to deliver desktops securely from the data center.

The pilot was immediately successful, prompting the Guadalajara NOC to request that it be rolled out to approximately 85 desktops, creating a redundant NOC resource that could be used in the United States in the event of an emergency.

The rollout resembled the pilot except that Dell chose to use existing desktops rather than bringing in new hardware and replacing working machines that were only two years old.

The Managed Virtual Desktop solution runs on Dell PowerEdge M610 blade servers with Intel Xeon 5500 series processors, providing exceptional power and scalability. Two Dell PowerEdge M1000e modular blade enclosures enable a redundant, cloud-based solution, while VMware High Availability provides cost-effective high availability for the virtual desktops. Eighty-five virtual desktops can be hosted on just two M610 blade servers. The virtual desktops run Microsoft Windows XP operating system. "The PowerEdge 610 blades give us the optimum density of VMs per square foot," says Kelly.

Delivering Business Continuity

"Now we have a technology that we can give to someone anywhere in the world as long as that person has access to the

Technology at Work

Hardware
Dell™ OptiPlex™ FX160 flexible computing desktops with Intel® Atom™ 230 processors
Dell PowerEdge™ M610 blade servers with Intel Xeon® 5500 series processors
Dell PowerEdge M1000e modular blade enclosures

Software
Microsoft® Windows® XP
VMware vSphere 4
VMware View 4

Internet," says Kelly. "Business continuity, which prompted this project, is the outstanding value."

While the desktop virtualization is available as a contingency solution, the benefits spread far beyond. Ben Taylor, global NOC manager, observes, "The Dell Managed Virtual Client solution allows us to control the environment and maintain tighter security. User data is now stored in a data center, not sitting on a C: drive where we would have to worry about backing it up." Backups of desktops had been sporadic for users in Guadalajara, but with virtual desktops, the problem is solved.

The point about data loss is hardly theoretical. "I myself had a C: drive crash a year ago, and I lost all my data," says Taylor. "A few months later my laptop was stolen, and I didn't have a current backup. Now all my data would be protected in a hardened data center."

In a virtual desktop environment, IT staff has reduced the worry about virus and malware remediation. Rebooting the desktop reverts to a clean image, eliminating any virus or unauthorized software that could potentially render a machine unusable or spread throughout the network.

Image standardization is another benefit. "With only standardized software in the environment, we can say that we are in software compliance," says Taylor. "Rogue applications can be safely eliminated by a simple reboot."

30% Reduced Total Cost Of Ownership

Upgrades and patches can be performed centrally with no need for IT staff to touch the desktop units, saving time and money.

"Say we are doing a Microsoft Windows 7 upgrade to our NOC environment," says Taylor. "We used to have to touch every one of those machines. With Managed Virtual Desktops, we test the image, then we roll it out one evening to the virtual desktop world, and the next morning everybody has the new operating system. And if we start that rollout and halfway through find that a very important application isn't behaving correctly, we have to stop and back that off. Previously, we'd have to go out and touch every one of these machines again, but with Managed Virtual Clients, I can back off the upgrade in a matter of hours."

Later this year when Dell replaces the desktops, which are on a four-year refresh cycle, it will deploy Dell OptiPlex FX160 flexible computing desktops, which have no hard drives. A no-frills architecture and power-saving Intel Atom processor contribute to the energy efficiency of the Dell OptiPlex FX160, meeting Energy Star and EPEAT-Gold certifications. Taking the complex older devices off the desk will reduce power consumption by 77 percent compared to the Dell OptiPlex 755.

The OptiPlex FX160 also has a longer refresh cycle when compared to some conventional desktop machines.

"The Dell Managed Virtual client solution allows us to control the environment and maintain tighter security. User data is now stored in a data center, not sitting on a C: drive where we would have to worry about backing it up."

Ben E. Taylor, Global NOC Manager, Dell

Without a hard drive to develop problems, the potential life of the unit can be up to five years. "The total cost of ownership of the FX160 machines is lower than the conventional desktop machines," says Kelly. "The total cost of ownership of the Dell Managed Virtual Client solution is 30 percent less than conventional desktop solutions."

Next Stop Cyberjaya

Dell's Malaysian facility outside Kuala Lampur is the next location that will benefit from this Dell Managed Virtual Client solution. Then, Dell plans to roll it out to service desks in Guadalajara. "We have the capability to reduce the cost of setting up an NOC or a service desk with Dell technology," says Kelly. "We can be flexible and set up a program for telecommuters and scale to much larger NOCs."

Dell also has the ability to offer this model to its clients just by making minor modifications to accommodate whatever applications clients are running. "We don't have to have a huge desktop engineering team for every single one of these accounts or customer locations," says Kelly. "We have economies of scale that make this a truly advantageous solution."

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