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Success Stories

Vantage Media Speeds Innovation While Keeping Systems Safe Using NetApp FlexClone



KEY HIGHLIGHTS

Industry

Online marketing services

The challenge

Constantly offer new and innovative online marketing services to rapidly expanding client base.

The solution

The combination of NetApp® FlexClone® and VMware® enables Vantage to quickly create an infinite number of software development and test environments.

Benefits

- Cut time to create test environments by 98%, accelerating time to market of new software functionality
- Maximize innovation through a 100% increase in projects in simultaneous development
- Save \$100,000 in staffing costs by simplifying the creation of test environments

CUSTOMER PROFILE

Vantage Media is one of the largest performance search marketing firms in the U.S. Its online marketing offerings deliver qualified customer prospects on a performance basis, helping clients drive revenues and profits by identifying motivated consumers and increasing the rate at which these browsers become buyers.

THE CHALLENGE

To stay ahead in this fast-changing market, Vantage must continually innovate. The company serves its clients with technologically sophisticated search campaigns; bidding on keywords; buying media; creating and managing targeted e-mail campaigns; and hosting, testing, and constantly monitoring live campaigns, microsites, and portals. Vantage is always refining its technology to make it even better at targeting its clients' unique offerings and identifying the most relevant search traffic.

Vantage's highly trained search specialists monitor and refine client campaigns in real time, interpreting information from its proprietary bidding software, which continuously tracks each keyword's ROI in the major search engines. They also leverage the software to continually track changes in the dynamic Internet environment, highlighting,

for example, which version of a campaign is winning the most click-throughs or how response differs between demographic subsections.

Changing the software without disrupting the systems or the business

After Vantage has analyzed the latest traffic data figure or identified the latest trends, it must respond rapidly to any shifts by making changes to its proprietary software. But, says Dave Rose, director of Network Operations at Vantage, "Every time developers changed the software, I worried it would create problems that could affect our production environment. Our customers need us up and running their campaigns 24x7."

To protect production systems, Rose wanted to ensure developers thoroughly tested each application change before deployment. But developers weren't able to test in a holistic way, because Vantage's test environments—complete physical copies of the production system—took eight hours to make and required hundreds of gigabytes of storage. As a result, the company could make only one or two test environments available at a time to its 30-person development organization.

“Constraints on our ability to create dev/test environments meant we had to reject some promising development ideas early on because we just didn’t have the resources to explore them. With NetApp FlexClone, we don’t have to make as many hard decisions: We can work on about six projects at once, twice as many as before.”

Sergey Sundukovskiy
VP of Engineering, Vantage Media, LLC

With so few test environments available, and with each environment at least eight hours out of date, developers were limited in their ability to respond in real time, either to system performance problems or campaign opportunities. Progress was slow, with multiple developers working in the same test environment, inadvertently interfering with each other and compromising testing.

Rose had two objectives in seeking a faster and more storage-efficient way to make copies of the production environment: to protect the business and to support innovation. Regarding the first objective, Rose explains, “We need to protect our business-critical production systems by ensuring that we only deploy fully tested software. And whenever a problem does occur, the first step in resolving it is to recreate it. Both these system protection activities require us to create multiple test copies of the production system, quickly.”

Regarding Vantage’s other goal, to support innovation, with so few dev/test environments available to developers the company could pursue only a few innovative ideas at a time. “We wanted to make test copies of the production system freely, so developers

could work in parallel, without interference,” says Rose. “This speeds the creation and testing of new capabilities that are key to our competitive edge.”

THE SOLUTION

NetApp FlexClone software offered a way to create as many test environments as Vantage wanted, as fast as it wanted them. Because FlexClone does not continue to make full copies after the first instance—it only tracks the changes that users make—each clone uses an insignificant amount of storage space and is ready for use in less than five minutes, instead of the hours it used to take Vantage to make a full physical copy.

Vantage was already using NetApp solutions for its storage environment before adopting a NetApp dev/test solution. Two NetApp FAS3040 storage systems in an active-active pair configuration store traditional flat files, MySQL data stores, and a data warehouse built on Microsoft® SQL Server™. The system leverages a variety of protocols, including CIFS for traditional file sharing, NFS for MySQL data stores, FC for the Microsoft SQL Server data warehouse, and iSCSI for Vantage’s Microsoft Exchange environment.

Creating complete virtual systems

Vantage IT staff uses NetApp FlexClone to clone data in the company’s MySQL Linux®-based database and mount it in multiple quality-assurance test environments using NFS. And, just as NetApp FlexClone helps Vantage do more testing with less storage hardware, VMware ESX virtual server technology enables the company to run more servers on fewer physical machines.

Rose and his team can bring up complete new virtual environments—look-alikes of the production system—on demand, using existing hardware. First, the team creates a virtual machine (VM), then uses FlexClone to create a copy of the operating system and the application stack for the VM to run. Then the team uses FlexClone to create a copy of the data that the developers want to test against and mounts it on the VM. These complete virtual test environments can be ready in minutes.

Vantage also saves time by using Snapshot™ to make copies of the data in its dev/test environments instead of traditional backup procedures. “Using traditional methods to restore a 200GB database would take huge amounts of time, but we use Snapshot



copies for instant backups,” says Rose. “It takes just a few minutes. And, if a developer makes a mistake in testing, the team simply pulls up the latest snapshot of the production database and uses that to restore the database clone that the developer is using.”

BUSINESS BENEFITS

“At Vantage, we have to balance protection with innovation,” says Rose. “NetApp FlexClone software helps us create as many test environments as we want, so we can develop and test multiple ideas in parallel before they get anywhere near our production systems. That’s how we stay on the leading edge without being on the bleeding edge.”

Rose also believes that Vantage’s VMware implementation wouldn’t have been as successful with any other storage infrastructure. “NetApp SnapManager® for Virtual Infrastructure lets us create a snapshot of the virtual machine image at any point in time, so if a developer blows up the VM image during testing we can revert to the snapshot very quickly. What really makes this effective with the NetApp solution is the deduplication savings we get against our VMware volume. We’ve seen greater than

50% savings,” he says. “They’re a symbiotic solution: Virtual machines and virtualized storage create a full-fledged virtual test environment for peak cost effectiveness. Together, they enable us to be nimble in supporting the business.”

Parallel development doubles number of innovative projects

With FlexClone, Vantage can create clones and distribute them across all of its environments far more rapidly than before. “Constraints on our ability to create dev/test environments meant we had to reject some promising development ideas early on because we just didn’t have the resources to explore them,” explains Sergey Sundukovskiy, VP of Engineering, Vantage Media. “With NetApp FlexClone, we don’t have to make as many hard decisions: We can work on about six projects at once, twice as many as before.”

In addition to enabling Vantage to run more projects simultaneously, FlexClone helps developers and testers to work more efficiently by allowing each to have his or her own dev/test environment. Now one person’s work is not affected by changes another person is making to the same copy.

A better way to develop better software

Before Vantage began using FlexClone, developers often had to start work before they had a full test environment, so they couldn’t get testing feedback on the work they’d done until they were already several weeks into their projects. “That forced us into an inefficient ‘waterfall’ development methodology, in which developers often waste time with false starts,” explains Sundukovskiy. “With FlexClone, we can adopt a methodology more in tune with our business’s need for constant innovation. FlexClone supports the agile development methodology’s requirement for frequent iterations and more rapid feedback cycles, to ensure projects stay on track, without wasted time and effort.”

Sundukovskiy says that he has worked with other dev/test environments, but nothing compares with the plug-and-play ease of the NetApp solution. This ease of use has helped IT operations to serve developers better, without increasing headcount. “If we’d tried to create more test environments using our old approach, we would have had to bring in another engineer, at a cost of about \$100,000 a year,” says Sundukovskiy.

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Dave Rose

Director, Network Operations, Vantage Media, LLC

“With NetApp technology, we can invest that money in more technological innovations. Now, creating a new dev/test environment is about as easy as pressing a button, so we can test every piece of software before we deploy it and pursue development of as many innovative ideas as we want.”

SOLUTION COMPONENTS

NetApp Products

FAS3040 cluster

FlexClone

SnapManager for Virtual Infrastructure

NetApp Global Services

NetApp Professional Services
implementation services

Protocols

FC

iSCSI

NFS

CIFS

Third-Party Products

VMware ESX Server 3i 3.5.0 110271

Microsoft Exchange Server 2007

MySQL 5.0.67-percona on CentOS 4.5

Microsoft SQL Server 2005 Enterprise

Dell 1950s with dual quad core xeon
(2-3ghz) and 32GB of RAM

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