TechTarget Storage   Search Storage

TOPIC
Solid-state storage

SUBTOPIC
All Subtopics

Search the TechTarget Network

NEWS

All-flash startup Storbyte previews Eco-Flash file system

Storbyte Eco-Flash drive technology situates Hydra ASIC chips on drives to prolong endurance in write-heavy environments. Eco-Flash stripes data on multiple M.2 modules.

Garry Kranz
Senior News Writer
09 Jan 2019

f
y G+ in ✉
🖶
✉

Newcomer Storbyte has launched a flash storage array that puts a twist on solid-state storage.

Breaking new ground with flash is a tough task, considering the market is already flooded with flash arrays from large and small vendors. Storbyte plans to stand out with a custom application-specific integrated circuit (ASIC), modified data striping and a new file system for its Eco-Flash storage that its founders described as "hardware-defined storage."

Storbyte, based in Washington, D.C., emerged from stealth in 2018 with Eco-Flash. Its 2019 roadmap includes the general availability of the Storbyte file system, which is in early customer deployments.

Integrated Hydra ASIC chip

Drive vendors use techniques such as overprovisioning to boost write performance, but that can lead to data loss when the flash cell starts to degrade.

The Eco-Flash drive algorithm is modified RAID 0 that stripes data across 16 memory modules in a manner similar to disk striping. The system's ASIC presents flash targets as a single drive to an operating system or application. In addition to Eco-Flash drives, customers can buy the storage with conventional SSDs.

The flash-striping method was devised by Storbyte CTO Joe Drissel, one of the company's founders.

Storbyte built its Hydra ASIC directly on Eco-Flash drives to handle garbage collection and mitigate large-block-small-block conflicts. A single Eco-Flash drive integrates five Hydra chips, one of which serves as master controller.

A 4U Storbyte appliance scales to 48 drives and 8 PB of usable flash with the vendor's Compound Optimized Data Reduction. Effective flash on a midrange 2U system scales to 2.6 PB. The Eco-Flash 1U building block tops out at 655 TB.

Eco-Flash uses a modified ZFS file system, with support for other established file systems. Storbyte's chief marketing officer, Diamond Lauffin, said the forthcoming Storbyte file system will scale to tens of millions of IOPS without dedicated parity or rebuild spares.

"We give you a true multinode environment. That's what [having] two file systems will allow us to do. We've got autotiering, sophisticated replication and are just adding a few features" before general availability, he said.

Lauffin said striping to multiple modules helps to prolong flash in write-intensive environments.

The Storbyte file system is one of a half-dozen product rollouts scheduled during the first quarter. Lauffin said the new file system is already installed with several large customer installations.

Storbyte CEO Steve Groenke said the file system is a key piece of Storbyte's hardware-defined storage system.

"It's not just the Eco-Flash drive, but the entire system [that was] intelligently designed," Groenke said.
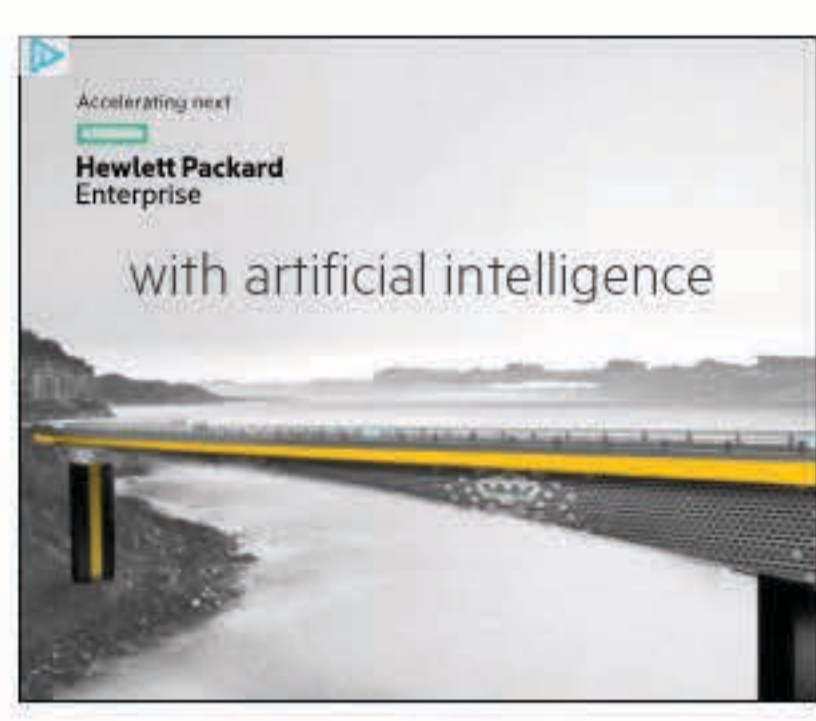
Eco-Flash and software-defined storage

Storage analysts see OEM deals with software-defined storage vendors as Storbyte's most likely path to market.

"Storbyte has done some clever innovation on hardware, but they don't have much in the way of software, so they'll have to partner with somebody to have a complete system," said Marc Staimer, an analyst at Dragon Slayer Consulting.

George Crump, an analyst at Storage Switzerland, said he sees Storbyte as an alternative to the x86 hardware typically used by software-defined storage vendors.

"The default thing is [for a vendor] to buy a storage server and throw drives in it. Those boxes are relatively simple. You get OK performance, availability and efficiency, but you don't get anything great," Crump said. "I think Storbyte has the potential to become the hardware for software-defined storage companies to run on."

The startup's founders Drissel, Groenke and Lauffin are funding the privately-held company. Only one of the three has extensive storage experience. Drissel's expertise is cybersecurity, and Groenke has been an executive at healthcare and engineering firms. Lauffin is the storage guy of the group. He ran sales at tape vendor Qualstar in the 1990s and was a founder of disk vendor Nexsan in 2001.

Garry Kranz asks:

What would it take for a newcomer such as Storbyte to make it selling flash arrays?

Join the Discussion

Related Resources   VIEW MORE

Storage Buyer's Checklist: Solid-State Storage Arrays
–SearchStorage.com

New Frontiers in Solid-State Storage
–Vology

Solid State Storage: Tips & Tricks
–SearchStorage.com

Essential Guide to Solid-State Storage Implementation
–SearchStorage.com

⬇ Dig Deeper on Solid-state storage

ALL ∧   NEWS   GET STARTED   EVALUATE   MANAGE   PROBLEM SOLVE

📄 Microsoft Azure storage team wants simpler flash devices

📄 Pure Storage points flash at AWS cloud

📄 Western Digital Ultrastar DC ME200 optimizes memory storage

📄 NetApp Insight 2018: A primer on storage for AI, flash-enabled cloud

Load More

Join the conversation   💬 1 comment

Share your comment

☑ Send me notifications when other members comment.

Add My Comment

Oldest ∨

Garry Kranz - 9 Jan 2019 12:47 PM

What would it take for a newcomer such as Storbyte to make it selling flash arrays?

Reply

Latest TechTarget resources

DISASTER RECOVERY
DATA BACKUP
STORAGE MANAGEMENT

Search DisasterRecovery

Assurance, ClearView merge business continuity services

U.S.-based Assurance Software's merger with U.K.-based ClearView extends the business continuity providers' international reach ...

AWS acquires CloudEndure disaster recovery, backup services

Amazon Web Services purchases CloudEndure to bolster application and data migration, backup and disaster recovery ...

BC/DR plan template: How to prepare for an active shooter event

A standard BC/DR template typically covers endemic equipment failures and fires. In recent years, more organizations are naming ...

TechTarget

About Us   Contributors   Features
Meet The Editors   Reprints   Guides
Privacy Policy   Archive   Opinions
Advertisers   Site Map   Photo Stories
Business Partners   Answers   Quizzes
Media Kit   Definitions   Tips
Corporate Site   E-Products   Tutorials
                      Events   Videos

All Rights Reserved, Copyright 2000 - 2019, TechTarget