



# High Availability VMs in vWorkspace

A step-by-step guide to the deployment of highly available VMs in vWorkspace

Dell Cloud Client-Computing  
August 2015

## Revisions

Date	Description
August 2015	Initial release v.8.6

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## Objective

The purpose of this guide is to provide you with detailed, step by step instructions of the process used to deploy VMs in a vWorkspace 8.6 environment configured for high availability (HA).

## Audience

This document is intended for VDI administrators and technical personnel with moderate to advanced knowledge of vWorkspace, Windows Server clusters, VDI administration and a broad IT skill set. It is also assumed that advanced Windows operating system knowledge is possessed by the reader.

## Configuration Prerequisites

The following list of items must be in place before proceeding:

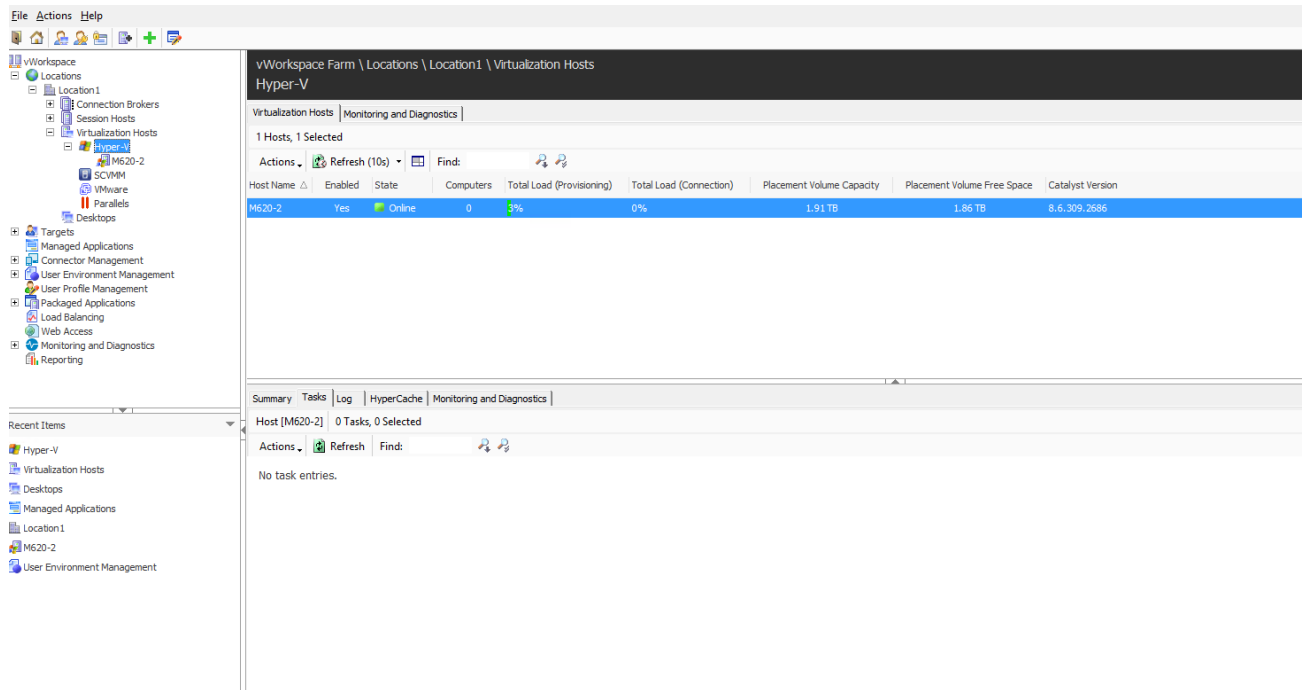
- vWorkspace installed and operational
- Windows Server cluster in place and operational
- Compute nodes in cluster
- Master “gold VM image” created for VM deployment



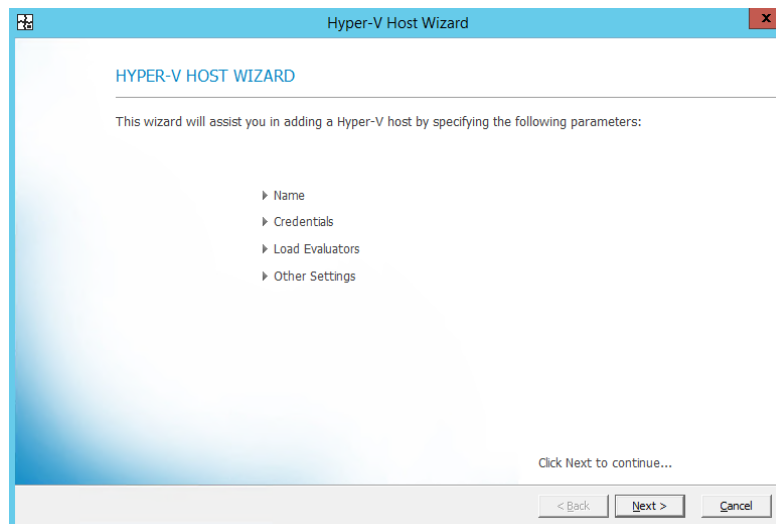
# 1 Adding a virtualization host to vWorkspace

From the connection broker VM:

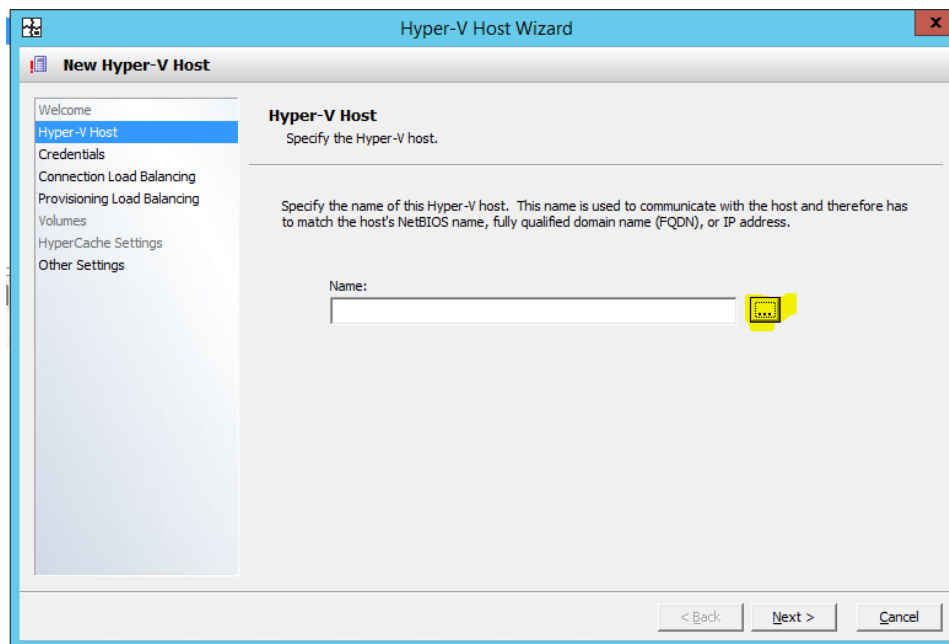
1. Launch the vWorkspace Management Console.
2. Navigate to and expand "Virtualization Hosts".
3. Right click "Hyper-V" and select "add host".



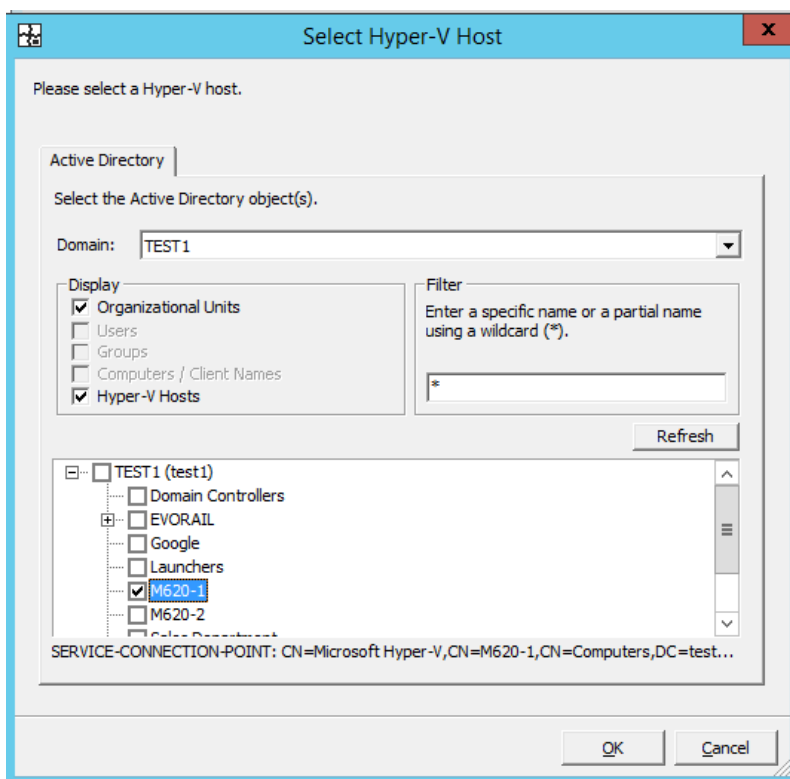
4. Click "next".



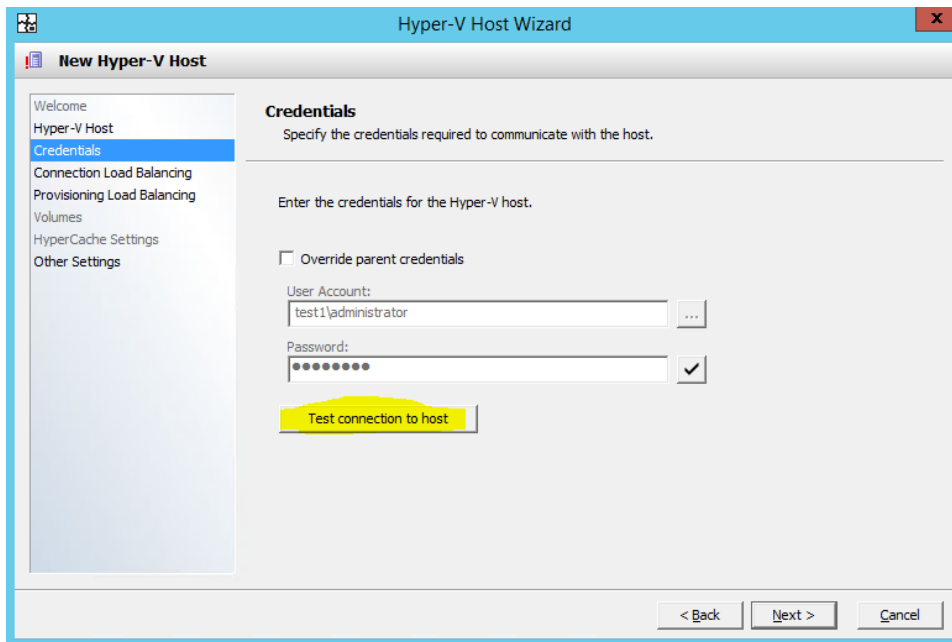
5. Click the ellipsis and browse the Active Directory for the host to be added.



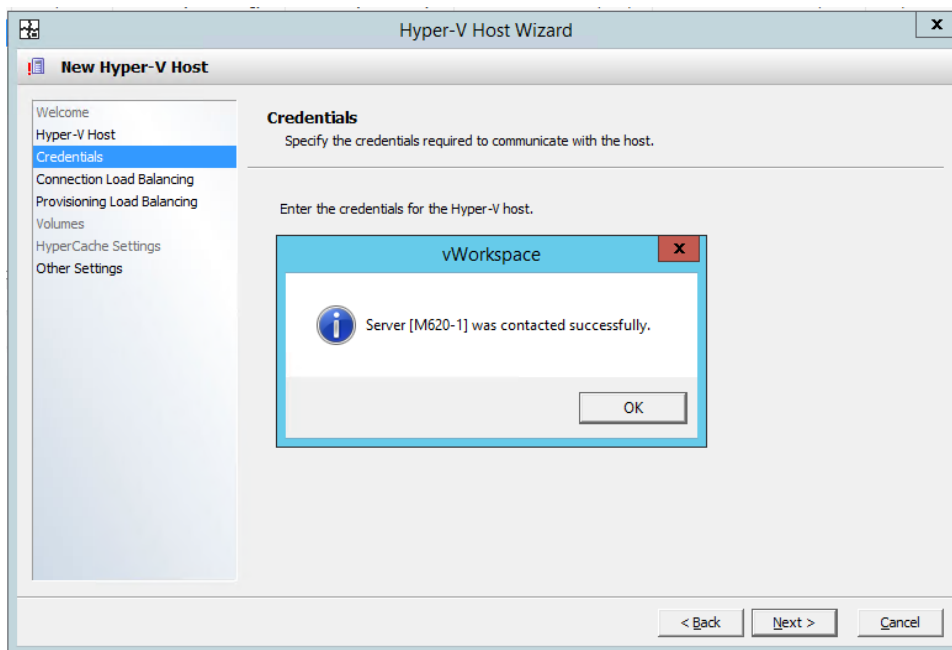
6. Select the host that is to be added and click "OK". May need to select the domain and refresh.



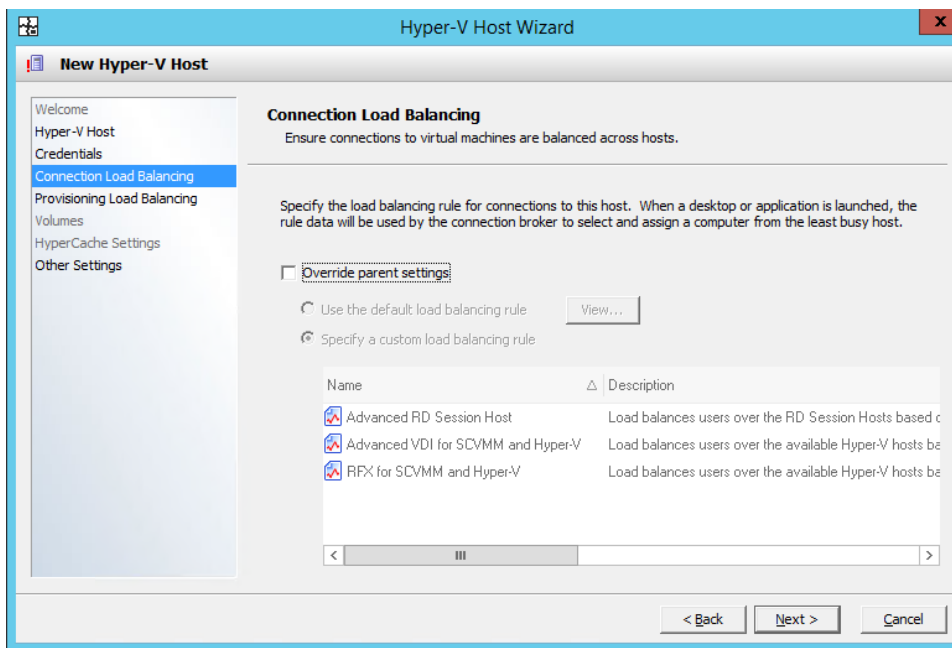
7. Provide domain admin credentials and click "Next".



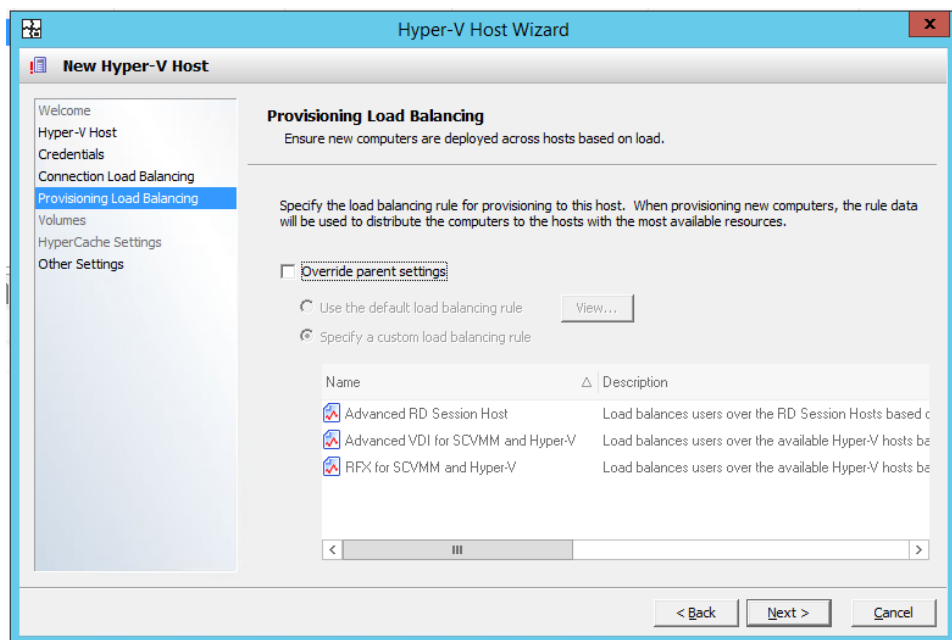
8. Click "OK".



9. Click "Next".

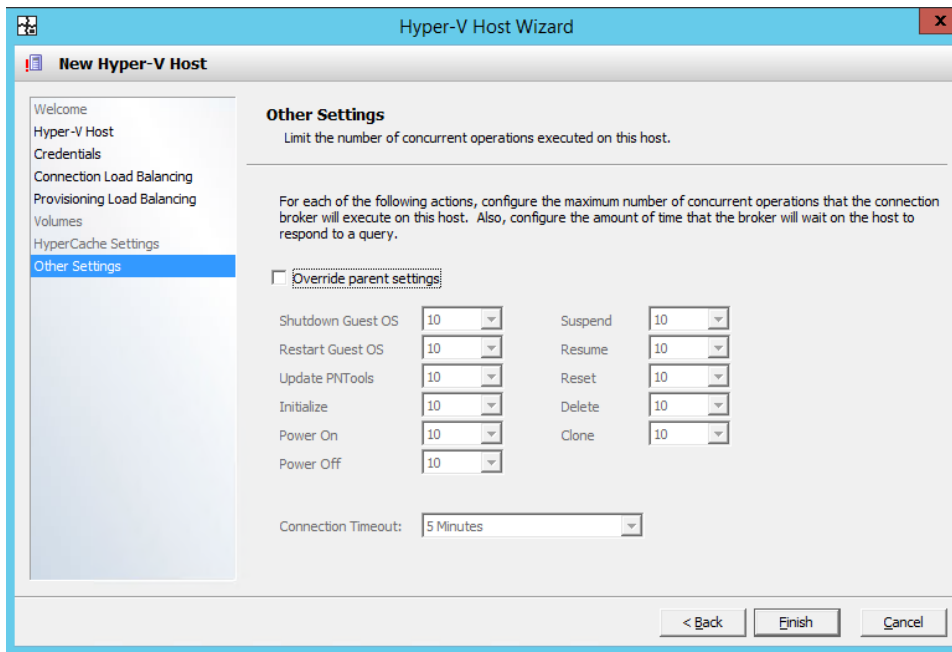


10. Click "Next".



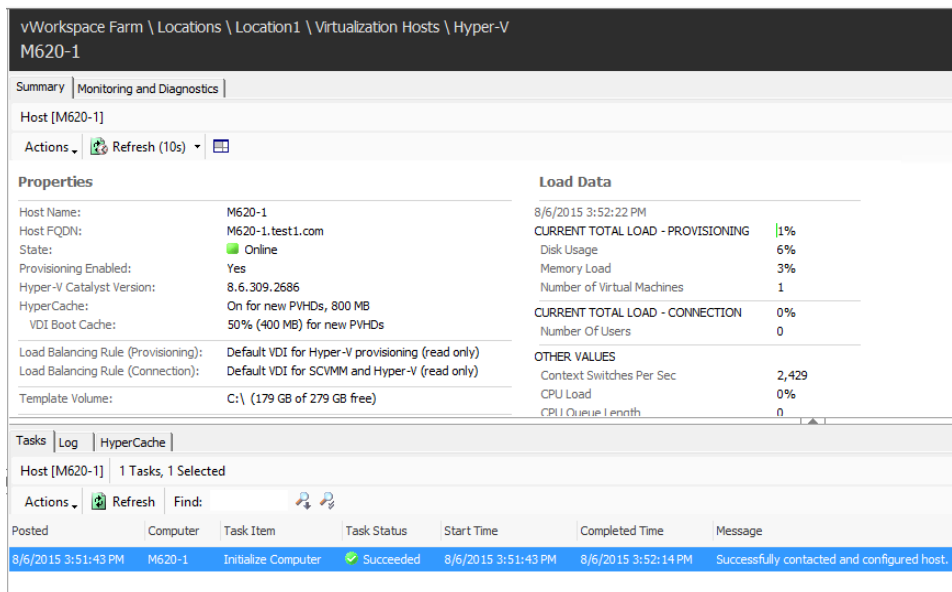


11. Click "Finish".



12. Click "Finish".

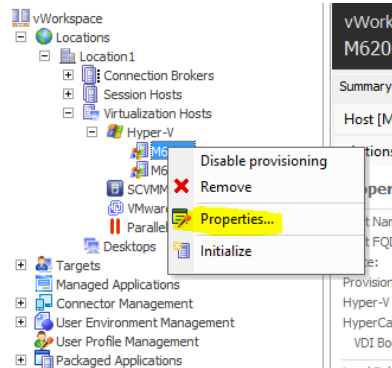
13. Verify that the host initialization completed successfully and shows to be online in the vWorkspace Management Console.



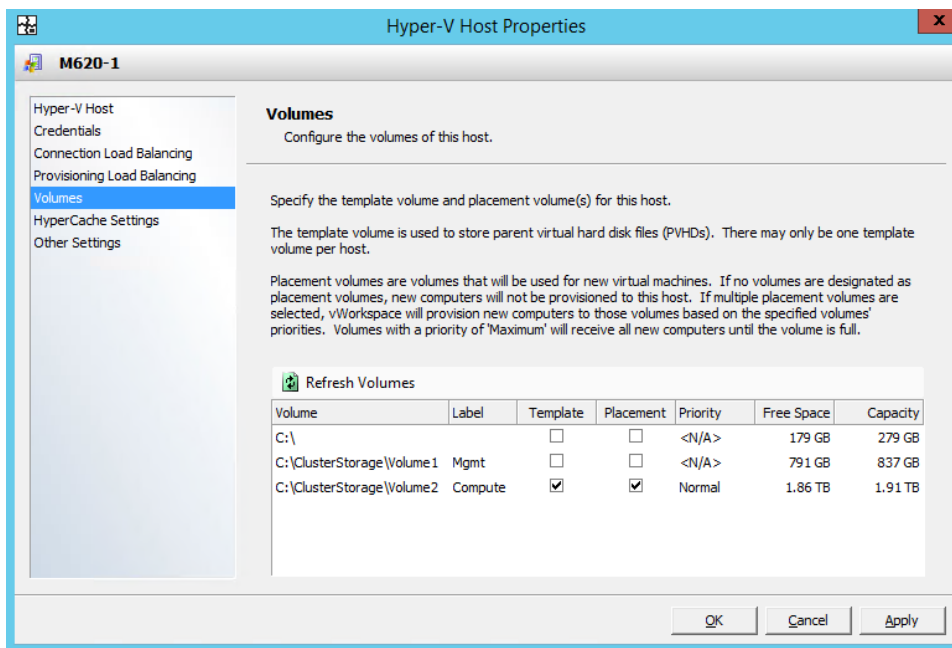
## 2 Virtual machine storage volume selection

From the vWorkspace Management Console:

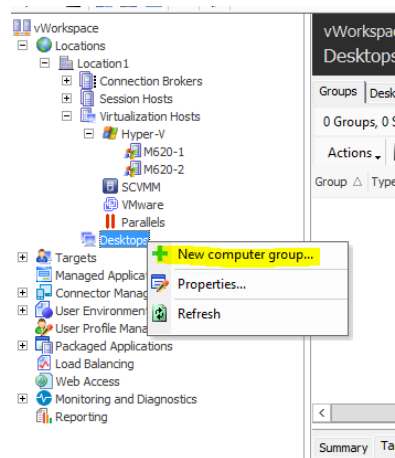
1. Right click on the host that was added in the previous section and select "Properties..."



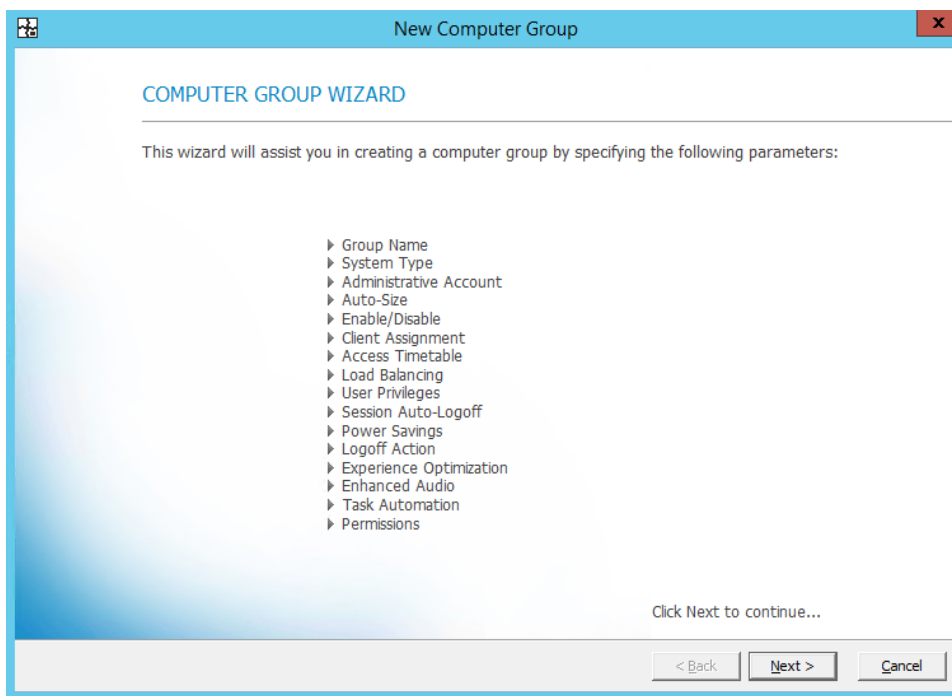
2. Select "Volumes" and check the boxes where you want the VMs to be stored (shared storage) then click "Apply" and "OK".



3. In the vWorkspace Management Console, right click on “Desktops” and select “New computer group...”



4. Click “Next”.



5. Assign a group name and click "Next".

The screenshot shows the 'New Computer Group' wizard window. The left sidebar contains a list of steps: Welcome, Group Name (selected), System Type, Group Mode, Datacenter, Administrative Account, Auto-Size, Provisioning Settings, Enable/Disable, Client Assignment, Access Timetable, Load Balancing, User Privileges, Session Auto-Logoff, Power Savings, Logoff Action, Experience Optimization, Enhanced Audio, Task Automation, Permissions, and Finish. The main area is titled 'Group Name' and contains the instruction 'Specify the name for this Computer Group.' Below this is a text box labeled 'Group Name:' with a cursor inside. At the bottom right are buttons for '< Back', 'Next >', and 'Cancel'.

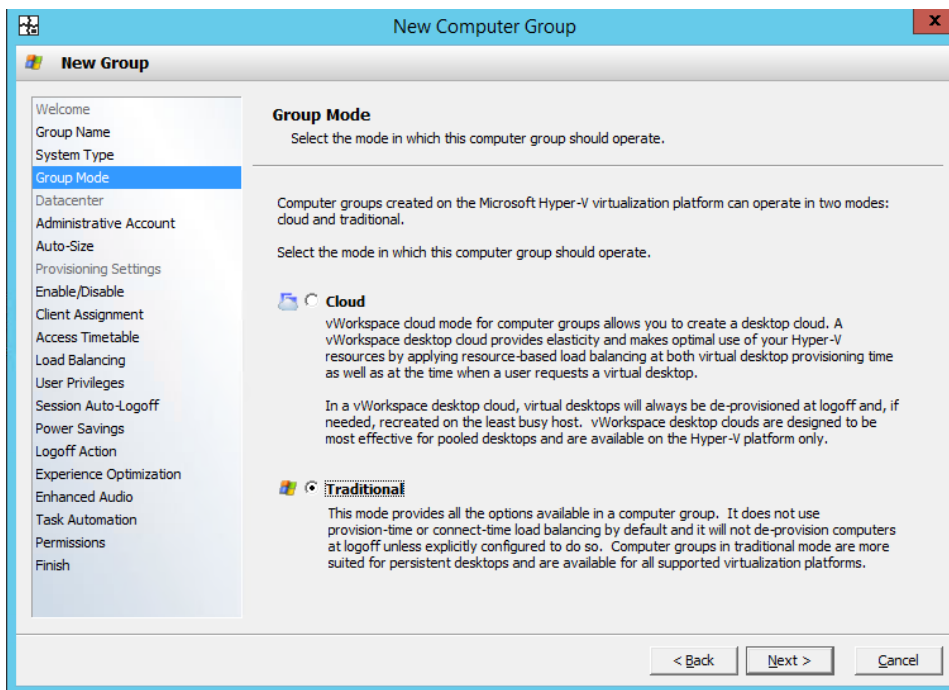
6. Select "Hyper-V" and click "Next".

The screenshot shows the 'New Computer Group' wizard window at the 'System Type' step. The left sidebar is the same as in the previous step, but 'System Type' is now selected. The main area is titled 'System Type' and contains the instruction 'Select the system type for the computers in this group.' Below this is a section labeled 'System Type' with a list of options, each with a checkbox and an icon: 

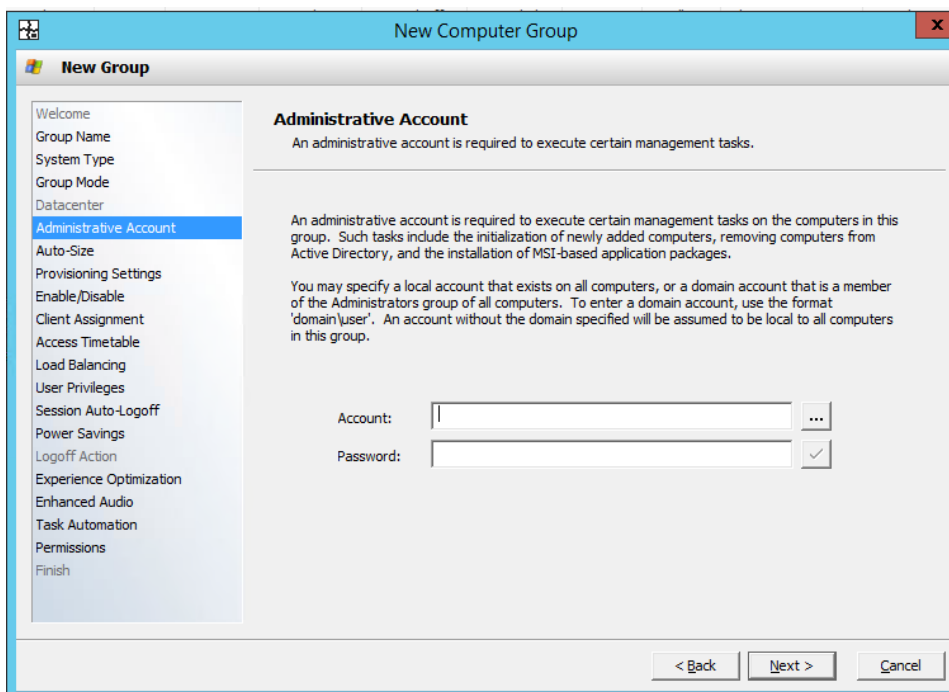
- ☒ Microsoft Hyper-V (with a Windows logo icon)
- ☐ Microsoft SCVMM (with a server rack icon)
- ☐ VMware vCenter Server (with a VMware logo icon)
- ☐ Parallels Virtuozzo (with a Parallels logo icon)
- ☐ Other/Physical (with a server rack icon)

At the bottom right are buttons for '< Back', 'Next >', and 'Cancel'.

7. Select "Cloud" and click "Next". (Cloud group mode is a non-persistent VM mode).



8. Provide domain admin credentials and click "Next".



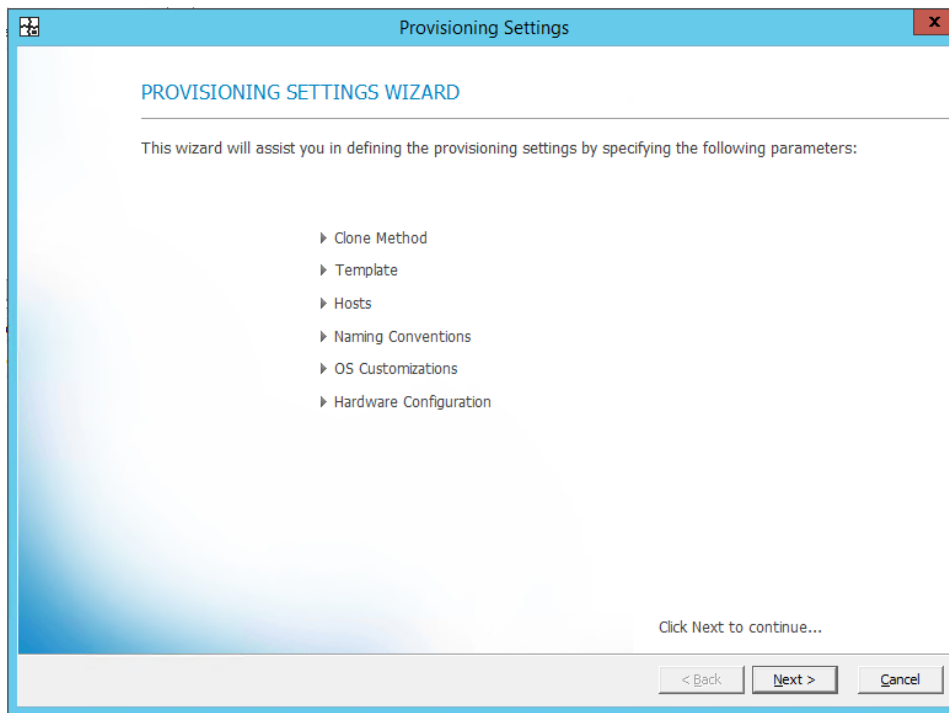
9. Define the number of VMs to be created.

The screenshot shows the 'New Computer Group' wizard with the 'Auto-Size' tab selected. The left sidebar lists various configuration steps, with 'Auto-Size' highlighted. The main area is titled 'Auto-Size' and contains the following text: 'Automatically expand this group to accommodate a growing number of users.' Below this, a paragraph explains that auto-size allows adjusting the number of computers based on user demand. A button labeled 'Global auto-size settings...' is present. Further down, there are three sections for specifying computer counts: 'Minimum number of computers' (set to 5), 'Demand buffer computers' (set to 5), and 'Maximum number of computers' (set to 4). At the bottom are '< Back', 'Next >', and 'Cancel' buttons.

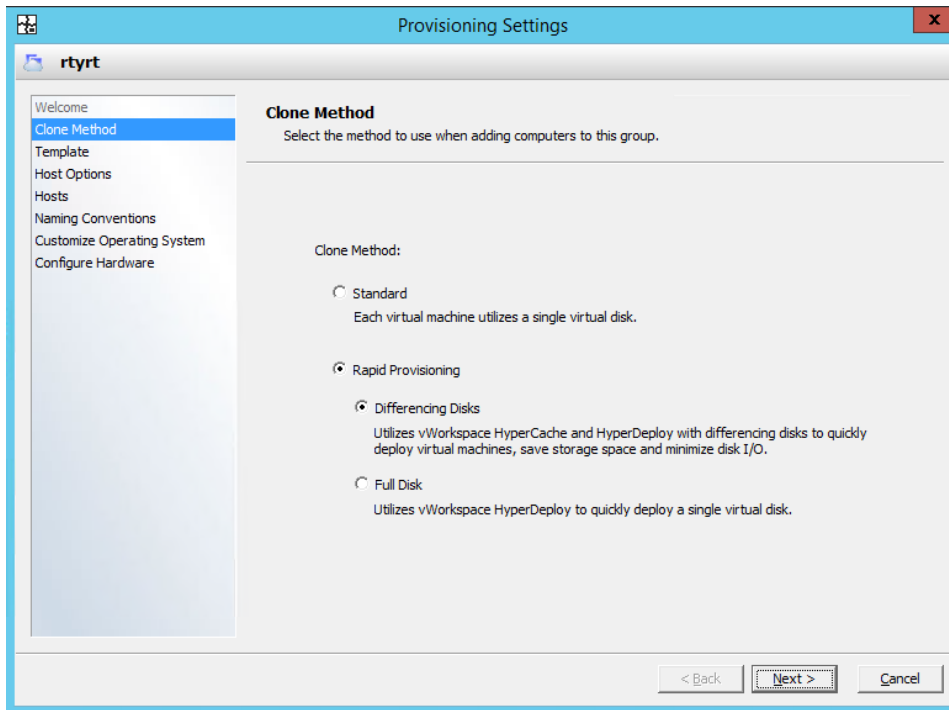
10. Click the "Edit..." button.

The screenshot shows the 'New Computer Group' wizard with the 'Provisioning Settings' tab selected. The left sidebar shows 'Provisioning Settings' highlighted. The main area is titled 'Provisioning Settings' and contains the text: 'Specify the provisioning settings.' Below this, a paragraph says 'Click Edit to specify the provisioning settings for this computer group.' A yellow 'Edit...' button is visible. At the bottom are '< Back', 'Next >', and 'Cancel' buttons.

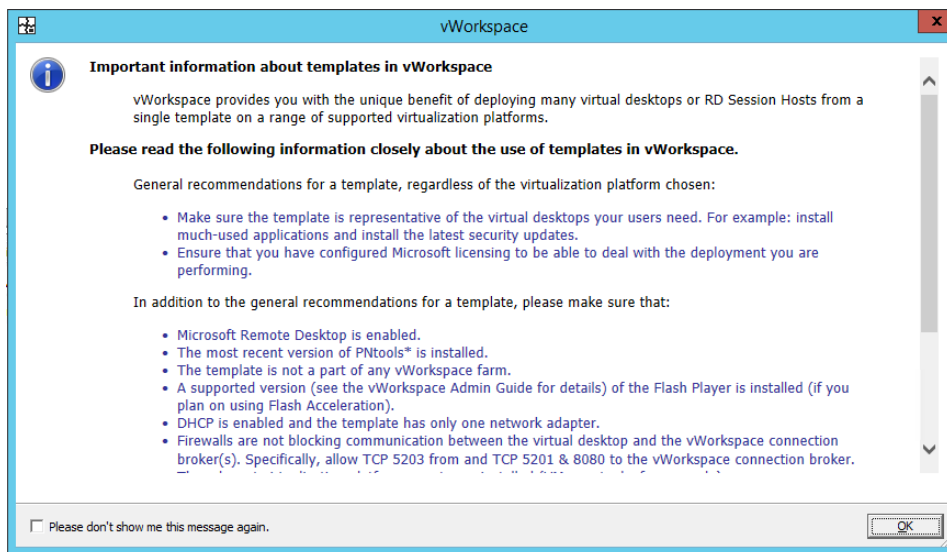
11. Click "Next".



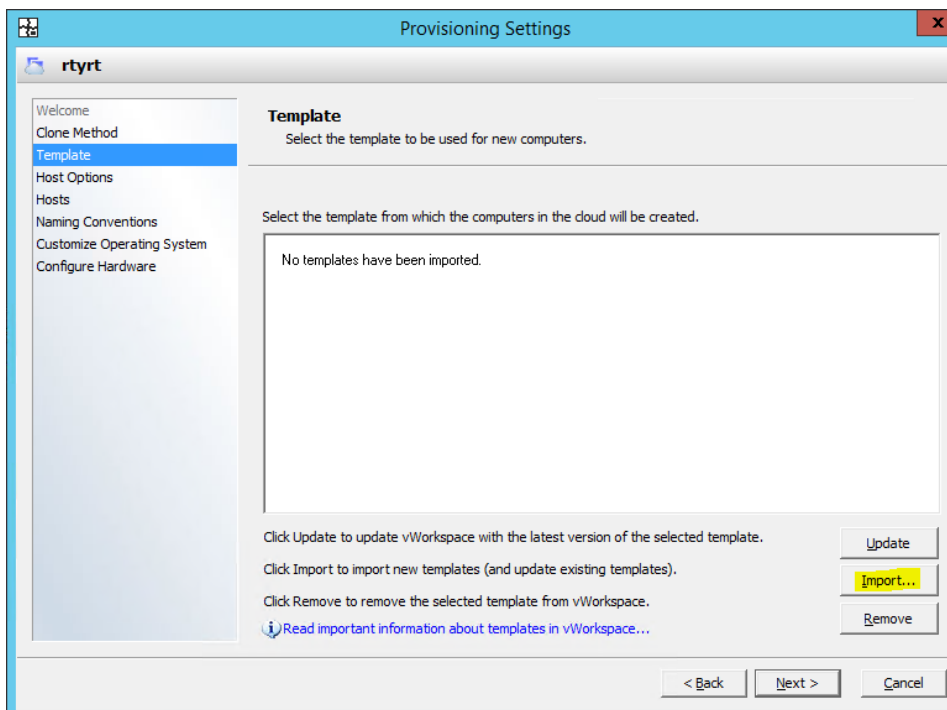
12. Select a clone method and click "Next".



13. If an informational window pops open, click "OK".

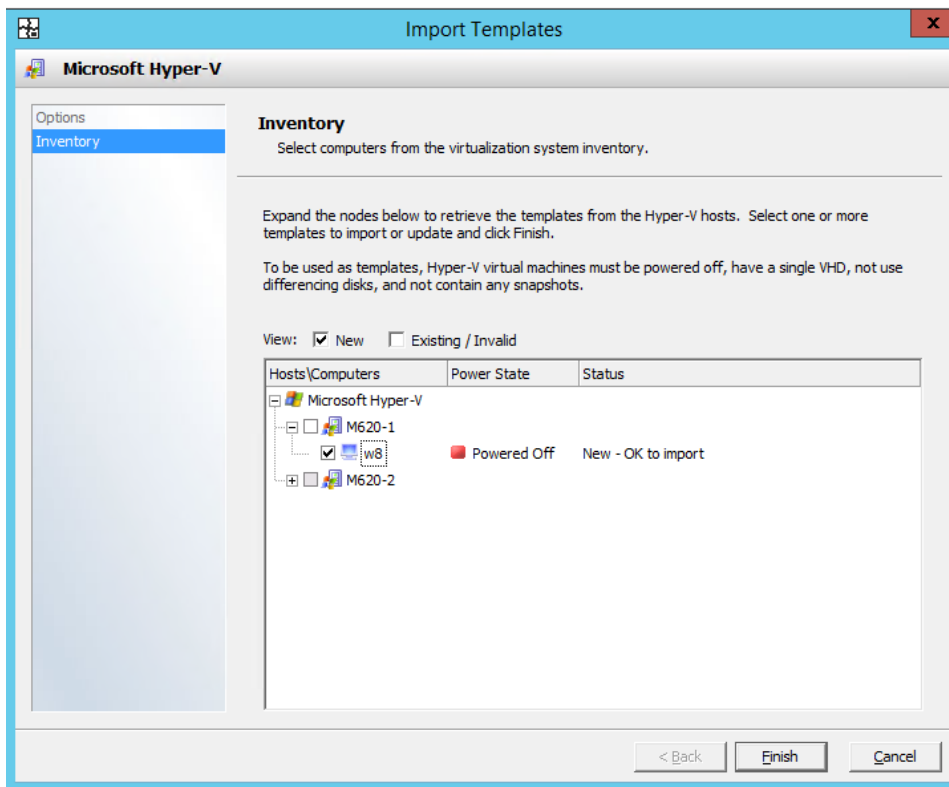


14. Click "Import..."

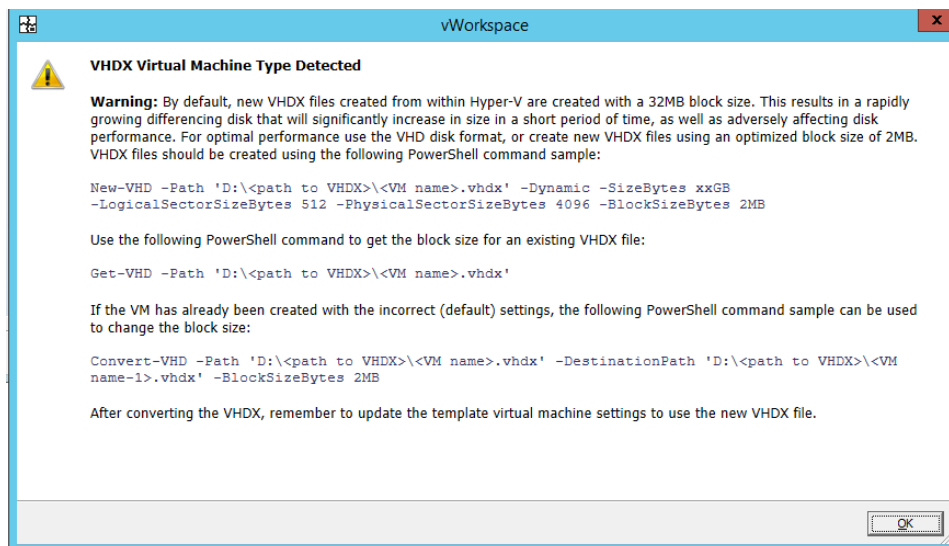




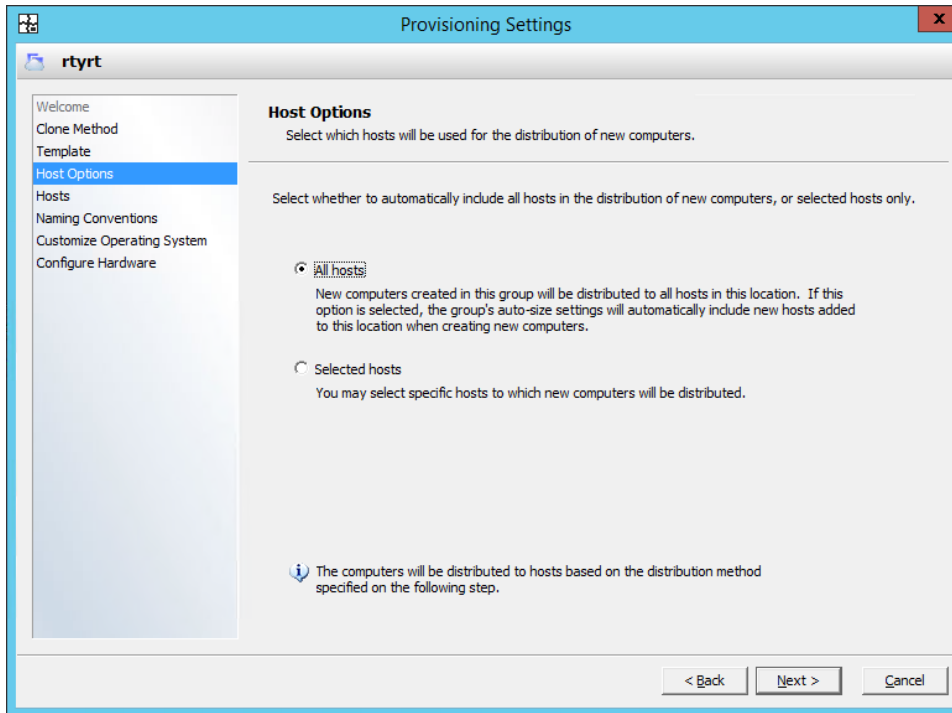
15. Select the location of the master VM image and click "Finish".



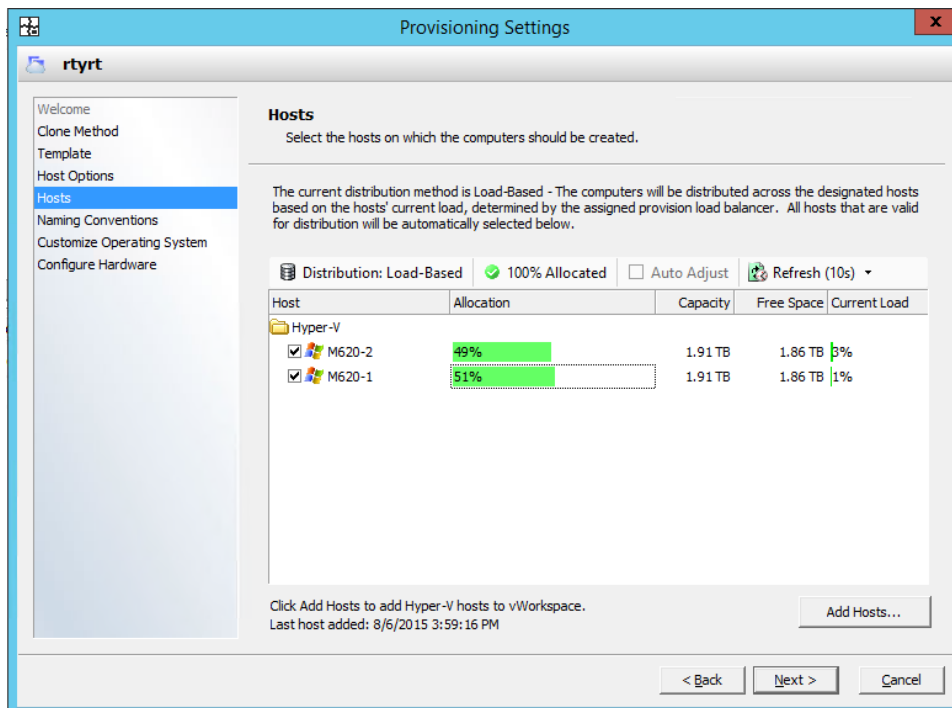
16. If an informational window pops open, click "OK".



17. Select "All hosts" and click "Next".



18. Confirm host selections and click "Next".



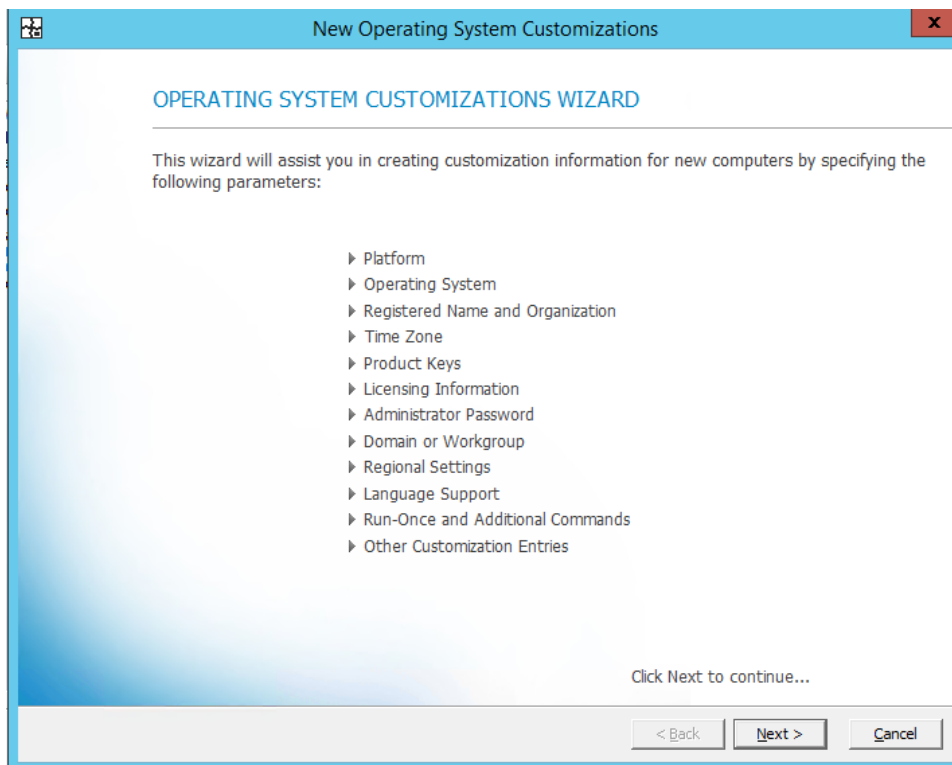
19. Specify the naming convention and click “Next”.

The screenshot shows the 'Provisioning Settings' dialog box with the 'Naming Conventions' tab selected. The left sidebar contains a list of options: Welcome, Clone Method, Template, Host Options, Hosts, Naming Conventions (highlighted), Customize Operating System, and Configure Hardware. The main area is titled 'Naming Conventions' and contains the following text: 'Specify the naming convention to use for generating new computer names.' Below this, there are two radio buttons for 'Name source': 'Specify the base name' (selected) and 'Specify a text file containing names'. A paragraph explains that question marks (?) are placeholders for numeric values, which will be replaced by increasing values. An example shows that the name 'WIN7-???' will create computers named 'WIN7-0001', 'WIN7-0002', etc. There are three input fields: 'Base Name' with the text 'Desktops-??', 'Start values at:' with the value '1', and 'Increment values by:' with a dropdown menu set to '1'. A checkbox labeled 'Re-use the names of deleted computers' is checked. At the bottom, there are three buttons: '< Back', 'Next >', and 'Cancel'.

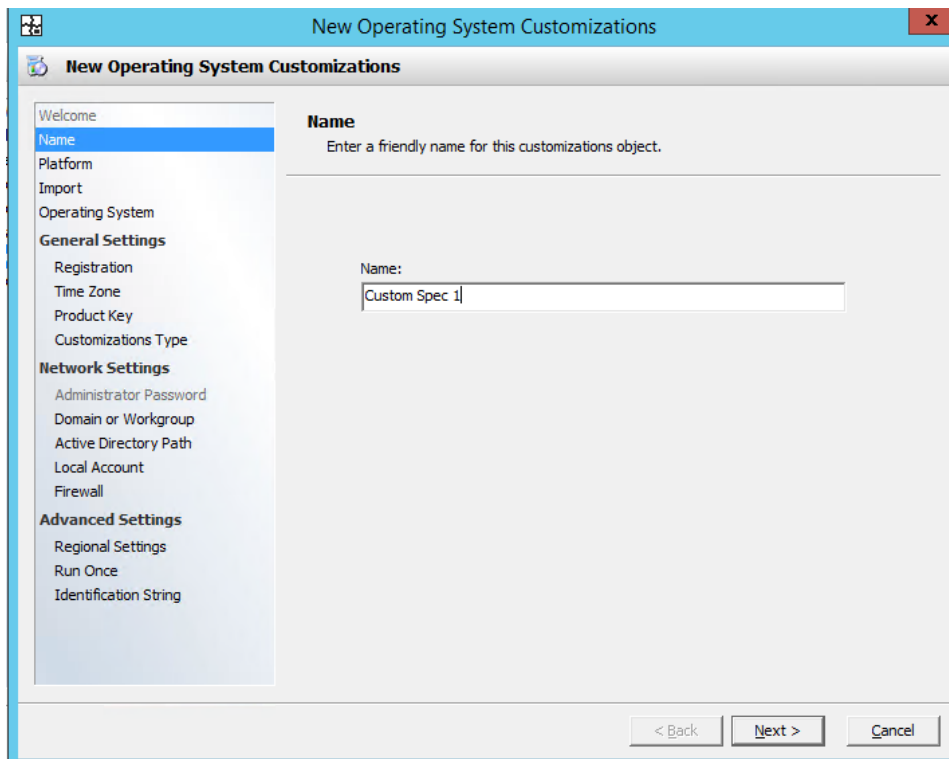
20. Create a new customization by clicking “New...”

The screenshot shows the 'Provisioning Settings' dialog box with the 'Customize Operating System' tab selected. The left sidebar contains a list of options: Welcome, Clone Method, Template, Host Options, Hosts, Naming Conventions, Customize Operating System (highlighted), and Configure Hardware. The main area is titled 'Customize Operating System' and contains the following text: 'Specify the customization object to use for the new computers.' Below this, there is a section titled 'Select a customizations object from the list below.' which contains a table with three columns: a plus icon for 'New...', a document icon for 'Properties...', and a minus icon for 'Delete'. Below the table, there is a message: 'No OS customizations have been defined. Click 'New' to add a new OS customizations definition.' At the bottom, there are three buttons: '< Back', 'Next >', and 'Cancel'.

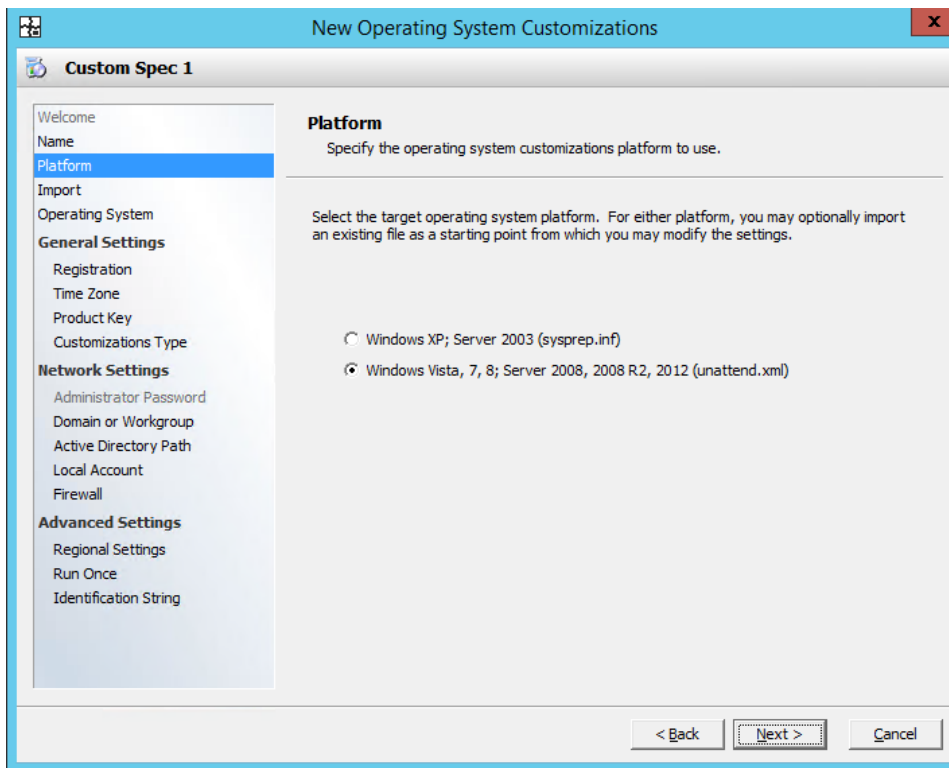
21. Click "Next".



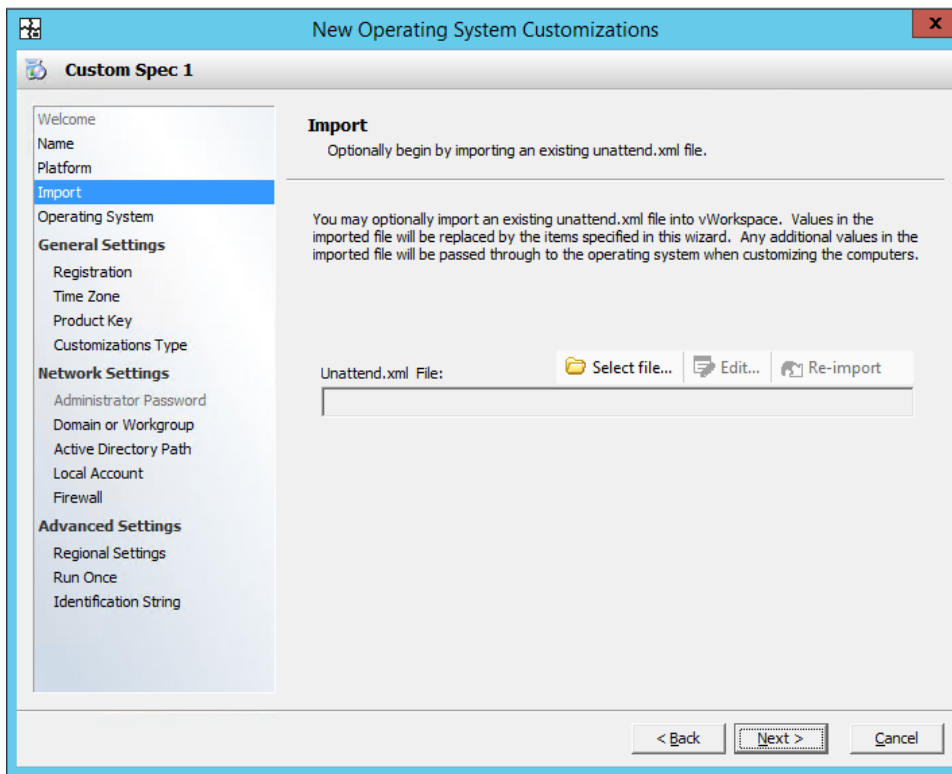
22. Enter a friendly name for the customization and click "Next".



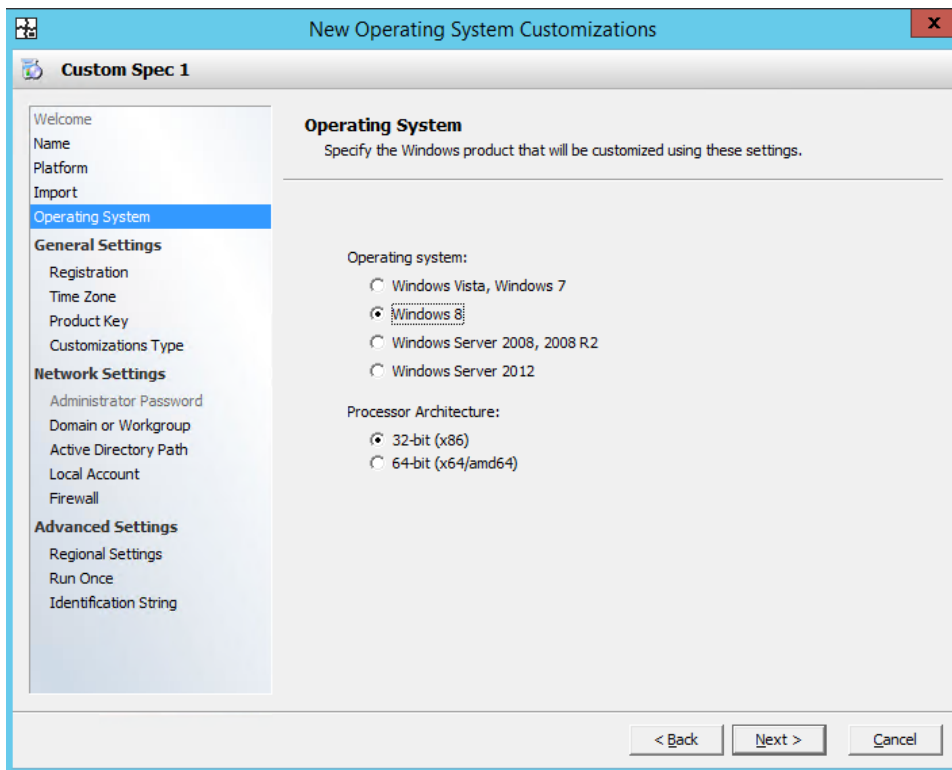
23. Select the appropriate operating system and click "Next".



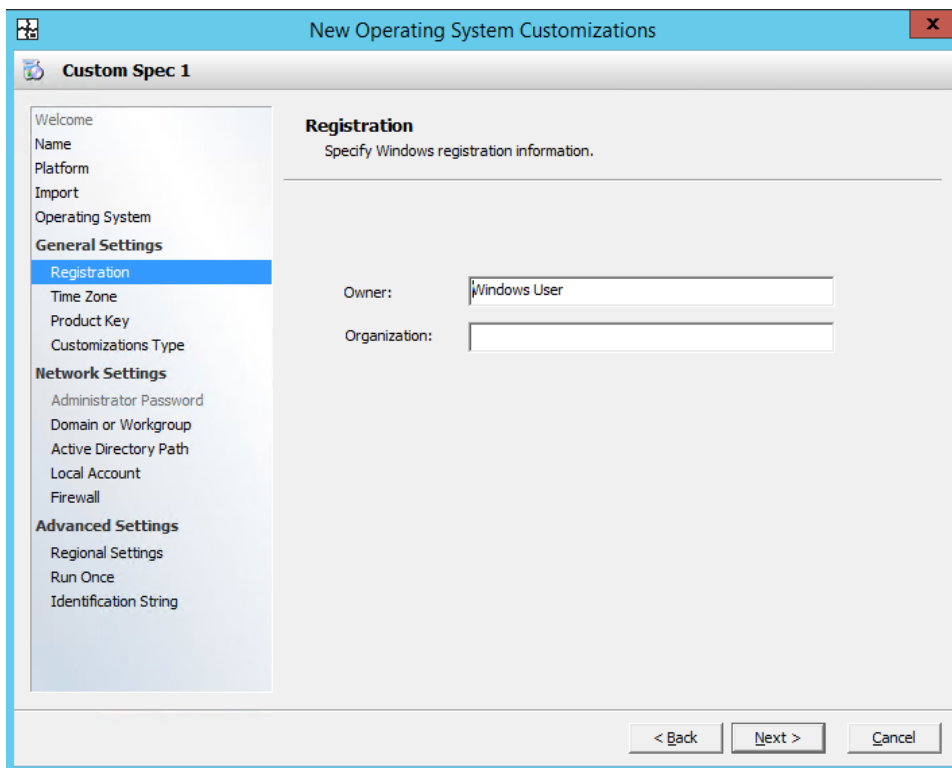
24. Click "Next".



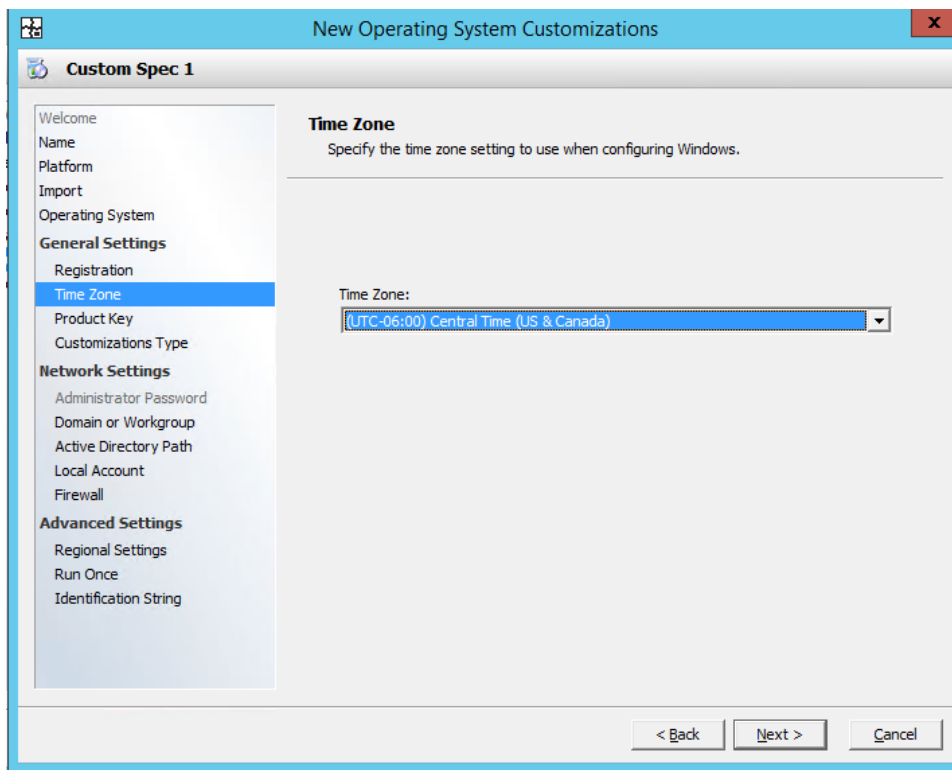
25. Select the appropriate operating system and bit level then click "Next".



26. Provide registration information then click "Next".

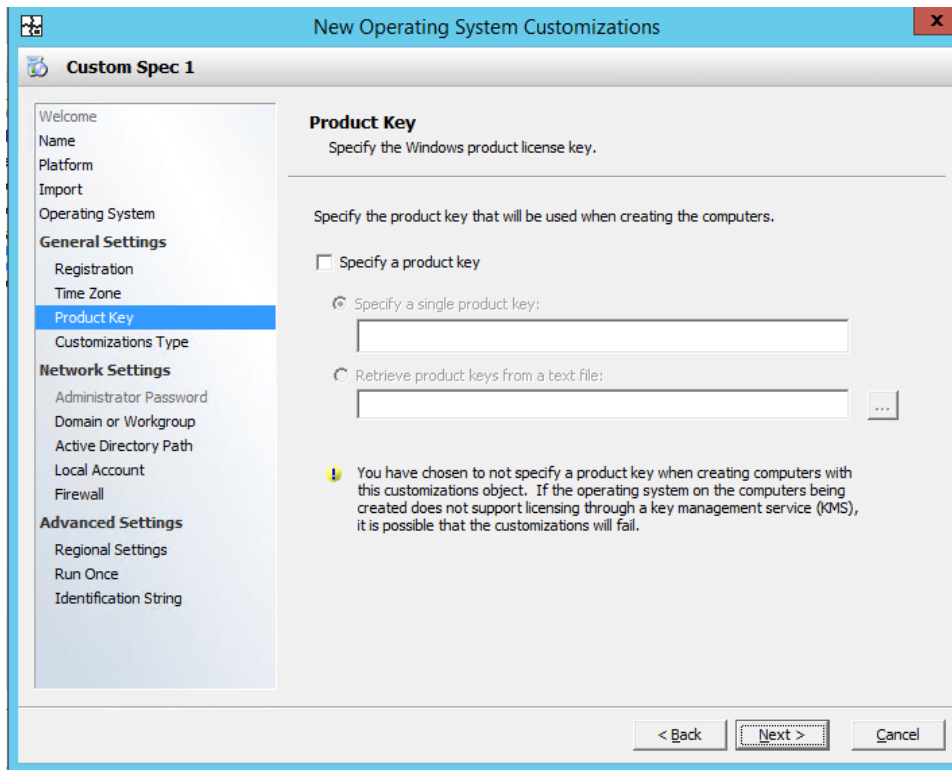


27. Select your time zone then click "Next".

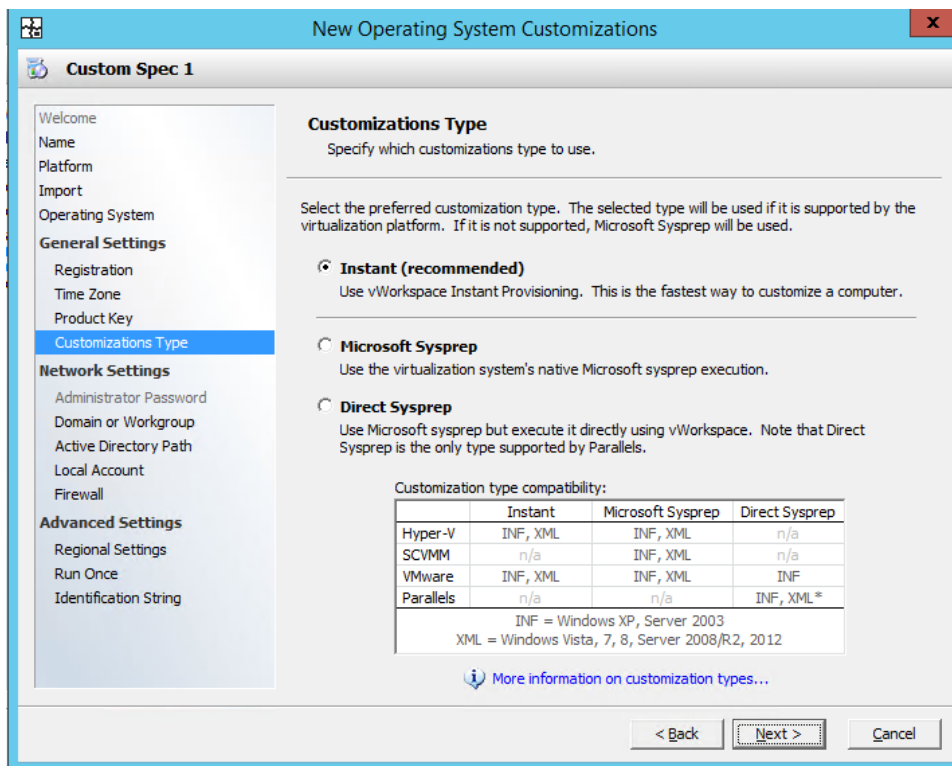


28. Provide product key or text file then click "Next".





29. Select customization type "Instant" then click "Next".



30. Enter the domain name and provide domain admin credentials then click "Next".

The screenshot shows the 'New Operating System Customizations' window with 'Custom Spec 1' selected. The left sidebar lists various settings categories: Welcome, Name, Platform, Import, Operating System, General Settings (Registration, Time Zone, Product Key, Customizations Type), Network Settings (Administrator Password, Domain or Workgroup, Active Directory Path, Local Account, Firewall), and Advanced Settings (Regional Settings, Run Once, Identification String). The 'Domain or Workgroup' step is active, showing instructions: 'The computers may be added to either a domain or workgroup.' Below this, it asks 'How will the desktops participate in the network?' with two options: 'Workgroup' (unselected) and 'Domain' (selected). The 'Domain' option has a text field containing 'test1.com' and a browse button (...). Further down, it says 'Specify a user account that has permission to add a computer to the domain.' with two fields: 'Account' containing 'TEST1\administrator' and a browse button (...), and 'Password' containing masked characters and a checkmark button. At the bottom are '< Back', 'Next >', and 'Cancel' buttons.

31. Enter the Organizational Unit Path then click "Next".

The screenshot shows the same 'New Operating System Customizations' window, but now the 'Active Directory Path' step is active. The left sidebar is the same, but 'Active Directory Path' is highlighted under 'Network Settings'. The main area shows the instruction: 'Specify the Active Directory OU into which the computers will be added.' Below this is a single text field labeled 'Organization Unit Path:' which is currently empty, followed by a browse button (...). At the bottom are '< Back', 'Next >', and 'Cancel' buttons.

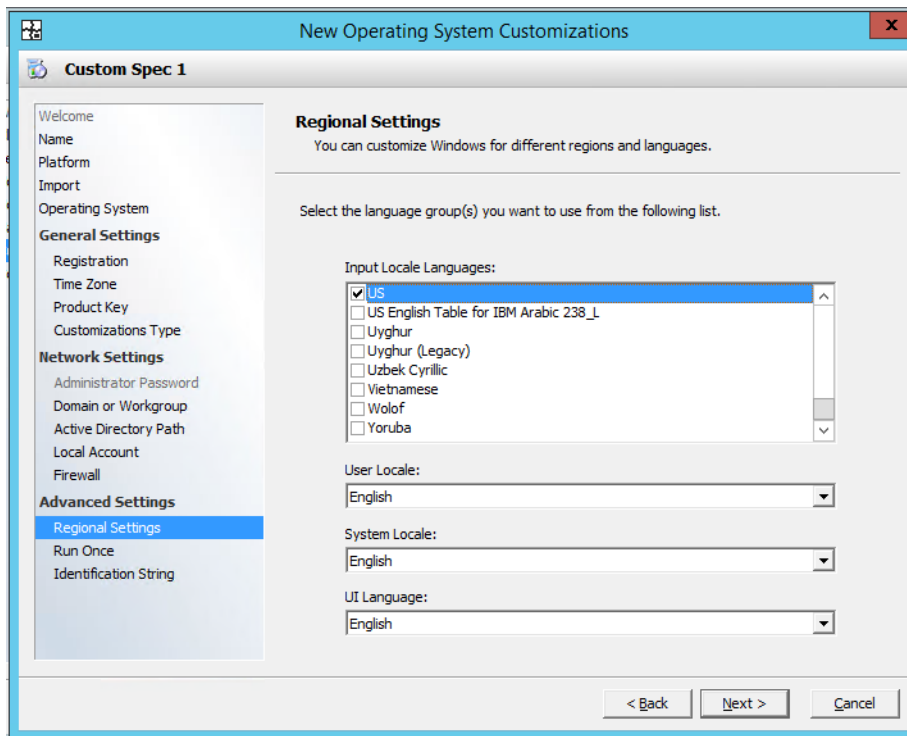
32. Enter the local admin credentials then click "Next".

The screenshot shows the 'New Operating System Customizations' window, specifically the 'Local Account' step. The left sidebar lists various settings categories: Welcome, Name, Platform, Import, Operating System, General Settings (Registration, Time Zone, Product Key, Customizations Type), Network Settings (Administrator Password, Domain or Workgroup, Active Directory Path, Local Account), Firewall, and Advanced Settings (Regional Settings, Run Once, Identification String). The 'Local Account' step is currently selected. The main area is titled 'Local Account' and instructs the user to 'Specify the local administrator account.' It includes a note: 'In Windows Vista, 7 and 8, the default administrative account is disabled. A new administrative account must be created. Specify the values for this account below.' The form contains four input fields: 'Display Name' (filled with 'qvwadmin'), 'Description' (filled with 'vWorkspace Sysprep-Created Local Administra'), 'Name' (filled with 'qvwadmin'), and 'Password' (filled with dots). A 'Confirm Password' field is also present, also filled with dots. At the bottom right, there are three buttons: '< Back', 'Next >', and 'Cancel'.

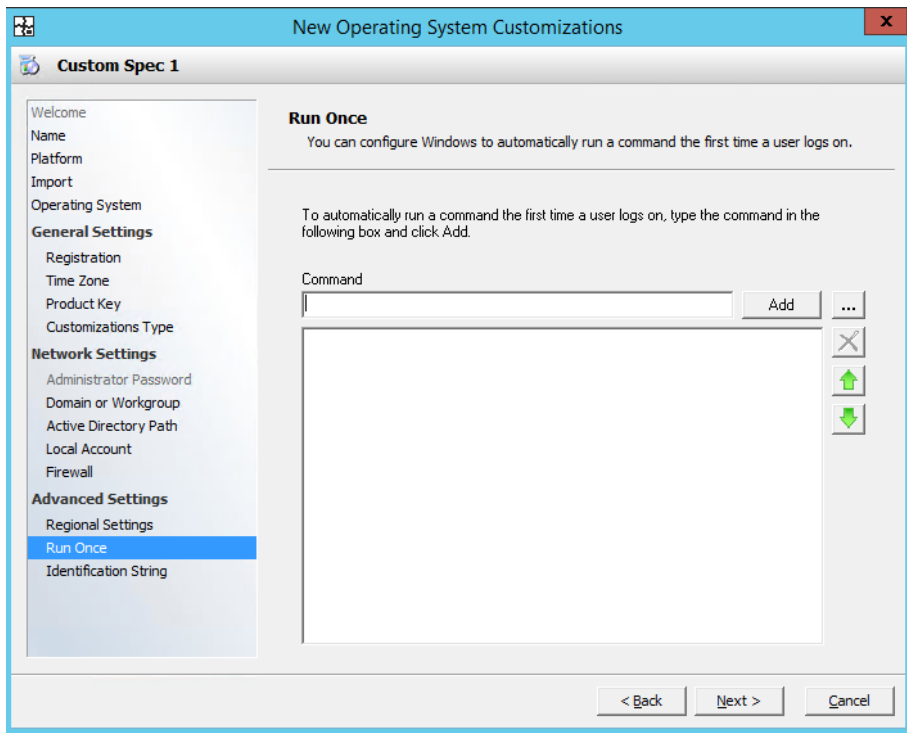
33. Configure the firewall then click "Next".

The screenshot shows the 'New Operating System Customizations' window, specifically the 'Firewall' step. The left sidebar is the same as in the previous screenshot, but 'Firewall' is now selected. The main area is titled 'Firewall' and instructs the user to 'Enable or disable the Windows firewall.' It includes a note: 'For each profile, specify whether the Windows firewall should be enabled or disabled. Note that enabling the firewall may prevent access to the computers by remote users.' The form contains three sections: 'Public profile:', 'Domain profile:', and 'Private profile:'. Each section has two radio buttons: 'Enable' and 'Disable'. In all three sections, the 'Disable' radio button is selected. At the bottom right, there are three buttons: '< Back', 'Next >', and 'Cancel'.

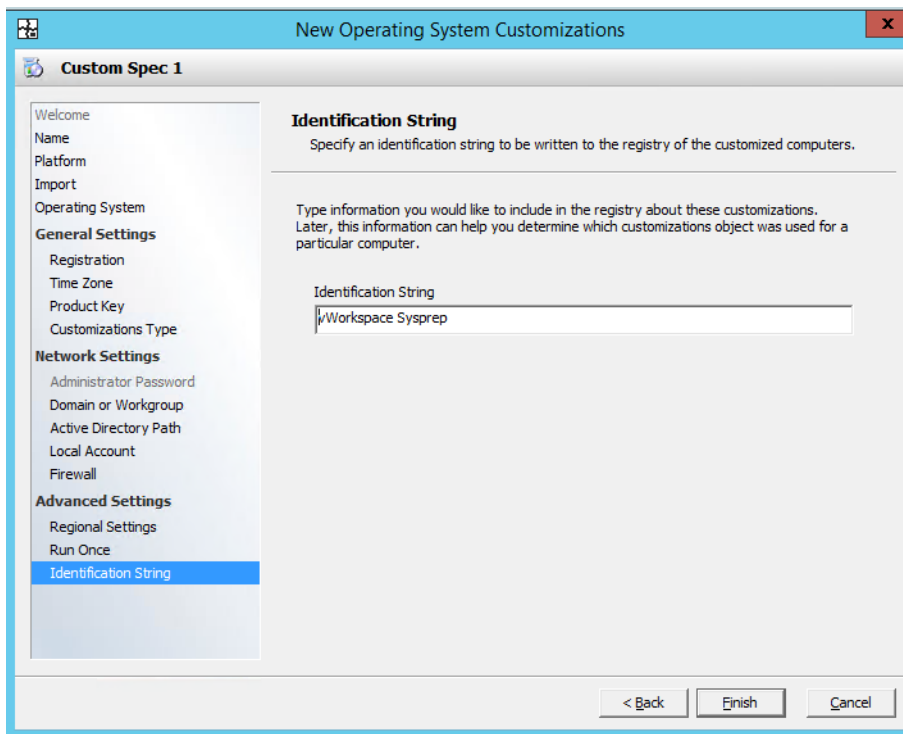
34. Select your regional settings then click "Next".



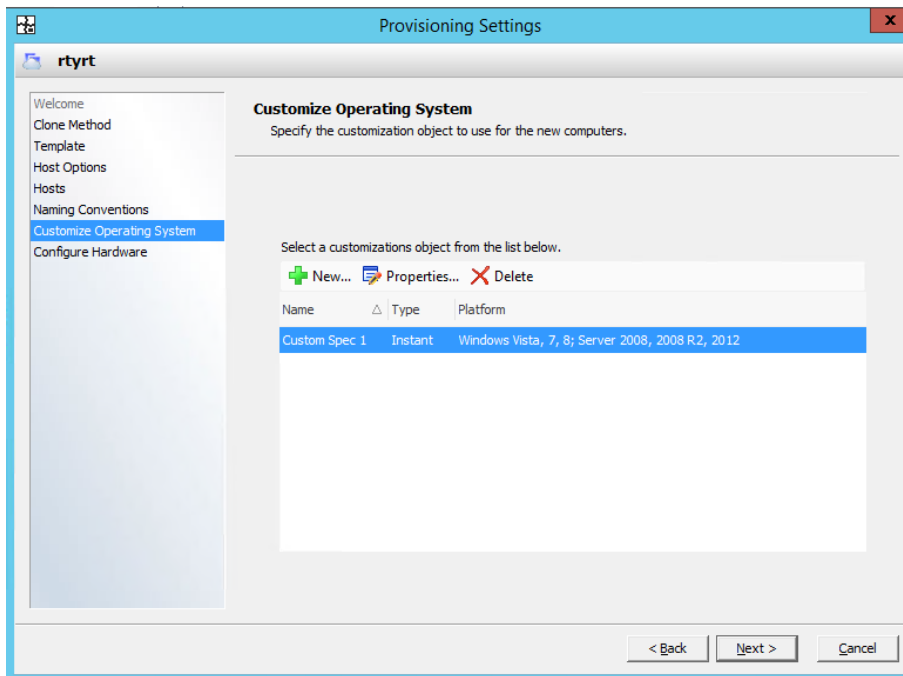
35. Specify any Run Once commands then click "Next".



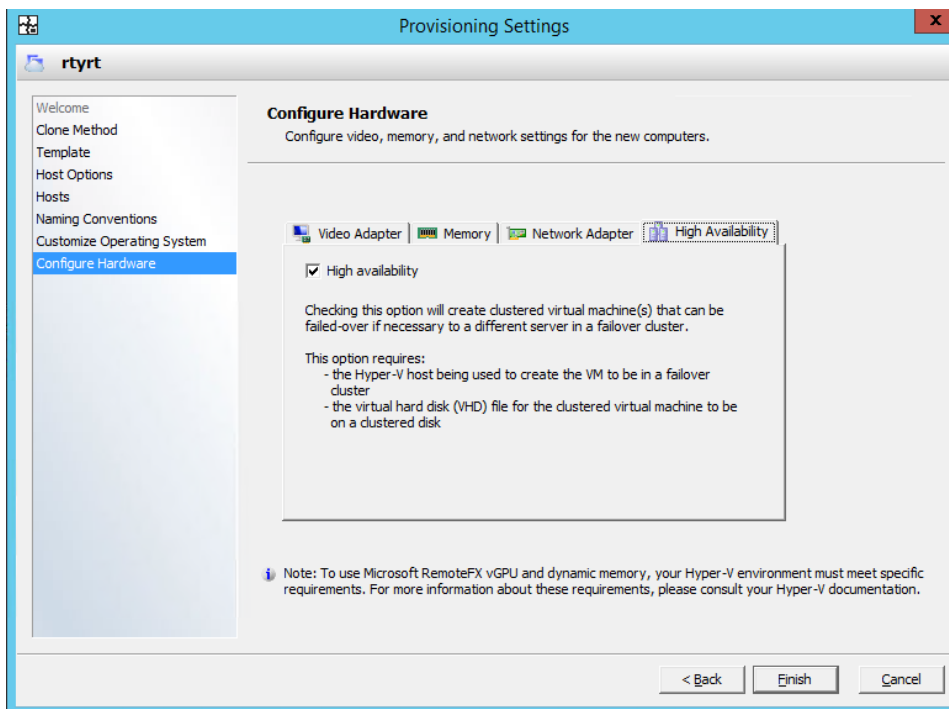
36. Specify the identification string then click "Finish".



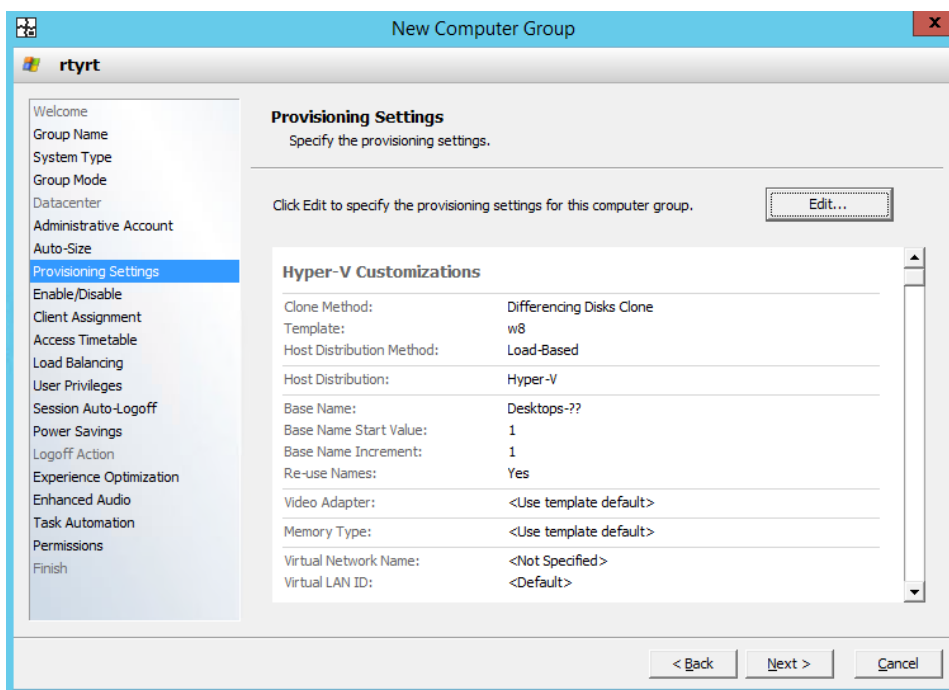
37. Verify that the customization has been created and click "Next".



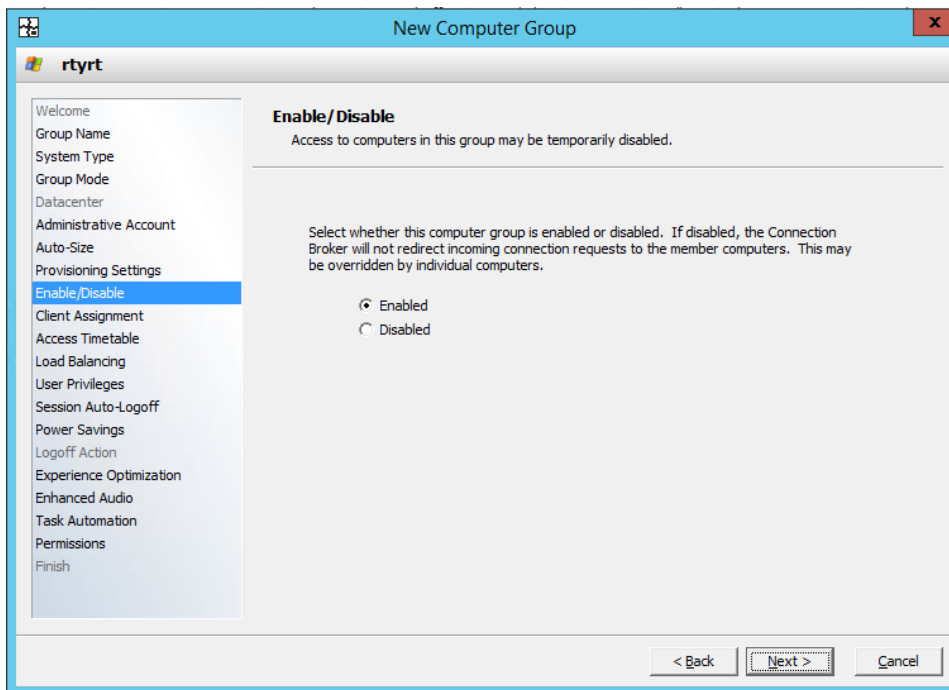
38. Select the "High Availability" tab and select the "High Availability" check box then click "Finish".



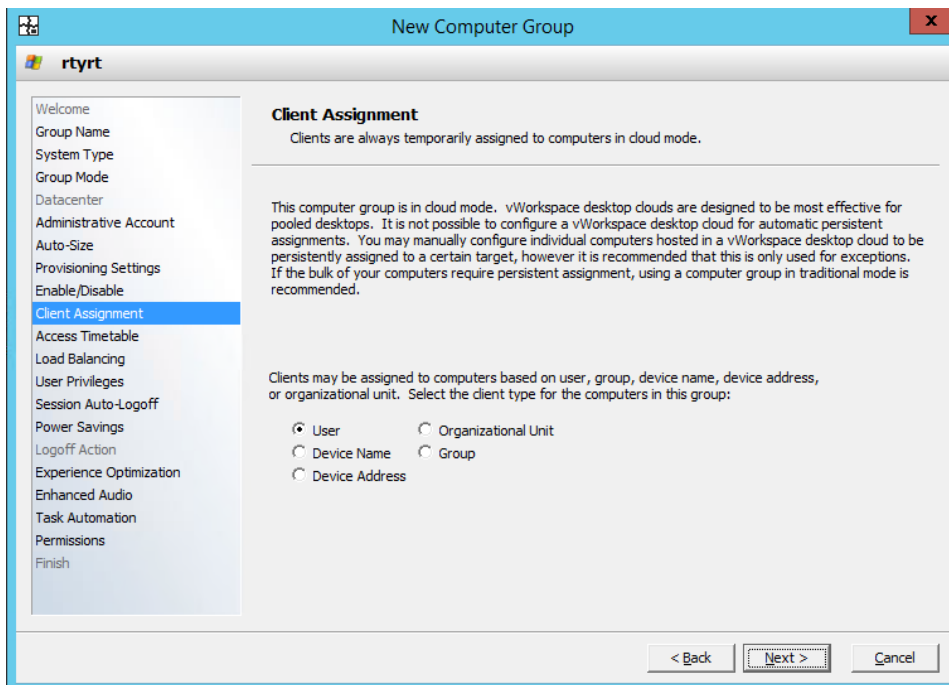
39. Verify the provisioning settings then click "Next".



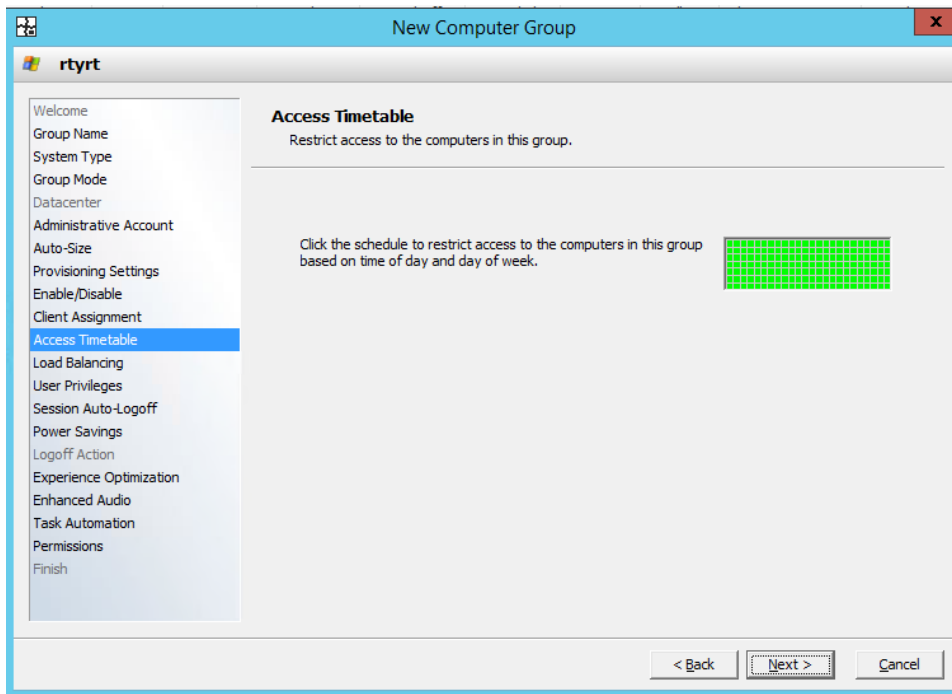
40. Select "Enabled" then click "Next".



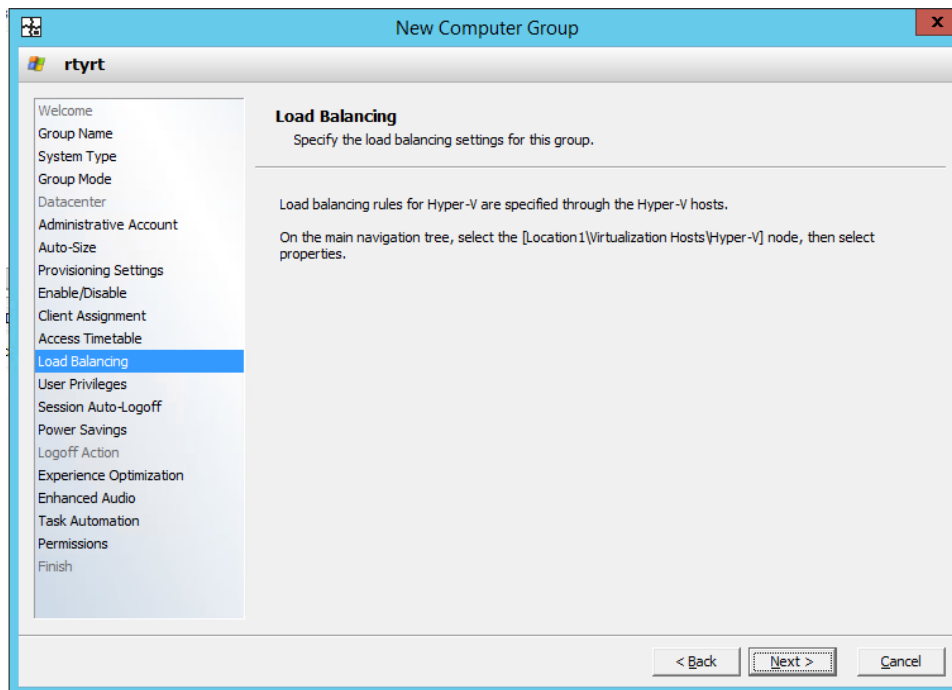
41. Select "User" then click "Next".



42. Configure the schedule then click "Next".

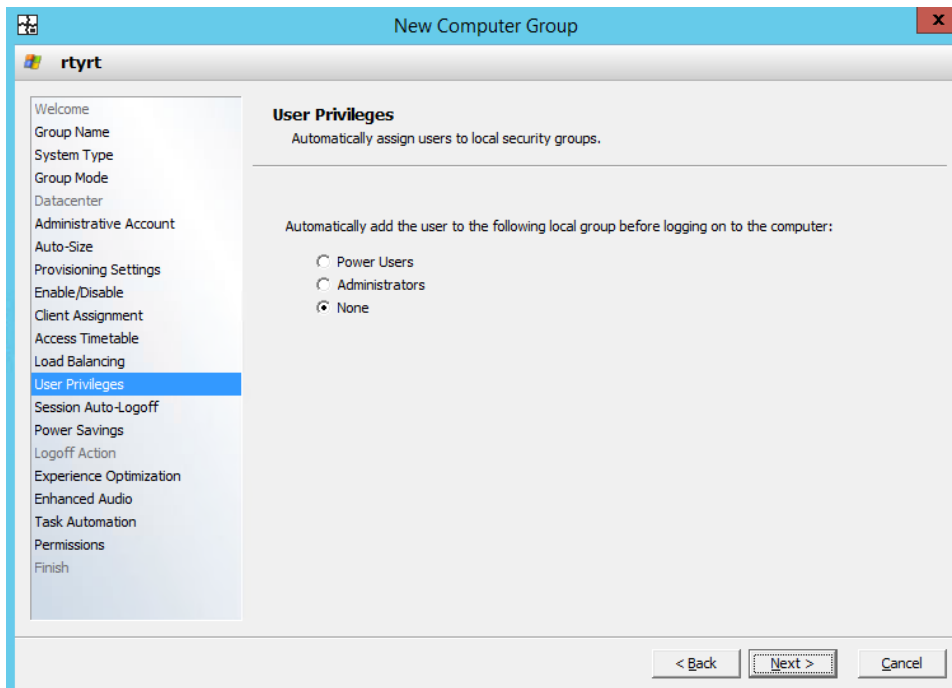


43. Click "Next".

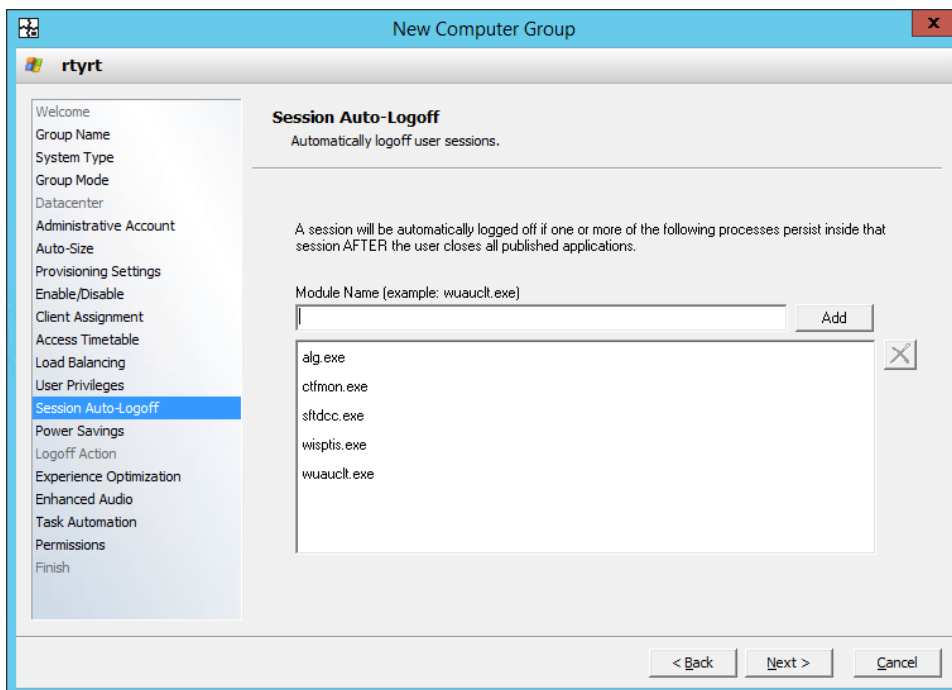




44. Select "None" then click "Next".



45. Select any optional session logoff scripts then click "Next".



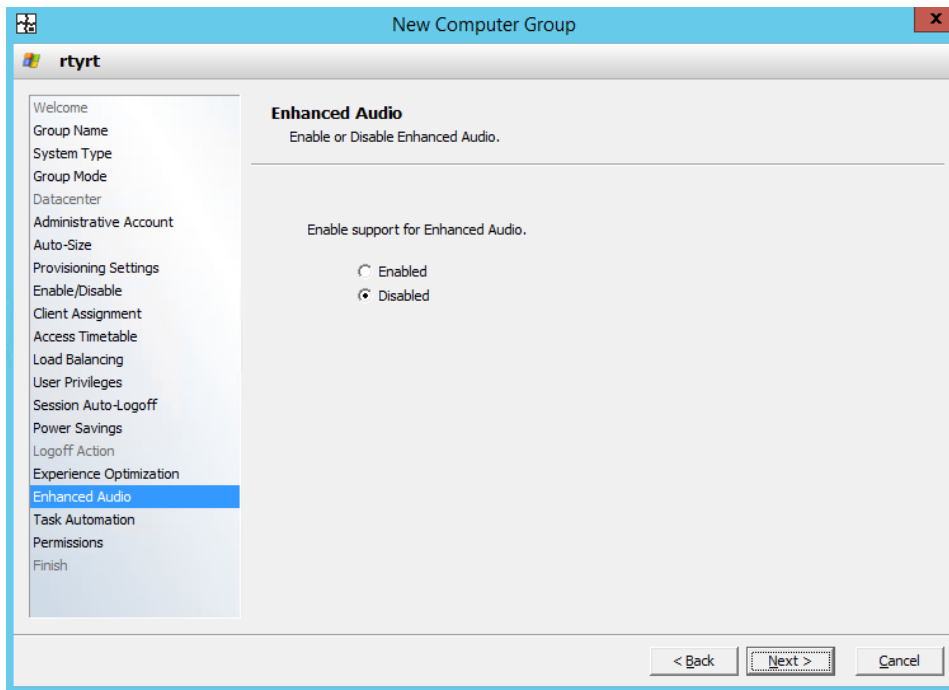
46. Configure the optional Power Savings settings then click "Next".

The screenshot shows the 'New Computer Group' wizard window. The left sidebar contains a list of steps: Welcome, Group Name, System Type, Group Mode, Datacenter, Administrative Account, Auto-Size, Provisioning Settings, Enable/Disable, Client Assignment, Access Timetable, Load Balancing, User Privileges, Session Auto-Logoff, **Power Savings** (highlighted), Logoff Action, Experience Optimization, Enhanced Audio, Task Automation, Permissions, and Finish. The main pane is titled 'Power Savings' and contains the following text: 'Automatically suspend computers in this group to conserve power.' Below this is a checkbox labeled 'To conserve computing resources, automatically suspend computers in this group that are inactive (logged off, disconnected, or offline)'. Further down, it says 'To remain responsive to user demand for computing resources, ensure that the following minimum number of computers remain powered on at all times.' and a dropdown menu labeled 'Computers to remain powered on:' with the value '10' selected. At the bottom right are buttons for '< Back', 'Next >', and 'Cancel'.

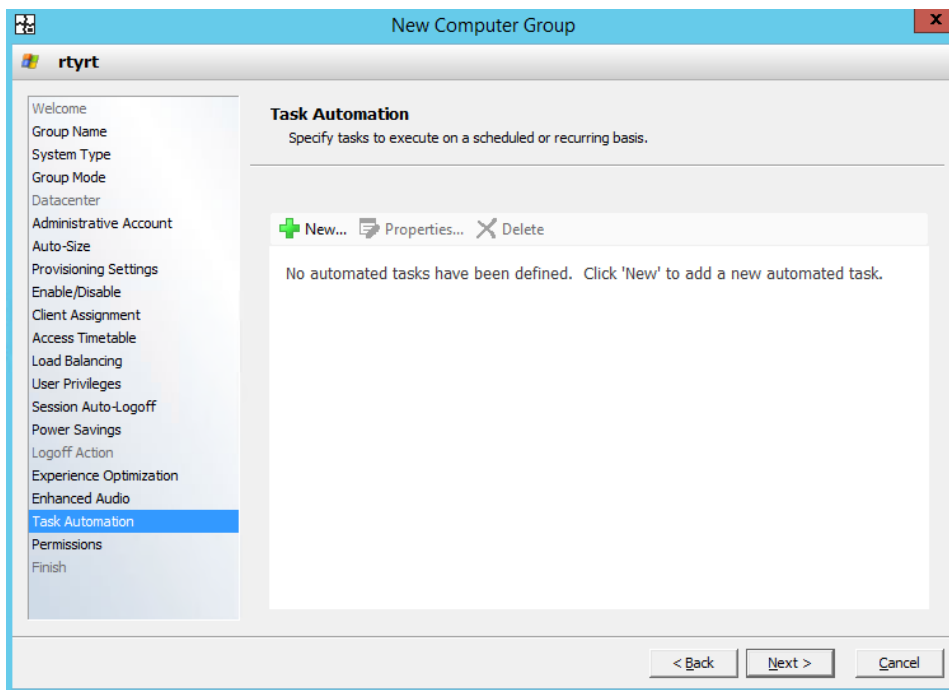
47. Configure the optional Experience Optimization settings then click "Next".

The screenshot shows the 'New Computer Group' wizard window, now on the 'Experience Optimization' step. The left sidebar is the same as in the previous step, but 'Experience Optimization' is now highlighted. The main pane is titled 'Experience Optimization' and contains the following text: 'Specify user experience optimization settings.' Below this is a section 'Enable support for bandwidth optimization appliances (e.g. Exinda, Cisco WAAS):' with radio buttons for 'Enabled' and 'Disabled' (selected). A note follows: 'Note: This setting enables or disables RDP compression. A reboot is required for this setting to take effect on Windows XP (32-bit edition). The reboot will wait for currently logged on users to log off.' Below this is another section 'Enable support for WAN Acceleration:' with radio buttons for 'Enabled' (selected) and 'Disabled'. Under 'Enabled', there is a checkbox for 'Enable RDP pass-through mode' which is checked. Below that are two input fields: 'WAN Acceleration Port Number:' and 'Maximum number of connections:' with the value '64' entered. A final note states: 'Note: Enabling or disabling RDP pass-through mode changes the RDP port on the computers. A reboot is required for this setting to take effect (on all operating systems). The reboot will wait for all logged on users to log off.' At the bottom right are buttons for '< Back', 'Next >', and 'Cancel'.

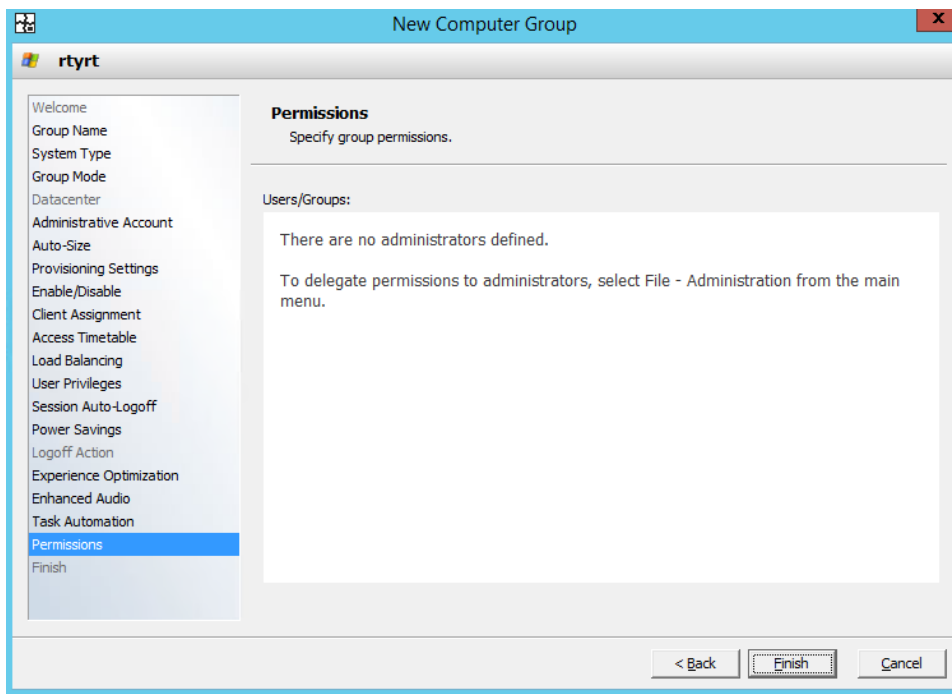
48. Enable or disable Enhanced Audio then click "Next".



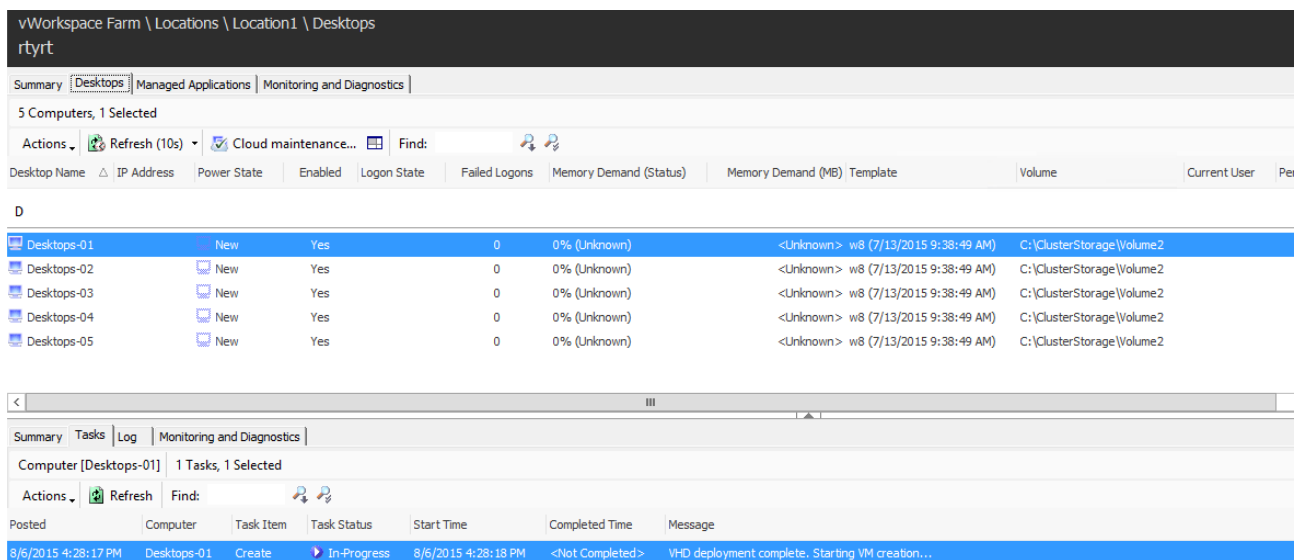
49. Define any automated tasks then click "Next".



50. Click "Finish".



51. Verify that the VMs are being created in the vWorkspace Management Console.



All virtual machines are now online and configured for high availability.

