

3PAR adds sub-volume tiering, SSDs to arrays

INFOSTOR, By Kevin Komiega

March 11, 2010 -- 3PAR has combined automated sub-volume data movement with solid-state disk (SSD) drives to squeeze more performance out of its high-end InServ Storage Servers at a lower overall cost compared to Fibre Channel configurations.

3PAR's ([PAR](#)) new automated tiering software, dubbed Adaptive Optimization, monitors sub-volume-level performance and uses customizable policies to automatically rebalance workloads across storage tiers. The software combines multiple storage tiers -- [SSDs](#), Fibre Channel or SATA drives -- within a single volume.

The 3PAR Adaptive Optimization software also includes Quality of Service (QoS) gradients to prioritize data movement within an application profile based on performance or cost objectives. A QoS gradient speeds up or slows down data movement toward a particular storage tier to better meet service levels.

In addition, 3PAR will support STEC's MACH8IOPS SSDs on its InServ F-Class and T-Class Storage Servers.

Craig Nunes, 3PAR's vice president of marketing, says the steady decline in the cost of flash-based SSDs is making the drives more viable in enterprise storage arrays. However, he says that automated tiering is the key to driving the adoption of SSDs.

"You get more [capacity] and IOPS for your dollar when you combine sub-volume tiering with SSDs and SATA drives, but you have to find a way to put the data on the right tier," says Nunes.

3PAR's SSD of choice is the 50GB version of STEC's MACH8 SSD. The drives are able to address multiple flash chips simultaneously to achieve 10,000 random read IOPS and more than 1,500 random write IOPS. The SSD can also achieve up to 100MBps for large-block sequential transfers.

The [MACH8 SSD](#) is available in capacities of up to 200GB per drive, but Nunes says 3PAR went small for a variety of reasons, including overall cost.

"You can, in effect, get twice as many small drives for the cost of the big drive, making the overall cost of entry lower," says Nunes.

Most of 3PAR's InServ arrays ship with a mix of Fibre Channel and SATA drives. Nunes believes Adaptive Optimization will "put the squeeze" on Fibre Channel capacity in favor of more arrays with "a little SSD and a lot of SATA."

3PAR's [Adaptive Optimization](#) software is optional. Pricing for the software starts at \$1,400 and requires 3PAR's System Reporter software, version 2.7 or newer.

3PAR's SSDs for InServ systems will be available in the next quarter for InServ F-Class and T-Class arrays running the latest version of the 3PAR InForm Operating System. Pricing for the SSDs starts at \$22,400 per array.