

# HOW TO: VMware® ESX Server

## USE YOUR IOMEGA® STORCENTER™ NAS DEVICE TO PRESENT STORAGE TO ESX



**SITUATION:** VMware ESX Server is virtual infrastructure software for consolidating and managing systems. I want to deploy ESX Server in my organization, so I want to know how to use my Iomega NAS device to present storage to ESX Server.

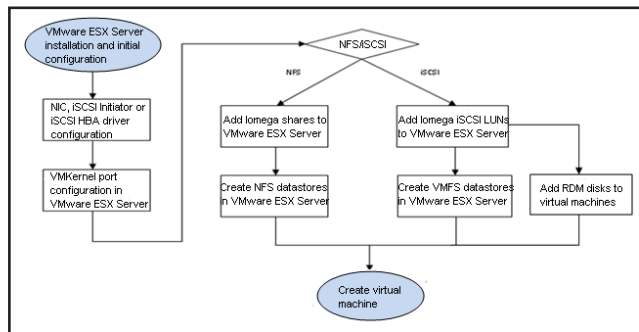
### STORAGE OPTIONS

VMware ESX Server 3.5 supports NAS storage devices using NFS and iSCSI protocols. VMware ESX Server can connect to iSCSI targets using either software or hardware iSCSI initiators. The LUNs presented by a target can then be formatted in the proprietary VMFS format. VMware ESX can also use iSCSI LUNs in the form of RDM to provide direct raw disk access to virtual machines. VMFS is the native storage option on VMware ESX Server. NFS is another compelling option for VMware ESX. ESX Server can mount an NFS share and create an NFS datastore on it.

The Iomega ix4-200r device satisfies requirements for both storage options on VMware ESX Server and is certified in VMware Hardware Compatibility List (HCL), with certifications in both NAS and Software iSCSI categories. However, the Iomega ix2 and Iomega ix4-100 devices can only support the NFS storage option. Therefore, these two devices are certified only in the NAS category in HCL.

### DEPLOYMENT ROADMAP

The following figure highlights the steps that should be followed when connecting your Iomega NAS device to the ESX Server



### VMWARE ESX SERVER CONFIGURATION

You need to set up networking and enable the necessary services in VMware ESX Server. A VMkernel port is required for the usage for both NFS and iSCSI storage. The port must have network access to your Iomega device. For details about how to configure ESX Server, please refer to VMware documentation at [http://www.vmware.com/pdf/vi3\\_35/esx\\_3/r35u2/vi3\\_35\\_25\\_u2\\_3\\_server\\_config.pdf](http://www.vmware.com/pdf/vi3_35/esx_3/r35u2/vi3_35_25_u2_3_server_config.pdf).

### USE NFS SHARES

When using NFS storage, you need to enable the NFS service (**Settings > Network Services > NFS**) first and then add a share on the Iomega NAS device. If your device is Iomega ix2, please do not secure the share so that your ESX Server can mount it using the “root” account. This is due to the known NFS no\_root\_squash issue. If your device is an Iomega ix4-100 or ix4-200r, you can choose to secure the share, in which case, you must grant your ESX Server read/write access to the share.

On your ESX Server, go to **Configuration > Storage > Add Storage...** and select the **Network File System** option. You then enter the hostname or IP address of your Iomega device and the name of the share you just created to create an NFS datastore. Note that the share name must have “/nfs” in the path.

### USE ISCSI LUNS

When using iSCSI storage, you need to enable the iSCSI service (**Settings > iSCSI**) first and then add an iSCSI LUN. Your Iomega NAS device supports two ways of target discovery: SendTargets command, and using Internet Storage Name Service (iSNS) server. SendTargets is the simple and default discovery method; it requires an initiator to know the IP address and port number of the target. VMware ESX Server only supports SendTargets, so you don't need to configure iSNS for VMware use. After target discovery, an iSCSI initiator can log on with or without authentication. If you do not enable security on the LUN, your ESX Server can log on without authentication. If you choose to secure the LUN, Lifeline uses the CHAP authentication method, your ESX Server initiator will need to provide the CHAP secret to log on.

On your ESX Server, go to **Configuration > Storage adapters** and select the hardware or software initiator that you intend to use. Then click **Properties** of the initiator to configure it. In the **Dynamic Discovery** tab, you need to click **Add** to enter the IP address of your Iomega device as the iSCSI target and use the default port number 3260. If you chose to have your LUN secured, you need to go to the **CHAP Authentication** tab to specify log on credentials. The CHAP name can be any user name that you granted read/write access to the LUN, and the CHAP secret is the user password. A CHAP secret is required to have 12-16 characters if IPsec is not used. Therefore, if the user password is shorter than 12, please pad it with the character “\*” to make it 12 characters long. After the ESX initiator is logged on, go to **Configuration > Storage Adapters** again and click **Rescan** to discover the LUN on your device.

Go to **Configuration > Storage > Add Storage...** and this time select the **Disk/LUN** option. You then select the LUN on your Iomega device to create a VMFS datastore. Alternatively, if you have a virtual machine and you want to assign the LUN to it as an RDM disk, go to **Summary > Edit Settings** with the virtual machine powered on or powered off. When in the Virtual Machine Properties window, click **Add** to add a new hard disk to the virtual machine. Next, choose **Raw Device Mappings** as the virtual disk type, and select the LUN on your Iomega device to be used as either a physical compatibility RDM or a virtual compatibility RDM.

### CREATE VIRTUAL MACHINES

After you have created either an NFS datastore or a VMFS datastore using storage from your Iomega NAS device, you can create virtual machines in the datastore. From your ESX Server, go to **Inventory > Host > New Virtual Machine...** to create a new virtual machine. After naming the virtual machine, select the datastore you previously created to store the files for the virtual machine.

The Iomega StorCenter family of NAS storage solutions blends award-winning EMC® storage and security technologies with easy-to-use configuration and management tools purpose-built for small businesses and remote offices. Learn more about Iomega NAS solutions at [www.iomega.com/NAS](http://www.iomega.com/NAS).