Nominee: Fusion-io

Nomination title: Fusion-io: Delivering the World's Data Faster

We live in a world where everything is interconnected. From the mobile devices we use to the datacentres we access, every aspect of our lives can be completely integrated, generating huge volumes of data every minute of every day. In the world of data deluge, with 90 percent of data being created within the last two years, businesses need to be smarter and more agile to stay ahead of the competition and keep customers satisfied.

Many businesses have found themselves overwhelmed by the explosive growth in data. Traditional legacy spinning disk systems are unable to meet the required performance demands.

In 2006, Fusion-io founders realised spinning disk-era storage could no longer keep pace with these modern data demands and the advances in digital processing power. They created Fusion ioMemory, which pioneered the use of flash memory technology architected as a high capacity, persistent memory platform for application acceleration.

By integrating hardware and software to overcome the limitations of legacy architectures and specialised hardware, Fusion-io solutions give servers native access to data to accelerate databases, virtualisation, cloud computing, big data, and the applications that drive our economy and our daily lives.

With persistent, high capacity platforms, Fusion-io leverages flash memory to significantly increase datacentre efficiency, with enterprise grade performance, reliability, availability, and manageability, accelerating businesses from the smallest e-commerce retailers to the world's largest datacentres, social media leaders, and Fortune Global 500 businesses.

Fusion-io offers an array of solutions, including hybrid and all-flash appliances for shared storage acceleration, in-server acceleration through PCIe connected flash memory, and virtualisation and caching acceleration using powerful software solutions. This variety of solutions gives customers a choice in how they architect solutions and accelerate their applications.

Shared acceleration solutions:

With Fusion-io hybrid and all-flash appliances, customers can maximise performance and efficiency with solutions that accelerate applications that require shared storage infrastructure.

ION Accelerator — Software-defined shared application acceleration that transforms industry standard servers into all-flash shared storage acceleration.

ioControl Hybrid Storage System — Hybrid storage appliance for small to medium enterprises (SMEs) that typically support multiple applications.

Direct acceleration solutions:

ioDrive2, ioScale, and ioFX — Persistent, high capacity, integrated NAND flash hardware and software that delivers the industry's lowest latencies, highest performance, and proven reliability for enterprise, hyperscale and workstation customers, respectively.

Caching acceleration solutions:

ioTurbine, ioVDI and ioCache — Software solutions that transform ioMemory into an intelligent cache to accelerate virtualised storage systems while reducing storage costs and extending existing storage investments.

In addition to accelerating applications, Fusion-io solutions also allow businesses to significantly reduce complex and expensive storage sprawl, decrease energy consumption, and lower total cost of ownership. Mixi, Japan's largest social network, deployed Fusion ioDrives in the datacentre to reduce its server count from several hundred to a few dozen. This decreased Mixi's datacentre footprint by 75%, power costs by 80%, and significantly reduced administrative costs.

Fusion ioMemory technology uses NAND flash, a non-volatile memory, to create a high capacity memory tier with fast access rates in a small form factor. The Fusion-io Virtual Storage Layer is the software that powers the ioMemory platform. It allows file systems, volume managers, and applications to access flash through a common block interface, turning ioMemory into an extensible platform that can fully exploit the potential of NAND flash.

Since its conception in 2006, Fusion ioMemory products still continue to outperform competitors where it counts, consistently achieving lower latency and higher input/output operations per second (IOPS) than competitive products. As the market leader in flash storage and acceleration, Fusion-io has achieved 9.608 million IOPS from a single ioDrive2, an ioMemory product, something which no other flash storage provider can boast with a comparative product.

However, acceleration in the datacentre isn't all about having big IOPS numbers. Fusion ioMemory products reduce latency, which is crucial to businesses success, as it translates to better experiences online for customers. All interactions form transactions in the cloud, however, inefficient disk era code still lingers in the software architecture of applications and datacentres. Fusion-io technologies such as ioMemory bypass these legacy architectures.

Fusion-io is also going one step further with innovations that improve performance for businesses at both end of the size spectrum with products such as ioScale and ioControl. Fusion ioScale has been designed with the input of existing hyperscale market leaders, to maximise flash density and minimise datacentre hardware footprint, complexity, and associated costs. ioScale is used by some of the largest hyperscale companies in the world to accelerate their applications. Fusion ioControl is a hybrid storage system for small medium businesses (SMBs) that combines flash with disk, making performance affordable. ioControl gives SMBs the ability to provision, prioritise, and control shared storage performance according to their unique needs.

“Spotify users expect fast results across all of their devices. Fusion ioMemory gives us the speed and scalability we need to grow our footprint worldwide with new services and scale our user base by the millions.” - Patrik Torstensson, Architect, Spotify.

"Without the ioDrive Duos we would have had to purchase a SAN and then migrate overnight all of the company’s data from all our locations to the SAN in the central data centre, a logistical nightmare." - Iain Knott, Transitional and Technical Supervisor, Isos Housing.

“We were rebuilding database servers on a weekly basis just to keep them active after disk failures. We considered conventional disk form factor SSDs, but we didn’t feel like we could trust our data to them, and they still couldn’t handle our write-heavy workload well. Fusion-io had the only product on the market that guaranteed we could hit them with a 50 percent read and 50 percent write workload and still have the hardware last as long as our other equipment. Since we’ve had Fusion-io, we haven’t had any reliability issues or any need to rebuild database servers due to hardware failure—it lets the engineers sleep at night!” - Phil Dalbeck, Infrastructure Architect, Skyscanner.

Why nominee should win

- Fusion-io delivers the worlds data faster leveraging flash as a new memory platform in the datacentre.
- The wide range of ioMemory solutions fit every IT need.
- Fusion-io are leading the transition to the all-flash datacentre, accelerating databases, virtualisation, cloud computing, big data, and the applications that drive our economy and our daily lives.
- From the smallest e-commerce retailers to the world’s largest datacentres, social media leaders, and Fortune Global 500 businesses, Fusion-io powers the businesses we rely on.
- Fusion-io solutions allow enterprises to significantly reduce complex and expensive storage sprawl delivering performance improvements of up to 10x or more.