Information Technology Industry Analysts
StorageIO Advisory and Consultancy

Welcome to the Server and StorageIO Group Newsletter

About | Services | Books | News | Reports Tips Articles Videos & Pod casts | Events | Blog | Contact

June 2010 Edition (June 1, 2010)

Welcome to the June 2010 edition of the Server and StorageIO Group (StorageIO) newsletter. This follows the Spring 2010 edition building on the great feedback received from recipients.

Items that are new in this expanded edition include:

- Out and About Update
- Industry Trends and Perspectives (ITP)
- Featured Article

In terms of what am I working on or researching, check out the ITP list below among other topics.

Needless to say, I look forward to hearing your continued comments and feedback.

Cheers gs

Greg Schulz
Twitter @storageio

New! Industry Trends Perspectives

This is a new section covering emerging and common industry trends, issues or challenges that Im seeing and hearing about while out and about in my conversations with IT professionals. These short posts compliment other longer posts along with traditional industry trends and perspective white papers, research reports, solution briefs as well as other content found at www.storageio.com/reports .

I often get asked what Im seeing or hearing new (aka what is the Buzz). Sometimes when I tell those who ask about new things or what they have not read or heard about yet, I get interesting as well as varied even funny reactions. In most cases unless the person does not agree or like the trend, the reaction shifts to one of wanting to know more including what is driving or causing the activity, its impact and what can be done (opportunities).

Since some of these are new or emerging they may not yet be covered or discussed in other venues, research, surveys, studies or reports. Thus do not be surprised or alarmed if there is something listed here or in one of the subsequent series post that you have not seen or read elsewhere yet while others may already be familiar. Some are emerging trends perhaps even short lived while others will have longer legs to evolve.

General trends that I am seeing and hearing from IT professionals include:

StorageIO Commentary and in the News

StorageIO regularly provides commentary and industry trends perspectives to press media, journalist, writers and bloggers.

SearchStorageAU: Comments on iSCSI storage adoption
EnterpriseStorageForum: Comments on top EMCworld revelations
ITKE: Comments on HP reselling DataDirect HPC storage
ITKE: Comments on Dedupe and Tape
EnterpriseStorageForum: Comments on RAID enhancements
SearchStorage: Comments on SRM and Metrics that Matter
EnterpriseStorageForum: Comments on Dedupe, Tiering and Vplex
SearchSMB: Comments on Iomega SMB Storage
SearchStorageAU: Comments on Virtual Server Backup
EnterpriseITplanet: Comments on File Virtualization
EnterpriseITplanet: Comments on Virtual Storage
SearchDataBackup: Comments on WORM Storage
SearchStorage: Comments on IT Cloud Storage Adoption
NetworkComputing: Comments on IP optimization for IT Cloud
EnterpriseStorageForum: Comments on IT Cloud SLAs

Journalist, editors, media, writers and bloggers need support for your story, column or project? Contact us at info@storageio.com or via telephone at +1 651-275-1563 and indicate your timeline or deadline so that we can best facilitate your needs.

>>> Read more

New! Out and About Events Update

Since the Spring 2010 newsletter went out in early April, some of the venues and events that I have attended or participated in have included keynoting on Server and Storage Virtualization, Data Protection, General Industry Trends, Green Efficient and Economical IT among other topics. In addition to speaking at events, conducting research or performing consulting and advisory duties I also attended EMCworld in Boston.

Speaking of EMCworld, see my blog post about EMC VPLEX one of the many items in addition to the path to the private cloud theme of the event. Read more about EMCworld in this piece by Drew Robb over at Enterprise Storage Forum. Also check out this video pertaining to network convergence that was streamed live from the cube during EMCworld.

If you are in or near Nijkerk Netherlands in mid June, I will be conducting a seminar being put on by Brouwer Storage Consultancy. The seminar will pertain to Industry Trends, Challenges and Life Beyond Buzzword Bingo. Contact Gert Brouwer to learn more and register (link found here).

Following are some recent and upcoming events that StorageIO will be participating in. To see more, visit the events page for a complete list of current, recent and upcoming activities.

- Tiered Hypervisors and HyperV adoption
- Tape is alive, dedupe deployments continue
- Virtual storage and storage virtualization
- I/O and networking convergence
- RAID rebuild time
- Tiered storage mediums and systems
- Public and private IT clouds
- 6G SAS and shared DAS

Click on the above links (or here) to read more about these first in a series of quick Industry Trends and Perspectives posts and watch for more in the coming months.

Tiered Hypervisors and Microsoft HyperV
Two trends tied to server virtualization that I am seeing more of are 1) that IT organizations increasingly deploying or using two or more different hypervisors (e.g. Citrix/Xen, Microsoft/HyperV, VMware vSphere) in their environments (on separate physical server or blades) and 2) the other being continued deployment of Microsoft HyperV.

Tiered hypervisors are similar to what many IT organizations already have in terms of different types of servers (tiered servers) for various use cases, multiple operating systems as well as several kinds of storage mediums or devices (tiered storage).

What Im seeing is that IT pros are using different hypervisors to meet various cost, management and vendor control objectives aligning the applicable technology to the business or application service category. Of course this brings up the discussion of how to manage multiple hypervisors and thus the real battle is or will be not about hypervisors, rather that of End to End (E2E) management.

>>> Read more

Tape is alive, Dedupe deployments continue
Hearing tape is alive in the same sentence as dedupe deployments continuing may sound counter intuitive if you only listen to some vendor pitches.

However if you talk with IT customers particularly those in larger environments or with VARs that provide complete solution offering. What you will hear is a different tune than tape is dead and dedupe rules. Meanwhile with extend roadmaps for LTO and other announced enhancements, tape is still very much alive coexisting and even be complimented by disk based data protection include dedupe.

>>> Read more

Virtual Storage and Storage Virtualization
Virtual storage or storage virtualization has been as a technology and topic around for some time now. Some would argue that storage virtualization is several years old while others would say many decades depending on your view or definition. Your definition will vary by preferences including product, vendor, open or closed, hardware, network or software not to mention feature and functionality among other influences.

Consequently there are many different views and definitions of storage virtualization some tied to that of product specifications often leading to apples and oranges comparison.

Date	Location	Activity	Topic
Aug 31, 2010	San Francisco CA		Virtualization
Aug 31, 2010	San Francisco		VMworld
June 16, 2010	Nijkerk, Netherlands	Keynote	Industry Trends
May 27, 2010	Indianapolis IN	Keynote	BC, DR and HA
May 11, 2010	Boston MA		EMC World
April 27, 2010	Mountain View, CA	Keynote	Virtual Data Centers
April 21, 2010	Philadelphia PA	Keynote	Storage Virtualization

>>> Read more

Videos and Podcasts

Video: The Other Green - Storage Efficiency and Optimization
Video: Storage and Networking Convergence
Video: Virtualization - Life beyond consolidation
Video: Scaling with Clustered Storage
Podcast: InfoSmack #51 - Deduped and more
Podcast: InfoSmack #48 - Industry topics
Podcast: iSCSI Storage Common Myths
Podcast: SMB Storage Strategies Considerations

>>> Read more

Featured Related Site

In the spirit of exchanging information, this section features a different site in each edition perhaps even some that you have not seen or heard about. Are you interested in Cloud, HP, Java, Linux, Open Source, Oracle, Redhat, SAP, Security, SOA, Video, Server, Storage, IO networking and Virtualization as well as Web 2.0 among others? If so and you have not already done so, check out the SYS-CON site.

Interesting Industry Links

Random sites including some found on the interesting links page:

- www.storageio.com/links - Recently updated with over 700 links
- www.BackupCentral.com - W.C. Prestons backup centric site
- www.storagenewsletter.com - Storage News Letter
- Microsoft ESRP - Exchange Server and Storage Benchmark

>>> Read more

New! Featured Article Compliments of:

FUJIFILM TapePower.com

Tape in a Virtual World
This piece by Greg Schulz originally appeared at www.tapepower.com and is being brought to you compliments of FujiFilm and TapePower.

Virtualization is a popular topic with many discussions centered on VMware, Microsoft HyperV, Citrix, Virtual Iron and server virtualization technologies. Server and storage virtualization discussions often center on consolidation themes. However, consolidation or aggregation of servers and storage is only one of the many facets of virtualization technologies.

Other facets of virtualization include emulation and abstraction to enable transparent server, storage and associated data management or data protection tasks along with data or resource movement for maintenance

Back in the early to mid 2000s, there was plenty of talk around storage virtualization which then gave way to a relative quiet period before seeing adoption pickup in terms of deployment later in the decade (at least for block based storage).

More recently there has a been a renewed flurry of storage virtualization activity with many vendors now shipping their latest versions of tools and functionality. In terms of what is taking place in the industry, EMC recently announced VPLEX as a new virtual storage solution stimulating the debate of what is and is not virtual storage or storage virtualizaiton. Meanwhile the file virtualization vendors continue to try and create or stimulate a market demand for their wares similar to what the blog vendors had to do during the early to mid 2000s (give it time, like block based, it will evolve).

>>> **Read more**

I/O and networking convergence
The trends that I am seeing with converged networking and I/O fall into a couple of categories. One being converged networking including unified communication solutions (UCS), FCoE/DCB along with InfiniBand based discussions while the other being around I/O virtualization (IOV) including PCIe server based multi root IO virtualization (MRIOV).

Is FCoE a temporal or temporary technology? In the scope that all technologies are temporary however it is their temporal timeframe that should be of interest. Given that FCoE will probably have at least a ten to fifteen year temporal timeline, I would say in technology terms it has a relative long life for supporting coexistence on the continued road to convergence which appears to be around Ethernet.

As is often the case with new technologies the trend of some discussions of saying these are the next great thing exists. Thus drop everything and adopt them now as they are working and ready for prime time mission critical deployment.

Then there are those who say no, stop, do not waste your time on these as they are temporary, they will die and go away anyway.

In between, there is a sense of moderation or reality which takes a bit of balancing the old with the new, look before you leap, do your homework, do not be scared however have a strategy and a plan on how to your objectives. Of course the plan should include what to use when, where, how and why.

>>> **Read more**

Tiered Storage mediums and systems
Two years ago we read about how the magnetic disk drive would be dead in a couple of years at the hand of flash SSD. Guess what, its a couple of years later and the magnetic disk drive is far from being dead. Granted high performance Fibre Channel disks will continue to be replaced by high performance, small form factor 2.5" SAS drives along with continued adoption of high capacity SAS and SATA devices.

>>> **Read more**

RAID rebuild time
There is continued concern about how long large

and other purposes along with emulation for co-existence or investment protection.

A common implementation of storage virtualization is in the form of virtual tape libraries (VTLs) also known as virtual tape systems (VTS) that provide emulation and abstraction of newer disk based technologies to appear as legacy tape devices. VTLs can certainly be used for consolidation of multiple legacy tape libraries, tape stackers or auto-loaders as well as standalone tape drives into a single system, similar to how server virtualization reduces physical space and management costs.

However, a key benefit of VTLs is via their emulation capabilities to enable disk based technologies to co-exist with exiting backup and data protection software. By emulating legacy tape drives, tape cartridges and tape libraries, VTLs provide investment protection of existing backup, archive and data management software tools and staff skill sets. Another important benefit of VTLs are the ability to act as a disk based buffer where backup and other data can be cached before being written to physical tape more efficiently to boost resource utilization.

In general, VTL benefits include among others:

- Improved performance of backup, restore, archiving and other tape based processing
- Reduce or eliminate manual handling of tape or optical media
- Buffer backup data on disk before migrating to tape to boost tape drive utilization
- Improve tape cartridge media life and utilization with more efficient data streaming
- Compliment tape based systems including path-to-tape (PTT) data migration
- Co-existence with existing backup and archiving software, procedures and policies
- Enable a phased transition from tape to disk based processing with minimum disruption
- Solutions may include data encryption, replication, compression and de-duplication

VTLs in general are available from many different vendors in a variety of solutions and feature sets with some being positioned as software based while others are more encompassing total solutions combing hardware, software, storage, management tools and services. VTL vendor solution examples include EMC, Dell, FlaconStor, HP, IBM, Oracle/Sun, Quantum, Sepaton and Spectralogic among others.

VTLs differ in their implementations and configuration with some providing various tape drive and cartridge as well as tape library emulation. Other variations include support for disk based back-up to a file system using NFS (NAS) along with varying numbers of emulated tape cartridge, tape drives and libraries and emulated device types.

Tape compression and encryption are common features found on many tape libraries along with an increase in data de-duplication and data replication capabilities for moving data to remote sites for archiving as well as business continuance (BC) and disaster recovery (DR). Some VTLs also support the movement or migration of data from disk based VTLs to physical tape drives in tape libraries using PTT capabilities.

The benefit of data movement from VTLs to tape is to efficiently stream data boosting utilization of removable tape media along with improving on total cost of ownership.

capacity disk drives take to be rebuilt in RAID sets particularly as the continued shift from 1TB to 2TB occurs. It should not be a surprise that a disk with more capacity will take longer to rebuild or copy with more disk drives, the likely hood of one failing statistically increases.

Not to diminish the issue, however also to avoid saying the sky is falling, we have been here before! In the late 90s and early 2000s there was a similar concern with the then large 9GB, 18GB let alone emerging 36GB and 72GB drives. There have been improvements in RAID as well as rebuild algorithms along with other storage system software or firmware enhancements not to mention boost in processor or IO bus performance.

However not all storage systems are equal even if they use the same underlying processors, IO busses, adapters or disk drives. Some vendors have made significant improvements in their rebuild times where each generation of software or firmware can reconstruct a failed drive faster. Yet for others, each iteration of larger capacity disk drives brings increased rebuild times.

If disk drive rebuild times are a concern, ask your vendor or solution provider what they are doing as well as have done over the past several years to boost their performance. Look for signs of continued improvement in rebuild and reconstruction performance as well as decrease in error rates or false drive rebuilds.

>>> Read more

Public and Private IT Clouds
Are you clear on cloud conversation issues, topics and trends? Or, are you confused and looking for clarification of what is (or not) a public vs. private cloud? If you are part of the second group, welcome to the majority of IT professionals that includes customers as well as some vars and vendors not to mention press, media or bloggers as well as analysts and other industry pundits.

A couple of customer trends that Im seeing are that public clouds in terms of backup as a service (BaaS), Backup Service Provider (BSP), Managed Service Provider (MSP), Cloud Backup Service (CBS) or hosted backup among other terms or acronyms continues to be popular for smaller consumer, SOHO and SMB as well as ROBO environments with some larger scale adoption. Likewise there continues to be some early adoption of cloud archive however this is mainly as an storage target or medium where data goes.

>>> Read more

6G SAS and Shared DAS
With 6G that increases performance as well as connectivity flexibility, more servers are supporting SAS natively while storage system continue to add support for 3.5" and 2.5" small form factor high performance and large capacity SAS drives. Shared SAS DAS storage systems are being deployed for consolidation attached to two or more servers as well as for clustered solutions.
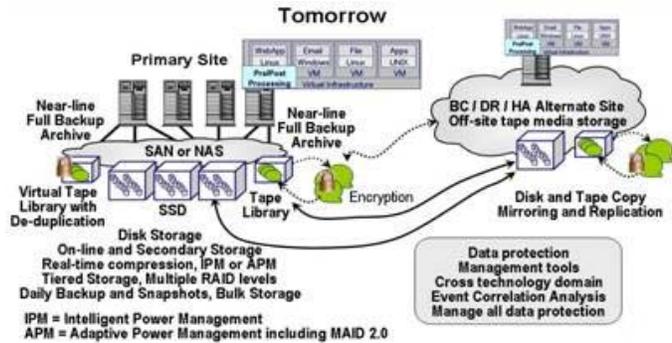
>>> Read more

Figure 1: The changing role for tape and complementary use of VTLs

Figure 1 shows the changing role for tape combined with VTLs for disk based data protection in a tiered storage environment. In the example, VTLs and tape libraries are used for archiving as well as normal backups including point-in-time (PIT) snapshot copies for disk to disk (D2D) with data replicated to a remote site and migrated to (D2D2T) tape. Also shown are using VTLs on a local basis with data de-duplication emulating physical tapes for compatibility with existing backup software.

Regularly scheduled snapshots or daily incremental backups can be made to disk or, to a disk based VTL and where applicable, a physical copy made to local tape, or, replicated to a remote VTL for BC/DR or archiving purposes. The benefit of this approach is to leverage disks for fast backup and restore of most frequently, or recently stored data, while moving larger and less frequently accessed data to tape for BC/DR as well as cost savings associated with using tiered storage mediums.

VTLs combine virtualization tape emulation, disk based backup along with efficient tape based media as part of a tiered storage and tiered data protection strategy that when properly implemented, can provide many benefits to your organization. As with any virtualization technology, the technology should work for you, not the other way around meaning a solution should not increase your workload or add additional complexity.

>>> Read more at www.tapepower.com

Follow Us on Social Media Networks

StorageIO engages via traditional mediums, Web 1.0 along with Web 2.0 or social networking media venues including among others:

Follow via Goggle Feed burner here or via email subscription here.

RSS Short feed. RSS Full feed.

Google my Linked in profile

Find us on Facebook twitter friendfeed

plaxo Technorati Tekrati

zoominfo find people and companies amazon associates

>>> Read more or contact us   ShareThis

Did You Know?

Popular and New Blog Posts

Post: EMC VPLEX: Virtual Storage Redefined or Respun?
Post: Apple iPad: Business iTool or iToy?
Post: Picking winners in NFL and IT Drafts
Post: Earth Day 2010 and IT Efficiency
Post: Seagate saying goodbye to Cayman Islands
Post: Could Huawei buy Brocade?
Post: Clarifying Clustered Storage Confusion
Post: SSD and Storage System Performance
Post: Acadia and VCE: VMware + Cisco + EMC
Post: Saving Money with Green IT: Time to Invest in Information Factories
Post: Will 6Gb SAS kill Fibre Channel?
Post: What do NAS, NASA and NASCAR have in common?
Post: PUE: Are you managing power or productivity?

>>> Read more StorageIO blog posts

Reports, Articles and Tips

Article: Storage Optimization: The Other Green
FAQ: SMB Energy Optimization
ATE: What are multi protocol storage arrays

>>> Read more

News and Announcements

Greg Schulz and StorageIO content are now appearing in several new venues including SiliconAngle and Enterprise Efficiency.

>>> Read more

- Vendor lock in may not be bad if it does not impede your organization from a financial or functionality standpoint
- Vendor lock in may be bad if it causes financial or other functionality hardship and constraints on your organization
- Virtualization means more than consolidation, aggregation or pooling of server and storage resources (See Virtualization: Fife beyond consolidation)
- Other tenants of virtualization includes emulation, abstraction and transparency for enabling agility and flexibility of common IT resource management (IRM) tasks.
- Common IRM tasks include load balancing, BC/DR as well as facilitating reconfiguration or technology updates along with data migration activities.

Book News and Reviews

News: The Green and Virtual Data Center (CRC) is now available on Amazon Kindle joining Resilient Storage Networks (Elsevier) previously available. Watch for news and information about release of new Chinese language translation of The Green and Virtual Data Center (CRC).

In addition to contributing, collaborating and co-authoring on other projects, Greg Schulz is the author of two books "The Green and Virtual Data Center" (CRC) and "Resilient Storage Networks - Designing Flexible Scalable Data Infrastructures" (Elsevier).

Learn more about these books, what they are about, what is inside of them, reviews and commentary along with where to buy them.

>>> Read more
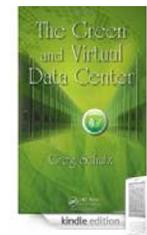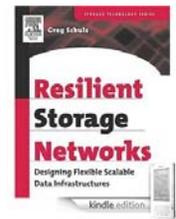
Subscribe to this newsletter (or pass it along)

Email newsletter@storageio.com to subscribe to this newsletter. Feel free to forward this to others, or see the following link for the newsletter www.storageio.com/newsletter

>>> Learn more here

Privacy Statement

Information privacy is important to us. StorageIO does not sell, share or rent any personal information about you that may be collected while you visit our web sites.

>>> Read more