

Bob Eldridge

beldredge@cambridgecomputer.com



On January 22, 2009, The USENIX Association held a class called Next Generation Storage Networking: Beyond Conventional SAN and NAS. In partnership with IEEE NH Computer Society, Southern New Hampshire University and Nashua Community College, the lecture was very well attended and a great success. Jacob Farmer (CTO of Cambridge Computer) did an outstanding job as he guided the class through today's technologies, pains, and budgets and then led into the newer storage technologies that maximize capacity, maximize performance, virtualization, reduce investment and people resource costs, and more. The class was action packed, interactive and full of

information. The class went for about 3 ½ hours and then followed by a lunch served at the SNHU Hospitality Center Ballroom where Q&A continued and allowed people to talk one on one with Farmer.

It was refreshing to see new technologies as storage is beginning to evolve again after a seven year stagnant period. Some Examples: A.) The ability for hot data to be automatically stored and placed on the external tracks of disk platters for maximum performance, while cold data is stored/moved on the inside tracks. B.) Automated tiered storage that moves pages (small chunks of data) from the expensive fast disk drives (fibre 15K HDD) to less expensive 10k and SATA drives when pages are not active. C.) Spindle virtualization is another great new technology that no longer requires you to configure RAID sets to specific drive sets. Instead the RAID set is spread over a whole bunch of disk drives in a storage pool, and it's as easy as saying I need 500GB with RAID 10 and you're done. The system spreads the request over all the drives in the pool. The result is very easy to use, superior performance (without the need for host based logical volumes), increased data protection with better snapshots and data replication, thin/dynamic provisioning and allows for the mixing of drive sizes within a single storage pool.

There was much more covered in the class then mentioned above and because of the overwhelming positive response, USENIX plans to hold this class again in NH this Spring.

One great take away Farmer provided are the below considerations when comparing vendors.

Key considerations when comparing storage array offerings from different vendors:

1. Capacity Optimization: De duplication, Compression, Thin Provisioning, Capacity on Demand, Automated Tiered Storage.
2. Performance Optimization: Caching, I/O Workload Management, Spindle Load Balancing, Spindle Banding.

3. Operational Efficiencies: Ease of Use, Internal Documentation, Reporting.
4. Data Protection: Snapshots, Replication, Self-Healing
5. Physical: Power Consumption, Density
6. Scalability

About Jacob Farmer:

Jacob Farmer is an industry-recognized expert on storage networking and data protection technologies. He has authored numerous papers and is a regular speaker at major industry events such as Storage Networking World, VMWorld, Interop, and the Usenix conferences. Jacob's no-nonsense, fast paced presentation style has won him many accolades. Most recently Jacob was honored as the top-rated speaker at Storage Networking World, the preeminent conference for the data storage industry. Jacob is a regular lecturer at many of the nation's leading colleges and universities. Of recent he has given invited talks at institutions such as Brown, Columbia, Cornell, Carnegie Mellon, Duke, Harvard, and Yale. Inside the data storage industry, Jacob is best known for having authored best practices for designing and optimizing enterprise backup systems and for his expertise in the marketplace for emerging storage networking technologies. He has served on the advisory boards of many of the most successful storage technology startups, and is well respected in the analyst community. Jacob is a graduate of Yale University.

About Cambridge Computer Services:

A trusted advisor since 1991, Cambridge Computer Services brings years of expertise to manage all data storage needs. Acting as the end-user advocate, Cambridge Computer Services blends consultancy and integration for unique problem identification and custom solutions. Put Cambridge Computer Services in the driver's seat and be show around the best data storage neighborhoods. For further information call 781.250.3000 or <http://www.cambridgecomputer.com>