Perc 12 (Perc H965i (MX)) controllers with StarWind Virtual SAN (vSAN) in VMware ESXi deployments

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StarWind Documents

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StarWind is a pioneer in virtualization and a company that participated in the development of this technology from its earliest days. Now the company is among the leading vendors of software and hardware hyper-converged solutions. The company's core product is the years-proven StarWind Virtual SAN, which allows SMB and ROBO to benefit from cost-efficient hyperconverged IT infrastructure. Having earned a reputation of reliability, StarWind created a hardware product line and is actively tapping into hyperconverged and storage appliances market. In 2016, Gartner named StarWind "Cool Vendor for Compute Platforms" following the success and popularity of StarWind HyperConverged Appliance. StarWind partners with world-known companies: Microsoft, VMware, Veeam, Intel, Dell, Mellanox, Citrix, Western Digital, etc.

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Symptoms

Scenario 1. StarWind VSAN shows an error "Can not store virtual disk with sector size 512 bytes on storage that uses 4k sector size" while creating Virtual Drives with 512 virtual block size on Hardware RAID array created and managed by Dell Perc 12 controllers; Scenario 2. Virtual Disks created and managed by Perc 12 controllers are not shown in StarWind Controller Virtual Machines if PCI-E pass-through is used.

Cause

The Dell Perc 12 controllers are using a new generation of Broadcom SAS chips – SAS

4116W. **NOTE**: Broadcom controllers with the 8th generation of SAS RAID-on-Chip (SAS4XXX) are also affected by this KB article. In scenario 1 – Virtual Disks that are created with Dell Perc 12 controllers are exposed to the OS as 4k sector devices. **NOTE**: StarWind VSAN can't create 512 emulated virtual block devices on top of 4k physical block devices at this very moment. In scenario 2 – Perc 12 drivers are available only for the most recent Linux OS and Linux Kernels.

Resolution

For both scenarios: - Update StarWind VSAN to CVM version 20240530, build 15469. Learn more about this release: https://www.starwindsoftware.com/release-notes-build

Workaround

For scenarios 1 & 2 - present the Perc 12 array as a single Eager-Zeroed Thick Provisioned VMDK to the StarWind Controller VM; For scenario 1 – Switch the Perc 12 controller into HBA mode, pass drives into CVM, and use Linux software RAID (MDADM) instead of Perc 12 hardware RAID. Note: Please consult StarWind Support if you have a valid support contract or your Account manager during the trial period.

Related Information

1. 4k VD block size - https://www.dell.com/support/manuals/en-hk/perc-h965i-mx/perc12/virtual-disk-features?guid=guid-cd78f88c-5747-412f-8aae-6b26dd7ce2fd&lang=en-us
2. List of supported OSs - https://infohub.delltechnologies.com/p/dell-poweredge-raid-controller-12/
3. Scenario 1 and Scenario 2 will not affect Windows-based installations if Windows Server 2019/2022 is used in conjunction with StarWind Virtual SAN for Hyper-V.

Request A Product Feature

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Contacts

US Headquarters	EMEA and APAC
📞 +1 617 829 44 95 🔊 +1 617 507 58 45 🔊 +1 866 790 26 46	📞 +44 2037 691 857 (United Kingdom) 📞 +49 800 100 68 26 (Germany) 📞 +34 629 03 07 17 (Spain and Portugal) 📞 +33 788 60 30 06 (France)

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Sales:	sales@starwind.com
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