

# Extended Copy (XCOPY) VAAI Primitive not behaving as expected with VNX OE Release 32

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## Key Information

**Audience:** Level 30 = Customers

**Article Type:** Break Fix

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**Validation Status:** Final Approved

## **Summary:**

### Article Content

**Impact:** VAAI commands not performing as expecting when using the XCOPY VAAI Primitive resulting in extreme latency spikes.

**Issue:** Extended Copy (XCOPY) VAAI Primitive not behaving as expected with VNX OE Release 32.

Operations which use VAAI Primitive HardwareAcceleratedMove are considerably slower in operation and extreme spikes in latency can be seen.

These include examples like:

- Deploying Templates with VMware
- Storage VMotions
- Any ESX operation which is used to copy or migrate data within the same physical array

High latency when VAAI is enabled.

**Environment:** Product: VNX Series

System: VMware ESXi

System: VMware ESX

System: VMware vSphere

EMC SW: VNX Operating Environment (OE) 05.32.000.5.006

EMC SW: VNX Operating Environment (OE) 05.32.000.5.008

EMC SW: VNX Operating Environment (OE) 05.32.000.5.011

EMC SW: VNX Operating Environment (OE) 05.32.000.5.015

EMC SW: VNX Operating Environment (OE) 05.32.000.5.201

EMC SW: VNX Operating Environment (OE) 05.32.000.5.204

EMC SW: VNX Operating Environment (OE) 05.32.000.5.206

EMC SW: VNX Operating Environment (OE) 05.32.000.5.207

**Cause:** A memory allocation problem or a segment limit on incoming writes, can lead Virtual Provisioning timeouts which lead to timeouts and to high response times on the host.

**Resolution: Workaround:**

Disable the VAAI Primitive HardwareAcceleratedMove (other VAAI Primitives do not need to be changed).

See VMware KB <http://kb.vmware.com/kb/1033665> for instructions on how to disable VAAI Primitives within ESX.

(NOTE: The VMWare KB Article 1033665 indicates that an unmount and a remount is required as part of the process for disabling VAAI on a LUN/Datastore - however EMC believes that for disabling just this primitive HardwareAcceleratedMove, it is not required. However EMC highly recommends you to consult with VMware to ensure this is correct for the particular Lun/Datastore)

OR

Avoid sending ExtendedCopy/Xcopy request for a LUN to the non-owning SP or clone or deploy a VM from a template to a LUN on the non-owning SP.

**Update: 4th September 2013**

EMC Engineering are currently developing a fix for the multiple root causes uncovered, the fix will be available in a future release of Rel 32, currently scheduled for Q4 2013.

**Notes:** See VMware KB <http://kb.vmware.com/kb/1021976> for more detailed information on the usage of VAAI.

**Article Metadata**

**Product:** VNX, VMware ESXi, VMware ESX, VMware vSphere

**External Source:** Primus

**Primus/Webtop solution ID:** emc313487