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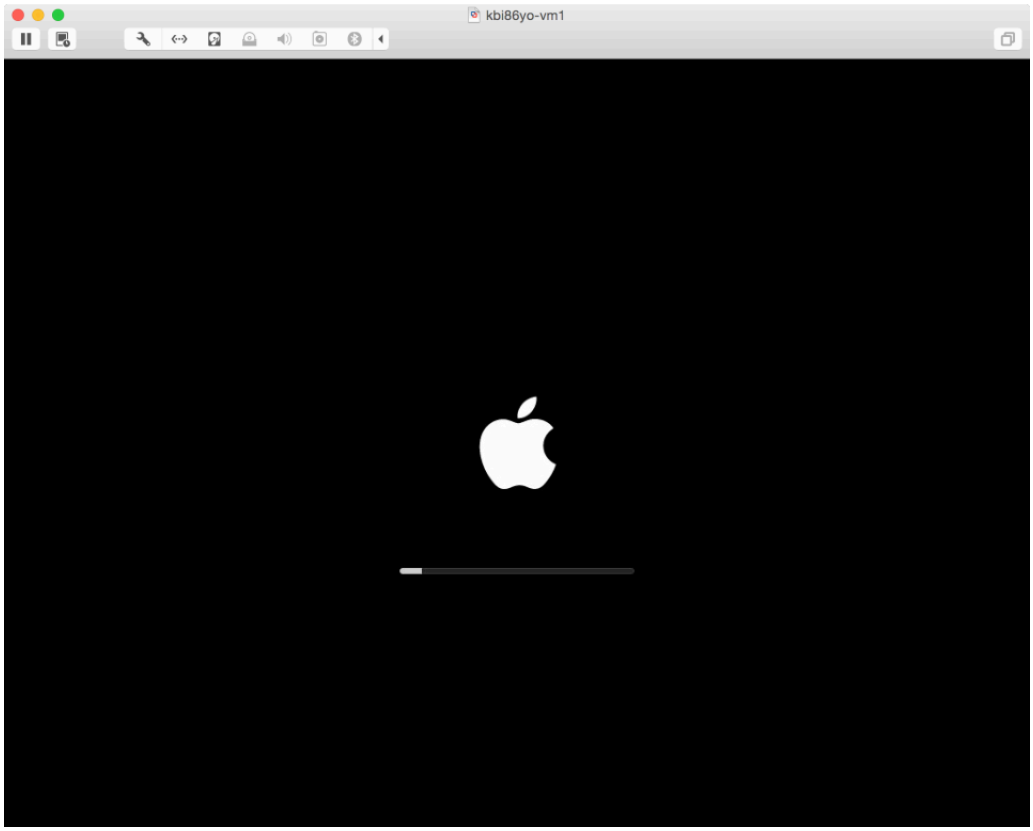
Migrating OS X VMs from VMware Fusion 7 Pro to ESXi 5.5

October 31, 2014 rtrouton Leave a comment Go to comments

A new feature that appeared in VMware Fusion 7 Pro was its new ESXi management. This included the ability to upload VMs from Fusion directly to an ESXi server. However, when I tried to upload OS X VMs something seemed to go wrong. The upload would work, but the OS X VM would then hang on boot.



Non-OS X VMs were uploading fine, so the problem was specific to OS X VMs. Since I could still build OS X VMs using the Windows vSphere client, I didn't invest a lot of time into solving this issue. Fortunately, Calum Hunter was more motivated in this regard and found a solution.

There are a few things to know about if you want to upload an OS X VM to an ESXi server running 5.5, so I've put together a procedure for those who want to leverage Fusion 7 Pro to upload OS X VMs. See below the jump for the details.

There's three issues to be aware of when uploading OS X VMs to ESXi 5.5:

1. ESXi 5.5 supports up to VMware's Hardware Version 10.

2. VMware Fusion 7 Pro will build VMs by default using VMware's Hardware Version 11.

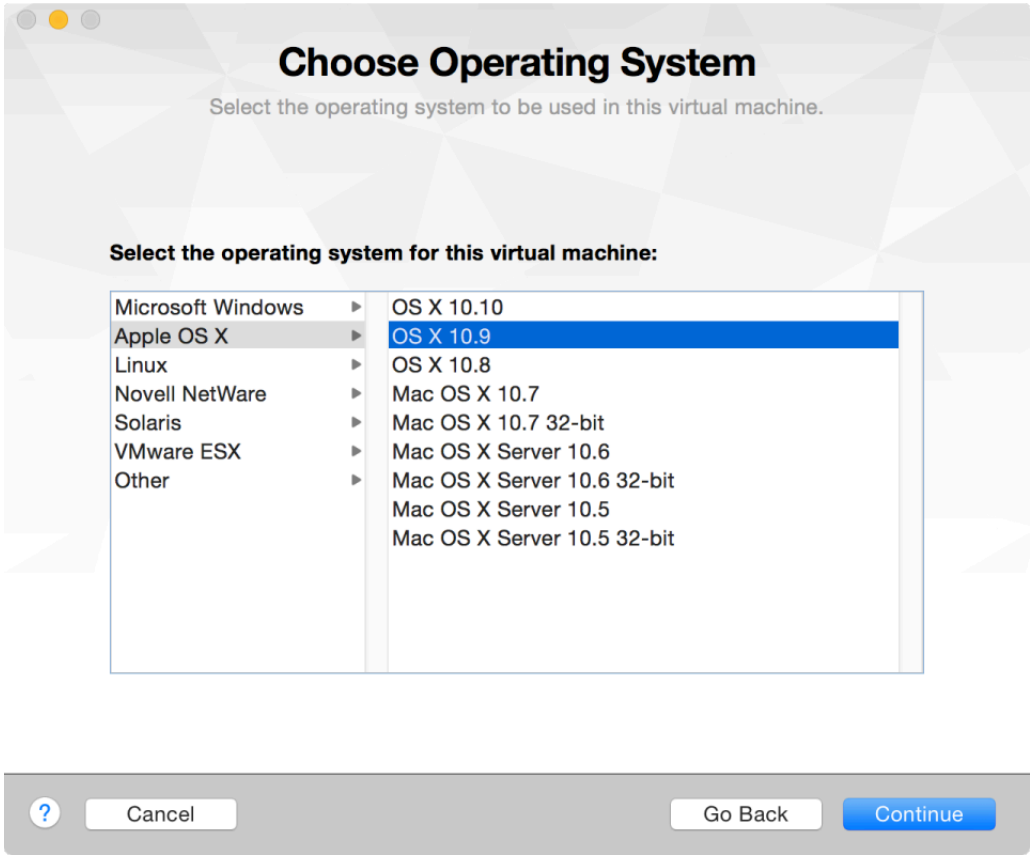
3. The upload process to ESXi 5.5 will not tranfer the necessary **smc.present = "TRUE"** attribute from the Fusion VM's **.vmx** configuration file. This attribute allows the VM to check and detect that it's running on Apple hardware. Without this check succeeding, the VM assumes it's running on non-Apple hardware and will then hang during the boot process (which is why I was seeing the hang in my previous upload attempts.)

Pre-requisites:

- VMware Fusion 7 Professional
- A fully-updated ESXi 5.5 server running on Apple hardware. As of October 31, 2014, the latest version should be **ESXi 5.5 Patch03** (ESXi550-201410001).

Setting Fusion-built VMs to use Hardware Version 10

1. Create a new VM and choose an appropriate OS.

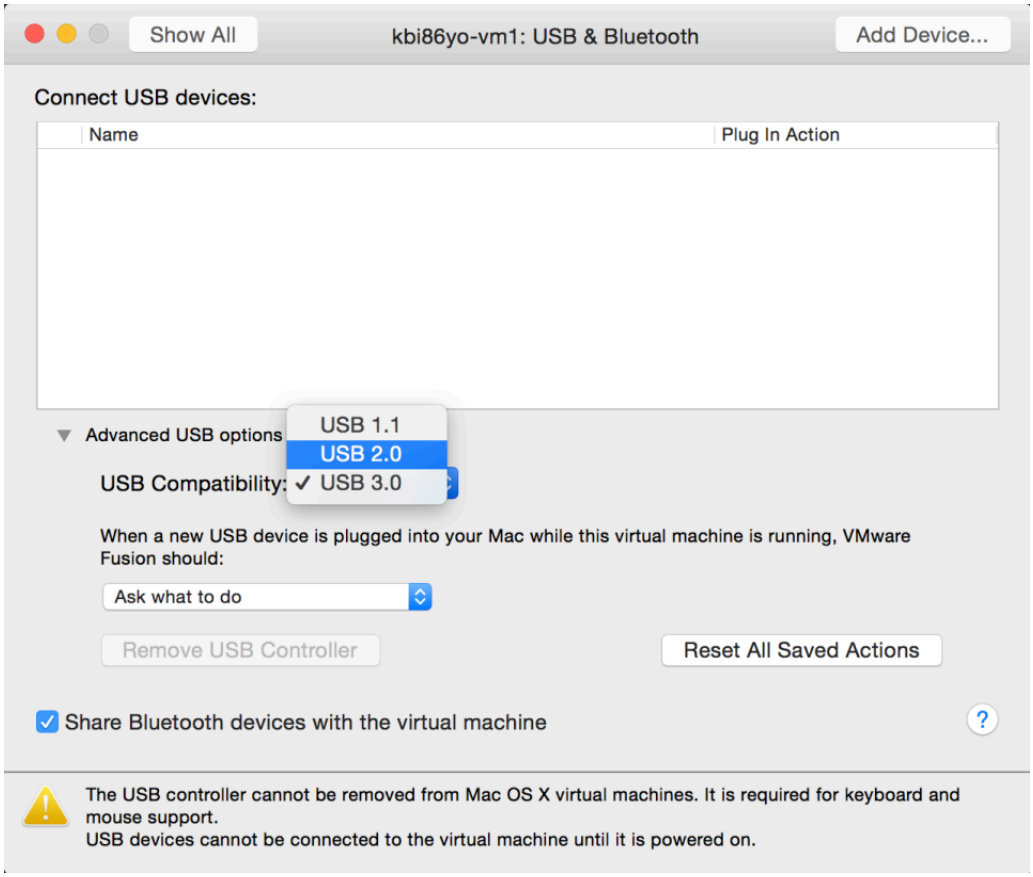


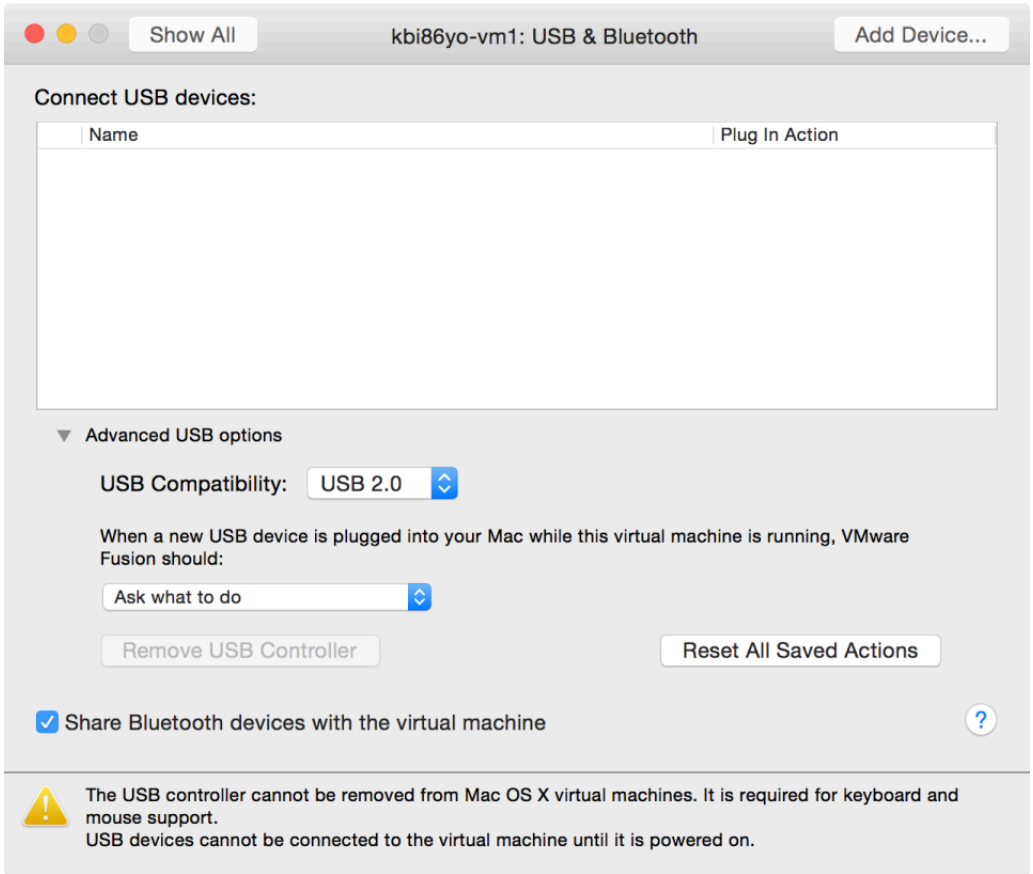
Note: If you're planning to upload a 10.10 VM, choose **OS X 10.9** in this window. VMware Fusion's setup process will not allow a 10.10 VM to use Hardware Version 10. In my testing, 10.10 runs fine even when the VM's selected OS is 10.9.

2. Once the VM is created and you've set your preferred memory, processor and memory settings, shut down the VM and then go into the VM settings.

3. In the VM settings, go into **USB & Bluetooth**

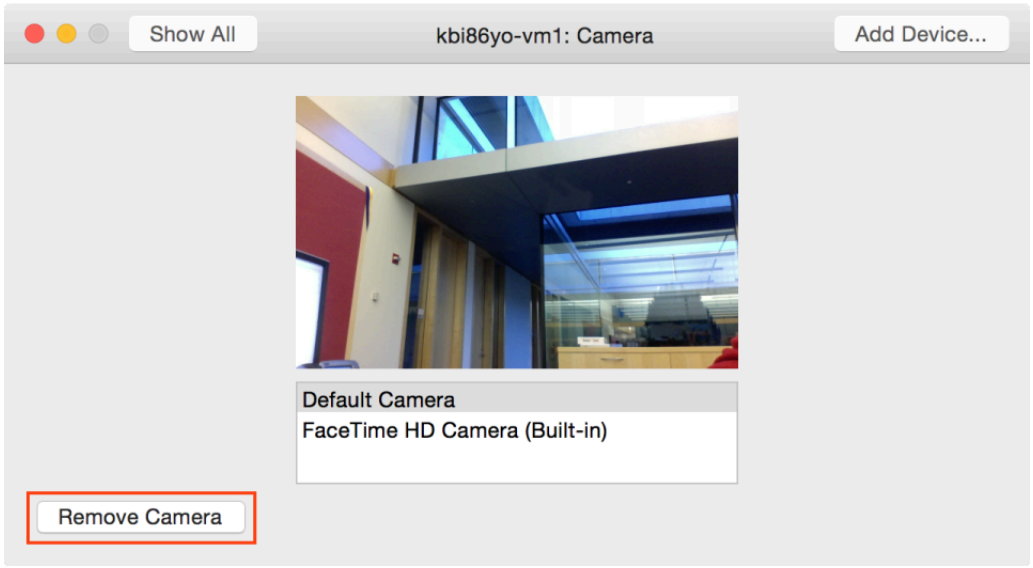
4. In the **USB & Bluetooth** settings, set it to use USB 2.0 instead of USB 3.0. USB 3.0 is a new feature with VMware's Hardware Version 11 and not supported on Hardware Version 10.



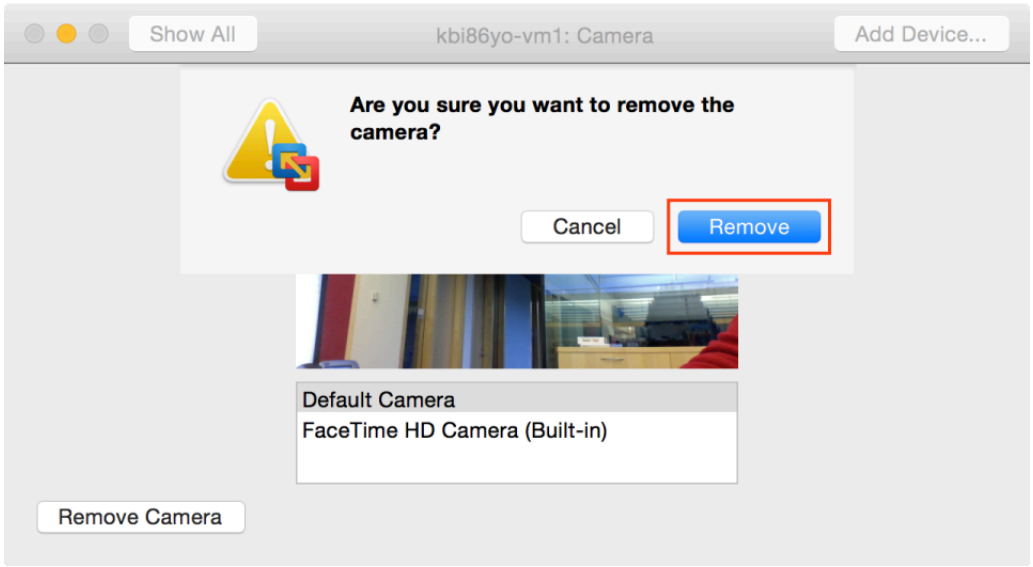


5. Go back out to the VM settings, then select **Camera**.

6. In the **Camera** settings, click the **Remove Camera** button.

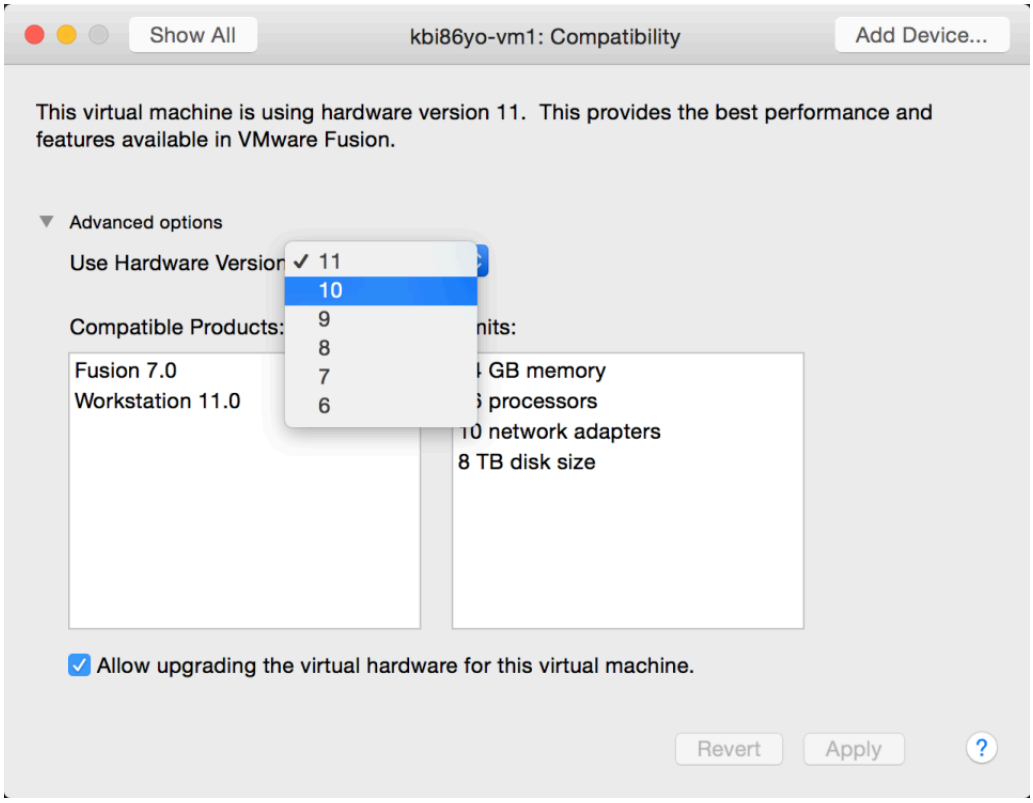


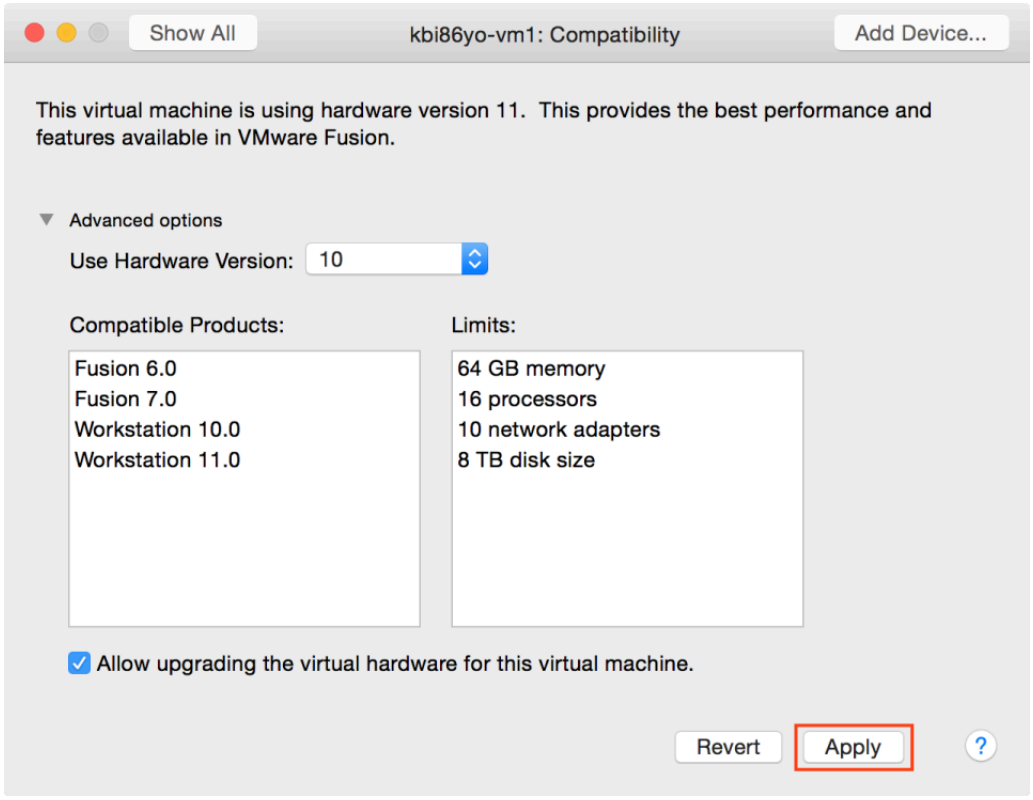
7. When prompted, confirm that you want to remove the camera by clicking the **Remove** button. The camera is a new feature with VMware's Hardware Version 11 and not supported on Hardware Version 10.



8. Go back out to the VM settings, then select **Compatibility**.

9. Change the **Use Hardware Version:** setting to **10** and click the **Apply** button.





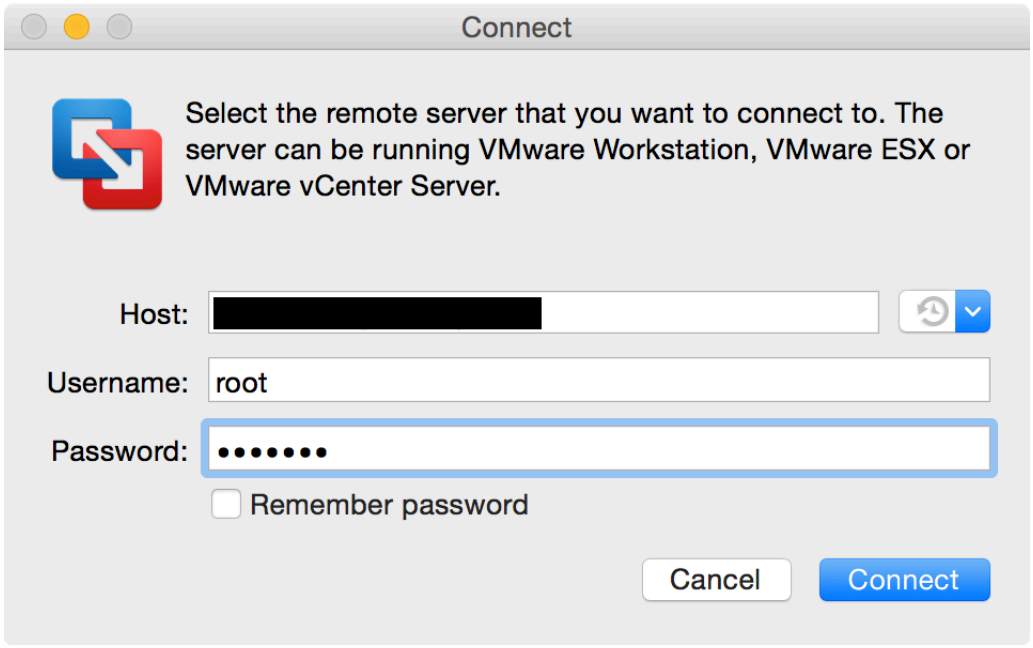
At this point, your OS X VM should be set to use Hardware Version 10 and ready for uploading to ESXi 5.5.

Connecting to ESXi 5.5 from VMware Fusion 7 Professional

1. Launch VMware Fusion 7 Professional if needed.

2. Under the **File** menu, select **Connect to Server…**

3. In the login window that appears, enter the server address of your ESXi server, username and password as appropriate.

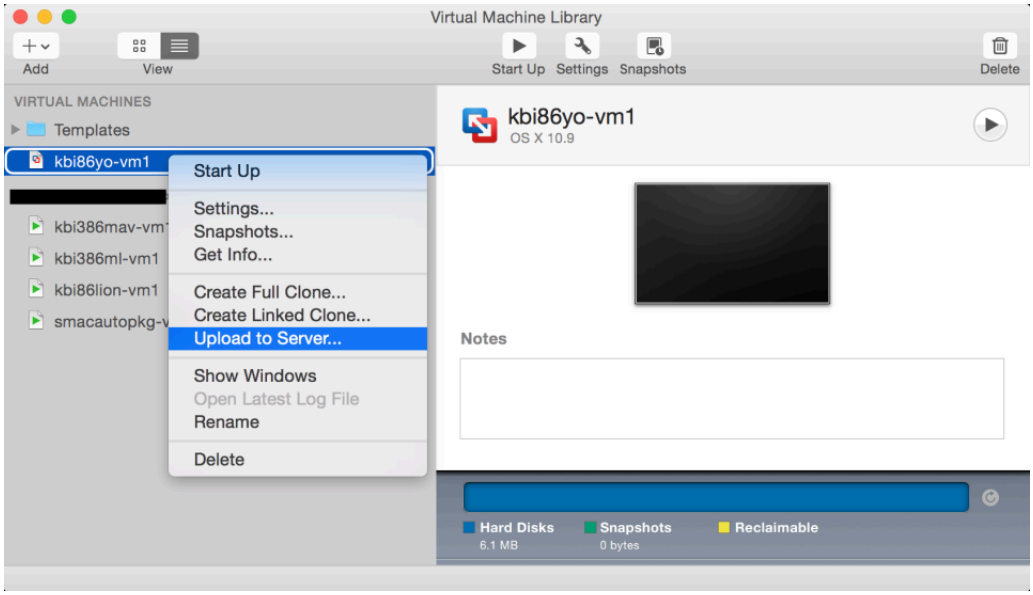


Exporting VMs from VMware Fusion 7 Professional to ESXi

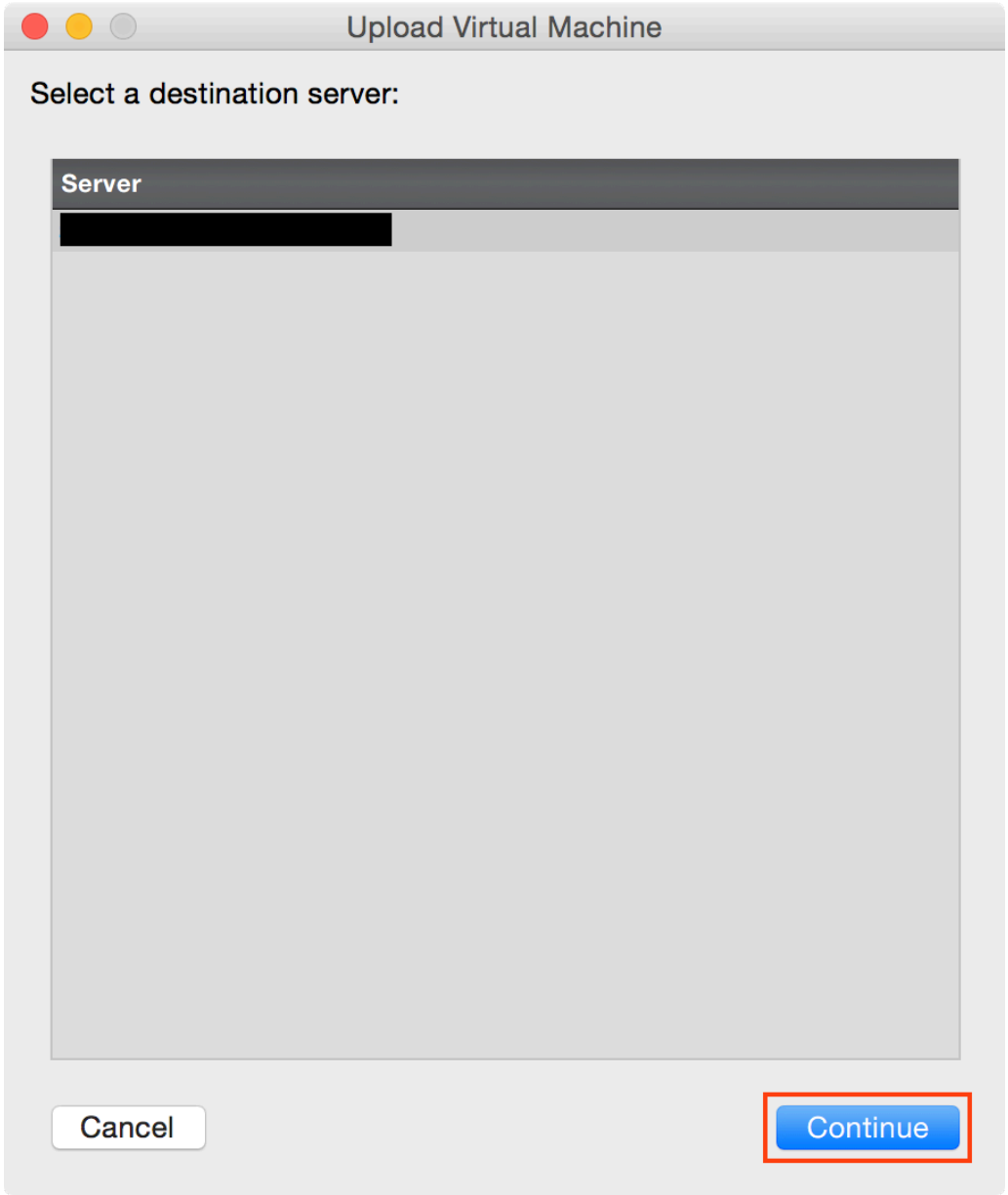
1. Shut down the Fusion VM that you want to copy to your ESXi server.

2. Connect to your ESXi server if you hadn't previously.

3. Right-click on the shutdown VM and select **Upload to Server…**

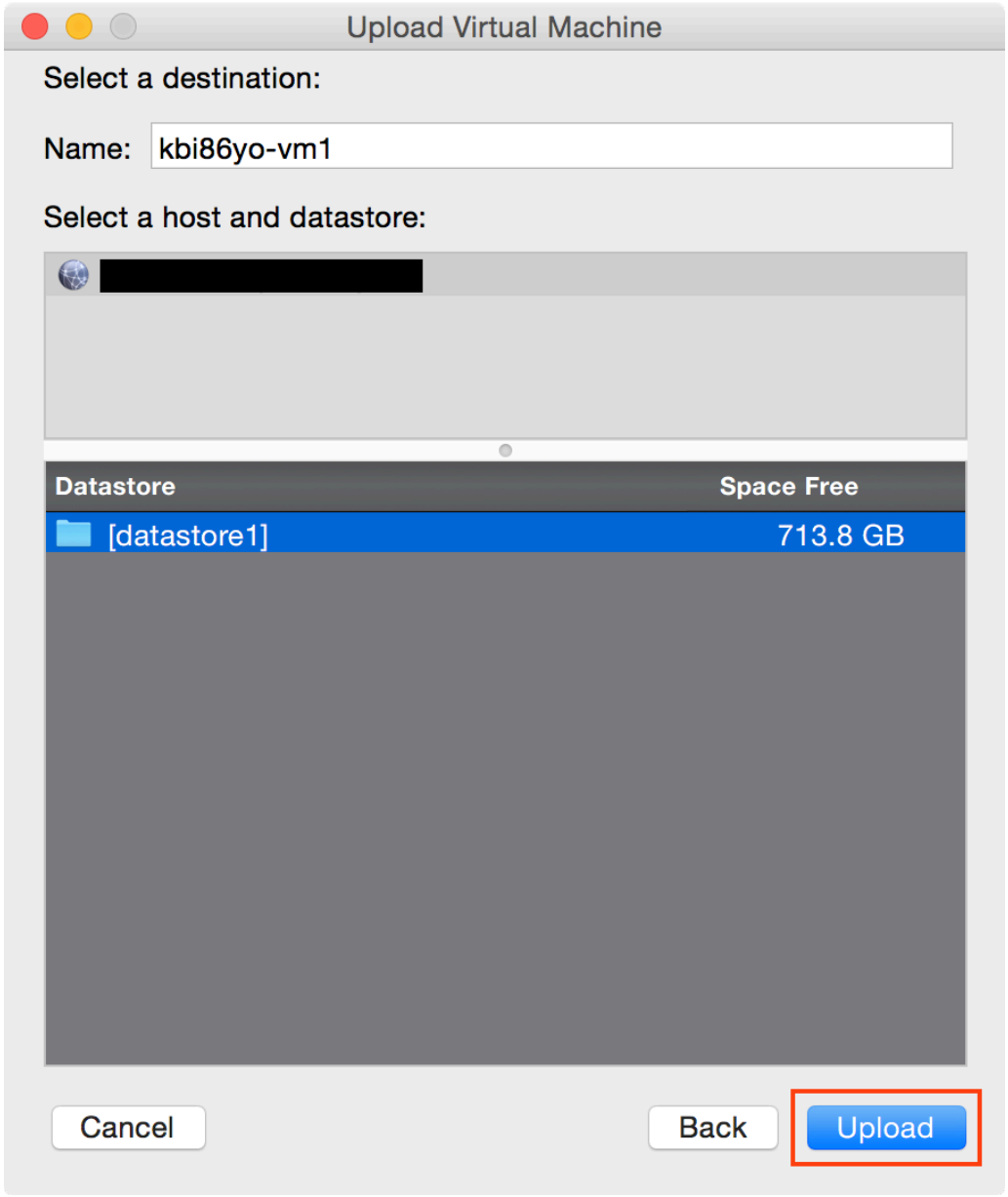


4. If prompted, select your destination server and click the **Continue** button.

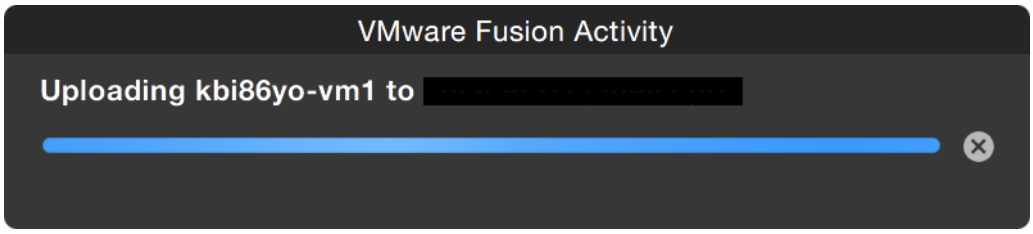


5. A new **Upload Virtual Machine** window will appear.

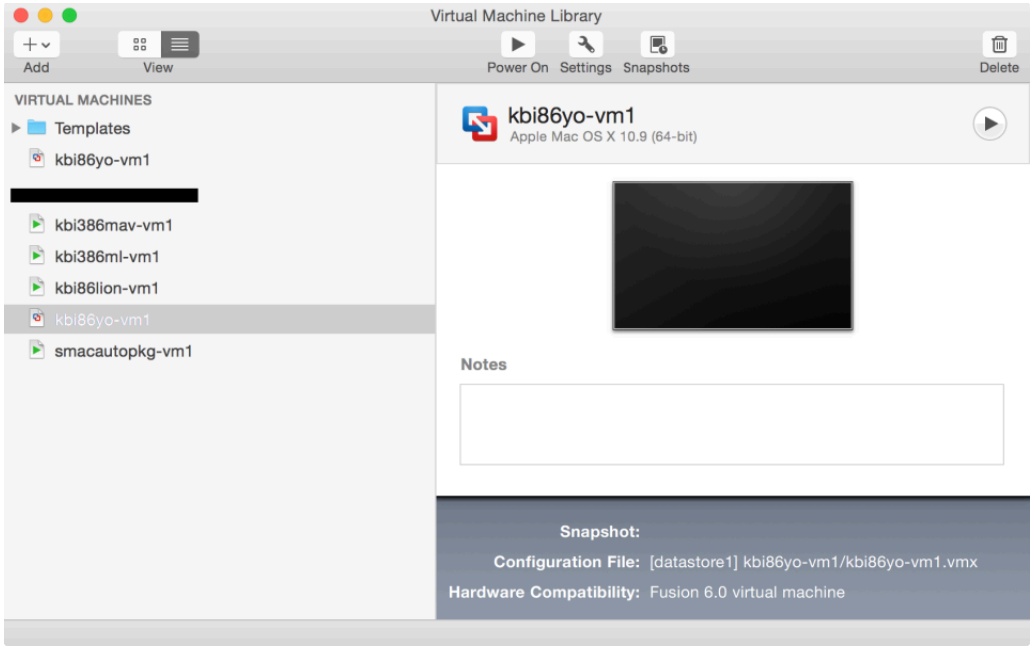
6. Select the ESXi datastore that you want to upload your Fusion-built VM into and click the **Upload** button.



7. The selected VM will upload to the ESXi server.



8. Once the upload is completed, the newly-uploaded VM will appear in your ESXi server's list of VMs as a powered-off VM.



Editing the OS X VM's .vmx file

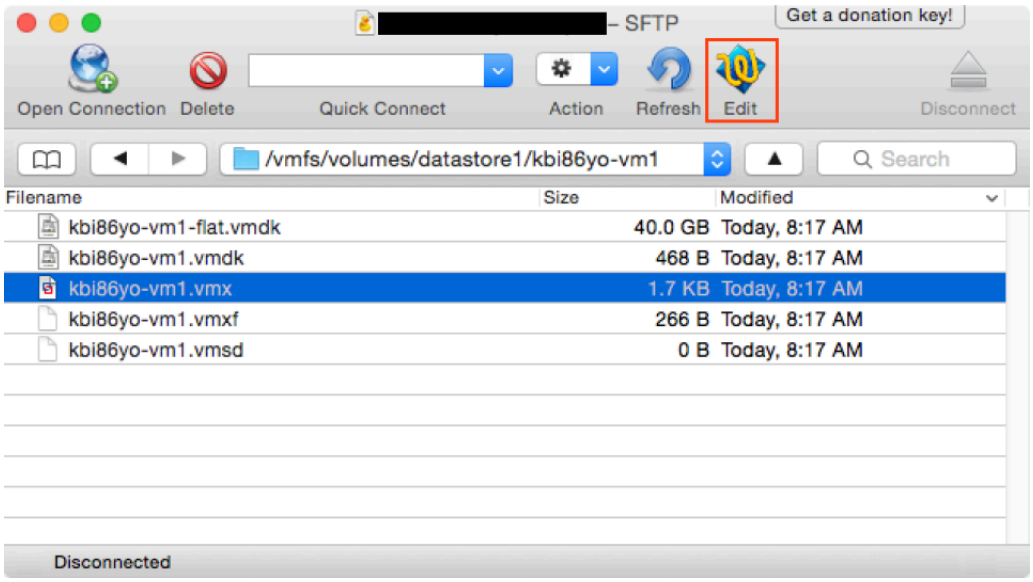
Before booting your VM, you will need to edit the uploaded VM's **.vmx** configuration file to add the **smc.present = "TRUE"** attribute back to the **.vmx** file. There's a few ways to do this, but I used SSH and Cyberduck's ability to edit remote files.

With TextWrangler set in Cyberduck as my preferred editor, here's the procedure I used:

1. Connect to the ESXi server with Cyberduck via SFTP

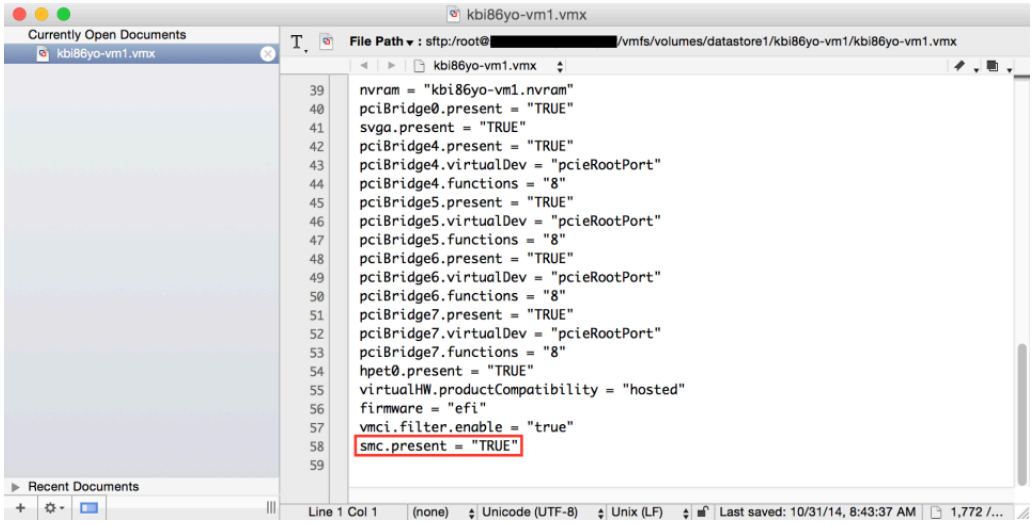
2. Navigate to **/vmfs/volumes/datastore_name_here/uploaded_vm_name_here/**

3. Select **/vmfs/volumes/datastore_name_here/uploaded_vm_name_here/uploaded_vm_name_here.vmx** and click the **Edit** button in the Cyberduck browser window.



4. At the bottom of the **uploaded_vm_name_here.vmx** file, add the following entry:

```
smc.present = "TRUE"
```



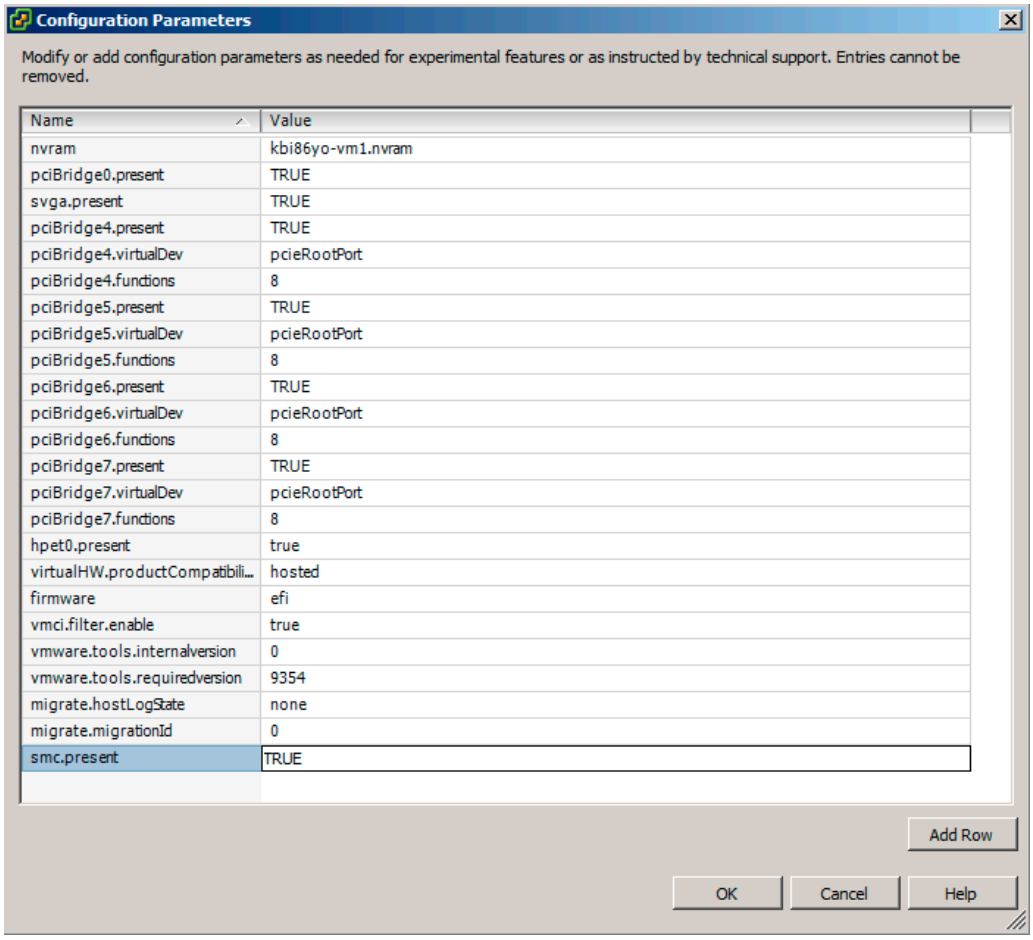
5. Save the changes in TextWrangler. That save process will then enable Cyberduck to write the changes back to the uploaded VM's **uploaded_vm_name_here.vmx** configuration file on the ESXi server.

6. Disconnect and then quit Cyberduck.

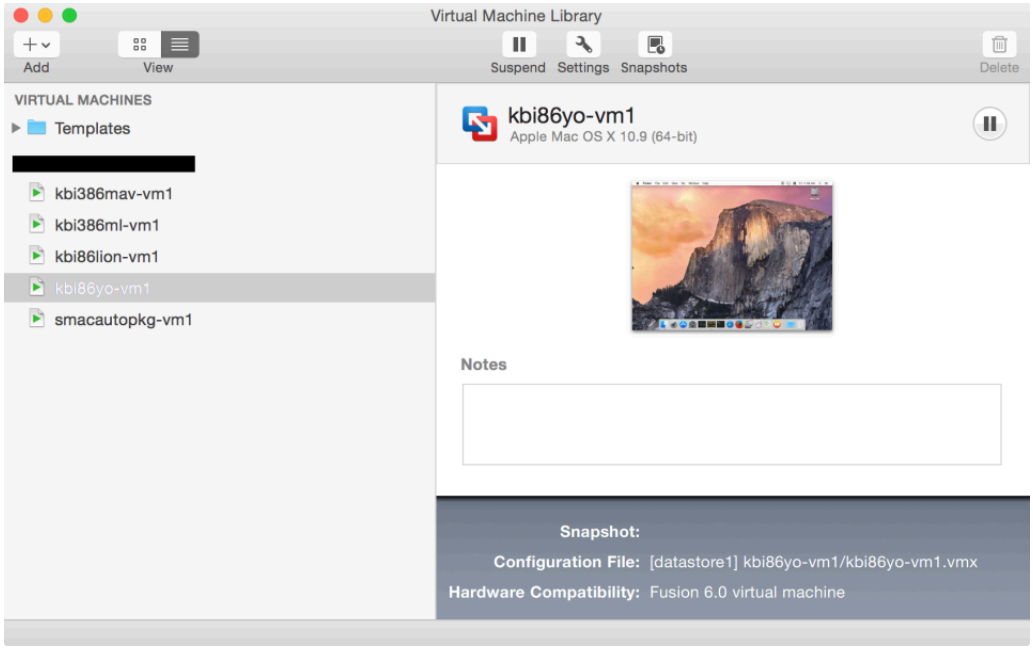
If you're more comfortable editing these changes with the Windows vSphere client's editor, first make sure you're running the vSphere 5.5 Update 2 client. Once that's sorted, you'll need to add the following setting to the **uploaded_vm_name_here.vmx** configuration file:

```
1 Name: smc.present
```

```
1 Value: TRUE
```



Once the VM has been uploaded and the VM's **uploaded_vm_name_here.vmx** configuration file has been edited, your ESXi-hosted OS X VM should now be ready to go.



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