



FLASHNET LEAPS PAST ISP BOTTLENECKS WITH 700% JUMP USING THE XCELERATOR®

Flashnet Communications	
Founded:	1995
HQ	Ft. Worth, TX
Subscriber Accounts:	175,000
Market:	National Internet Service Provider
SEEK Solution:	Xcelerator® with Adaptive SSD™

A powerful performance punch is a nice bonus for any company, but sometimes it is critical to overall success. Flashnet Communication recently determined that performance and future prosperity are linked, and took steps to implement solutions to meet those needs. Flashnet is a *Nation-Wide Internet Service Provider* and has been experiencing rapid growth. Top priorities demanded by all of their customers are fast access to email **and** rapid response from the news server. As System Administrator, Chris Bellomy was grappling with these issues and exploring solutions that would satisfy his customers. Bellomy ultimately decided upon *Seek Systems* and the **Xcelerator** to pump performance into existing hardware.

Flashnet had already deployed two SUN Enterprise Servers running Solaris as the foundation for their computing system. Performance was nominal and did not become an issue until the quantity of dial up and mail accounts started growing rapidly. Bellomy had isolated each of these transaction-intensive applications (mail and news) on separate machines. Even so, I/O performance was not high enough. The news server was bottlenecked by the history file (343 Mb and growing) and the mail server was slowed by the password verification scheme of the standard Solaris POP3 mail software (NSCD). Because the Mail server was running about 1000 POP3 connections per second, this was a critical area to increase performance.

In his tuning process, Bellomy first started isolating processes on different CPUs, then isolating "hot" data on specific storage volumes. The News Server was obviously bottlenecked at the history file, but Mail had different problems. New software had been written by Bellomy's group using a Berkeley DB application to make the password verification process more efficient. The new code succeeded in creating a more efficient process, but the internal dynamics of CPU cache utilization changed. The password verification table that was in CPU cache was now being parsed from a flat file on hard disk and was painfully slow. All I/O was stopped while the password table was written to disk. Several combinations of isolated disk and RAID 0 arrays were tested but none could yield the performance needed. "We needed lightning-fast access," insisted Bellomy. The first configuration with was running at 100% busy when polled. Bellomy's group ran IOSTAT to analyze traffic and confirmed that conventional storage (single disk or array) was running at such a high percentage busy that disks would never keep up with data. It was at this point that Solid State Disk was considered to optimize the bottlenecked processes.

The solution Bellomy brought in was a *Seek Xcelerator* with 512 MB of Cache. The **Xcelerator** with **Adaptive SSD** was configured with dual host controllers so that there would be no I/O contention in the bus queue priority. Additionally, the **Xcelerator** was partitioned into two volumes. Flashnet wanted it to appear to operate as two different machines. **Adaptive SSD** showed its management free performance during the installation phase. Bellomy assigned this project to one of his junior staff members. *Seek Service* and the **Xcelerator** worked so well that Bellomy never got involved with the installation details.

How did the **Xcelerator** perform? "Rock solid," claimed Bellomy. "We were able to cut CPU load averages by a factor of 7 [from 21 processes down to 3]. I was hoping to cut it in half...I was overwhelmed that it was cut to 3." What does this mean for the future? Bellomy exclaimed, "We will now be able to scale [our business] to double the current size!" All of this will be accomplished without purchasing new hardware.

There is no more powerful punch than exceeding expectations. The **Xcelerator** extended the life of existing hardware that now supports double the business quite painlessly. That is a big punch for Flashnet who is another satisfied **Xcelerator** customer taking advantage of **Adaptive SSD** and management free hardware.

