

# Mellanox NATIVE ESXi iSER Driver for VMware vSphere 6.5

## Quick Start Guide

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Rev 1.0

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## Document Revision History

*Table 1: Document Revision History*

Revision	Date	Description
Rev 1.0	September 18, 2017	Added Step 6 to section <a href="#">Installing ESXi iSER</a> .
	July 30, 2017	Initial release of this Mellanox NATIVE ESXi iSER Driver version.

# 1 Installing ESXi iSER

➤ **To install ESXi iSER:**

1. Download the MLNX-NATIVE-ESX-ISER\_1.0.0.1-10EM-650.0.0.4598673.zip bundle from the Mellanox website.

[www.mellanox.com](http://www.mellanox.com) → Products → Ethernet Drivers → VMware Driver

2. Go to:

Configuration → Security Profile → Services → SSH → Options → Start.

3. Activate the SSH in ESXi.
4. Copy the driver bundle using SCP into the machine
5. Install the iSER driver.

```
#> esxcli software vib install -d /<bundle_file>
```

6. Add "esxcli rdma iser add" to the /etc/rc.local.d/local.sh file.
7. Reboot the machine.
8. Verify that the iser module is loaded.

```
# vmkload_mod -l | grep iser
```

➤ **To load the iser driver:**

```
# vmkload_mod iser
```

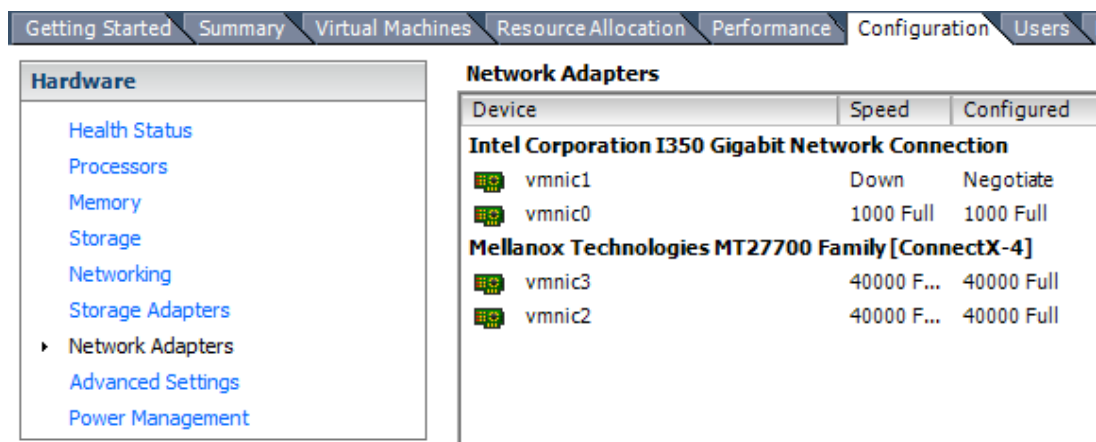
## 2 Configuring ESXi iSER

### 2.1 Verify the Mellanox Adapters are Recognized

- Go to:  
Configuration → Network Adapters
- Make sure the appropriate MLNX Native drivers from the bundle are installed.



**NOTE:** vmnicX means that the device's port is in Ethernet mode.

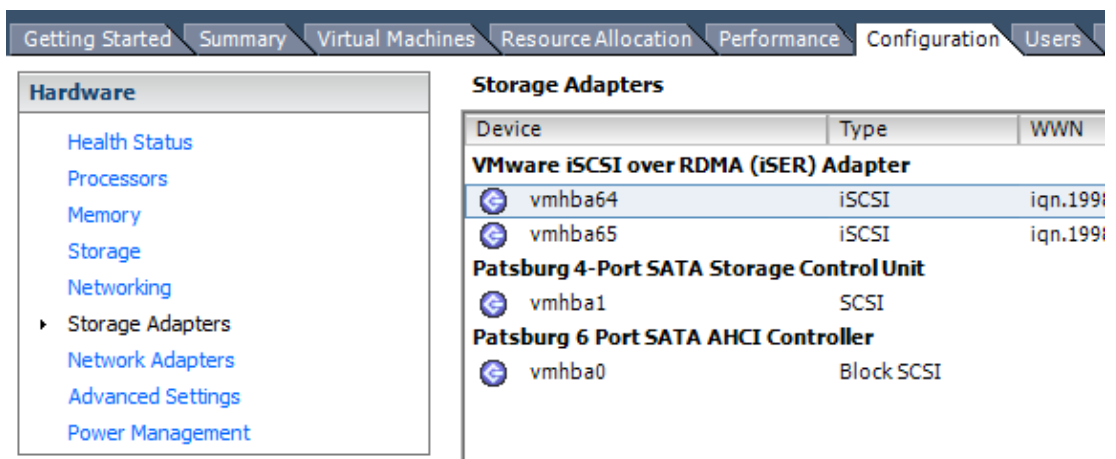


The screenshot shows the ESXi Configuration console with the 'Configuration' tab selected. The left sidebar shows 'Hardware' > 'Network Adapters' selected. The main area displays the 'Network Adapters' table:

Device	Speed	Configured
<b>Intel Corporation I350 Gigabit Network Connection</b>		
vmnic1	Down	Negotiate
vmnic0	1000 Full	1000 Full
<b>Mellanox Technologies MT27700 Family [ConnectX-4]</b>		
vmnic3	40000 F...	40000 Full
vmnic2	40000 F...	40000 Full

### 2.2 Verify the iSER Adapters are Recognized

- Go to:  
Configuration → Storage Adapters
- Make sure there is a single iSER adapter (vmhba) per vmnicX.



The screenshot shows the ESXi Configuration console with the 'Configuration' tab selected. The left sidebar shows 'Hardware' > 'Storage Adapters' selected. The main area displays the 'Storage Adapters' table:

Device	Type	WWN
<b>VMware iSCSI over RDMA (iSER) Adapter</b>		
vmhba64	iSCSI	iqn.1991
vmhba65	iSCSI	iqn.1991
<b>Patsburg 4-Port SATA Storage Control Unit</b>		
vmhba1	SCSI	
<b>Patsburg 6 Port SATA AHCI Controller</b>		
vmhba0	Block SCSI	



**NOTE:** Each port of the HCA is a vmnic in ESXi and each vmhba adapter can be bound to a single vmnic.

3. Click the adapter iSCSI alias to display the vmnic it can be bound to.

**Details**

<b>vmhba64</b>			
Model:	VMware iSCSI over RDMA (iSER) Adapter		
iSCSI Name:	iqn.1998-01.com.vmware:dev-r-vrt-011.mtr.labs.mlx		
iSCSI Alias:	iser-vmnic2		
Connected Targets:	0	Devices:	0
		Paths:	0

## 2.3 Scan for Targets



Prior to scanning for targets, verify a vSwitch is created with VMKernel for the vmnic needed.

1. Go to:  
Properties → Network Configuration → Add.
2. Choose the correct vmhba for the same vmnic.
3. Click OK.
4. Wait several seconds for ESXi to refresh itself and go to Dynamic Discovery → Add.
5. Enter the IP address of the target machine.
6. Click OK.

After several seconds the targets are shown in the static Discovery.

7. Close the window and choose Yes to refresh.

If the targets are not shown when clicking the vmhba adapter, right click the vmhba adapter and rescan.

Device	Type	WWN
<b>VMware iSCSI over RDMA (iSER) Adapter</b>		
 vmhba64	iSCSI	iqn.1998-01.com.vmware:dev-r-vrt-
 vmhba65	iSCSI	iqn.1998-01.com.vmware:dev-r-vrt-

**Details**

<b>vmhba64</b>			
Model:	VMware iSCSI over RDMA (iSER) Adapter		
iSCSI Name:	iqn.1998-01.com.vmware:dev-r-vrt-013.mtr.labs.mlx:871094018:64		
iSCSI Alias:	iser-vmnic2		
Connected Targets:	1	Devices:	2
		Paths:	2

**View:**

Name	Identifier
IET iSCSI RAID Ctrl (naa.6000000000000000e0000000010000)	naa.60000000
IET iSCSI Disk (naa.6000000000000000e0000000010001)	naa.60000000



## 2.4 Enable Flow Control in an Ethernet Switch

Working with RoCE and Ethernet switch requires enabling Flow Control on the ports and on the switch.

1. Connect to the switch using an SSH connection and enter the configuration mode.

```
#> en
#> configure terminal
```

2. Enable Flow Control for each port.

```
#> interface ethernet 1/22
#> shutdown
#> flowcontrol receive on
#> flowcontrol send on
#> exit
```

## 2.5 Use LUN as a VMFS Data-store

1. Go to:

Configuration → Storage → Add Storage → Disk\LUN

2. Add a storage.
3. Choose LUN.
4. Choose the VMFS version.
5. Enter the data-store name.
6. Start using the VMFS.
  - Edit the VM and add a disk that is saved on the newly created data-store  
or
  - Create /migrate a VM to that data-store