SNIA’s Solid State Storage Initiative Advances the Industry at Flash Memory Summit.

A classic case of SNIA Solid State Storage Initiative (SSSI) member collaboration for industry advancement was on display in the SSSI booth for NVMe Nano demonstration at the Flash Memory Summit (FMS) 2015. Under the direction of SSSI Chair Jim Ryan and coordinated by NVMe SIG co-chair Arthur Sanio and Jeff Chang and TechDev Committee chair Edin Kim, the SSSI was able to update and include NVMe+N storage performance in the SSSI marketing collateral on the Summary Performance Comparison by Storage Class charts.

Once again, said SSSI Chair Jim Ryan, “we can see the value and benefit of SSSI to its members, the SNIA educational community and the NVMe industry. I believe this is a great case study in how we all can contribute and benefit from working within the SSSI for the betterment of individual companies, market development and the Solid State Storage industry at large.” SSSI provides educational and marketing materials free of charge on its public website while SNIA SSSI members may join the NVMe SIG and other SSSI committees. Anyone interested to find out more about the SSSI or any of its many committees can go to the following link http://www.snia.org/ssi.

The early single and dual module tests ran into problems mid-way through testing, which led to a rush project being instigated to get NVMe+N storage performance data tested to the PTS for the trade show. Micron took the lead by sending a Supermicro server with Micron NVMe+N-N to Calypso for testing. Calypso then installed CTS test software on the server to allow full testing to the PTS. Viking and SMART Modular contributed by helping dial in the drivers, as well as sending modules from Viking and SMART Modular to cross reference with the Micron modules. The test plan comprised of several test iterations using single, dual and finally quad modules using each of the vendor contributed modules.

The test plan required a NVMe+N storage performance test that met the requirements of all the vendor contributed modules. The early single and dual module tests ran into repeatability and stability issues. NVMe+N-SIG consulted with Intel on the nuances of the Intel block IO driver while Calypso continued testing. The team successfully completed a test run that met the PTS steady state requirements on the quad module in time to release data for the show.

We had a solid demonstration at the SNIA SSSI Flash Memory Summit Booth on NVMe+N Performance complete with marketing collateral available for review and a handout. NVMe+N-SIG members responded to the many questions and interest in the NVMe+N storage technology.

Five SSSI member companies – AgigaTech, Calypso, Micron, SMART Modular, and Viking Technology – collaborated over a four week period on the introduction of a new NVMe+N storage performance demonstration. While it is rare to have potential competitors collaborate in such a fashion, NVMe+N storage represents a new paradigm for super fast, low latency, high I/O/watt storage solutions. The NVMe+N-SIG has taken a leadership position by evangelizing the technology and developing the infrastructure necessary for large scale deployment.

This collaboration highlighted a classic blend of technical, marketing and industry association cooperation. In the weeks leading up to FMS, the NVMe+N-SIG planned for an in-booth demonstration of the NVMe+N storage modules. To pave the way for universal adoption, the team worked together to dial in the Intel Open Source block IO development driver to meet the standards of the SNIA Performance Test Specification (PTS). An added goal was inclusion of NVMe+N-N modules as a new line item on the Summary Performance Comparison by Storage Class chart which lists PTS performance for various storage technologies. Under the guidance of NVMe+N-SIG, a rush project was instigated to get NVMe+N-N performance data tested to the PTS for the trade show.

For more information please visit the SSSI website.

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**2015 - Summary Performance Comparison by Storage Class**

<table>
<thead>
<tr>
<th>Storage Class</th>
<th>IOPS 90% Read</th>
<th>IOPS 90% Write</th>
<th>NVMe steady state</th>
<th>Bandwidth (MiB/s)</th>
<th>Response Time (ms)</th>
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<tbody>
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</tbody>
</table>

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**All Meetings.**

- General Members call every other Wednesday at 8:30AM PT
- PCIe SSD Committee meets 2nd Monday of each month at 4PM PT
- Marketing Committee meets the 2nd & 4th Monday of each month at 2PM PT
- NVMe Special Interest Group meets every other Friday at 9AM PT
- Solid State Storage TWG meets 3rd Monday of each month at 4PM PT
- Solid State Storage System TWG meets weekly on Tuesday 10AM PT
- 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 while you’re at it!

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**Meetings.**

- **NVMe NVM-PCIe TWG**
  - 2nd Monday of each month at 4PM PT
- **NVDIMM Special Interest Group**
  - 2nd Wednesday at 12PM PT
- **NVMe Programming TWG**
  - 3rd Wednesday at 12PM PT
- **Fusion Storage SIG**
  - 2nd Wednesday at 12PM PT
- **NVMe and NVMe-PCIe Technical Working Group**
  - 2nd Monday of each month at 4PM PT
- **NVMe Performance Test Working Group**
  - 3rd Monday of each month at 4PM PT
- **NVMe Storage SIG**
  - 4th Thursday of each month at 4PM PT
- **NVMe System Architecture SIG**
  - 3rd Friday of each month at 9AM PT
- **Solid State Storage SIG**
  - 2nd Thursday of each month at 9AM PT
- **Solid State Storage System SIG**
  - 2nd Thursday of each month at 9AM PT
- **NVMe Programming Working Group**
  - 3rd Wednesday of each month at 12PM PT

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**Contact us.**

Please send mail contributions to sssinews@snia.org