



vmPRO Software

California Emergency Management Agency Leverages Quantum's vmPRO Software Capabilities to Support State-wide Emergency Services

California Emergency Management Agency (Cal EMA) has a variety of data it has to support and archive for decades, including information on physical assets across the state, reimbursement for damages, aid packages, critical infrastructure and real-time data collected by satellite across California's 58 counties. For example, the agency is still responsible for the data on remediation and recovery for the 1994 Northridge earthquake in Los Angeles.

About 20 percent of Cal EMA's data is live. The agency relies on IBM tape storage for archived data on projects years and even decades old. To increase management capabilities, the agency is consolidating and managing this data on virtual machines.

To back up Cal EMA's virtual environment, a full "snapshot" of the data would require about 15 to 20 terabytes of data to be backed up and multiple snapshots made as part of the backup process. So, storage resources were being strained by the virtualization backup process. Further, backups would take approximately 20 hours to run.

Due to the significant backup processor and network load, running full backups would decrease overall response time, thereby compromising the user experience for Cal EMA internal staff and customers.

CHOOSING vmPRO

The first option considered by Cal EMA was putting a virtualization-only backup system in place. These systems typically utilize a pool of storage, called proxy storage, that is used to stage Virtual Machine (VM) data snapshots made by add-on agents installed in each VM. By using proxy storage, running VMs can be reliably backed up.

The second option, which was ultimately chosen, did not require additional backup software, proxy storage, or agents. Cal EMA already relied on IBM Tivoli Storage Manager's (TSM) centralized, policy-based, enterprise class, data backup and recovery software for production and archive data. To extend TSM to back up the VMware virtualization environment, Cal EMA rolled out the virtual storage data protection solution from Quantum called vmPRO Software featuring SmartMotion™ and SmartView™.

vmPRO software is a Linux-based virtual appliance that scans across VMs to provide a native file system view of the virtualized environment. Using Quantum's patented pending Progressive Optimization technology, vmPRO filters out inactive, unassigned and deleted data from the VM, significantly reducing the amount of backup data. This process accelerates backups and optimizes the use of disk, server and network resources.

TSM then backs up the VM data as it would any other file system using the vmPRO software technology. Existing backup processes, archival to tape rules, and training are all fully leveraged by this approach. Further, TSM storage efficiencies are fully leveraged on top of the efficiencies provided by vmPRO software.



"Our new backup combination allows us to master our virtual and physical infrastructure by backing up data with greater ease and speed."

Lovell Hopper
Manager, Infrastructure Services

SOLUTION OVERVIEW

- VMware virtualization environment
- Quantum vmPRO™ Software: Provides complete data protection of virtualized environment
- IBM Tivoli Storage Manager
- IBM Tape Storage

KEY BENEFITS

- Operational and end user levels of service improved
- Virtualization environment backup data reduced by 75%
- Backup window reduced from 20 hours to 5 hours
- TSM's deduplication and archiving functions fully leveraged
- Significant cost savings generated over alternative backup approaches

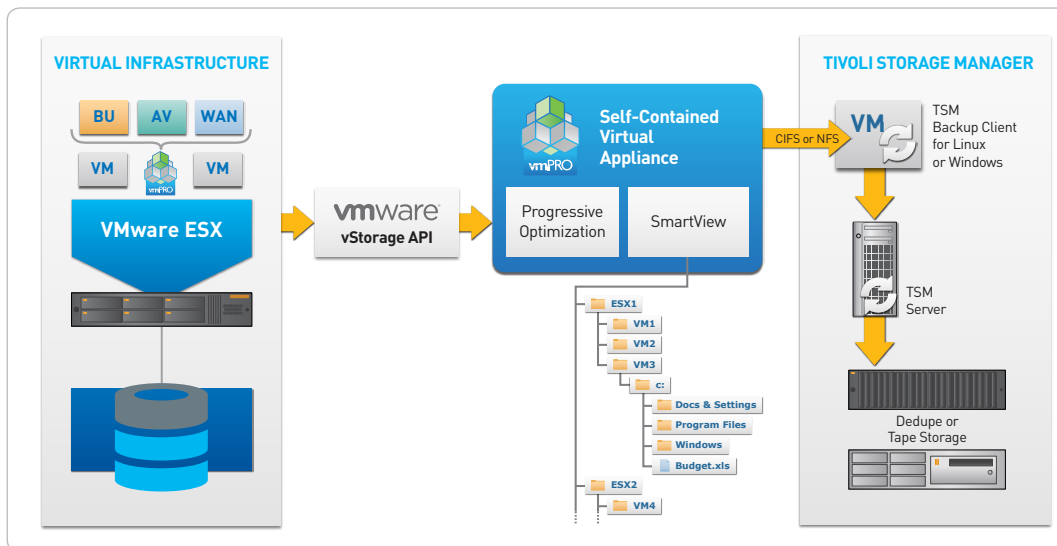


CASE STUDY

RESULTS

The project has both enabled improvements in the core service provided by Cal EMA and reduced direct and indirect costs:

- Due to reductions in I/O load and network bandwidth, backups can be run anytime without impacting the performance of production systems. As a result, operational and end user levels of service were maintained, a critical need for an emergency services agency.
- vmPRO software has enabled a 75% reduction in the amount of virtualized data that Cal EMA backs up.
- Total backup time has gone from approximately 20 hours to under 5 hours, again a 75% reduction.
- TSM's ability to deduplicate and archive data was extended into their virtual environment using vmPRO software.
- Significant cost savings over alternative backup approaches: As compared to other solutions, Cal EMA has had significant cost savings due to elimination of the purchase of a second backup system, of proxy storage for virtualization data staging, and of backup agents for each virtual machine.



ABOUT CALIFORNIA EMERGENCY MANAGEMENT AGENCY

California Emergency Management Agency (Cal EMA) was established in 2009 combining the Office of Emergency Services and Office of Homeland Security to manage the coordination of overall state agency response to major disasters in support of local government. The agency is responsible for assuring the state's readiness to respond to and recover from all hazards—natural, manmade, war-caused emergencies and disasters—and for assisting local governments in their emergency preparedness, response, recovery and hazard mitigation efforts.

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