



Rainmaker Entertainment Boosts Productivity with Alacritech ANX 1500

Network Utilization Highlights

- CPU utilization: dropped from 100% to 60%
- Network traffic to the NAS: decreased 35%, from peaks of 8.5Gbps to peaks of 6.3Gbps
- Data speed: increased to 2.5GB/s from 1.1GB/s (best case)
- Disk OPS: dropped from 160,000 to less than 70,000
- Cost: 40% less than adding NAS infrastructure

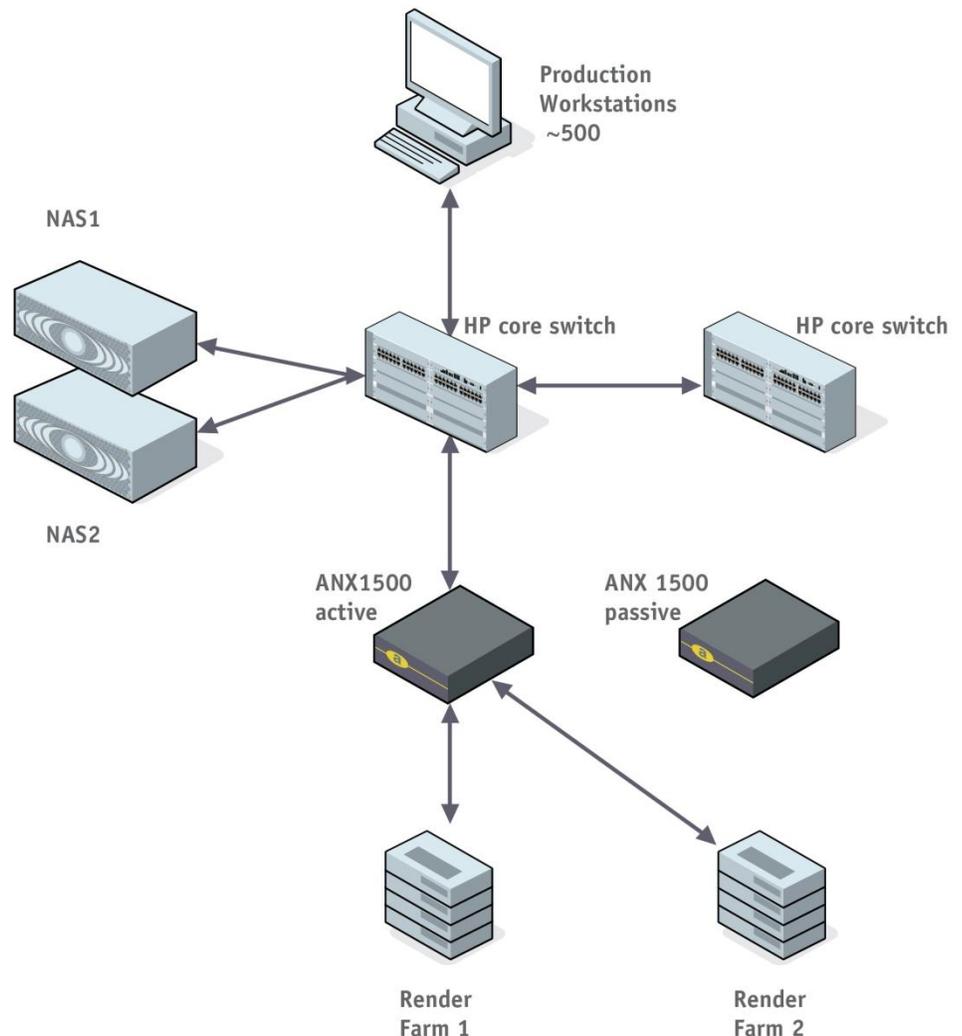
Background

Rainmaker Entertainment Inc. (www.rainmaker.com), one of Canada's largest producers of computer graphics (CG) animation, was at a technical crossroads. The company is known for producing quality work over a variety of projects, including the first-ever CGI animation series *ReBoot*, and the award-winning short *LUNA*. Rainmaker, which has never missed a deadline in 18 years, is currently in production on the 3D animated family comedy *Escape from Planet Earth*.

But video requires significant amounts of storage and the storytellers need to access their files quickly. As the company grew, performance on the computer network suffered. Response times lengthened. The company's 200 creative animators simply couldn't do their work as fast, affecting productivity.

To meet their commitments and continue to provide their trademark high-quality work, Rainmaker had to find a better way.

They found it in the ANX 1500 Throughput Acceleration appliance from Alacritech.



NAS Infrastructure

Here is background on their situation.

Rainmaker's computer network uses the network-attached storage (NAS) structure, with the active data residing on BlueArc NAS systems. Artists access their data using the network file system (NFS) from the BlueArc Systems Model 3210 Titan Machines. The company had two 3210s installed, which had served them well.

But the sheer volume of material had increased. Rainmaker could not get enough system throughput because the processors on the BlueArc Systems Model 3210s were often maxed out, hitting nearly 100% utilization.

Initially the company considered purchasing a third head (controller) for the BlueArc NAS. However, that would have cost about \$250,000 (including the supporting networking infrastructure). Also a third head would offer only temporary relief. The company would soon have needed to buy a fourth BlueArc head and more disk drive shelves. Clearly, a third head would have helped, but it wasn't a long-term solution.

Rainmaker also considered caching solutions, including the SSD read cache from BlueArc. They rejected other options because they wanted a cost-effective way to significantly boost performance immediately, as well as the ability to independently scale performance and capacity in the future.

Alacritech ANX 1500

The ANX 1500 is the only product that:

- Seamlessly fits into NAS environments
- Takes a tremendous burden off of NAS, allowing it to perform and scale better
- Generates exceptional throughput with record breaking low latency
- Produces extremely high NFS metadata throughput performance (2.75 million/second)

The Approach

In November 2011, Rainmaker started testing the Alacritech ANX 1500. This network storage acceleration appliance dramatically improves the performance of storage infrastructures while greatly reducing NAS sprawl. Based on 54 patents, the ANX 1500 is the first and only storage product to accelerate the performance of an existing storage network without requiring an organization to replace its infrastructure or surrender ownership of its data.

Rainmaker tested the ANX 1500 with actual production jobs in a confined configuration consisting of one chassis, which includes 16 servers. They were so impressed by the performance that they expanded the test only days later, and had the ANX 1500 supporting all their chassis (about 400 servers).

Results

The results were dramatic and immediate.

Renders with the ANX 1500 in the mix are completed faster, improving productivity. Ron Stinson, Director of Information Technology and Operations of Rainmaker, said that the "artists have

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a much better experience even though our render load has increased.” In effect, the ANX 1500 “alleviated the congestion that had slowed responses for production.”

The statistics definitely support his statement.

- Overall, the weighted response times (taking into account both the ANX and BlueArc) decreased by an astonishing 80%.
- Rainmaker can now move data at 2.5GB/s to the render farm, more than twice as fast as was possible in the previous best-case scenario (1.1 GB/s). And there is still 1GB available for desktop users.
- Traffic to the NAS has decreased 35%, from peaks of 8.5Gbps to peaks of 6.3Gbps. This is possible because the ANX 1500 is handling the load instead.
- Phone calls from frustrated users have plummeted.
- Immediate capital outlay was about 40% less than buying additional NAS infrastructure (including a third head). Also, Rainmaker can postpone purchasing any more heads or disk drives.

The ANX 1500 greatly benefits Rainmaker’s NAS infrastructure. The cache hit rate for the ANX 1500 is 90%. This means that the ANX 1500 is responding to NFS requests, reducing the load on the BlueArc heads. The NAS is able to respond to other requests because it has more cycles, made possible by the Alacritech Throughput Acceleration appliance. This translates into the 3210s performing better and benefiting from additional headroom. After the ANX 1500 was installed, utilization on the 3210s dropped between 40 to 60%. The disk operations per second executed by the NAS also dropped more than half, from 160,000 to less than 70,000.

“The artists have a much better experience even though our render load has increased.”

“Reducing the disk operations per second has allowed us to stay on this generation of NAS Filer for a longer period of time,” said David Algar, Principal Systems Administrator of Rainmaker. “The cost was significantly lower than purchasing a third NAS Filer head with disk cache. The implementation is simpler and requires no juggling of file systems to balance the load, as the

ANX 1500 balances the load across the two BlueArc heads. Another benefit associated with reducing disk operations was improved back-up processing. The ANX 1500 substantially reduced the disk operations, thus providing improved throughput which resulted in back-ups taking substantially shorter times,” he said.

Simply put, the Alacritech ANX 1500 met Rainmaker’s needs. Performance objectives were realized while spending about 60% of what had been budgeted. And Rainmaker has room to grow because the ANX 1500 can help balance the load across multiple BlueArc heads.

“As we plan for additional growth, we will definitely factor in the ANX 1500,” he added.

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