August 21, 2012

Marvell Announces General Availability of PCIe-based DragonFly Platform for Servers and Storage Systems

Currently showing live demonstrations at the Flash Memory Summit, DragonFly becomes the storage industry's first intelligent NVRAM SSD accelerator

SANTA CLARA, Calif., Aug. 21, 2012 /PRNewswire/ -- Marvell (Nasdaq: MRVL), a worldwide leader in integrated silicon solutions, today announced general availability of the Marvell® DragonFly™ platform, featuring DragonFly NVRAM and DragonFly NVCACHE. DragonFly is the storage industry's first intelligent NVRAM SSD accelerator – essentially a low-latency write-back cache running embedded software in a PCIe adapter form factor. Marvell is demonstrating DragonFly in booth #800-802 at the Flash Memory Summit, taking place today through August 23.

(Logo: https://photos.prnewswire.com/prnh/20100719/SF36559LOGO-b)

Marvell's revolutionary DragonFly platform is designed to remove the complexity associated with high-performance caching – while the rest of the industry continues to cobble together a hodgepodge of expensive DRAM, capacitors, SSDs, generic software and custom professional services. With DragonFly, Marvell has designed from the ground up a compelling fully integrated enterprise adapter solution that leverages the company's world-class chip technology and delivers the highest IOPS and lowest latency performance on the most consistent basis.

As the first in a new category of NVRAM-powered write-back caching solutions, the DragonFly platform plugs directly into commercially available servers with a PCIe slot. Moreover, it combines Marvell's SoC technology with its newly designed circuit boards. The result is a leading-edge sub-system solution that can consistently achieve 10-100x improvements in latency and server I/O performance while reducing power, space and storage capital costs in the datacenter. DragonFly is sold as a PCIe Gen2 x8 adapter with up to 8GB SODIMM ECC DRAM and up to 1.5 TB of external SSD storage; read, write-back and write-thru caching; synchronous low-latency peer-to-peer write-back mirroring; virtual machine migration and management tools; 3.2GB/s throughput; less than 22us latency; sustained 4K random performance of 220K IOPS read and 220K IOPS write; integrated onboard ultracapacitors to protect data in the event of power loss; and a wide variety of host operating system support, including RHEL, KVM, Xen, VMWare and Windows.

"It's now clear that DragonFly is ready for primetime and can support the rigorous demands of enterprise-class data centers," said Alan Armstrong, vice president of Marketing for the Storage Business Group at Marvell Semiconductor, Inc. "DragonFly is the ideal platform for virtualized and bare-metal server applications in public and private cloud computing

environments. DragonFly offers an amazing hardware-based I/O acceleration technology that not only reduces complexity, but also dramatically scales virtualized server and database/NoSQL server performance while lowering the capital spending costs for network attached storage/storage area networks (NAS/SAN) and local direct attached storage (DAS)."

"The constant demand for IO in the enterprise datacenter has scaled beyond the ability of a centralized array to handle it," said Jeff Boles, Sr. Analyst and Director of Validation Services at Taneja Group. "Enterprise customers have been eagerly awaiting a platform that can move performance closer to the application server and scale performance beyond the limits of the array, without sacrificing consolidated data storage and management. As we've seen in recent hands-on testing, DragonFly is an easy plug-and-play fit into existing storage infrastructures. Such an addition can have a compelling impact on storage costs, and transform the dollars per IO customers are paying today to achieve suitable performance."

"SolidFire is excited to leverage the Marvell DragonFly NVRAM in our SF3010 and SF6010 storage nodes," said Jay Prassl, vice president of Marketing at SolidFire. "Marvell's low-latency 8GB non-volatile DRAM write cache adapter is an enabling technology for SolidFire to deliver world-class high-performance and high-efficiency storage systems to cloud service providers."

DragonFly NVRAM

Marvell DragonFly NVRAM is the second generation Write Acceleration technology that delivers 3.2GB/s of write cache bandwidth for low latency and IOPS intensive applications. DragonFly NVRAM continues to leverage the zero maintenance ultra-capacitors to automatically back up DRAM to NAND Flash in the event of power loss. The ultra capacitor-based design has several benefits including zero maintenance, data loss protection and the ability to directly monitor capacitor performance and adjust voltage to maximize its life.

DragonFly NVCACHE

Marvell DragonFly NVCACHE leverages the industry's first hardware-assisted write-back caching on tiered non-volatile memory (NVRAM + off-the-shelf SSDs) to yield 10-100x higher virtual machine Input/Output Operations Per Second (IOPS), while lowering NAS/SAN and local DAS IOPS demands by 50 percent or more.

Purpose-built to eliminate storage I/O bottlenecks in both shared storage and server-based local storage architectures, DragonFly NVCACHE addresses the accelerating IOPS pain occurring in public and enterprise cloud computing. An industry standard PCIe adapter, DragonFly NVCACHE fits into commercially available rack-mount servers. The solution is powered by an innovative caching architecture, sophisticated on-board firmware and highly efficient and field proven hardware-assist engines. It also works out of the box and offers full hardware host caching with near-zero percent CPU overhead via an ultra-thin host operating system driver.

Completely independent of host server resources, DragonFly NVCACHE technology requires only a very thin kernel driver. This yields two significant advantages:

- **Pervasive OS support:** Major host operating systems and hypervisors are supported and major and new patch releases are quickly and easily ported.
- **Near-zero host resources:** DragonFly NVCACHE fully implements the cache technology in the hardware, resulting in near-zero usage of the host server resources.

About Marvell

Marvell (NASDAQ: MRVL) is a world leader in the development of storage, communications and consumer silicon solutions. Marvell's diverse product portfolio includes switching, transceiver, communications controller, wireless and storage solutions that power the entire communications infrastructure, including enterprise, metro, home and storage networking. As used in this release, the term "Marvell" refers to Marvell Technology Group Ltd. and its subsidiaries. For more information, visit Marvell.com.

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