

SUCCESS STORY

Open for Business at Humac

How StorageRep and Loxoll HA Keeps Apple Retailer Up and Running



KEY HIGHLIGHTS

Industry: Computer Retail and IT Services

The Challenge

- Provide high-availability access and protection for a VMware virtualized environment running four, clustered Apple Xserve and HP Proliant servers and 16 TB ActiveRAID storage from Active™ Storage.
- Deliver services on a near-24x7 basis with only limited, remote administration and monitoring from a two-person, IT staff supporting a 500-person company.

HA appliance Benefits

- Uninterruptible, high-availability, easy-to-manage storage solution protects against failures of FC fabric and primary storage for VMware-based environment.
- Simple, centralized administration for resource-limited IT staff.
- Continuous, consolidated data protection for retail, online and backroom operations achieved at an affordable price.

The Customer

Founded in 1986, Humac is Apple's largest independent Premium Reseller in the Scandinavian region. Formed through a merger of the Norwegian business group *Office Lineup* and Icelandic company *Oflun*, Humac operates 25 retail stores, 3 B2B offices, 3 warehouses, an online business, and an IT service business for individual and commercial customers. Recently, Humac was acquired by the ECS Group, the largest Premium Reseller in northern Europe, with presence in more than 15 countries.

Located principally in Denmark, Humac operates Apple-sanctioned retail stores that are styled closely after Apple Stores in the United States. The company also provides traditional IT consulting services to mid-market enterprises and small businesses as an Apple Authorized Service Provider.

Challenge: Delivery of Continuous, High-Availability Data Access for Retail Operations

It is no small task to keep all 37 stores, an online business, and corporate operations up and running on a near-24x7 basis, especially with a small IT staff. Yet Humac's Chief Technology Officer and Director of IT, Alan Gordon, embraces the challenge enthusiastically. "At Humac, because our commercial customers are small-to-medium businesses, our motto is that 'we sell what we use.' We believe there is no substitute for learning how well a product works



Figure 1. Loxoll Versatility. HA appliance uses hardware-based mirroring to provide redundant data path access to mirrored storage volumes. In the unlikely event of component failure, HA instantly fails over to the working data path and storage. The result: and applications continue running without interruption or manual intervention.

from first-hand experience,” he said. As a result, Humac runs its entire 500-person business on systems and software that the company also sells. In addition, in keeping with the limited IT resources that its customers have, Humac also runs all of its infrastructure — a cutting-edge combination of remotely managed, virtualized platforms and clustered servers — with a staff of only two IT administrators.

Alan Gordon was accustomed to meeting this challenge, and Humac IT operations normally operated problem-free. Consequently, he was surprised during his attendance of an Apple reseller conference when he was awakened by an urgent call from his home office: in the process of upgrading firmware on one of their Active Storage RAID units, a system administrator had just lost access to 16 terabytes of data. If lost, all Humac locations would be unable to access parts and product information and would not be able to invoice customers: business would come to a halt. Fortunately, the administrator soon found ways to re-construct configuration data on the storage unit, and prior to opening hours, managed to restore most systems and applications. Ultimately, the only downtime experienced by the stores was an e-mail outage that lasted for six hours.

Still, Humac’s close call had alerted Alan to the company’s exposure to a potential storage component failure. Even though ActiveRAID systems are redundant and fault-tolerant, providing protection in most situations, permanent loss of data could occur if there were severe disk, cable, or switch failures. The conclusion: Humac needed an enterprise-grade, high-availability replication solution for its operations.

After investigating various enterprise storage options from major vendors, the Humac staff identified several alternatives, but found they were designed for data stores that were much larger than Humac’s. Practically speaking, the choices were cost-prohibitive for a 16-terabyte system. Fortunately, Active Storage had partnered with Vicom Systems to solve this problem, and recommended that Humac consult with the company.

Solution: High-Availability Access with Continuous Data Protection

After receiving a brief on the Loxoll HA high-availability appliance, Alan Gordon was impressed: clearly, it would meet Humac’s needs and budget. He purchased a HA unit with a money back guarantee that it would meet his requirements, and Loxoll quickly responded with precise instructions and telephone support for installation, which they promised would be easy. Alan said, “I was impressed by Loxoll’s level of pre-sales support from the start. I have never, ever seen the degree of commitment from a vendor to make sure I could do all that I needed to do.”

By itself, the ActiveRAID is a fault-tolerant RAID system. Each active component in the system is field-replaceable. All mechanical components, including cooling modules and hard drives are redundant and hot swappable, similar to higher-cost, enterprise arrays. Adding an additional and critical level of redundancy, Loxoll HA appliance creates two fully redundant data paths from

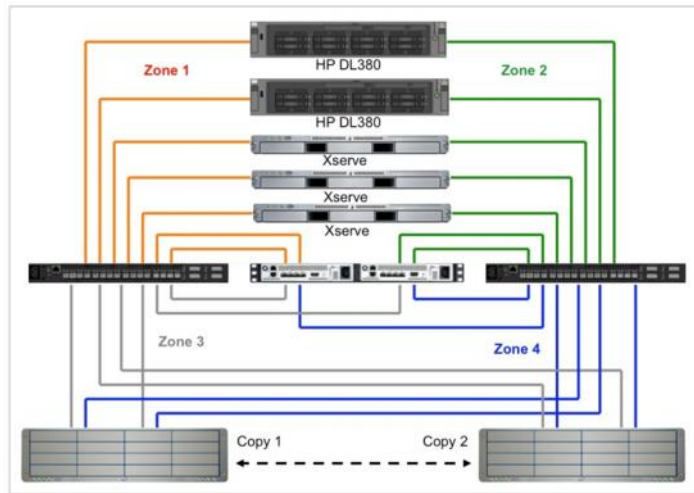


Figure 1. Humac's clustered, VMWare servers with HA appliance-protected Active Storage RAID.

mirrored Active RAID arrays. Should an outage occur anywhere on either of the two data paths, HA appliance instantly fails over to the alternate, good data path, allowing storage access to continue without interruption. The RAID array could now be upgraded, tested, and then committed online without any application disruption. During normal system operations, the HA appliance reads from both mirrored RAID systems, which doubles sustained streaming and I/O rates.

After installing a second set of Active Storage units, the Loxoll protected, Active Storage systems were put through the paces and subjected to simulated component failures. To no one's surprise, both installation and testing went smoothly at Humac. All the while, Humac's systems had uninterrupted access to stored data. The new solution had passed with flying colors.

Benefits: Business Continuity

Since putting the new Loxoll HA-protected storage system into operation, Humac's systems have continued to operate problem-free. Alan Gordon enthuses about the solution. "When it comes to mission-critical data, the Loxoll HA appliance does exactly what they say it does. Best of all, it lets me sleep at night," he said.