SCALE COMPUTING

Standard School District

Fast Facts

Standard School District has a student population of approximately 2,900 students with three K-5 elementary schools and one middle school in Bakersfield, CA. Schools in the Standard School District are modern, functional facilities that are equipped with computers and various multimedia tools that are all supported by a small staff of 3 in the IT department.

Introduction

The IT department recognized the benefits of virtualization and had deployed VMware ESXi 4.0, but it lacked high availability. One primary concern of Standard School District was that the failure of any single server hosting their virtual machines would cause down time in their environment. Without high availability, Standard School District was unable to virtualize more than 25 percent of their server infrastructure.

Challenge

To continue using VMware, Standard School District would have had to deploy shared storage using either a Storage Area Network (SAN) or Network Attached Storage (NAS), adding to the already complex environment of host servers. Such an infrastructure required more IT resources than Standard School District was able to warrant for the deployment of the project and the ongoing management of the environment.

Not only would Standard School District need to purchase a SAN or NAS, they would also need to upgrade their licensing from the basic hypervisor to a more expensive version that offered high availability. The initial purchase combined with the ongoing management costs were prohibitive given their limited IT budget and resources.

Solution

After evaluating several options including HP LeftHand, EMC and NetApp, Jefferson Davis, the Technology and Information Systems Manager at Standard School District, found an alternative solution in Scale Computing's HC3. HC3 was built with the availability of a virtualized server and SAN, the scalability of a clustered infrastructure and the simplicity of a single server. By deploying HC3, Standard School District would be able to realize the benefits of a fully virtualized environment without the added complexity of a typical virtualization deployment – all at a fraction of the costs of deploying the other solution.

"HC3 makes the architecture—for storage and for virtualization—much simpler than what other storage vendors are currently doing, at a much lower price point. HC3 saved us about 75 percent of what the other solutions quoted us for storage, licenses and additional servers. And, we looked at all of the 'usual suspects' before finding Scale Computing's HC3."

The HC3 system combines multiple independent nodes with computing and storage resources into a single pool of storage and compute resources. Availability is automatic, meaning that when Standard School District creates a VM on HC3, it is automatically made highly available. In the event of a full node failure, HC3 will failover the VMs on that node to the other nodes in the cluster without any manual intervention.

HC3 does not require storage protocols, networking or provisioning. On the storage side, there are no RAID sets, iSCSI targets or LUNs, multi-pathing, storage security, zoning or fabric for Standard School District to setup or manage. On the server side, they no longer have to deal with the complexity of iSCSI initiators, host and VM file systems, server clusters and policies.

To create a new virtual machine (VM), Standard School District simply assigns the resources necessary for the VM and loads the operating system. Using HC3, the district was able to save hours of unnecessary overhead in the deployment of new VMs.

After several months of using HC3, Davis expects to move from 24U of servers and storage down to just 4U – giving the school district dramatic savings in terms of complexity and cost savings in power and cooling. When Standard School District needs more compute or storage resources for their HC3 system, they can now simply purchase additional nodes for the system. Adding these nodes is as simple as racking and cabling the power and networking. The additional resources are then recognized by the HC3system and added to the overall pool of storage and compute resources.

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Unit 805, 8/F, AIA Kowloon Tower, Landmark East, 100 How Ming Street, Kwun Tong, Kowloon, Hong Kong
Tel : (852) 2893 8860 | Fax : (852) 2893 8214 | Email : sales@version-2.com.hk
Website : www.version-2.com