SSSI @ SNIA Storage Developer Conference Recap!

The Storage Developer Conference (SDC, Sept 20-24, 2015) was a big success, and devoted a significant focus to persistent or nonvolatile memory (NVM). Approximately 15 papers discussed this technology!

Why is there suddenly such a big emphasis on this? A lot of it has to do with Micron's & Intel's very recent introduction of their 3D XPoint (pronounced "Crosspoint") memory. This new product will bring nonvolatility, or persistence, to main memory. Intel itself presented a total of seven papers to share the company's vision of how this technology will be used in computing applications. Seven other companies, including Objective Analysis, also discussed this hot new topic.

SSSI's very own **Jim Handy**'s presentation was drawn from a new report just released covering the Micron-Intel 3D XPoint memory (http://Objective-Analysis.com/Reports.html#XPoint). Jim and his audience didn't simply explore the technology, but they also examined the market issues that will make or break this product, and they examined the need for persistent memory and a likely timeline for its widespread use.

SNIA is really on top of this new trend. SNIA's Solid State Storage Initiative [SSSI] has been developing standards for nonvolatile memory for the past couple of years, and has published an NVM Programming Model (http://www.SNIA.org/tech_activities/standards/curr_standards/npm) to help software developers produce code that will communicate with nonvolatile memory from any and all suppliers. Prior to SNIA's intervention the market was wildly inconsistent, and all suppliers' NVDIMMs differed slightly from one another, with no promise that standards would be in place once new memory technologies started to make their way onto memory modules.

Today's NVDIMMs can be split into two categories:

o   Standard DRAM DIMMs that also contain flash to backup and restore the DRAM's contents in the event of a power failure (NVDIMM-N)
o   Block-accessed flash, like an SSD, that uses a DIMM interface to tap into its superior bandwidth (NVDIMM-F).

These form factors create the basis for a new way of programming that assumes that memory is persistent. This new programming model will support the advent of a third kind of DIMM that will be based on new nonvolatile memory technologies like the Intel-Micron 3D XPoint memory, which these companies promise to sample next year. HP, Intel, Microsoft, SMART Modular, and SNIA all presented papers on how this new programming model will work.

Now that Intel and Micron plan to produce their 3D XPoint memory, and to supply it on industry-standard DDR4 DIMMs, it's good to know that a standard protocol will be in place to harness all it has to offer. SNIA's NVM programming model will facilitate the development of abundant software for persistent memory.

To those who missed it, SDC covered a lot of new ground this year, and the SSSI strongly recommends for you to download the slides once SNIA makes them generally available. Those who did attend have doubtlessly walked away with the impression that SNIA is doing a lot to make persistent memory uniformly available to applications programs so that this new computing model will be able to really take off as the support hardware becomes more widely available.

SSSI Member Jim Handy of Objective Analysis was a featured speaker at the September SNIA Storage Developer Conference. His great blog at http://sniasssiblog.org/2015/09/nvm-big-at-storage-developer-conference-sdc-precon/ highlights the important presence of NVM or persistent memory at SDC, with 15 papers in all, and gives some insights into this "Hot New Topic'. To review SDC activities and see on-demand webcasts of SDC keynote sessions, visit http://www.storagedeveloper.org. Also, please save the date for the upcoming Storage Industry Summit featuring Persistent Memory on January 20, 2016 as part of the SNIA Symposium in San Jose!

Upcoming Events!

memcon

Join SNIA and the Solid State Storage Initiative October 13 at the Santa Clara Convention Center for **MEMCON 15**, the memory industry's premier technical and ecosystem event that offers insights into advanced technologies and standards and opportunities to network with leaders. The SSSI booth will highlight the NVM Programming Model and the work of the NVDIMM Special Interest Group. SNIA members and colleagues can use the code MCN15SNIA to receive complimentary access to the conference (a $79.00 savings). Register at http://www.memcon.com/registration.aspx

Storage Visions 2016 is coming up on January 4 & 5, 2016 in Las Vegas!
Learn the latest on hyperscale and cloud storage and its impact on your business. Find out how the internet of things will impact your digital storage needs and hierarchy and xplore the latest information on the rapidly evolving digital storage technology that will change your life. Early Storage Visions Registration provides you with a $100 discount, for the SNIA SSSI is one of the sponsors. The link for this discounted registration : https://sv2016.eventbrite.com/?discount=onehundredoff_67349921

All Meetings.

o   **General Members** call every other Wednesday at 8:30AM PT
o   **PCIe SSD Committee** meets 2nd Monday of each month at 4PM PT
o   **Marketing Committee** meets the 2nd & 4th Monday of each month at 2PM PT
o   **NVDIMM Special Interest Group** meets every other Friday at 9AM PT
o   **Solid State Storage TWG** meets 3rd Monday of each month at 4PM PT
o   **Solid State Storage System TWG** meets weekly on Tuesday 10AM PT
o   **NVM Programming TWG** meets weekly on Wednesday at 12:00PM PT

For WebEx/dial-in information go to https://snia.webex.com

Social Media.
Get Involved!

Please follow us on Twitter @SNIASolidState for the latest and greatest information about committees, events, collateral, and much more! & check out our awesome SSSI Blog too!

Coughlin's Corner!

Forbes

SSSI's very own Tom Coughlin was featured in **Forbes**.com for his article on NVMe Fabrics. *Weaving A Fabric For Faster Cloud Storage With NVMe |* Flash memory performance is driving the development of communication interfaces with computer systems that can take advantage of this speed and lower latency.

The development of these interfaces has also enabled solid-state storage devices that don't need to emulate HDD form factors or operation. The later factor is leading to the elimination of flash translation layers and HDD shaped SSDs. The former factor has enabled flash memory to sit in the computer memory bus in special DIMM cards as well as their use in PCIe-based storage using the NVMe protocol.

At the 2015 Storage Developers Conference (SDC) in Santa Clara, important developments in NVMe storage and the use of NVMe devices in a multi-connected communication fabric were discussed. Full article.