Industry Trends Perspective Update Newsletter
Information Technology and Data infrastructure
Cloud Virtual Physical Software Defined

Volume 15, Issue VIII

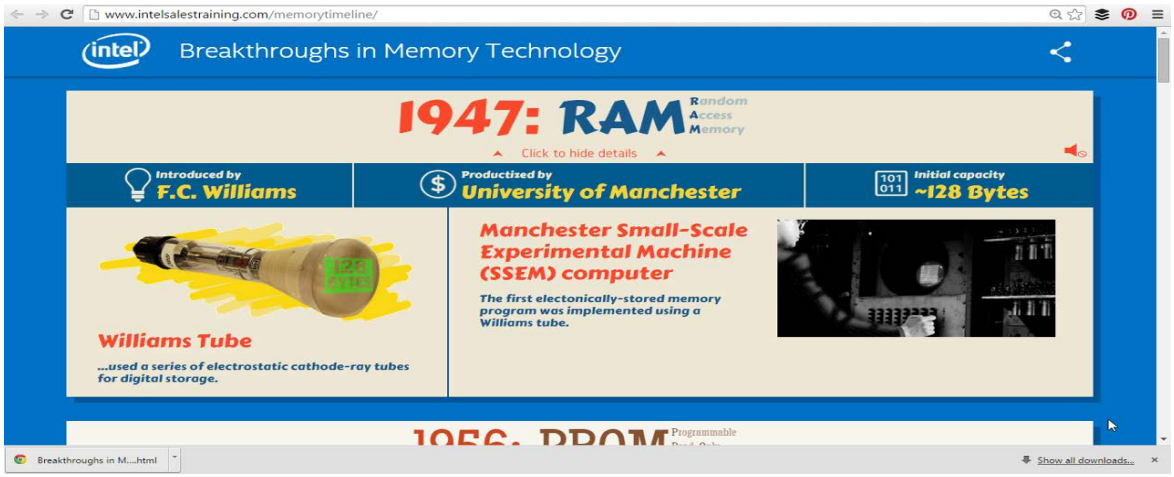
Hello and welcome to this August 2015 Server StorageIO update newsletter. Summer is wrapping up here in the northern hemisphere which means the fall conference season has started, holidays in progress as well as getting ready for back to school time. I have been spending my summer working on various things involving servers, storage, I/O networking hardware, software, services from cloud to containers, virtual and physical. This includes OpenStack, VMware vCloud Air, AWS, Microsoft Azure, GCS among others, as well as new versions of Microsoft Windows and Servers, Non Volatile Memory (NVM) including flash SSD, NVM Express (NVMe), databases, data protection, software defined, cache, micro-tiering and benchmarking using various tools among other things (some are still under wraps).

Enjoy this edition of the Server StorageIO update newsletter and watch for new tips, articles, StorageIO lab report reviews, blog posts, videos and podcast's along with in the news commentary appearing soon.

Cheers GS

In This Issue

Feature Topic - Non Volatile Memory including NAND flash SSD



Via Intel: Click above image to view history of memory

This months feature topic theme is Non Volatile Memory (NVM) which includes technologies such as NAND flash commonly used in Solid State Devices (SSDs) storage today, as well as in USB thumb drive, mobile and hand-held devices among many other uses. NVM spans servers, storage, I/O devices along with mobile and handheld among many other technologies. In addition to NAND flash, other forms of NVM include Non Volatile Random Access Memory (NVRAM), Read Only Memory (ROM) along with some emerging new technologies including

the recently announced Intel and Micron 3D XPoint among others.

- NVMe: The Golden Ticket for Faster Flash Storage? (Via EnterpriseStorageForum)
- What should I consider when using SSD cloud? (Via SearchCloudStorage)
- MSP CMG, Sept. 2014 Presentation (Flash back to reality – Myths and Realities
- Flash and SSD Industry trends perspectives plus benchmarking tips) - PDF
- Selecting Storage: Start With Requirements (Via NetworkComputing)
- Spot The Newest & Best Server Trends (Via Processor)
- Market ripe for embedded flash storage as prices drop (Via Powermore (Dell))

Continue reading more about NVM, NVMe, NAND flash, SSD Server and storage I/O related topics at www.thessdplace.com as well as about I/O performance, monitoring and benchmarking tools at www.storageperformance.us.

StorageIOblog Posts

Recent and popular Server StorageIOblog posts include:

- Non Volatile Memory (NVM), NVMe, Flash Memory Summit and SSD updates
- Some August 2015 Amazon Web Services (AWS) and Microsoft Azure Updates
- Supermicro CSE-M14TQC Use media bay to add 12 Gbps SAS SSD to your server
- Breaking the VMware ESXi 5.5 ACPI boot loop on Lenovo TD350
- Intel and Micron unveil new 3D XPoint NVM for servers and storage (part I)
- Part II – Intel and Micron new 3D XPoint server and storage NVM
- Part III – 3D XPoint new server storage memory from Intel and Micron
- August 2015 Server StorageIO Update Newsletter

View other recent as well as past blog posts here

Server Storage I/O Industry Activity Trends (Cloud, Virtual, Physical)

- PMC Announces NVMe SSD Controllers (Via TomsITpro)
- New SATA SSD powers elastic cloud agility for CSPs (Via Cbronline)
- Toshiba Solid-State Drive Family Features PCIe Technology (Via Eweek)
- SanDisk aims CloudSpeed Ultra SSD at cloud providers (Via ITwire)
- Everspin & Aupera reveal MRAM Module M.2 Form Factor (Via BusinessWire)
- PMC-Sierra Scales Storage with PCIe, NVMe (Via EEtimes)
- Seagate Grows Its Nytro Enterprise Flash Storage Line (Via InfoStor)
- New SAS Solid State Drive From Seagate Micron Alliance (Via Seagate)
- Samsung ups the SSD ante with faster, higher capacity drives (Via ITworld)

View other recent news and industry trends here

StorageIO Commentary in the news

Recent Server StorageIO commentary and industry trends perspectives about news, activities tips, and announcements.

- Processor: Comments on Spot The Newest & Best Server Trends
- Processor: Comments on A Snapshot Strategy For Backups & Data Recovery
- EnterpriseStorageForum: Comments on Defining the Future of DR Storage
- EnterpriseStorageForum: Comments on Top Ten Tips for DR as a Service
- EnterpriseStorageForum: Comments on NVMe: Golden Ticket for Faster Storage

View more Server, Storage and I/O hardware as well as software trends comments here

Vendors you may not have heard of

Various vendors (and service providers) you may not know or heard about recently.

- Scala - Scale out storage management software tools
- Reduxio - Enterprise hybrid storage with data services
- Jam TreeSize Pro - Data discovery and storage resource analysis and reporting

Check out more vendors you may know, have heard of, or that are perhaps new on the Server StorageIO Industry Links page here (over 1,000 entries and growing).

StorageIO Tips and Articles

Recent Server StorageIO articles appearing in different venues include:

- **IronMountain:** Information Lifecycle Management: Which Data Types Have Value? It's important to keep in mind that on a fundamental level, there are three types of data: information that has value, information that does not have value and information that has unknown value. Data value can be measured along performance, availability, capacity and economic attributes, which define how the data gets managed across different tiers of storage. In general data can have value, unknown value or no value. Read more here.
- **EnterpriseStorageForum:** Is Future Storage Converging Around Hyper-Converged? Depending on who you talk or listen to, hyper-converged storage is either the future of storage, or it is a hype niche market that is not for everybody, particular not larger environments. How converged is the hyper-converged market? There are many environments that can leverage CI along with HCI, CiB or other bundles solutions. Granted, not all of those environments will converge around the same CI, CiB and HCI or pod solution bundles as everything is not the same in most IT environments and data centers. Not all markets, environments or solutions are the same. Read more here.

Check out these resources and links technology, techniques, trends as well as tools. View more tips and articles here

StorageIO Videos and Podcasts

StorageIO podcasts are also available via iTunes and at StorageIO.tv

StorageIO Webinars and Industry Events

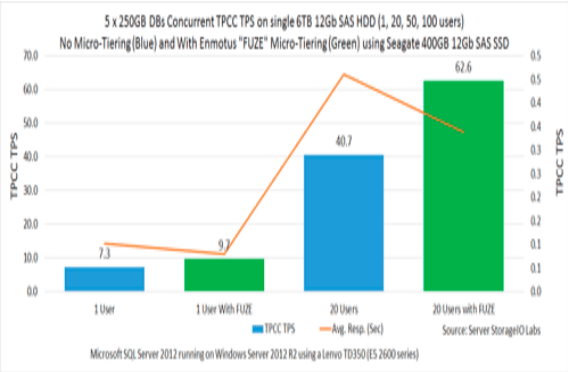
Server Storage I/O Workshop Seminars
Nijkerk Netherlands October 13-16 2015

VMworld August 30-September 3 2015

See additional webinars and other activities on the Server StorageIO Events page here.

From StorageIO Labs
Research, Reviews and Reports

Enmotus FuzeDrive (Server based Micro-Tiering)



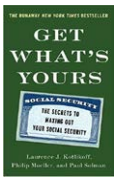
- Micro-teiring of reads and writes
- FuzeDrive for transparent tiering
- Dynamic tiering with selectable options
- Monitoring and diagnostics tools
- Transparent to operating systems
- Hardware transparent (HDD and SSD)
- Server I/O interface agnostic
- Optional RAM cache and file pinning
- Maximize NVM flash SSD investment
- Compliment other SDS solutions
- Use for servers or workstations

Enmotus FuzeDrive provides micro-tiering boosting performance (reads and writes) of storage attached to physical bare metal servers, virtual and cloud instances including Windows and Linux operating systems across various applications. In the simple example above five separate SQL Server databases (260GB each) were placed on a single 6TB HDD. A TPCC workload was run concurrently against all databases with various numbers of users. One workload used a single 6TB HDD (blue) while the other used a FuzeDrive (green) comprised of a 6TB HDD and a 400GB SSD showing basic micro-tiering improvements.

View other StorageIO lab review reports here

Server StorageIO Recommended Reading List

The following are various recommended reading including books, blogs and videos. If you have not done so recently, also check out the Intel Recommended Reading List (here) where you will also find a couple of my books.



While not a technology book, you do not have to be at or near retirement age to be planning for retirement. Some of you may already be at or near retirement age, for others, its time to start planning or refining your plans. A friend recommended this book and I'm recommending it to others. Its pretty straight forward and you might be surprised how much money people may be leaving on the table! Check it out here at Amazon.com.

Server StorageIO Industry Resources and Links

Check out these useful links and pages:

storageio.com/links
objectstoragecenter.com
dataprotectiondiaries.com
storageperformance.us
thenvmeplace
thessdplace.com
storageio.com/raid
storageio.com/ssd

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Thank you for reading the Server StorageIO Update newsletter