Doc. reference : **DT-ENG-045-EN**	**FAQ**	
Product : novascale Blade BL265, BL265+		Issued : **March 26th, 2012**
Object : **HBAs and other PCI devices may stop responding in VMware ESX/ESXi 4.1 and ESX5.0**		
Abstract : This note explains how to solve this problem.		

Problem:

Symptoms on VMware ESX/ESXi 4.1 and ESX5.0:
The Host Bus Adapters (HBAs) stop responding, other PCIs devices may also stop responding.

Illegal vector shortly before the Host Bus Adapter (HBA) stops responding to the driver
For example:
```
# vmkernel: 6:01:34:46.970 cpu0:4120)ALERT: APIC: 1823: APICID
0x00000000 - ESR = 0x40
```

The HBA stops responding to commands.
For example:
```
vmkernel: 6:01:42:36.189 cpu15:4274)<6>qla2xxx 0000:1a:00.0:
qla2x00_abort_isp: **** FAILED ****
```

```
vmkernel: 6:01:47:36.383 cpu14:4274)<4>qla2xxx 0000:1a:00.0: Failed
mailbox send register test
```

The HBA card gets marked offline.
For example:
```
vmkernel: 6:01:47:36.383 cpu14:4274)<4>qla2xxx 0000:1a:00.0: ISP error
recovery failed - board disabled
```

Affected configurations:

The system may be any of the following blade servers:

novascale BL265
novascale BL265+

The system is configured with at least one of the following:

* VMware ESX Server 4.1, any Update
* VMware ESXi 4.1 Embedded, any Update
* VMware ESXi 4.1 Installable, any Update

The system is configured with one or more of the following Options:

Emulex 8 Gigabit Fibre Channel Expansion Card (CIOv) MI= CFSN204-8000
USB Memory Key for VMware ESXi 4.1, MI= USBNESXi-4100
QLogic 4 Gigabit Fibre Channel Expansion Card (CIOv) MI= CFSN203-4000
QLogic 8 Gigabit Fibre Channel Expansion Card (CIOv) MI= CFSN203-8000
QLogic Ethernet and 4 Gigabit Fibre Channel Expansion Card (CFFh) MI= CFEBUB0-0000
QLogic Ethernet and 8 Gigabit Fibre Channel Expansion Card (CFFh) MI= CFEBUB1-0000

Note: This does not imply that the network operating system will work under all combinations of

hardware and software.

Solution:

Update Unified Extensible Firmware Interface (UEFI) to the level specified below:
novascale BL265 and BL265+, update UEFI to version 1.14 (BuildID P9EG53B) or higher.

The file is available from the Bull Support on Line web site at the following URL:
http://support.bull.com

Workaround:

Follow these instructions and then read VMware Knowledge Base article 1030265, available at
the following URL:

http://kb.vmware.com/selfservice/microsites/search.do?
language=en_US&cmd=displayKC&externalId=1030265

Also, manually disable interrupt remapping on these two (2) novascale Blades:
- BL265
- BL265+

To disable interrupt remapping, perform one of these options:

For ESX/ESXi 4.1

Run these commands from a console or SSH session:
esxcfg-advcfg -k TRUE iovDisableIR
reboot

To check if interrupt mapping is set after the reboot, enter the following command:

# esxcfg-info -c
iovDisableIR=TRUE

For the vSphere Client:

a. Select **Configuration**, then (Software) Click **Advanced Settings**, and Click **VMkernel**.
b. Select **VMkernel.Boot.iovDisableIR** and Click **OK**.
c. Reboot the **ESX host**.

For ESXi 5.0

ESXi 5.0 does not provide this parameter as a GUI client configurable option. It can only be
changed via esxcli or PowerCLI.

To set the interrupt mapping via **esxcli**:

List the present setting:
esxcli system settings kernel list -o iovDisableIR
The output is similar to:

Name Type Description Configured Runtime Default

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iovDisableIR Bool Disable Interrrupt Routing in the IOMMU FALSE FALSE FALSE

Disable interrupt mapping on the host with this command:

esxcli system settings kernel set --setting=iovDisableIR -v TRUE

Reboot the host after running the command.

To set the interrupt mapping through **PowerCLI**:

```
PowerCLI> Connect-VIServer -Server 10.21.69.233 -User Administrator
-Password passwd
PowerCLI> $myesxcli = Get-EsxCli -VMHost 10.21.69.111
PowerCLI> $myesxcli.system.settings.kernel.list("iovDisableIR")

Configured : FALSE
Default : FALSE
Description : Disable Interrrupt Routing in the IOMMU
Name : iovDisableIR
Runtime : FALSE
Type : Bool

PowerCLI> $myesxcli.system.settings.kernel.set("iovDisableIR","TRUE")
true

PowerCLI> $myesxcli.system.settings.kernel.list("iovDisableIR")

Configured : TRUE
Default : FALSE
Description : Disable Interrrupt Routing in the IOMMU
Name : iovDisableIR
Runtime : FALSE
Type : Bool
```

After the host has finished booting you see this entry in the log file /var/log/boot.gz confirming that interrupt mapping has been disabled:

TSC: 543432 cpu0:0)BootConfig: 419: iovDisableIR = TRUE