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## The Server and StorageIO Update newsletter - March 2014

Welcome to the March 2014 edition of the StorageIO Update ([newsletter](#)) containing trends perspectives on cloud, virtualization and data infrastructure topics. Technically it is now spring here in North America and to say that we have had abnormal cold weather would be an understatement. However it is March with April just around the corner meaning plenty to do including several upcoming events (see below).

### Clouds and Cisco

Some recent industry activity has included [Cisco announcing its Cloud intentions](#) (e.g. more than simply selling servers and networking hardware). So far the Cisco move appears to be more about hybrid and partner ecosystem including channels vs. going toe to toe with an [Amazon Web Service \(AWS\)](#). Cisco appears to playing the hybrid theme of being a technology supplier as well as provider or partner. Thus, it looks like for the near term the Cisco cloud target is not as much AWS as the likes of an IBM who recently [added Softlayer](#) or an HP.



Greg Schulz on break

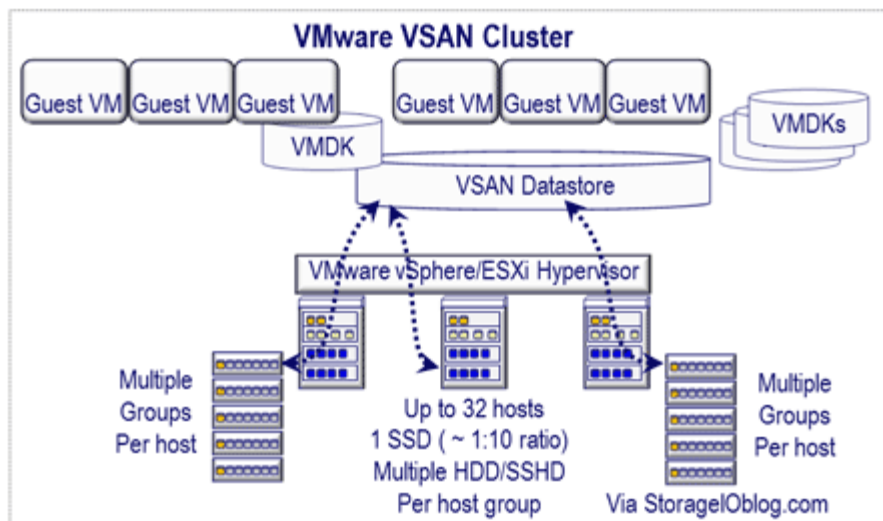
This will also be interesting to watch where along with how other Cisco partners such as EMC, Microsoft, NetApp, [VCE](#) and VMware participate. Keep in mind that some of these and other Cisco partners also have their own public, private and [hybrid cloud](#) initiatives, services along with being a supplier to each other.

### VMware VSAN Software Defined Storage

Another industry activity involving servers storage I/O networking hardware software and [virtualization](#) (aka software defined) was the [general announcement \(GA\)](#) by VMware of Virtual SAN (VSAN). VSAN went into public beta shortly after [VMworld 2013](#) timeframe when many of us downloaded, installed and did various types of testing with it.

For those not familiar with VSAN, it is added licensed software functionality for VMware that creates a cluster to host Virtual Machines (VMs) along with its own shared resilient storage solution. How VSAN works is to use [PCIe](#), [SAS](#), SATA dedicated direct attached storage ([DAS](#)) including that are local to the VMware host server (physical machine or PM). The VMware host PMs support DAS Hard Disk Drives ([HDD](#)), [Solid State Devices \(SSD\)](#) including PCIe cards, drives or [DIMMs](#), along with Solid State Hybrid Drives (SSHDD). This local DAS storage is served and shared among the nodes (up to 32 host or PMs) per VSAN cluster balancing performance, availability (and resiliency) along with space capacity to host VM objects. Note that VM objects include VMDKs (e.g. virtual disks) and are not to be confused with the other type of [object storage](#) or access such as CDMI/SWIFT/S3/HTTP/REST.

VMs (and those managing them) see in the VSAN cluster datastores that are familiar with other VMware implementations including storage policies and other tools. Here is a link to a great piece by [Patrick Schulz](#) a data infrastructure systems engineer in Germany (no relation, at least not that I know of yet) where he shares [his experiences with VSAN](#) implementation.



Generic VSAN example

Instead of using an external iSCSI, Fibre Channel (FC) or FC over Ethernet (FCoE) shared SAN or NAS storage system / appliance to create the storage repository, local DAS is leveraged in groups spread across the hosts in the VSAN cluster (up to 32 nodes). VSAN requires a percentage of SSD for each storage group on the host cluster nodes that a portion is used for caching data which is persistently stored on HDD based media.

VSAN software is licensed by the number of active sockets (not the cores) in the host servers (PM) that are in the cluster or by number of VDI users (guest VMs). For example if there are four servers two with one socket and two with dual sockets there would be six socket licenses. MSRP License cost per processor socket is \$2,495 USD which also assumes core VMware licenses already exist. There are also a per guest VM license of \$50 per VDI instance, as well as other optional license models and bundles with different features or upgrades.

What is different with VSAN vs. other VMware clusters is that a) the storage is only accessible to VMs that are in the VSAN cluster (unless a VM exports and serves to others via NFS, iSCSI, etc which is a different conversation for another day). Another difference is that today VSAN leverage storage inside of servers or direct attached as opposed to using iSCSI, FC, FCoE SAN or NAS storage systems.

Btw, the current maximum LUN, volume or target storage device size is 4TB so if you were thinking of taking a SAS attached storage system and creating a bunch of small LUNs, you might want to review that from a cost perspective, or at least for today.

There is much more to VSAN including how it works, what it can and can not do, who it is for and whom should not use for different app's, however IMHO besides lower-end, SMB, workgroup, departmental, VMware centric environments, the number one scenario today is VDI along with where converged solutions such as those from Nutanix, Simplivity and Tintri among others are playing.

Watch for more StorageIO posts, commentary, perspectives, presentations, webinars, tips and events on information and data infrastructure topics, themes and trends. Data Infrastructure topics include among others cloud, virtual, legacy server, storage I/O networking, data protection, hardware and software.

Check out our [downloads page](#) (Under the [resources](#) section on [StorageIO.com](#)) for extra content.

Enjoy this edition of the StorageIO Update newsletter and look forward to catching up with

you live or online while out and about this spring.

Ok, nuff said (for now)

Cheers gs



## Industry trends tips, commentary, articles and blog posts What is being seen, heard and talked about while out and about

The following is a synopsis of some StorageIOblog posts, articles and comments in different venues on various industry trends, perspectives and related themes about clouds, virtualization, data and storage infrastructure topics among related themes.



## Recent StorageIO comments and perspectives in the news

[SearchSolidStateStorage](#): Comments on automated storage tiering and flash  
[EnterpriseStorageForum](#): Comments on Cloud-Storage Mergers and Acquisitions  
[SearchDataBackup](#): Comments on near-CDP nudging true CDP from landscape  
[EnterpriseStorageForum](#): Comments on Ways to Avoid Cloud Storage Pricing Surprises  
[SearchDataBackup](#): Q&A: Snapshot, replication 'great approach' for data protection  
[SearchDataBackup](#): Comments on LTFS-enabled products



## Recent StorageIO tips and articles in various venues

InformationSecurityBuzz: Dark Territories – [Do You Know Where Your Information Is?](#)  
InformationSecurityBuzz: [Rings Of Security For Data Protection Or For Appearance?](#)  
SearchSolidStateStorage: Q&A on [automated storage tiering and flash](#)  
SpiceWorks: My copies were corrupted: [The 3-2-1 data protection rule](#)



## Recent StorageIOblog posts and perspectives

- Missing MH370 reminds us, do you know where your digital assets are? [Click to read more](#)
- Old School, New School, Current and Back to School - [Click to read and view poll](#)
- USENIX FAST (File and Storage Technologies) 2014 Proceedings - [Click to read more](#)
- Spring 2014 StorageIO Events and Activities Update [Click to view](#)
- Review - iVMcontrol iPhone VMware management, iTool or iToy? [Click to read more](#)
- February 2014 Server StorageIO Update [Newsletter](#)

Remember to check out our [objectstoragecenter.com](http://objectstoragecenter.com) page where you will find a growing

collection of information and links on cloud and object storage themes, technologies and trends from various sources.














## StorageIO activities (out and about)

### Seminars, symposium, conferences, webinars

### Live in person and recorded recent and upcoming events

The StorageIO [calendar](#) continues to evolve, here are some recent and upcoming activities.

129/78/148/103/1527/350/242/91 = 650

June 12, 2014		The Many Facets of Virtual Storage and Software Defined Storage Virtualization	Webinar 9AM PT
June 11, 2014		The Changing Face and Landscape of Enterprise Storage	Webinar 9AM PT
May 16, 2014		What you need to know about virtualization (Demystifying Virtualization)	Nijkerk Holland
May 15, 2014		Data Infrastructure Industry Trends: What's New and Trending	Nijkerk Holland
May 14, 2014		To be announced	Nijkerk Holland
May 13, 2014		Data Movement and Migration: Storage Decision Making Considerations	Nijkerk Holland
May 12, 2014		Rethinking Business Resiliency: From Disaster Recovery to Business Continuance	Nijkerk Holland
May 5-7, 2014		EMC World	Las Vegas
April 22-23, 2014	SNIA DSI Event	Presenting - The "Cloud" Hybrid Home Run Life beyond they Hype	Santa Clara CA
April 16, 2014		Open Source and Cloud Storage - Enabling business, or a technology enabler?	Webinar 9AM PT
April 9, 2014		Storage Decision Making for Fast, Big and Very Big Data Environments	Webinar 9AM PT
April 8, 2014	NAB	National Association Broadcasters (e.g. Very Big Fast data Event)	Las Vegas
March 27, 2014		Keynote: The 2017 Datacenter - PREPARING FOR THE 2017 DATACENTER SESSIONS	Edina 8:00AM Register Here

[Click here](#) to view other upcoming along with earlier event activities. Watch for more 2014 events to be added soon to the [StorageIO events calendar page](#). Topics include data protection modernization (backup/restore, HA, BC, DR, archive), data footprint reduction

(archive, compression, dedupe), storage optimization, SSD, object storage, server and storage virtualization, big data, little data, cloud and object storage, performance and management trends among others.

Vendors, VAR's and event organizers, give us a call or send an email to discuss having us involved in your upcoming pod cast, web cast, virtual seminar, conference or other events.

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