



vScope Explorer™

Installation and User Guide

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1 Environmental Requirements

vScope Explorer Installation Guidelines

Number of VMs	1 to 200 VMs	200 to 1000 VMs	1000 to 1500 VMs	1500 to 2000 VMs
<u>VKernel Virtual Machine</u>				
Number of CPU's	4	4	4	4
Memory Allocation	8 GB	8 GB	8 GB	8 GB
Memory Reservation	8 GB	8 GB	8 GB	8 GB
Allocated Storage	64 GB	64 GB	64 GB	64 GB
<u>VKernel Database Selection</u>				
Internal or External	Either	Either	Either	Either
<u>VKernel External Database Server</u>				
CPU Average Utilization	Less than 90%	Less than 80%	Less than 80%	Less than 80%
Network Storage	Optional	Optional	Not Recommended	Not Recommended
<u>VMware vCenter</u>				
5 Minute Interval Statistics Level	2 or 3	2 or 3	2	2
Minimum Privileges	Read Only + Browse	Read Only + Browse	Read Only + Browse	Read Only + Browse
CPU Average Utilization	Less than 90%	Less than 80%	Less than 80%	Less than 80%
<u>vCenter Database Server</u>				
CPU Average Utilization	Less than 90%	Less than 80%	Less than 80%	Less than 80%
Network Storage	Optional	Optional	Not Recommended	Not Recommended

VMware Software Requirements: VMware Player 1.0.0 or later, VMware Workstation 5 or later, VMware ESX Server 3.x or later, VirtualCenter 2.5 or later, or VMware Server 1.03 or later

Hyper-V Software Requirements: Systems Center Operations Manager 2007 R2, Systems Center Virtual Machine Manager 2008 R2

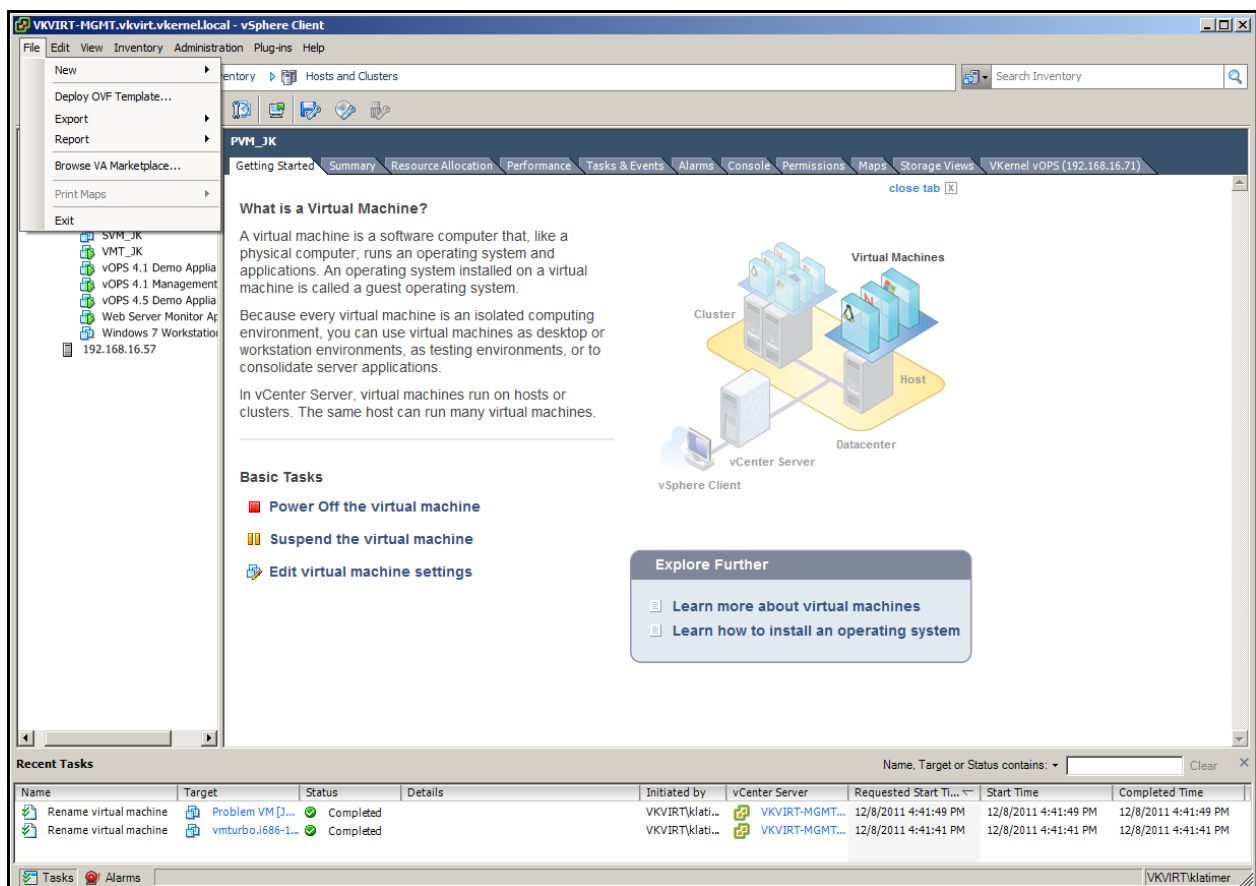
2 Installing the vScope Explorer as a VMware Virtual Machine

The VKernel vScope Explorer comes as a fully configured VMware virtual machine. It is installed directly using the VMware Deploy OVF Template.

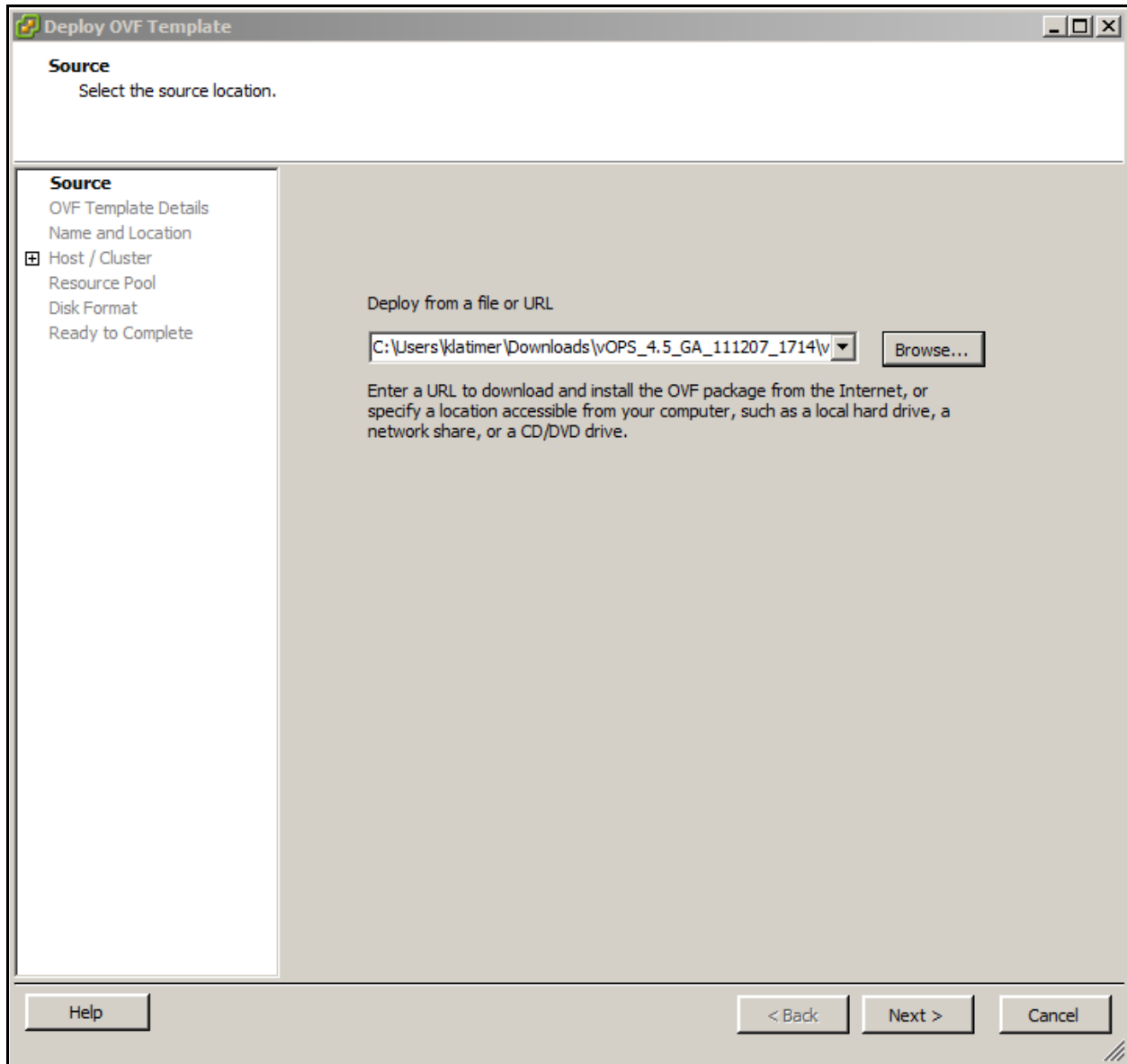
2.1 Download and Install the vScope Explorer

Go to <http://www.vkernel.com/downloads/all/> and download the VMware version of the vScope Explorer. Save it to a Windows server or workstation. The file is a compressed, self-extracting EXE. Double click to run the file and it will create a folder with the OVF file, three VMDK files, the Hyper-V Collector directory, a read me, the end user license agreement and the user documentation.

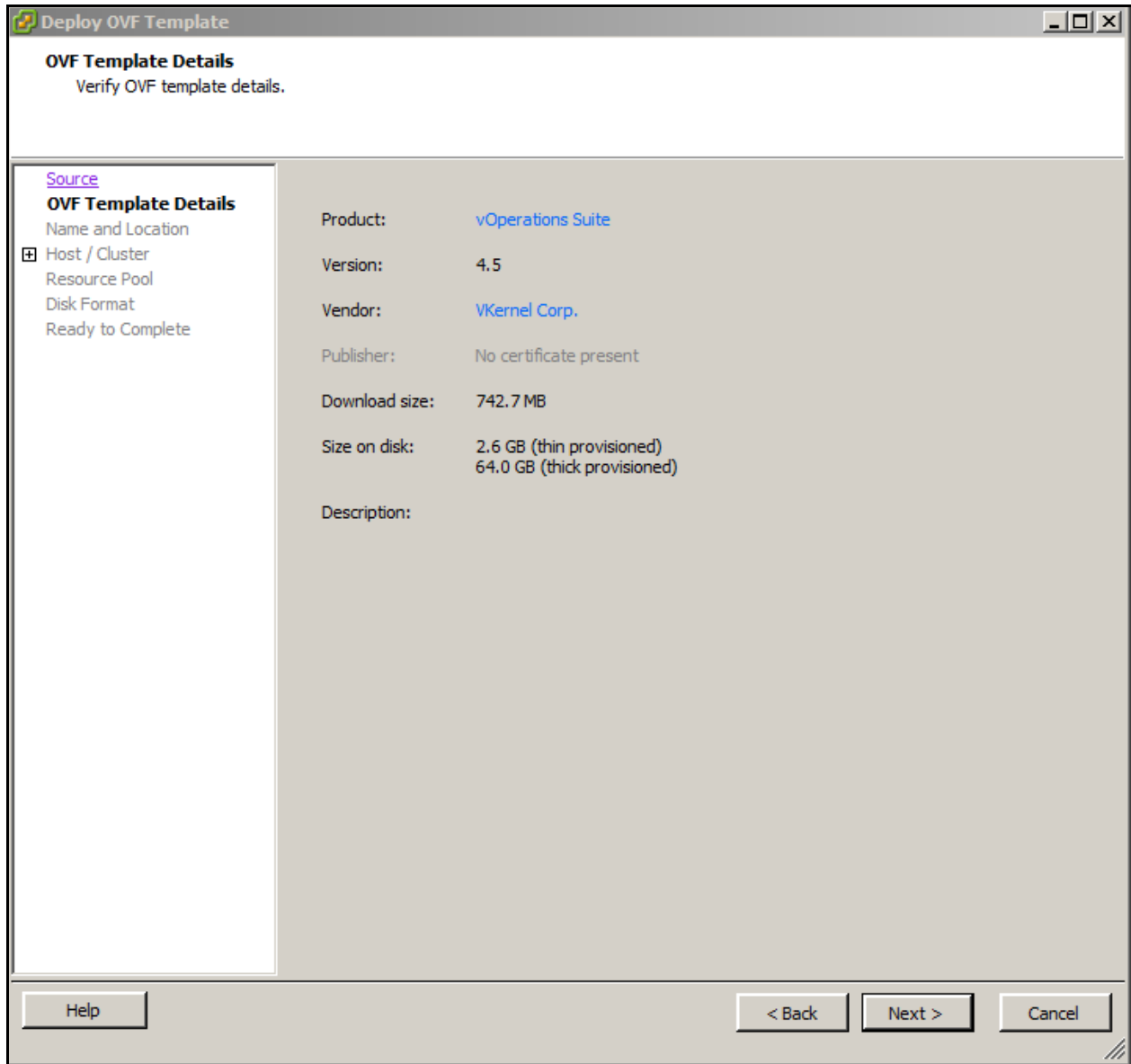
Open the VMware vSphere Client and select **File > Deploy OVF Template**. Refer to the VMware documentation for more information on running the vSphere Client.



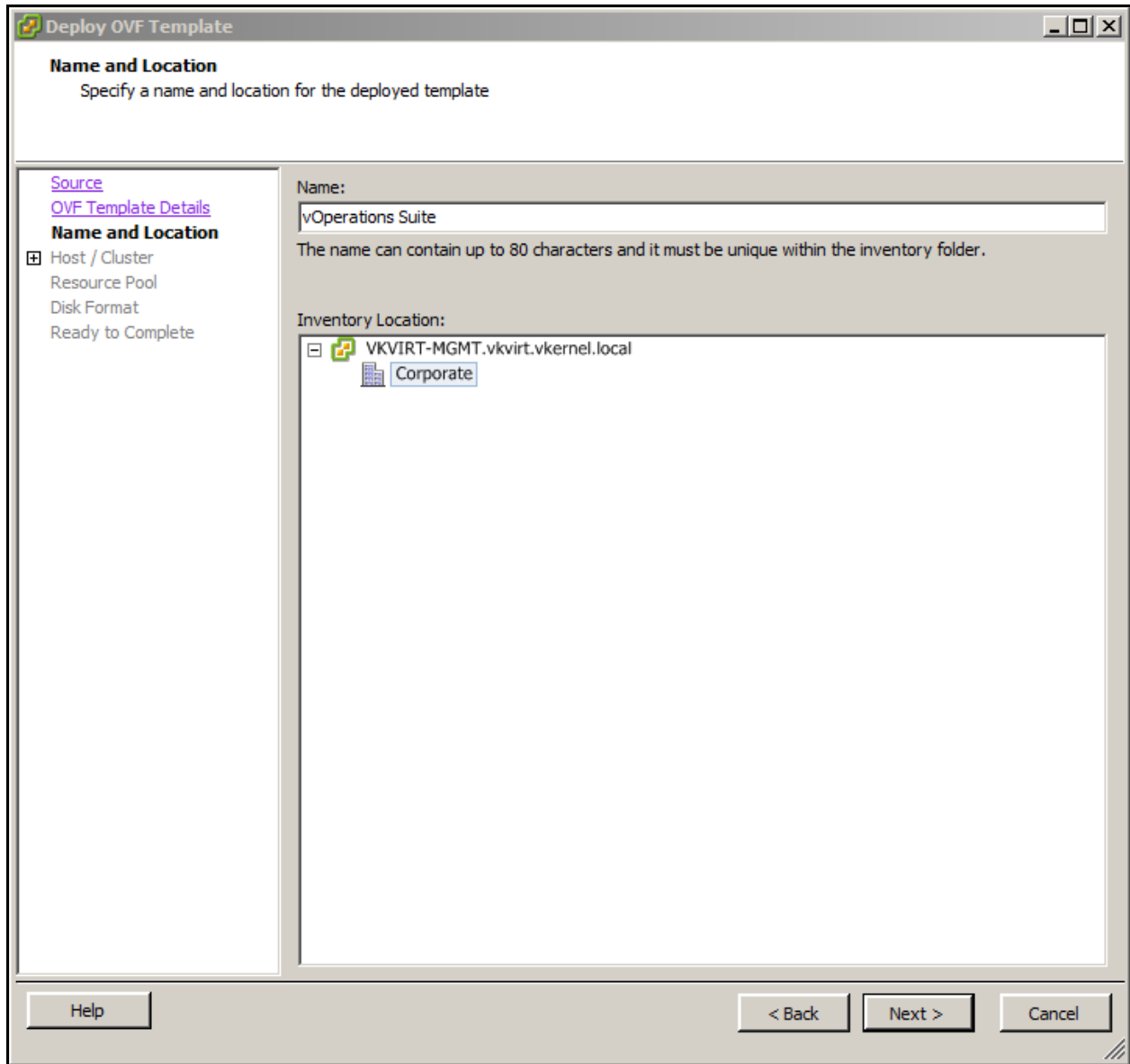
The Deploy OVF wizard will open.



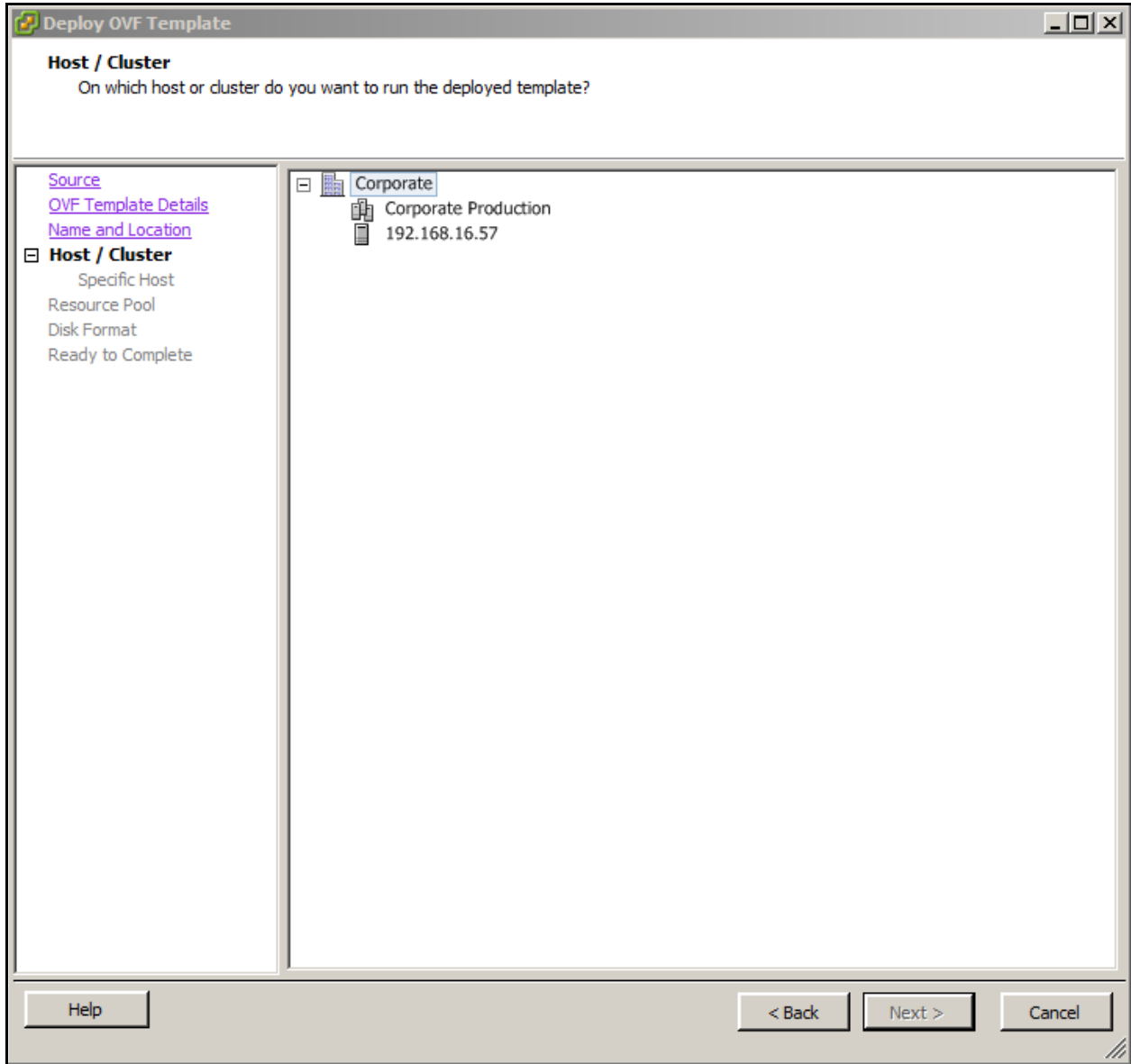
Select **Deploy from file:** and browse to the location of the OVF file extracted above. Click **Next**.



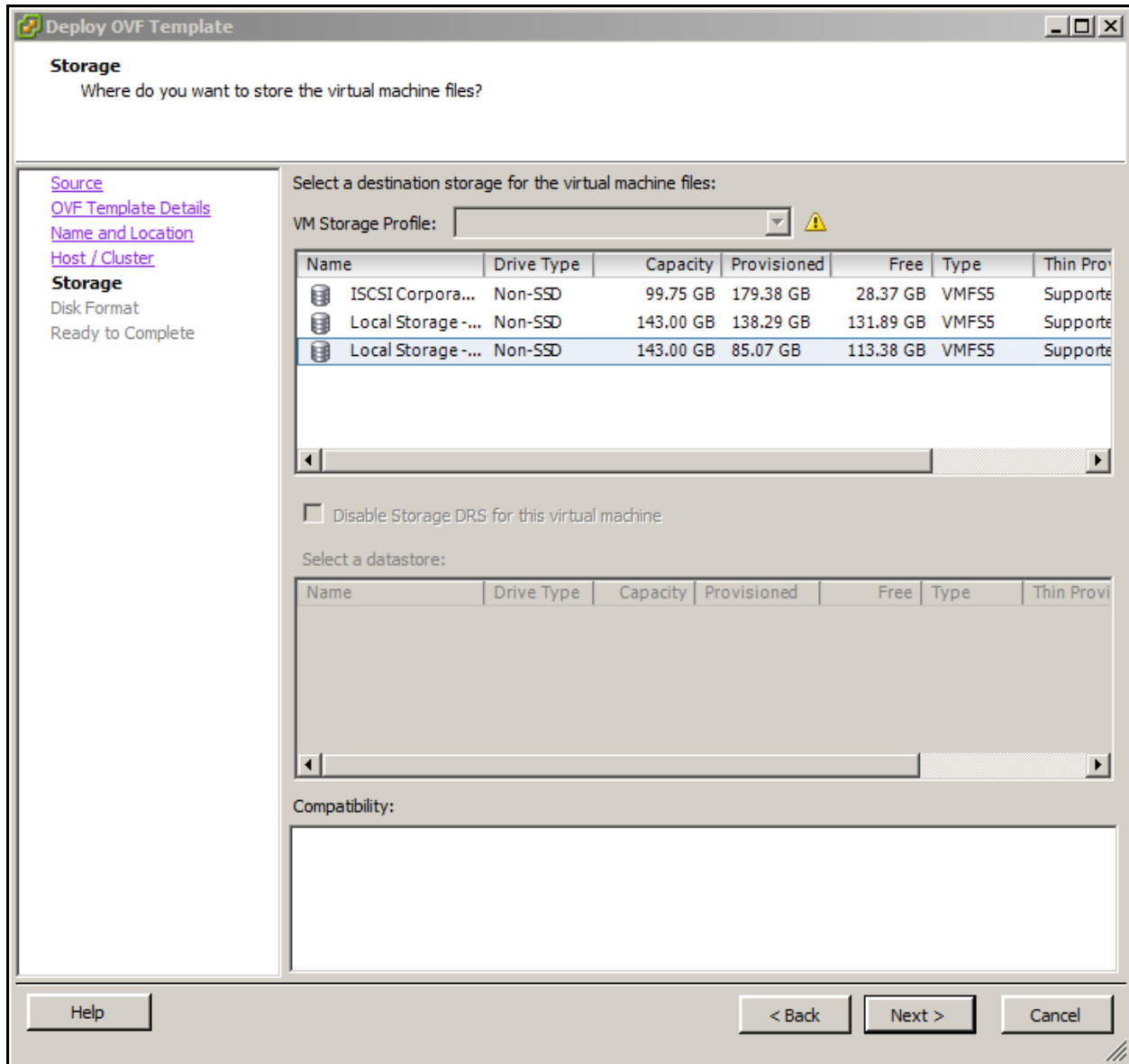
The OVF Template Details are shown. Click **Next**.



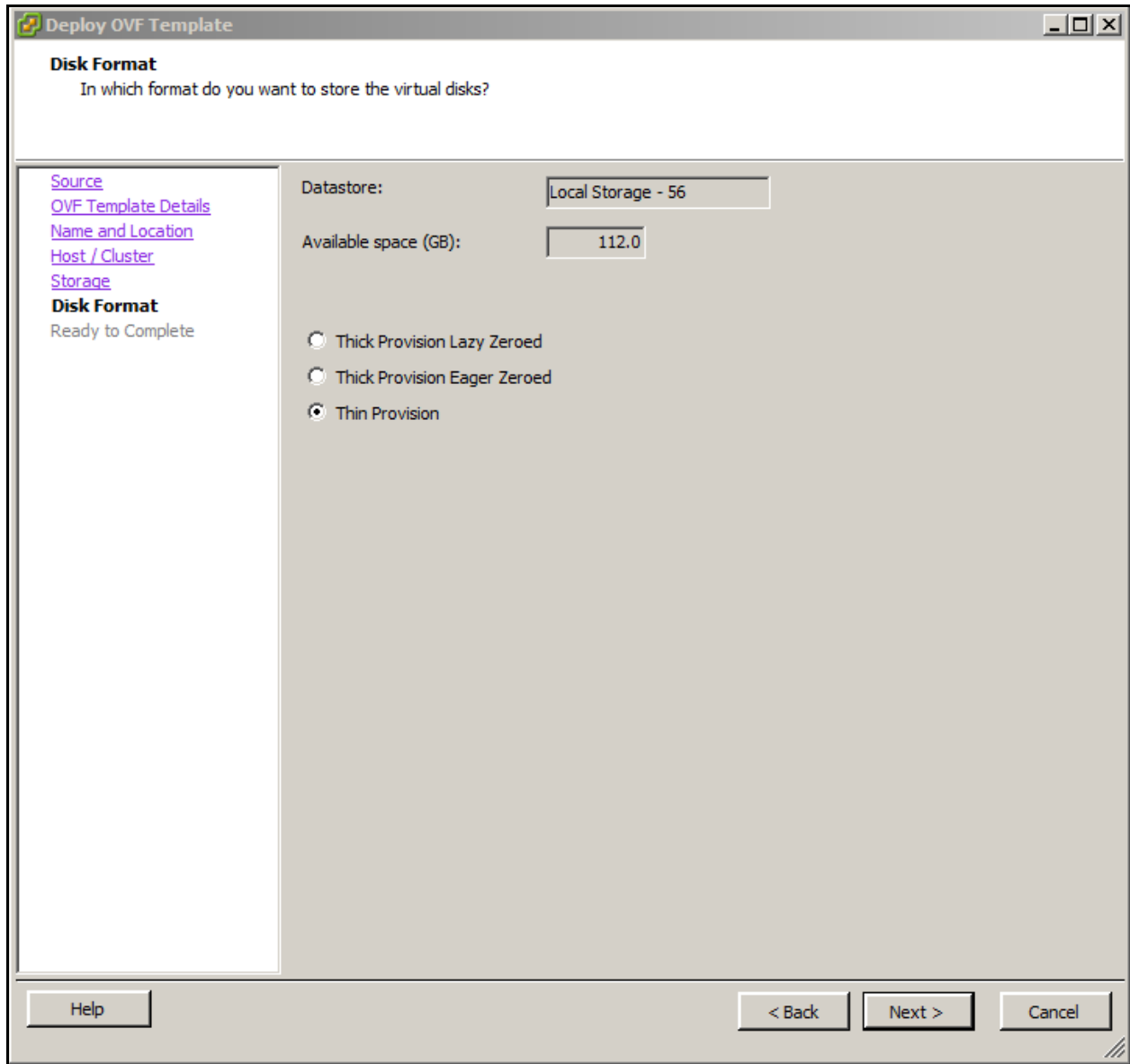
Select a name and destination folder for the virtual machine. Click **Next**.



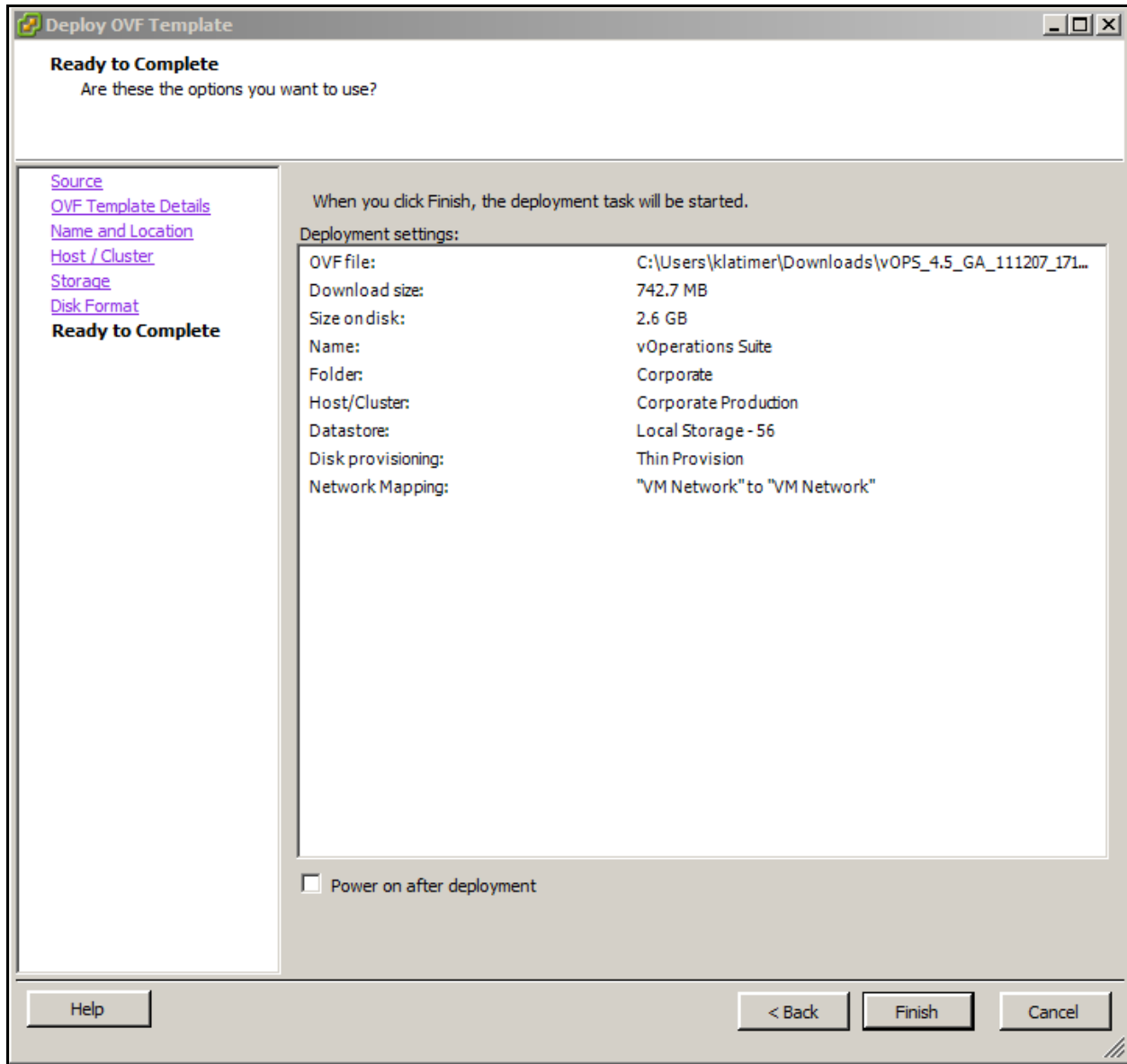
Select a location within the infrastructure hierarchy and click **Next**.



Select the datastore that the VM will reside within and click **Next**.



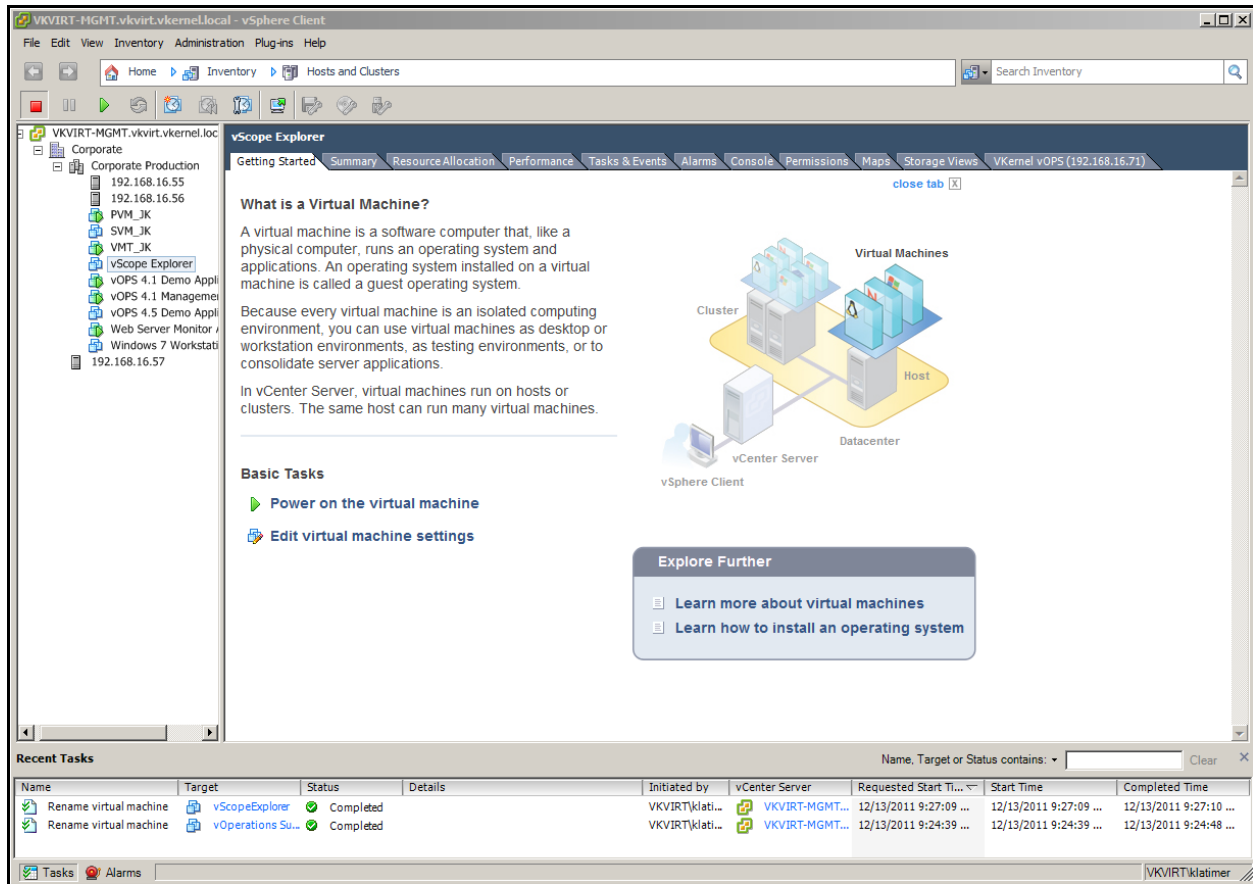
Select the type of datastore provisioning and click **Next**.



Review the deployment settings and click **Finish**.

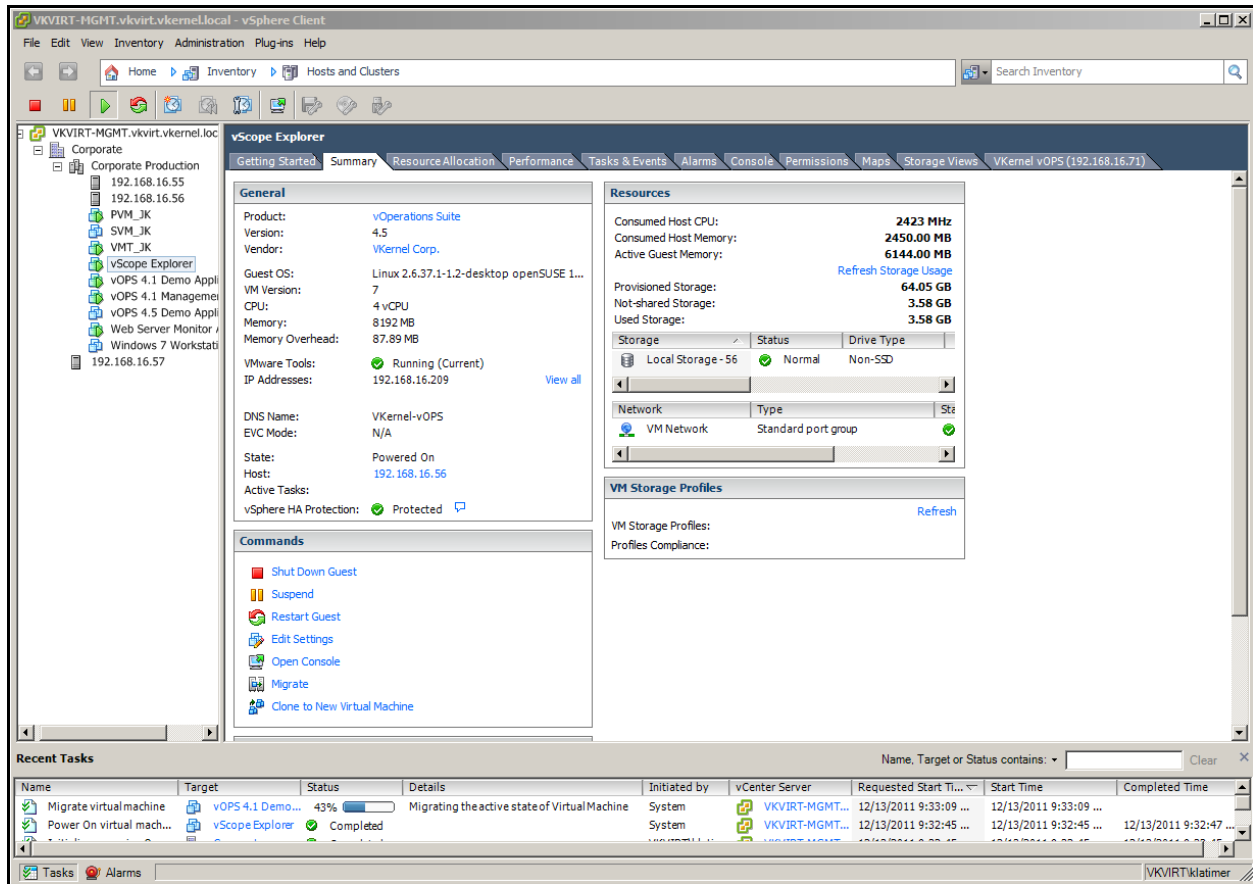
2.2 Power On and Initialize the Virtual Machine

Open vCenter, select the vScope Explorer virtual machine you just installed and click **Power On**.



Once the appliance is started, it will initialize the operating system and start the vScope Explorer. The IP address will be obtained from DHCP server automatically. Pool.ntp.org will be used as the Network Time Protocol (NTP) server by default. These can be changed after the vScope Explorer has been successfully started.

Wait until the IP address of the vScope Explorer appears in the vCenter Summary tab. Once the IP address appears it will take several more minutes to start the application server. Once that is completed, you can access the vScope Explorer using the IP address and a standard browser.

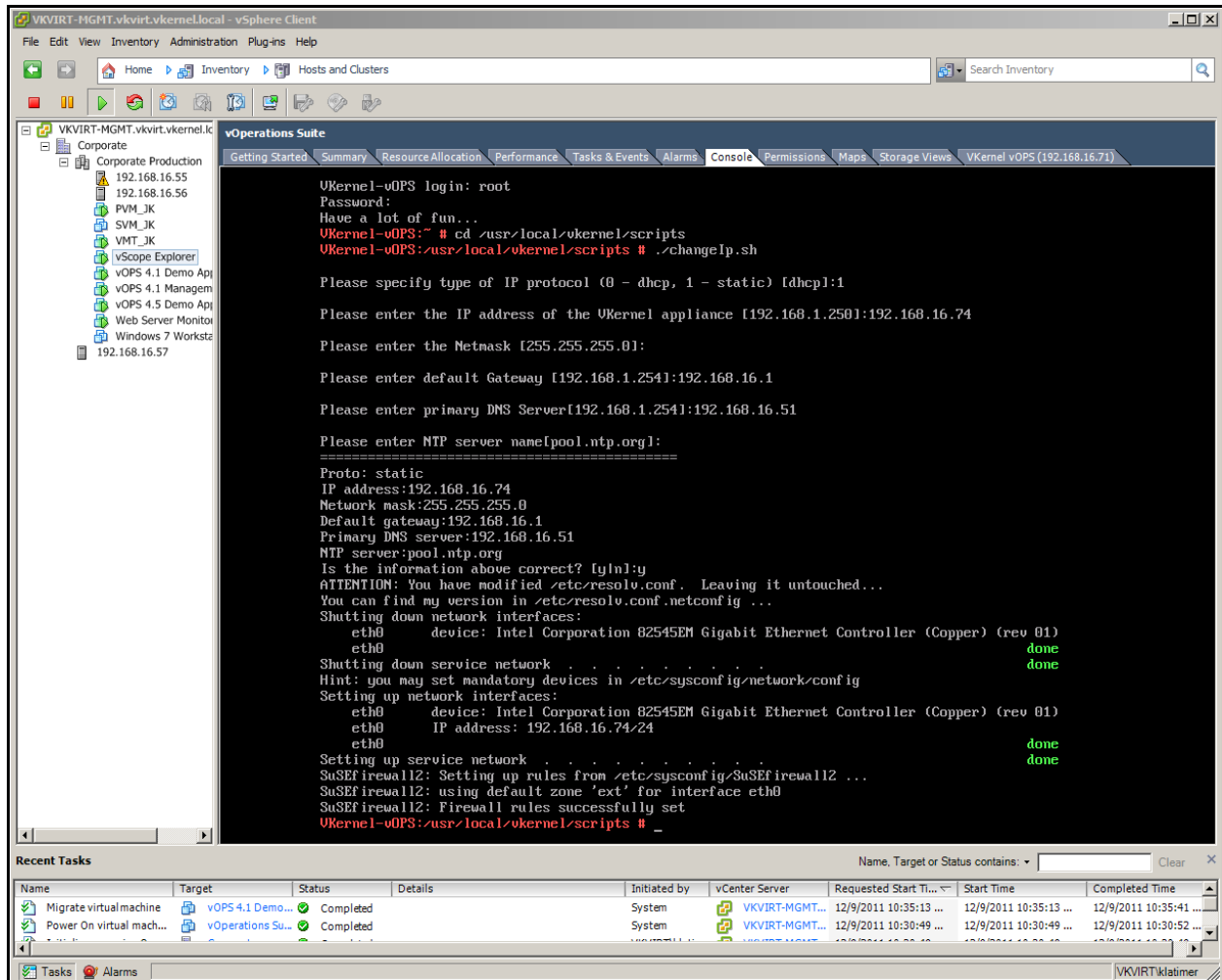


If there is no DHCP server available, the IP address will have to be entered manually before the vScope Explorer will be usable. Open a console window and respond to the questions about the IP address and the network time server.

2.3 Setting a Static IP Address or Changing the Network Time Server

Open a VI Client console window and log in as **root** with **password** for the password.

Change to directory **/usr/local/vkernel/scripts** and run the **changelp.sh** script. Follow the prompts to set the desired IP address and network time server.



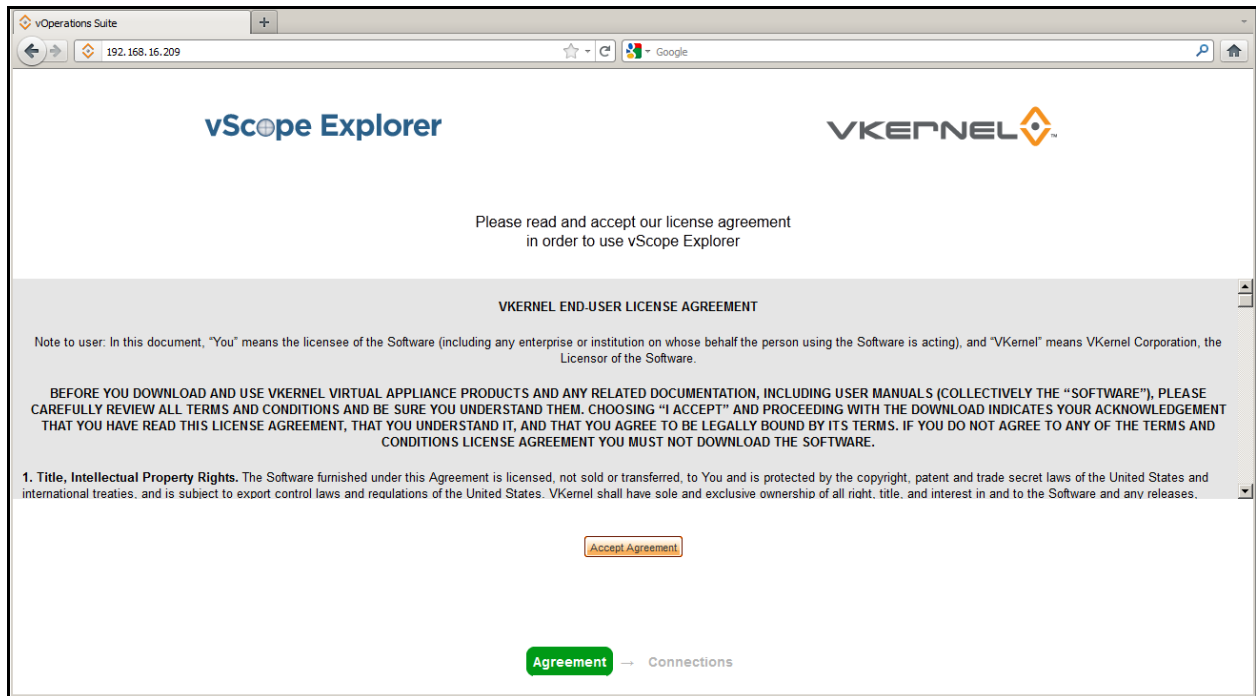
Once that is completed, you can access the vSphere Explorer using the IP address and a standard browser.

3 Initial vScope Explorer Configuration

To begin using the vScope Explorer, open a standard browser (Mozilla Firefox or Microsoft Internet Explorer with Adobe Flash 10 or later) and type in the IP address of the vScope Explorer virtual machine.

3.1 License Agreement

Read and accept the license agreement in order to use vScope Explorer.

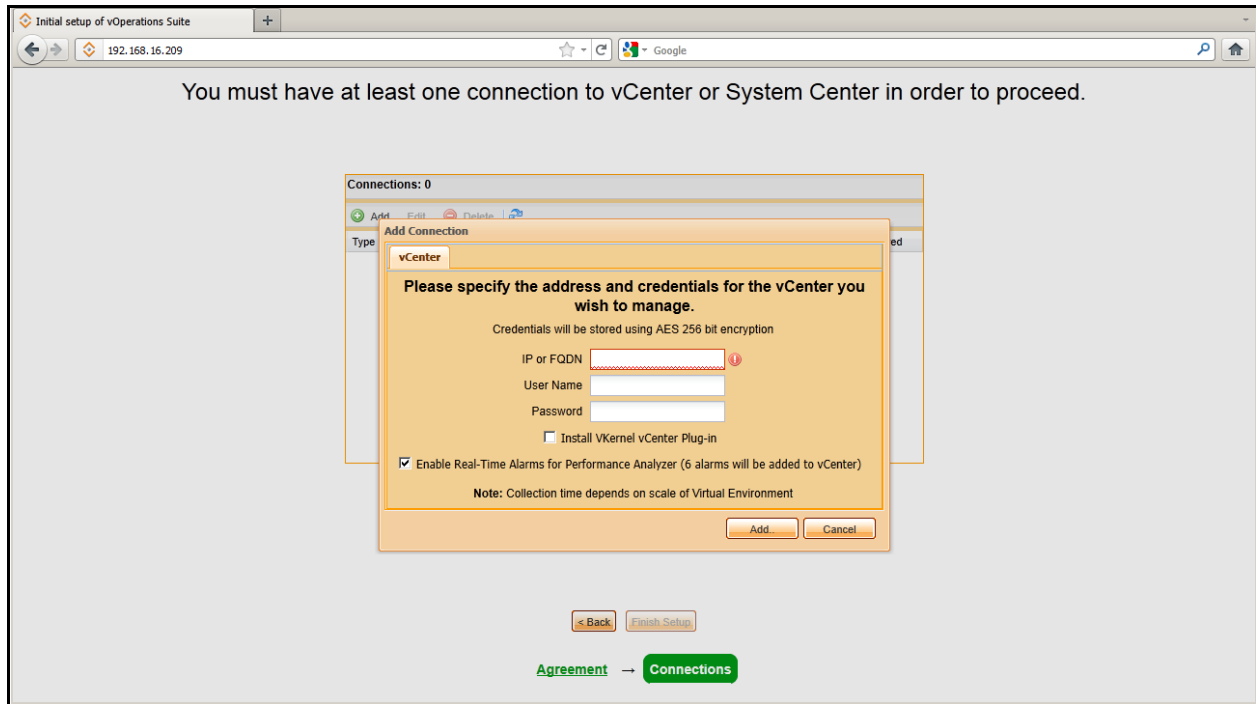


3.2 Connection Management

The environment connection screen will appear and the add connection configuration prompt will open. You must have at least one VMware vCenter to complete the configuration.

3.2.1 VMware vCenter Connections

The Add Connection dialog is opened for you.

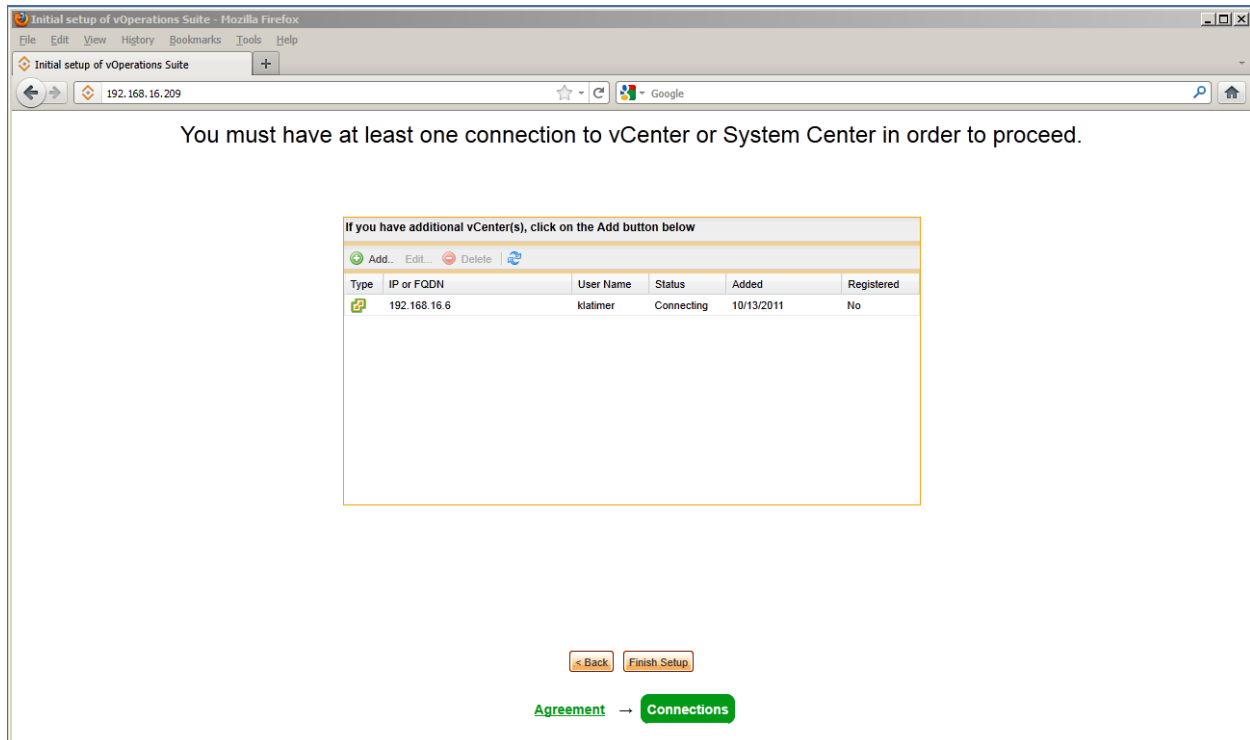


Enter the IP address or hostname and credentials for the system. For vCenter connections, credentials should have Read-Only and Browse Datastore permissions for the entire environment. The credentials used for the vCenter where the vScope Explorer appliance is installed must also have Virtual Machine State permissions in order for the appliance to be automatically updated.

vScope Explorer can be accessed and used from within vCenter using a VKernel plug-in. Check the Install VKernel vCenter Plug-in if you would like the VKernel plug-in installed in vCenter. If the virtual infrastructure client is open at this time, it will need to be closed and reopened in order to see the VKernel plug-in.

The vScope Explorer Performance Analyzer uses vCenter alarms for real time monitoring of the state of the virtual environment. *Six specific VKernel utilization alarms must be installed in vCenter in order to provide the real time functionality. The vCenter credentials must have Alarm permissions in order to create the alarms. Leave the Add VKernel Alarms to vCenter box checked if you want to use the real time analysis capability of Performance Analyzer. Uncheck the box if you do not want the capability. If you leave the box checked, the alarms will be automatically installed.*

Once a connection is established, the overall configuration can be completed.

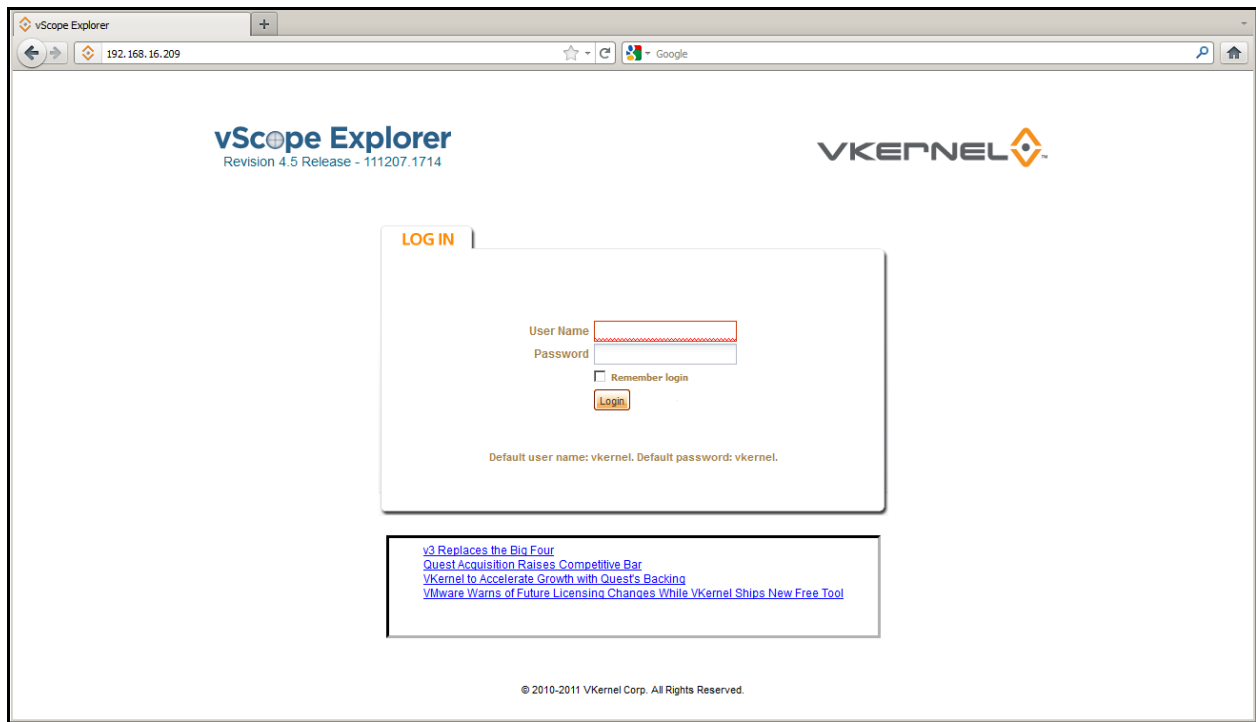


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Click on the **Finish Setup** button. The vScope Explorer login view will be opened.

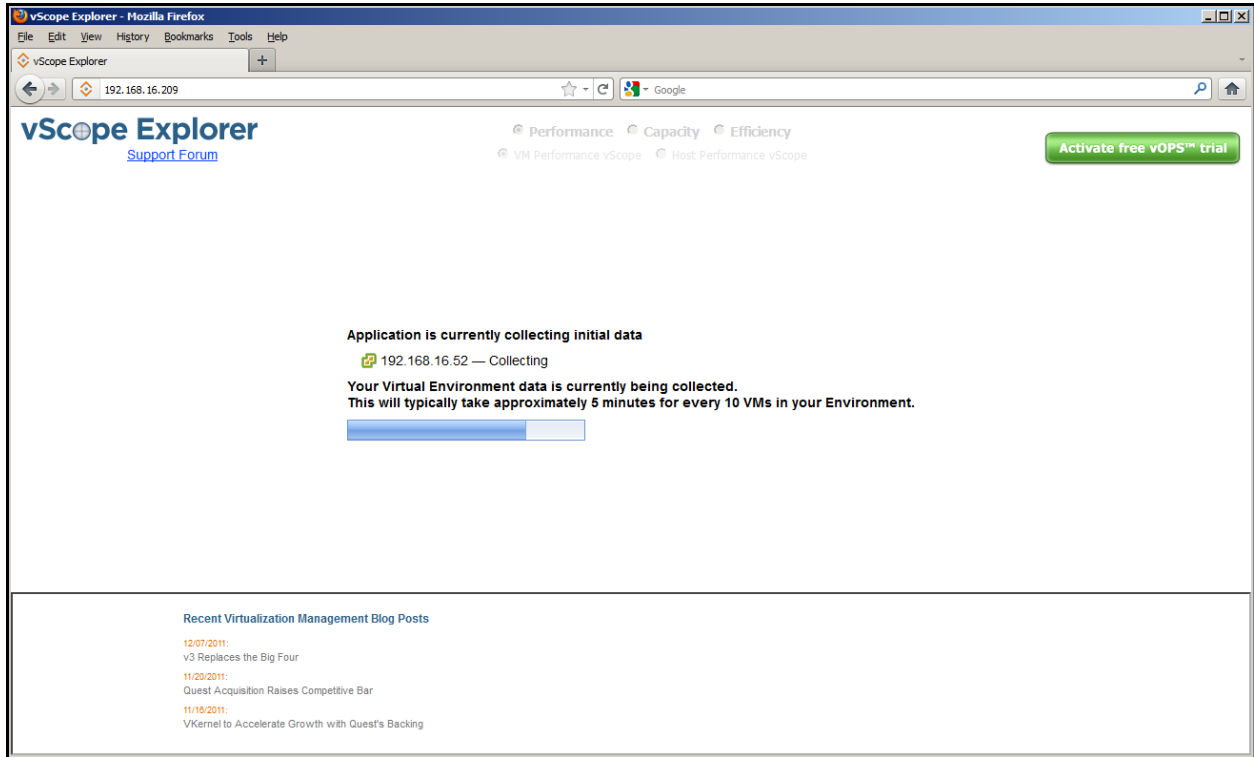
4 vScope Explorer Login

To begin using the vScope Explorer, open a standard browser (Mozilla Firefox or Microsoft Internet Explorer with Adobe Flash 10 or later) and type in the IP address of the vScope Explorer virtual machine. Once the website loads, a username and password is requested.



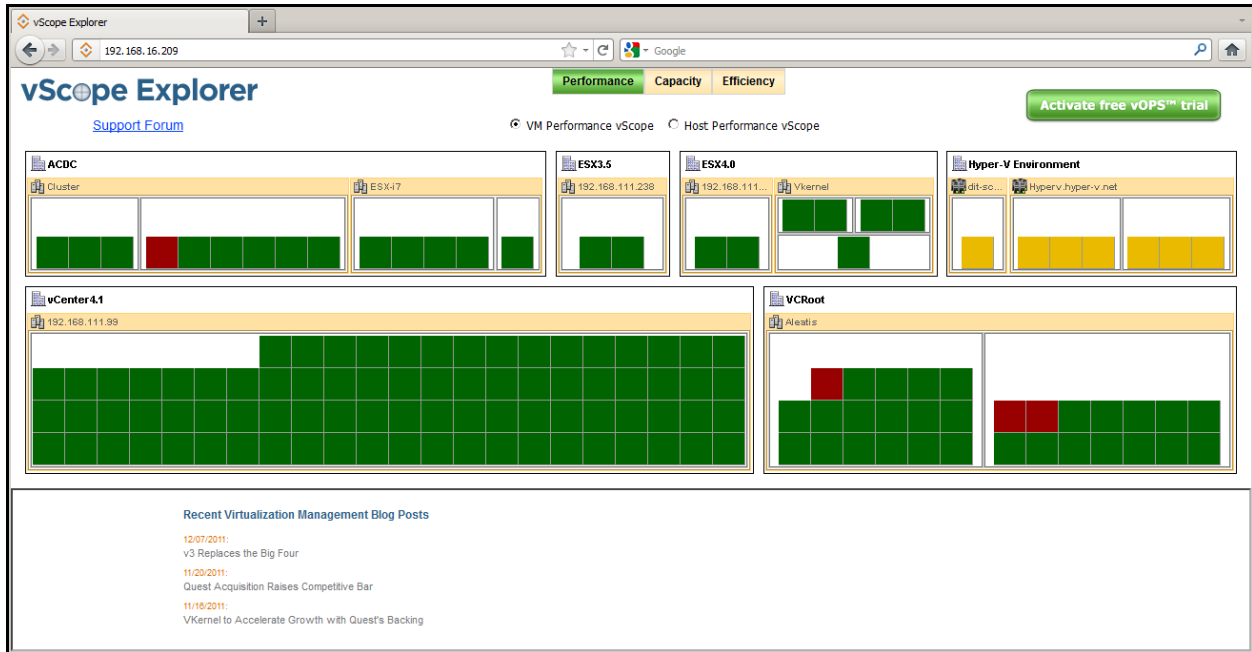
The default username is **vkernel** and the default password is **vkernel**.

If the appliance has recently been configured, it may still be collecting the required virtual environment information. Depending on the size of the virtual environment, this can take anywhere from fifteen minutes to several hours.



5 vScope Explorer Views

vScope Explorer provides an environment-wide, cross-hypervisor visualization of the status of your infrastructure.

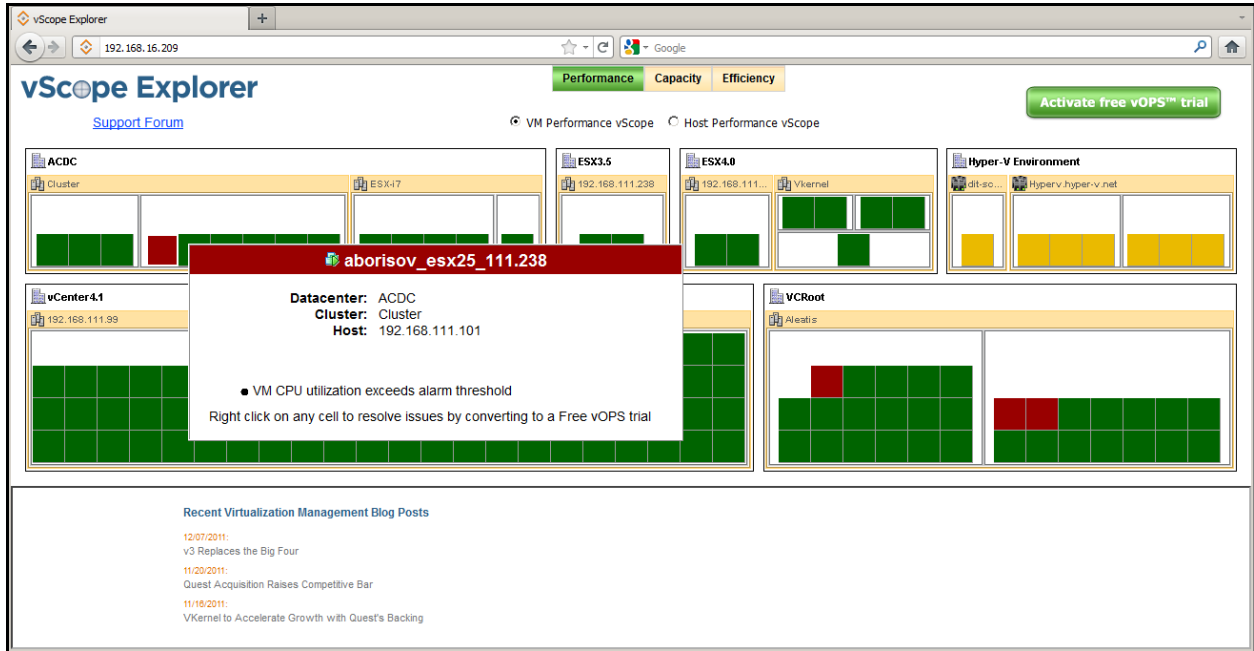


5.1 Performance vScope

The Performance vScope indicates which VMs or hosts are experiencing or are on the verge of experiencing performance problems. Two different views are provided in the form of heat maps, one from a VM-focused perspective and one from a host-focused perspective.

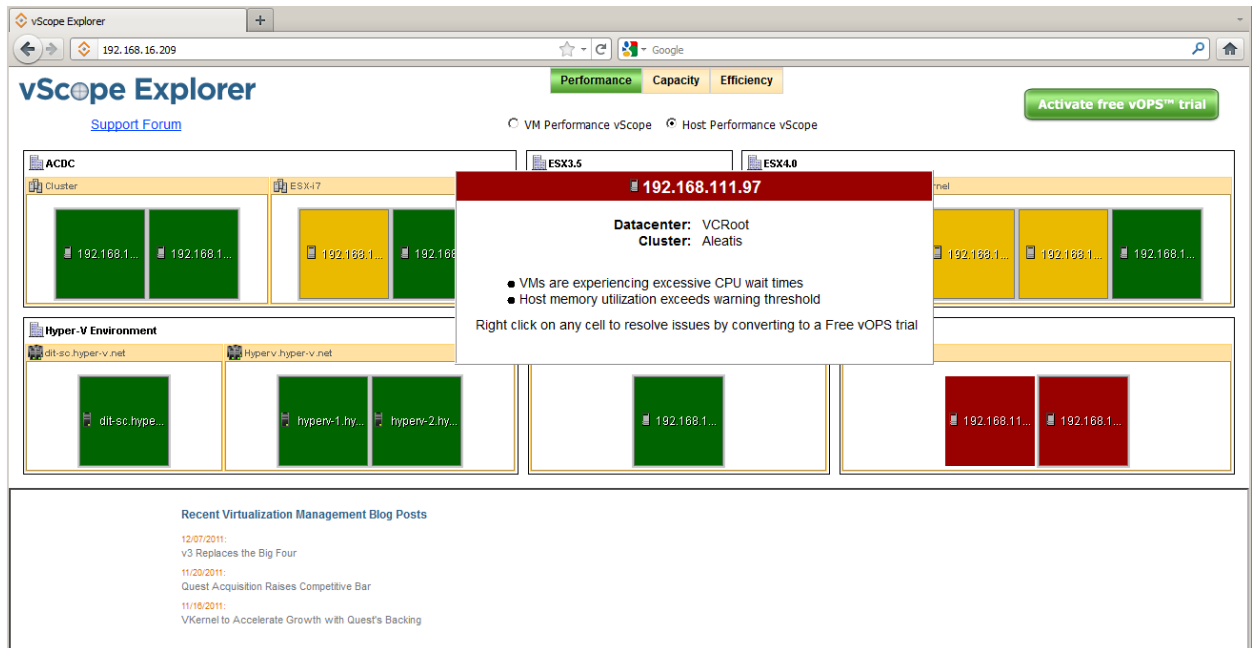
5.1.1 VM Performance View

In the VM Performance view, each colored box represents a single VM, grouped by host, cluster and data center. The color of each VM indicates the severity of identified performance issues. Red indicates serious performance problems, while yellow identifies less serious or imminent performance issues. VMs with no identified issues are green. To see what specific issues are impacting the performance health of the VM, mouse over the VM box and a popup will list the details.



5.1.2 Host Performance View

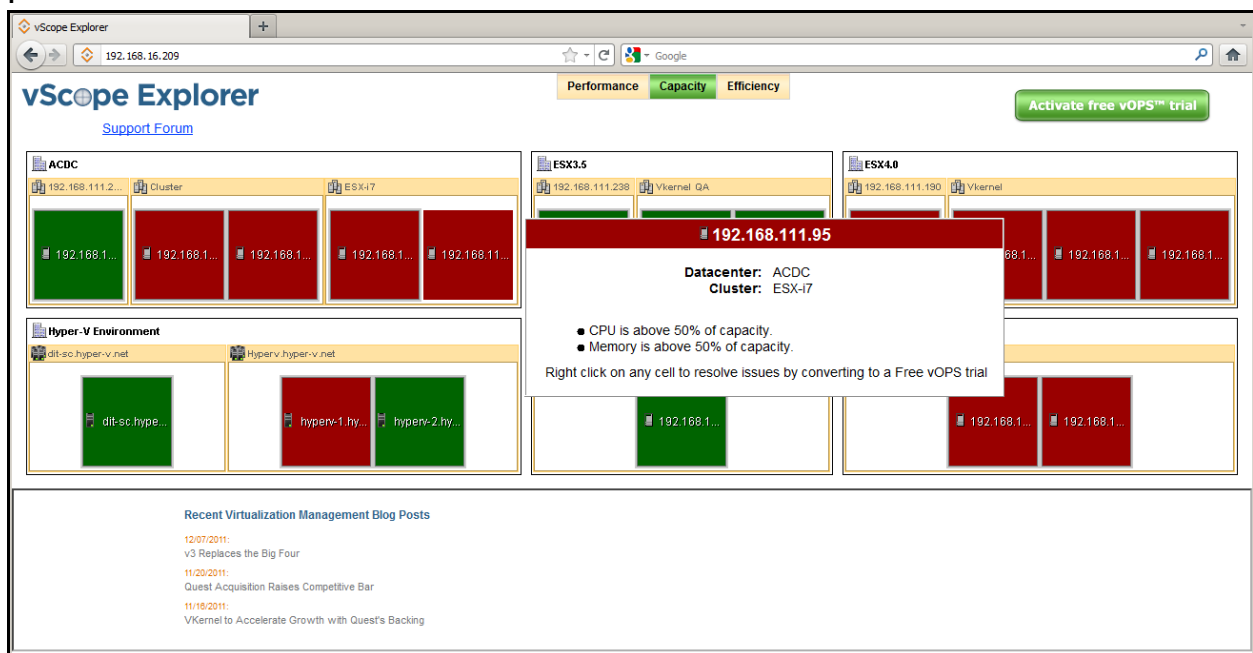
In the Host Performance view, each colored box represents a single host, again grouped by cluster and data center. The colors of the host boxes have the same meaning as those of the VMs. As above, mousing over the host box will display a popup with details.



5.2 Capacity vScope

vScope Explorer provides an environment-wide, cross-hypervisor visualization of the status of your infrastructure. The Capacity vScope indicates the capacity state of all hosts and clusters in the form of a heat map. Each colored box represents a single host, which are further grouped by cluster and data center.

The color of each host indicates its capacity-related health. Hosts with no factors negatively impacting their capacity are green, hosts with some minor factors or future/negatively trending factors are yellow, and hosts with significant factors are red. To see what specific issues that are impacting the capacity health of the host, mouse over the host box and a popup will list the details.



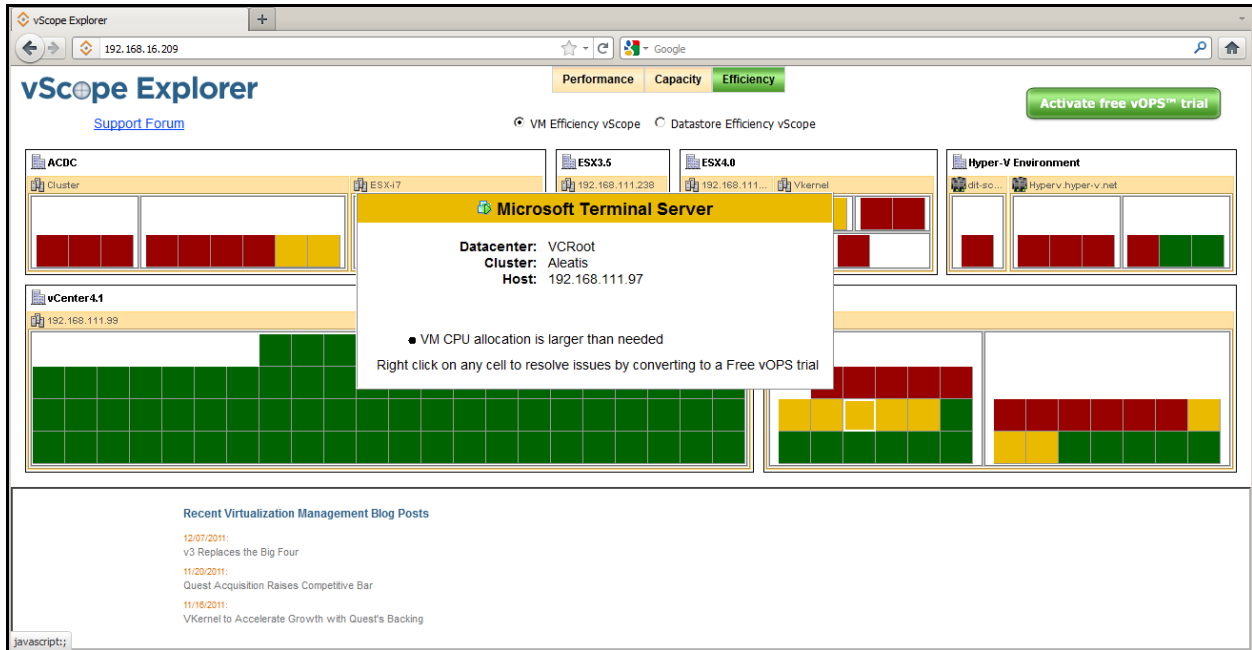
5.3 Efficiency vScope

vScope Explorer provides an environment-wide, cross-hypervisor visualization of the status of your infrastructure. The Efficiency vScope indicates the efficiency of resource allocation or usage from either a VM-focused perspective or a datastore-focused perspective in the form of a heat map.

5.3.1 VM Efficiency View

In the VM Efficiency view, each colored box represents a single VM, grouped by host, cluster and data center. The color of each VM indicates the degree to which it inefficiently uses resources. Severely over-sized VMs are red, moderately over-sized VMs and suspected zombies are yellow, and VMs with no identified issues are green. To see what specific issues are impacting the efficiency health of the VM, mouse over

the VM box and a popup will list the details.



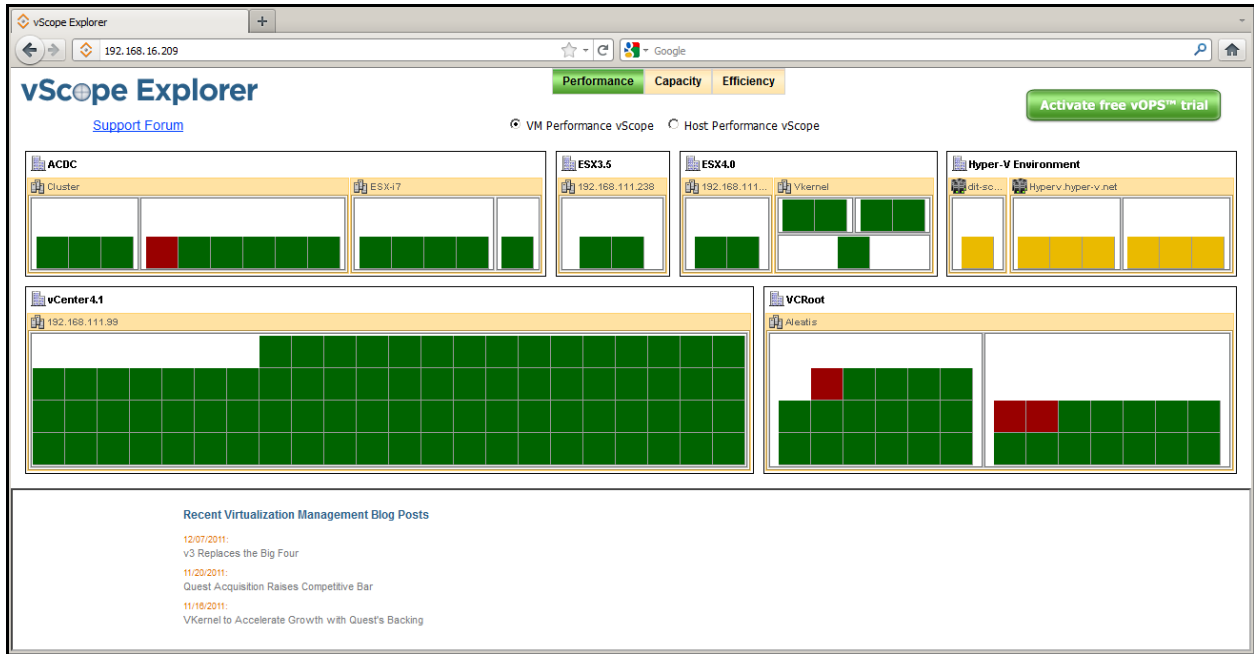
5.3.2 Datastore Efficiency View

In the Datastore Efficiency view, each colored box represents a single datastore, grouped by hypervisor environment. The color of each datastore indicates the extent of wasted storage identified, where red mean very extensive waste, yellow is moderate waste, and green identifies datastores with little or no wasted storage. As above, mousing over the datastore box will display a popup with details.

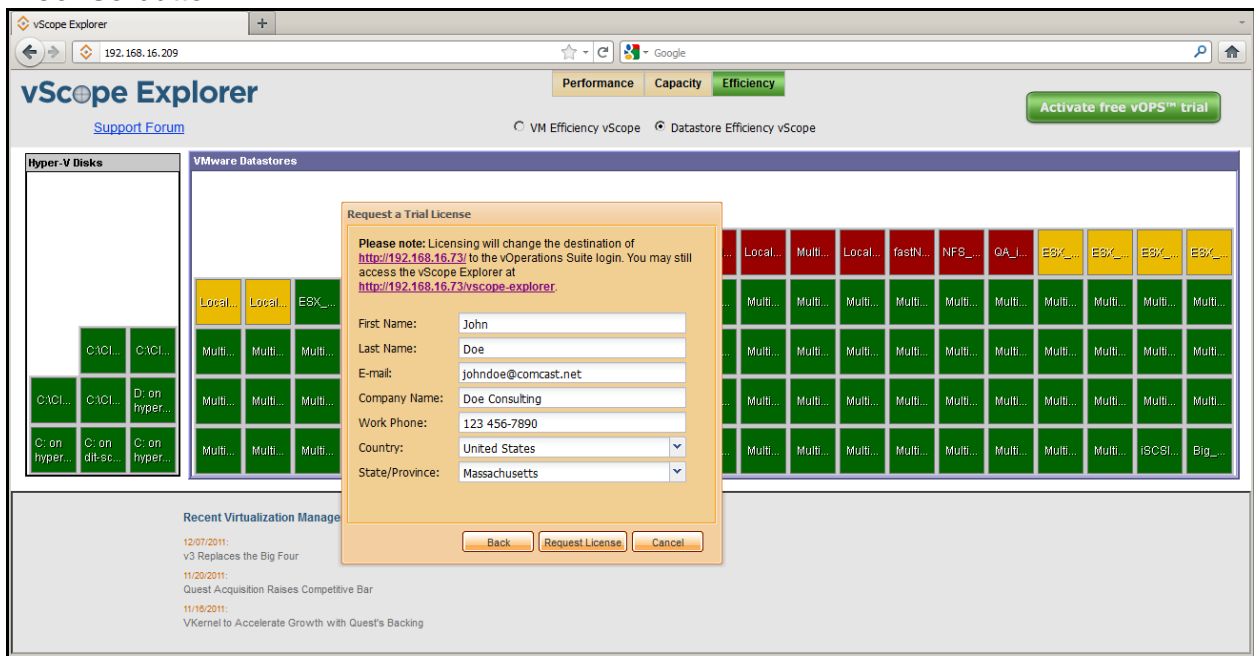
The screenshot displays the vScope Explorer web interface. At the top, there is a browser address bar showing '192.168.16.209' and a search bar with 'Google'. The main header includes the 'vScope Explorer' logo, a 'Support Forum' link, and navigation tabs for 'Performance', 'Capacity', and 'Efficiency'. A green button for 'Activate free vOPS™ trial' is visible on the right. Below the header, the interface is divided into two main sections: 'Hyper-V Disks' on the left and 'VMware Datastores' on the right. The 'VMware Datastores' section features a grid of storage usage cells. A tooltip for 'MultiSCSI-021' is overlaid on the grid, displaying the message: 'Environment: VMware Datastores' and 'There seems to be significant wasted space on this datastore. Right click on any cell to resolve issues by converting to a Free vOPS trial'. Below the grid, there is a section titled 'Recent Virtualization Management Blog Posts' with several entries dated from 2011.

6 Trialing the vOperations Suite

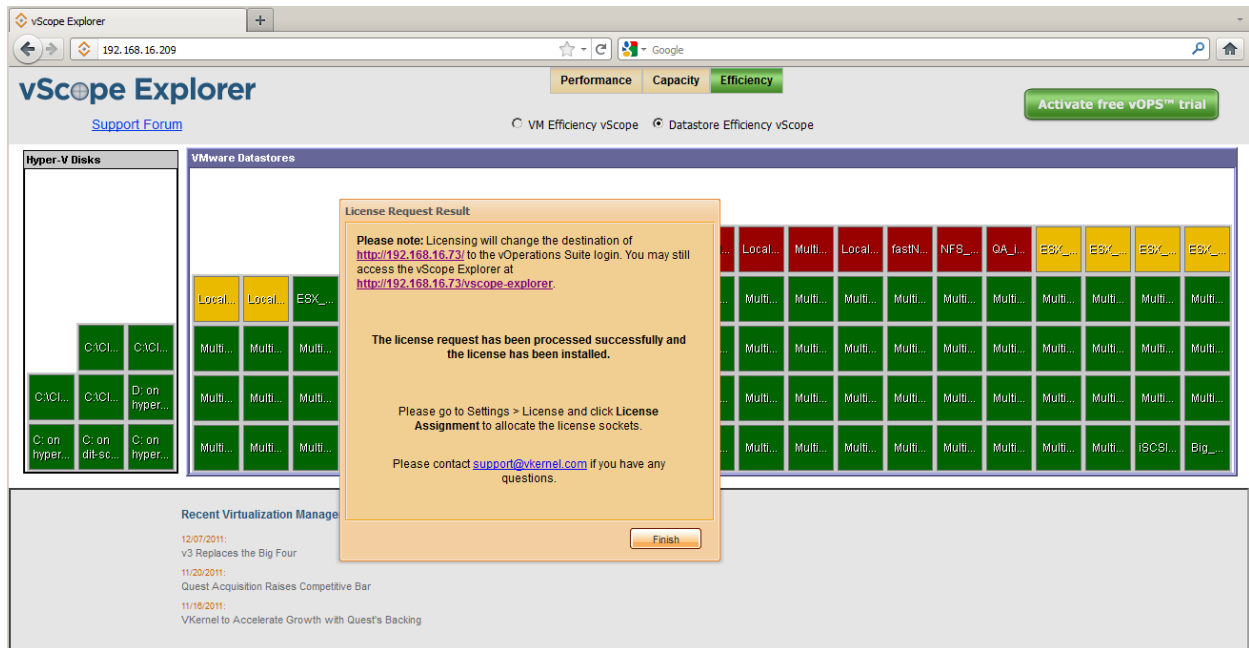
A 30 day free trial of the complete vOperations Suite is readily available. Simply click on the “**Activate free vOPS Trial**” link at the top of the view.



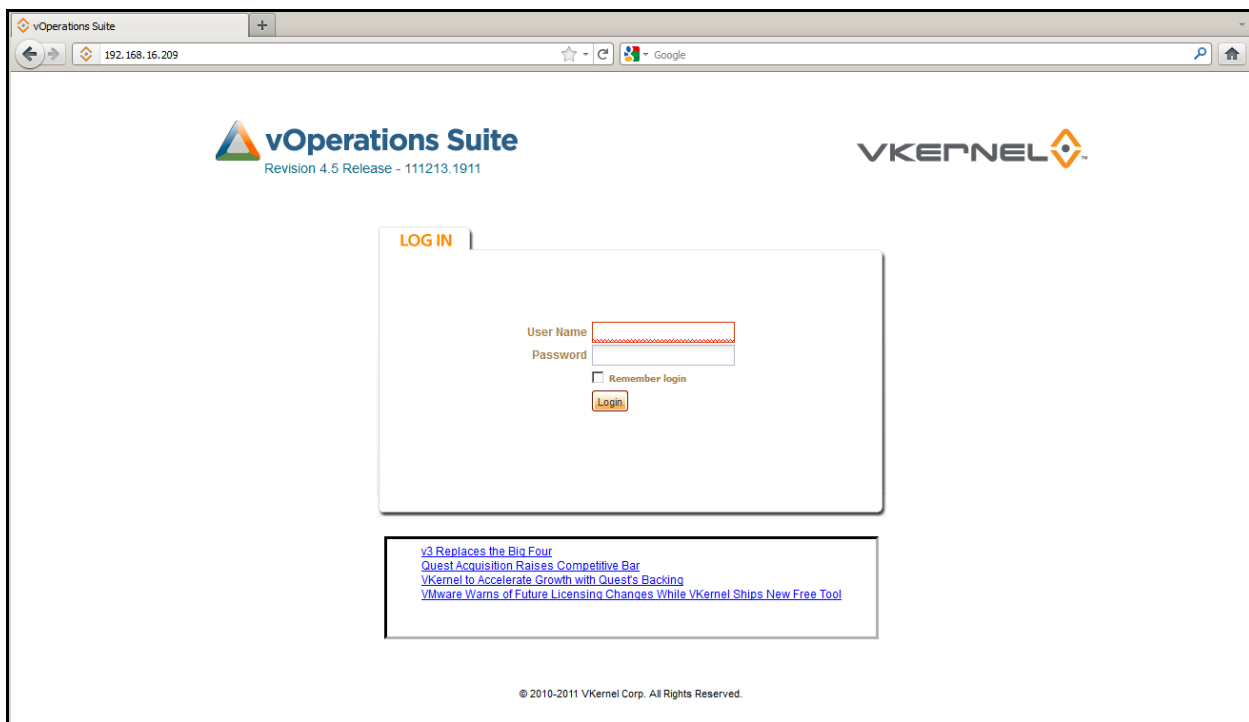
A License request dialog will open. Please fill out all fields and click the **Request License** button.



Your trial license will be immediately processed and installed.



Clicking the **Finish** button after the installation will take you to the vOperations Suite login.



Enter **vkernel** for the User Name and **vkernel** for the Password and proceed with your evaluation of the complete vOperations Suite.